



THESES

F

8628

1 1 0 9 2 8 2

China's Telecommunication Policy-Making in the Context of Trade and Economic Reforms

Marc Laperrouza
Department of Information Systems
London School of Economics and Political Science

Thesis submitted for the degree of Doctor of Philosophy
January 2006

UMI Number: U613370

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI U613370

Published by ProQuest LLC 2014. Copyright in the Dissertation held by the Author.
Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against
unauthorized copying under Title 17, United States Code.



ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

Abstract

On December 11, 2001, the People's Republic of China officially joined the World Trade Organisation (WTO). More than 15 years after it had announced the resumption of its status as a contracting party, the country that had since then become one of the largest telecommunication market in the world, would finally abide by a set of internationally defined norms and rules. In the course of the WTO accession, its telecommunication sector has undergone an extensive reform process, introducing competition and the foundation of a legislative framework. Yet, China's telecommunication commitments have been notably weaker than those negotiated in other service sectors.

The restructuring of the telecommunications sector – which started along the lines of global liberalisation programmes – could have been buttressed by the accession to the WTO. It was however shaped and blocked by diverse interests emanating from the fragmented Chinese political structure and resulted in an environment fraught with substantive regulatory issues.

This thesis seeks to answer two inter-related questions: why did the government fail to reform in-depth the telecommunication sector and what mediated the impact the WTO accession process had on the sector's reform. It argues that the Chinese government's failure to create a regulatory regime to implement a policy of telecommunication liberalisation represents essentially a problem of institutional change.

The thesis demonstrates that the *bargaining* approach to policy-making in the telecommunication sector has allowed, and even facilitated, the first stage of reforms but that it is ill-suited for participation in a supranational framework.

Acknowledgments

Developing an understanding of China's continuously evolving telecommunication environment is by no means an easy task. It has been a privilege to discuss the intricacies of China's telecommunication policy-making with scholars, civil servants and business executives closely involved in the process. My warm thanks go to Sauro Nicli and Tony Perkins, who made my stay at McKinsey's Beijing office during the summer of 2001 possible. I also would like to extend my thanks to Bill Fischer at IMD and Yves Pigneur at the University of Lausanne for sponsoring numerous field trips and conference attendance in China. I owe a special debt of gratitude to Jean-Pierre Lehmann who gave me room to manoeuvre during the years at the Evian Group. His unconditional support during the whole PhD has been much appreciated.

At LSE, I am grateful to my supervisor Jonathan Liebenau for finding the right balance between pressure and freedom as well as for his timely advice. My gratitude also goes to the Department of Information Systems, which generously provided scholarships during the research and sponsored one field trip to China. Daniel Osei-Joehene provided encouragements and advice over the years, in addition to prime rate accommodation during my stays in London.

Special thanks also go to Brian Goldstein and Peilin Jia for their kind hospitality in Beijing.

Finally, there won't be enough words to thank Alexandra for her patience and relentless encouragements. Спасибо.

Table of Contents

Abstract	2
Acknowledgments	3
Table of Contents	4
List of Tables and Figures	7
Abbreviations	9
Part I: Theoretical considerations	11
1 Introduction.....	12
Explaining China’s telecommunication policy-making in the reform era	15
Research question, methodological approach and problems	18
A preview of the argument: WTO accession and telecommunication reforms on dual tracks	28
Chapter plan	32
2 Framing China’s telecommunication policy-making.....	33
Fluctuating boundaries between the equipment and services sector	39
Categorising basic and value-added services (VAS).....	44
Structure and mechanism of telecommunication policy-making	46
Local vs. central regulation.....	46
Formal vs. informal policy-makers.....	47
Domestic vs. international influences	47
Broadening of the policy-making process	48
An intricate network of policy makers and regulatory agencies	51
The State Council and its organs	51
The Commissions: NDRC and SASAC.....	53
The “functional” Ministries: MII, SARFT and MOFCOM	55
At the periphery	59
Rise of semi-governmental actors and industry associations	61
Lobbying the Chinese government	65
From informal consultations to public hearings?.....	67
The “lawless” regulatory framework	70
Regulatory mechanism and history.....	70
The telecommunication regulation	71
The “missing” Telecommunication Law	73
Concluding remarks	79
Part II: Pressure from the inside	80
3 Overall reforms and the pressure for change.....	81
Network development: the mix of government policies and natural growth	85
Setting and maintaining telecommunication as a strategic priority	88
Decentralisation: from the centre to the periphery and back again	91
Investment and sources of funding: a pragmatic approach	97
Foreign loan management – 1982-1993	98
Domestic loans and international financing – 1994-1997	100
Mix of IPOs and bonds – 1997-2004.....	100
Concluding remarks	103
4 Liberalisation through quasi-competition and corporatisation	104
Did you say competition?	107

China's attempt at managed competition.....	107
Evaluation of the years of managed competition.....	110
Why competition has failed...for now!	114
Competitive policy as a potential solution to the problem?.....	114
External factors	115
The Chinese model of privatisation: corporatisation and IPOs	117
The privatisation of telecommunication	118
China's model of telecommunication privatisation: incorporation and IPO	121
Alternatives to IPOs.....	127
Lessons and issues from China's experience with privatisation.....	128
Putting China's telecommunication liberalisation model in a sectoral context	134
Comparison with the electricity sector	134
Similarities and differences between both sectors' liberalisation.....	134
Particularities of China's telecommunication liberalisation model	138
Concluding remarks	139
Part III: Pressure from the outside.....	141
5 Reforms within an evolving supranational telecommunication order.....	142
The international telecommunication regime	144
Telecommunication and international trade – from ITU to GATT and the WTO.....	145
GATS and the Reference Paper	146
Shortcomings and open issues	148
WTO and ITU	148
China's relationship with supranational actors	151
The International Telecommunication Union (ITU).....	152
The World Bank.....	154
China's role in regional bodies	156
Foreign Direct Investment in telecommunication services, MNCs and equipment manufacturing	158
History of FDI in Chinese telecommunication services	158
National security and sovereignty.....	167
Outward foreign direct investment	172
Concluding remarks	175
6 Trade and telecommunication	177
History of the accession process and chronology of offers.....	180
Role played by foreign countries and domestic actors	182
The United States and the European Union's pivotal role in the negotiation.....	182
Difference between the EU and US negotiations	184
The rift between MOFTEC and MII.....	185
The commitments.....	189
The issues of regulatory compliance and consistency.....	194
Consistency	194
Compliance	196
Independence of the regulator.....	197
Discussion	198
Additional issues of concern.....	201
Deeper integration.....	202
Shifting barriers	203
The war for standards in China's telecommunication sector.....	205
Concluding remarks	209

Part IV: Conclusions	211
7 Domestic reforms, substantive issues and the state	212
Framing China's telecommunication reforms	214
Structural reforms	214
The regulatory process	216
Substantive regulatory issues.....	220
Licensing.....	220
Interconnection	222
Price regulation	225
Universal service.....	227
Comparison with other Asian and developing countries	233
Rise of the regulatory State?	239
Concluding remarks	243
8 Reforms in the post-WTO era	245
Overview and contribution of the dissertation.....	250
Limits of the research	254
Future Research	256
Appendix 1: Key telecommunication policy-makers	258
Appendix 2: Comparison between draft and final FITE	259
Appendix 3: Milestones in China's telecommunication reforms, 1979-2003	260
Appendix 4: Revised classification (2003)	261
Bibliography	262

List of Tables and Figures

Table 1: Components of market-oriented reforms.....	13
Table 2: Domestic and international components of market-oriented reforms	29
Table 3: Telecommunication reforms and WTO accession on dual tracks	30
Table 4: Difference in sub-sector regulatory framework between equipment and services, China, 2004.....	42
Table 5: Major differences between basic and value-added services, China, 2004	45
Table 6: Staff cut and transfer in selected infrastructure Ministries in the 1998 reform ...	57
Table 7: Evolution of policy-making actors' responsibilities.....	69
Table 8: Key components of the telecommunication regulation	73
Table 9: Milestones in the Telecommunication Law drafting	74
Table 10: Overview of China's telecommunication regulatory situation, 2004.....	77
Table 11: Selected performance indicators of China's telecommunication reforms, 1989-2004.....	87
Table 12: Build-up of telecommunication infrastructure, 1981-2000	89
Table 13: Change in the composition of investment in the P&T industry, 1978-1998	97
Table 14: IPOs by China's telecommunication operators, 1997-2004.....	101
Table 15: Bond issues by China's telecommunication operators, 1997-2004	102
Table 16: Market structure and level of competition (as of December 2003).....	110
Table 17: Price reduction in selected markets, 1999-2001	111
Table 18: Herfindahl-Hirschman Index (HHI) for Chinese mobile operators, 1994-2004	112
Table 19: Network acquisitions by listed vehicles, 1997-2004	122
Table 20: IPOs of Chinese telecommunication value-added service providers, 1999-2004	124
Table 21: Structure of ownership of selected domestic operators and equipment manufacturers, 2004.....	124
Table 22: Ratio of holding shares vs. total shares, 2004	125
Table 23: Selected IPOs of Chinese telecommunication equipment manufacturers, 1993-2005.....	126
Table 24: IPOs by sub-sector and issue date	126
Table 25: Private placement and minority shares in China's telecommunication operators	128
Table 26: Total investment in the power and telecommunication sector in the 9 th FYP (USD billion)	134
Table 27: Summary of outcome of reforms between China's telecommunication and electricity sectors	136
Table 28: Comparison between the telecommunication and electricity sectors.....	137
Table 29: Reference Paper on Basic Telecommunications.....	148
Table 30: Key actors in telecommunication regulation and their relevance to China	151
Table 31: China participation in major international fora, 1972-2001	152
Table 32: Chinese companies members of ITU.....	153
Table 33: World Bank's participation in China's divestiture projects, 1997-2002	155
Table 34: Operating joint ventures in China telecommunication services, 2004	162
Table 35: Capital requirements and equity limits for foreign operators.....	162
Table 36: Foreign participation in China basic telecommunication services, 2004	163
Table 37: Foreign-ownership concerns and counter-arguments	168
Table 38: Leading Chinese equipment manufacturers foreign and total sales, 2001-2004	172
Table 39: Chinese operators and their M&A activity, 2002-2005.....	173
Table 40: Chronology of WTO commitments	181
Table 41: Final schedule of commitments	189

Table 42: Policies and WTO commitments of selected Asian economies	190
Table 43: WTO Schedule versus Classification, 2003	195
Table 44: Comparison between the telecommunication regulation and the Reference Paper requirements.....	196
Table 45: Status of independent regulators and competition authorities in China, by sector	198
Table 46: Selected indicators of standard organisations.....	205
Table 47: Overview of reform period and reform components	215
Table 48: Regulatory history and restraining mechanisms of China's telecommunication sector.....	218
Table 49: A summary of best practice in telecommunication regulation	220
Table 50: Overview of licensing procedure, 2004.....	221
Table 51: Interconnection revenue assumptions/estimates, 1999-2003	224
Table 52: Telecommunication services subject to tariff deregulation, July 2002	226
Table 53: Mobile and fixed-line switching capacity, 2003.....	228
Table 54: Urban vs. rural fixed-line penetration, March 2004	228
Table 55: Comparison between standard institutional structure in developed market economies and China	231
Table 56: Telecommunication performance indicators of selected Asian economies, 2002	234
Table 57: Sequence of telecommunications reform in 6 Asian countries, 1989-1999	236
Table 58: Information infrastructure initiatives of selected APEC member economies .	238
Table 59: Dimensions of China regulatory state in telecommunication.....	241
Table 60: Regulation by type and body, 1978-2004.....	246
Table 61: Comparison of main telecommunication issues before and after WTO accession	248
Table 62: Telecommunication regulatory environment assessment, fixed sector	248
Figure 1: Share of office and machine equipment in China's total import and export, 1992-2003	41
Figure 2: China's share of world office and machine equipment imports and exports, 1992-2003	41
Figure 3: Lines of influence in China telecommunication policy-making - The theory ...	49
Figure 4: Lines of influence in China telecommunication policy-making - The reality ...	49
Figure 5: Structure of China's State Council Informatisation Leading Group, 2004.....	52
Figure 6: Telecommunication law and regulation drafting process, China, 2004	76
Figure 7: Annual percentage growth rates of real GDP, fixed-line and mobile subscribers, 1989-2004	85
Figure 8: Annual growth rates of real GDP and investment in telecommunication, 1986- 2003.....	99
Figure 9: Percentage of investment to gross telecommunication revenues, 1986-2003....	99
Figure 10: Subscribers and growth rates in the competition era, 1994-2004	111
Figure 11: China Mobile (HK) listing vehicle, as of 2004	122
Figure 12: Electricity and telecommunication revenue growth in China, 1991-2001	135
Figure 13: China's WTO accession process.....	178
Figure 14: Evolution of teledensity and per capita GDP, 1978-2003.....	227

Abbreviations

ADB	Asian Development Bank
AmCham	American Chamber of Commerce
APEC TEL	APEC Working Group on Telecommunication
BTA	Basic Telecommunications Agreement
BTO	Build-Transfer-Operate
CAS	Chinese Academy of Science
CASS	Chinese Academy of Social Science
CATR	China Academy of Telecommunication Research
CATV	Cable television
CCF	Chinese-Chinese-Foreign
CCP	Chinese Communist Party
CDMA	Code Division Multiple Access
CEInet	China Economic Information Network
ECCF	E-Commerce China Forum
FCC	Federal Communications Commission
FDI	Foreign Direct Investment
FITE	Foreign Invested Telecommunication Enterprises
FYP	Five-Year-Plan
GAO	Government Accountability Office
GATS	General Agreement for Trade in Services
GSM	Global System for Mobile Communications
ICP	Internet Content Provider
IEEE	Institute of Electrical Engineers
IPO	Initial Public Offering
IPP	Independent Power Producers
IRA	Independent Regulatory Agency
ISO	International Organisation for Standardisation
ISP	Internet Service Provider
ITA	Information Technology Agreement
ITU	International Telecommunication Union
JV	Joint Venture
LDC	Least Developed Countries
MEI	Ministry of Electronic Industries
MEP	Ministry of Electric Power
MII	Ministry of Information Industry
MNC	Multinational Corporation
MOFCOM	Ministry of Foreign Commerce
MOFTEC	Ministry of Foreign Trade and Economic Cooperation
MPS	Ministry of Public Security
MPT	Ministry of Post and Telecommunications
MRA	Mutual Recognition Agreement
MST	Ministry of Science and Technology
MVNO	Mobile Virtual Network Operator
NAP	Network Access Point
NDRC	National Development and Reform Commission
NGN	Next Generation Network
NGTB	Negotiating Group on Basic Telecommunications
NII	National Information Infrastructure
NPC	National People's Congress
NRA	National Regulatory Agency
OECD	Organisation for Economic Cooperation and Development

OFCOM	Office of Communication
OMTE	Office Machine and Telecommunication Equipment
P&T	Post and Telecommunication
PBOC	People's Bank of China
PLA	People's Liberation Army
PNTR	Permanent Normal Trade Relations
PPIAF	Public-Private Infrastructure Advisory Facility
PSB	Public Security Bureau
PSTN	Public Switched Telecommunication Network
PTA	Post and Telecommunications Administration
PTB	Post and Telecommunications Bureau
PTO	Public Telecommunication Operator
QoS	Quality of Service
RP	Reference Paper
SARFT	State Administration for Radio, Film and Television
SASAC	State-owned Assets Supervision and Administration Commission
SCILG	State Council Informatisation Leading Group
SCIO	State Council Informatisation Office
SDPC	State Development and Planning Commission
SERC	State Economic Restructuring Commission
SERO	State Economic Restructuring Office
SETC	State Economic and Trade Commission
SEZ	Special Economic Zone
SOE	State-Owned Enterprise
SPC	State Planning Commission
SRRC	State Radio Regulation Commission
TAB	Telecommunication Administration Bureau
TD-SCDMA	Time Division Synchronous CDMA
TIA	Telecommunication Industry Association
TR	Telecommunication Regulation
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
USITO	United States Information Technology Office
USO	Universal Service Obligations
USTR	United States Trade Representative
VAS	Value-added services
VSAT	Very Small Aperture Terminal
WAPI	Wireless Authentication and Privacy Infrastructure
WTO	World Trade Organisation

Part I:

Theoretical Considerations

1 Introduction

“Lack of empirical knowledge is among the main hindrances to infrastructure policy analysis and reform in developing and transition economies.”

(Kessides, 2004: 22)

In the past decade, most countries have had to face the wave of telecommunication liberalisation that swept across the world. National telecommunication systems, regardless of regional, socio-economic and political differences, have undergone profound structural and institutional changes¹. Operators became legally separated from the Ministry in charge of telecommunication. A majority of previously state-owned and state-run telecommunication operators were privatised and markets, both in developed and developing countries, were liberalised. In order to deal with the set of issues brought by these changes, many countries established regulatory agencies independent from operators and, in certain cases, separate from the Ministry². While some scholars have labelled this broad trend as “regulatory convergence”³, an in-depth look at individual case studies reveals wide disparities in the nature, scope and extent of the regulatory reforms undertaken⁴. Whereas in certain countries ownership of operators rests entirely in private hands, many governments still consider majority control as a guarantee of sovereignty and national security. The degree of autonomy and functions of regulators also vary greatly across countries. And so does the degree of openness across market segments. Finally, the reforms have met with varying levels of success in both developed and developing countries. While the overall rate of telephone line penetration has globally risen, there are wide disparities on international, regional and intra-national basis⁵. In itself, this is not too surprising. Why would even similar reform policies produce identical results in countries with radically different social, economic and political environments?

On the surface, China is no exception to the worldwide transformation of telecommunication markets. Over the past 15 years, nationwide teledensity grew from 1.11% to more than 40%⁶. China ranks today as the largest telecommunication market in

¹ Cho (1998: 3).

² In 1990 only 12 countries had regulatory agencies that functioned separately from telecommunication operators against 123 by mid-2003, and another 28 countries intend to establish a separate regulator in the next few years (Briceno, Estache et al., 2005: 24).

³ See (Braithwaite and Drahos, 2000: 341; Garcia-Murillo and MacInnes, 2000).

⁴ Pisciotta (1997: 351), Bartle (2001: 3) and Li et al. (2000; 2002b).

⁵ In 2003 main line penetration rates reached 3.1% in Africa and 13.64% in Asia (respective compound annual growth rate of 5.9% and 12.6% between 1998 and 2003). Disparities between urban and rural development have also increased.

⁶ Teledensity is defined here as the combined fixed and mobile subscribers per hundred inhabitants.

the world in terms of mobile and fixed-line subscribers. This phenomenal growth has been accompanied by a number of remarkable structural changes, which shared the characteristics of the market-oriented reforms carried out worldwide. The “pro forma” liberalisation programme consists of three elements (see Table 1).

Table 1: Components of market-oriented reforms

Liberalisation	Elements	Options	China
	Deregulation	Separation of PTO from Ministry	Separation in 1998
		Separation of regulator from Ministry	MII acts as Ministry and regulator
		Regulator’s autonomy level	Weak
	Competition	Competition in long distance	Partial competition (China Telecom and China Netcom)
Competition in local telephony		Partial competition (China Telecom and China Netcom)	
Privatisation	Type of privatisation (minority shares, majority share or complete privatisation)	Minority share privatisation	

Note: China Unicom is the only operator allowed to offer both mobile and fixed-line services.

Source: Adapted from Henisz, Zelner et al. (2004).

Thus, despite claims of developing a telecommunication market *with Chinese characteristics*, it appeared that some of the early elements of the regulatory reforms process bore strong resemblance with those found in other countries. China’s postal sector was separated from the telecommunication sector, operators were detached from government agencies and new entrants started to challenge the incumbent⁷. Institutional changes were carried out through the merger of archrival Ministries and the establishment of a regulatory body to supervise the sector. In other words, the leadership seemed to have adopted the major tenets of the programmes usually prescribed by multilateral lending agencies. In reality, growth took place in spite of the failure to successfully implement the liberalisation trinity consisting of deregulation, competition and privatisation. On the contrary, the Chinese government failed by-and-large both to create an independent regulator and to introduce significant competition, and maintained majority ownership in the operators while restricting market access to private and international operators. Why has this been the case? How has China been able to move from less than 1% of subscribers connected to a fixed-line to more than 20% in the span of 15 years without adopting the orthodox reform packages advocated by the World Bank⁸?

⁷ In 2005, a proposal was made to reform China’s postal system by separating government functions from enterprise management, enhancing government supervision, completing market structure, securing universal and special services, reorganising the State Post Bureau to act as a state supervision institution, and accelerating the foundation of postal saving banks (Xinhua, 2005c).

⁸ Until 2004, the number of new mobile subscribers was growing roughly by 5 million per month.

China's accession to the WTO on November 14, 2001 and the commitments to progressive liberalisation led many observers to believe that the country was initiating a re-adjustment of its regulatory framework in line with international norms and standards. The adoption of the Reference Paper on telecommunication was heralded as the beginning of a new phase of policy-making characterised by increased transparency, regulatory independence and facilitated market access. Thus, at least in theory, the foundation for a new era of competition between Chinese enterprises and their foreign partners and counterparts had been laid. It turns out that the reality is much bleaker. Foreign companies are absent from the basic services segment and private domestic companies too remain for the time being barred from acquiring licences to conduct operations. In addition, foreign governments, chambers of commerce and other business associations routinely point the finger at the failure to set up an independent regulator and at the opaqueness of the market⁹. How has the government resisted to pressures from foreign government and operators to open its market?

The answers are to be found in China's idiosyncratic approach to regulatory policy-making in the telecommunication sector. On the whole, China's telecommunication policy-making remains a fragmented bureaucratic structure of authority where, to borrow from Lieberthal and Oksenberg, "*the policy process is protracted, disjointed and incremental*"¹⁰. This is not to say that it did not evolve over the years. For instance, the erstwhile opaque regulatory environment has become much more transparent over the years. The majority of regulations and administrative measures are now in the public domain and, in most of the cases, their official enactment follows their publication. Policy-makers have also moved from a heavy-hand approach to more sophisticated means of controlling the development of the market. In parallel, in recent years, the administrative re-shuffling of policy-making bodies has redefined the centres of power and decision-making. Both the State-owned Assets Supervision and Administration Commission (SASAC) and National Development and Reform Commission (NDRC) have grabbed the centre-stage on a number of key policy-making issues¹¹.

⁹ See (AmCham, 2003; US-China Business Council, 2003; USITO, 2004a).

¹⁰ Lieberthal and Oksenberg (1988: 22).

¹¹ In lieu of the State Development and Planning Commission (SDPC) and of the State Economic and Trade Commission (SETC).

Explaining China's telecommunication policy-making in the reform era

Over the past decades telecommunication policy-making reached the top of the government's agenda several times because it was recognised that an efficient and effective flow of information was vital for the Party and the government to manage the rapid diffusion of China's economy and the government's economic reforms. Telecommunication was regarded as important for two other reasons. The government strongly held onto its belief that telecommunication was central to China's national security and sovereignty. At the same time, its high profitability provided the State with an important source of revenues that could be used to fund network deployment¹². In short, the sector reached a strategic level for financial reasons, for security concerns and for social development purposes¹³.

In our view, China's telecommunication policy-making is best analysed through the various reforms that the sector witnessed since the mid-1980s. Reforms can be explained as a tool for correction of market failure, as the result of international pressures, public interest, technological change, regulatory competition, ideation change – new ideas, private interests, internal decay/cycling, environmental change or pressure of government. A brief examination of China's telecommunication reform path between 1978 and 2001 reveals two important milestones, which took the form of splits. The first split was “horizontal” and consisted in the separation of telecommunication enterprises from government administration. The second split was “vertical”. From 1994 onwards, competition was introduced and even encouraged as newcomers received dedicated support in attempt to break the monopoly and to curb unfair competitive practices by the incumbent.

This study is largely informed by the broad stream of literature dealing with the generic issue of telecommunication reforms. Four subsets of the literature on telecommunication reform are of particular interest. The first set of literature deals with theories of telecommunication reforms. A number of hypothesis-driven theories have been developed to explain the telecommunication reform process¹⁴, while a large body of literature has been devoted both to descriptive and normative aspects of the question¹⁵. The second set of literature deals with international trade and telecommunication – in particular, the

¹² Ure (1997b: 3).

¹³ Interview (B-002), conducted in Beijing, 27 August 2001.

¹⁴ Crisis-hypothesis, ideology, private and public interest theory.

¹⁵ See among others (Petrazzini, 1995; Melody, 1997d; Cho, 1998; ITU, 1999).

reforms brought by the WTO Basic Telecommunication Agreement (BTA). Drahos and Joseph were among the first to discuss the impact of the emerging supranational telecommunication regime on domestic policies and reforms¹⁶. Cowhey and Klimenko assess how developing and transition economies have fared in profiting from changes in the telecommunications market. They also examine the policy challenges that remain, paying special attention to the global market and the regulatory milieu fostered by the BTA¹⁷. In a similar study, Low and Mattoo examine liberalisation of the basic telecommunications sector in a number of Asian countries as well as the role of the General Agreement on Trade in Services (GATS) in this process¹⁸. The third set deals with reform and regulation. Levy and Spiller's landmark study on telecommunication regulation aims at understanding countries' ability to commit to particular regulatory processes and institutions. Their approach looks at regulation as "*a design problem with two components: regulatory governance and regulatory incentives*"¹⁹. At the same time, a large body of literature has been devoted to the normative aspect of telecommunication reforms, stressing for example that successful telecommunication reforms depend on policy-making, regulation and competition²⁰. Theories of telecommunication reforms can be placed in the wider context of theories of regulatory reform²¹. Despite, or perhaps because of the fact that the predominant relations of state to industry are moving from ownership to regulation, there is still little literature that acknowledges the part that regulatory bodies play in the political process of distribution. Much of the literature revolves around the traditional "public interest" concept of regulation, where a regulatory agency *makes good* market failure and regulates monopolies²². Two general theories of regulation have been developed to explain the regulation of markets. The public interest theory argues that the reason for regulation is to avoid market failure when an industry is naturally monopolistic. The second, popularised by Stigler, Peltzman and Posner, is the

¹⁶ Drahos and Joseph (1995).

¹⁷ Cowhey and Klimenko (2001).

¹⁸ Low and Mattoo (1998). See also (Abrenica and Warren, 2000; Blouin, 2000; Warren, 2000; Tuthill, 2003).

¹⁹ The governance structure incorporates the mechanisms a society uses to restrain the discretionary scope of regulators and to resolve the conflicts to which these restraints give rise. The regulatory incentive structure comprises the rules governing pricing, subsidies, competition and entry, interconnection, and the like (Levy and Spiller, 1996).

²⁰ Melody (1995: 259; 1997b: 2; 1997c: 20).

²¹ Regulatory reform refers here to changes that improve regulatory quality – enhance the performance, cost-effectiveness, or legal quality of regulations and related government formalities. Reform can mean revision of a single regulation, the scrapping and rebuilding of an entire regulatory regime and its institutions, or improvement of processes for making regulations and managing reform. Deregulation is a subset of regulatory reform and refers to complete or partial elimination of regulation in a sector to improve economic performance (OECD, 1997).

²² Lembke (2002). As pointed out by Laffont and Tirole (2000: 243), "the major obstacle to good regulation lies in the asymmetric information between the regulator and the regulated firm"

economic theory of regulation. The essence of this approach is that regulators and politicians, like economic actors, weigh the benefits and costs of various courses of action in a political framework where the attainment of a voting majority determines success²³.

The fourth set comprises telecommunication reforms in developing countries. Petrazzini finds that reforms are more likely to succeed in cases where the relative autonomy of the state is high, the reforms are relatively insulated from political pressure, and power within the state apparatus is highly concentrated, than in cases where political power is more evenly contested and administrative power is diffused²⁴.

Alternative approaches to studying telecommunication reforms are borrowed from other disciplines, notably sociology and in particular Giddens's theory of structuration²⁵. Cho focuses on the causes of the current worldwide wave of *institutional reform* in telecommunications and argues that studies of institutional telecommunication reforms fall into four categories of works – dealing either with the regulatory agencies in relation to technological development, or discourse-based diffusion model, or the role of international organisations, or the efficiency claim of neo-classical economics. Using a meta-theoretical framework of structuration, he attempts to bridge the gap of systematically comprehending institutional telecommunications reform. The proposition of considering the emerging trade blocs as another principal system for study of telecommunications reforms is of particular interest²⁶. Finally, other authors contend that telecommunication reforms are best evaluated by criteria rooted in dynamic institutional contexts, and make reference to new institutional economics²⁷.

²³ Wenders (1988: 17). More recently, Spiller and Tommasi (2005). have applied a transactional approach to public policy determination in understanding the origins, nature and the evolution of the institutions of regulation. They analyse the institutional determinants of regulatory policy-making by looking at regulation as the outcome of complex intertemporal exchanges among policy makers.

²⁴ Petrazzini (1995). See (Li, Qiang et al., 2000; Fink, Mattoo et al., 2003) for a quantitative approach.

²⁵ Giddens (1984).

²⁶ Cho (1998).

²⁷ Singh (2000: 887).

Research question, methodological approach and problems

Social scientists have attempted to explain from a variety of angles how and why telecommunication policy changes are developed and implemented. Studies from a political perspective have stressed different levels of analysis, such as ideas and ideology, international factors, domestic interest groups and coalitions, political systems and the state²⁸. Economists too have applied a broad range of theories, such as new institutional economics, to the study of policy changes.

For the most part the mechanisms behind different patterns of national adaptation remain unclear²⁹. Galperin argues that today, the rules created and enforced by traditional regulatory bodies on a national scale are only part of a multi-layered regime that includes international treaties, voluntary self-regulation, and semi-public cooperative arrangements under the umbrella of a vast collection of organisations³⁰.

This thesis sets out to examine the evolution of China's telecommunication regulatory policy-making in the context of the trade and economic reforms the country initiated with the Open Door policy. The study covers the era from the start of economic reforms in 1978 and runs all the way through 2004. The thesis addresses two central themes.

The first one relates to China's domestic telecommunication policy-making and to the nature, scope and extent of the telecommunication reforms that took place in China during the past decade. Reform of the telecommunication sector dates back to the early 1980s, but while driven by the central leadership, it was then limited in scope and extent. Today, the country is on the eve of a third round of reforms, which combines centralisation and high-decentralisation. As this thesis will demonstrate, the success of China's telecommunication reforms is mitigated. The undeniable growth of diffusion masks an ever-increasing divide between rural and urban zones. The behemoth incumbent, China Telecom, has been sliced "into pieces" (geographically and by operating segments) but competition remains limited. Issues of interconnection and tariff wars plague the industry. Finally, in order to correct some of these failures, the government routinely resorts to heavy-handed interventionism. For example, in order to

²⁸ Petrazzini (1995: 34).

²⁹ The main determinant of this divergent convergence is the different domestic political structure of the respective countries which disabled them from adopting a mere carbon copy of the American FCC-model (Schneider and Tenbücken, 2003: 26-27).

³⁰ Galperin (2004: 166).

insufflate competition in the sector, the government orchestrated the re-shuffle of operators' executive officers.

The novel nature of the issues at stake and the changing functions and responsibilities of the actors involved in telecommunication both had the potential to profoundly redefine the regulatory policy-making environment. Yet the Ministry of Information Industry (MII) and domestic operators are mired in regulatory issues, which have slowed down the restructuring of the sector. In fact, as we will see, reforms in the telecommunication sector significantly lag behind the restructuring that has taken place in other utility services sectors such as electricity. This comes as a surprise. As noted by Feketekuty:

“The economic logic for regulatory reform has been most obvious in the case of telecommunication services. Not surprisingly regulatory reform in this sector is more advanced than in any other sector, globally.”³¹

It turns out that unlike many developing countries China has resisted adopting a “standard” package in order to liberalise its telecommunication markets. Instead, it has developed and maintained an idiosyncratic approach to reforming the sector. Does it mean that China's reform model has reached its limits? To a certain extent, yes. This thesis will show that the initial phase of reforms accommodated itself reasonably well with the weak regulatory environment, but that the failure to successfully instil reforms rests on the lack of empowered institutions and on the historical development of the actors involved in the sector.

The second theme addressed by the thesis relates to the relationship between the domestic and the international policy-making arena. A particular attention is given to the period surrounding China's accession to the WTO. The thesis discusses the relative failure of the emerging supranational telecommunication regime and its associated liberalisation programme to exert a significant transformation on China's telecommunication sector. It comes as a relative surprise that the WTO negotiations and accession process have had only a limited effect on the market structure and regulatory environment. In terms of market access, foreign (and domestic) operators remain conspicuous by their absence. Many of the substantive issues that plague the reforms of China's telecommunication sector today are dealt by the Reference Paper. But the government has not been able to capitalise on the much-touted WTO accession to move the restructuring one step further and, at time of writing, little seems to have changed. In fact, the analysis of China's telecommunication commitments reveals that they have been notably weaker than those

³¹ Feketekuty (1999).

negotiated in other service sectors. What mitigated the impact the WTO accession process had on the sector's reform? How did the Ministry who negotiated the schedule of commitments in the telecommunication sector succeed at delaying the opening of the telecommunication sector to international investors?

Several reasons explain the weak impact of China's WTO accession on the sector's reform. First, the negotiated agreement allowed the government and the domestic operators to "buy some time and re-organise" in face of the coming foreign competition. Second, a weak regulatory framework and the absence of an overarching telecommunication law have maintained a lack of transparency in the sector. Third, the government's desire to maintain an overall control over the sector for security and sovereignty reasons has "cushioned" MII's position during the negotiation for accession.

Examining how China's telecommunication regulatory policy-making developed in the context of trade and economic reforms is relevant for a number of reasons. First, it sheds some light on recent development in China's telecommunication policy-making process. It does so by reviewing the role and functions of the major domestic policy-making bodies and by describing the evolution of China's telecommunication regulatory framework over the past 15 years. The unfolding of the reforms in the telecommunication sector provides an interesting take on the dynamics of policy-making in the era of economic reforms. It addresses Ure's statement that China's telecommunication policy-making is "*a complex affair involving the interplay of many different interests subsumed under the national priorities as determined by the Party leadership, and as reflected through the State Council and other organs of government*"³² and revisits Mueller and Tan's description of policy changes³³. Second, by studying the impact of China's WTO accession on the telecommunication reform process and outcome, it seeks to improve our understanding of the connection between international trade and domestic telecommunication policy-making. By analysing in more details the supra-national bargaining layer described in Lovelock's research on China's national information infrastructure³⁴, it adds to our empirical knowledge of the nature and effect of the relationship between the supranational telecommunication regime and domestic reforms. This allows us to verify a number of hypotheses on the impact of the supranational level

³² Ure (1997b: 3).

³³ Proposals for policy changes come from top leaders. Government ministries and agencies can themselves initiate policy changes within their own jurisdiction, or a coalition of rival ministries propose a redistribution of power, control, and assets among rival ministries (Mueller and Tan, 1997: 53).

³⁴ Lovelock (1999).

on domestic regulatory reforms and in particular, the nature and extent of the regulatory alignment with the international telecommunication regime. Third, the examination of the evolution of China's approach to telecommunication liberalisation, including corporatisation and the introduction of competition, provides a basis of comparison for other transition economies undergoing similar transformations. For example, Russia shares quite a number of similarities with China, both as a former socialist economy and as a country negotiating its entry to the WTO while engaged in the reform of its telecommunication sector³⁵. In other words, the challenge posed by China on the conventional wisdom about reforms may offer alternative paths to telecommunication policy-makers in developing countries. It shows at least that there is not a single approach as China has proven, by adapting rather than adopting, the "orthodox" liberalisation programme.

One of the problems faced by scholars in the study of telecommunication policy-making and reforms is that most of the work is atheoretical and therefore unable to provide systematic understanding, explanations, and evaluations of rapidly changing phenomena. In other words, social scientists lack systematic frameworks to comprehend the various elements involved in the phenomena³⁶. The second major problem when studying policy-making in China is access to people and documents. Despite notable improvement in transparency, access to civil servants in the key policy-making agencies remains difficult. Copies of draft laws and regulations get published in an episodic manner. Even in international gatherings, such as APEC TelMin, the government seldom circulates formal statements or reviews of its telecommunication policies.

Studies in political science tend to bifurcate between those that emphasise policy preferences (e.g. Marxists) and those that emphasise institutions. Non-institutional approaches often overlook long-term institutional factors that shape the way in which regulators and legislators react to policy demands and translate those demands into government action³⁷. An institutional approach is employed³⁸. In much of this literature,

³⁵ Yang (1999: 532).

³⁶ Cho (1998: 18).

³⁷ Galperin (2004: 163-164).

³⁸ Institutions are defined as the formal rules governing decision-making. They are separated from the features of 'policy', which constitutes the dependent variable. In Thatcher's study, the national institutions chosen for investigation are those relating to the telecommunication sector, such as ownership of suppliers, the establishment of sector-specific independent regulatory bodies and the formal powers of decision-makers. The study examines 'policy-making' which includes processes, instruments, objectives and outcome (Thatcher, 1999: 25-26).

the watchword has been the “path dependence” effect of institutions³⁹. Historical institutionalists emphasise the role of institutional choices made early in the development of policy areas, or even of political systems. The argument is that these initial choices (structural as well as normative) have a pervasive effect on subsequent policy choices. It appears in these arguments that even if subsequent structural changes are made, the initial choices have an enduring impact.

The institutional approach rests on a number of concepts. First, institutions divide power and responsibilities between the organisations of the state. Second, the approach emphasises the uniqueness of institutions both in time and in place⁴⁰. Third institutionalist arguments emphasise structure at the expense of agency⁴¹. Institutional analysis focuses attention on state actors and structures to explain public policies. It underscores how both formal and informal arrangements shape political interactions and influence the outcome of government action.

The institutional approach is divided into a number of sub-groups. The bureaucratic politics model postulates that interactions within bureaucracies explain policy-making as much as the intentions of politicians⁴². New institutionalism places the state at the centre of analysis but recognises a variety of influences on policy (e.g. economy). The approach provides a solid conceptual foundation to examine the determinants of communication and information policies, and is particularly useful for the study of long-term policy patterns or international comparisons.

Institutions are thought to affect the power of groups, shape the way ideas circulate to influence policy and influence coordination of public decisions⁴³. Because of stability, institutions are an *independent* factor affecting political behaviour⁴⁴. Thus, institutional analyses share the proposition that institutions are neither a mere reflection of other forces, nor neutral arenas within which political behaviour, driven by more fundamental

³⁹ In contrast to the preference-based argument, ‘new institutionalists’ have focused on political institutions, largely to the exclusion of preferences. The rational choice version of institutionalism has focused on the problem of equilibrium selection. In the non-rational choice version of institutionalism, scholars have emphasised the role of formal and informal institutions in shaping policy choices.

⁴⁰ See (Thatcher, 1999; Schneider and Tenbücken, 2003).

⁴¹ See Finnemore (1996).

⁴² See (Allison, 1971; Rhodes and Dunleavy, 1995; Hills and Michalis, 2000).

⁴³ John (1998: 57-58).

⁴⁴ See (Hall, 1986; Steinmo, Thelen et al., 1992; Galperin, 2004). The neo-institutional theory is based on the assumption that the likelihood of institutional change increases when the current institutional arrangement is misaligned with the interests of the major groups involved.

factors, occurs. Institutionalists argue that institutions shape policy by affecting the context of debate and the power of actors wishing to reform policy-making⁴⁵.

A number of scholars have applied an institutional approach to the study of telecommunication policy-making and reforms⁴⁶. For example, at the heart of institutionalist analysis lies the claim that a country's institutions do not adjust rapidly to societal or other contextual and environmental changes, but represent a set of independent variables that influence policy⁴⁷. National institutionalists analyses link the characteristics of institutions to the features of national policy-making that they are seeking to explain (continuities and cross-national differences)⁴⁸. For institutionalists, details of political system, such as rules and organisations, matter in terms of public policy development. Policies are conceived as the result of incentives operating on political officials and these incentives are the result of interactions between political activities of constituents and political institutions through which these activities must be channelled⁴⁹. The approach stresses the characteristics of the formal political system, emphasising the role of different national institutions as key independent variables in the policy-making process. The domestic political system is thus seen as a central element in explaining variations in telecommunication policy outcomes. For example, a closed policy process with a high concentration of power in the state is more likely to succeed in introducing reforms in the telecommunication sector than open, decentralised ones⁵⁰. It is also argued that the structure of political incentives and political institutions in each country powerfully shape how the country will reallocate the property rights and reorganise the regulation of communications system⁵¹. Thatcher argues that:

*“National institutions are important for the starting point of reform. Policy modifications in a country are related to past circumstances, notably the institutional framework, which influence the actors involved in reform, their aims and ideas, and the distribution of resources and power amongst them.”*⁵²

In his view, three types of change can be envisaged: policies can be altered within a given set of national institutions, national institutions themselves can be modified, or institutions themselves may influence non-institutional pressure for change. In the first

⁴⁵ March and Olsen (1989).

⁴⁶ See Braathen (2004).

⁴⁷ March and Olsen (1996).

⁴⁸ Thatcher (1999: 12).

⁴⁹ Noll (1986).

⁵⁰ Petrazzini (1995: 41).

⁵¹ Cowhey (1990) and Petrazzini (1995).

⁵² Thatcher (1999: 16).

case, exogenous factors can cause existing but previously latent institutions to become active and/or new actors to pursue new goals through existing institutions⁵³. Thatcher identifies four key institutional features for national patterns of policy-making in telecommunications: the organisational position of the network operator, the powers of elected politicians, financial instruments and rules applicable to public policy in the sector, and the existence and powers of an independent regulator⁵⁴. Bartle notes that even in sectors where there are powerful trans-national economic and technological pressures, the only way to properly understand the process of reform is to analyse national institutional structures, norms and decision-making procedures⁵⁵.

At the very least, a country's institutions provide the framework through which other factors – be they market, demographic or technological forces or conflicts between interests – must pass in order to influence public policy⁵⁶. “Although national institutionalists explanations place a country’s institutions at the centre of their explanations, they do not claim institutional determinism. Rather institutions structure decisions”⁵⁷.

Institutionalism is clearly differentiated from contextual approaches, which emphasise the way order is imposed on political institutions by an external environment. Institutionalism, by contrast, posits a greater independence for political institutions, which can provide order and influence change over and above exogenous imperatives. At the same time, a stress on national institutions should not underestimate the importance of the nature of the relationship between institutions and exogenous forces. Institutionalism is also challenged by statism, which sees the state as a decision-making entity analytically separate from its constituent parts and pursuing national interests, such as internal and external stability or positive assertion of national power in the international community⁵⁸. Here, the state is not discussed as a single entity, but rather as an aggregation of organisations and institutions, each with its own interests.

⁵³ Thatcher (1999: 16-18).

⁵⁴ Thatcher (1999: 309). Institutions are an exogenous factor in national policy-making: they influence public policy but policy-makers are not able to alter them rapidly.

⁵⁵ Bartle (2001: 3-4). Institutional theory does not repudiate the context *per se*, but the primacy attached to it. In the new institutionalism, exogenous forces can provide the stimuli for policy and/or institutional change but the actual response is shaped by institutional factors.

⁵⁶ Thatcher (1999: 10).

⁵⁷ Thatcher (1999: 19).

⁵⁸ For communications, relevant facts are linkages between the sector and policy, and the purpose of the state (Noll, 1986: 51-52). Tang and Lee (2003: 20) argue that China’s telecommunication development can be understood through the perspective of Statist Theory.

One of the key criticisms to institutional approaches is that actors and groups often circumvent institutions in pursuit of their interests. Moreover, social context shapes and mediates formal arrangements. Another limitation of the approach is that it tends not to emphasise the distinctiveness of each policy sector: single-sector studies are limited in their ability to assess the relative influence of sector-specific technical and economic forces in the policy process. In his study of telecommunication reform in three European countries, Bartle finds that national institutions have significantly influenced the pace and timing of reform but that they can not clearly account either for the shift from monopoly to competition, nor for the decisions to liberalise, privatise, nor for the rise of competition-orientated regulation. At the same time, techno-economic forces have provided impetus for reform but they cannot sufficiently fill the explanatory gap left by institutions⁵⁹. Hills and Michalis argue that regulatory regimes themselves are variables in bureaucratic and institutional turf wars and in the political process⁶⁰. The second criticism is that the institutional approach works best when comparing policy-making and implementation between nation-states, but is less able to explain policy-making differences between policy sectors and policy change.

For Bauer,

*“Neoclassical theory and traditional regulatory theory typically relegate technological change, innovation, and institutional and regulatory change to external forces impacting on an industry. In contrary, evolutionary models study the interplay of endogenous forces within the economic system with the environment of economic agents.”*⁶¹

Thus, the most promising avenue is a hybrid approach, combining case study work, diversity-based methods, and traditional quantitative methods using more carefully specified measures for legal and institutional variables⁶². In a way, our approach resembles what Dyson and Humphreys proposed. They argued for a neo-pluralist perspective in which communication policies are viewed by as “being shaped by highly complex configurations of forces, international and domestic, within which institutional structures and policy networks play a central role.”⁶³

⁵⁹ Bartle (2002: 21-22).

⁶⁰ Hills and Michalis (2000: 459).

⁶¹ Bauer (1999: 17).

⁶² Bauer (2003: 19).

⁶³ Accordingly, attention must focus on such factors as the character of the governmental and administrative systems, the consensus requirements of the party system, electoral pressures, the characteristics of policy networks, the nature of international institutions and the organisation of markets. One needs to look not just at national political institutions but also at international institutions and sectoral variations (Dyson and Humphreys, 1990).

In the historical-institutionalist tradition, factors such as policy learning, institutional isomorphism, state traditions and structures, political leadership, and the broader institutional context are at the centre of the analysis. In addition, historical institutionalism scholars stress the role of former or previous institutional arrangements or choices. These institutional arrangements may include, among other things, electoral rules, the relationship amongst the various departments in the government, and the relationship of the government and private actors⁶⁴. A central goal of most historical institutional analysis is to estimate the impact of variations in institutional forms and configurations on a particular outcome or set of outcomes. It is historical because analysts argue that once constructed at a moment in history, institutions typically endure for significant periods of time, influencing political dynamics and associated outcomes in subsequent periods⁶⁵. Hall and Taylor highlight four features of historical institutionalism⁶⁶: 1) it has a tendency to conceptualise the relationship between institutions and individual behaviour in broad terms; 2) it emphasizes the asymmetries of power associated with the operation and development of institutions⁶⁷; 3) it advocates a view of causation that is “path dependent” since the political forces will be mediated by the contextual features of a given situation inherited from the past; 4) it is concerned with integrating institutional analysis with the contribution that other kind of factors, such as ideas, can make to political outcomes⁶⁸. Our purpose in adopting a historical institutional approach is to question just how those factors have affected China’s telecommunications regulatory policy-making. Whereas Lovelock and Ure contend that the ‘fragmented authority’ structure is strategic and that central authority has not been undermined⁶⁹, this thesis argues that the conjunction of the reforms carried out since the mid-1990s and the accession to the WTO have dealt a fatal blow to the traditional bargaining regime under which China’s telecommunication policy-making operated until now.

Most of the research was carried out over a period of three years in Geneva (spring 2001), Beijing and Shanghai (autumn 2001, summer and autumn 2002, autumn 2003). A variety of text-based sources were used including online media (Factiva) and more traditional academic journals. In addition, more than 70 confidential interviews were conducted with

⁶⁴ Thelen and Steinmo (1992: 2).

⁶⁵ Liebermann (2001).

⁶⁶ Hall and Taylor (1996: 939-942).

⁶⁷ Historical institutionalists are likely to assume a world in which institutions give some groups or interests disproportionate access to the decision-making process.

⁶⁸ It typically seeks to locate institutions in a causal chain that accommodates a role for others factors, notably socio-economic development and the diffusion of ideas in a world that is more complex than that of tastes and institutions often advocated by pure rational choice institutionalists.

⁶⁹ Lovelock and Ure (2000: 10-11).

Chinese and international telecommunication operators, equipment manufacturers, civil servants from the Ministry of Information Industry (MII) and from the Ministry of Foreign Commerce (MOFCOM)⁷⁰. Most interviews were conducted in English⁷¹ and “off-the-record”. Interviews usually lasted one hour and were structured around open-ended questions, following a list of pre-established questions. The majority of them were recorded and re-transcribed. All interviews were conducted under conditions of anonymity, but a confidential list of interviewee positions, location and date are available from the author on request.

⁷⁰ Ex-Ministry of Foreign Trade and Economic Cooperation (MOFTEC).

⁷¹ Interviews conducted in Chinese were translated by a Chinese doctoral student.

A preview of the argument: WTO accession and telecommunication reforms on dual tracks

Two processes have influenced China's telecommunication regulatory policy-making for most of the 1990s. First, China embarked in 1993 on a telecommunication liberalisation programme, which resulted in profound structural changes. Second, in line with its economic reforms and increased participation in the world economy, China has been seeking access to the WTO. This deeper integration in the global economic environment⁷² should have resulted in the *de jure* and *de facto* alignment of the telecommunication regulatory environment with rules and norms in force in the international telecommunication regime. Indeed, telecommunication regulation is characterised by technical complexity and uncertainty. This, combined with the fact that governments are anxious to secure the benefits of reforms, make it an area ripe for modelling⁷³. Braithwaite and Drahos have found that the modelling mechanism has been very important in the spread of regulatory policies for telecommunication, explaining both the diffusion of a regulatory scheme and its maintenance and stability⁷⁴.

In reality, China's telecommunication regulatory policy-making and the reforms that have resulted bear little resemblance with other countries, either developed or developing. In terms of privatisation, the government has maintained a majority ownership in the largest operators. Competition remains limited in basic services and the independence of the regulator is far from being achieved. This thesis argues that the idiosyncratic nature of China's telecommunication reforms must be viewed in the broader institutional environment in which they took place.

Henisz et al. decompose market-oriented infrastructure reforms into domestic and international context (see Table 2). For them, "international coercion occurs when powerful actors influence the policy choices of governments directly, or when such actors alter the outcome of a domestic policy struggle by favouring the domestic coalition

⁷² See Lardy (2002).

⁷³ Modelling is defined as "action(s) that constitute a process of displaying, symbolically interpreting and copying conceptions of action (and the process itself). A model is a conception of action that is put on display during such a process of modelling. A model is that which is displayed, symbolically interpreted and copied" (Braithwaite, 1994).

⁷⁴ Reciprocal adjustment has proven to be the other major mechanism in the globalisation of telecommunication regulation (Braithwaite and Drahos, 2000: 353-355). For a detailed analysis of coercive pressures, see Ives (2003).

supporting a given policy. The former concept of ‘direct coercion’ implies that domestic groups or parties that set policy simply acquiesce to international pressures”⁷⁵.

Table 2: Domestic and international components of market-oriented reforms

Domestic	International
Demand (sector performance and interest groups)	Coercion
Supply (fiscal pressure, technology and political institutions)	Emulation

Source: Adapted from Henisz, Zelner et al. (2004).

What then explains the relatively weak impact of China’s WTO accession process on the overall telecommunication reform process? One could of course argue that it is due to the fact that both processes were going in the same direction. As we will see, this is not the case. On a number of issues, such as foreign direct investment or market access, China resists alteration of its telecommunication market. In other words, how can we then explain that China has been able to accommodate the changes that took place in the supranational telecommunication environment?

This thesis argues that both processes were on parallel tracks. WTO commitments did entail a certain number of concessions in terms of market access, as well as the abidance to the Reference Paper. But, on the other side, the issues brought by the on-going reforms of the sector, such as liberalisation, decentralisation or privatisation had in practice little direct relation to the WTO negotiations. Thus, both processes could be conducted at the same time with a relative insulation between them.

While the State Council and the Ministry in charge of the foreign trade were negotiating commitments that would result in the acceptance of supra-national rules and regulations with direct and lasting implications for the telecommunication sector, the Ministry in charge of telecommunications was attempting to reform the sector in a careful and gradual manner, thus leaving little opportunities to model its telecommunication reform programme on international norms. The explanation to the isolation of both processes is also to be accounted for by the periodisation of events (see Table 3). Whereas the resumption of negotiation started in 1986, the inclusion of telecommunication services in

⁷⁵ Henisz, Zelner et al. (2004: 15). For Henisz et al. “studies of the adoption of reform should include both the institutional forces emphasised by neo-institutional sociology, and the economic and political forces highlighted by scholars in positive political economy”. Deregulation, privatisation and liberalisation are used as dependent variables. The major weakness of Henisz et al. approach lies in the fact that they fail to separate direct coercion by multilateral lenders from the indirect empowerment of domestic political actors to achieve their desired policy outcomes.

the schedule of commitments took place only after 1995 and it did not really become a source of intense negotiations until 1998.

Table 3: Telecommunication reforms and WTO accession on dual tracks

	1986-1989	1989-1994	1995-2001
GATT/WTO accession	Resumption of negotiations	Push for joining before conclusion of Uruguay Round (mostly goods)	Inclusion of services in the negotiation
Telecommunication sector	No reforms		Structural and institutional reforms

Source: Adapted from Liang (2002).

A further argument is that the reform process was able to integrate, or at least accommodate, the external pressure brought by the WTO accession for two reasons. First, the Chinese government was not facing fiscal or debt crises during the accession process. The formidable growth of the Chinese economy over the past 20 years had given the government a cushion of security to deal with periods of inflation and insulated it from the conditionalities often imposed by multilateral agencies on developing countries. Second, the sheer size and potential of the Chinese telecommunication market has allowed the government to extract from its foreign partners concessions seldom granted to other developing economies.

Given the scale of China's economic transformation in China over the past 20 years, the belated telecommunication reforms nonetheless raise the questions about the origin, nature and direction of change, albeit limited, in the industry. Much of the literature devoted to change in China's telecommunication industry at the end of the 20th century mentions the accession to the WTO. While there is little doubt that more than 15 years of negotiations with foreign governments and the commitments that ensued have acted as an element of pressure on the telecommunication sector, the overall impact remains hard to estimate. While Tipson argues claims that "*the greatest multilateral influence on Chinese telecommunications policies results from the leadership's interest in seeing China become a member of the World Trade Organisation*"⁷⁶, the pressure brought by the accession must indeed be seen in the context of numerous factors, both domestic and international, which have contributed to altering the course of the reforms process⁷⁷. For example, Zhang argues that the driving forces which placed China's telecommunications industry on the liberalisation track came not from inside the telecommunications industry, but from the political will of China's leadership and the pressures of accession to the

⁷⁶ Tipson (1999: 244).

⁷⁷ However, in some instances, international pressures 'reverberate' within domestic politics, tipping the domestic balance and thus influencing the international negotiations (Putnam, 1988: 454).

WTO⁷⁸. DeWoskin acknowledges the role of three factors: technological change, exposure to international capital markets and high-level recognition of the need to support China's economic growth with a vastly improved IT infrastructure⁷⁹. In other words, both the institutional setting and a number of elements exclusive to China's economic development made it possible for China to largely resist a standard telecommunication reform model.

⁷⁸ Zhang (2001: 468).

⁷⁹ DeWoskin (2001: 652).

Chapter plan

Chapter two presents China's telecommunication policy-making framework. After drawing a boundary between the services and equipment sector, both the structure and the mechanism of the policy-making process are described. Key policy-making actors and instruments are identified.

Part II describes the domestic component of China's telecommunication reforms. **Chapter three** provides data points on the growth of the telecommunication market. A number of elements, such as the overall decentralisation process and flexibility in funding, are put forward to explain the massive network deployment in the second part of the 1990s. **Chapter four** looks at China's idiosyncratic telecommunication liberalisation programme. Special attention is paid to the introduction of competition and to China's model of privatisation. A brief comparison with the reforms conducted in the electricity sector is provided to highlight the particularities of the telecommunication sector.

Part III studies the external pressures to reform. **Chapter five** describes the international telecommunication regime and China's relationship with supranational actors. The issue of foreign direct investment is raised, before considering the questions of sovereignty and national security. **Chapter six** specifically analyses the impact (or lack of) played by the WTO accession on the reforms. Both the history of the accession and the outcome are reviewed. The discussion then turns to the issue of consistency with the domestic regulatory environment and raises the question of compliance.

Part IV evaluates the state-of-the-play regulatory environment and presents the conclusion of the thesis. **Chapter seven** presents an evaluation of the reforms and places them in an international context. It then highlights some of the open issues before asking whether China's harmonisation with international norms and rules prefigures the birth of a regulatory state. **Chapter eight** gives an overview of the dissertation, summarises the key contributions and discusses future avenues for research.

2 Framing China's telecommunication policy-making

"The single most important institution that is creating a whole new set of relations and structures in modern telecommunications is the market."

(Joseph and Drahos, 1998: 100)

"The problem that many observers – both Western and Chinese – have with the complexity of the policy-making process is separating out the various strands to understand each aspect and then re-integrating them into an overall policy perspective."

(Lovelock and Ure, 2000: 3)

Three schools tend to dominate Chinese policy-making theory – pluralism, elitism and institutionalism. The first one stresses that competition and bargaining among political interests determine the direction and output of China's policy-making⁸⁰. It argues that China's policy-making process is increasingly pluralised within a framework of bureaucratic authoritarianism⁸¹. For instance in foreign trade, while the decision-making process still excludes societal interests, the decentralised governmental structure has opened the way for greater influence from a multitude of domestic bureaucracies as well as international forces. The second school stresses the decisive role of China's top political elites in the policy process⁸². There too, however, policy is increasingly formed on a more inclusive rather than exclusive basis, with a broader band of consultative organs involved in the process and also a shift in the principal loci of executive policy deliberation and decision-making to a wider and slightly different set of institutional actors⁸³. The third one emphasises the importance of institutionalised element on China's policy-making process. It explores in particular the role of bureaucratic structures⁸⁴. While China's formal political structure seems to produce a unified, interactive, and hierarchical chain of governance, in reality it is often divided, segmented, and stratified, generating interagency competition, power conflicts, and problems of coordination. A good example of this fragmentation is provided by the lack of national authority for overall coordination within China's information industries that resulted in the split of responsibilities among several government agencies⁸⁵. In the early days, the telecommunication sector was firmly under control of the national monopoly and *de facto* of the central government. But telecommunication became caught in a cycle of bureaucratic competition and politicisation. Competitors of the Ministry of Post and

⁸⁰ Conversely, Hamrin and Zhao (1995) have argued that the Chinese government has maintained its monopoly on policy-making authority despite finding itself "persuading, consulting or bargaining" with a multitude of lower-level actors over the implementation of its policies.

⁸¹ Zhao (1995: 241).

⁸² See (Dittmer, 1995, 2001; Fewsmith, 2001).

⁸³ Shambaugh (2001: 103).

⁸⁴ See (Lieberthal and Oksenberg, 1986, 1988; Lampton, 1992; Lieberthal and Lampton, 1992).

⁸⁵ Kraemer and Dedrick (1994: 18).

Telecommunication (MPT) mostly shunned cooperation adopting instead a strategy of monopoly breaking that politicised China's telecommunication industry over the course of the 1990s⁸⁶.

Studies on China's telecommunication policy-making are increasingly subject to scholarly research. One of the first and best studies available is Lovelock's thesis on the evolution of China's National Information Infrastructure (NII). He offered to look at policy-making through a bargaining framework lens – as an alternative to a regulatory model. A bargaining perspective is often used to study policy-making and reforms in China. Boisot and Child applied it to an analysis of the economic reforms and Ure employed a bargaining approach to describe how rivaling Ministries gained entry or influence over different aspects of the national information infrastructure⁸⁷. The argument goes that, because of bureaucratic compartmentalism, the formulation and implementation of policy in China usually take place within bureaucracies and through bargaining among central formal agencies⁸⁸. In other words, the Chinese government bureaucracy makes decisions by a system of “delegation by consensus” where Party leaders delegate the authority to subordinate government agencies, which then work out economic policies⁸⁹. As Lampton has shown, the bargaining that has characterised China's interaction with the outside world in gaining access to high technology and industrial finance has been replicated domestically between contending bureaucratic and entrepreneurial interests⁹⁰. In the bargaining model, specific political outcomes arise from bargains struck when organisational goals of interested bureaucracies collide. In addition, the presence of a superior-ranking body is often necessary to manage the process and legitimise the outcome. It then often creates an *ad hoc* coordinating agency to represent it during the actual bargaining process. Such a model explains, for example, the creation of the Inter-ministerial Coordination Group on GATT to deal with the WTO negotiation or the fact that the policy-making system still relies heavily on “leading groups” (*lingdao xiaoxu*). The bargaining model appears very useful at dissecting the negotiations that take place among domestic actors. While apt to explain in good part the nature and process of reform that took place until 2001, a bargaining framework loses its explicative power when facing a more formal regulatory environment – through the introduction of

⁸⁶ Feigenbaum (2003: 209-210).

⁸⁷ Boisot and Child (1988) and Ure (1997b).

⁸⁸ Feigenbaum (2003: 172).

⁸⁹ Shirk (1993: 127). The bureaucratic process of building consensus among agencies with different policy agendas is known as policy coordination or *xietiao zhengce* (Wang, 1999c: 43).

⁹⁰ Lampton (1992).

regulations or the creation of a regulatory agency. As we will see, the final years of the WTO accession have shown that bargaining did indeed take place between MOFTEC and MII but that, whenever an issue remained undecided, the State Council stepped in to resolve the conflict. Lovelock's work suffers however from having been written several years before China's accession to the WTO. It could, thus, not take into account the changes brought by the process. Still, he surmised that "*the impact of China's accession to the WTO on China's policy-making could yet come to be more profound than any other influence*"⁹¹. This was later partially addressed by Zhang who drew on bargaining and institutional theory to explore China's telecommunications policy-making mechanism as well as the impact of China's entry into the WTO on its telecommunications reform and transition. He found that policy-making is subject to "*constraints of political and administrative endowments, which undermine the independence of telecommunications regulation and weaken policy-making authority*"⁹².

The bargaining model was preceded by the power model of Lieberthal and Oksenberg, which posited that policy outcomes result from struggles among the top leaders⁹³. More recently, Mertha offered a "policy enforcement market" framework as an alternative to the power and bargaining model. His assumptions require to disaggregate from the state level of analysis and examine the discrete functional bureaucracies and the factors that shape the dynamics of interaction between them. In his model, dynamics between bureaucracies are resolved through competition, not consensus⁹⁴. As we will see, a prime example of this dynamics is found in the creation of China Unicom, which broke the long-held monopoly of China Telecom.

Studies have also looked at the reform process *per se*. Works tend to be of descriptive nature and cover the reforms undertaken in the sector over the past decade. They consist in single case studies and general accounts⁹⁵. One of the key studies on telecommunication reforms was written by Mueller and Tan. Although the authors underestimated the changes that were taking place, their study highlighted five distinct but related factors affecting telecommunication reforms in China: 1) the problem of central-local relations, 2) the unique political-economic pressures created by a state-

⁹¹ Lovelock (1999: 313). See also (Lovelock and Ure, 2000).

⁹² Zhang (2002: 337). Zhang makes a further partition between formal and informal institutions.

⁹³ Lieberthal and Oksenberg (1988).

⁹⁴ Mertha (forthcoming: 22).

⁹⁵ Chang (1994), Ure (1994a) and more recently (Liu, 2003; Lu and Wong, 2003; OECD, 2003b; Pearson, 2003; Loo, 2004). See also (China (Hainan) Institute of Reform and Development, 2002; Taylor, 2002) for normative discussions of China's telecommunication reforms.

dominated economy subjected to market forces, 3) the problem of privatisation and legal reform, 4) the problem of foreign involvement; and 5) the need for political repression⁹⁶.

Gao and Lyytinen address the issue of telecommunications reform from a macro perspective. Both the issue of reform in the regulatory regime and changes in the market structure are examined. The main argument is that China has pursued an ‘Act After Trials’ approach to reform. While offering an interesting historical approach to the telecommunications sector, their research suffers from a lack of links/explanations between the main periods and from an inexistent conceptual model. The latter weakness was partly corrected in a subsequent paper by adopting structuration theory⁹⁷.

The last stream relevant to our research has concentrated on the WTO. This increasing body of literature predicts and discusses the impact of China’s accession to the WTO on the telecommunication industry and, in some cases, provides an initial analysis of the commitments⁹⁸.

A number of scholars have applied a public interest approach to the study of telecommunication reforms in China⁹⁹. Using such an analytical framework, Fan provides an in-depth presentation of China's complex telecommunication infrastructure and regulatory underpinnings¹⁰⁰. He argues that, following a tradition focusing on leadership and personalistic politics, political power and ensuing policies are often vested more in individuals than in specific institutions. Elite influence initiates policies, and relevant bureaucratic bodies configurate and implement them at both national and local levels. In his thesis on China's telecommunications reforms, Guan uses a “*public choice plus*” theory¹⁰¹. Building on rational choice theory, he identifies a Chinese “iron triangle” of politicians, bureaucrats/regulators and interest groups. By studying the process by which China has gradually brought competition into its long monopolised telecommunications service market, he shows how factors and forces – interests, ideology, technology, ideas, institutions and internationalisation of markets – have affected, and will continue to affect the reform agenda, policy-making process and policy outcomes. Guan’s public choice

⁹⁶ Mueller and Tan (1997: 9).

⁹⁷ See (Gao and Lyytinen, 2000; Gao and Lyytinen, 2003; Yu, Berg et al., 2004).

⁹⁸ Mueller and Lovelock (2000); Shen (2000); Xu (2000); Xu and Kan (2000); Pangestu and Mrongowius (2002); Zhang (2000; 2001; 2002) ; OECD (2003a).

⁹⁹ According to Singh (2000: 900), the Chinese state is primarily driven by awarding of favours to groups with the most access to state decision-making. These personalistic favours and the definition of telecommunications as a public good shape the emerging property rights in telecommunications.

¹⁰⁰ Fan (1996; Fan, 2001).

¹⁰¹ Guan (2003).

approach provides a plausible explanation of why MPT and later MII resisted so vehemently to the reforms. There is little doubt that increased transparency in the regulatory environment would reduce their ability to control the telecommunication sector and jeopardise a large amount of vested interests. This approach reaches its limit when trying to explain the stalemate in the reform process once operators gained independence from MII through the policy of separation of enterprises from government (*zhengqi fenkai*). One could argue that, contrary to the claim of government officials, the independence of telecommunication operators from the ministry is relative, and that the latter thus derives benefits from maintaining a strong “involvement”. In fact, several instances tend to prove that the operators have indeed attained a certain level of autonomy. For example, operators have publicly voiced their impatience at the government indecision on 3G licence issuing, relative both to timing and technological choice. But the biggest fault one can find with this approach is probably the fact that it has been developed to study policy-making processes in democratic political systems and is therefore ill suited to the Chinese context. The iron-triangle of politicians, bureaucrats and interest groups carries little relevance in China.

From a broader perspective, many scholars argue that the understanding of telecommunication reforms needs to take into account institutional factors¹⁰². In fact, the role of institutions in the process of telecommunication reforms is dual. On the one hand, telecommunication reforms have often caused profound institutional changes. Public telecommunication operators (PTOs) were separated from the Ministry in charge of telecommunications or had to face competition from new entrants. On the other hand, existing institutions proved to be a factor slowing down the reform process. Thanks to their long-lasting relationship with the Ministry, incumbents were able to extract rents from the government. Surprisingly, relatively few telecommunication studies emphasise the institutional aspect of the Chinese reform process. Even when doing so, they tend to underestimate the broader impact of the WTO on the overall reform process:

“Subject to the deep-rooted political, legislative, and administrative constraints, the prospective implementation of the WTO agreement in China's telecommunication industry is uncertain. In addition, the huge gap between China's telecommunication regulatory institutions and requirements of Reference Paper, plus weak and moderate terms and conditions, constitute extra barriers for China's implementation of its

¹⁰² Noll (1999b) and Singh (2000: 887). Petrazzini (1995: 5) argues that in LDCs, telecommunication reforms and their divergent policy outcomes have clear political underpinnings.

commitments. All in all, the current overwhelming impacts of the WTO on China's telecommunication industry would die away soon."¹⁰³

Even fewer efforts have been applied to isolating the impact of the WTO accession process on telecommunication policy-making in general and on the reform process in particular. There are some exceptions. DeWoskin centred his analysis on the WTO negotiation and its broader implications by placing telecommunication in the context of the declared overall goals of China's GATT/WTO initiative (namely the securing of trading relations with the outside world and the stimulation of domestic reforms to prepare Chinese players for global competition)¹⁰⁴. He notes the improved understanding of global telecommunication practices and structures gained by China. His work falls short on analysing the impact of the accession on post-WTO reforms. Zhang draws on institutional theory and bargaining theory to analyse China's telecommunications policy-making mechanism. By drawing on new institutional economics, Zhang contends that the 'rules-of-law' specified by the WTO, as an exogenous institution for the member states, will theoretically influence its members' domestic telecommunications regulatory institutions, but that the actual effects will be different and will depend on the institutional endowments of the host countries and their institutional stances¹⁰⁵. This thesis provides a potential answer to Zhang's hypothesis.

This chapter argues that China's telecommunication policy-making is shifting from a closed arena to an agora where a multitude of actors have a role to play¹⁰⁶. Unfortunately the increase in the number of stakeholders in the policy-making process has blurred the functions and responsibilities of the traditional policy maker (MII). It has resulted in the agency's incapacity to thoroughly restructure the telecommunication sector. The structure of this chapter follows Kitschelt analysis of policy-making¹⁰⁷. After establishing a boundary between telecommunication services and equipment manufacturing, this chapter reviews the structure and mechanisms of China's telecommunication policy-making. It identifies the key actors and their role. The last section presents the regulatory framework.

¹⁰³ Zhang (2000: 31).

¹⁰⁴ DeWoskin (2001: 642).

¹⁰⁵ Zhang (2001; 2002).

¹⁰⁶ In other parts of the world, states no longer have, as they did in the past, a monopoly in telecommunications policy-making. As a result, policy-making proceeds under conditions of what might be termed concentrated pluralism (Joseph and Drahos, 1998: 99).

¹⁰⁷ Kitschelt (1986: 66-67) distinguishes four analytical aspects of policy-making: the specific institutional arenas of political decision-making, the decision-making process, the social groups that mobilise around public policy, and the economic, social and political impacts of policy, i.e. its "outcomes".

Fluctuating boundaries between the equipment and services sector

Generally speaking, the telecommunication sector can be divided between equipment and services. This section reviews the components of both sectors, discusses the boundary between them and highlights what sets them apart¹⁰⁸. To a certain extent, drawing a boundary between equipment and services is arbitrary when it comes to policy-making. In fact, for many years, official pronouncements on the centrality of telecommunication in China's economic development did not make an explicit distinction between both sectors:

“The application of modern electronic information technology will result in significant progress in the field of national economy and society; the diffusion of information technology will promote advances in production, working and living conditions; the National Information Infrastructure (NII) will be primarily supported by wide-band ISDN technology; and the national economic informatisation level will be remarkably enhanced.”¹⁰⁹

In practice, however, the era where equipment manufacturers and services operators were all under one roof is long gone. It may even never have existed. In 1980, MPT restored its exclusive right and duty to plan, construct and manage the public network. Although telecommunication services were at the time bundled with postal services, they remained administratively separated from equipment manufacturing, which was controlled by the Ministry of Electronics Industry (MEI). Over the years MPT had retained, both for military and commercial reasons, an elaborate system of institutes and factories from which it could source designs and equipment. The administrative separation did not prevent the Ministries from stepping into each other's territory¹¹⁰. For instance, MEI developed its own private telecommunication network and acted as a key factor in the introduction of competition in the services sector¹¹¹. The merger of both Ministries into MII in 1998 had only a relatively little impact. By then, the equipment sector had been largely liberalised, while the services remained tightly controlled by the central government in a manner reminiscent of the European public telecommunication operators (PTOs).

The two sectors differ in at least three aspects. First, instead of the largely monopolistic industrial structure found in services, equipment manufacturing became characterised by

¹⁰⁸ For a discussion on industry boundary, see Munir and Phillips (2002).

¹⁰⁹ 9th Five-Year-Plan (FYP) and long-range objective outline in 2010 of China's national and economic development, passed by the 4th section of the 8th National People's Congress (1996).

¹¹⁰ In the past, internal rivalries and anomalies have in fact been an important factor in the evolution of China's telecommunication policies. Decisions often have been based on considerations of internal “bureaucratic politics” between MPT and its agency rivals and critics (Tipson, 1999: 246).

¹¹¹ Feigenbaum (2003: 208). See also Chapter 3.

severe competition¹¹². Second, equipment manufacturers come under various forms of ownership, ranging from traditional State-Owned Enterprises (SOEs), like Putian, to private enterprises, like Huawei. In this respect, they mirror the ownership reform witnessed in other industrial sectors. Conversely, basic telecommunication operators remain, as of today, in majority owned by the state, barring private domestic and foreign entrepreneurs alike. Third, trade of telecommunication equipment and telecommunication services differs fundamentally. Information technology policy was recognised early as central to economic development and led the government to support both the development of indigenous production capacity and cooperation with foreign manufacturers. While trade was restricted in both sectors until the mid-1980s, the government has since opened the equipment sector to foreign trade while it restricted international carriers to operate domestically. In order to fill a mounting trade deficit in telecommunication equipment, China permitted and even encouraged foreign investment since the beginning of the 1990s¹¹³. Over time, foreign equipment manufacturers shifted their manufacturing to China while international operators remained barred from the Chinese market¹¹⁴. In the span of a decade, the ratio of office machines and telecommunication equipment (OMTE) imports and exports to total trade grew from a little above 5% to around 25%¹¹⁵. As a result, China has captured a significant part of world trade in OMTE (see Figure 1 and Figure 2). Motorola and Nokia were said to have investments in China totalling respectively USD 3.4 billion and EUR 2.3 billion by the end of 2004. Foreign telecommunication operators are largely absent from the services sector, except for value-added services (VAS). The difference of treatment between the two sectors became clear during the WTO negotiations. President Jiang announced as early as October 1997 China's commitment to join the Information Technology Agreement (ITA). Among Chinese quarters, ITA membership was viewed as *"a positive development conducive to a more favourable and liberal environment for the growth of China's IT industry and related sectors, like telecommunications"*¹¹⁶.

¹¹² While benefiting customers in China and abroad, the intensive nature of competition is actually a cause of concern to manufacturers who have seen their margin shrink in a process describes as commoditisation.

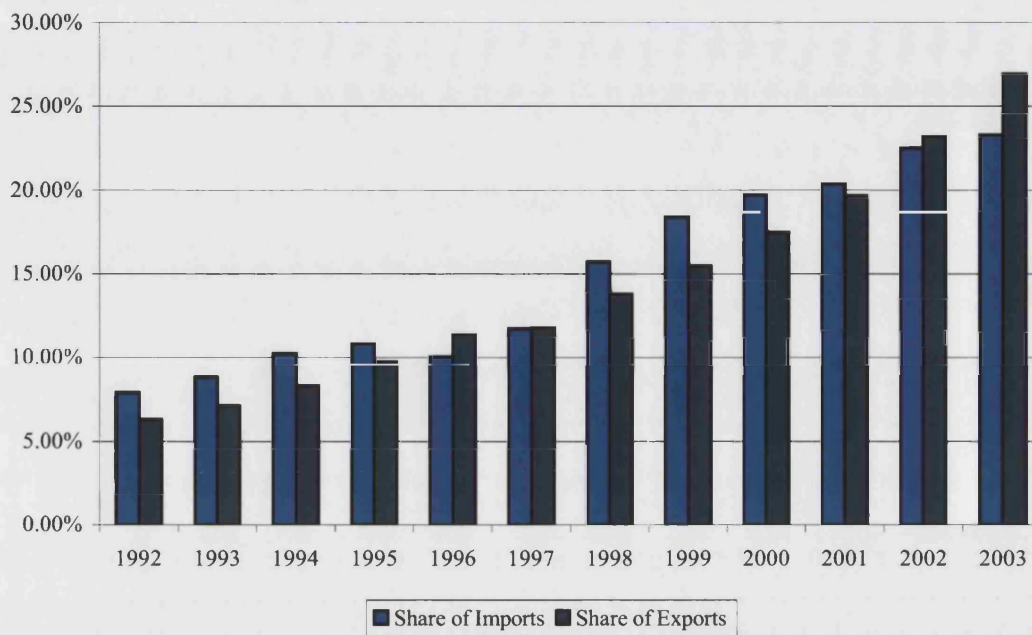
¹¹³ Horsley (2001b: 66-67) contests the openness of the equipment sector on grounds that foreign suppliers had to meet export and content requirements. She further points out that China shifted to non-tariff barriers, such as "buy local policies", import inspection, network access permits and type approval licensing.

¹¹⁴ A good example of the evolution of the pattern of trading is provided by Nortel Networks: in 1996 more than 90% of all their sales in China was done on a cross-border basis; by 2001, more than 90% of all sales were done out of domestic joint ventures (Interview (B-039), conducted in Beijing, 27 November 2003).

¹¹⁵ In 2004 the most dynamic product category in China's exports was office and telecom equipment, which increased by 45% to USD 171 billion (WTO, 2005).

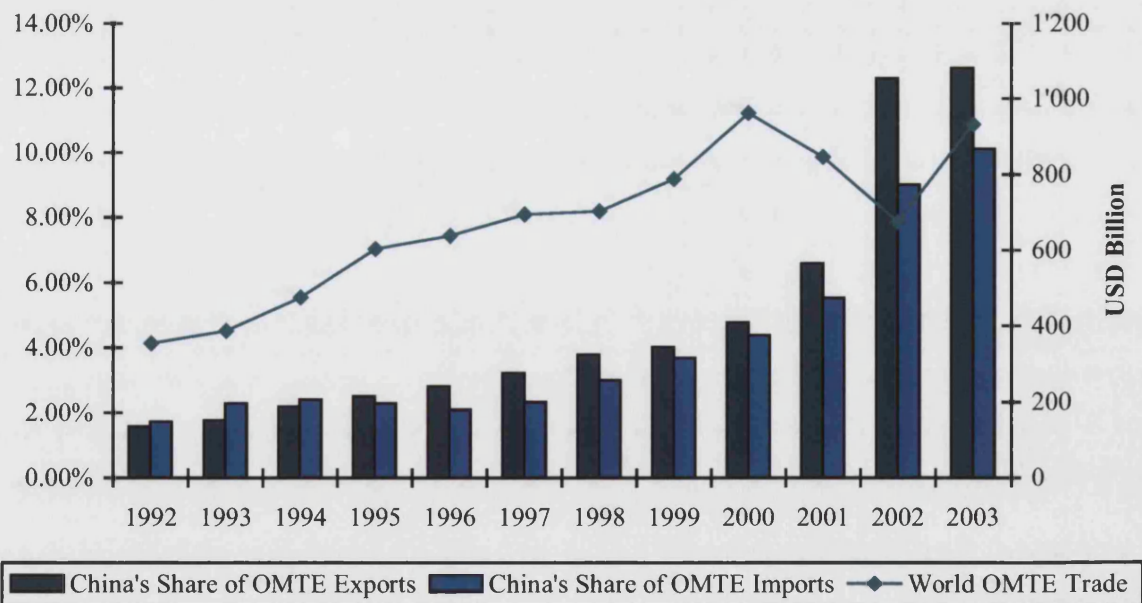
¹¹⁶ Although China signed on ITA in the accession protocol, certain members initially disagreed with China's participation on the ground of some tariffs on IT products (Interview (B-033), conducted in Geneva, 12 November 2003).

Figure 1: Share of office and machine equipment in China's total import and export, 1992-2003



Note: A vivid debate animates academic circles as of who is actually behind the growth of OMTE in China's exports with some arguing that up to three-fourth of the added value is provided by MNCs. Source: WTO (2004).

Figure 2: China's share of world office and machine equipment imports and exports, 1992-2003



Source: WTO (2000, 2004), UNCTAD (2003).

Conversely, the bilateral negotiations on telecommunication services dragged on and provided a major stumbling block to China's final schedule of commitments¹¹⁷. Later developments have confirmed China's commitment, at least in principle. In 2003, China agreed to join the WTO agreement on removing *all tariff barriers* to information technology products, such as personal computers and telecommunication equipment¹¹⁸.

Dissimilarities in the regulatory environment of both sectors go a long way to explain those differences. On the one hand, the equipment sector is governed by clear rules. Joint venture laws have provided a stable environment to foreign manufacturers while provincial and private domestic companies have been allowed to compete alongside with the incumbent SOEs. On the other hand, the services sector lacks an all-encompassing law, relying instead on ad hoc interventions by MII.

Table 4: Difference in sub-sector regulatory framework between equipment and services, China, 2004

	Equipment	Services
Rules	Investment, standards	Tariffs, services, investment
Instruments	Laws, decrees, contracts and licences	Regulation and ad hoc intervention through decrees
Government agencies	MII, MOFCOM, NDRC, State Council	MII, NDRC, State Council

Source: Compiled by author.

This is not to say that there never were any regulatory issues for domestic or foreign companies in the equipment sector. In a country coming from a planned economy model, foreign investment was often controlled and, in the earlier stages, investment in manufacturing telecommunication equipment was managed (and still is to a certain degree) by MOFTEC and MII. Equipment manufacturers had to deal with MII, MOFTEC, SDPC and SETC for projects involving foreign investment, as every Ministry had his own sphere¹¹⁹. There were also clear limitations on the number of foreign companies participating in handset manufacturing¹²⁰. In addition, some of the original constraints on venture with a majority of foreign-ownership were internal policy (*neibu*)

¹¹⁷ Borrus and Cohen (1998: 1005).

¹¹⁸ Chen and Feng (2000) find China's trade policy to be largely determined by the government's concern to protect high value-added and high-tech industries and to protect industries that incur financial losses. In their view trade policy is mainly defined by an industrial policy favouring high-tech industries and a social policy minimising social instability.

¹¹⁹ Interview (B-010), conducted in Beijing, 5 September 2001.

¹²⁰ By the end of 2002, MII had issued 49 mobile phone production licences in total, including 30 GSM licences (13 JVs and 17 domestic firms) and 19 CDMA licences (18 domestic firms and Motorola). 11 companies owned both CDMA and GSM handset production licences and 7 licensed manufacturers produce only CDMA mobile phones. Licensed JVs were required to export at least 60% of their output (Interfax, 2002a).

limitations¹²¹. Today, the attribution of new manufacturing licences remains managed by key policy-making agencies¹²², although the new legislation has simplified the licensing process. For example, the need for mobile phone makers to apply for a government licence before they can start manufacturing has been removed and applications for mobile phone production need only to be examined by the National Development and Reform Commission (NDRC)¹²³. At the same time, a number of quantitative and qualitative requirements have been put in place so that the NDRC can maintain a limit on the pool of applicants¹²⁴.

Although the boundary between equipment and services is clearly defined when it comes to the regulatory environment, both sectors remain intrinsically connected and conceal important policy linkages, often through outright state support. Prime examples are provided by TD-SCDMA and WAPI¹²⁵. The Wireless Authentication and Privacy Infrastructure (WAPI) and the alternative standard for third generation (3G) mobile telephony (TD-SCDMA) are indeed two instances of policies to support domestic equipment manufacturers, which could wield significant importance on the services sector. Policies to support domestic manufacturers are neither new to the telecommunication industry nor limited to developing countries¹²⁶. In China, they usually take the form of industry funds, procurement rules or quotas. For instance, in August 2003 the government “gave” RMB 700 million (USD 84.68 million) to the TD-SCDMA Industry Group, which is formed by eight domestic companies, to develop products and services based on TD-SCDMA¹²⁷. An IT Fund, endowed with roughly RMB 500 million annually spent in grants, was formed in 1986 and is managed by MII and the Ministry of

¹²¹ Those eventually went away but there still seems to be some limitation on wholly foreign-owned enterprise manufacturing telecommunication companies.

¹²² Under the new policy, handset manufacturers are awarded licences via government authorisation by both the National Development and Reform Commission (NDRC) and the MII (Chen, 2004b).

¹²³ Lee (2005). MII, which was the licensing authority for the sector, now plays an advisory role.

¹²⁴ According to the NDRC, “project applicants shall be enterprises specialised in research, development, production and marketing of electronics and information products, operating for at least three years, of fairly powerful economic strength and capable of building efficient after-sale service supporting system; applicants for mobile communication system investment project shall have a registered capital of no less than RMB 300 million; applicants for mobile communication terminal investment project shall have a registered capital of no less than RMB 200 million, have a research and development centre of perfect development platform and research environment, complete capability of designing complete sets and unit circuit hardware, developing chip group-based and protocol software and designing structural appearance”.

¹²⁵ The WAPI standard has reportedly been acknowledged by the International Standardisation Organisation during the ISO/IEC JTC1 SC6 session despite strong objection from the United Kingdom, which suggested transferring the proposal to IEEE. See Chapter 7.

¹²⁶ France, for example, has had a long history of supporting domestic companies in order to create national champions.

¹²⁷ In a second round of funding the government is expected to invest RMB 1.4 billion (USD 168.7 million) to aid the development of the home-grown standard (Source: eastday.com November 11, 2003).

Finance¹²⁸. In the case of second-generation mobile telephony, it was clearly indicated that Unicom CDMA equipment purchases would only be from domestic suppliers (including foreign-invested ones). It was also quite clear that 30% of the market was going to be reserved for true local manufacturers¹²⁹. Quotas were used by MII on the import of certain material and components not available in China as a means to regulate the market and to support the domestic industry¹³⁰. Moreover, we assist today at the emergence of Chinese conglomerates with national and global ambitions in the equipment sector, which has led to strategic alliances with some of the leading multinational equipment manufacturers. Standards aside, policy-making and the overall reform process in the services sector have been both more complex and politically sensitive when compared to the equipment sector¹³¹.

Categorising basic and value-added services (VAS)

The service sector can be further divided into two main segments: basic and value-added services (VAS). According to the WTO, basic telecommunications services include “all telecommunications services, both public and private that involve end-to-end transmission of customer supplier information”. In comparison, value-added telecommunications services are “telecommunications for which suppliers ‘add value’ to the customer's information by enhancing its form or content or by providing for its storage and retrieval”, such as on-line data processing, e-mail, or on-line database storage and retrieval. In other words, the former includes the provision of public network infrastructure, public data transmission, and basic communications, whilst VAS are information services provided over public networks¹³².

In China, such categorisation was for many years either inexistent or restricted to government use (*neibu*). Since its official release as an appendix to the telecommunication regulation in 2000, the catalogue of telecommunications by category, detailing each type of basic and VAS service, was subsequently revised twice¹³³. The revision introduced a new two-tiered system of classification, whereby basic and VAS

¹²⁸ By 2002, the fund had fielded RMB 2.8 billion to 1'097 projects in software, semiconductors, communications, and networking.

¹²⁹ Interview (B-039) conducted in Beijing, November 27, 2003.

¹³⁰ In addition, for the infrastructure business a certain level of local content was required (Interview (B-010), conducted in Beijing, 5 September 2001).

¹³¹ Notably because of concerns over national security and sovereignty (see Chapter 5).

¹³² http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_coverage_e.htm.

¹³³ On 11 June 2001 and 21 February 2003.

services are each further divided into “class 1” and “class 2” services¹³⁴. Class 1 includes online data processing and data processing, domestic multi-party communication services, Internet data centre services, and domestic Internet virtual private network services. Class 2 covers call centres, Internet access, storage and retransmission (e-mail, voice mail, facsimile) and information services. Based on the premise that “regulating too early might have led to regulate wrongly”, the catalogue seemed to be designed to give MII a maximum of flexibility “to re-adjust the categories as it goes along, as its understanding of the market develops, and as the market and technology change”¹³⁵.

Whereas the Chinese classification of telecommunication services may lead to confusion, several other indicators provide us with a better idea of the market structure. On one hand, the number of operators offering basic services is limited to six companies. On the other hand, by July 2004, more than 14,000 companies had been licensed to provide value-added services¹³⁶. The major reason explaining such a big difference is to be found in the conditions for obtaining a basic telecommunication service licence, which are much stricter and more restrictive than those imposed on VAS licence applicants¹³⁷.

Table 5: Major differences between basic and value-added services, China, 2004

Criteria	Basic services	Value-added services
Ownership	Exclusively state-owned enterprises; no private investment	Mix of state-owned, town and village enterprises and private companies
Market access	Severely restricted	Partially restricted but 80% involve private capital and foreign investment
Market structure	6 operators	14'000 providers

Source: Compiled by author.

The enthusiasm for the Chinese telecommunication market has mesmerised and misled the most astute observers. For instance, not so long ago, Strange argued that the range of options open to China had narrowed to picking the foreign partners and negotiating with them the best terms of alliance. While her statement held partially true for the telecommunication equipment sector at the time, it proved totally wrong for services¹³⁸: Chinese operators can choose from numerous foreign operators who have been knocking at the door for more than a decade in the hope of grabbing a slice of the market.

¹³⁴ See Chapter 6 for an analysis of the consistency between China’s and the WTO’s classification.

¹³⁵ Interview (B-032), conducted in Beijing, 18 November 2002 and Interview (B-007), conducted in Beijing, 31 August 2001.

¹³⁶ Xinhua (2005b).

¹³⁷ On one side, the valued-added area is extremely non-regulated and non policy-made. It is a huge grey zone at the moment and letting it float too long will make it impossible to bring it together. On the other side, very few countries in the world impose so many restrictions in VAS (Interview (B-034), conducted in Shanghai, 21 November 2003).

¹³⁸ Strange (1996).

Structure and mechanism of telecommunication policy-making

Four characteristics appear central to China's telecommunication policy-making structure and mechanism.

Local vs. central regulation

One of the main characteristics of China's policy-making structure is its dual – local and central – regulation system¹³⁹. Since the Open Door policy, the central government has increasingly devolved power to the periphery. Some provinces were given room to experiment early on, which led them to pass a number of sector legislations. In the case of telecommunications, it was not until 1989 that the first local telecommunications decree was issued in Liaoning as a basis to regulate its local market. As we will see in Chapter 3, the process of decentralisation was central to the fast development of the network. At the same time, the relaxing of central control created a form of regulatory fragmentation¹⁴⁰. In recent years, provinces, like Guangdong, have attempted to address the inadequacy of the current telecommunication regulatory framework by drafting their own regulations¹⁴¹. In large municipalities, like Shanghai, the Telecommunication Bureau acts as a local regulator and implements complementary and detailed local rules pursuant to the national legislation. For example, the Shanghai Bureau states that its regulatory agenda is to “ensure fair competition and protect consumer interest”, in particular by placing emphasis on market access, tariffs, interconnection, network security, service levels, resources management and numbering allocation¹⁴². At the heart of the Bureau's approach to regulating the local telecommunication industry is a three-layer conceptual framework – regulation by the government, self-discipline by the industry; and supervision by consumers. This model draws from the MII's own regulations designed to administer better service levels. The point made here is that regulatory pressures are not only being dogmatically handed down by the centre but also springing up at the provincial and municipal level.

¹³⁹ Regulation is defined here as “the promulgation of a set of rules, accompanied by some mechanism, typically a public agency, for monitoring and promoting compliance with those rules” (Baldwin, Scott et al., 1998).

¹⁴⁰ Laffont (2004: 189). China's telecommunication regulatory agencies consist of both industry-wide and sectoral agencies (ministries or departments) operating at both central and regional levels.

¹⁴¹ The draft legislation was submitted in late May 2004 for deliberation by the Standing Committee of the People's Congress of Guangdong. It addresses issues of code of conduct and billing for premium services, handling of customer complaints (within 15 days) and the role of government in determining pricing (carriers are empowered to determine prices within fee guidelines provided by the government).

¹⁴² McKenzie (2003a: 103).

Formal vs. informal policy-makers

In theory, the lines of influence in China's telecommunication policy-making are straightforward: the State Council sits above the National Development and Reform Commission (*fazhan he gaige weiyuanhui* or NDRC), MII, the State-owned Assets Supervision and Administration Commission (*guoyou zichan jiandu guanli weiyuanhui* or SASAC), the State Administration of Film, Radio and Television (*guangbo dianxin dianshi zongju* or SARFT), the Ministry of Commerce (*shangwubu* or MOFCOM) and other ministries. But unlike most Western countries, where formal politics is clearly dominant over informal politics and the relationship is one of "imposition and resistance", the Chinese informal politics has been historically dominant, with formal politics often providing no more than a facade. Informal politics plays an important part in every organisation at every level, but the higher the organisation, the more important it becomes. At the highest level – due to the fact that the tasks to be performed are relatively unstructured, the area of discretion is large, personal judgment is crucial, the demand for decisions is great, and secrecy imperative – informal politics prevails. Although the historical trend is toward political formalisation, informal politics remains much more potent than in other countries and may be expected to prevail at the highest level well after formal-legal rationality has been superimposed in other areas. The formal rules of the game have the best chance of prevailing when they coincide with informal loyalties¹⁴³. Thus, in practice, the relationships are much more complex than what formal political structures suggest¹⁴⁴. For example, the NDRC is usually thought as an intermediate policy-making level between the State Council and MII¹⁴⁵. In addition, bodies such as the State Council Informatisation Office (SCIO) represent additional layers in the policy-making edifice (see Figure 3 and Figure 4).

Domestic vs. international influences

Since the mid-1990s countries across world have been faced with the prospects of liberalising their telecommunication markets. These international and supranational diffusion mechanisms are often viewed as "coercing individual countries onto similar

¹⁴³ Dittmer (1995: 16-19).

¹⁴⁴ Fan (2001: 105) notes that China's formal political structure seems to produce a unified, interactive, and hierarchical chain of governance. In reality it is often divided, segmented, and stratified, generating interagency competition, power conflicts, and problems of coordination.

¹⁴⁵ The State Economic and Trade Commission (SETC) and the SDPC had this kind of supra-ministerial status. It used to be the case that the State Planning Commission (SPC) was considered the all-powerful entity within government (Interview (B-019), conducted in Beijing, 17 September 2001).

paths of development.”¹⁴⁶ In response governments have sought acceptable forms of international compatibility of policy and regulatory structures so as to facilitate their participation in the rapidly growing international networks¹⁴⁷. However, national factors, such as different domestic political structures, are mediating the country-specific adaptation to the international diffusion mechanisms. Until the mid-1990s China had mostly resisted any external influence. Thanks to the previous restriction on foreign direct investment (FDI) and a static international telecommunication regime dominated by the International Telecommunication Union (ITU), Chinese policy-makers were “shielded” from the need to integrate the international dimension¹⁴⁸. China’s bid to join the WTO and the signing of the basic telecommunication agreement (BTA) in 1995 resulted in accrued pressure from foreign government to liberalise the Chinese telecommunication sector. National telecommunication policies became influenced by the wish to be more integrated into the world economy. In other words, while changes in the regulatory environment remained driven mainly by domestic regulatory issues, they started to integrate the trends of the global telecommunication business¹⁴⁹.

Broadening of the policy-making process

Because of bureaucratic compartmentalism, the formulation and implementation of policies in China usually took place within bureaucracies and through bargaining among central formal agencies¹⁵⁰. The major bodies in charge of regulating the telecommunications industry were (and are) technical ministries, like MII, as well as the NDRC, MOFCOM (as far as foreign companies are concerned). For major issues and projects, all these ministries have to reach a balance together although all have their own dedicated functions in the process¹⁵¹. It also still happens that top leaders sitting on the political bureau of the Communist Party, the State Council, or the important commissions and ministries are the key drivers of policy-making. In that case, political power remains vested more in individuals than in specific institutions¹⁵².

¹⁴⁶ Schneider and Tenbücken (2003: 13 & 27).

¹⁴⁷ Melody (1997b: 6).

¹⁴⁸ See Chapter 5.

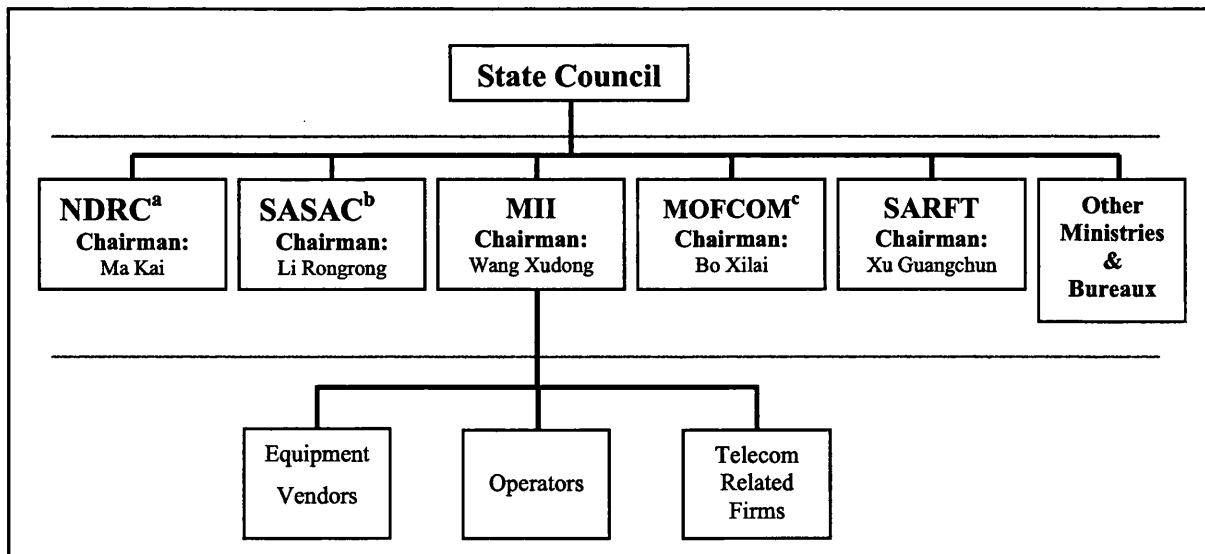
¹⁴⁹ Interview (C-010), conducted in Beijing, 18 June 2002.

¹⁵⁰ Feigenbaum (2003: 172).

¹⁵¹ Interview (B-010), conducted in Beijing, 5 September 2001.

¹⁵² For example, the elite initiates one or several policies and relevant bureaucratic bodies configure and implement them at both national and local levels (Fan, 2001: 103).

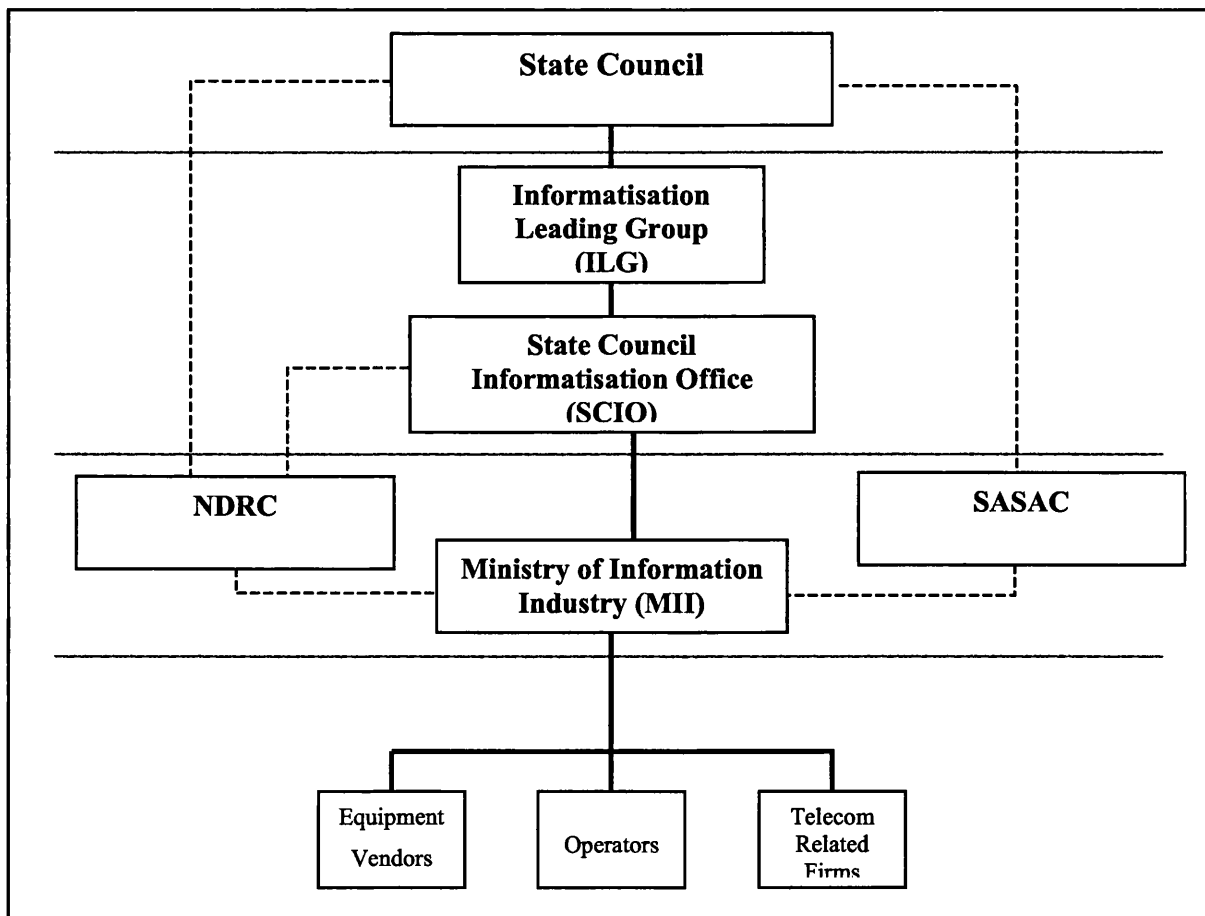
Figure 3: Lines of influence in China telecommunication policy-making - The theory



Note: ^a Previously State Development Planning Commission (SDPC); ^b Previously State Economic and Trade Commission (SETC); ^c Previously Ministry of Foreign Trade and Economic Cooperation (MOFTEC).

Source: Updated from APCO China in (Ho, Scott et al., 2002).

Figure 4: Lines of influence in China telecommunication policy-making - The reality



Source: Updated from APCO China in (Ho, Scott et al., 2002).

That said, policy-making in China has generally become a pluralistic process involving hundreds of officials from various government departments and the Communist Party¹⁵³. As we will see, the pluralisation extends today to a new class of actors, encompassing both domestic and foreign semi-governmental and non-governmental organisations (NGOs). Policy-making is now formed more on an inclusive rather than on an exclusive basis, with a broader band of consultative organs involved in the process, and also a shift in the principal loci of executive policy deliberation and decision-making to a wider and slightly different set of institutional actors¹⁵⁴. In the telecommunication sector MII and NDRC probably remain the key policy-makers, but there too new actors have started to emerge¹⁵⁵. Today, consumers, operators, scholars, and high-level officials are increasingly involved in the policy-making process, even though no formal channels have been established¹⁵⁶. The next section turns to this intricate network. It reviews the key policy-makers and their functions as well as the regulatory agencies.

¹⁵³ Shirk (1993: 7).

¹⁵⁴ Shambaugh (2001: 103).

¹⁵⁵ Interview (B-017), conducted in Beijing, 14 September 2001.

¹⁵⁶ Interview (B-018), conducted in Beijing, 14 September 2001.

An intricate network of policy makers and regulatory agencies

A regulatory framework consists of rules (such as those governing tariffs or service standards), instruments (like laws, decrees, contracts or licences containing the rules), and institutions, which are the agencies that enforce the rules and update them as needed¹⁵⁷.

Most of the key policy-makers are to be found within and below the State Council (*guoyuyuan*). The principal ones are MII, the State Council Informatisation Leading Group and NDRC. Secondary actors are the State-Owned Assets Supervision and Administration Commission (SASAC), the Ministry of Foreign Commerce (MOFCOM), the State Administration of Radio, Film and Television (SARFT) as well as a number of other ministries and bureaus, such as the Ministry of Finance or the Ministry of Public Security¹⁵⁸. Finally, at the periphery we find research institutes, such as the China Academy of Telecommunication Research (CATR). The role and functions of these policy makers are reviewed below.

The State Council and its organs

Except for very precise cases, the State Council never intervenes directly in the telecommunication industry. Instead, it makes use of a number of offices under its supervision to give a direction to the industry's development. One of them has been of particular relevance to policy-making in the telecommunication industry: the State Council Informatisation Leading Group (*xinxihua lingdao xiaoxu* or SCILG)¹⁵⁹. Created in 1993, it was for a long time considered a "second level" office but its status changed in 1996 when the State Council upgraded the National Committee for the Informatisation of the Economy to the status of a Leading Group¹⁶⁰. The major function of the Group is to coordinate the development of all telecommunication networks in the country.

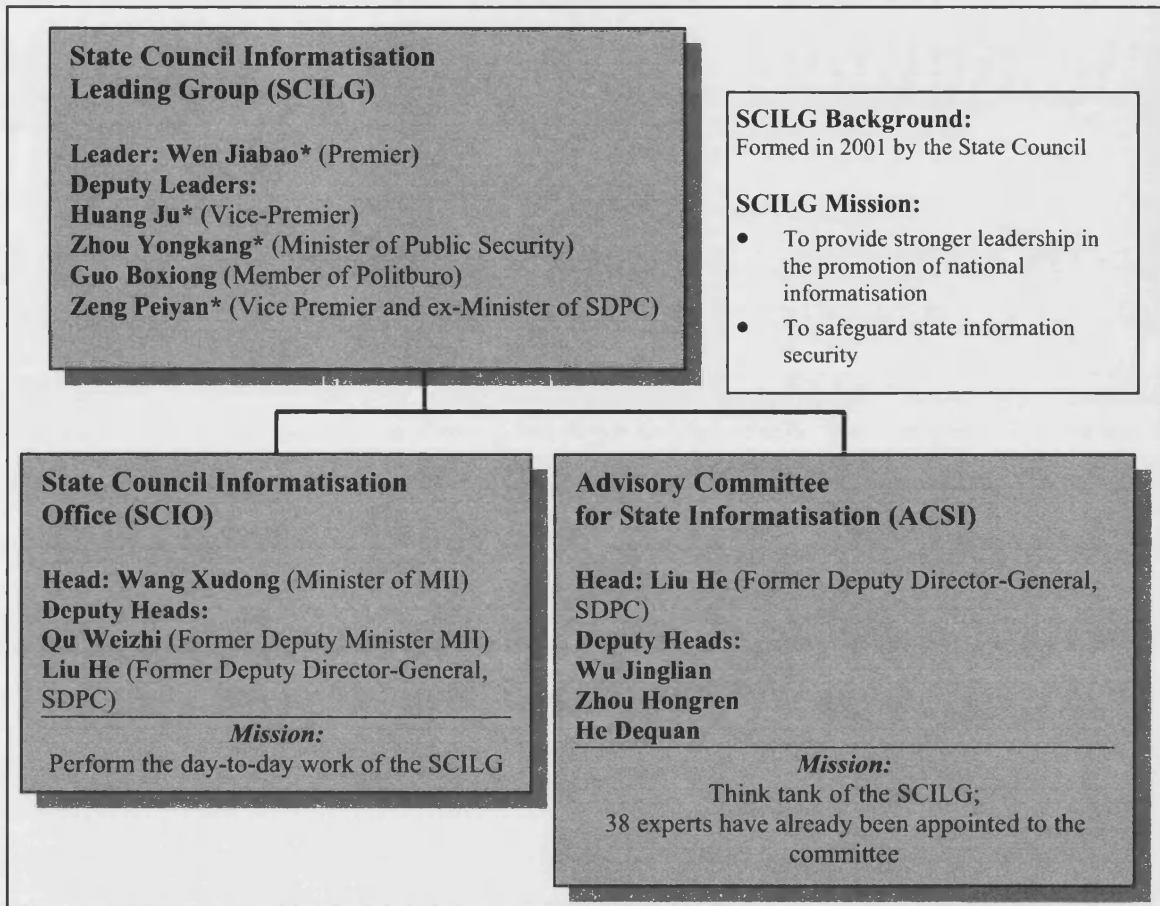
¹⁵⁷ Bellier and Zhou (2003: 23).

¹⁵⁸ Interview (B-018), conducted in Beijing, 14 September 2001.

¹⁵⁹ Shambaugh (2001: 104). Traditionally, China's elite policy-making system has relied heavily on leading groups and their offices. It is important to remember that the high-profile nature of these offices principally stems from the leaders who sit on them.

¹⁶⁰ Ure (1997b: 6). When established, the leading group had three offices: the State Council Information Office (SCIO), the Network Security Office, and the Year 2000 Office.

Figure 5: Structure of China's State Council Informatisation Leading Group, 2004



Note: *Member of State Council.

Source: Updated from APCO China in (Ho, Scott et al., 2002).

Under Zhu Rongji's direction, the SCILG set out to tackle some macro objectives, such as restructuring the relationship between government and business in the telecommunication sector, facilitating cross-ministerial administration of resources¹⁶¹ as well as making

arching body governing telecommunications and the information industry¹⁶². The SCILG is a decision-making body but it does not draft policies¹⁶³. This task, as well as the provision of advice, information or reports, rests with the State Council Informatisation Office (SCIO). Akin to the SCILG, officials heading SCIO represent cross-sector interests instead of those of the incumbent China Telecom¹⁶⁴. Over the years, there has been a clear shift in driving the telecommunication policy agenda from the Ministry of Information Industry (MII) to the SCIO. A number of other organs within the State Council have sometimes played a policy-making role. The State Economic Restructuring Office (SERO) was involved with the State Development Research Centre in the planning of the regulatory regime and the restructuring of the industry. It acted as a think tank for the State Council by providing research and recommendations on industrial and economic reform, by conducting enterprise surveys, and by hosting conferences and forums on related issues¹⁶⁵.

The Commissions: NDRC and SASAC

Before the creation of NDRC and SASAC, two commissions had played an important role in the reforms: the State Economic and Trade Commission (SETC) and the State Development and Planning Commission (SDPC)¹⁶⁶. Before the government reorganisation, both SETC and SDPC were linked to the State Council. They did not have a supervisory role over MII¹⁶⁷. The former tended to have more of a regulatory function and was extremely influential across a wide range of sectors, including those related to information technology¹⁶⁸. The latter wielded authority by controlling the overall funding

¹⁶² Lovelock distinguishes 3 periods starting with the National Joint Conference in 1994, which saw the battle between MPT and MII. In 1997, the emergence of the Internet and the issue of information control had become the core issue for the SCILG. In 1999, its task was to arbitrate the fight between MII and SARFT. With the change of government in March 2003, membership of the SCILG was once again reshuffled (Lovelock, 2003).

¹⁶³ The legislation that has come out today is principally from MII. The SCIO plays somehow a more high-level policy-making role. Both institutions are generally thought as leading the government effort in this sector even though MII is more active as a hands-on regulator at this point.

¹⁶⁴ Interview (C-004), conducted in Beijing, 12 June 2000.

¹⁶⁵ Until 1998 it was known as the State Economic Restructuring Commission (SERC) and had the authority to issue orders to enterprises and to oversee enterprise reform. In 1998, these powers were transferred to the SETC and the SERC, predecessor of SERO, was demoted to an office.

¹⁶⁶ SDPC was responsible for macro-planning: it has for a long time been involved in determining which sectors are open to foreign investment (together with MOFTEC). SDPC has a department dedicated to information technology and high-tech industries and takes a policy-guidance role there. It often plays a role when conflicts or divisions arise between other ministries and a degree of adjudication is required: decisions on standards are a case in point (Interview (B-019), conducted in Beijing, 17 September 2001). From 1987 to 1994, the State Planning Commission (SPC) used its power to regulate switching system manufacturing and protect domestic R&D projects (Zhu, 2001: 45).

¹⁶⁷ Interview (B-011), conducted in Beijing, 6 September 2001.

¹⁶⁸ Interview (B-012), conducted in Beijing, 7 September 2001 and Interview (B-019), conducted in Beijing, 17 September 2001.

and investment in the telecommunication industry¹⁶⁹. SDPC's influence culminated with China Telecom's break up¹⁷⁰. At the March 2004 National People's Congress (NPC), SDPC was renamed as the National Development and Reform Commission (*fazhan he gaige weiyuanhui* or NDRC) after absorbing the former State Economic Reform Office, while SASAC (*guoyou zichan jiandu guanli weiyuanhui*) took over the former SETC.

Today, both NDRC and SASAC play a central role in the telecommunication policy-making process. NDRC is now considered as China's top-level economic policy-maker. In the telecommunication sector, it is involved at various levels in service and equipment. For example, NDRC submitted a proposal to the State Council in November 2004 suggesting that China Telecom and China Netcom adopt TD-SCDMA as the major standard in 3G networks, making no secret that it "*attached great importance to TD-SCDMA, and would spare no effort in further exploring the commercialisation of the standard*"¹⁷¹. In the equipment-manufacturing sector it published the authorisation system for mobile phone production (previously a remit of MII)¹⁷². SASAC appears to have an even more prominent role in policy-making¹⁷³. In 2003 it absorbed control over finance from the Ministry of Finance and over personnel from the Ministry of Personnel and the functions of the Enterprise Working Committee of the CCP Central Committee. Moreover, it has taken over from the now dissolved State Economic and Trade Commission (SETC) the management of "industrial policy" to accelerate the structural change of SOEs. In other words, SASAC has assumed a combination of powers previously dispersed among different ministries and agencies and has thus been operating as a kind of "super-ministry". SASAC embodies China's strategy to create new institutions to manage state enterprises instead of privatising them. Its main responsibility is to monitor enterprise operations in order to protect the rights of the government owner. In telecommunication, SASAC's visibility has been raised for two reasons. First, it has completed the ownership transfer (from various Ministries including MII and the Ministry of Railways) of all the telecommunication operators so that they all belong to SASAC. Second, it has taken public stance on some of the reform issues, such as the alleged split

¹⁶⁹ Interview (B-011), conducted in Beijing, 6 September 2001.

¹⁷⁰ Interview (B-026), conducted in Beijing, 11 October 2001.

¹⁷¹ Zhang Xiaoqiang, secretary-general of NDRC, quoted in Xinhua Financial News (2003).

¹⁷² MII once implemented a strict examination and approval system for handset production, granting forty-nine handset production licences. At the end of 2004, the General Office of the State Council and NDRC published two documents, which showed the authorisation system for handset production was on track.

¹⁷³ SASAC was authorised at the 10th National People's Congress in March 2003 and set up operations in June. It is complemented by the creation of local asset commissions (Naughton, 2003; Green and Ming, 2005).

of China Unicom and the timing for issuing 3G licences¹⁷⁴. SASAC has also confirmed its plan to restructure the telecommunication industry as part of the overall SOE reform programme in order to provide a healthy environment for development and to maintain and increase the value of state-owned assets¹⁷⁵. SASAC also signalled its intention to improve the *efficiency* of the telecommunication sector after having previously announced that each industrial category under its supervision should ideally have at most three large state-owned firms¹⁷⁶. Apparently, SASAC is pursuing this “top three” principle quite seriously, which suggests that, over time, the current six operators could be merged into three.

The “functional” Ministries: MII, SARFT and MOFCOM

In addition to the commissions and to the State Council, a number of ministries have been active in telecommunication policy-making. Before 1998, three key ministries – the Ministry of Electronics Industry (MEI), the Ministry of Foreign Trade and Commerce (MOFTEC, now known as MOFCOM) and the Ministry of Post and Telecommunication (*youdianbu* or MPT) – were engaged in one way or another in the telecommunication industry, although all had different focus points¹⁷⁷. Until 1998, the telecommunication industry was mostly governed by MPT and carried the same function as most Ministries of Post and Telecommunication across the world. The administrative reform of 1998 considered how to effectively manage the industry¹⁷⁸. At the time, MPT was thought as having fulfilled its duties and as needing to be replaced by another government body. This led to the creation of the Ministry of Information Industry (MII) through the merger of MEI and MPT. While many of the post-1998 “ministries-turned-bureaus” lost power and functions, MII was an exception. Not only did it remain a ministry under the State Council, it grew in size and reported directly to the State Informatisation Leading Group under Zhu Rongji¹⁷⁹. Thus, after 1998, the telecommunication industry became mainly governed and controlled by MII, although other government organisations maintained policy-making roles.

¹⁷⁴ See (Economist Intelligence Unit, 2005). More recently, it has been rumoured as being behind the suggestion to the State Council to interchange the leaders of China Mobile, China Unicom, and China Telecom.

¹⁷⁵ The restructuring plans seem to have met with considerable resistance from some of the operators.

¹⁷⁶ SASAC has warned SOEs that if they cannot become one of the top three firms in their sectors, they should be prepared to be acquired.

¹⁷⁷ Interview (B-006), conducted in Beijing, 30 August 2001.

¹⁷⁸ The frequent bureaucratic reorganisations since the 1950s were efforts by the Chinese leaders to change the structure of interest articulation and aggregation as well as to improve efficiency (Shirk, 1993: 111).

¹⁷⁹ Pearson (2003: 12).

MII's tasks can be summarised by three core functions¹⁸⁰. First, it acts as the *de facto* telecommunication (and Internet) regulator¹⁸¹. Second, it implements the rules and regulations passed by the various government agencies¹⁸². Third, MII oversees planning functions¹⁸³. In its original remit, MII has been responsible for improving the telecommunication, software and social informatisation (*shehui xinxihua*). Its main task is to prepare the plan for the whole industry and telecommunication administration¹⁸⁴. One of MII's stated goals is to:

*“Facilitate the rapid growth of the whole industry by intensifying the structural adjustment, expanding domestic demand, increasing the export volume and promoting the exploitation of information resources for the 21st century.”*¹⁸⁵

One of MII's principal difficulties lies in performing the function of coordinating the development of the various networks as they fell under the control of individual governmental departments and ministries¹⁸⁶. In September 2001, the government set up a new informatisation commission (*xinxihua weiyuanhui*) to work on major policies and legislation for the telecommunication sector, while leaving MII in charge of implementing the rules¹⁸⁷. While the creation of MII in 1998 may have appeared as mere re-shuffling of bureaucracies, it underscores some fundamental changes in the nature and scope of the Ministry's functions.

An important difference with the previous ministry is that MII no longer does business itself, but instead concentrates on making laws and regulations¹⁸⁸. In other words, MII has swapped the role of player for the role of referee. Secondly, since its creation, new issues – such as network convergence or new technologies bringing about new services – have

¹⁸⁰ In fact, MII is a massive organisation with 13 departments responsible for telecommunications, electronics, military applications, information promotion, frequency allocation and management, among others. Major functions of the MII include: developing national communications policy; sector regulation for IT manufacturing, communications and software; planning public communications networks (local and long-haul), broadcasting networks (over-the-air and cable) and other private networks; developing technical standards and specifications, managing equipment used in the public networks and overseeing the quality of the product; national frequency allocation for wireless services, approval of new frequency bands and services using these bands; setting national telecommunications fee policies and enforcement; representing China to sign relevant regional and international treaties for China foreign cooperation.

¹⁸¹ Macintosh (2001: 2). The telecommunication regulation makes no explicit reference to MII as the *de jure* regulator.

¹⁸² Interview (B-008), conducted in Beijing, 3 September 2001.

¹⁸³ Interview (B-012), conducted in Beijing, 7 September 2001.

¹⁸⁴ In theory all enterprises were officially made independent from the Ministry in 1999 through a process known as “corporatisation”.

¹⁸⁵ Ministry of Information Industry (1999).

¹⁸⁶ Ho, Scott et al. (2002: 4).

¹⁸⁷ Pangestu and Mrongowius (2002: 29).

¹⁸⁸ A similar pattern of change in functions was observed in other Ministries after the State Council required them to separate administration from operations.

appeared¹⁸⁹. At the same time, the resources available to conduct these new tasks have shrunk (see Table 6). As a result, MII consults more widely with the various think tanks active in telecommunication.

Table 6: Staff cut and transfer in selected infrastructure Ministries in the 1998 reform

Ministry	Staff before the 1993 reform	Staff before the 1998 reform	Staff after the 1998 reform	Reduction
Ministry of Railways	1,011	751	397	47.1%
Ministry of Information Industry	538	450	320	28.9%

Source: Adapted from Chan and Drewry (2001) and Burns (2003).

Most telecommunication policy-making issues are under the responsibility of MII's Telecommunication Administration Bureau (*dianxin guanliju* or TAB), which in effect comes across as a regulator¹⁹⁰.

Paradoxically, the administrative re-shuffling of 1998 has considerably limited MII's ability to reform the sector. First, MII is currently very decentralised – it is a functional Ministry with surrogates in every province – and many of its policies are designed and implemented at a provincial level, akin to other Ministries. This has left the local bureaus open to persuasion by particular vendors, creating a patchwork where sometimes the interconnection between the different types of equipments does not work¹⁹¹. Second, MII has to coordinate important policies with NDRC and other government bodies, such as SASAC¹⁹². For example, telecommunications fees are currently set by NDRC. In addition, NDRC must give its approval for telecommunication venture projects involving investment over USD 50 million. Third, the agency, far from being a monolith actually combines different generations of people and different ideologies¹⁹³. Despite the merger of MEI and MPT in 1998, a lot of political struggling and vested interests remained¹⁹⁴. It has been argued that MII is still “in politics” and that it is the battle ground between a conservative group that would like to see China as protected as possible and a liberal group that wants to see more reforms take place¹⁹⁵. Despite the rift, over the past few

¹⁸⁹ Interview (B-040), conducted in Beijing, 28 November 2003.

¹⁹⁰ Interview (C-002), conducted in Beijing, 11 June 2002. To some observers, MII current influence on the service sector is limited to regulatory issues (Interview (C-008), conducted in Beijing, 17 June 2002).

¹⁹¹ Interview (B-019), conducted in Beijing, 17 September 2001.

¹⁹² Interview (B-040), conducted in Beijing, 28 November 2003.

¹⁹³ Interview (C-006), conducted in Beijing, 13 June 2002.

¹⁹⁴ Interview (B-006), conducted in Beijing, 30 August 2001 and Mertha and Zeng (2002: 7).

¹⁹⁵ MII has been representing a legacy industry for a long time and there are some really good forward-looking teams in the Ministry, but it is actually hard to have the highest level agree to certain drastic changes (Interview (B-029), conducted in Beijing, 12 October 2001 and interview (B-017), conducted in Beijing, 14 September 2001).

years the Ministry has moved towards offering increasingly an “equal and fair” treatment to all players by working in a consensual and transparent mode¹⁹⁶.

In other words, while MII has not acted as the most radical reformer, its influence over policy-making remains important. Since the involvement of the State Council tends to be limited to issuing specific orders – such as those concerning large-scale investments –, it leaves a broad room to manoeuvre to MII¹⁹⁷.

The second “functional” agency is the State Administration of Radio, Film and Television (*guangbo dianxin dianshi zongju* or SARFT). While technically reporting directly to the State Council, SARFT is also affiliated with the Ministry of Propaganda and reports to the Communist Party. These different command lines partly explain why MII has not been able to prevail over SARFT¹⁹⁸. A second difference between SARFT and MII is the extent of decentralisation. SARFT, as opposed to MII, has long been a highly decentralised organisation. In order to prevent the opening of cable to other operators, provincial SARFT have actually requested the *county-level* SARFT to hand over their networks while attempting to put in place a profit sharing plan. SARFT’s control over the cable TV network has however never been comparable to MII and China Telecom’s control over the telecommunication network. It benefited much more from an organic growth structure than the telecommunication network because it was not regarded as strategic¹⁹⁹. As in other countries, the blurring of lines between traditional telephone, media broadcasting and the use of the Internet brought on by rapid developments in technology has led to a patchwork of regulations and approaches to regulating convergence of technologies. For years MII has overseen the telecommunications and Internet spheres, while SARFT has focused on regulating broadcasting and related media²⁰⁰. The issue of convergence has led to a fierce battle between both agencies,

¹⁹⁶ For example, MII has used non-officials communiqués to test the market’s reaction (Interview (C-006), conducted in Beijing, 13 June 2002 and interview (B-014), conducted in Beijing, 10 September 2001. In some instances, it has led to problems of non-decision.

¹⁹⁷ The regulatory issues around Little Smart (*xiaolingtong*) illustrates MII’s margin of manoeuvre. In spite of being ruled illegal, or at least at being at the very edge of the grey area, the diffusion of Little Smart rocketed between 2000 and 2002. The prime beneficiary of MII’s lack of enforcement was no other than China Telecom.

¹⁹⁸ Interview (B-005), conducted in Beijing, 13 September 2001 and interview (B-011), conducted in Beijing, 6 September 2001.

¹⁹⁹ For example, most of the cable networks (as opposed to the telecommunication network) are not adequately interconnected (Interview (B-001), conducted in Beijing, 27 August 2001).

²⁰⁰ In 2001 the government announced that within 5 years SARFT and MII would be dissolved and that NDRC would be overseeing telecommunication regulations (Interview (B-017), conducted in Beijing, 14 September 2001).

which vied not only for regulatory control, but also for the possibility to enter each other's turf²⁰¹.

The third Ministry with a role in telecommunication is the Ministry of Commerce (*shangwubu* or MOFCOM²⁰²). Three factors have nevertheless limited MOFCOM importance in the telecommunication policy-making process. First, it does not make any functional decisions²⁰³. Second, its role has been more or less restricted to the equipment sector. Third, by its nature it acts as the interface with foreign parties as it approves foreign investment in the telecommunication sector, including foreign-invested JVs (in conjunction with MII and NDRC). As a result, companies like Siemens or Nokia dealt with MOFTEC, SETC and SDPC on a *corporate level*, while the business divisions were dealing with MII on a *technical level*, e.g. product approval and standardisation process²⁰⁴. As we will see, the Ministry suffered from a strong credibility problem *at home* during the WTO negotiation since telecommunications wasn't considered a foreign trade issue, and hence fell outside of its scope²⁰⁵. To sum it up, MOFCOM remains a central player both for foreign equipment manufacturers and service operators but plays less of a policy-making role²⁰⁶. The persistence of its power in the telecommunication sector rests on the requirement for companies to form a venture before applying for a licence²⁰⁷.

At the periphery

Since the mid-1980s a number of semi-independent research institutes and think tanks have been known for being more or less closely involved in policy-making²⁰⁸. While not entrusted with formal powers, the MII and other Ministries consult them on particular issues as well as on broader strategic issues. They tend to be sought after by the

²⁰¹ Although SARFT is the weaker of the two organisations and has not been as effective in restricting telecom actors from entering media, it has sought to use its regulatory authority to stave off convergence. Of the 66 licences SARFT has issued for Video-on-Demand (VOD) services, only one has been issued to a telecom operator, despite the fact that telecom operators are among the largest VOD providers in China (Soderberg, Bjorkstrom et al., 2005: 20).

²⁰² MOFCOM combines the former foreign (MOFTEC) and internal trade ministries.

²⁰³ Interview (B-019), conducted in Beijing, 17 September 2001.

²⁰⁴ Interview (B-010), conducted in Beijing, 5 September 2001 and interview (B-013), conducted in Beijing, 7 September 2001.

²⁰⁵ Interview (B-001), conducted in Beijing, 27 August 2001.

²⁰⁶ Interview (B-024), conducted in Beijing, 19 September 2001.

²⁰⁷ Interview (B-017), conducted in Beijing, 14 September 2001.

²⁰⁸ According to Tanner (2002: 559) China's growing networks of government affiliated research institutes (colloquially referred to as "think tanks" by most foreign analysts) have become some of the most important windows through which foreign analysts can observe China's usually opaque policy-making system. See also Naughton (2002).

government since they are considered as “neutral”²⁰⁹. Some of them are actually of sizeable importance²¹⁰. Research institutes have, among others, the following activities: cooperation strategy, industry plans and, sometimes, training of managers. The institutes have often been spun-off from MII and had to find a commercial role for themselves²¹¹. They can be divided into technical and non-technical institutes. Non-technical research institutes, such as the China Academy of Social Science (CASS), happen to be called upon on an issue-by-issue basis²¹². Technical research institutes capture the majority of the work. One of them has been especially visible in the past years. The China Academy of Telecommunication Research of MII (CATR) is the only telecom research institution of the Chinese government at the national level. CATR was established in 1994 from the Research Institute of Transmission Technology (RITT), the Planning Institute, the Information Institute, the Communications Measurement Center, and the Industrial Standardisation Institute of the former MPT. Its predecessor was the Posts and Telecommunications Academy of MPT founded in the mid-1950s. Perhaps the most telling way to define CATR is their slogan “*supporting the government and serving the industry*” (*dingli zhicheng zhengfu, rechen fuwu hangye*). For instance, CATR “suggested” to MII to set up a system to test if interconnection was good. In addition, it offered schemes for regulating pricing²¹³. Finally, both domestic and foreign associations are claiming for a seat at the policy-making table. While their visibility waxes and wanes with policy issues and their influence remains at best weak, there are signs that the more established policy-making bodies are increasingly paying attention to them.

²⁰⁹ Interview (B-015), conducted in Beijing, 11 September 2001.

²¹⁰ For example the Development Strategy Research Department of the Institute of Telecommunication Policy has more than 800 researchers.

²¹¹ Interview (C-002), conducted in Beijing, 11 June 2002.

²¹² Interview (B-005), conducted in Beijing, 13 September 2001.

²¹³ CATT persuaded MII and other departments, such as the reform and development department to change this situation (Interview (B-040), conducted in Beijing, 28 November 2003).

Rise of semi-governmental actors and industry associations

“China's telecommunications sector needs to form an industry alliance to avoid domestic competition hurting the sector as it opens to overseas rivals.”

(Long Yongtu quoted in China Daily, 2005)

In parallel to the rise of research institutes and think tanks, the sector has witnessed the rise of non-governmental actors in the policy-making process²¹⁴. Organs of civil society, such as NGOs, remain by-and-large under-developed and existing industry associations have often been criticised for lacking “a mind of their own”²¹⁵. However, requirements of greater transparency, complexity of the issues at hand²¹⁶ as well as the confinement of MII to a regulatory role explain in part the potentially greater role for non-government actors – operators, users, and other relevant parties²¹⁷. Three types of organisations have seen their role in telecommunication policy-making increase over the years: domestic associations, domestic operators, and foreign companies and associations²¹⁸.

Associations are not something new in China. Historically, each Ministry had its own industry association but the typical membership roster consisted entirely of SOEs that were effectively compelled to join²¹⁹. In other words, the associations were created by the state but sustained by the SOEs and many of them limited their activity to organisation of events. In the telecommunication industry, official associations include the China Telecommunication Association (CTA), the China Communication Enterprises Union (CCEU), and the China Information Industry Association (CIIA). In recent years a new and different type of associations has started to spring up. Although their true value-added remains to be seen, most of them provide a platform to exchange information and try to act as a bridge between the government and private enterprises²²⁰. One of them is the

²¹⁴ For theoretical framework on Chinese NGOs, see Ma (2002a) and Saich (2001).

²¹⁵ Interview (B-002), conducted in Beijing, 27 August 2001.

²¹⁶ Technological innovation has eased outside influence. In the past MII officials had a full set of knowledge, the competence and the direction of fixed-wire and transmission networks. With the advent of wireless telephony and the issue of convergence, regulators have felt the need to seek advice from outside to make the right decisions.

²¹⁷ Pangestu and Mrongowius (2002: 29). For example, by providing input to rates, commenting on draft regulations or providing technical expertise on standards.

²¹⁸ The boundary between domestic and foreign actors should not be over-emphasised as both have on occasion found an interest in joining their efforts. For example, Qualcomm secured the support of domestic manufacturers to promote CDMA, after the royalty discussion with Unicom and MII had stalled. Moreover, joint ventures between domestic and foreign partners have proved important channels to voice views to the government Interview (B-010), conducted in Beijing, 5 September 2001 and interview (B-015), conducted in Beijing, 11 September 2001).

²¹⁹ They have always existed under the Ministry of Civil Affairs (Interview (B-024), conducted in Beijing, 19 September 2001) and interview (B-006), conducted in Beijing, 30 August 2001 and Interview (C-002), conducted in Beijing, 11 June 2002).

²²⁰ Interview (B-012), conducted in Beijing, 7 September 2001.

newly created China Mobile Communication Association (CMCA). CMCA was formally founded with the approval of the State Council in September 2000 and is registered as an independent legal body led directly by MII. It comprises the four largest domestic telecommunication operators as well as all major manufacturers and suppliers in mobile communications equipment business²²¹. Industry associations illustrate well the transitional process since most of them remain highly under government control. Meaningful involvement in the policy-making process will nevertheless be going to take some time for a number of reasons²²². Industry association have emerged later in telecommunication than it has in other sectors. In addition, and unlike in foreign countries, industry associations have never been playing a significant role, other than organising events, symposium, or seminars to make some money²²³. Their dismal influence in the telecommunication sector is also attributed in part to the lack of a proper culture of associations. As a result, domestic operators have until now refused to consider these bodies as effective avenues for lobbying²²⁴. This is not to say that they are devoid of use to the industry. They help organise shows and seminars, as well as invite high-level civil servants to expose the government's latest policies. In addition, the recently launched Mobile Multimedia Technology Alliance (MMTA) initiative or the China Fixed Phone Terminal Alliance (CFPTA) – formed by China Telecom and China Netcom in cooperation with Huawei Technologies, Zhongxing Telecom and UTStarcom – indicate the willingness of the major Chinese operators and equipment manufacturers to play an active role in the development of communications technologies²²⁵.

Domestic associations are also embodied in consumer associations. For example, the China Consumer Association (*xiaofeizhexiehui*) is very active. It has been the instigator

²²¹ Most of industry associations have a history of more than 10 years, while CMCA is a young one with only a 2-year history. CMCA is a private forum focusing on the mobile communication industry. Its purpose is to promote the industry's development, domestically and internationally. Its functions encompass the implementation of the government's policy, the study of the relationship between the development of the information industry and the macro-control of the authorities and the promotion of business and technical exchanges and alliance among all China mobile communication business entities. Among other things, CMCA is working out how to support domestic mobile manufacturers and to promote new standards. It also puts forward proposals to the government. It aims at bridging the companies and the government, the manufacturers and operators. CMCA sees itself as being able to "fully reflect the voice of the companies to the government while speaking out companies' opinions, which would otherwise be reluctant (Interview (C-016), conducted in Beijing, 21 June 2002 and interview (C-018), conducted in Beijing, 30 August 2002).

²²² For example, they have strictly no say in the industry's restructuring or in standard-setting (Interview (B-026), conducted in Beijing, 11 October 2001).

²²³ Interview (C-008), conducted in Beijing, 17 June 2002.

²²⁴ Interview (B-024), conducted in Beijing, 19 September 2001 and Interview (B-010), conducted in Beijing, 5 September 2001.

²²⁵ MMTA was founded in October 2004 by MII along with MII's Telecommunications Research Centre, China Mobile, China Unicom, China Telecom, China Netcom, China Putian, Huawei, ZTE, and Vimicro.

of the “Three guarantees” policy (*sanbao*) – one week (return no questions asked, one month (return/trade in for equal value), one year (maintenance and repair). The major cuts in ISP tariff, which took place in March 1999, are said to be partly in response to “grass root opposition” at how expensive it was to get online²²⁶. During the price hearings held by MII in September 2000, the representatives of the consumer association attacked operators and the Ministry for “providing terrible quality at very high prices with no customer service”. Since then, MII has published quarterly reports of the quality of service for all operators²²⁷. In other words, having understood that it cannot simply just make decisions that will go over consumer interests anymore, the government has started to balance customers’ dissatisfaction and the operators’ value²²⁸.

However, even if consumer rights lobbies have become both more vocal and effective, their influence on the policy-making process remains rather weak and targeted at specific issues²²⁹. Several other factors have hindered the emergence of associations in China’s telecommunication services sectors. First, Ministerial rivalry largely prevented cooperation between the operators until the separation of the government from operations. Second, operators have found it very hard to reach consensus on industry-wide issues, like standards, which has limited the number of issues that could be taken on at an industry level²³⁰. Third, the government has been very sensitive to the emergence of grassroots movements. There are signs that this could be changing and that China too could be following the worldwide trend of opening to the influence of a new set of actors. As noted, this would mainly manifest itself through the creation of associations and by their lobbying on specific issues²³¹.

Unlike domestic associations, domestic operators play a considerable role in the policy-making process. They are extremely influential both because of their political backgrounds – having been spun-off one government agency or another – and their

²²⁶ An argument that appealed more directly to the State Council was that SOEs and the government are huge consumers of telecommunication services so that artificially inflating tariffs might be good for China Telecom but not for the rest of the SOEs or the government (Interview (B-008), conducted in Beijing, 3 September 2001).

²²⁷ Interview (C-003), conducted in Beijing, 11 June 2002.

²²⁸ Interview (C-002), conducted in Beijing, 11 June 2002 and interview (C-006), conducted in Beijing, 13 June 2002. Operators too have realised the emergence of consumer awareness and have developed more sophisticated and segmented marketing – adjusting their strategies to meet customer requirements.

²²⁹ Interview (C-002), conducted in Beijing, 11 June 2002 and Interview (C-008), conducted in Beijing, 17 June 2002.

²³⁰ Interview (B-024), conducted in Beijing, 19 September 2001. In the equipment market, finding common grounds and value in gathering industry players has been even harder.

²³¹ There are, for example, a number of alliances, such as the TD-SCDMA association, which managed to pool together important players, although these vendor-driven associations are often considered partial.

commercial influence²³². In addition to the direct relationship they enjoyed with MPT or MEI, operators deal routinely with MII or high-level commissions (such as NDRC) to obtain approval for construction projects, international cooperation or financing plans²³³. Moreover, operators have started to influence the policy-making process from the “outside” by tackling the issue of price war through introducing industry-led agreements.

The last category of actors, and paradoxically quite visible, are foreign organisations²³⁴. They can be divided into two categories: companies and associations. Equipment manufacturers, such as Motorola usually have full time people working on Capitol Hill to influence Chinese-US relationships around policy-making issues, such as standards or regulations. At the same time, they have the resources to fully invest in regulatory influence in China²³⁵. Given their relatively long involvement in the telecommunication industry, the large MNCs have established relatively good two-ways communication channels with the government²³⁶. For example, Ericsson makes sure that its view on how to regulate the market gets “somehow heard”. When it comes to the use of technology and licensing that the Swedish manufacturer wants to make sure that the government is not taking decisions that are going to affect its operations negatively²³⁷. Given their size, MNCs tend as much as possible to work “one-on-one” with the government²³⁸. They nevertheless use other avenues such as Chambers of Commerce or associations for industry-wide issues²³⁹.

Most of the value brought by foreign associations, such as USITO and the US-China Business Council, lies in the education process – laying out the views of foreign companies looking into the Chinese market – or dealing with a particular issue – such as

²³² Interview (C-002), conducted in Beijing, 11 June 2002.

²³³ Interview (B-029), conducted in Beijing, 12 October 2001.

²³⁴ Although this may come as a surprise, it can in fact be explained by the experience foreign companies have developed through the lobbying of government in other markets.

²³⁵ Interview (B-017), conducted in Beijing, 14 September 2001.

²³⁶ Even foreign operators, which have been banned from conducting large-scale operations in China, were routinely called upon by MII and other Ministries to explain the situation and developments of the telecommunication industry in their home country as well as the rationale, issues and difficulties encountered in their respective market (Interview (B-016), conducted in Beijing, September 2001).

²³⁷ Interview (B-007), conducted in Beijing, 31 August 2001.

²³⁸ Interview (B-005), conducted in Beijing, 13 September 2001 and interview (B-015), conducted in Beijing, 11 September 2001.

²³⁹ When the issue of quotas came up, Nokia lobbied hard with the decision-makers, mainly SDPC and MII. In addition it joined hands with other companies.

mutual recognition agreements (MRA)²⁴⁰. At times, those coalitions have also been helpful in voicing the foreign community's concerns²⁴¹.

Lobbying the Chinese government

Exchange between MNCs and the Chinese government take place directly, via the use of public affairs consultants (e.g. APCO), at the government-to-government level or via semi-governmental bodies such as USITO²⁴². Inviting special groups of experts from corporations, academia and government into discrete settings is also working very well²⁴³. However, the task of influencing the policy-making process from the "outside" is made more complicated as the locus of decision is not restricted to MII but comprises experts from other Ministries, such as NDRC²⁴⁴. Moreover, in China the traditional lobbying groups tend to be replaced by well-connected individuals²⁴⁵.

A first case of (successful) lobbying is provided by the row over encryption. China's encryption rules were initially publicised in October 1999, with a public notice released in November 1999. In brief, the regulation required everybody using encryption software to register with the government. Negative reaction to the regulations by foreign industry was strong²⁴⁶. Foreign industry groups and companies signed onto a letter delivered to the Chinese government in early March 2000 and proposed easing of the regulations. On March 14, the newly created State Encryption Management Commission said it would only require certain hardware and software products containing encryption technology to register with the agency²⁴⁷. In addition, China would not carry out key escrow of foreign encryption products or equipment.

The "*Provisions on the Administration of Foreign-Invested Telecommunications Enterprises*" (*waishan touzi dianxin qiye guanli guiding* or FITE) is an additional example of the increased interaction between the traditional set of policy-makers and

²⁴⁰ Interview (B-008), conducted in Beijing, 3 September 2001 and interview (B-019), conducted in Beijing, 17 September 2001.

²⁴¹ Interview (B-024), conducted in Beijing, 19 September 2001.

²⁴² Interview (B-002), conducted in Beijing, 27 August 2001.

²⁴³ Interview (B-027), conducted in Beijing, 11 October 2001.

²⁴⁴ Interview (B-006), conducted in Beijing, 30 August 2001.

²⁴⁵ Interview (B-029), conducted in Beijing, 12 October 2001.

²⁴⁶ USITO and AmCham wrote a position paper, contacted the office that had issued the regulation as well as MOFTEC to make it a bilateral trade issue. The government claimed initially that it was a misunderstanding of the regulation (Interview (B-011), conducted in Beijing, 6 September 2001).

²⁴⁷ It was clarified that wireless phones, Microsoft Windows software and browser software would not to be covered by the regulations.

semi-governmental actors²⁴⁸. The initial drafts were clearly intended at shielding domestic service providers from foreign entrants. By setting the qualification requirements very high, the potential pool of foreign investors in basic telecommunication services was restricted to a dozen operators. Many Chinese firms would too be prevented from entering cooperative agreements because of insufficient equity to put into the JV. Foreign representatives from Chambers of Commerce and operators met in order to draw up a white paper to be circulated to the government. Having reached a consensus on the need for practical and effective licensing and implementation measures, they lobbied the government to get the public equity listings considered separately from foreign investment²⁴⁹. In addition, they voiced concerns over the size limitation of the companies, type of venture, licensing and timing issues (allowing for concurrent application)²⁵⁰. Although the concerns of the foreign community met with little official reaction, the final regulation indicates that some comments were taken into consideration²⁵¹. Earlier requirements that foreign investors needed to have USD10 billion annual revenues and a representative office in China for at least three years did not appear in the final regulation, which simply demanded “funds and personnel appropriate to the business activities engaged in” (Article 9). While some deemed the effort partly unsuccessful, what actually came out in the end was “*a little bit less unfavourable to foreign investors than what had been in the earlier draft and not really in ways that the WTO would have required*”²⁵².

In other words, we are witnessing the early signs of non-state actors’ involvement in the policy-making process, whose views are channelled through associations. In spite of early successes from foreign actors, there is little doubt that, in the foreseeable future, domestic operators will remain the most effective lobbying force in China’s telecommunication sector²⁵³. It is important to underline that the trend of dialogue between the government and the market is more than a cosmetic operation of transparency. The government appears to increasingly understand and value the importance of dialogue with the market²⁵⁴. In due course, it may even lead to a re-definition of the boundary of policy-

²⁴⁸ Decree 333, December 21 (State Council of the People's Republic of China, 2001a).

²⁴⁹ Interview (B-019), conducted in Beijing, 17 September 2001.

²⁵⁰ For ventures with less than 51% owned by SOEs, the JV has to re-apply for the licences (Interview (B-017), conducted in Beijing, 14 September 2001). See appendix 2 for a comparison of the evolution between the draft and final regulation.

²⁵¹ Interview (C-001), conducted in Beijing, 10 June 2002.

²⁵² Interview (B-032), conducted in Beijing, 18 November 2002.

²⁵³ It will be interesting to see the extent to which their lobbying efforts may negate each other if they are entering in diametrically opposite positions (such as on technological choices).

²⁵⁴ Interview (B-015), conducted in Beijing, 11 September 2001.

making where associations and other non-governmental bodies become explicitly and permanently integrated in the policy-making process.

From informal consultations to public hearings?

As far as consultations are concerned, MII has operated a change in attitude. Despite the absence of official consultation channels, it is engaging more readily with industry players²⁵⁵. Consultations are happening through various means. Meetings are taking place between MII and representatives of all the domestic carriers, but the consultation process has also been broadened to encompass the foreign community at large²⁵⁶. Policy-makers and regulators mostly seek “foreign opinions” through industry associations like the United States Information Technology Office (USITO) or the American Chamber of Commerce (AmCham)²⁵⁷. While there is a more consistent and regular practice within the regulatory process to engage MNCs, it is still early to talk about an interactive communication between the government and foreign players²⁵⁸.

Government officials have also shown a keen interest in studying reform experiences and regulatory frameworks from other countries. For the past twenty years, Chinese policy-makers have engaged in government-to-government consultation, via study tours and seminars with foreign regulators such as FCC or OFCOM. The study groups are composed of representatives from different Ministries and institutes and who travel to various countries, pooling and digesting information before making decisions based on China’s “special circumstance”²⁵⁹. Consultations are conducted on various issues. They happen when new regulations or legislations are introduced. For example, draft regulations are leaked to get a sense of the telecommunication community’s reactions²⁶⁰. New policy directions about pricing, interconnection, licensing or resource allocation, are also presented to operators. In the case of tariff changes, MII has organised hearings

²⁵⁵ Other Ministries, such as MOFTEC have had a longer history of consultation. Whenever they were drafting a new piece of legislation, MNCs would get invited to comment (Interview (B-010), conducted in Beijing, 5 September 2001).

²⁵⁶ Interview (B-017), conducted in Beijing, 14 September 2001.

²⁵⁷ In the eyes of MII, these foreign organisations provide a relatively impartial industry opinion. The role and resources of industry associations were previously ignored and only individual companies were consulted (Interview (B-011), conducted in Beijing, 6 September 2001).

²⁵⁸ The relation is mostly driven by the foreign part. There appears to be a “built-in bias” that MNCs are just there “to draw revenue from Chinese companies no matter what they advise and get business for themselves” (Interview (C-001), conducted in Beijing, 10 June 2002 and interview (C-013), conducted in Beijing, 20 June 2002).

²⁵⁹ Interview (B-005), conducted in Beijing, 13 September 2001.

²⁶⁰ Interview (B-017), conducted in Beijing, 14 September 2001.

where representatives from foreign MNCs were invited as “friends”²⁶¹. MII also sends out envoys who visit each potential manufacturer in order to check their ideas, get their input and help define the criteria for licence issuing²⁶². There is also a willingness to let companies become more engaged in the standard-setting process. Large MNCs, such as Siemens, UTStarcom or Motorola, are from time to time invited to closed groups – under the aegis of MII – in order to discuss standards with domestic companies and joint ventures²⁶³.

Likewise, foreign companies resort to a number of bodies to feed their information, such as the European Union or AmCham’s IT forum, and government institutions and bureaus are generally most receptive to comments when they are given in the context of the Chinese bureaucratic system²⁶⁴. But, as of today, there is not any procedure similar to FCC’s public hearings system in China. In all likelihood, MII will implement such a system since NDRC has already committed to have such a scheme in place for price setting²⁶⁵. In short, the increase in communication is not unidirectional. Although MII does not host commercial industry meetings anymore and concentrates on government-to-government work, since 2003 it has convened an annual meeting to present its policy objectives to the industry²⁶⁶.

Major changes in the policy-making nexus can be identified along two axes. First and foremost, there have been important structural and functional changes. A single Ministry has replaced two rival ministries as the overall supervision body of telecommunication services. NDRC has replaced a system in which a multitude of commissions each had administrative power on parts and parcels of the telecommunication sector. In addition, ownership has been transferred to a single entity – SASAC – reducing the potential for inter-Ministerial rivalry to extend on policy-making. At the same time, a number of new actors have emerged. The most potent ones are of course the domestic operators even

²⁶¹ Interview (B-006), conducted in Beijing, 30 August 2001. Most of the representatives at this hearing were selected by MII and SDPC (Cui, 2001).

²⁶² Interview (B-020), conducted in Beijing, 17 September 2001.

²⁶³ However, standards discussions are not something where international consensus is easily achieved. Influence is limited to technical exchanges between technical experts and the standards making officials and committees. (Interview (B-010), conducted in Beijing, 5 September 2001 and Interview (B-026), conducted in Beijing, 11 October 2001).

²⁶⁴ Interview (B-006), conducted in Beijing, 30 August 2001 and Interview (B-024), conducted in Beijing, 19 September 2001.

²⁶⁵ Interview (B-005), conducted in Beijing, 13 September 2001 and interview (B-024), conducted in Beijing, 19 September 2001.

²⁶⁶ The meeting is usually held at the beginning of the year and is open to the public (Interview (B-021), conducted in Beijing, 17 September 2001).

though they are devoid of *formal* policy-making power. Through corporatisation and subsequent listing on foreign stock exchanges, Chinese operators have indeed acquired a growing source of influence, both technically and financially. Some lower-level commissions have influenced policy-making on limited issues. For example, in wireless broadband, the State Radio Regulation Commission (SRRC) has played a role in managing resources as different provinces used different frequencies²⁶⁷. There are also a handful of examples of non-state actors' influence – to provide input to rates, implementation of regulations, setting of standards and so on. These changes illustrate well the pluralisation process that has characterised policy-making in China. At the same time, it appears that the administrative reforms carried out in 1998 aimed at streamlining the policy-making agencies (see Table 7).

Table 7: Evolution of policy-making actors' responsibilities

Responsibility	Pre-1998	Post-2003
Overall supervision	Ministry of Post and Telecommunications (MPT), Ministry of Electronics Industry (MEI)	Ministry of Information Industry (MII)
Ownership	Ministry of Finance, Ministry of Railways, Ministry of Electronics Industry (MEI)	State-owned Asset Supervision Commission (SASAC)
Rules and policies	State Development and Planning Commission (SDPC), Ministry of Finance (MoF), State Economic and Trade Commission (SETC)	National Development and Reform Commission (NDRC), Ministry of Information Industry (MII), industry-led agreements

Source: Compiled by author.

Second, and linked to the streamlining, the major actors involved in policy-making have become much more sophisticated and attuned to the market's needs. This is particularly noticeable with MOFCOM. Thanks to more than a decade of interaction with foreign investors, the Ministry now understands their needs and tries to balance them with its own policy objectives²⁶⁸. MII has also improved its ways of dealing with the market. For example, it has included operators in the policy-making process by inviting them to seminars and forums to discuss tariff cuts or new issues popping up in the industry. This has however not prevented MII from having to retract from sharply raising IDD interconnection fees in an attempt to bolster China Telecom's IPO. As we will see in the next section, a large part of MII's discretion can be attributed to a weak and regulatory environment. In short, despite its genuine desire to listen and get input, the Ministry still lacks a sense of structure and transparency in its relationship with the market²⁶⁹.

²⁶⁷ Interview (B-013), conducted in Beijing, 7 September 2001.

²⁶⁸ Interview (B-010), conducted in Beijing, 5 September 2001.

²⁶⁹ The voice of foreign investors in the telecommunication services policy-making process pales in comparison with other sectors like banking or in manufacturing (Interview (B-002), conducted in Beijing, 27 August 2001).

The “lawless” regulatory framework

“The regulatory framework has to start from scratch. On the one hand it is a problem because the government has to take care of it. On the other hand, it is a tremendous opportunity to write down whatever it wants to say because it is unprecedented and new.”

(Interview B-006, conducted in Beijing, 30 August 2001)

Regulatory mechanism and history of regulation

From a legislative point of view, three levels of regulatory instruments co-exist in China. The highest level comprises laws validated by China’s Congress Law Commission (*faluyou quanguan renda changanhui*) and ratified by the National People’s Congress (NPC) or the Standing Committee of the NPC. As we will see shortly, there is no such thing as a telecommunication law in China, despite more than a decade of drafting and consultations. In addition to the laws enacted by the NPC and Standing Committee, the State Council can adopt administrative regulations (*xingzheng fagui* and *tiaoli*) and promulgate directives (*guiding*) and notices (*tongzhi*). Until the enactment of the telecommunication regulation (*dianxin tiaoli*) in September 2000, and except for Order No. 128 which regulated the administration of spectrum (*wuxiandian guanli tiaoli*), the State Council used legal instruments with extreme parsimony, issuing directives and notices only on three occasions²⁷⁰. Meanwhile, it issued regulations on radio, film and television administration and on Internet-related domains. The third level consists of industry-level regulations. Some of these are confusingly labelled as regulations (*tiaoli*), measures (*banfa*), rules (*guize* and *guizhang*), provisions (*guiding*), or detailed rules for implementation (*shixing xize*). The latter are usually drafted by the main policy-implementing organisations and departments (*bumen guizhang he zhengce*), such as MII, and issued together with or after the promulgation of a more general law. These three types of instruments all have different functions: laws usually establish the overarching principles, while regulations and rules usually provide details for the implementation of laws²⁷¹.

Until the early 1990s, the regulation of telecommunications services in most countries was not a priority, as the state-owned operator in many countries was under a self-

²⁷⁰ In 1982, Directive No. 28 dealt with the protection of telecommunications lines; in 1990 Directive No. 54 aimed at enforcing coordination between public and private networks and in 1993 Notice No. 55 called for strengthening regulation in the management of the sector.

²⁷¹ Interview (B-031), Beijing, 15 November 2002 and interview (B-032), conducted in Beijing, 18 November 2002. Article 90 of the Constitution stipulates that “The ministries and commissions issue orders, directives, and regulations within the jurisdiction of their respective departments and in accordance with the law and the administrative rules and regulations, decisions, and orders issued by the State Council”.

regulation regime²⁷². A similar pattern can be found in China, where a *de jure* regulatory framework did not seem to be a major concern for the leadership until the end of the 1990s. Three major periods of regulatory activity can be identified since the beginning of the economic reforms. The first one, which lasted between 1978 and 1993, is best described as “dormant”. During the 1980s, the only regulation pertaining to telecommunications was the Directive No. 28, “Regulations on the Protection of Telecommunication Lines” (*guanyu baohu tongxin xianlu de guiding*)²⁷³. Recognising the existence of an increasing number of Ministry-owned networks and preoccupied with the duplication and waste of resources the State Council passed in 1990 the Directive 54 aimed at enforcing coordination between public and private networks. The second period started in August 1993, when the State Council passed the Notice 55, “Provision on Strengthening Regulations in the Management of the Telecommunications Sector” (*guanyu jiaqiang dianxin yewu shichang guanli yijian de tongzhi*). The “Interim Provisions on the Approval and Regulations of Businesses Engaging in Public Telecommunications Services”, issued by MPT and Order 128, issued by the State Council on the “Regulation on the Administration of Spectrum” (*wuxiandian guanli tiaoli*) followed shortly. This sudden regulatory activity owes to the recognition of the importance of the telecommunication sector as a key factor in economic development, as well as the more pragmatic requirement to have a blueprint dealing with the introduction of competition in the sector. As we will see in the next chapter, this renewed activity preceded by little profound changes in the structure of the telecommunication market. The third period was initiated at the end of the 1990s. It started with the passing of the telecommunication regulation issued by the State Council in 2000 and was followed by a number of regulations enacted by MII.

The telecommunication regulation

Passed in September 2000, the telecommunication regulation (*dianxin tiaoli*) was the first more or less comprehensive legislative instrument regulating telecommunications. Its importance is emphasised by several scholars²⁷⁴. DeWoskin notes that:

“The document is an extremely important step towards clarifying the roles of all the players in the telecommunication sector. It represents the most recent stage of discussion and debate that goes back to the early years of the decade at the highest levels of the Chinese government. And it has

²⁷² Li, Qiang et al. (2000: 7).

²⁷³ These regulations, passed in September 1982 by the State Council and the Military Commission of the Central Party Committee, defined the boundaries of telecommunication lines and facilities, the acts of damage to telecommunication lines, and the criminal liability of offenders (He, 1997: 77).

²⁷⁴ See (DeWoskin, 2001; Horsley, 2001a).

created a fixed set reference points for further regulatory work. More importantly it has already helped make evident the acute need for a more fully developed regulatory statement that will encompass everything from network standards to taxation policy to universal service obligations."²⁷⁵

By setting out a transitional administrative regulation prior to the establishment of a full-scale telecommunication law, this document represented an initial attempt by a national rule-making body to standardise the administration of China's rapidly changing telecommunications industry and to develop a comprehensive and pro-competitive regulatory framework. As such it touched upon most substantive issues (see Table 8)²⁷⁶. It also touched upon structural issues. For example, the regulation defined MII's role as an independent government agency to regulate China's telecommunication. It confirmed MII's separation from any business operation to ensure open and fair competition (Article 4). The question of decentralisation was addressed by requiring provincial offices to "*exercise supervision and regulation over the telecommunication industry within their respective administrative regions under the leadership of the department in charge of the information industry*"²⁷⁷. Finally, it touched upon procedural issues. As a telecommunication regulator, MII was to issue telecommunication operation licences and telecommunication equipment licences and to supervise the operations of telecommunication service providers to ensure that they did not break China's telecommunication regulations²⁷⁸. Yet the regulation suffered from a number of shortcomings. While it emphasised the importance of interconnection, it made no reference to unbundling²⁷⁹. In addition, it failed to cover foreign investment²⁸⁰.

The regulation nonetheless offered important insight into the future of foreign telecom investment in China. It helped to prepare and position China to undertake many, though not all, of its telecom-related WTO commitments by introducing the principle of transparency in rulemaking, administrative decision-making, resource allocation, and interconnection²⁸¹.

²⁷⁵ DeWoskin (2001: 641).

²⁷⁶ The enactment of the telecommunication regulation was followed by an important number of decrees that complemented it.

²⁷⁷ This resulted in the creation of Provincial Telecommunication Administrations (PTAs) in provinces, autonomous regions and municipalities.

²⁷⁸ Interfax (2000).

²⁷⁹ OECD (2003b: 18).

²⁸⁰ This was later corrected by the Foreign Invested Telecommunications Enterprises (FITE) regulation.

²⁸¹ Horsley (2001a: 37).

Table 8: Key components of the telecommunication regulation

Area	Articles	Comment
Licensing	Article 7-16	Follows the “Interim Administrative Measures for the Examination and Approval of the Engaging in Liberalised Telecommunications Business” (MPT, September 1993). Complemented by the “Measures on the Management of Licence for Telecommunication Businesses Operations” (Decree No. 19 of MII, December 2001)
Interconnection	Article 17-22	Complemented by the “Public Interconnection Administrative Provisions”, establishing technical standards for telecom network interconnection and fee structure (Decree No. 9 of MII, May 2001) and the “Measures for Settlement of Interconnection Disputes in Telecommunications Networks” (Decree No. 15 of MII, 2002)
Tariffs	Article 5, 23-26	Article 28 of the regulation provides that detailed fee standards for operators’ use of telecom resources will be drafted
Spectrum	Article 27-30	Complements the “Regulation on the Administration of Spectrum” (Order No.128 by the State Council, September 1993) and the “Interim Measures on the Administration of Number Resources of Telecommunications Network” (Decree No. 1 of MII, August 2000)
Service level	Article 31-44	Complemented by the “Interim Measures for Handling Complaints from Telecommunications Users” (Decree No. 7 of MII, January 2001)
Construction	Article 45-53	Complemented by the “Measures on the Administration of the Telecommunications Construction” (Decree No. 20 of MII)
Network access	Article 54-56	Complemented by the “Measures of Telecom Equipment Network Access” (MII, May 2001)
Security	Article 57-66	Complements the “Provision on the Protection of Telecommunications Lines” (Directive No. 28 of the State Council and Military Commission of the CPC, September 1982)
Penalties	Article 67-79	Complemented by the “Measures on the Implementation of Administration Reconsideration of the Ministry of Information Industry” (Decree No. 25 of MII) and “Provisions on Procedures for Communications Administrative Penalties” (Decree No. 10 of MII, April 2001)
Competition	Article 4, 41-42	Measure to curb irrational competition (Document No. 204 of SDRC and MII)

Source: Compiled by author.

Finally, it re-inforced the importance placed by the Chinese government on retaining ownership and control of basic service and, in turn, the entire telecom network²⁸².

The “missing” Telecommunication Law

One of the most noteworthy facets of China’s telecommunication regulatory framework is without any doubt the absence of an overarching law governing the sector. Although a Telecommunication Law (TL) has long been in the works, the government has only passed ad-hoc administrative regulations. In 1980, MPT started drafting the Telecommunications Law of the People’s Republic of China, which was similar in mandatory power to the Posts Law passed in 1986²⁸³. The first draft was submitted to the State Council for review in 1982 and failed to get finalised. Another draft was submitted

²⁸² Magida (2001: 78). Conversely, companies carrying out value-added service, while requiring a Chinese partner, do not require state ownership.

²⁸³ Actually, the drafting of the first Electric Communications Law, Post and Telecommunications Act began in 1955 and was completed in 1958 but was never enacted. A draft of the Electric Communication Law, which separated mail and telecommunications, was later reviewed by the National Assembly in 1982 and again in 1986, but was vetoed both times (OECD, 2003b).

to the State Council and the relevant military departments for suggestions in July 1990. After some revisions and consultation, a third draft was again sent to the State Council in December 1991²⁸⁴. In June 2004, it was announced that a draft would be submitted to the State Council. While it has been said that “*there are internal pressures from the State Council to accelerate the speed of getting the law in place*”, the most recent announcement mentions that the Law will not be passed before mid-2006²⁸⁵.

Table 9: Milestones in the Telecommunication Law drafting

1980	Drafting begins	Members of Telecom Law Drafting Group^a <ul style="list-style-type: none"> - Wang Xudong, Minister of MII (September 2003)* - Xi Guohua, vice minister of MII - Wu Jichuan, former minister of MII and vice director of the China People's Congress (CPC) Education, Science, Culture and Health Committee - Jiang Yaoping, director of MII's Policy and Statute Department - Wang Jianzhang, director of MII's Integrated Planning Department - Wen Ku, director of MII's Science and Technology Department - Su Jinsheng, director of MII's Telecom Administration
1988	Task of drafting put into the State Council One-year Legislative Plan	
1993	Task of drafting put into the 8 th NPC Standing Committee Legislative Plan	
1998	Task of drafting marked as the first item of agenda within the centrally approved legislative plan of the 8th session of the NPC standing Committee	
2001	Draft process picks up speed. Expert consultants organise many discussions groups	
2003	Telecom Law drafting complete. Comprises 14 chapters and a basic roadmap for telecommunication reform	
2004	Not included in the 2004 NPC Standing Committee law-making plan but draft submitted to the Legislative Office	
2005	Listed as priority item for NPC legislation	
		^a As of December 2003 * Director

Source: Adapted and updated from Li (2003).

The current draft of the law is said to contain 15 chapters with nearly 200 articles and to be centred around a number of key tenets, which are the fostering of competition, tariff deregulation, unified licensing, interconnection, universal service obligation and better enforcement guidelines, including enhanced transparency²⁸⁶. In its present form, it is said to touch upon procedural issues such as the administrative structure and responsibilities of the regulator or the establishment of an arbitration panel to handle interconnection disputes with a ruling mandated within 90 days. It is also said to cover substantive issues such as market entrance requirements (including compulsory technological specifications

²⁸⁴ He (1997: 77).

²⁸⁵ The Law “will put forward the principle that the telecom charge shall transit from government guiding price to market regulating price” (SinoCast, 2004b).

²⁸⁶ Xinhua Financial News (2004) and Chen (2004a). Schwarz and Satola highlight three key components of a telecommunication law. First, it should be responsive to global trends in the sector to allow countries to position themselves on a competitive footing vis-à-vis other telecommunication markets. Second, it should be technology-neutral, so as to provide flexibility for the introduction of new services. Finally, in absence of a general competition law, it should include provisions for fair competition. In addition, the function of law is to organise how regulatory power is exercised, rather than to provide detailed technical prescriptions (Scott, 1998: 243; Schwarz and Satola, 2000: 9).

and future post-convergence requirements), frequency administration, universal service or interconnection²⁸⁷.

Over the years, several problems have delayed the drafting process: the merger of MEI and MPT and subsequent creation of MII, more substantive issues like interconnection and universal service or the prospects of network convergence have often forced the drafters to start back from scratch²⁸⁸. In addition the government wanted to protect its own interests in a fast-changing telecommunications environment that made it very hard to come up with a regulatory framework. Three additional factors have complicated the exercise. First, the drafting process is relatively complex and involves numerous “going back-and-forth” between the various parties, since all major telecommunication policies and documents proposed by MII must go through the State Council’s prior review (see Figure 6)²⁸⁹. Furthermore, many regulations and policies issued by the industry ministries have to go through the NDRC first and then, after approval, can be escalated to the State Council²⁹⁰. In the case of the telecommunication law, drafting began with MII, probably with broad guidelines from the State Council. As part of the process, drafters typically solicit views from other related government bodies and agencies in China, principally at the government level²⁹¹. The State Council Legal Affairs Bureau reviews the drafted documents, and the State Council Standing Committee approves or disapproves them. Second, the current system actually creates disincentives for MII to speed up the drafting. MII’s interest has been served by delaying the enactment of the law, since it would likely entail, among other things, a clarification of regulatory procedures and thus remove the ministry’s power to make arbitrary decisions²⁹². Third, bureaucratic reforms that have gone on in tandem with industry reforms and rapid changes in technology have forced revisions of the drafts before they were even issued²⁹³. Fourth, Chinese lawmakers are busy not only with the telecommunication law, but also with many other laws²⁹⁴.

²⁸⁷ In addition, it is said to touch upon issues of coding and pricing standards, infrastructure, and network information safety (Li, 2003). The law is said to leave a grey area around pricing policy. Market pricing will be employed as long as there is competition to provide the service in question and as long as the services do not unduly “affect consumers’ interests”. Otherwise, the government will regulate prices via public hearings.

²⁸⁸ Li (2003) and interview (B-003), conducted in Beijing, 28 August 2001.

²⁸⁹ Fan (2001).

²⁹⁰ Interview (B-006), conducted in Beijing, 30 August 2001.

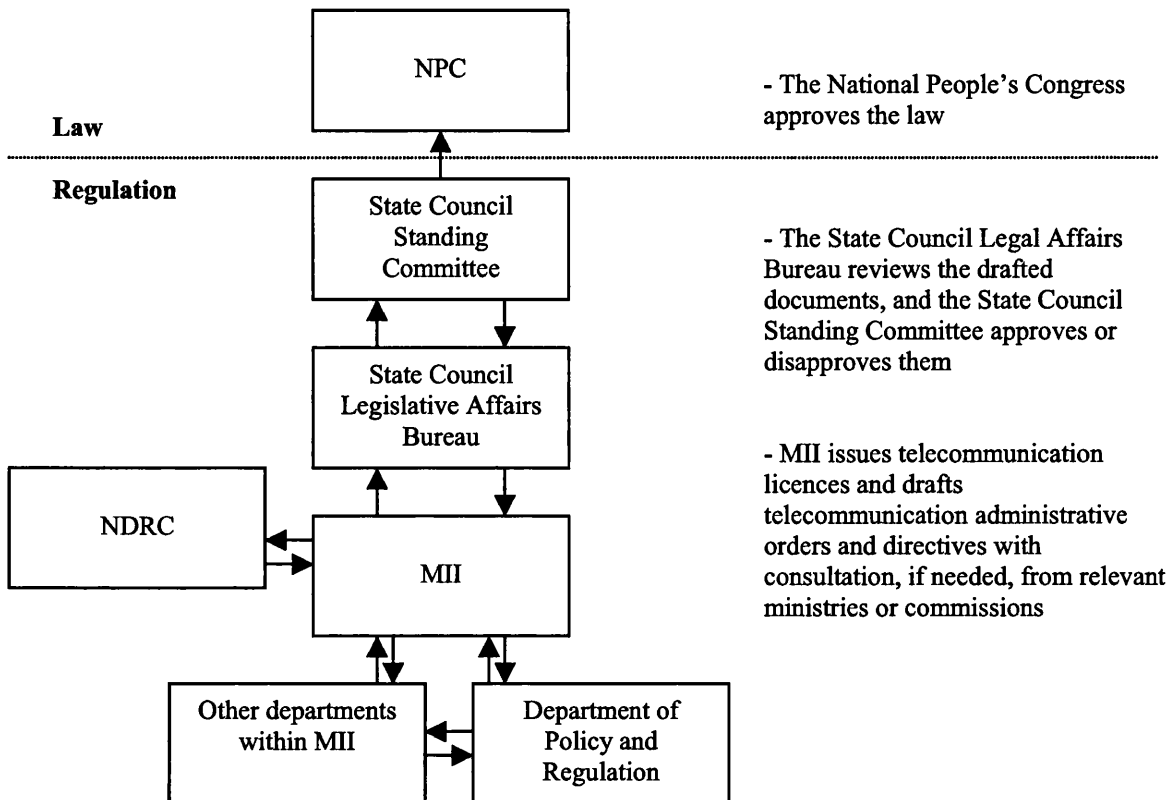
²⁹¹ Interview (B-032), conducted in Beijing, 18 November 2002.

²⁹² OECD (2003b: 11).

²⁹³ Pangestu and Mrongowius (2002: 25).

²⁹⁴ Interview (B-009), conducted in Beijing, 4 September 2001.

Figure 6: Telecommunication law and regulation drafting process, China, 2004



Note: Telecommunication operational directives are first drafted by a specific MII department, sent to the MII Department of Policy and Regulation for review, and go through an approving process by MII Minister and other senior officials. For example, the telecommunication regulation was “cooked” by MII. MII did all the preliminary drafting and contributed to all the essential parts. NDRC limited its role to an arbitrator, giving other agencies and departments a chance to say a few words about the regulations. MII then made the necessary amendment and it went again through the NDRC and various State Council bureaus for the final approval²⁹⁵.

Source: Adapted from Fan (2001) and personal interviews.

Finally, and somewhat paradoxically, the drafting process suffers from a lack of inclusion. Although forty-two ministries, commissions, and offices have reviewed the draft, a *formal* process of consultation where concerned parties in the industry can have an input, is not yet in place²⁹⁶. This lack of a feedback mechanism has caused the government to rely mostly on MII (and its institutes) and consultation abroad to tackle increasingly complex issues, leaving operators aside.

As noted by Brahm, a tension remains between legal certainty and predictability and the need for experimentation and flexibility during the present stage of China’s economic reform. Chinese laws are characterised by a tendency to state general principles (open to a range of interpretations and therefore flexible in application), a large number of administrative regulations (often provisional and, which can be modified more easily than

²⁹⁵ Interview (B-006), conducted in Beijing, 30 August 2001.

²⁹⁶ Interview (B-012), conducted in Beijing, 7 September 2001.

laws in order to adjust to changing circumstances or experience), and a high degree of administrative discretion in implementing laws and regulations²⁹⁷. In effect, the absence of a law regulating the telecommunication sector is probably one of the most important causes of today's regulatory stalemate. Nonetheless, the substantial components of the law now exist in the regulations promulgated in September 2000. As such, the issuance of the telecommunication regulation marks a milestone in China's drive to define its telecommunication sector in terms that match with the WTO agreement, while maintaining market-driven reform, greater openness, and the divorce of government from business. The regulation itself and some follow-up administrative measures, notices and directives are a very important first step towards developing a comprehensive and pro-competitive regulatory framework, although many issues such as interpretation, clarity and implementation remain²⁹⁸. Moreover, some substantive areas have yet to be adequately addressed.

Table 10: Overview of China's telecommunication regulatory situation, 2004

Regulator	Ministry of Information Industry (MII)
Legal instruments	A series of legislations and administrative methods but no Telecommunication Law as of January 1, 2005
Regulatory responsibilities	Except for tariff approval, all other regulatory functions are carried by MII ²⁹⁹
Licensing regimes	Unclear and split between MII and NDRC
Ownership	Grouped under SASAC and partially privatised (China Telecom, China Netcom, China Mobile and China Unicom).
Universal service	No USO fund

Source: Compiled and adapted from ITU website (<http://www.itu.int/ITU-D/>).

In other words, China's design of the regulatory environment can be characterised as pragmatic: by regulating "loosely" MII is testing to see what happens, what works and what does not³⁰⁰. But the absence of clear and transparent regulatory environment leaves the current regulator vulnerable to political manoeuvres. Indeed, since its inception MII has experienced difficulties pushing through the Telecommunication Law, although drafts have been around for years. Rapid technological changes, bureaucratic competition and conflicting interests among the various stakeholders, as well as central government policy changes have so far stalled efforts to finalise the telecommunication law³⁰¹. In addition, the law and other regulatory measures still face important substantive and procedural

²⁹⁷ Brahm (2001: 350).

²⁹⁸ Pangestu and Mrongowius (2002: 26). However, they do not have the full effectiveness that a true law would have.

²⁹⁹ Regulatory functions include numbering plans, tariff proposal, technical standards, interconnection charges, arbitration of disputes, frequency allocation, type approval, monitoring of service quality, establishment of licence fees, approval of mergers and universal service.

³⁰⁰ Interview (B-007), conducted in Beijing, 31 August 2001.

³⁰¹ Horsley (2001a: 41) and Lu (2002a: 22).

issues. The latter tend to come in “bundles” and are introduced without much lead-time³⁰². Current policy coordination is still carried out by numerous agencies with conflicting interests and thus often characterised by *ad hoc* administrative intervention or arbitrated negotiations³⁰³. Administrative network boundaries have made it difficult for Chinese authorities to deal with the gradual convergence of media and telecommunications in a comprehensive manner. As a result, the absence of a telecommunication law represents a major obstacle standing in the healthy development of the Chinese telecommunication sector. Let us underline, however, that there is an evolving legal framework based on the powers of the State Council and its Ministries to adopt secondary and tertiary regulations. For instance, the mere fact that the regulation was passed by the State Council (and not MII) indicates its heightened role in trying to synthesise what will be falling into the telecommunication regulatory structure³⁰⁴.

³⁰² This is not restricted to the telecommunications sector.

³⁰³ Keller (2000: 271-273) and Lu and Wong (2003: 41).

³⁰⁴ Interview (B-024), conducted in Beijing, 19 September 2001.

Concluding remarks

For many years, China's policy-making process was viewed as a black box, but it has become increasingly transparent and predictable. A quick glance at China's telecommunication regulatory framework would probably miss on the extensive reforms that have taken place in the past decade. While the state retains majority ownership in all the operators through SASAC and the sector clearly lacks an authoritative independent regulator, the pace and breadth of reforms has been nothing less than impressive. The regulatory framework is developing in an internationally compatible manner. While it has been a struggle to come up with the telecommunication regulation, China has come a long way and the current situation is not so far from regulatory developments elsewhere – as regulations and deregulations in other countries all had their own pitfall³⁰⁵. Since there is always a risk of obsolescence by the time a legislation is promulgated, some have argued that this has prompted for a loose definition of the legislation, leaving room for interpretation.

Thus, two opposite trends characterise the current regulatory environment: 1) the government's effort to control and manage the sector, based on the conviction that all the basic telecommunication operators are state assets, and 2) moving towards more market-oriented regulations and the inclusion of non-government actors³⁰⁶. More pressure already comes from various public institutions, such as the official press, the non-official press, from the more free thinking academic element and more significantly from the State Council³⁰⁷. Despite its diffuseness, the financial community has also played an increasing role. Unexpected policy decisions, which occurred without being flagged ahead of time, have made significant impact on revenue predictions for the listed entities and led to a plummeting in valuation, leading the government to make a number of policy statement "adjustments"³⁰⁸.

³⁰⁵ Interview (B-002), conducted in Beijing, 27 August 2001.

³⁰⁶ On the one hand the government is loosening up and liberalising, e.g. there have even been talks about totally giving up control of pricing, and on the other hand one can see the government tightening its administrative control over the major seven operators, e.g. by appointing senior management (Interview (B-011), conducted in Beijing, 6 September 2001).

³⁰⁷ Interview (B-019), conducted in Beijing, 17 September 2001.

³⁰⁸ Interview (C-002), conducted in Beijing, 11 June 2002 and Holland (2002).

Part II:

Pressure from the Inside

3 Overall reforms and the pressure for change

“Telecommunication reforms are not the mechanical outcome of policy implementation. To the contrary, they are the product of complex and dynamic interactions among conflictive interests.”
(Petrazzini, 1995: 5).

“It is a mistake to believe that China’s government wants to reform its telecommunication sector along Western lines.”
(Mueller and Tan, 1997: 9)

A vast literature documents the reform process initiated with the Open Door policy³⁰⁹ as well as the internationalisation of China’s economy³¹⁰. Most of the research conducted in the first half of the 1990s was concerned mainly with reforms in agriculture and industry. It is only in recent years that a number of scholars have turned their attention to services and sectoral issues, such as financial or telecommunication services. In terms of economic reforms, the ground covered between the start of the Open Door policy and China’s accession to the World Trade Organisation (WTO) is phenomenal. The country has lifted millions out of poverty³¹¹ and quite successfully initiated the transition from a centrally planned towards a market economy. It has done so at relatively low social cost, although some of the hidden costs of economic development, such as environment damage, are starting to emerge

The Third Plenum of the 11th Communist Party Central Committee gave way to a series of policies designed to reform the structure of the Chinese economy³¹². Reform was introduced first in the countryside, with the decision by the government in 1978 to raise agricultural procurement prices, in order to improve production incentives, and to narrow the gap between the price of industrial and agricultural goods. In addition to the adjustment of economic policies, it brought some re-examination of ideology, including the role of foreign linkages in China's modernisation³¹³. Reform was extended to the cities in 1984, when the Communist Party adopted “The Decision on the Reform of the Economic Structure”. Chinese planners acknowledged that market forces would supplant planning measures as the engine for economic growth by introducing the ‘two track’ price system³¹⁴.

³⁰⁹ See (Shirk, 1993; Houben, 1999; OECD, Fukasaku et al., 1999; Liu, 2001; Lieberthal, 2003).

³¹⁰ See (Jacobson and Oksenberg, 1990; Keohane and Milner, 1996; Economy and Oksenberg, 1999; Pearson, 1999b, 1999a; Economy, 2001; Lardy, 2002; Zweig, 2002).

³¹¹ Between 1981 and 2000, the number of people living with less than USD 1 per day dropped from 789 million to 203 million (Ali and Fan, 2004).

³¹² Shirk (1993: 38).

³¹³ Tan (1995: 267).

³¹⁴ Whereby a certain product would have an ‘in plan’ price set by the state, and, for production that exceeded the state quota, would have an ‘out plan’ price that would be determined by the market.

The centrepieces of industrial reform in the 1980s involved the decentralisation of power to the enterprises and local governments³¹⁵. These reforms aimed to improve the efficiency of the state sector by expanding enterprise autonomy, increasing incentives and introducing markets to complement or replace the existing planning system. The reforms also allowed SOEs to retain some of their profits, which were then used to increase rewards to workers and to finance the introduction of new products. As a whole, these reforms significantly altered the environment in which the SOEs operated and the way in which they were managed. SOEs began to respond to market signals to determine which goods to produce and in what quantities³¹⁶. The government supported the growth of powerful SOEs to compete with leading multinational companies, but the main goal of their reform was autonomy and competition rather than privatisation³¹⁷. In the 1980s Chinese economic reforms were characterised by gradualism, administrative decentralisation and particularistic contracting³¹⁸. In the 1990s, the reform process remained by-and-large on course; with the difference that China's negotiations with members of the WTO to join the trading club increasingly dictated the agenda of China's economic reform³¹⁹.

In parallel to the waves of economic reforms, the Chinese government launched a series of institutional reforms (*zhengfu jigou gaige*) in 1982, 1988, 1993 and 1998. They were usually accompanied by administrative and regulatory reforms in various sectors³²⁰. As noted by Pearson:

*“The drive for regulatory reform has been especially intensive since the mid-1990s, both as a result of Zhu Rongji's efforts to reorganize the State Council bureaucracy (notably, the elimination of many line ministries and establishment of several ‘independent regulators’) and as a result of requirements of China's WTO entry”*³²¹.

During the 1980s, the Chinese Government launched two major administrative initiatives, the 1982-85 government organisation restructuring and the 1988 central government administrative restructuring. While the former was aimed largely at downsizing, the latter emphasised the restructuring of economic management departments. In 1992, China started a new round of administrative reforms focusing on establishing an administrative

³¹⁵ Nee (1992: 5).

³¹⁶ Between 1981 and 1990 the percentage of retail goods whose demand was determined by the market rose from 30% to 90%.

³¹⁷ Nolan and Wang (1999: 180-181).

³¹⁸ Shirk (1996: 196).

³¹⁹ Zhang (2003: 707).

³²⁰ The frequent bureaucratic reorganisation since the 1950s signal efforts by Chinese leaders to alter the articulation of interests and to increase efficiency (Shirk, 1993: 110).

³²¹ Pearson (2003: 2).

system, which would conform to the socialist market economic system³²². The latest bureaucratic reform of 1998 resulted in the creation of a more centralised decision-making system³²³. In the case of telecommunication, some specialised economic departments were merged into new departments³²⁴. One of the main effects of the administrative reforms in the last two decades was the creation of new incentives and opportunities for government agencies to compete with one another for economic resources, including FDI³²⁵.

In parallel to the bureaucratic reforms, the country engaged in regulatory reform. These reforms have two major components – the creation of governmental regulators, and a restructuring of business actors to create competition³²⁶. Overall, it maintained strong social and industrial policy imperatives. Regulations, particularly of network industries seen as central to the industrialisation goals of the government, were designed to achieve social policies – such as continuing the inflow of revenues from large state enterprises – as well as the provision of universal services and development of the country's Western part³²⁷.

On the whole, China's telecommunication reforms process differs only slightly from those witnessed in other sectors of the economy. The government granted fiscal leeway to provinces through a process of decentralisation early on. In parallel, it took a pragmatic approach to finance the network's development. Two things set China's telecommunication service sector apart. First, the outcome of the reforms. Despite involvement from the highest level and the passing of a telecommunication legislation, the sector remains "poorly" regulated. Second, and more surprisingly, the weak regulatory environment does not seem to have greatly affected the diffusion of telecommunication.

Views concerning the most desirable rate of development for the telecommunication sector can be grouped into three general categories: those who feel that telecommunication investment should be held well below what would be indicated by the

³²² The reform in central government had three dimensions: reform of comprehensive economic departments, reform of local government and overall administrative simplification (UNPAN, 1998: 2-5).

³²³ Chan and Drewry (2001: 569).

³²⁴ MPT, MEI were combined into MII and the Ministry of Radio, Film and Television was demoted to a State Bureau (Chan and Drewry, 2001: 563-564).

³²⁵ Wang (2000: 540).

³²⁶ Pearson (2003: 9) traces the origins of China's regulatory changes to technocratic responses, from economic reformers in the State Council to the need to foster industrialization in a market context.

³²⁷ Pearson (2003: 28).

market forces, those who contend that telecommunication should grow mostly as indicated by the market – with operating entities behaving in most respects like commercial enterprises – and those promoting rapidly advancing telecommunication technology as a prime means to achieve a wide range of social and economic goals in numerous socially oriented sectors³²⁸. While there is no universal formula to reform a state-owned and state-run telecommunication industry, a number of elements invariably compose a reform programme³²⁹. Kessides argues that:

*“Every infrastructure reform program has three main elements: privatisation, competitive restructuring, and regulatory reform”*³³⁰.

In its initial phase, reforms usually entail a split of operations from regulation³³¹, implying a change of ownership, the introduction of competition and strengthened regulation. In addition, the sequence of reforms is important³³². In other words, reform of the telecommunication sector usually implies the reform of government institutions, market structure adjustments and the establishment of a legal system. Each country implementing telecommunication reforms faces unique political and cultural issues³³³. For example, China ranks among the few countries that have allowed some degree of competition (in long distance services) prior to allowing a change of ownership in the incumbent supplier and creating an independent regulator.

After presenting some figures on diffusion, Chapter 3 describes some of the major policies that have influenced the sector’s growth. Two of them have played a central role in the reform process: the decentralisation of administrative power and the diversification of the source of funding. The importance of telecommunication in the government’s strategy is also highlighted.

³²⁸ Saunders, Warford et al. (1983: 16).

³²⁹ Kessides (2004: 42-43) argues that every restructuring and privatisation program must take explicit account of a sector’s features and the country’s economic, institutional, social, and political characteristics. Melody argues that policy-making, supplying services and regulation are three sets of activities fundamental to telecommunication reform (Melody, 1997c: 20). See also Fink, Mattoo et al. (2003).

³³⁰ Kessides (2004: 59).

³³¹ Gillick (1992: 726) and Pisciotta (1997: 348).

³³² Wallsten (2002) and Melody (1995: 251-253). For example, slow development of regulatory agencies has often limited the benefits of reform (Smith and Wellenius, 1999: 1).

³³³ Pisciotta (1997: 347).

Network development: the mix of government policies and natural growth

“The crucial issues concerning China’s communications and information development rest on China’s present political structure, policy-making processes, and regulatory regime at both central and local levels.”

(Fan, 2001: 104)

At the end of 2004, the number of fixed-line subscribers in China had reached 316 million subscribers and 334 million mobile subscribers. The compound annual growth rates during the period 1994-2004 amounts to 26.6% for fixed-lines subscribers and 70.8% for mobile subscribers. Figure 7 shows a close correlation between the growth of GDP and the growth of mobile and PSTN users. Two considerations make such growth remarkable. First, the environment in which it took place. These impressive rates were achieved in a centrally planned, state-owned and largely monopolistic environment. Second, the focus and timing of the Chinese government’s policy. Why did the Chinese government target

weak country? Given the lack of knowledge between telecommunication investment and development at the time of the Open Door policy, Chinese leaders’ emphasis on information as one of the four pillars of modernisation appears almost prescient.

A number of studies – using more or less sophisticated econometric approaches – have attempted to link telecommunication reforms with telecommunication growth³³⁴. They find that developing countries, whose policies promote economic growth and private sector competition, have experienced much more rapid diffusion of telecommunication services. In addition, greater market openness, coupled with pro-competitive regulation, acts as a strong driver of telecommunications sector growth³³⁵.

Establishing such a link of causality between the reforms undertaken since 1993 and the development of China's telecommunication sector has too been subject of investigation. Ure attributes the State Council's emphasis up to the mid-1980s on telecommunication to a combination of factors including the Open Door policy, national security and China's science and technology programme³³⁶. Lu and Wong see organisational shake-up, restructuring incentives, state support and capital formation as key factors³³⁷. Singh noted that demand for telecommunication services grew several fold with the market liberalisation that began with Deng Xiaoping³³⁸. Later on, Cheung attributed the growth rate of mobile technology to market openness, heavy FDI inflow, rapid economic growth, China's interest in WTO membership, and re-structuring of the telecommunication sector³³⁹. Finally, some of the efforts to upgrade telecommunication have also been credited to the PLA's modernisation drive³⁴⁰. Pinpointing at a single factor – or for that matter at a set of factors – as a driver for telecommunication growth remains undeniably subject to debate. It is not the purpose of this thesis to attribute the performance to any given factor. We limit ourselves to observing when and how much growth took place. A brief analysis of selected performance indicators of China's telecommunication sector allow us to find a number of parallels with the reform periods described in this thesis (see Table 11). As expected, the period preceding the first set of reforms (pre-1993) reveals extremely low figures for both the connection capacity and the number of mainlines

³³⁴ See (Noll, 1999b; Ros, 1999; Dasgupta, Lall et al., 2001; Li and Xu, 2002b; Fink, Mattoo et al., 2003). A growing body of country experiences shows that reform of economic, social, and administrative regulations can produce substantial and long-lasting benefits, although it is often difficult to isolate the effects of regulatory reform from the many other factors that affect economic performance and policy effectiveness (OECD, 1997).

³³⁵ Varoudakis and Rossotto (2004: 75).

³³⁶ Ure (1997a: 247-249). See also (Feigenbaum, 2003).

³³⁷ See (Lu, 2000; Lu and Wong, 2003).

³³⁸ Singh (1999).

³³⁹ Cheung (2002).

³⁴⁰ For Mulvenon and Bickford (1999: 246-248) the PLA was one of the key players in China's telecommunications modernisation. For historical reasons, it controlled large sections of commercially exploitable broadcast bandwidth in China (e.g. the 800-MHz spectrum, suited for cellular communications). The role of the military in telecommunications stemmed from a combination of structural factors – the structure of the Chinese Leninist state and the PLA enterprise system.

actually in service. In spite of some investments – revealed by increased availability of digital main lines – the overall growth remained dismal.

Table 11: Selected performance indicators of China’s telecommunication reforms, 1989-2004

	Year	Availability of digital main lines	Number of mainlines (thousand)	Mobile users (thousand)	Mainlines per employee	Mainlines per 100 inhabitants	Connection capacity (thousand)	Connectivity-mainline ratio
1989-1993	1989	0.220	5,680	10	n.a.	0.51	10,347	1.82
	1990	0.290	6,850	18	n.a.	0.60	12,318	1.80
	1991	0.380	8,451	48	n.a.	0.73	14,922	1.77
	1992	0.498	11,469	177	n.a.	0.97	19,151	1.67
1993-1998	1993	0.655	17,332	638	37.03	1.45	30,408	1.75
	1994	0.965	27,295	1,568	56.39	2.26	49,262	1.80
	1995	0.992	40,796	3,629	85.17	3.35	72,036	1.77
	1996	0.995	54,947	6,853	114.23	4.47	92,912	1.69
	1997	0.997	70,310	13,230	150.24	5.66	112,692	1.60
1998-2001	1998	0.999	87,421	24,980	196.45	6.98	138,237	1.58
	1999	0.999	108,716	43,100	158.71	8.61	158,531	1.46
	2000	1	144,829	85,260	207.91	11.38	178,256	1.23
	2001	1	180,368	144,810	253.83	14.08	205,695	1.14
Post-2001	2002	1	214,419	190,390	295.55	16.62	283,584	1.32
	2003	1	263,305	269,000	354.77	20.26	354,010	1.34
	2004	1	312,443	334,824	410.71	23.88	421,020	1.35

Source: Compiled by author from ITU, MII and Frost.

The following periods (between 1993 and 2001, and after 2001) clearly contrasts with the pre-reform era. First, the connection capacity grows significantly (respective CAGR of 28.74% and 26.97%). Second, the number of mainlines per 100 inhabitants grows accordingly (respective CAGR of 34.22% and 19.26%). Since mobile telephony is not encompassed in the figures, one can *a priori* exclude technological leapfrogging as an explanatory factor. Third, the connectivity-main lines ratio falls regularly after 1994, indicating possibly that the planning of network deployment was conducted more in line with market demands. It is interesting to put in perspective GDP growth figures with mobile and fixed-line adoption (see Figure 7). We can immediately observe a good correlation between all three variables. This is not so surprising. Studies have shown that telecommunications is both statistically significant and positively correlated to regional economic growth in real GDP per capita growth in China³⁴¹. Second, the peaks of growth for mobile and fixed users actually take place at the eve of the reform period. Third, despite the relative decrease of growth after 1993, the yearly adoption remains extremely high. Unfortunately, it is not possible to infer from the statistics any direction of causality.

³⁴¹ Ding and Haynes (2004: 13). Datta and Agarwal (Datta and Agarwal, 2004) find that telecommunications infrastructure plays a positive and significant role in economic growth in 22 OECD countries from 1980-1992.

It is also important to remember here that investment in telecommunication (both in absolute terms and relative to GDP) significantly grew from 1993 onwards³⁴².

Setting and maintaining telecommunication as a strategic priority

The development of the telecommunication sector wasn't the first priority during the pre-1978 period, unlike the development of the industrial structure. But in the early 1980s the government changed its mind about the role of telecommunication for economic development and the improvement of the telecommunication infrastructure became a priority in the reform process³⁴³. A number of preferential policies designed to relax control over the industry and to encourage investment were promulgated. A key step was to introduce the "Three-90 percent policy" in 1984, which played a pivotal role in propelling the telecommunication sector's take off. Then, in October 1988, the State Council announced the "16-character policy" for telecommunication infrastructure development. Four principles were outlined: unification of planning and industrial development under MPT, coordination of ministerial administration with regional authorities, definition and sharing of responsibilities among different administrative levels and mobilisation of resources from all concerned to construct infrastructure³⁴⁴.

The mid-1990s marked a second set of important development policies. By then, communications had once again become a bottleneck in China's national economy³⁴⁵. In 1994, the State Council announced the "Eight policies of telecommunication development". The development strategies gave priority and policy support to the telecommunication sector, calling for the central planning of network and service development as well as a focus on the construction of a unified nation-wide public network. Their strategies also crystallised independent accounting and hierarchical administration for the Post and Telecommunication Enterprises (PTEs) and linked employee rewards to enterprise performance. Moreover, PTEs were allowed to raise capital from various ways and to collect installation fees. Importing foreign equipment and technology and utilising foreign fund sources also became possible³⁴⁶. In parallel to those policies, the government included telecommunication into its Five Year Planning

³⁴² See Figure 8.

³⁴³ Wauschkuhn (2001: 2-3) and Wang (2001a: 289-294).

³⁴⁴ Lu and Wong (2003: 25).

³⁴⁵ Chang (1994: 206). In Shanghai, the average waiting for fixed lines grew from 100,000 to 700,000 between 1990 and 1994 (Mueller and Tan, 1997: 29).

³⁴⁶ It was accompanied by the licensing of value-added and mobile telecommunication services and the deregulation of the equipment manufacturing market (Lu, 2002a: 17).

(FYP) process³⁴⁷. According to Naughton, in the 7th FYP (1986-1990) priority was given to continued agricultural growth, consumer goods industry and to the completion of key projects in energy, transport and communication³⁴⁸. As a result, planned build-up of telecommunication infrastructure was “conservative” and targets were achieved both in the 6th and 7th FYP (see Table 12).

Table 12: Build-up of telecommunication infrastructure, 1981-2000

Five-Year Plan Items	6 th (1981-1985)		7 th (1986-1990)		8 th (1991-1995)		9 th (1996-2000)	
	Planned	Achieved	Planned	Achieved	Planned	Achieved	Planned	Achieved
Switchboard capacity (urban lines)	2.7 million	3.37 million	6.35 million	8.26 million	18 million	54.56 million	150 million	179 million
Long distance phone lines	28,011	37,551	109,615	112,437	350,000	735,545	2,800,000	5,490,000
Telephone terminals per 100 residents	n.a.	0.6 (N) 2.0 (U)	n.a.	1.11 (N) 4.71 (U)	Above 2.0	4.6 (N) 17.0 (U)	10 (N) 30 (U)	20.1 (N) 39.0 (U)
Administrative villages connected ³⁴⁹				40%	100%			80%
Average annual growth rate of P&T turnover	5.0%	9.8%	11.05%	22.5%	20%	35.1%	20%	36.7%
IT industry as % of GDP	n.a.	n.a.	n.a.	n.a.	n.a.	2%	n.a.	4%

Note: (N)ational and (U)rban. The country’s 10th FYP calls for promoting the convergence of telecommunications, TV and computer networks. The government has set out strategic plans to: 1) expand the nationwide broadband network using fibre optic cable, microwave and satellite systems; 2) build out the nationwide GSM mobile network and explore services like mobile banking and Internet access based on the existing GSM network; 3) prepare for the deployment of 3G technology of mobile communications; 4) improve management and billing systems; 5) promote Internet usage, particularly e-commerce and electronic business. In the 10th FYP, the government has also targeted 95% of administrative village connection and 40 telephone terminals per 100 residents.

Source: Adapted from Lee (1997), TRP (2001), Lu (2002a), and Euromonitor (2003).

Since the 6th FYP, the build-up of the telecommunication infrastructure presents three remarkable facets. First, all the targets have been largely achieved, except for the percentage of administrative villages connected. Even there, the government has renewed in 2005 its pledge to connect 95% of the villages to “universal telecommunication

³⁴⁷ China has both Five Year Plans and annual plans. Both are drafted by the NDRC with input from all relevant ministries and organisations of the State Council. FYPs tend to be general, setting goals and directing rather than offering detailed and concrete planning. They leave considerable room for decisions to be made on an annual basis (Lieberthal and Oksenberg, 1988: 131). As a general rule, FYP provide a good indicator of the government’s macro objectives as they establish official national targets, priorities, policy concerns and directions.

³⁴⁸ Naughton (1995: 175). From the beginning of the 1990s, investment in infrastructure has been reasserted progressively as a major national policy priority, leading to a large increase in the share of transportation and telecommunication services in state fixed-assets investment, up to 30% in 1998 (Démurger, 2001).

³⁴⁹ Defined as a fixed line connection within a radius of 3 kilometres of the village.

services” by the end of the year³⁵⁰. Second, the growth is rapid for a developing economy³⁵¹. In comparison with India, whose size and state of advancement in the telecommunication sector at the beginning of the 1990s was more or less similar, the Chinese growth has been no less than staggering. Third, most of the growth happened during the 8th and 9th FYP periods³⁵². According to Hao, the rapid development during the 8th FYP is explained by the fact that “the telephone entered family life, making the transition from office use to private use”³⁵³.

As we will see shortly, this coincides with a number of drastic changes that took place within the telecommunication regulatory environment. These regulatory changes followed from a number of broad policies. China's administration primary focus in telecommunications and information infrastructure development by the 1990s was to spur network development while coordinating the whole process³⁵⁴. In practice, the policy of building infrastructure to allow for communication and for economic efficiency resulted in a heavy hand from the government³⁵⁵. Di and Liu have argued that Chinese planners were “fully aware” of the relationship between general economic development and the development of an infrastructure for telecommunication³⁵⁶. This is not surprising in itself. A number of studies documented the correlation between the level of telecommunications infrastructure (represented by teledensity) and the level of economic development (represented by per capita GDP)³⁵⁷.

While the NDRC and its predecessors did an admirable job at drafting ambitious FYPs, this was not enough to ensure that the targets were being met. In our view, the growth of the telecommunication network was made possible by a number of policies which accompanied the plans – such as decentralisation and opportunistic diversification of funding mechanisms. The next two sections describe the two policies that were central to achieving the strategy.

³⁵⁰ More than 50,000 villages remain unconnected (Asia Pulse, 2005b). In 2004, MII, together with all major operators, launched a “*cuntong*” project to speed up the connection of all villages in rural areas.

³⁵¹ Ure attributes the little influence of cyclical growth to the reliance on installation and connection fees (Ure, 2004: 4).

³⁵² Singh argues that the difference between the 6th and 7th FYP marks the passage from a development to a strategic priority (Singh, 1999: 94).

³⁵³ Hao (1997: 11).

³⁵⁴ Lovelock and Ure (2000).

³⁵⁵ Interview (B-027), conducted in Beijing, 11 October 2001.

³⁵⁶ Di and Liu (1994).

³⁵⁷ See (Hardy, 1980; Saunders, Warford et al., 1983; Cronin, Parker et al., 1991). In their study of Shaanxi, Tang and Lee found that telecommunications development in China depended not merely on economic factors, but also on non-economic factors such as political, historical and national security considerations (Tang and Lee, 2003).

Decentralisation: from the centre to the periphery and back again

“China's development is driven by a tension between economic freedom and political authoritarianism, between decentralisation and centralisation, between capitalist practice and socialist ideology”

(Mueller quoted in Singh, 1999: 97).

“The general trend toward highly decentralised telecommunication regulation and operation in China will continue and probably even intensify.”

(Lynch, 2000: 192)

An important element of China's economic reform process has been the progressive decentralisation of powers away from central government agencies to those at lower levels³⁵⁸. A similar pattern can be observed in the telecommunication industry. In 1993, Directive 165 issued by State Council initiated the decentralisation process (*fenquan rangli*) by stipulating that “in post and telecommunications industries the government administration and business should be separated, postal business and telecommunications business should also be separately administered, and enterprises should have their own accounts and be financially independent”³⁵⁹. Provincial bureaus, which used to be under the direct control of the Ministry of Post and Telecommunications (MPT), were granted independent accounting³⁶⁰. Whereas previously all revenue was turned over to the MPT and all investment was funded by the MPT, provincial bureaus could from then on retain part of their revenue for re-investment. They were also encouraged to seek investment from local governments and other local interests³⁶¹. Thus, MPT's responsibilities became largely confined to managing the national trunk network (i.e. linkages above the provincial level) and international connections. At the provincial level and below, MPT very quickly became virtually powerless to influence telecommunication development, except insofar as central intervention was necessary to insure nationwide inter-compatibility of technical standards. In the early 1990s a further degree of local autonomy was introduced, allowing the local Posts and Telecommunications Administrations (PTAs) greater management flexibility in planning, investment and tariffing policies. This ensured room to develop the industry at the local level at a pace that would have been

³⁵⁸ Saich (2001: 152).

³⁵⁹ By the end of the 1980s most provincial legislature bodies had passed laws and regulations to define the division of responsibilities between the MPT and the local governments (Lu and Wong, 2003: 29).

³⁶⁰ The MPT administration was divided into a three-tier hierarchy with the national MPT at the top in charge of domestic and international long distance services. Provincial level Posts and Telecommunications Administrations (PTAs) reported directly to the national MPT and were responsible for all intra-provincial network development and operations. Country and city level Posts and Telecommunications Bureaus (PTBs) reported to the PTAs and handled post and telecommunication service and network maintenance in rural areas.

³⁶¹ Tan (1994: 178).

impossible for the central government³⁶² and opened the door to foreign investors involvement³⁶³. PTAs were also designed as a tool to ensure uniform standards, coordinated equipment purchases³⁶⁴ and regulated development across the country in an attempt to put an end to the fractioning of the industry³⁶⁵. As put by a large MNC equipment manufacturer:

“When selling equipment, and despite trying to negotiate a countrywide deal, you basically win or lose a province”³⁶⁶.

In other words, every single purchase order was a separate contract, preventing nationwide procurement policies³⁶⁷.

In 2000, following a proposal by MII, provincial Telecommunication Administrations Bureaus (*dianxin guanlibu*) were established to create a nationwide supervision system overseen by MII and provincial governments³⁶⁸. The new administrative model embodies the policy of “*hangye guanli*”. Administrations are responsible for the planning and management of public telecommunication facilities, special-purpose telecommunications networks and radio and TV transmission networks in their own areas. In addition, they are entrusted with ensuring fair market competition³⁶⁹. They are however clearly separated from operators. In contrast to the previous administrative model, TABs are under the dual hierarchy of local governments and the Ministry, instead of answering mostly to local governments³⁷⁰. While local administrations act as branches of the central administration, they retain a certain level of flexibility within the limitations set by MII³⁷¹. Such examples of local initiatives can be found in the telecommunication regulations passed by Guangzhou³⁷² or Shanghai³⁷³ in 1996, or more recently by the notices promulgated by

³⁶² Interview (B-038), conducted in Beijing, 25 November 2003.

³⁶³ See below the section on CCF.

³⁶⁴ Although China Unicom is said to be better than the other operators, individual provinces behave as independent power bases and negotiate their own deals (Interview (B-039), conducted in Beijing, 27 November 2003).

³⁶⁵ In the mid-1980s the Chinese leadership had made moves to dilute the strength of powerful industrial ministries (Harwit, 1998: 189).

³⁶⁶ Interview (B-005), conducted in Beijing, 13 September 2001.

³⁶⁷ Contracts were even sometimes signed at the sub-provincial level. China Mobile has been trying to bring everybody in the listed company closer to a more uniform standard on how to operate, but this is still an issue (Interview (B-039), conducted in Beijing, 27 November 2003).

³⁶⁸ Cui (2002: 158) argues that a two-level, direct instruction regulation structure system is taking shape.

³⁶⁹ EIU ViewsWire (2001).

³⁷⁰ Interview (B-040), conducted in Beijing, 28 November 2003.

³⁷¹ Interview (B-038), conducted in Beijing, 25 November 2003.

³⁷² These regulations are limited in geographical scope to the Guangzhou Municipality and supplementing existing national and provincial regulations passed by the relevant departments of telecommunications. In essence, the regulations confirmed that the Municipal Telecommunications Authority is responsible for licensing essentially local services such as radio paging, mobile telephones and VSAT but that information services licensed by the Municipality must nevertheless also be licensed at a higher level (Mondaq Business Briefing, 1996).

Shanghai and Beijing on SMS³⁷⁴. In addition, informatisation projects, such as Infoports, are usually initiated and run by municipal governments³⁷⁵. In the area of pricing, PTAs actually complement NDRC-issued notices, by giving providers the right to set fees for some services and creating a new system for companies to apply for pricing changes. Despite policy restrictions on competition, local governments and the bureaus of telecommunication management can decide to a large extent whether or not to make price wars³⁷⁶.

One would nevertheless be mistaken to infer that the central government has become totally dissociated from the running of the sector. One area where the centre has not relinquished its power is licensing. MII remains in charge of the licence issuance in basic telecommunication services for the whole country. According to State Council Directive No. 333, local authorities cannot approve any FDI project³⁷⁷, but the local bureau is authorized to do pre-reviewing on FDI applications³⁷⁸. Thus, in the case of the AT&T and Shanghai Telecom deal, the agreement was reached at the local government level, but MII had to approve it by affirming the eligibility of the JV. For value-added services, the local branches issue licences but they must be put forward to MII for registration³⁷⁹. Thus, and contrary to other sectors, the creation of the TABs has reduced local administrations' leeway in regulatory affairs by forcing them to make their decisions within guidelines of national regulations³⁸⁰. Moreover, China has announced its plan to establish in 2005 a telecommunications supervision system covering market access (control basic telecommunication services and open value-added services), interconnection (draft documents on administration and publish explanations on legal

³⁷³ The "Procedures of the Shanghai Municipality on the Administration of Telecommunications Services" limited applications to state-owned or collective-owned enterprises with corporate capacity or an enterprise whose interest is controlled by it, but remained vague as to capital requirements. Foreign companies or foreign-invested enterprises were to be dealt "in accordance with relevant State provisions". The city of Shanghai has also passed a trial "Administrative Method of Broadband Subscriber Network" (*shanghaishi kuandai yonghu zhudiwang guanli banfa – shixing*).

³⁷⁴ Promulgated by the Shanghai Telecommunications Bureau on 26 June 2003, the Shanghai Rules prohibit, among other, SMS operators from selling their SMS services at below-cost prices as well as from providing premium SMS services to users who have not voluntarily subscribed to such services. Using a slightly different approach, the Beijing Administration for Industry and Commerce announced on 29 October 2003 that it had coordinated with four online SMS providers to revise their SMS user service agreements and begin using a standardized SMS Service Basic Clause (Interview B-040, conducted in Beijing, 28 November 2003).

³⁷⁵ Shanghai is said to be a showcase because of the investment and regulatory efforts of the Shanghai government (Interview (B-027), conducted in Beijing, 11 October 2001). Ma, Chung et al. (forthcoming) provide an overview of city-level informatisation projects.

³⁷⁶ Interview (B-035), conducted in Shanghai, 21 November 2003.

³⁷⁷ In-depth treatment of FDI in the telecommunication industry is provided in Chapter 5.

³⁷⁸ Interview (B-043), conducted in Shanghai, 10 May 2004.

³⁷⁹ Interview (B-040), conducted in Beijing, 28 November 2003.

³⁸⁰ Interview (B-034), conducted in Shanghai, 21 November 2003.

documents), price control (adopt ceiling and bottom prices), universal service (open a fund to support development of telecommunication in poverty-stricken areas), customer service, and information safety³⁸¹.

As noted, the major distinction from the previous system is the “separation between government and enterprises”, replacing “*zhengqi bufen*” by “*hangye guanli*”³⁸². The new system seems to leave even less leeway for local TABs. With the creation of the new provincial bureaus, MII is trying to establish more consistency, and while struggling to become less hierarchical, aims at having the provinces follow central government policies to avoid network fragmentation or spectrum allocation conflicts. Whether the provincial governments enjoy *xingzheng lingdao guanxi* (administrative leadership powers – setting budgets and controlling senior appointments at the provincial bureaus) or only *yewu lingdao guanxi* (business leadership relations – only offering guidance on policy) is hard to answer: provincial Telecommunication Administrations (PTAs) or local MII are appointed by provincial politicians, but industrial policy has to listen to Beijing for guidance³⁸³. Fundamentally though, the government cannot play the double role of regulator and operator. The enterprise management relationship (*hangye guanli*) means that administrative bureaus have no intervening rights into enterprises personnel, finance and assets management³⁸⁴. In other sectors, bureaus have established local offices around the country over the past couple of years and they seem to be focused on supervision³⁸⁵. Early initiatives point to similar roles. Thus, in Shanghai, two administrative bodies have the responsibility to regulate telecommunication. First, the Shanghai Telecom Administration Bureau, an agency affiliated to MII, is responsible for regulating operations by implementing national laws, regulations and directives. It “listens” to the central government in a vertical way. Second, the Shanghai Municipal Informatisation Commission, an important branch of the Shanghai Municipal government, regulates telecommunication manufacturing and software.

³⁸¹ Asia Pulse (2004). The basic objective is to install public payphones or public call offices in at least 95% of rural villages by the end of 2005 (Roseman, 2005: 40).

³⁸² In the words of a local PTA head, “the government is now seen as a referee rather than a sportsman” (Interview (B-043), conducted in Beijing, 10 May 2004).

³⁸³ One could call this the double leadership: accountability to provincial leaders as well as to MII, but with a different focus (Interview (B-033), conducted in Geneva, 12 November 2003).

³⁸⁴ According to the Telecommunication Regulation, the telecommunication administrative bureau is obliged to regulate operating and pricing behaviours, while telecommunication enterprises are treated as independent enterprises.

³⁸⁵ Interview (B-024), conducted in Beijing, 19 September 2001.

Enforcement of the new administrative structure will hopefully prevent cooperative arrangements and regulatory capture. Furthermore, local authority regulation provides for more democratic control by those with detailed knowledge of an area, and more responsive control to particular regional concerns³⁸⁶.

The extent to which the decentralisation process has been successful is questionable. On the one hand, development has proceeded at impressive speed while maintaining more or less uniform standards across the country³⁸⁷. Without the delegation to lower levels, such massive build-up of the network would probably have been much more difficult and time-consuming. Through their subsidiaries, like Shanghai Mobile or Shanghai Telecom, operators were allowed to become an integral part of the reform process. Today those subsidiaries deal directly with local governments and the relationship between high-level managers and high-level local government leaders is said to weight considerably on local economics³⁸⁸. On the other hand, the sharing of responsibilities among different administrative levels has probably undermined the government's capacity to control the nationwide development of the industry, which has led to differences in provincial treatment and gradual fragmentation of telecommunication policies. MII's function appears more and more often restricted to issuing general policies with limited enforcement capacity. For example, the government was forced several times to warn against wasteful duplication of resources and price wars, but with little impact. Although partly explained by budgeting reasons and by the trial phases orchestrated by the operators, implementation and enforcement of directives can take up to 12 months or more³⁸⁹.

The overall decentralisation process has been taking place in a very complex environment fraught with tensions. The telecommunication sector is no exception: despite the "normalisation" of the market, the relationship between the periphery and the centre remains intricate³⁹⁰. Since 1949, the telecommunication sector has been treated as a means of connecting the central government with its local branches but even in the era of central economic planning, the telecommunication service market was for years a

³⁸⁶ Baldwin and Cave (1999: 66).

³⁸⁷ For an interesting discussion on the barriers encountered, see Mertha and Zeng (2002).

³⁸⁸ Interview (B-035), conducted in Shanghai, 21 November 2003.

³⁸⁹ Interview (B-017), conducted in Beijing, 14 September 2001 and interview (B-020), conducted in Beijing, 17 September 2001. Some rich provinces are sometimes allowed more flexibility while poor provinces get all their funds from the central government.

³⁹⁰ For example, the office chief of Shanghai's telecommunication management bureau became China Unicom's new president (Interview (B-035), conducted in Shanghai, 21 November 2003).

fragmented administrative structure³⁹¹. As a result, provincial and local bureaus have attempted to occupy the void by issuing local, and at times nation-wide³⁹², regulations. As it is often the case, the dynamics of Chinese politics are to a great extent determined by the realities on the ground – with enormous power in the hands of regional and local governments³⁹³. This has led to a picture, which is by far not homogenous, where some governments were being given (or took) more freedom to experiment³⁹⁴. Unfortunately, MII's decentralisation attempts and the use of local test beds have hardly served as a bottom-up channel for policy-makers on a large scale³⁹⁵. The several waves of decentralisation may at first have given the impression of strengthening the role of the centre by consolidating the industry's development under MPT (and later MII). An additional factor mitigating local control has been the corporatisation process³⁹⁶: while local government can impact the provincial subsidiaries of service providers, their increased integration via listed vehicles makes it harder and harder³⁹⁷.

The various waves of decentralisation have not only impacted the administrative structure of the sector but also deeply influenced its sources of funding. As noted above, the end of MPT's complete control happened around the same time as the devolution of administrative power to sub-central government levels.

³⁹¹ Davidson, Wang et al. (1989: 99) and Lu and Wong (2003: 36).

³⁹² A striking example is the regulation for websites issued by the Beijing Municipal Administration for Industry and Commerce that purported to require website registration in Beijing for businesses all over China (Interview (B-032), conducted in Beijing, 18 November 2002).

³⁹³ Van Der Geest (1998: 109).

³⁹⁴ Interview (B-029), conducted in Beijing, 12 October 2001. The government's strategy to allow experiments at the provincial level is to a certain extent embodied in Article 9 of the telecommunications regulation, which stipulates that "New types of telecom services other than those in the Catalogue of Telecom Service Classifications that are carried out on an experimental basis using new technologies should be submitted to telecom regulatory authorities at the provincial level for record" (GAO, 2004: 73).

³⁹⁵ Interview (B-024), conducted in Beijing, 19 September 2001 and Interview (B-029), conducted in Beijing, 12 October 2001.

³⁹⁶ See Chapter 4.

³⁹⁷ Interview (B-035), conducted in Shanghai, 21 November 2003.

Investment and sources of funding: a pragmatic approach

In many respects, China's case is atypical. Many transition countries that undergo reform tend to be characterised by under-investment, very low tariffs and the lack of independent regulators³⁹⁸. Although China shares the latter characteristic, it seems to have managed investment extremely well. The cumulated capital investment in telecommunication between 1986 and 2003 exceeded USD 200 billion (see Figure 8). The central government approached this phenomenal network build-out by introducing a number of policies over the years and with a certain dose of pragmatism. First, from 1982 to 1993, funds were allocated to telecommunications under preferential policies³⁹⁹. For example, in 1984 the government introduced the "Three 90% policy", which allowed the telecommunication industry to retain 90% of its profits (compared with a 55% taxation of non-preferred industries), 90% of its foreign currency earnings from international telephony traffic, and was exempted from repaying 90% of central government loans⁴⁰⁰. Second, instead of relying solely on the revenues of the telecommunication network, the government sought various sources of financing, including foreign ones, as opportunities arose. As a result, funding in China's telecommunication sector shifted during the reforms from being mostly state investments to self-raised funds, and by 1998 the percentage of self-raised funds had actually exceed budgeted provisions⁴⁰¹. The sources of funding can be divided into three main periods, which coincide by-and-large with major periods of the reform process (see Table 13).

Table 13: Change in the composition of investment in the P&T industry, 1978-1998

	1978	1982	1992	1998
Total investment (RMB 100 million)	4.34	9.15	162.49	1771.66
State investment in budget	90%	40.80%	2.93%	0.07%
Domestic loans	0.5%	0.20%	6.72%	8.83%
Foreign loans		0.50%	13.23%	1.37%
Self-raised (locally) funds	8%	58.50%	75.09%	87.26%

Source: Compiled from Fan (1996), Lovelock and Ure (2000: 21), Wu and Zhu (2003).

From the founding of the People's Republic of China in 1949 to the onset of economic reform in 1978, telecommunications was treated as a means of connecting the central

³⁹⁸ This in turn creates a vicious circle reinforcing under-investment (Vagliasindi, 2004: 303).

³⁹⁹ Wang (2003: 270).

⁴⁰⁰ He (1997: 76) and Wauschkuhn (2001: 3). For investment in local telephone networks the "mobilising four resources together" policy drew on the resources of government fiscal expenditure, users' contributions, enterprises' internal finance, and loans.

⁴⁰¹ The budget for the telecommunication sector for 1994-2000 had been set at RMB 490 billion, of which 80% were to be sourced domestically. RMB 98 billion (20%) were to come from telephone installation fees, another RMB 196 billion (40%) were to be raised through revenues collected on local and long-distance calls and subsidies from local governments. While domestic bank loans and foreign capital were each to contribute another 20%

government with its local branches⁴⁰² and investment rested almost exclusively on the state.

*Foreign loan management – 1982-1993*⁴⁰³

During the period China borrowed more than USD 5 billion in foreign loans for telecommunications⁴⁰⁴. Part of it came from soft loans⁴⁰⁵ and from international lenders. In the early 1990s, prediction after prediction was made that China would have to open its telecommunication industry to foreign participation in order to secure the capital needed to finance its expansion plans. At that time, foreign investment accounted for around 20-25% of the MPT's total telecommunication investment, the main sources being supplier credits, commercial investment, international loans from the World Bank and Asian Development Bank, and Western government soft loans. While China became the World Bank's biggest borrowing client in 1993 (a position it has retained as of today⁴⁰⁶), borrowing from the World Bank for projects related to telecommunication has been limited to a USD 250 million loan to help fund a project designed to restructure the sector and make it more market-oriented⁴⁰⁷. A multilateral agreement among countries belonging to the OECD was reached in 1993 to cut government soft loans to telecommunications projects in China. The World Bank and the Asian Development Bank also announced their intention gradually to eliminate loans to telecommunication projects in China. Thus, while in the first part of the 1990s much of the fixed assets investment came from foreign government and international financial organisation loans, from 1993 onwards, enterprises turned to domestic financing, including loans from domestic banks, instalments and leasing⁴⁰⁸.

⁴⁰² Davidson, Wang et al. (1989: 99).

⁴⁰³ Enterprises mainly utilised favourable loans from foreign governments, loans from international financial organisations such as the World Bank and the Asian Development Bank and primary credit interest with some subsidies provided by the government (Wu and Zhu, 2003: 140).

⁴⁰⁴ Anonymous (1994).

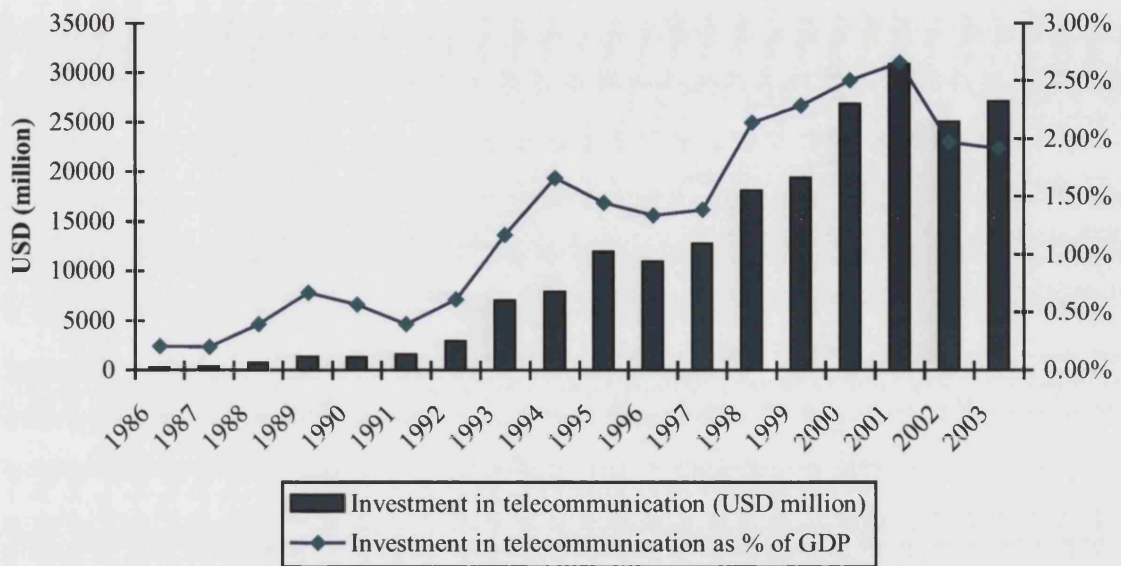
⁴⁰⁵ During the 1980-1989 period, soft loan telecommunication contracts – loans made to a country on a concessionary basis such as a lower rate of interest – amounted to USD 728 million. Multilateral development loans have not been employed in telecommunications, but both the World Bank and Asian Development Bank investigated projects (Zita, 1994: 100).

⁴⁰⁶ Studwell (2002: 101).

⁴⁰⁷ The USD 623 million project was used to fund fibre-optic cables as well as 920,000 new lines in Jiangsu. The World Bank's funding also supported reforms of the accounting (following international standards) and pricing systems in the telecommunication sector, the establishment of a legal and regulatory structure and the training of some 25,000 telecommunication bureaucrats (Clifford, 1994: 47).

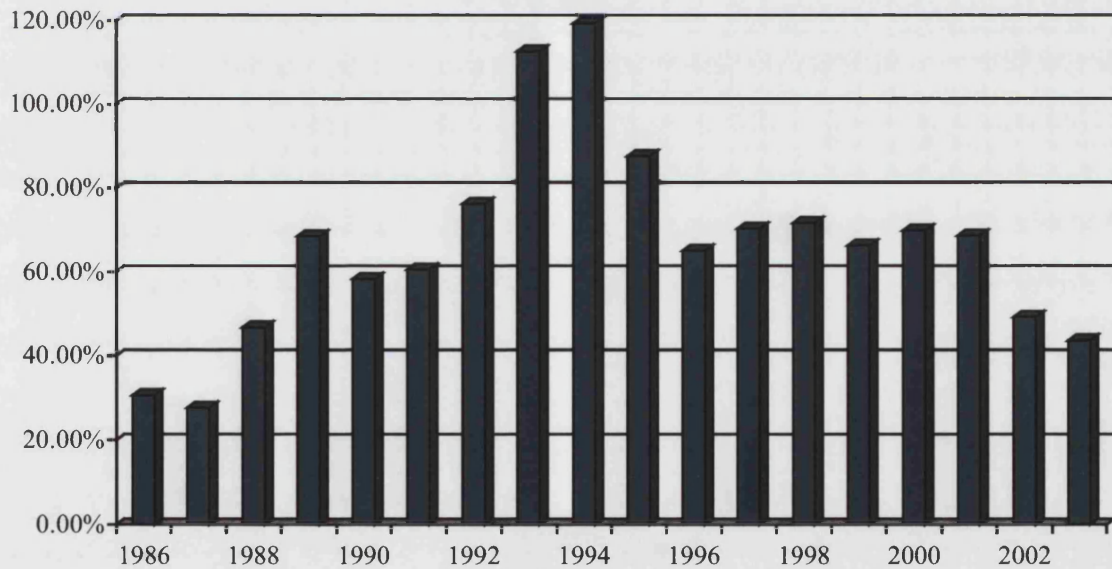
⁴⁰⁸ Wu and Zhu (2003: 140).

Figure 8: Annual growth rates of real GDP and investment in telecommunication, 1986-2003



Source: Compiled from ITU (2004), Euromonitor (2004) and TPR (2002).

Figure 9: Percentage of investment to gross telecommunication revenues, 1986-2003



Source: ITU (2004) and World Market Research Centre (2004).

Domestic loans and international financing – 1994-1997

As noted, due to the high profitability of the sector, soft loans from the multilateral agencies were no longer available during the second part of the 1990s⁴⁰⁹. Moreover, the policies introduced in the early 1990s allowed central and provincial governments to make investments in the sector and to negotiate international JVs for technology transfer and production⁴¹⁰. This opened the door to the creation of Chinese-Chinese-Foreign (CCF) JVs or “*zhong zhong wai*” pioneered in 1995 by China Unicom⁴¹¹. In this finance model, a foreign company partnered with a domestic company, usually in a JV. In return for investment, equipment and management expertise, it received a revenue share from the network’s operations. This complex arrangement was designed to circumvent China’s strict ban on foreign companies having any equity ownership or operational control over networks and network services. As local authorities needed the investment, local regulators were willing to turn a blind eye. Although these arrangements were approved by relevant officials in MOFTEC and by the State Administration of Industry and Commerce (SAIC), they were deemed unlawful by MII and fell into an administrative and regulatory grey zone. There is little doubt that both Ministries had a very different outlook on CCF, but what is important to remember here is that their liberal or conservative interpretation was in large part driven by their respective remit⁴¹². On the one hand, MOFTEC’s main objective was to attract as much foreign investment to China “at all costs”. On the other hand, MII’s political salience rested on the development of the national telecommunication network under governmental control. In addition, since China Telecom drove most of the growth, MII was keen on maintaining a strict protection ring around the incumbent.

Mix of IPOs and bonds – 1997-2004

After 1997, as fewer and fewer government policies directly supported the industry, operators turned to the Hong Kong and New York capital markets⁴¹³. They proceeded by spinning-off provincial networks and grouping them under a newly created company (e.g. China Mobile or China Netcom) thus preparing for listing the entity overseas at a later

⁴⁰⁹ Anonymous (1997).

⁴¹⁰ Jussawalla (1997: 48).

⁴¹¹ With the help of CCF, China Unicom was able to build up its nationwide GSM system in less than three years. By the end of 1997 it had signed 23 GSM projects with foreign companies and raised RMB 11.85 billion (72% of total investment in the projects).

⁴¹² Macintosh attributes the divergence of views on CCF between MOFTEC and MII to ideological divisions within the Chinese bureaucracy (2003: 266).

⁴¹³ Only China Unicom has listed on the domestic market in 2002 (see Table 14).

stage⁴¹⁴. At first, all the financing happened through Initial Public Offerings (*shouci gongkai faxing* or IPOs). The country's four major operators have so far raised USD 25.2 billion in the international market and RMB 34.5 billion (USD 4.2 billion) in the domestic market⁴¹⁵ (see Table 14).

Table 14: IPOs by China's telecommunication operators, 1997-2004

Company	Date	Amount (billion)	Comment
China Mobile	1997-10	USD 4.20	Listing on HKSE and NYSE of Guangdong and Zhejiang networks. 24.3% publicly held
China Unicom	2000-06	USD 4.92	Listing on HKSE and NYSE. 22.53% publicly held
China Unicom	2002-09	RMB 11.5	Listing on SSE; 39.5% stake in China Unicom (HK)
China Telecom	2002-11	USD 1.43	Listing on HKSE and NYSE of 4 provincial networks (Shanghai, Guangdong, Jiangsu and Zhejiang). 20% publicly held
China Netcom	2004-11	USD 1.13	Listing on HKSE and NYSE of Shanghai, Guangdong, Beijing, Tianjin, Hebei, Shandong, Henan and Liaoning. 27.7% publicly held
China Tietong	2005	RMB 2.00	Listing on SSE (A shares) postponed

Note: SSE=Shanghai Stock Exchange; HKSE=Hong Kong Stock Exchange; NYSE=New York Stock Exchange.

Source: Compiled by author from Factiva.

Stock financing was also preferred over bond issuing. Corporate bonds have a relative short period of development in China (see Table 15). In addition, the Chinese government exercises strict control over bonds issuing, due to the widely recognised lack of bond evaluating agencies, and the credit of many enterprises' bonds is thus low⁴¹⁶. The result has been a limited usage of bond financing⁴¹⁷. Nevertheless, in the current financial structure of China Telecom or China Unicom, equity is very small (i.e. there is a lot of debt). In the future, interest rates might increase and there might be a convertibility (*zai zuan gu*) of debt into equity⁴¹⁸.

⁴¹⁴ Interview (B-007), conducted in Beijing, 31 August 2001.

⁴¹⁵ Business Daily Update (2004). This includes IPOs as well as further network listings.

⁴¹⁶ Wu and Zhu (2003: 142).

⁴¹⁷ Before 1999, "Regulations on the Management of Enterprise Bonds", which came into effect in 1993, were jointly administered by SDPC and PBOC (the latter was the lead regulator in practice). In 1999, the regulations were suspended; thereafter, new issue applications were approved by the State Council on a case-by-case basis through the SDPC. CSRC' role on the corporate bonds market is limited: it only examines and approves bond-listing applications. While 17 enterprises were allowed to issue bonds in 1999, the numbers of corporate bonds issued dropped to 6 in both 2000 and 2001 (Kim, Ho et al., 2003: 33).

⁴¹⁸ Interview (B-025), conducted in Beijing, 10 October 2001.

Table 15: Bond issues by China's telecommunication operators, 1997-2004

Issuers	Date	Amount (billion)	Comment
China Telecom	1999-10	USD 0.6 ⁴¹⁹	5-year bond. To finance the purchase of 3 provincial mobile networks from its parent company (Fujian, Henan and Hainan).
China Mobile	2000-10	USD 0.69	2.25% convertible notes due 2005. Listing on the Luxembourg Stock Exchange
China Mobile	2001-06	RMB 5.0 ⁴²⁰	10-year floating rate corporate bond (paying a 1.75% interest). RMB 4.57 billion of the bonds sold eligible for trading on the Shanghai exchange. Via Guangdong Mobile. Used to refinance a portion of a bank loan due June 2001. China Mobile (HK) borrowed RMB 12.5 billion from 8 domestic banks in October 2000 to finance its acquisition of 7 provincial mobile networks from its parent China Mobile.
China Mobile	2002-11	RMB 8.0	RMB 3 billion in 5-year debt (paying a 3.5% coupon) and RMB 5 billion in 15-year securities (with a 4.5% coupon). Via Guangdong Mobile. Purchase of 8 networks from its state-owned parent
China Netcom	2003-12	RMB 5.0	RMB 4 billion of 10-year fixed-interest bonds and RMB 1 billion of floating-interest bonds, guaranteed by China Construction Bank. Funds used to improve inter-provincial networks, expand intra-provincial networks and build local networks.
<i>China Unicom*</i>	<i>2005</i>	<i>RMB 10.0</i>	<i>Corporate bond to fund CDMA network expansion and improve performance and pay off existing obligations</i>
<i>China Railcom*</i>	<i>2005-08</i>	<i>RMB 1.0</i>	<i>Fund new network construction and upgrades</i>

Note: *Italics indicate a tentative issue. Bond issues need the approval of the NDRC, CSRC and Central Bank. In 2002, the total amount of outstanding corporate bonds was RMB 133 billion in China, accounting for 1.3% of the country's GDP, while the total market capitalisation of China-listed companies accounted for about 45% of GDP. In 2002, RMB 27 billion were approved by China's NDRC. In 2002, the Chinese government sold around RMB 600 billion in bonds. In 1999, the telecommunication sector was slated to receive a total of RMB 1.2 billion from the RMB 100 billion new Treasury bond issue by the government to boost infrastructure spending.

Source: Compiled from Factiva (as of January 30, 2004).

There is a rich vein of research in the telecommunications literature built around the concept of 'sustainable development,' essentially suggesting that as the network expands, average costs fall and subscriber utility rises until a critical mass is reached when, in principle, the network can become self-financing. What is remarkable is the timing of Chinese policymakers to switch between various means of funding. By diversifying the sources, the government has managed to maintain high levels of investments in the sector and achieve aggressive growth targets.

⁴¹⁹ First dollar debt issued by a Chinese telecommunication operator. The bond, rated Baa2 by Moody's Investors Service and BBB by Standard and Poor's Corp, was launched concurrently with a HKD 13.51 billion equity offering to finance the company's expansion in mainland China.

⁴²⁰ By selling a RMB-denominated debt through its subsidiary Guangdong Mobile Communications Corp., China Mobile was able to take advantage of the RMB market's flush liquidity and low interest rates (a long-term bond in the U.S. market would have cost the highest-rated issuers over 6.0%).

Concluding remarks

Scholars have identified a number of drivers behind China's telecommunication reforms. Tan argues that the phenomenal growth of user demand for telecommunications appears to be the major driving force behind the reform process⁴²¹. For Zhang, the regulatory struggles and political quarrels pushed China's government to streamline its telecom policy and regulatory institution⁴²². Others saw the need to support China's economic growth with a vastly improved IT infrastructure and the dependence and exposure to international capital markets as converging pressures⁴²³. In a number of countries, moves to deregulate occurred after macro-economic shocks, because of excess capacity or because of technical progress and market growth allowing smaller entrants to compete with the incumbent. While the origin of liberalisation in the United States can be attributed to the imbalance between long-distance and local tariffs⁴²⁴, the source of China's telecommunication reforms are linked to the pressure of rivalling Ministries to bring their private networks into the public realm, to state-owned companies demand to reduce prices and to the central government's desire to initiate competition. China's central planners played a pivotal role in introducing a variety of innovative measures to jump-start the diffusion of telecommunication. By carefully balancing decentralisation measures and modifying over time the sources of funding, they managed to continuously exceed growth targets. As noted by Newbery, the challenge facing telecommunication regulators and governments in countries where telecommunication is still under public ownership is to manage the transition to high-capacity, low-priced telecommunication networks without unduly delaying network rollout and the introduction of new services, and without transferring too much of the rent to telecommunication operators⁴²⁵. The Chinese government has managed to boost the telecommunication sector through preferential policies, not only from a macroeconomic point of view, but also through the implementation of sector-specific regulatory policies⁴²⁶. The second, and probably most crucial point is that the highest levels of government maintained their support. Whenever the State Council felt that the reforms were becoming bogged down, it introduced a new set of policies encouraging investment. The next chapter describes China's idiosyncratic telecommunication liberalisation programme in more details.

⁴²¹ Tan (1994: 181) and Loo (2004: 698).

⁴²² Zhang (2000: 12).

⁴²³ DeWoskin (2001).

⁴²⁴ Newbery (1999: 154).

⁴²⁵ Newbery (1999: 293).

⁴²⁶ OECD (2003b: 58).

4 Liberalisation through quasi-competition and corporatisation

“China’s journey toward liberalisation has in recent history taken an evolutionary pace, rather than the revolutionary one many observers had hoped for”.

(Wang, 1999b: 9-10)

The second half of the 1980s saw telecommunications policy across the world enter an era of neo-liberal reform⁴²⁷. In developed countries, the main proponents of liberalisation are said to have been large business users seeking lower rates and more specialised services, as well as manufacturers looking for economies of scale⁴²⁸. As free trade principles gained ground, and despite the variety of institutional settings and uneven levels of development, most countries embarked on a programme of telecommunications liberalisation, undergoing in the process profound institutional changes⁴²⁹.

As globalisation of regulation made it hard to resist the push to telecommunication liberalisation, for some countries the only choice often was (and is) how best to achieve the transition to a market access model⁴³⁰. That said, the case for liberalisation is not as clear-cut as claimed by its advocates. First, while studies indicate that it improves performance, different country samples and estimation techniques have led to differing conclusions about the effects of specific policies. Second, the sequencing of liberalisation matters, as regulatory agencies are still heavily involved in the pursuit of more general socio-economic goals, such as the expansion of basic services, the building of a national infrastructure, or the control of the industry “in the national interest”⁴³¹. In fact, a key explanatory variable of liberalisation outcome is the status of the domestic economy at the moment of privatisation and how investors assessed market prospects in each country⁴³². It is also important to note that liberalisation of telecommunications does not automatically lead to deregulation⁴³³. To the contrary, most countries engaged in liberalisation commonly experienced a need for increased regulation for which there is a

⁴²⁷ In the early 1980s, the dominant institutional arrangement began moving from state-owned monopolies towards a privatised and at least partially competitive industry subject to looser public control (Noll, 1999b: 1).

⁴²⁸ Comor (1998: 132) and Simpson and Wilkinson (2001: 11).

⁴²⁹ Cho (1998: 3).

⁴³⁰ The market access model requires regulatory complementarities, competition policy being amongst the most important (Hufbauer and Wada, 1997: 3; Joseph and Drahos, 1998: 101-102; Wang, 2003: 273).

⁴³¹ Petrazzini (1997: 333-337).

⁴³² Fink, Mattoo et al (2003: 444), Saga (1999: 338) and Petrazzini (1995: 7).

⁴³³ Deregulation is defined as the loosening of restrictions on the entry or exit from a market and on the setting of prices (Rubsamen, 1989: 105). It must be distinguished from re-regulation to the extent that deregulation applies to the (quantitative) dismantling of regulatory barriers and hurdles while regulation pertains to the re-formulation of existing and the creation of new rules to facilitate the transformation from monopoly to competition (Vogel, 1996: 3).

price to be paid by both the public sector and those companies being regulated⁴³⁴. This increased demand for regulatory intervention can stretch regulatory resources in developing countries to their limits. Policies to liberalise have also to contend with existing cultures, traditions and laws and cannot be transplanted from one country to another⁴³⁵. In short, there is not one model of liberalisation and the shared goal of deregulation can often be reached at different rates by different routes (or “policy paths”) dependent on situational contingencies. However, there is little doubt that the trend towards liberalisation exerts a strong influence on the actions and attitudes adopted in different nations⁴³⁶.

China is no exception to the worldwide liberalisation trend. Like in many other countries the introduction of competition initiated China’s liberalisation process. But, as we will see, its domestic institutional setting mediated the outcome. While China embarked on the liberalisation path roughly around the same time as many other countries, its response to the liberalisation trend has been extremely conservative, and in a sense slow and shallow. For example, much of the reorganisation brought about by the 1993 reforms has been described as “elaborate shadow boxing for the benefit of international financial organisations desiring liberalisation of the telecommunication sector”⁴³⁷. Moreover, the government refrained from adopting an ambitious privatisation programme, preferring instead to maintain a majority-control of its operators, despite listing on the Hong Kong Stock Exchange (HKSE) or the New York Stock Exchange (NYSE).

This chapter will argue that liberalisation not only responded to, but also more importantly was driven first and foremost by domestic pressures. It describes how China’s model of telecommunication liberalisation came to conform only partially to models found in other regions of the world, either developed or developing. It argues that the institutional setting mediated not only the outcome of the liberalisation programme, but also its design. The first section examines the development of competition and looks at how domestic institutions determined its nature and extent. The second section looks at China’s model of privatisation through the process of corporatisation and public offerings, presenting evidence that the State has shown no intention to relax control on basic telecommunication services. The last section puts China’s model of

⁴³⁴ Gillick (1992: 729) and Pisciotta (1997: 339).

⁴³⁵ Jussawalla (1995).

⁴³⁶ Xu and Pitt (1999) and Zhao (2002: 293).

⁴³⁷ Rimmer and Comtois (2002: 108).

telecommunication liberalisation in a broader context by comparing it to the electricity sector. By doing so it highlights the particularity of the liberalisation path within China's reform of public utilities, as well as the idiosyncrasy of the telecommunication sector.

Did you say competition?

“If you look at a country of the size of China, you can easily foster four to six operators without any issues whatsoever of being profitable.”

(Interview (B-007), conducted in Beijing, 31 August 2001)

“Right now China is trying to develop fair competition, not free competition.”

(Interview (C-018), conducted in Beijing, 30 August 2002)

As in many parts of the world, the Chinese telecommunication services sector operated for a long time under a monopoly regime⁴³⁸. As can be expected, politically powerful operators sought to slow down the ability of new entrants to reach customers on competitive terms and stood in the way of necessary regulatory reform⁴³⁹. The monopolistic structure was nonetheless significantly knocked down by factions within the government pushing for the break-up of China Telecom, by the actual break-up that ensued and by the fragmentation of the telecommunications market in which new kinds of services and products became available to consumers. In the last couple of years the determination to foster more domestic competition has been apparent and numerous steps have been taken in that direction. But while the monopoly of China Telecom is over, the state is certainly not exiting telecommunication service by any means. This section traces the history of competition, its impact and some of the issues faced by the government during the various round of reforms. Finally, it highlights the strong institutional component that crafted China’s competitive environment.

China’s attempt at managed competition

Telecommunication is a field in which the business consumers of telecommunication services have been important agents of change⁴⁴⁰. Like elsewhere, the push for competition originated outside of China’s Ministry of Post and Telecommunication (MPT). State-owned enterprises (SOEs) played an important role in the promotion of competition, albeit indirectly and through their parent-Ministries: as they grew unhappy with the quality and cost of services provided by MPT, other Ministries started to develop private communication networks for their own use⁴⁴¹. The realisation that those networks

⁴³⁸ The assumption underpinning state regulation at both national and international levels was that the technology that lies at the heart of the means of communication represented a natural monopoly (Wilkin, 2001: 27).

⁴³⁹ Esserman (2000: 4).

⁴⁴⁰ Braithwaite and Drahos (2000: 341).

⁴⁴¹ Tan (1994: 176). In addition to the networks traditionally run by the Ministry of Railways and the People’s Liberation Army (PLA).

could be used to generate interesting revenues prompted them to lobby for the introduction of competition.

The earliest attempts at competition took place in non-basic services that did not have high network dependence in the late 1980s⁴⁴². Beginning in 1993, value-added services (VAS), radio-based mobile communications and satellite telecommunications were opened to non-MPT actors⁴⁴³ and, while the opening of VAS served as a test bed, it did not take long until domestic actors called for an extension to basic services.

The introduction of competition in basic services dates back to the creation of Jitong and Liantong (China Unicom) in 1994. Organized under the Ministry of Electronic Industries (MEI), Jitong's shareholders came from a multitude of state-owned enterprises and research institutes. Several ministries were involved along with the State Council's investment arm, China International Trust and Investment Corporation (CITIC). Jitong's approved business scope included communications research and product development, the building of local trunked radio, paging, cellular networks, and the provision of public data and value-added network services throughout China⁴⁴⁴. Compared to Jitong, China Unicom was bigger in size and licensed to provide two key basic services: mobile and fixed line telephone services. Integrating several domestic non-public networks, the company was initially seen as a serious competitor to the incumbent China Telecom. Its creation came at the same time as the effort to change "one country, many networks" into "one country, one unified network"⁴⁴⁵. Strong factions within the government, and especially within the then Ministry of Post and Telecommunication (MPT) nevertheless resisted the attempt to break the monopoly through various means. For example, China Unicom had to obtain approval from MPT before it could formally launch service in a specific city even though its licence entitled provision of all kinds of telecommunications services nationwide⁴⁴⁶. It was also required to support the full financial burden of constructing gateways with the incumbent to achieve interconnection. Thus, despite continuous support from the State Council and a certain margin of manoeuvre within the

⁴⁴² Those operations were actually illegal until the issuing of the Decree No. 55 by the State Council in 1993 (Gao and Lyytinen, 2000: 726).

⁴⁴³ Lovelock and Ure (2000: 26). By mid-1995, licences had been issued to 2,200 operators including: 1,871 for radio paging services; 116 for 800MHz trunk phone services; 82 for 450MHz mobile services; 15 for Very Small Aperture Terminal (VSAT) services; 16 for value-added services. At its peak, the wireless paging market counted more than 2'900 providers serving up to 25 million subscribers. Paging services have declined since the end of 2000, due to the rapid increase in wireless telephone services.

⁴⁴⁴ Ure (1994b: 182).

⁴⁴⁵ Chang (1994: 209).

⁴⁴⁶ Guan (2002: 4).

tightly controlled telecommunication sector, China Unicom was unable to achieve economies of scale in its mobile communications system and did not succeed at grabbing any significant market share for many years.

By the end of 1997, competition had been created but it had come into being mainly by administrative fiat from the senior political leadership in Beijing. Leading groups and super-coordinating structures either became bargaining areas or else committees in which the MPT and its rivals struggled over control of the agenda. The situation started to change after the creation of MII⁴⁴⁷. In February 1999, the Chinese government made the decision to split the monopolistic China Telecom into four parts: fixed-line telephone services, mobile telecommunications, paging services and satellite communications. Two new companies emerged from the split, China Mobile and China Satellite. The paging service sector, Guoxing Paging Service Group, was merged into China Unicom. Through this reorganisation, MII openly promoted the policy of “*breaking up the monopoly and introducing competition*” (*pochu longduan, yinru jingzheng*)⁴⁴⁸. Subsequently, two operators were established, China Network Communications Corporations (China Netcom) in 1999⁴⁴⁹ and China Railway Telecommunications Corporation (China Railcom⁴⁵⁰) in 2000. The second round of competitive restructuring was plagued by one major shortcoming: breaking up by type of services still protected the incumbent’s dominant position as it did not end China Telecom’s monopoly over local networks⁴⁵¹. The latest and probably most important step in establishing competition was the split of China Telecom into two carriers towards the end of 2001⁴⁵². The network of 10 northern provincial regions was taken over by China Netcom while the remaining 21 southern provincial regions were retained by the “new” China Telecom. Currently, there are 6 companies in China licensed to provide basic telecommunications services, often referred to as 4+2, i.e. 4 main operators – China Telecom Group, China Netcom, China Unicom and China Mobile – and two smaller operators – China Tietong and China Satellite (see Table 16).

⁴⁴⁷ To some, the main reason to merge the MPT and MEI into MII in 1998 was to spearhead competition (Interview (B-007), conducted in Beijing, 31 August 2001).

⁴⁴⁸ Lu (2002b: 11).

⁴⁴⁹ Backed by the Chinese Academy of Sciences, the State Administration of Radio, Film & Television, the Ministry of Railway and the Shanghai Municipal Government.

⁴⁵⁰ In August 2004, China Railcom was renamed China Tietong.

⁴⁵¹ Guan (2002: 7) and Interview (B-009), conducted in Beijing, 4 September 2001

⁴⁵² The break-up of China Telecom into a northern and southern unit illustrates well China’s policy-making intricacies. In order to take place, consensus needed to take place among a number of policy-makers – SDPC and the Office for Restructuring Economic Systems. In the meantime, China Telecom had to postpone its network construction plans, dismaying foreign and Chinese equipment makers.

Table 16: Market structure and level of competition (as of December 2003)

Market	China Telecom	China Netcom	China Unicom	China Mobile	China Tietong	Level of competition
Local	X	X	X		X	Partial competition
Domestic LD	X	X	X		X	Partial competition
International LD	X	X	X			Partial competition
VoIP	X	X	X		X	Competition
Mobile			X	X		Partial competition
Internet access	X	X	X		X	Competition
Paging			X			Competition
Cable Telephony	Numerous provincial and local operators					Local monopoly

Source: Adapted from ITU.

Evaluation of the years of managed competition

Despite not having yet succeeded at achieving a fair competitive environment, the effect of additional operators has been manifest in several ways. First, and despite China Unicom's early difficulties at seizing an important market share, the entry of a second carrier into the market dramatically improved the rate of network deployment. The average growth rate for fixed and mobile services between 1993 and 2003 were respectively 31.75% and 86.06% (see Figure 10)⁴⁵³. Second, after the major re-organisation of 1999 and despite guidelines issued by various government bodies, prices in various segments dropped significantly in the fixed market (see Table 17)⁴⁵⁴. Likewise, competition has driven provincial mobile operators to offer schemes that actually reduce prices drastically⁴⁵⁵. Some have argued that the reduction of fees since 1999 can be assumed to be the result of governmental decision rather than that of competition among businesses⁴⁵⁶. This is only correct to a certain extent. A cutthroat price war between China Mobile and China Unicom has forced MII to repeatedly intervene since 2001. Moreover, price competition and its effect on reducing prices is evident with services, such as IP telephony, where the government does not control pricing. The government has indicated its wish to leave price setting to operators although it continues to set basic telecommunication charges, including monthly fees and mobile calling charges. In practice, however, provincial operators enjoy a large freedom to depart from the fixed tariffs.

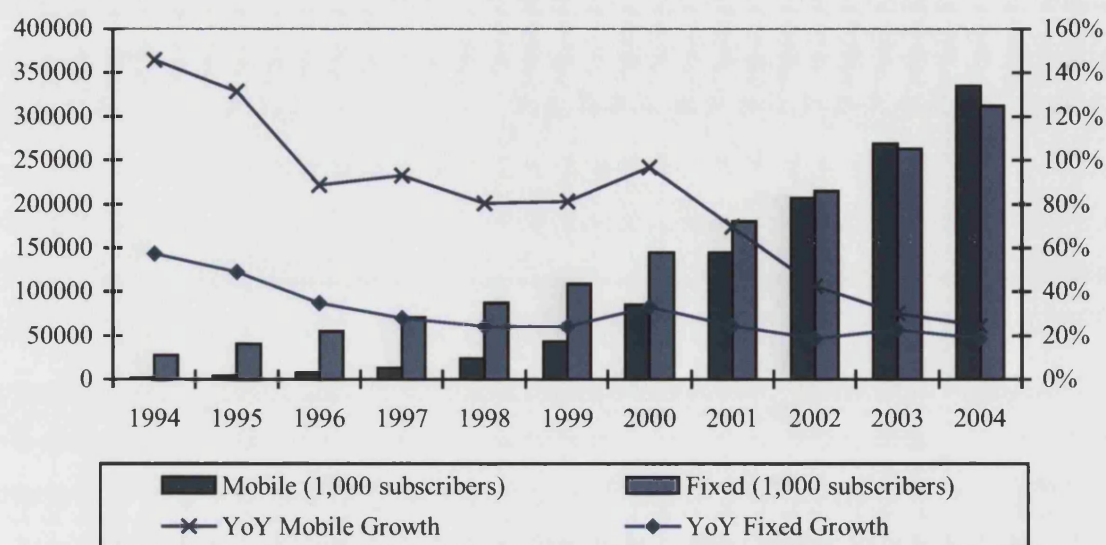
⁴⁵³ By comparison in 1990 the network growth rate was 25.7%.

⁴⁵⁴ Interview (B-011), conducted in Beijing, 6 September 2001.

⁴⁵⁵ To circumvent the guidelines, most competition in pricing takes place through packaging mechanisms, which are not subject to the constraints of the established price ranges.

⁴⁵⁶ OECD (2003b: 66).

Figure 10: Subscribers and growth rates in the competition era, 1994-2004



Source: Compiled from ITU (2004) and Soderberg, Bjorkstrom et al. (2005).

Table 17: Price reduction in selected markets, 1999-2001

	Price (in RMB)	
	1999	June 2001
Fixed (LAN) line installation (analog)	725	Free
Domestic leased lines (digital) (per month)		
For telecommunications services	9,000	3,000
For Internet services	4,500	2,000
International Leased lines (per month)		
HK, Macao and Taiwan	27,400	2,800
Other Asia	28,900	14,000
Other	30,800	15,000
Domestic long distance fee (per minute)	0.5-1.00	0.7 (flat fee)
Mobile network access fee	500	Free

Source: Adapted from Pangestu and Mrongowius (2002: 22).

Third, the quality and breadth of services improved. In fact, the disadvantages of the monopolistic system were neither the pace of development, nor uncompetitive pricing but the low quality of services provided by the incumbent⁴⁵⁷. Fourth, competition between China Unicom and China Telecom resulted in the adoption of more advanced technology⁴⁵⁸. In turn, the introduction of new technologies (e.g. VoIP telephony) also had an effect on prices. For example, when a cable operator started offering some sort of

⁴⁵⁷ Interview (B-038), conducted in Beijing, 25 November 2003.

⁴⁵⁸ Before China Unicom entered the mobile communication market with advanced digital Global System for Mobile (GSM) in 1995, China Telecom was still using the analog Total Access Communication System (TACS) that it had adopted in 1987, even though GSM had become available as early as 1991 (Guan, 2002: 5).

data services, the tariffs for ADSL immediately came down tremendously and ADSL was promoted much more aggressively⁴⁵⁹.

However, a number of important issues still loom over the development of the telecommunication market environment. First, in spite of a major restructuring in May 2002, the overall level of competition in the fixed-line market remains weak. Market shares of China Telecom and China Netcom in their respective markets are well above 80% and newcomers such as China Tietong (ex- China Railcom) and China Satellite, are at best marginal players⁴⁶⁰. Unless each regional company has the means to compete in the other company's geographic territory, the situation will hardly change. In mobile services, the situation looks somewhat different. The market share of the incumbent has continuously declined over time, but China Unicom still struggles to capture market share from the behemoth China Mobile (see Table 18). Moreover, the improvement in competitiveness has in part been attributed to preferential policies (e.g. China Unicom can charge 10% less than China Mobile) and massive state support.

Table 18: Herfindahl-Hirschman Index (HHI) for Chinese mobile operators, 1994-2004⁴⁶¹

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004F
<i>Market share (%)</i>											
China Mobile	100.00%	94.50%	92.70%	92.45%	93.70%	87.95%	77.84%	71.70%	67.00%	65.70%	64.80%
China Unicom	0.00%	5.50%	7.30%	7.55%	6.30%	12.15%	22.16%	28.30%	33.00%	34.30%	35.20%
China Telecom	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
China Netcom	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HHI	1	0.8961	0.8647	0.8604	0.8819	0.7883	0.6550	0.5942	0.5578	0.5493	0.5440

Source: Deutsche Bank (2003).

Ultimately, for a telecommunication market to enjoy meaningful competition, players need to be of relatively equal size⁴⁶². Conscious of the difficulty to establish a balance of forces, government rumours aired various plans to merge the operators into two entities and divide the assets more or less equally. Second, achieving fair competition is highly dependent on interconnection regulation. In network industries such as telecommunications, it is not simply enough to introduce competition through licensing. Even at the point of introducing competition a number of related actions are necessary,

⁴⁵⁹ Interview (B-008), conducted in Beijing, 3 September 2001.

⁴⁶⁰ In terms of lines in service China Telecom and China Netcom have retained 98-99% market share in their respective service regions. After struggling to reach 2-3% of market share in the fixed-line segment, China Tietong is shifting its strategy to trunk telecommunications.

⁴⁶¹ $HHI = (\text{share } 1)^2 + (\text{share } 2)^2 + \dots + (\text{share } n)^2$. In the context of telecommunications, the analysis must always move beyond HHIs and towards the evaluation of the elasticities of supply and demand and, in particular, the presence (or lack) of barriers to entry (Naftel and Spivak, 2000: 76). The Landes-Posner index offers such a measure.

⁴⁶² Interview (B-013), conducted in Beijing, 7 September 2001.

especially with regard to interconnection and access to scarce resources such as frequencies, numbers and rights of way⁴⁶³. Third, the number of facilities-based competitors is restricted in China, and though this is expected to change because of China's WTO accession commitments, it is not yet clear what form changes will take⁴⁶⁴. Unbundling is likely to be particularly attractive when market size and density permit many operators to function, providing both active and potential competition⁴⁶⁵. A factor required for unbundling is a mature, well-developed set of network facilities, so that there is little need for new investments where incentive problems are more likely⁴⁶⁶. Fourth, "lack of competition" has been replaced by "malign competition" and abusive practice. As China's biggest telecommunication companies are state-owned enterprises, managers are motivated by market shares and sales performance. Instead of focusing on profit they had to use simple pricing strategies offering endless discounts to gain customers⁴⁶⁷. Fifth, one of the fundamental shortcomings of the competition policy articulated by the government is the omission of convergence⁴⁶⁸. An extensive cable network reaches more than 100 million household. It is, however, controlled by SARFT and the rivalry inherent to the system, which often pitches Ministries and Administrations against each other, has not yet disappeared⁴⁶⁹. The transfer of the vast majority of telecommunication assets to the State-owned Assets Supervision and Administration Commission (SASAC) is one step towards the reduction of Ministerial involvement but it has done little to lessen inter-Ministerial rivalry between the cable and telecommunication sector. Sixth, the plan to grant comprehensive licences (i.e. for multiple services) is problematic. Having four national telecommunication operators, all majority-owned by the state and funded by taxpayers' money, will increase competition but only at the cost of enormous investments⁴⁷⁰.

⁴⁶³ Samarajiva (2000b: 712).

⁴⁶⁴ Facilities-based telecommunications competition can prosper in many different regulatory environments, often bringing startling gains (Spiller and Cardilli, 1997: 137). See also Willner (2002: 47).

⁴⁶⁵ The primary virtue of unbundling is that it promotes competition, ensuring that firms provide their services at efficient prices.

⁴⁶⁶ Kessides (2004: 5).

⁴⁶⁷ Interview (B-038), conducted in Beijing, 25 November 2003.

⁴⁶⁸ Following China's accession to WTO, the State Council looked into setting up an organisation to oversee reforms in the country's key telecommunication and broadcasting sectors in an attempt to end protracted turf wars that have hampered development in both areas. Early matters for discussion included the restructuring of China Telecom and the convergence of telecom services and television broadcasting, areas traditionally monitored by separate regulatory bodies. The proposed body was intended to have authority over the individual ministries, which are often more concerned with protecting companies in the sectors that they oversee than with promoting the overall development of the industry. The proposed organisation failed to materialise after several years of discussions.

⁴⁶⁹ In the past, China Unicom was under control of MEI while China Telecom was run by MII. Today, competition in China still suffers from governmental rivalries, e.g. between SARFT and MII.

⁴⁷⁰ The prospect of having to duplicate investments has been at the core of the proposal to merge the current operators into two "super-companies".

Why competition has failed...for now!

It is important to remember that the presence of network externalities makes perfect competition difficult to attain⁴⁷¹. Nevertheless, several factors specific to China explain the failure of achieving competition in the telecommunication sector. Feigenbaum places MPT at the centre of his analysis: as China entered the 1990s, MPT retained an elaborate system of institutes and factories from which it sourced its own equipment and designs, performing little, if any, collaborative research with MEI, the military, or others. As its monopoly came under assault in the mid-1990s, MPT sought to protect its position of strength while its competitors mostly shunned cooperation. Instead, they adopted a strategy of monopoly breaking that politicised China's telecommunication industry over the course of the 1990s. Thus, the process became caught in a cycle of bureaucratic competition and politicisation⁴⁷².

State control is a hurdle to the further development of competition in the sector. As firms remain partly funded by the government and do not usually need to worry too much about the sentiment of the stock market, and/or the investment return of private investors, there are limited incentives for them to push through efficiency improvements or to compete with one another in the market. Instead, the temptation will be to compete for preferential policies. Faced with the conflicting goals of introducing competition and avoiding the waste of resources, the State Council was unable to exert much influence over the MPT and for that matter over its successor MII. Finally, the weak regulatory framework prevented the new operators from challenging the incumbent's uncompetitive behaviour legally.

Competitive policy as a potential solution to the problem?

In most countries or country groups, competition policy in the telecommunications sector comprises two policy regimes – antitrust and regulation – both of which in turn interact with international negotiations aimed at the liberalisation of markets in the field. The typical policy configuration in telecommunications at the national/regional level is a dual regime consisting of sector-specific regulation and enforcement of antitrust rules, which apply to other sectors as well, or in other words, of telecommunications regulations and a

⁴⁷¹ Naftel and Spivak (2000: 89).

⁴⁷² Feigenbaum (2003: 210-213). At the time of the creation of Liantong and Jitong, the central government had given MPT a regulatory role, since a truly autonomous regulatory structure had yet to be created.

competition law⁴⁷³. Two Chinese regulations contain elements of a standard competition policy – the Anti-Unfair Competition Law of 1993 and the Telecommunication Regulation of 2000⁴⁷⁴. While the former outlaws business conduct regarded as unfair competition, such as misrepresentation, imitation of trademarks, blocking of access for non-local companies, bribery, or stealing of business secrets, it reads more like a consumer protection regulation than a standard competition law and targets mainly the private sector, rather than problems of monopolistic conduct by administrative departments and local governments. The latter is the first and so far the only law in China to set up a framework for the division of responsibility between the state regulatory body, the State Government, and possible private operators. However, the current legal framework governing competition remains fragmented and over-simplistic and, as a result, general legal requirements directed at preventing “illegal competition” have not played a substantial role in the telecommunications sector⁴⁷⁵. In fact, China’s model of regulation relies mostly on regulation-for-competition⁴⁷⁶.

External factors

The analysis of competition would not be complete without making reference to external factors. Since the second part of the 1990s, Chinese policy-makers have worked hard to enable the sector to adapt to the opening of the global telecommunication market and pave the way for China's integration in the global economy⁴⁷⁷. As noted by Langdale, the nature of competition that emerges in domestic and international telecommunications strongly influences the countries that end up as “winners” and “losers” in international trade in information equipment and services⁴⁷⁸, both sectors deemed as “strategic” by the Chinese leadership⁴⁷⁹. The telecommunication equipment market, where both domestic and international companies compete fiercely, attests of this. Second, and as discussed in Chapter 6, the government carefully “prepared” the services market for the post-WTO

⁴⁷³ Koopmann (2001: 5-6) and ITU (2002: 10).

⁴⁷⁴ Before 2000 China did not have any significant policy or regulations dealing with competition or market entry. To some extent it is fair because before 1999, there was not truly any real competition in China’s telecommunication industry although by then there were two operators (Interview (B-006), conducted in Beijing, 30 August 2001). In addition, the first Anti-Monopoly Law is in drafting since May 2001 (Wei, 2001: 40).

⁴⁷⁵ Willner (2002: 49) and Asia Development Bank (2003: 188-189).

⁴⁷⁶ Jordana and Levi-Faur (2004: 6-7) identify five notions to define the relations between competition and regulation: deregulation, re-regulation, regulation-of-competition, regulation-for-competition and meta-regulation.

⁴⁷⁷ OECD (2003b: 60).

⁴⁷⁸ Langdale (1982: 283).

⁴⁷⁹ The Chinese leadership has not simply thought of the telecommunication industry as a source of government revenue, but more of a crucial infrastructure for sustaining China's economic development (Yang, 2001: 65).

era. There was little doubt that a number of comprehensive domestic service providers would be allowed at some point to enter each other's markets and compete effectively. But the restructuring efforts would have been useless if the domestic companies had not developed enough competitiveness once the country eventually opened its basic service market to foreign competitors. In fact, MII believed that the market liberalisation forced by China's WTO membership would bring more disadvantages and risks than benefits. Moreover, it feared that the monopoly it enjoyed would be sacrificed as a "pawn" during China's accession to the WTO⁴⁸⁰. Thus, while the WTO accession could have been used as a means for the reform-minded leadership to force competition onto the market, MII's resistance succeeded in postponing market access, making the threat serious only after 2005, and by the same time, relieved domestic companies from immediate competitive pressures. In other words, encouraging competition while preventing damaging the overall health of the industry over competition figured high on the policy-maker's agenda⁴⁸¹.

Since the early 1990s, the Chinese government has come under considerable pressure to break the monopoly in basic telecommunication service, but the transition to a competitive market has proved much harder than what was initially hoped for. Growing expectations from telephone users, both in terms of quality and breadth of services, coupled with increasing critics and complaints⁴⁸², participated in pushing for an end to the monopoly policy, while competing ministries were anxious to participate in the profitable telecommunication market. A number of institutional features, such as the absence of a telecommunication and competition law, as well as rivalling factions delayed the introduction of real competition and thus reduced its benefits. The sheer size and power of the incumbent also prevented any significant dent into the monopoly until the engineered division of China Telecom created in 2001 a Southern and Northern company. Finally external pressures, such as lending agencies or even China's accession to the WTO have had little impact on the introduction of competition, which, in absence of foreign operators, remains mostly driven from within.

⁴⁸⁰ Fan (1999) and Pangestu and Mrongowius (2002: 4).

⁴⁸¹ Interview (B-029), conducted in Beijing, 12 October 2001.

⁴⁸² Interview (B-038), conducted in Beijing, 25 November 2003.

The Chinese model of privatisation: corporatisation and IPOs

“Restructure, regulate, and only then privatise.”

(Kessides, 2004: 11)

Many studies have shown that the beneficial effect of competition primarily occurs through its interaction with privatisation. This section looks at China’s model of privatisation. As noted, since the mid-1990s China’s telecommunication sector has undergone a series of reforms that have profoundly transformed the industry’s landscape. But the depth and breadth of reforms is by no means uniform. While telecommunication manufacturing has been open to competition and foreign investment, there has been slow progress in the liberalisation of service operations. Despite a number of restructuring efforts, competition in fixed-line and mobile remains sporadic. Large initial public offerings (IPOs) on the Hong Kong and New York stock exchanges have left ownership, and more importantly management, first in the hands of rival ministries and government-appointed executives. On the one hand, China’s reluctance to privatise its telecommunications sector could come as a surprise. Trade sale privatisation, or the transfer of equity to another firm or group of (corporate) investors, continues to be the main transaction strategy in developing economies and many countries have privatised the national telecommunication operator early on in their reform programs as part of an effort to improve efficiency⁴⁸³. Privatisation programmes have also provided substantial financial windfalls to cash-strapped governments while shifting the burden of network development to the private sector. On the other hand, many public utilities in China, such as water and railways, remain under government or quasi-government control. Also, the fact that telecommunication services generate large and continuous revenue streams reduces the incentives for sale⁴⁸⁴. Finally, control of communications networks and services has always been viewed by senior officials as an essential component of national security and, indeed, China’s sovereignty⁴⁸⁵. Privatisation, or at least the injection of private capital, is thus an increasingly important issue as reforms of the telecommunication sector continue and the PRC government copes with the conflicting goals of sovereignty and development.

⁴⁸³ Welch and Molz (2002: 4). Between 1990 and 1998, the proceeds of telecommunication infrastructure privatisation in developing and transition economies amounted to USD 70,579 million. The number of transaction was 125, i.e. an average of USD 564 million per transaction, compared with USD 195 million for electricity and power and USD 133 million for railways (Wallsten, Clarke et al., 2004: 11).

⁴⁸⁴ China Mobile and China Telecom net profit for 2003 respectively amount to RMB 35.5 billion and RMB 24.69 billion (Xinhua, 2004a).

⁴⁸⁵ As pointed out by Noll (1999b: 8) an important barrier to liberalisation in all developing countries is the view that privatisation amounts to loss of sovereignty. See Chapter 5 for a detailed discussion on sovereignty.

*The privatisation of telecommunication*⁴⁸⁶

The World Bank estimates that private investment in telecommunication in developing and transitional economies between 1990 and 2001 amounted to USD 331.5 billion⁴⁸⁷. Since 1988 over USD 70 billion has been raised by the privatisation of public telecommunication operators (PTOs) in developing countries, of which 14%, nearly USD 10 billion, has come from East Asia and the Pacific region⁴⁸⁸. Several reasons explain the privatisation trend in developing countries. Privatisation became a popular policy as the limited capacity of government-owned companies to provide reliable telecommunication services on a national scale was recognised. It was partly driven by government underfunding and the problem of an uncompetitive natural monopoly in the sector⁴⁸⁹. In developing countries, private sector investment – through privatisation of the national carrier or other forms of private sector involvement – has often been the only solution as governments have struggled with fiscal and debt crisis⁴⁹⁰. A frequent privatisation method consists in the issuance of stock in a new telecommunication entity formed from the former government telecommunication agency⁴⁹¹. In most countries, however, the sale of equity to private investors has not involved the complete loss of control by the state since it usually maintains the largest single share of the PTO's share capital⁴⁹².

Despite the resistance of many governments to fully privatise their PTOs, numerous studies have shown the benefits of such a policy. Increased participation of private capital facilitates a more rapid increase in network penetration⁴⁹³. In fact, privatisation, with the right institutional conditions, can lead to substantial improvements in performance⁴⁹⁴. It also allows a net inflow of capital from abroad while shielding the firms from political

⁴⁸⁶ Privatisation is defined as the sale of at least 50% of the assets to the private sector but it can take other forms such as partial privatisation (the sale of less than 50% of assets), the transfer of assets to the private sector under a leasing arrangement, or the introduction of management contracting arrangements (Ros and Banerjee, 2000: 234).

⁴⁸⁷ Kessides (2004: 11).

⁴⁸⁸ Ure (2004). By the end of 1999 more than half of Asian and Latin American countries and one-third of African countries had privatised their telecommunications providers (Wallsten, 2000: 3).

⁴⁸⁹ Privatisation of incumbent operators started in the early 1980s with the privatisation of British Telecommunication in the United Kingdom (Li, Qiang et al., 2000: 5). See also Ambrose, Hennemeyer et al. (1990: 11).

⁴⁹⁰ Pisciotta (1997: 333).

⁴⁹¹ The stock is owned and held by the government and slowly sold on open markets. This slow path to real privatisation was taken in France, Germany and Japan (Noll, 2000a: 22).

⁴⁹² Boylaud and Nicoletti (2000: 11).

⁴⁹³ Petrazzini (1997: 352). Li and Xu (2002a) find strong evidence of the complementarity between privatisation and competition. In addition share issue privatisation is associated with a marked expansion of mobile phone density, but a much weaker response in fixed line phone density.

⁴⁹⁴ Wallsten (2000: 16).

pressure over employment and procurement issues⁴⁹⁵. Privatised operators are often able to raise additional funds from the capital market, and independent suppliers of capital will pressure management to operate more efficiently and profitably, as well as resist interference from bureaucrats and politicians⁴⁹⁶. Privatisation also often means less cross-subsidisation in the telecommunications sector⁴⁹⁷. Finally, many governments have chosen to privatise their national telecommunications carriers early on as a way to signal their commitment to market reforms, to attract private and foreign investment into national infrastructure, to raise revenues and thereby reduce the public debt and also to transfer management know-how⁴⁹⁸.

That said, given the telecommunications sector's economic, social, and technological importance, many privatisation programmes have generated considerable controversy⁴⁹⁹. Even though privatisation enhances the prospects for universal service, governments face the major issue of the inevitable trade-off between commercial and social goals⁵⁰⁰. Second, state ownership and prospective privatisation leave prices and quality largely unaffected, as it is not ownership *per se* but the degree of competition in the market that influences prices. Third, the impact of state ownership and the right privatisation sequencing differs across different telecommunication businesses, e.g. local fixed-line and mobile services need to be privatised in different ways⁵⁰¹. Fourth, there is no evidence that privatisation leads to higher growth in main lines per 100 inhabitants in those countries with GDP per capita of less than USD 10,000⁵⁰². Lack of transparency can also significantly slow the process of liberalisation and reduce the benefits of privatisation⁵⁰³. Competition and increased private participation are policies that regulators can use to effectively fulfil most social and economic goals, but a privatised market can also dramatically increase the demand for regulatory intervention and stretch regulatory resources (particularly in developing countries) to their limit⁵⁰⁴. Finally, efforts to improve the allocation of property rights and to introduce better incentives for managers can yield positive benefits without privatisation⁵⁰⁵.

⁴⁹⁵ Noll (1999b: 14).

⁴⁹⁶ Melody (1997c: 20).

⁴⁹⁷ One problem with government ownership is that new competitive entrants will not be treated on the same basis as the incumbent (Noll, 2000a: 22).

⁴⁹⁸ Li and Xu (2002b: 441).

⁴⁹⁹ Bortolotti, D'Souza et al. (2002: 244-245).

⁵⁰⁰ Petrazzini (1996a: 2); Ambrose et al. (1990: 3).

⁵⁰¹ Boylaud and Nicoletti (2000: 22).

⁵⁰² Ros (1999: 88).

⁵⁰³ Intven, Oliver et al. (2000: II-17).

⁵⁰⁴ Petrazzini (1997: 349).

⁵⁰⁵ Megginson and Netter (2001).

Moreover, the privatisation of the telecommunication industry is rendered more complex by the fact that its benefits are maximised when coupled with other liberalisation policies, particularly those involving competition and regulatory reforms. First, private ownership is most efficient in markets where there is effective competition. Private participation has had overwhelmingly positive impacts in cases where meaningful competition for service provision has been introduced⁵⁰⁶. Where monopolies or oligopolies exist, the benefits of introducing private ownership are limited and the case for privatisation is considerably weakened⁵⁰⁷. Moreover, simply transferring a monopoly provider from the public sphere into the private sector will not result in competitive behaviour⁵⁰⁸. Put simply, optimal policy involves bundling competition policies with privatisation. Second, successful privatisation of a formerly state-owned infrastructure monopoly requires the creation of a new institutional framework centred on the creation of rules, incentives to promote competition, and a regulatory organisation able to police these rules⁵⁰⁹. Establishing a regulatory authority before telecommunication privatisation is positively correlated with higher levels post sale of telephone penetration, investment in the telecommunication infrastructure, and mobile cellular subscriptions. In addition, a significant source of improvements in the financial and operating performance of telecom companies post sale is derived from regulatory changes alone or a combination of those with privatisation, rather than from privatisation alone⁵¹⁰.

The experience of numerous countries suggests a variety of approaches to privatisation. Latin American countries are much more likely to fully privatise when they sell state-owned assets, whereas Asian governments take a more gradualist approach, selling minority stakes over time⁵¹¹. Despite the move away from traditional public monopolies, most governments of them still appear unwilling to allow unrestricted entry, to eliminate limits on private and foreign ownership, and to establish strong independent regulators in this sector⁵¹².

⁵⁰⁶ In the absence of competition, on the other hand, private participation can produce poor results (Harris, 2003: 24-25).

⁵⁰⁷ Fink, Mattoo et al. (2001: 7). State policy-makers have used the privatisation argument to justify neglect of competitive regulations and, simultaneously, to disguise their primary imperative, maximizing stock prices and thus the budgetary windfall from privatisation (Dornisch, 2001: 398).

⁵⁰⁸ Ambrose, Hennemeyer et al. (1990: 12).

⁵⁰⁹ Levi-Faur (2003: 710) and Noll (2000b: 6). Issues of regulatory commitment to safeguard private investors are probably less important than issues of regulatory design to facilitate competitive entry and price reductions (Kessides, 2004: 8).

⁵¹⁰ Wallsten (2002: 15), Bortolotti, D'Souza et al. (2002: 266) and Kessides (2004: 58).

⁵¹¹ Doh and Teegen (2003: 50). In Brazil, privatisation has been carried out through the granting of concessions rather than a permanent transfer of assets (Amann and Baer, 2005: 424).

⁵¹² Fink, Mattoo et al. (2001: 1). In this respect, China's approach to reform is not that different from the rest of Asia.

China's model of telecommunication privatisation: incorporation and IPO

The privatisation of China's telecommunication sector rests on two pillars: the incorporation of operators – also known as corporatisation – and the sale of public equity in them on overseas stock exchanges. Beginning in 1993, the State Council has allowed a select number of large state-owned enterprises (SOEs) to issue shares on overseas stock markets, the vast majority in Hong Kong and New York⁵¹³. In each case, the original SOE has separated its social functions (schools, clinics, restaurants etc.) from the main company and established a new limited shareholding company in which the original SOE becomes a majority shareholder. A minority stake in this listing vehicle is floated abroad⁵¹⁴. Similarly, after the initial separation of post from telecommunications businesses, and the separation of operational and regulatory functions, the government opted for the incorporation of the incumbents and partial listing abroad⁵¹⁵.

What makes the privatisation of China Mobile, China Telecom and China Unicom unique is the size of the companies, the huge scale of their capital raising, and the fact that the IPO involves the sale of claims on assets administered by state-owned firms⁵¹⁶. The listed companies then use the funds to purchase operating assets from state-owned holding companies and progressively gained control over a large part of the mainland network (see Table 19 and Figure 11). Contrary to the majority of telecommunication share offerings around the world, which are secondary issues (the proceeds of the sale flow directly to the government), all IPOs by Mainland Chinese telecommunication firms can be considered as capital-raising, primary offerings⁵¹⁷.

⁵¹³ Listing of Chinese SOEs in Hong Kong is a major form of foreign participation in China's privatisation, also called "informal privatisation through internationalisation" (Ma, 2002b: 283).

⁵¹⁴ Nolan and Wang (1999: 188).

⁵¹⁵ The transfer of assets from SOEs such as China Telecom Group, China Mobile Communications and China Unicom Group to their respective overseas-listed units, China Telecom, China Mobile (Hong Kong) and China Unicom, is another way of reducing the state's holding of major assets and in line with practice in other sectors.

⁵¹⁶ Ure (2004: 6).

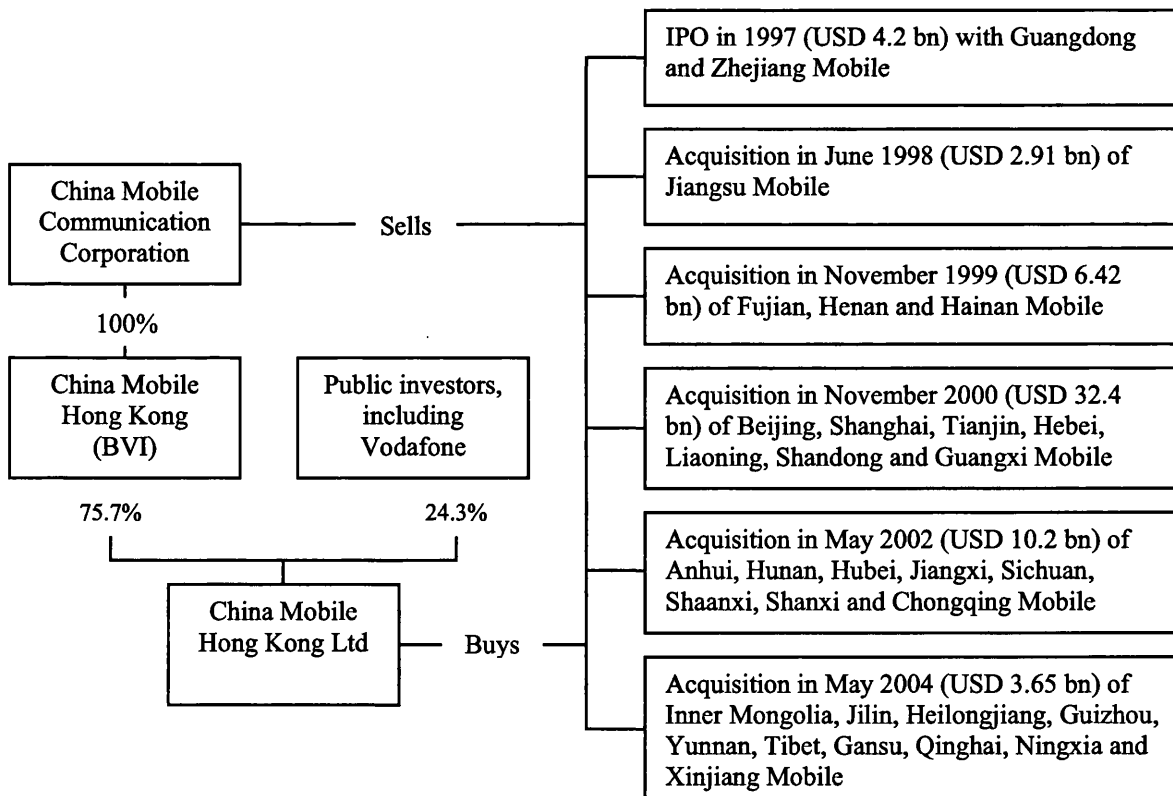
⁵¹⁷ Megginson, Bortolotti et al. (2001: 6).

Table 19: Network acquisitions by listed vehicles, 1997-2004

Company	Date	Amount in billion	Network
China Mobile (HK)	1997-10	USD 4.20	Guangdong and Zhejiang
China Mobile (HK)	1998-06	USD 2.91	Jiangsu
China Mobile (HK)	1999-11	USD 6.42	Fujian, Henan and Hainan
China Mobile (HK)	2000-11	USD 32.4	Beijing, Shanghai, Tianjin, Hebei, Liaoning, Shandong and Guangxi
China Mobile (HK)	2002-07	USD 10.2	Anhui, Hunan, Hubei, Jiangxi, Sichuan, Shaanxi, Shanxi and Chongqing
China Telecom (HK)	2002-11	USD 1.43	Shanghai, Guangdong, Jiangsu and Zhejiang
China Unicom (HK)	2002-12	USD 2.70	Heilongjiang, Jilin, Henan, Shaanxi, Jiangxi, Guangxi, Sichuan, Chongqing and Xinjiang
China Telecom (HK)	2003-10	RMB 46.0	Anhui, Chongqing, Fujian, Guangxi, Jiangxi and Sichuan
China Unicom (HK)	2003-11	RMB 3.20	Shanxi, Hunan, Hainan, Yunnan, Gansu, Qinghai, Inner Mongolia, Ningxia and Xizang
China Mobile (HK)	2004-05	USD 3.65	Inner Mongolia, Jilin, Heilongjiang, Guizhou, Yunnan, Tibet, Gansu, Qinghai, Ningxia and Xinjiang
China Telecom (HK)	2004-04	USD 3.36	Hubei, Hunan, Hainan, Guizhou, Yunnan, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang

Source: Compiled by author from Factiva.

Figure 11: China Mobile (HK) listing vehicle, as of 2004



Source: Compiled by author from Factiva.

Non-privatisation is not the story for the whole of the telecommunications sector, however. Whereas the government seems determined to maintain its grip on fixed and

mobile services, there is already significant private capital, both domestic and foreign, involved in value-added services, such as Internet Service Providers (ISPs)⁵¹⁸, Application Service Providers (ASPs), web hosting companies, and Internet data centres (IDCs). It has to be noted that ISPs aside, most of these companies were privately funded from the start⁵¹⁹. Owing to their relatively small size and the grey zone in which VAS providers have operated during the past five years, they have been prevented from openly seeking to raise capital on domestic and overseas markets⁵²⁰. The survival and recent improved profitability of NASDAQ-listed Chinese Internet portals such as Sohu, Sina and Netease has taken many by surprise and this has generated a new wave of Nasdaq IPOs in 2004 (see Table 20).

In great contrast to the service sector, equipment manufacturers such as Eastcom and Shanghai Bell, which have been open to market competition and foreign investment for many years, have made few IPOs at home and none abroad. Domestic equipment manufacturers, such as Huawei and Zhongxing Telecom Equipment (ZTE), are not only emerging as strong competitors in China but have set their sights on becoming world-class companies, vying for market shares in more lucrative developed markets. Ownership types vary greatly, ranging from fully private companies like Huawei to the state-owned TCL Mobile Communication or Shenzhen-listed ZTE (see Table 21 and Table 22).

⁵¹⁸ Following the WTO bilateral agreement with the United States, thresholds for foreign participation in ISPs was set at 50% of total equity but China Telecom, via Chinanet, and China Netcom remain the dominant ISPs, reselling some of their capacity to other ISPs.

⁵¹⁹ This has not prevented AsiaInfo from building most of China's Internet infrastructure, designing and building the country's first national commercial Internet backbone (ChinaNet), as well as its first provincial Internet backbone (GuangdongNet). According to MII, private capital takes up 69.81% of the investment in China's value-added mobile communications service (Asia Pulse, 2005a).

⁵²⁰ Even with the clearing of the most important regulatory barriers, the IPOs of Sina, Sohu and Netease have been rather complex financial montages involving offshore companies with holdings in the Cayman Islands or British Virgin Islands.

Table 20: IPOs of Chinese telecommunication value-added service providers, 1999-2004

Company	Location	Date of listing	Amount (billion)	Comment
China.com	Nasdaq	July 1999	USD 0.495	n.a.
TOM.com	Nasdaq	March 2000	USD 0.174	n.a.
Sina	Nasdaq	April 2000	USD 0.068	n.a.
Netease	Nasdaq	June 2000	USD 0.069	4.5 million ADS
Sohu	Nasdaq	July 2000	USD 0.059	4.6 million ADS
Yangtze Telecom ^a	TSX	September 2003		n.a.
Ctrip.com	Nasdaq	December 2003	USD 0.075	n.a.
Linktone	Nasdaq	March 2004	USD 0.085	6.14 million American Depositary Shares (ADS)
TOM Online	Nasdaq, GEM	March 2004	USD 0.195	11.25 million ADS
Shanda Interactive Entertainment*	Nasdaq	2004	USD 0.2598	17.32 million ADS – about 34.64 million ordinary shares (24.7% of enlarged share capital)
Mtone Wireless*	Nasdaq	2004	USD 0.055	n.a.
Tencent Technology*	Nasdaq	2004	USD 0.250	n.a.

Note: * Tentative. ^a Owner of ChengXi Information Technology Co. Ltd.

Source: Compiled by author from Factiva.

Table 21: Structure of ownership of selected domestic operators and equipment manufacturers, 2004

	China Unicom	China Satcom	ZTE	Datang				
<i>Total Shares</i>	21,196,596	100.00%	401,371	100.00%	959,522	100.00%	438,987	100.00%
<i>Total Of Shares Listed</i>	6,500,000	30.67%	60,869	15.17%	462,205	48.17%	165,374	37.67%
Public Owned Shares	6,500,000	30.67%	60,869	15.17%	302,054	31.48%	165,374	37.67%
Institution Shares-Outstanding	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Foreign Shares, B H & N	0	0.00%	0	0.00%	160,151	16.69%	0	0.00%
Other Outstanding Shares	0	0.00%	0	0.00%	0	0.00%	0	0.00%
<i>Unlisted Shares</i>	14,696,596	69.33%	340,502	84.83%	497,316	51.83%	273,613	62.33%
Stated-Owned Shares	0	0.00%	236,338	58.88%	462,272	48.18%	220,235	50.17%
Domestic Institution Owned Shares	14,696,596	69.33%	0	0.00%	35,044	3.65%	19,718	4.49%
Foreign Institution Owned Shares	0	0.00%	0	0.00%	0	0.00%	33,660	7.67%
Other Founder Shares	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Preferred Shares	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Institute Shares From Placement	0	0.00%	104,164	25.95%	0	0.00%	0	0.00%
Employees Shares	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Transferred Shares	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Others Non-outstanding Shares	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Note: H stands for Hong Kong shares ⁵²¹ and N stands for New York shares.

Source: Compiled by author from Factiva.

⁵²¹ In June 1993, the CSRC and Joint-Stock Exchange of Hong Kong jointly signed the Cooperation of Securities Supervision between China and Hong Kong, which set a legal foundation for Chinese mainland-funded enterprises listed on the Hong Kong SAR market

Table 22: Ratio of holding shares vs. total shares, 2004

Company	Type	Listing date	Total shares	Holding shares	%
China Satcom	Operator	1993-04-07	401,371,188	284,969,403	71.00
Shanghai P&T	Equipment	1993-10-18	304,925,337	154,676,746	50.73
Eastcom	Equipment	1996-07-28	628,000,000	375,538,610	59.80
Nanjing Putian	Equipment	1997-05-22	215,000,000	119,123,505	55.41
ZTE	Equipment	1997-11-18	959,521,650	687,897,226	71.69
Datang	Equipment	1998-10-21	438,986,400	271,983,272	61.96
China Unicom	Operator	2002-10-09	19,696,596,395	15,277,570,902	77.56
TCL	Equipment	2004-01-30	2,586,331,144	1,423,054,403	55.02

Source: Compiled from Factiva.

Unfortunately only 2 operators – China Satcom and China Unicom – are listed on mainland stock exchanges (compared to more than 10 equipment manufacturers), limiting somewhat the analysis. A certain number of elements emerge nevertheless. Despite significant variations, the ratio of listed vs. unlisted shares never exceed 50%. The unlisted portion of shares generally falls within the category of state-owned shares (*guojia gu*), except for China Unicom, whose unlisted shares are entirely in the hands of domestic institutions (*jingnei faren gu*). Certain companies, like Datang and TCL, have placed a number of unlisted shares with foreign institutions (*waizi faren gu*) respectively 7.67% and 7.62%.

Equipment firms and telecommunication services firms have behaved differently when it comes to the location of public share issuance (see Table 23 and Table 24). Why? There are two reasons. First, the scale of funding required by service firms is much greater than that demanded by equipment manufacturers, and the incumbent firms lack sufficient access to that capital. The IPO model was introduced by MPT in 1997 with the listing of China Mobile on the HKSE as an alternative to the traditional funding model that relied upon domestic installation and connection fees.⁵²² The second reason is that regulatory restrictions in the fixed and mobile services basic services for domestic and foreign investors left these firms no other choice than to seek a listing on a foreign stock exchange.

At the same time, the ownership structure of equipment manufacturers, as well as the high-level of liberalisation in the sector, has allowed various modes of participation by other investors, rendering the IPO route a less attractive option. For example, many domestic manufacturers have set up joint ventures with foreign companies that are now being transformed into strategic partnerships.

⁵²² These accounted for around 40% of total investment in China's telecommunications sector during the 1990s (Ure, 2004: 6).

Table 23: Selected IPOs of Chinese telecommunication equipment manufacturers, 1993-2005

Company	Location and code	Date of listing	Comment
China Putian (PTIC)	Shanghai	October 1993	Listing on SHSE
China Eastern Communications (Eastcom)	Shanghai 600776	August 1996	Listing of 40 million A shares and 100 million B shares on SHSE
Zhongxing Telecom Equipment (ZTE)	Shenzhen 000063	November 6, 1997	65 million shares were listed (including 6.5 million shares for staff and workers – floated May 18, 1998)
Datang Telecom Technology	Shanghai 600198	September 1998	80 million shares (RMB 0.478 billion)
Qiao Xing Universal	New York XING	February 1999	Listing on NASDAQ of 1.6 million shares at USD 4.50
TCL Corp	Shenzhen 000100	January 30, 2004	Listing abroad approved by regulator
Zhongxing Telecom Equipment (ZTE)	Hong Kong	December 3, 2004	Plans for listing 160 million shares (USD 398 million). 60% of proceedings earmarked for expansion abroad and the rest for R&D
China Putian (PTIC)*	Hong Kong New York	2005	<i>Planned listing of on HKSE and NYSE of mobile phone equipment businesses – 87.5% stake in Beijing Capitel, 51.59% in Eastcom, 33.75% in Ningbo Bird, 20% in Nanjing Ericsson Panda Communications, 27% in Beijing Ericsson Mobile Communications and its wholly owned mobile phone sales unit Putian Taili Communications</i>
China Harbour Networks*	Hong Kong	2005	<i>Planned listing on the HKSE</i>

Note: * indicates tentative IPOs.

Source: Compiled by author from Factiva.

Table 24: IPOs by sub-sector and issue date

	Domestic stock exchange 1993-2004		Foreign stock exchange 1993-2003		Foreign stock exchange 2004	
	Number of IPOs	Value (USD billion)	Number of IPOs	Value (USD billion)	Number of IPOs	Value (USD billion)
Fixed-line	0	–	1	1.43	2	3.36*
Mobile	1	1.38	2	9.12	0	–
Value-added	0	–	5	0.94	6	0.8448*
Equipment	5	n.a.	0	–	3	0.85*

Note: * indicates expected capital raising.

Source: Compiled by author from Factiva.

In 2002, Alcatel Shanghai Bell, which focuses on both fixed and mobile infrastructure markets, became the first foreign-invested company limited by shares in China's telecommunication sector, with Alcatel holding a 50% plus one share in the venture, and the domestic entities owning the remaining shares⁵²³.

⁵²³ Interfax (2002b). Some industry insiders claim that Alcatel has been “offered” Shanghai Bell because none of the other domestic equipment manufacturers wanted it (Interview (D-008), conducted in Beijing, 3 September 2002).

Despite its WTO commitments to allow 49% participation in mobile telecommunication joint ventures (50% in firms operating in VAS) by the end of 2003, only two domestic service operators have benefited from an injection of foreign capital so far⁵²⁴. The lack of activity can not only be attributed to a worldwide slump in the telecommunication market, which forced the world's largest operators to focus on their core markets. The huge amount of capital needed (more than USD 250 million) to operate in the basic services sector has *de facto* restricted the number of investors interested in and capable of making such an investment. Finally, the attractiveness of the market allows domestic operators, limited to a handful, to be selective in their choice of partner and in the nature of partnerships they construct. The terms on which they wish to do business are acceptable to only a few foreign operators.

Alternatives to IPOs

A number of mechanisms, such as concessions (e.g. BTO, or build-transfer-operate), have been used in other countries to increase private sector participation and, by the same token, reduce state intervention⁵²⁵. Although the Chinese government has experienced with a number of schemes in other utilities sectors, concessions do not appear to be an option in the foreseeable future. In the mid-1990s, China Unicom used a large number of China-China-Foreign (*zhong-zhong-wai*) partnerships but these schemes were banned by the State Council in order to restore order in the sector and to maintain bargaining power in the WTO negotiations⁵²⁶. Two options could help to inject additional capital in PTOs and prepare for the next step in the privatisation process. The first one, and closest to the IPO model, is private placements. The most high-profile example of this was China Netcom's placement of its equity with an international consortium in March 2001, but other operators, such as Jitong, have toyed with the idea. In addition, Chinese operators have opted for strategic partnerships with foreign investors. Those partnerships have taken the shape of important financial investments, in the case of Vodafone of more than USD 3 billion. Table 25 lists the major private placement deals in the sector since 2000.

⁵²⁴ See Chapter 5. In fact, China's first joint venture in basic telecommunication services – Shenda Telephone Co. Ltd., now incorporated into Shenzhen Telecom, a subsidiary of China Telecom – was originally formed in 1983 by Shenzhen Telecom Development Corporation (51%) and Cable & Wireless Plc., with a registered capital of RMB 20 million.

⁵²⁵ Under a BTO, the equipment supplier or other type of investor, often operating via an investment consortium, finances and builds a complete turn-key system (e.g. a regional network segment), transfers the ownership of the system, but manages and operates it in exchange for a proportion of the revenues.

⁵²⁶ Operating revenues were shared with the local partner, who in turn shared these revenues with their foreign partner for management, technology and network services.

Table 25: Private placement and minority shares in China's telecommunication operators

Company	Date	Amount (billion)	Comment
China Netcom	2005-09	EUR 0.178	Additional acquisition of 2.01% by Telefonica
China Netcom	2005-06	EUR 0.240	Acquisition of 2.99% by Telefonica
China Mobile (HK)	2002-05	USD 0.750	Additional acquisition of 1.09% CMHK shares by Vodafone
China Netcom	2002-03	RMB 0.520	Placement of 12% of equity. Investors include Goldman Sachs, News Corp, Bank of China and China Construction Bank
China Mobile (HK)	2000-10	USD 2.500	Sale of 2.18% of CMHK shares to Vodafone
China Unicom (HK)	2000-06	USD 0.400	Acquisition of 10% by Hutchison Whampoa

Source: Compiled from China International Capital Limited (<http://www.cicc.com.cn/english/about/completed.htm>) and Factiva.

The second option could be to issue depository receipts. This would be based on the American Depository Receipt (ADR) model whereby a company listed in Hong Kong is traded in the United States through an intermediary bank which holds its shares on deposit and issues tradable receipts for them. If China were to use this model, red chip companies would be able to issue certificates representing their shares, which could be then listed on the mainland stock exchanges and quoted in domestic currency⁵²⁷. China Depository Receipts (CDRs) would allow operators to raise money domestically, thus tapping an investor base that has so far been prevented from buying telecommunication shares. But there is at present no regulation allowing such instruments to be traded in the mainland⁵²⁸.

Lessons from China's experience with privatisation

The Chinese model of privatisation is not exempt of problems. The incorporation of provincial postal and telecommunication companies, such as Shanghai Telecom, has not resulted in the breaking of the firms' connection with the state. It is impossible to discern exactly how much support these companies still receive from their shareholders and how many are actually sustained by their own generated revenues. The fact that firms such as China Telecom and China Mobile remain state-controlled creates much ambiguity about the actual aims and role of government. On one side, it would like to gain the benefits of

⁵²⁷ Due to the lack of detailed regulations and rules, no breakthrough has been made, even though CITIC Securities, designer of the CDR plan, submitted a detailed proposal to the China Securities Regulatory Commission. Companies have instead turned to bond issues to pay for deals as the CDR scheme still had not been approved by the State Council and new share placements might have had a negative impact on the share prices (Ng, 2002; Wang, 2002).

⁵²⁸ China Mobile already wanted to issue CDR a few years ago but Zhu Rongji cancelled the plan (Interview (B-026) conducted in Beijing, 11 October 2001).

competition by liberalising the sector⁵²⁹. On the other side, as telecommunications were and are still considered a strategic industry, full privatisation, like majority foreign direct investment, remains a highly sensitive issue, and an unrealistic policy option⁵³⁰. For some observers, incorporation without privatisation has actually worsened the agency problem at many firms, because they are owned by the state but control rights are divided between government bureaucrats and enterprise managers of the enterprises⁵³¹. There is a strong possibility that China's telecommunication industry strategy is doing little to lessen the state's role in decision-making, at either the macro or the micro-economic level, with damaging consequences. Some scholars have argued that listing enterprises in Hong Kong has helped China to raise a significant amount of foreign capital, but that it has contributed little to improving firms' performance, partly because the listing fails to introduce effective monitoring mechanisms by investors⁵³². In addition, this model fails to capture the advantages of a direct investment by a foreign operator, for example advanced technology and management experience⁵³³.

In both fixed and mobile services the extent of privatisation, and for that matter foreign direct investment (FDI), has lagged behind other infrastructures⁵³⁴. In many respects, this has not been an obvious obstacle to network development. The percentage of telecommunication penetration has risen to 20.92 main telephone lines and 21.40 mobile phone subscribers in 2003 (up from 1.45 and 0.05 in 1993, respectively). Thanks to the formidable growth of demand and the availability of funding sources for investments through overseas equity issuance, the generally conservative Ministry of Information Industry has been able to largely maintain the institutional status quo⁵³⁵. Despite several rounds of administrative restructuring, MII has managed to maintain a central role in telecommunication policy-making – it was instrumental in negotiating WTO commitments in telecommunication services and the concessions made were less significant than those made in China's other sectors, for example, financial services. The Ministry's officials have been able to resist pressure for greater privatisation by implementing other elements of the liberalisation programme, although this has required bargaining at all levels of government and several interventions from the highest level.

⁵²⁹ Li, Qiang et al. (2000: 5).

⁵³⁰ Xu, Pitt et al. (1998: 376).

⁵³¹ Guo (2003: 570).

⁵³² Ma (2002b: 279).

⁵³³ Xu and Kan (2000: 12-13).

⁵³⁴ In the power sector, attracting FDI was made an explicit goal (Blackman and Wu, 1999: 700). See Chapter 5.

⁵³⁵ The Telecommunication Law, which has been in drafting process for the past 20 years, is another example of the MII's capacity to stall reform.

China's half-baked and belated privatisation efforts can also be explained by the fact that the main wave of telecommunication privatisation around the world took place in the second half of the 1990s – in the majority of countries this sector has been one of the last to undergo liberalisation⁵³⁶. At the same time, pressure from multilateral agencies, such as the World Bank and the Asian Development Bank, to liberalise the economy has tended to be concentrated in other sectors. They have provided loans to China's power companies since the mid-1980s but there has been scant lending activity in the telecommunication sector, and none at all after the mid-90s because of policy stasis and limited demand for loans⁵³⁷. Finally, China was not under pressure to privatise because of fiscal or debt crises, unlike many Latin American countries.

Issues with China's privatisation process

Although the incorporation and IPO strategy may have fulfilled the objectives of the conservative fringes of the government, particularly those of MII's leadership, a number of issues have been left unresolved. First, one feature of the model is that once operators are listed, MII has shown more of an interest in supporting the share price than in creating an effective regulatory regime⁵³⁸. Important decisions are left to local authorities, such as provincial telecommunication administrations, and the rules, institutions and instruments commonly associated with independent regulation are left undeveloped⁵³⁹. In the absence of an overarching Telecommunications Law, the sector is reliant upon State Council (and ministry-level) regulation and *ad hoc* intervention. Public policy objectives aside, the lack of a comprehensive legal framework for the sector represents a major obstacle to broader private participation. Second, many of the board members and top-level managers of the telecommunication operators remain closely connected with the authorities, while investors, both domestic and foreign, have little opportunity of significantly influencing management decisions⁵⁴⁰. The confused ownership structure has also sometimes created divergent incentives for the listed companies and their headquarters, and it is not unprecedented to have conflicting announcements from, for instance, company

⁵³⁶ Until the signature of the Basic Telecommunications Agreement (BTA) many governments were shielded from taking earlier liberalisation measures. While the WTO's BTA does not cover directly privatisation, its emphasis on market access and regulatory frameworks has forced many governments to seriously re-think their telecommunication policies and offered them a possibility to bundle competition, regulation and privatisation issues together.

⁵³⁷ Andrews-Speed and Dow (2000: 339). E-mail communication with a senior ADB representative in Beijing, 18 November 2003.

⁵³⁸ Interview (B-039), conducted in Beijing, 27 November 2003). Since it peaked in March 2000, China Mobile has declined in price by 74%, while China Unicom has now fallen by 71% since its launch (Holland, 2002).

⁵³⁹ Bellier (2003: xvi-xvii) and Kong (2003).

⁵⁴⁰ Nolan and Wang (1999: 190) and Pangestu and Mrongowius (2002: 16).

representatives of China Mobile (HK) and China Mobile Corporation⁵⁴¹. In addition, the salaries of managers of service providers tend to be relatively low, and are still insufficiently linked to the performance and profitability of their companies, although transfer of control to the State-owned Assets Supervision and Administration Commission (SASAC), on which more below, might result in their improvement⁵⁴². Third, a defining characteristic of the industry is how private capital is accommodated in telecommunications investments. From a legal perspective, the “Provisional Arrangements for Approval and Regulation of Decentralised Telecommunication Services,” promulgated by the State Council in November 1993, explicitly permits both state-owned and collective enterprises to offer public telecommunication services, provided that the enterprises first obtain a licence⁵⁴³. In practice, such services turned out to be restricted to paging and valued-added services. For fixed and mobile services, the dominant role of the state is guaranteed by regulations that require that the Chinese JV partner has to be state- or majority state-owned⁵⁴⁴. Paradoxically, opportunities for private investment in those services remain open only to foreign companies. Influential scholars such as Zhou Qiren (formerly at Beijing University), as well as members of the National People’s Congress (NPC), have raised this issue for many years, arguing that private domestic companies should have the same opportunity as foreign companies, even though the first attempt by domestic private capital to enter the telecom sector ended in failure⁵⁴⁵.

There is no simple solution for these issues. As noted above, opening the sector to domestic private capital would probably not suffice, as privatisation is neither a necessary nor a sufficient condition for successful reform⁵⁴⁶. Even if private ownership and operation of telecom services were not specifically forbidden, the dominance of the present incumbents would make it extremely difficult for new market entrants⁵⁴⁷. The priority instead should be to create a regulatory framework that facilitates the creation of a competitive operating environment and to complete the transfer of networks to the listed

⁵⁴¹ Interview (B-011), conducted in Beijing, 6 September 2001.

⁵⁴² Guan (2002: 24).

⁵⁴³ Lynch (2000: 193).

⁵⁴⁴ Interview (B-002), conducted in Beijing, 27 August 2001.

⁵⁴⁵ Interview (B-025), conducted in Beijing, 10 October 2001. China Jitong (now merged with China Netcom) accepted investment from a private firm, Jinzhou Port, after Jitong’s failure to get a public listing in 2000. In July 2001, Jinzhou Port acquired the transferred shares, which accounted for 14.72% of its registered capital, thus Jinzhou Port theoretically became the number one shareholder in China Jitong. However, in September 2002 Jinzhou Port was informed by the Ministry of Finance and MII that ‘Jinzhou Port’s acquisition of China Jitong’s shares is against the relevant rules and therefore void’ (Wu and Zhu, 2003: 151).

⁵⁴⁶ Melody (1995: 259).

⁵⁴⁷ Pangestu and Mrongowius (2002: 32-33).

companies, so that fixed and mobile operators can operate efficiently. An important step towards the normalisation of the sector is taking place through the recent involvement of the SASAC, a body established on March 2003 to streamline control over public firms. With the transfer of China Railcom from the Ministry of Railway's control to SASAC in early 2004, the latter now exercises the rights of ownership as the representative of the state on all of China's telecom operators⁵⁴⁸. Several benefits should accrue from this development. First, there should be better insulation of the operators from their parent Ministries. The transfer of control from the hands of the Ministry of Railways, for instance, insulates China Tietong's management from demands to generate more revenue for the railway operations. Second, China Tietong now faces direct competition from the country's other telecom carriers, and the hope is that SASAC will be able to provide a more level playing field. Third, unified management under the SASAC should play a positive role in the supervision, administration and regulation of China's telecommunications market and help to prepare the ground for a new round of restructuring of the telecommunication companies.

The case for privatisation is that it locks in hard-won regulatory reforms that continued state-ownership would erode, while the case against hurried privatisation is that it foregoes the option of future restructuring and better regulatory design⁵⁴⁹. In 1997, Ure and Vivorakil predicted that privatisation of China's telecom services operations would be carried out through encouraging the participation of private capital, while the mixture of private and public-sector management and control of networks and services (for example, in the Chinese-Chinese-Foreign joint ventures) would remain unclear⁵⁵⁰. With hindsight, Chinese policy-makers have displayed a definite preference for public management, as well as strict public control, of all basic networks and services. In short and like for other Chinese utilities, the reform of the telecommunication has been concerned more with better management of state assets than with engaging in ownership reform.

As of today, China's telecommunication sector remains largely state-controlled and government plans give no indication that current reforms will lead to a future round of privatisation. By opting for incorporation and partial public offerings, the government has

⁵⁴⁸ China's other telecommunication operators are China Mobile, China Unicom, China Telecom, China Netcom, and China Satcom (SinoCast, 2004a).

⁵⁴⁹ Newbery (1999: 128).

⁵⁵⁰ Ure and Vivorakil (1997: 3).

succeeded in raising some USD 10 billion in investment capital for its telecommunications sector, while retaining ownership and control of the operators. Given the importance placed on maintaining such control, full privatisation or sales, which would leave the state as a minority shareholder, are not likely in the near term. The current institutional setting, characterised among other by a lack of independent judiciary and regulatory body, offers no credible method of deterring regulatory opportunism and leaves public ownership as the default option⁵⁵¹. In itself, this is not a problem since ownership is only one part of a range of measures, such as changes to market structure, and the creation of a pro-market regulatory framework, that are necessary to improve performance⁵⁵². Nonetheless, there is little doubt that the healthy development of the sector relies on the creation of a level playing field, and that this will necessitate further rounds of restructuring. Ultimately, full privatisation or majority ownership, by reducing the conflicts of interest that are inherent in the current system, would at least enable the government to better perform its regulatory role and better serve the interest of both the public and the investor community.

⁵⁵¹ Newbery (1999: 57).

⁵⁵² Bauer (1995: 272).

Putting China's telecommunication liberalisation model in a sectoral context

"Telecoms liberalisation was no doubt less risky than that of electricity"

(Levi-Faur, 2003: 724)

Comparison with the electricity sector

How much does China's model of telecommunication liberalisation differ from other sectors' experiences? To provide some answer, we compare it to reforms in the electricity sector. Of all utilities, electricity probably offers the best comparison perspective⁵⁵³. Just like the telecommunication sector, electricity reforms in developing and transition countries were driven by the poor operating and financial performance of state-owned electricity systems, the lack of public funds, the unavailability of service for large portions of the population, and government desires to raise revenue through privatisation⁵⁵⁴.

In China, the electricity sector is dominated by state-owned companies, which are vertically integrated on generation, transmission, distribution and retail, both at national and provincial level. The industry is highly regulated by a number of central government agencies and their subsidiaries in each province (e.g. provincial planning commissions, provincial economy and trade commissions, provincial price bureau and provincial Power Company). Prices too are centrally fixed. Finally, the state has placed a high priority on the development of the power sector and allocated large investments (see Table 26)⁵⁵⁵.

Table 26: Total investment in the power and telecommunication sector in the 9th FYP (USD billion)

Sector	1996	1997	1998	1999	2000	Total
Power	14.4	18.7	20.7	22.1	25.4	101.3
Telecommunication	10.9	12.7	18.1	19.3	26.8	87.8

Source: Compiled from Yeoh and Rajamaran (2004) and Zhang and Heller (2004).

Similarities and differences between both sectors' liberalisation

Reforms in the telecommunication and electricity sector share a number of characteristics. First, in 1995 the electricity industry underwent institutional restructuring and separation

⁵⁵³ For a long time, utilities have been considered natural monopolies, that is until the unbundling of the value-chain has showed that only a few elements in the service are usually non-competitive, such as local residential telephony or local loop for telecommunication and high-voltage transmission and local distribution for electricity (Kessides, 2004: 37). However, the comparison between privatising energy and telecommunication holds to a certain extent only as the gains from relaxing the constraints on investment are much larger and there is less concern on the part of the buyers that the regulatory compact will fail (Newbery, 1999: 291).

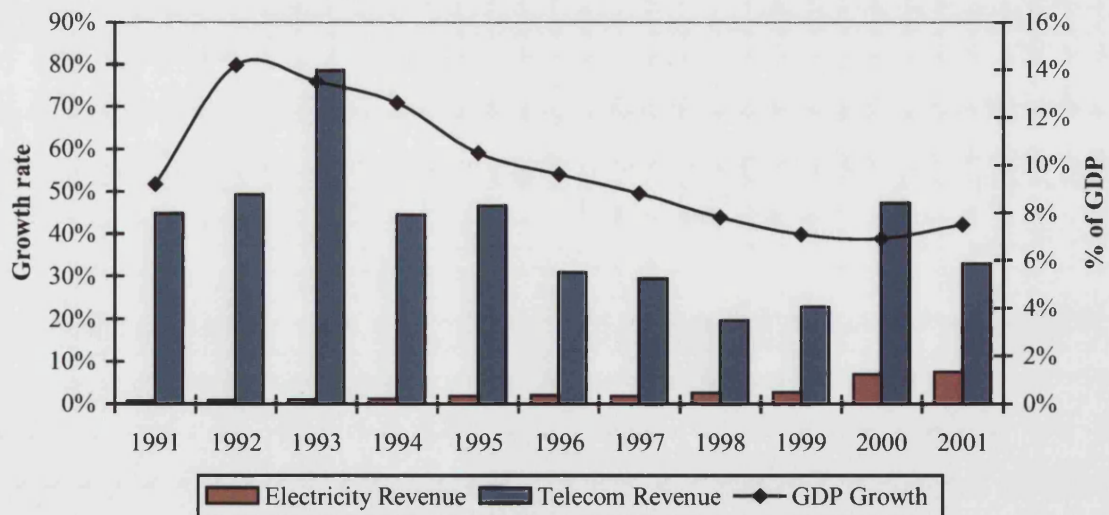
⁵⁵⁴ Kessides (2004: 135).

⁵⁵⁵ In the sector of power the role of private investors was seen as complementary and additional to that of public enterprises (Gabriele, 2004: 1323). Moreover direct supervision by higher-level government bodies, as well as horizontal and vertical inter-agency negotiations leading to consensus solutions, have been the norm in the power industry.

of government regulatory function from business operations⁵⁵⁶. Second, the privatisation of energy companies at the national, provincial and municipal levels has resulted in the state retaining a majority of the shares. Third, akin to MII and its predecessor, the Ministry of Electric Power as owner, regulator and policy-maker has dominated the electric industry. Although both sectors share many structural similarities, the timing, pace and nature of reforms varies significantly. What explains this? Is it because power was exposed to international pressures (multilateral lending agencies and FDI)? Why does it take so long to pass the Telecommunication Law when the Chinese leadership acknowledges the weakness of the currently regulatory structure? Why has the government failed to replicate the reforms of the electricity sector?

A closer look at some of the reforms will help bring initial answers to those questions. First, the electricity sector benefits from a much better defined regulatory framework. The first Electricity Law was issued by the Ministry of Electric Power in 1995. Second, the amount of revenues generated by both sectors varies greatly, making telecommunication a much more strategic sector, at least from a financial perspective (see Figure 12). This has prompted the government to handle the reform with extra-care.

Figure 12: Electricity and telecommunication revenue growth in China, 1991-2001



Source: Compiled by author.

Third, foreign investment has been allowed in the power industry through a set of regulations enacted as early as 1995 and through concession projects (BOT). Fourth, institutional continuity has meant that the government has been able to appropriately restructure the bureaucracies that oversee the electricity sector to smooth the way for

⁵⁵⁶ Lamech, Berrah et al. (2001).

independent power producers (IPPs). For instance, it abolished the Ministry of Electric Power (MOEP) that traditionally oversaw the sector and replaced it with the State Power Corporation⁵⁵⁷. Restructuring of the policy-implementing machinery has reinforced the pragmatism at the policy-making levels, leading to relatively frictionless implementation⁵⁵⁸. Fifth, in the sector of power, China saw the role of private investors as complementary to that of public enterprises⁵⁵⁹. DeWoskin has argued that the restructuring telecommunication sector prior to the WTO accession has gone in the exact opposite direction of many other sectors, faced as it is with a unique set of forces and conditions⁵⁶⁰.

This brief comparison with the electricity sector reveals that the liberalisation process in both utilities shares a number of similarities and difference but that the outcome of the liberalisation efforts differs notably (see Table 27 and Table 28)⁵⁶¹.

Table 27: Summary of outcome of reforms between China's telecommunication and electricity sectors

	Telecommunication	Electricity
Competition ⁵⁶²	Duopolies in fixed and mobile	Monopolies in distribution Competition in generation
Privatisation	No, except in value-added services	No, except in generation
Funding	Revenues and IPOs	n.a.
Decentralisation	Local administration bureaus	Direct supervision by higher-level government bodies
Legislative framework	No Telecommunication Law but Telecommunication Regulation	Electricity Law Electricity Regulation Regulations on Electricity Supervision and Control
Regulator	No independent regulator	SERC

Source: Compiled by author.

⁵⁵⁷ During the 1998 restructuring, the former Ministry of Power's functions were assigned to three new entities. The Electric Power Administrative Department, under the recently disbanded SETC, has functioned as a typical governmental agency, taking the role of a regulator. The China Electricity Council (CEC) has functioned as an industrial association and acted as an industrial coordinator. The State Power Corp. has invested in state-owned assets in the power sector and has invested and managed these state-owned assets. China initiated yet another round of restructuring in 2002 (Zhu and Li, 2003).

⁵⁵⁸ Rufin, Rangan et al. (2003: 661-662).

⁵⁵⁹ Gabriele (2004: 1323).

⁵⁶⁰ "Whereas the State Council chose to consolidate fragments of many industries into *chaebol*-like entities, it permitted telecommunication to diversify, and diversify quickly and deeply." (DeWoskin, 2001: 654).

⁵⁶¹ Interview (B-034), conducted in Shanghai, 21 November 2003.

⁵⁶² Whereas it was possible to introduce competition to segments of the markets in telecommunication (equipment, international and long-distance calls, mobile) and thus to experiment with competitive markets, the possibility of doing so in electricity was limited. In electricity, generation and supply to final customers are activities generally considered as competitive, while high-voltage transmission and local distribution are not (Kessides, 2004: 37).

Table 28: Comparison between the telecommunication and electricity sectors

	Telecommunication	Electricity
Structure	Pre-1998: Ministry of Post and Telecommunications (MPT) and Ministry of Electronics Industry (MEI) Post-1998: Ministry of Information Industry (MII)	Pre-1997: Ministry of Electric Power (MOEP), policy-maker, regulator and enterprise manager for most of China's power industry Post-1997: State Power Corporation of China ⁵⁶³ (SPCC) takes over the enterprise management Post-1998: Abolition of MOEP and transfer of its government function to the SETC; plans to separate generation from transmission and distribution
Effect of 1998 reforms	1. Creation of a new Ministry, the Ministry of Information Industry (MII) to centrally coordinate infrastructure investment 2. Separation of government and enterprise	1. Function of enterprise management nominally removed from the government and assigned to the energy companies themselves 2. State Economic and Trade Commission (SETC) given an apparently important position in the energy sector 3. Creation of a new Ministry, the Ministry of Land and Resources (MLR)
Pricing	Prices fixed by operators within MII's guidelines; involvement of local government and SDRC	Producer and consumer prices fixed by central and local governments with high levels of subsidies and cross-subsidies; Functions of policy-making and regulation mixed together in SETC; SDRC retains some influence on pricing and investment policy; SPC seems to be driving the reform policy
Policy-maker	MII	SETC
Undergoing reforms	Attribution of licences across services to all operators at time of 3G introduction; Supervision of assets by the State-owned Assets Supervision and Administration Commission (SASAC)	Vertical separation of the generation, transmission and distribution functions – the reform will separate power plants and power grids and let power plants enter power grids through bidding. State Power Corp (SPC) is focused on transmission after the State Development and Reform Commission (SDRC) created five, roughly equal, nationwide generation groups by dividing up the capacity formerly controlled by SPC.
WTO effect	Geographic and phase-in	Not included in WTO commitments ⁵⁶⁴
Operators	China Netcom (North) and China Telecom (South); China Mobile and China Unicom	State Power Grid Co. (North) and the Southern Power Grid Co. (South)
Legal framework	Telecommunication Regulation (2000), various regulations. Telecommunication Law in draft	Electricity Law (1995)
Regulator	Ministry of Information Industry (MII). Local enforcement agencies (e.g. Shanghai Telecommunication Administration Bureau)	State Electricity Regulatory Commission (SERC). A law enforcement agency directly under the State Council, it is responsible for supervising and regulating market competition. It will also issue licences to operators, monitor their operations and hold them accountable for violations of pricing and competition rules.

Note: In early March 2005 China's government announced that it intended to establish a national leading group under the State Council to oversee the energy sector.

Source: Adapted from Andrews-Speed, P., Dow, S., et al. (2000), Wu (2003).

⁵⁶³ SPCC is a holding company, which owns most of the transmission and distribution infrastructure through its ownership of nearly all the Provincial Power Companies.

⁵⁶⁴ Energy services were not negotiated as a separate sector during the Uruguay Round. Though a few WTO Members undertook sparse commitments in various energy-related services, the vast majority of the global energy services industry is not covered by specific commitments under the GATS.

Particularities of China's telecommunication liberalisation model

A number of particularities emerge from China's model of telecommunication liberalisation. As far as the process is concerned, the emergence of China Unicom and other new players in the industry was *more a product of domestic political power games than of market economics*. As noted, the initial push to introduce competition came through the bargaining of divided special interests. Wu Jichuan, formerly in charge of MPT and later MII, worked over the years to protect China Telecom's monopoly position, defending it with arguments of universal service and infrastructure rollout⁵⁶⁵. For strategic reform forces to outweigh Minister Wu's resistance to liberalisation, the most senior level of the government (i.e. the State Council) had to intervene⁵⁶⁶. As we will see, the lack of *direct international pressure* played an important role at maintaining the status quo or at least at delaying the liberalisation process. International lending agencies have hardly been involved in the telecommunication liberalisation process, focusing their attention on other sectors judged more prone to reform. Moreover, in light of China's limited WTO commitments and the global slump of telecommunication, in the foreseeable future, competition is not going to be among foreign operators but among domestic companies⁵⁶⁷.

If we consider the outcome, unlike other countries, most, if not all, of the competition in basic services still takes place between *state-owned or state-run enterprises*⁵⁶⁸. This overwhelming presence of the state can be attributed to historical reasons. Since the creation of the People's Republic of China in 1949, the incumbent has been state-owned. While other countries undergoing liberalisation have opened the market to non-state operators and reduced their ownership in the incumbents, the Chinese government seems keen on maintaining control over all basic services.

⁵⁶⁵ The plan for the break-up of China Telecom is said to have been sent back and forth between the MII and the State Council about 6 times before it was finally accepted because it was not radical enough (Interview (B-019), conducted in Beijing, 17 September 2001). Towards the end of his career, Wu Jichuan seemed, at least in public, to have accepted the rhetoric of competition and market economy (Interview (B-002), conducted in Beijing, 27 August 2001).

⁵⁶⁶ Interview (B-033), conducted in Geneva, 12 November 2003.

⁵⁶⁷ Interview (B-009), conducted in Beijing, 4 September 2001.

⁵⁶⁸ Willner (2002: 42). Major international operators have integrated this in their strategy by either entering partnerships (e.g. Vodafone and China Mobile) or focusing on the value-added segment.

Concluding remarks

This chapter has discussed the introduction of competition in telecommunication services and the “privatisation” of Chinese operators. It has argued that reforms taking place in developed countries were not totally devoid of influence on China’s domestic telecommunication reforms. In fact, China’s attempt to introduce competition does not lag much behind other countries’. While not comparable to American or British early efforts, its experience is not radically different from other developing countries either and even from some industrialised ones. Whether the introduction of competition has met with success is altogether another question. As we have seen, basic services operators remain quasi-monopolies and despite major restructuring efforts, changes only take place at a very slow pace. The unsatisfactory level of competition, and of reforms in general, can be traced back to the late separation of government from operations, the size and power of the incumbent and a legacy of vested interests. In addition, this chapter has shown that both the origin and outcome of China’s telecommunication reforms differ from other countries. Pressure to liberalise originated from MPT’s rival Ministries and not from international organisations or large telecommunication users. Despite several rounds of restructuring, reforms in the services sector are at a standstill. After more than 10 years of reforms, the country has barely achieved competition in basic telecommunication services and full privatisation remains out of the question in the foreseeable future.

It has been argued in this chapter that the drivers of China’s model of telecommunication liberalisation are to be found primarily domestically, and that the international pressures have had only limited impact on the extent of liberalisation. In her study on China’s international engagement Pearson has argued that:

“Change in China is due predominantly to domestic forces. The norms and rules of the international economic regime must be fed through the prism of Chinese perceptions and domestic political structures.”⁵⁶⁹

Nevertheless, two mechanisms have at least been at work in helping to spread domestic liberalisation policies to China. These are modelling mechanism and what might be called a rational actor mechanism⁵⁷⁰. On one side, the introduction of limited competition happened at around the same time as other countries. On the other side, the government has largely refrained from privatising the telecommunication operators, opting instead for

⁵⁶⁹ Pearson (1999b: 227).

⁵⁷⁰ Modelling can be defined as “action(s) that constitute a process of displaying, symbolically interpreting and copying conceptions of actions and this process itself”. The rational actor mechanism involves a conception of the states as unitary, rational self-interested actors (Joseph and Drahos, 1998: 102).

a model that assured constant revenue streams and maintaining control on the sector. Most important, though, have been the institutional factors specific to China's telecommunication sector. They have permitted MII to maintain its stronghold on the industry in accordance with the central government's desire to maintain control on the overall reform process. Thus, while the key tenets of the liberalisation programme have largely been modelled on those found in other countries, its outcome has differed notably.

There is little doubt that the massive diffusion of telecommunication services results from a combination of factors. But the causal link between the factors and the growth is hard to establish. Chapter 3 has shown that the process of decentralisation initiated in the 1980s was closely linked with the funding of the telecommunication sector. By delegating administrative powers to the provincial telecommunication bureaus as well as reducing the government investment in the sector, the central government did in fact loosen its control over the telecommunication sector. The "empowerment" of sub-national administrations and operators ensured allocative efficiency. At the same time, it created a fragmentation of the telecommunication sector. Chapter 4 has described in details the programme of competition and privatisation. While domestic constraints have played a significant role on both the *nature* and *pace* of liberalisation, the next part seeks to integrate the international dimension. It will be argued that, despite the predominance of domestic factors and China's relative isolation from international pressures during most part of the reform era, external pressures nonetheless affected China's telecommunication reform model.

Part III:

Pressure from the Outside

5 Reforms within an evolving supranational telecommunication order

“The old telecommunication regime provided China with a comfortable “womb” of state sovereignty within which to develop policy at its own pace.”

(Tipson, 1999)

“To date, China’s government has not taken the steps to bring regulation in the telecommunication sector into practice with international norms.”

(USITO, 2004b)

This part discusses some of the major international factors driving the reform process in the telecommunication industry. It reviews the role of major international organisation as well as foreign direct investment (FDI) over Chinese telecommunication reforms. It argues that for a large part of the reform era, telecommunication services were almost totally shielded from international pressures, and this for two reasons. First, despite China’s membership in a number of international organisations, its actual involvement remained limited. Second, pressure to liberalise the telecommunication sector cropped up relatively late in the WTO accession negotiation. And success at claiming the status of “developing country” allowed China to negotiate a favourable schedule of commitments for its telecommunication sector. As foreign investment remained largely banned from telecommunication services until 2001, the regulator felt no real need to speed up a reform process that would require a fundamental transformation of the market structure as well as a redefinition of its own role.

That said, despite this apparent imperviousness, China’s accession to the WTO has marked a turning point. By committing to a strictly defined liberalisation path, the Chinese government has reduced its future margin of manoeuvre. In addition to granting market access in line with its schedule of commitments and to abiding by the Reference Paper, the government will have, sooner or later, to integrate the outcome of the current WTO round of telecommunication negotiation into domestic reforms.

Chapter 5 looks at some of the major international factors driving reforms in the telecommunication industry across the world. At the same time, it places the Chinese WTO offers in the broader context of telecommunication developments at the supranational and domestic levels. After a brief description of the international telecommunication regime, the first section reviews key supranational actors, like the ITU and the World Bank, and their relevance to China’s telecommunication reform process.

The second section discusses China's relationship with supranational actors in the realm of telecommunication. It heightens the importance of the General Agreement on Trade and Tariffs (GATT) and of the WTO on the international telecommunication regime's transformation. The last section widens the perspective by discussing the role played by multinational corporations on China's telecommunication reforms through foreign direct investment (FDI).

The international telecommunication regime

For many years the international telecommunication regime, embodied mainly by the ITU, remained unchallenged. It provided a multilateral framework reinforcing domestic monopolies and bilateral cartel arrangements that fitted well with national governments' grip over the sector⁵⁷¹. In the mid-1970s, international responses to technology change triggered reconsideration of the established order⁵⁷². Among the key tenets of the regime to be questioned was the idea that telecommunications services and equipment were best supplied by national monopolies.

In addition to the major transformations that ensued in the market structure, telecommunication policy issues took an international dimension at the beginning of the 1990s, blurring the limit between domestic and international policy issues⁵⁷³. Thus, telecommunication regulations, which were mostly the remit of state authorities, now increasingly fall within the scope of regional and global organisations⁵⁷⁴. Broadly speaking, the key feature of the new international telecommunication regime is competition between firms and countries in the area of international telecommunication services. The integration of telecommunications into the supranational regulatory order has also increased the range of actors affecting the evolution of telecommunications policy and weighed on domestic reform processes⁵⁷⁵. Hills has argued that in the case of LDCs, international actors, such as the International Monetary Fund (IMF) or the World Bank, played a major role in shaping telecommunication reform⁵⁷⁶. Furthermore, Henisz, Zelner et al. found that the coercive effect of multilateral lending agencies has increased over time⁵⁷⁷. While their finding is consistent with evidence that multilateral organisations have broadened the scope of the 'conditionality' terms specifying market-oriented reforms imposed on borrowing countries, it poses the question of why China, who is the World Bank's largest borrower, has managed to postpone the liberalisation of telecommunication services for so long and stir its own path.

⁵⁷¹ Governments cooperated to maintain a regime based on the overarching principles of national sovereignty, network interconnection and joint service provisioning (Drake, 2000: 124).

⁵⁷² (Ruggie, 1975; Mowery and Rosenberg, 1989; Cowhey, 1990: 174).

⁵⁷³ Robinson (1991b).

⁵⁷⁴ Simpson and Wilkinson (2001: 3-4) argue that they constitute the emergence of a global system of regulation.

⁵⁷⁵ Joseph and Drahos (1998: 99). Indeed, until recently telecommunications-operating agencies were concerned primarily with domestic requirements in a purely domestic environment and thus mostly isolated from the globalisation process.

⁵⁷⁶ Hills (1994). While those key players pressed governments to reform, providing at the same time financial support for the task, the magnitude of their influence on the success or failure to reform is difficult to assess.

⁵⁷⁷ Henisz, Zelner et al. (2004).

Telecommunication and international trade – from ITU to GATT and the WTO

The international telecommunication regime has been deeply transformed by the US-initiated push to shift the liberalisation agenda from the ITU to the GATT. One of the key reasons behind this shift laid in the emergence of domestic competition⁵⁷⁸. As noted by Cowhey:

“Significant efforts were made to restructure the telecommunication regime by introducing competition and granting some jurisdiction over telecommunications to trade institutions that served new political constituencies.”⁵⁷⁹

Until the mid-1980s, trade and telecommunication were viewed as separate realms of activity, both domestically and at the international level. As such they operated as two distinct and quite different international regimes⁵⁸⁰. In the mid-1980s an extension of international trade issues to services, including telecommunication, started to be considered and some international organisations, encouraged particularly by the United States, began to confront the problem of defining an open international framework covering foreign direct investment and trade in services⁵⁸¹. As early as 1995, Drahos and Joseph argued that:

“The future evolution of telecommunications will be profoundly affected by the emerging supranational regulatory order. This order is characterised by the presence of a hierarchy of players who vie to link principles like most favoured nation and national treatment to certain standards in ways that produce economic gains for them. The integration of telecommunications into the supranational system means that the evolution of telecommunications policy must be understood in a cross-regulatory fashion.”⁵⁸²

However, the efforts to push communication in the trade arena did not enthuse everyone. While agreeing on the intrinsic nature of the links between information flows and trade flows, various scholars questioned the development impact of communication technology for developing countries, reviving the dependency theory⁵⁸³.

⁵⁷⁸ Cowhey (1990: 169) and Feketekuty (1992: 172).

⁵⁷⁹ Cowhey further suggests that in the telecommunication industry, the United States, Japan, and the United Kingdom had enough market power to stimulate global reform when they unilaterally changed their national telecommunication policies (Cowhey, 1990: 172).

⁵⁸⁰ Woodrow (1991: 325-342).

⁵⁸¹ Feketekuty (1988). On the ground that “data flows are commodity flows” (Sauvant, 1983: 360). Until then, international economic agreements had traditionally dealt only with trade in manufactured products (Sauvant, 1986; Aronson and Cowhey, 1988; Robinson, 1991a: 808). The fundamental difficulty with telecommunication and data services as a trade-in-services issue is that it is both a telecommunication-policy issue and a trade-policy issue simultaneously and interactively. Telecommunication services clearly fall within both the WTO's and the ITU's jurisdiction, and the potential exist for the two bodies to address similar issues from different perspectives (Frieden, 2001: 231-233).

⁵⁸² Drahos and Joseph (1995: 635).

⁵⁸³ See (Jussawalla, 1982; Hills, 1994).

A turning point in the rise of international trade in telecommunication services is without any doubt the signature of the Basic Telecommunication Agreement (BTA) in 1997, although some academics initially downplayed its significance on the basis that most policy changes were taking place anyway⁵⁸⁴. While it is unnecessary here to revisit the BTA in depth, a number of elements are nonetheless worth reviewing since they directly impact any signatory country to the WTO⁵⁸⁵.

GATS⁵⁸⁶ and the Reference Paper

Regulatory disciplines specific to telecommunications services are primarily found in the GATS Annex on Telecommunications, which applies to all WTO Members, and in the Reference Paper (RP) on regulatory principles drawn up by the WTO Negotiating Group on Basic Telecommunications⁵⁸⁷.

The General Agreement on Trade in Services (GATS) is the WTO instrument governing trade in telecommunication services. The GATS can be summed up to a set of fundamental principles: progressive liberalisation through binding commitments in schedules; non-discrimination and transparency; regulations that are reasonable, objective, impartial, and not more burdensome than necessary; competition safeguards aimed at the realisation of obligations and commitments; and flexibility in recognition of

⁵⁸⁴ Drake and Noam (1997). Negotiations on the Annex on Telecommunications and the specific commitments on value-added services were completed in December 1993 and entered into force on 1 January 1995 at the same time as the rest of the GATS. Negotiations on basic telecommunications services did not conclude until 15 February 1997 and did not enter into force until 5 February 1998.

⁵⁸⁵ See Cowhey and Klimenko (2001) for a treatment on the BTA and telecommunication reform, and Wunsch-Vincent (2004) for a detailed analysis of GATS and telecommunications.

⁵⁸⁶ The GATS regime comprises three major elements. The first one is the Framework Agreement, which includes fifteen principles or General Obligations and Disciplines, such as most-favoured-nation status, that usually apply to national commitments. The second component of the GATS regime is the eight annexes. These clarify or modify how the general obligations apply to issues unique to certain services sectors and modes of supply and establish the legal basis for future negotiations on them. The third component of the GATS is the National Schedules in which governments list their commitments (Drake, 2001: 39).

⁵⁸⁷ WTO (1999a: 3-4). The Reference Paper is used as a basis for additional commitments in schedules where, if included, it becomes legally binding on the Member concerned. The core obligations of the Telecommunications Annex are contained in paragraph 5, entitled "Access to and use of Public Telecommunications Transport Networks and Services" (essentially regarding basic telecommunications that are required, explicitly or in effect, to be made generally available to the public). Paragraph 4 of the Annex obliges governments to ensure the transparency of "information on conditions affecting access to and use of" basic public telecommunications. Regarding technical standards, paragraph 7(a) of the Annex states, "Members recognize the importance of international standards for global compatibility in interoperability of telecommunication networks and services and undertake to promote such standards through the work of relevant international bodies, including the International Telecommunication Union and the International Organization for Standardization". The vast majority of regulatory measures scheduled by Members, in accordance with the Additional Commitments provisions of GATS Article XVIII, involve the Reference Paper.

national sovereignty and economic development needs⁵⁸⁸. There are several GATS mechanisms that directly influence the members' regulation of the telecommunications sector: (1) GATS Article VI, a general obligation regarding domestic regulation; (2) the Annex on Telecommunications, a general obligation regarding access to public telecommunications networks⁵⁸⁹; (3) specific commitments to provide market access (Art. XIV) and national treatment (Art. XVII); and (4) the Reference Paper (RP), specific commitments to be applied to major suppliers of basic telecommunications services (see Table 29)⁵⁹⁰. The objective of the latter is twofold. First, it aims to provide foreign service providers with regulatory safeguards to guarantee that monopolies or former monopolies do not abuse their market power to undermine competition. The concern is not about the existence of monopoly *per se* but about the anti-competitive practices of major suppliers in a particular market⁵⁹¹. Second, it aims to provide a harmonized set of regulations in order to minimize the phenomenon of asymmetric regulation. From an international telecommunication law perspective the Reference Paper is the first document that contains a set of rules in relation to telecommunications regulation. As such, it provides policymakers in developing countries with a road map on how to reform or establish a regulatory framework⁵⁹². The document aimed to address the issue of the dominance of the incumbents and to ensure that competitive conditions were created. Nevertheless, national policy-makers remain free to adopt a variety of criteria in the granting of licences, as long as they are public and transparent⁵⁹³.

Three other WTO agreements have an impact on the telecommunication sector: the Agreement on Technical Barriers to Trade (TBT), the Information Technology Agreement (ITA) and the Government Procurement Agreement (GPA)⁵⁹⁴.

⁵⁸⁸ Tuthill (1997). During the Uruguay Round, the negotiators developed four "categories" of services to further define their basic telecom commitments: geography (local, long distance, and international); technology (wire-based or radio-based, including satellite); delivery (facilities based or on a resale basis); and clientele (for public use or non-public use (closed user groups)). Unless otherwise specified, a specific commitment for any of the telecommunications sub-sectors includes all four categories.

⁵⁸⁹ During the Uruguay Round, Members agreed to include the Annex on Telecommunications as part of the GATS and 48 Members submitted schedules offering specific commitments to liberalise trade in telecommunication services.

⁵⁹⁰ Wunsch-Vincent (2004).

⁵⁹¹ Six main objectives in support of competition were debated: regulatory reform, interconnection, structural and accounting separation, number portability, pricing policy and accounting rate reform (Petrazzini, 1996b: 6).

⁵⁹² Guermazi (2000: 1-5).

⁵⁹³ Blouin (2000: 137, 140).

⁵⁹⁴ Only few GPA members cover telecommunication operators.

Table 29: Reference Paper on Basic Telecommunications

Reference Paper	
Purpose	The Reference Paper establishes a set of pro-competitive regulatory principles to safeguard foreign services and service suppliers from monopoly or dominant suppliers of basic telecommunications services
Applicability	The Reference Paper applies only to the extent that WTO Members incorporate it in column 4, “additional commitments,” of their schedules of specific commitments for basic telecommunications services
Impact	The Reference Paper is the first legally enforceable, multilateral trade instrument establishing standards to safeguard competition, provide transparent licensing procedures, and require independent regulators
Key Provisions	The Reference Paper requires Members to: prevent anti-competitive practices such as cross-subsidisation; ensure interconnection at any technically feasible point in the network under non-discriminatory terms, conditions, and rates; administer universal service obligations in a transparent, non-discriminatory, and competitively neutral manner; make licensing criteria publicly available; establish a regulator that is separate from and not accountable to any supplier of basic telecommunications services (but not necessarily independent of all government ministries); and manage the allocation and use of scarce resources such as frequencies in an objective, timely, transparent, and non-discriminatory manner

Source: Wunsch-Vincent (2004).

Shortcomings and open issues

Warren has argued that, to achieve complete liberalisation, the scope of telecommunications negotiations needs to broaden to allow reformers to build cross-industry coalitions of interest. In addition, the WTO agreement does not satisfactorily address either the issues of subsidies and safeguards, or the problem of international pricing for telecommunications services⁵⁹⁵. Another open issue is whether the duty of non-discrimination extends on an intra-country basis. In other words, does the WTO require its members to ensure that domestic network providers give access to domestic competitors on the same terms it itself enjoys⁵⁹⁶?

*WTO and ITU*⁵⁹⁷

On the surface, the WTO and the ITU have complementary roles⁵⁹⁸. The two institutions have actually initiated cooperation in the field of accounting rates reforms. However, given that multilateral telecommunications rules will be needed, they will be provided by

⁵⁹⁵ Warren (1998: 94) and Drabek (2002: 57).

⁵⁹⁶ Naftel and Spivak (2000: 104). In 2004, the WTO issued a ruling on competition policy, which clarified this aspect. First, the term “anti-competitive practices” has been given a wide interpretation, following standard competition policy analysis, and has not been restricted to the illustrative list contained in the Reference Paper. Second, the panel stated that actions mandated by law were to be judged under the standard of anti-competitive behaviour, and might not be excused from competition standards as is sometimes the case in national competition laws. Thirdly, the Reference Paper entails a commitment to maintain appropriate measures to prevent anti-competitive practices by a dominant supplier (Hauser, 2004).

⁵⁹⁷ The ITU is further discussed in the next section.

⁵⁹⁸ The former is best equipped to deal with international commercial issues that arise in the context of competitive markets and the relationship between competitive and non-competitive markets. The latter best deals with issues that arise from the operation of an international communications network, and the relationship between non-competitive suppliers (Feketekuty, 1988: 255).

the WTO, other trade institutions and a diverse range of private sector-led standards bodies, and not by the ITU⁵⁹⁹. In fact, the BTA is designed to accelerate a movement away from the “old ITU system” – based on exchanges among sovereign national monopolies and heavily weighted with subsidy policies – towards a market-based international order allowing foreign entry into home markets and promoting competition⁶⁰⁰.

During most of the 1990s a debate raged between those arguing that the international telecommunication regime would outpace governments’ ability to keep abreast of developments and put an end to the monopoly of states in telecommunication policy-making⁶⁰¹ and those who did not believe in a single regulatory trend imposed by the regime⁶⁰². For Levi-Faur, the BTA created a regulatory environment in the extra-national arena:

“It is not about the retreat of politics but about the creation of a two-level political structure which enforces and promotes competition.”⁶⁰³

At the same time, a number of authors have hinted at the changing role of the state in the field of telecommunications arguing that “state-capital relations were being transformed and the state versus market balance had tilted in favour of the market in many countries.”⁶⁰⁴

The BTA negotiation acted as a reminder that globalisation was neither preventing governments from playing a major role in regulations, nor entailing the abdication of national authority to international institutions. Rather, the BTA’s regulatory principles put national governments under significant obligations to use their competition powers to curb anti-competitive behaviour by incumbent large carriers⁶⁰⁵. The telecom negotiations underscored the importance of three trade concepts: the most-favoured nation (MFN) principle, the national-treatment principle, and market access⁶⁰⁶. But, rather than requiring countries to liberalise fully and immediately, GATS established a process by which countries are channelled in the *direction* of liberalising trade in services. The agreement highlights the fact that telecommunications trade is now a multilateral, not a

⁵⁹⁹ Drake (2000).

⁶⁰⁰ Naftel and Spivak (2000: 92).

⁶⁰¹ See Robinson (1991b) and Joseph and Drahos (1998).

⁶⁰² Vogel (1997).

⁶⁰³ Levi-Faur (1997).

⁶⁰⁴ See Mody and Tsui (1995) and Strange (1996).

⁶⁰⁵ Cowhey and Richards (2000: 283). The BTA is also the first multilateral agreement to adopt competitive safeguards in industrial and developing countries.

⁶⁰⁶ Petrazzini (1996b: 14). See also Braga, Fink et al. (2002: 8).

bilateral “affair”⁶⁰⁷. It attracted widespread attention because it succeeded, on a large scale, in establishing the free trade principle in an area previously closed to foreign intervention⁶⁰⁸. However, it is important to underline that the Fourth Protocol is only a skeletal document and that the essence of the BTA is to be found in the range of national schedules of commitments, including the crucial dimension of market access⁶⁰⁹.

⁶⁰⁷ Tarjanne (1999: 58). Conversely, Vogel notes that in telecommunications (and finance) there has been no single global trend toward regulatory laxity or regulatory subsidy and that national authorities will continue to have difficulty in shifting regulation to the international level (1997).

⁶⁰⁸ Wang (2003: 272).

⁶⁰⁹ The WTO negotiations in basic telecommunications did not take place in the usual context of a multi-sectoral and multi-issue round of negotiations. Although this had, of course, been the original intention, failure to complete the negotiations before the end of the Uruguay Round effectively turned basic telecommunications into a single-sector negotiation. This tended to divide countries into those that looked for export gains and those whose focus could only be the conditions of competition in the domestic market (Low and Mattoo, 1998: 20).

China’s relationship with supranational actors

Some scholars have argued that restructuring national policies and institutions and internalising practices, principles and standards to accommodate the exigencies of the world economy has become an inevitable process for China to rejoin the global economic system⁶¹⁰. Conversely, scholars have argued that the main influences causing the shift in China's international attitude are coming from the country's huge domestic transformation and that the international environment and pressure have been a relatively minor factors in forming and changing China's foreign policy-making. We share the view that much of the evolution in Chinese policy and attitude toward international market norms is a result of China's participation in global and domestic markets *per se*, not of the influence of multilateral institutions⁶¹¹.

Table 30: Key actors in telecommunication regulation and their relevance to China

Key Actors	Internationally	China
Organisation of states	APEC, ITU, OECD, World Bank, WTO	Member of ITU, World Bank, WTO and APEC but limited participation
States	US, UK	Not considered as active, except through USITO and Chambers of Commerce
International business organisations	INTUG, SWIFT, SITA, ICC	Partial presence through local chapters but no noteworthy influence
National business organisations	Telecommunications Managers Association (UK), Corporate Committee of Telecommunication Users (US)	Early days and difficulties to get organised
Corporations	IBM, Time-Warner, Citicorp, Bank of America, accounting firms	No large international Chinese MNC yet playing a significant role internationally
International NGOs	ISO, International Electrochemical Commission, IFIP, Union of Radio Science	Not relevant except in the case of standard-setting
National NGOs	National Telecoms Users Groups	Some user groups, like the consumer association
Mass publics	Radio regulation safety methods catalysed by sinking of <i>Titanic</i>	Not relevant
Epistemic communities of actors	Strong	Potentially influential but often divided along political lines

Source: Adapted from Braithwaite and Drahos (2000).

Like in many other countries, China’s telecommunications-operating agencies were isolated from the globalisation process and concerned primarily with domestic requirements well into the 1990s⁶¹². In their study on regulation, Braithwaite and Drahos

⁶¹⁰ Zhang (2003: 706).
⁶¹¹ Pearson (1999b: 227) and Wang (2001b: 113).
⁶¹² Robinson (1991a: 804).

identify the various actors making up the telecommunication regulatory system (see Table 30)⁶¹³. Among the major multilateral economic institutions that make up the global economic regime, those relevant to China include the World Bank, the IMF and the WTO⁶¹⁴. China has gained membership in all of them⁶¹⁵.

Table 31: China participation in major international fora, 1972-2001

Date of accession	Forum	Comment
1972	International Telecommunication Union (ITU)	Passive membership
1977	International Telecommunications Satellite Organisation (ITSO) ⁶¹⁶	Member of advisory committee
1980	World Bank ⁶¹⁷ and International Monetary Fund (IMF)	Key loans recipient
1982	General Agreement on Trade and Tariffs (GATT)	Observer status ⁶¹⁸
1986	Asian Development Bank (ADB)	–
1990	APEC TELMIN	Very limited activity
2001	World Trade Organisation (WTO)	–

Source: Adapted from Liang and Zhu (1994) and Pearson (1999b).

The International Telecommunication Union (ITU)

In the past it was possible to view telecommunications policy issues solely from a domestic perspective, with the International Telecommunication Union (ITU) acting as an international forum for developing the necessary standards and protocols for interworking between independent domestic networks, and for developing the necessary administrative arrangements for such matters as revenue sharing⁶¹⁹. Composed almost entirely of countries with state-owned monopolies for telephone service, the body has performed these functions well and the global telecommunication system has evolved in a generally cooperative environment. While the ITU still carries out the important activities of coordination and standardisation, it remains essentially a technical and regulatory

⁶¹³ Braithwaite and Drahos (2000). See also Drahos and Joseph (1995: 621) who include states, international organisations, US multinationals, users of services and manufacturers of telecommunications equipment, national and international organisational representatives.

⁶¹⁴ Pearson (1999b: 207).

⁶¹⁵ China's integration into the world trade and investment systems has occurred without significant disruption to the regime. China has not forced a change of rules on those systems; rather the dominant trend has been for its reformers to adjust their rules to those of the regime (Pearson, 1999a: 184).

⁶¹⁶ Previously known as Intelsat.

⁶¹⁷ China was a founding member of the World Bank. On 14 April 1980, the World Bank declared in a statement that since the day when the People's Republic of China represented China in IBRD, IDA and IFC, the three agencies would develop relations only with the People's Republic of China.

⁶¹⁸ China did not formally apply for GATT membership until 1986, well into the Open Door era (Roy, 1998: 92). China participated fully in the Uruguay Round negotiations as an observer of the GATT. On July 19, 1991, the Chinese delegation formally presented its initial offer of commitments on trade in services. Later on, the offer was revised three times. In April 1994, China submitted its conditional offer of commitments on trade in services in the form of schedule of specific commitments (WTO, 2002).

⁶¹⁹ Robinson (1991a: 804).

body⁶²⁰. China's involvement in the ITU is more than 80 years old. China joined the ITU in 1920. In 1932, the first delegation was sent to attend the Plenipotentiary Conference of ITU where China signed the International Telecommunication Convention. In 1947, China was elected to the Executive Council of ITU. After the founding of the People's Republic in 1949, China was deprived for a period of time of its seat but it was restored in May 1972 when the PRC assumed membership from its rival regime in Taipei. In its subsequent participation, the government, represented successively by MPT and MII, has done little to reshape the parameters of the telecommunication regime, finding its own interest as essentially compatible with the state-centric thrust of that regime's traditional norms. In addition, the ITU was central in maintaining the international accounting rate system, thus providing China with an important inflow of hard currency to build the domestic network⁶²¹. At least since the 7th Five-Year Plan (i.e. in 1985), China has been pre-occupied with the internal development of a telecommunication network sufficient to support the massive growth targets set by the Five-Year Plans, rather than seeking a leading role in shaping the development of international and supranational bodies⁶²².

For many years, Chinese companies did not depart much from their government's "passive" attitude. For example, China Telecom seemed mostly concerned with following ITU discussions on interconnection, switching and transmission standards, and was not active in other fora such as the World Summit on Information Society. However, today, all major Chinese operators and equipment makers with views on the global telecommunication market are members of the ITU (see Table 32)⁶²³.

Table 32: Chinese companies members of ITU

⁶²⁰ Zhao (2002: 295-296). The functions of the International Telecommunication Union (ITU) are organised and carried out in three areas of work, referred to as sectors. These are radiocommunications, standardization, and development. Of these, both the Radiocommunication Sector and the Telecommunication Standardisation Sector play an important role in the development of internationally agreed standards and other national regulatory measures. For its part, the Development Sector (ITU-D) has primary responsibility for activities aimed at facilitating and enhancing telecommunication development by offering, organising and coordinating technical cooperation and assistance in five major areas – sector reform, technologies, management, finance and human resources. Some of the instruments, which are the basis for and which also result from ITU activities, such as the Radio Regulations, are legally binding obligations on its Member States. In its work on standardisation, ITU-T has recognised the implications of a world-wide trend towards a "market-driven" approach, and the increased involvement of the private sector in the standardisation process (WTO, 1999a: 17).

⁶²¹ Lovelock (1999: 310).

⁶²² Tipson (1999: 241-242).

⁶²³ China Telecom has adopted all ITU standards and only purchases standard equipment (Interview (B-036), conducted in Beijing by phone, 24 November 2003).

Name	ITU-R	ITU-T	ITU-D	Categories
Alcatel Shanghai Bell, Shanghai	X	X	X	SIO ^a
China Mobile Communications Corporation, Beijing	X	X		ROA ^b
China Network Communication Group Corporation, Beijing	X	X	X	ROA
China Telecommunications Corporation, Beijing		X	X	ROA
China United Telecommunications Corporation, Beijing	X	X		ROA
Huawei Technologies Co., Ltd., Shenzhen	X	X	X	SIO
ZTE Corporation, Shenzhen	X	X	X	SIO

Note: ^a Scientific or Industrial Organisation; ^b Recognised Operating Agency.
Source: Compiled by author from ITU.

In July 2004, ZTE submitted seven proposals on different subjects and was authorised to draft two standards for NGN (Next Generation Network) service quality⁶²⁴. It was also granted the right to draft new analysis standards related to core mobile communications networks and radio access technologies using the Chinese developed 3G standard TD-SCDMA by 3GPP.

The World Bank

The World Bank became involved in the telecommunication sector through its support for privatisation. Beginning in the early 1980s, and mainly in developing countries, the World Bank's lending operations supported the privatisation of many state-owned telecommunication enterprises⁶²⁵. It is said to have wielded enormous influence in the restructuring of telecommunications in developing countries through its research and contributions to developmental telecommunication policy discussions. Through its advisory and lending capacities, it has helped to institutionalise regulatory policies in countries moving towards a market model of telecommunication⁶²⁶. That the World Bank could have played “a major role in pushing restructuring and opening up the telecommunications market in both China and India” should not come as a surprise as it pressed governments to reform, providing “in exchange” financial support for the task⁶²⁷. Nevertheless, the impetus for the original contacts with the World Bank (and the IMF) came from China. Chinese leaders made the decision to approach the Bank and Fund carefully, following a number of path-breaking domestic policy changes⁶²⁸. Studies indicate that over the years the relationship between China and the World Bank remained

⁶²⁴ Including the requirements for NGN quality of service (QoS), the general reference model of NGN QoS, QoS structure of IP connections, definition of NGN, business guarantee frame of NGN and the function module of NGN.

⁶²⁵ Braithwaite and Drahos (2000: 346) and Intven, Oliver et al. (2000: I-8).

⁶²⁶ Urey (1995: 114) and Drahos and Joseph (1995: 625).

⁶²⁷ Mody and Tsui (1995: 187) and Petrazzini (1995: 36).

⁶²⁸ The most important of these were the elimination of the Cultural Revolution leadership, the decision to place economic reform at the forefront of the domestic agenda, the end of strict self-reliance, and the related legitimisation of the concept of economic interdependence (Pearson, 1999b: 215).

relatively cooperative and that China has become an active participant in the major other multinational financial institutions (e.g. the Asian Development Bank)⁶²⁹. Despite international pressure to break the state monopoly on telecommunications and broaden market forces that originated at the World Bank, the impact of its cooperation in the telecommunication sector is minimal both in absolute terms and in comparison with other sectors of the Chinese economy⁶³⁰. As noted earlier, multilateral development loans were employed in telecommunications only until 1995. The World Bank's Public-Private Infrastructure Advisory Facility (PPIAF) supported a number of projects on top of the cooperation in regulatory and institutional reform (see Table 33).

Table 33: World Bank's participation in China's divestiture projects, 1997-2002

Financial Closure Year	Project Name	Segment	Type of PPI	Subtype of PPI	Investment Years	Total ^a USD million
1997	China Mobile HK	Mobile access	Divestiture ^b	Partial	1997-2001	5,970
2000	China United Communications	Fixed access, mobile access, and long distance	Divestiture	Partial	2000-2002	5,600
2001	China Netcom	Fixed access and long distance	Divestiture	Partial	2001-2001	325
2002	China Telecom	Fixed access and long distance	Divestiture	Partial	2002-2002	1,130

Note: ^a The investment figures include private and public contributions; ^b Divestiture: A private entity buys an equity stake in a state-owned enterprise through an asset sale, public offering, or mass privatisation program.

Source: World Bank Private Participation in Infrastructures Project Database.

In addition to the World Bank, China has cooperated with the Asian Development Bank (ADB) and with the United Nation Development Programme (UNDP) on a limited number of projects. Two loans⁶³¹ of USD 100 million each⁶³² (or 1.64% of total ADB lending as of 2002), in the early to mid-1990s, supported development of the fibre optic network. They were preceded by two small loans from UNDP in 1991 and 1992 to support a telecommunication modernisation programme (respectively USD 12 million and USD 10.5 million). More recently, the Asian Infrastructure Development Company invested in two companies in the road and telecommunications sectors, while Asian Infrastructure Mezzanine Capital Fund invested in one company in the

⁶²⁹ China did not seek a major leadership role but was involved productively in the policy-making of these institutions (Pearson, 1999a: 168). See also Lieberthal (1995: 335).

⁶³⁰ Harwit (1998: 189).

⁶³¹ The first loan was granted in 1993. The second project (1995) also included a USD 600,000 technical assistance grant. The project was to "relieve congestion in the long distance network, meet traffic growth resulting from local network expansion, improve network quality and efficiency, enhance reliability and flexibility, modernise the network for new services, contribute to a more equitable distribution of the benefits of telecommunications, and promote the continuation of sector reform in the 9th Five-Year Plan period". While technical assistance was to "assist the provincial telecommunications authorities to become more market oriented in their business planning, operations and management" (ADB, September 26, 1995).

⁶³² Actual disbursement of the second loan amounted to USD 65.46 million (Asian Development Bank, 2000: 22).

telecommunications/internet sector. While investment goes on, lending to the telecommunication sector was stopped because policy reform was not happening fast enough, and the linkage between telecommunications and poverty reduction (ADB's overarching objective) was weak and there was limited demand for future lending⁶³³.

China's role in regional bodies

In addition to global institutions, there are at least six bodies in the Asia Pacific that aim to promote regional cooperation on telecommunications issues⁶³⁴. APEC is the sole regional body with the governmental authority to pursue coordinated liberalisation and one of the most advanced in terms of substance, delivery of outputs or stakeholders' involvement⁶³⁵. Through the APEC's Telecommunications Working Group (APEC Tel), it is pursuing a number of activities concerning the regulatory aspects of international trade in services – it has completed a report on the legal and regulatory issues pertaining to electronic commerce⁶³⁶. Until the end of the 1990s, China's APEC proposals for telecommunication services were “*notable for their lack of substance and the absence of any long-term agenda*”⁶³⁷. More recently, in the framework of APEC's Tel, China has taken a number of steps, such as the unification of the national quality accreditation and certification system and the mutual recognition agreement (MRA)⁶³⁸. It has also submitted over time various plans allowing foreign investors to explore services, notably value-added services. Its most visible activity has been the establishment in China of an APEC MRA working group in May 2001, whose main task is to design the strategy and the general plan for Tel MRA, coordinate all the regulations and works concerned and push forward the implementation of APEC MRA⁶³⁹.

⁶³³ E-mail communication from a senior ADB representative in Beijing, 18 November 2003.

⁶³⁴ The Asia Pacific Economic Cooperation process (APEC); the Pacific Economic Cooperation Council (PECC); the Pacific Telecommunications Council (PTC); the Asia Pacific Telecommunity (APT); and the Asian ISDN Council. For example, APT has launched its Asia-Pacific Telecommunity Standardization Program (ASTAP) in February 1998 to promote and coordinate expert activity in telecommunications standardisation across the Asia-Pacific region.

⁶³⁵ Warren (1995: 16-17).

⁶³⁶ Instigated in 1990, APEC Tel's agenda includes the introduction of region-wide standards, intra-regional technology transfer, infrastructure development and accelerated trade and investment liberalisation to create an open, multilateral trading system.

⁶³⁷ Mueller (1997: 4). Minister Wu took part in the APEC Telmin both in 1995 and 1996.

⁶³⁸ The APEC Leaders adopted the Osaka Action Agenda in November 1995, which states that APEC economies will develop and begin to implement, on an elective basis, a model mutual recognition arrangement on conformity assessment of telecommunications equipment. MRA is divided into two phases: Mutual Recognition of Test Reports (Phase I) and Mutual Recognition of Equipment Certification (Phase II). As of August 2002, China's commitment to APEC's MRA was “to be confirmed, Terminal Equipment Only” for MRTR and “To be advised” for MREC.

⁶³⁹ China reported that it would participate in Phase I procedures in 2004.

Furthermore, the promulgation of the new “Arrangements for the Approval of Network Access of Telecommunications Equipment” reflects how China’s adjusted its management regulations of telecommunication equipment towards international practice⁶⁴⁰. While China’s proposals in the APEC Tel remain few and limited – such as the Proposal for establishing a group on information communication and network security⁶⁴¹ – its participation to the meeting indicates a willingness to further integrate the various supranational bodies regulating the telecommunication sector. Formal accession to the WTO has created even better conditions for China to participate in APEC’s MRA⁶⁴². Nevertheless, and although China has participated for several years in the APEC Telecommunication Working Group, U.S. negotiators had not perceived, until quite recently, that Chinese authorities felt any immediate pressure to comply with external expectations regarding the pace of their market liberalisation⁶⁴³.

Li, Qiang et al. find that “policy reforms are more likely where the constituents’ demand was larger, where institutional environments are better, and where foreign aid is larger and there are World Bank telecommunications loans”⁶⁴⁴. While some international organisations began to confront the problem of defining an open international framework covering foreign direct investment and trade in services, Chinese leaders kept considering telecommunication services as a purely domestic issue. WTO aside, there is scant evidence that China’s participation in international fora fundamentally impacted the telecommunication reform path. Unlike other developing countries, no fiscal crisis or debt burden forced the government to adopt a liberalisation programme dictated by multilateral lending agencies. However, China’s telecommunication reforms cannot solely be attributed to the government’s diktat. The next section turns to foreign direct investment (FDI), which has been “at work” since the mid-90s.

⁶⁴⁰ This regulation has completely adopted TEL MRA in its network access procedure by promising in Article 14 that “MRA arrangements will be carried out if the mutual recognition agreement for telecom equipment test laboratories and test reports exists between Chinese Government and other countries or regions”.

⁶⁴¹ It proposed to establish a group on information communication and network security within APEC TEL, which is set to achieve the goals as described in e-APEC strategy, namely to ensure the safety and security of information networks and transactions by those who use the internet, and to foster confidence in information infrastructure and networks through market-driven solutions to electronic security needs (APEC Telecommunications Working Group, 2002).

⁶⁴² Some further adjustments of regulations relating to the implementation of APEC MRA are still going on smoothly in China since APEC Tel24 Meeting (He, 2002).

⁶⁴³ Tipson (1999: 243). Moreover, since 1999 nobody from China Telecom, or any other operator, has attended any of the APEC Telmin meetings, which may attest of the priorities of Chinese operators’ leadership.

⁶⁴⁴ Li, Qiang et al. (2000: 3).

Foreign Direct Investment in telecommunication services, MNCs and equipment manufacturing

“No organizations and individuals outside China or solely foreign-funded enterprises, Sino-foreign joint ventures and cooperative businesses on the territory of China shall invest in, operate or participate in the operation of telecommunications services in China.”

(MPT, 1993)

On the surface, the role of FDI in China’s telecommunication reforms appears rather limited. From a strictly legal perspective, FDI remained banned from the sector until China’s accession to the WTO and the passing of the Foreign Invested Telecommunication Enterprises (*waishan touzi dianxin qiye guanli guiding* or FITE) regulation⁶⁴⁵. In practice, however, the ban was not total. Foreign companies were able to exploit inter-Ministerial rivalries, taking advantage of the grey zone created by the ill-defined regulatory framework. This window of opportunity for investing in telecommunication services nonetheless remained limited both in time and in scope. On the one hand, the ban of FDI from China telecommunication sector is surprising. Studies show that FDI has increased supply capacity in telecommunications in developing and transition economies and improved reliability, especially by providing mobile telephony. In countries with strong regulatory systems, FDI has led to improved telecommunication services and contributed to higher economic growth. In other sectors, FDI has permitted the transfer of technical and management knowledge, leading to a significant upgrade of domestic companies’ competitiveness. On the other hand, the picture of FDI in telecommunication is not one of unalloyed benefits. Competition problems have emerged in several cases. In mobile telephony, bidding for licences resulted in oligopolistic competition. For fixed-line services, state monopolies were frequently turned into foreign-owned quasi-monopolies with long exclusivity periods. Prices sometimes rose because of reductions in subsidies.

History of FDI in Chinese telecommunication services

While the Chinese government used early on the lure of foreign investment opportunities in China’s huge potential market in order to secure technical transfer from multinational equipment manufacturers, its FDI policy in the services sector has been ambivalent⁶⁴⁶. The FDI policy can be divided into four phases: explicit ban on foreign investment, circumvention of the ban, era of WTO negotiations, and policy development to comply with WTO⁶⁴⁷.

⁶⁴⁵ Decree No. 333 of the State Council (2001b).

⁶⁴⁶ Nolan and Wang (1999: 182).

⁶⁴⁷ Xu (2002: 27) and Du (2003: 6).

In contrast to the equipment sector, China enforced a strict ban on foreign investment in telecommunication services well into the economic reform era. In itself, this is not a surprise as the ban resembled policies applied to other domestic public utilities⁶⁴⁸. In the second half of the 1990s, China's FDI policy on telecommunication services was implemented through the "Government Guidelines for Foreign Investment in Telecommunications" issued by the State Council in 1994⁶⁴⁹. The guidelines separated investment into "Encouraged, Permitted, Restricted and Prohibited", with telecommunication services falling into the latter category⁶⁵⁰. Thanks to inter-Ministerial rivalry and the need to finance the network, foreign investors were able for a few years to circumvent the ban. Investment was channelled inside the telecommunication sector through the *zhong-zhong-wai* financing scheme (see Chapter 3). While at odds with the legislative framework, many foreign investors viewed at the time the scheme as one of the numerous grey zones in which to operate. In practice, China's well defined but ill-enforced policy on foreign investment mostly favoured China Unicom's interests and the funds helped build a lot of GSM networks and greatly facilitated the company's take-off⁶⁵¹.

The arrangement came under fire from the MII shortly after a report (Document 405) from the SDPC, the SETC and the Ministry of Finance raised concerns that, through this back door method, foreign companies were getting too close to network operations. State Council Document 98 was subsequently issued with instructions to the MII to investigate existing Unicom contracts and by 1998 the State Council had officially outlawed FDI in the basic services sector. The policy reversal caused trouble to many joint ventures, which had to dismantle their operations. Some of them left the country altogether, while others, like France Telecom, managed to keep a form of technical cooperation (in Guangzhou). The majority retreated to their representative offices in Beijing, with the hope to be ready when the gates would open. While many reasons may have contributed to the reversal of the situation, three of them stand out⁶⁵². First, the administrative restructuring of the telecommunication sector and the creation of a new entity, MII, put an end to the "dual structure" of the industry. In the past, foreign companies had been able to set up joint

⁶⁴⁸ As noted in the first section of this chapter, it is only at the beginning of the 1990s that the telecommunication regime came under pressure to integrate international trade and more specifically foreign direct investment in its liberalisation agenda.

⁶⁴⁹ State Council (1994).

⁶⁵⁰ WTO membership shifts telecommunications services from 'Prohibited' to 'Restricted' (see Chapter 6).

⁶⁵¹ Interview (B-032), conducted in Beijing, 18 November 2002 and Harwit (1998: 190).

⁶⁵² In addition to questions of control, the CCF situation is also said to have broken apart because of failures on the contractual situation.

ventures with China Unicom mostly by exploiting the rivalry between MEI and MPT. Since China Unicom and its parent, MEI, were not granted access to funding under the same conditions as the incumbent, they resorted to other sources of financing. Of course, it is not the creation of MII *per se* that precipitated the end of the CCF scheme but rather the fact that MII was mostly made of personnel from the former MPT and maintained strong links to the incumbent China Telecom. Second, the State Council saw an opportunity to put some order in the telecommunication sector and re-establish the central government's authority. In a way, this resembled a process often observed in China, where the centre devolves power to the periphery for some time before seizing it back. The decentralisation process that had taken place in telecommunication had given provincial authorities room to manoeuvre, leading to issues of standardisation and diversity of regulation⁶⁵³. Third, WTO negotiations were entering a new phase and the telecommunication sector, which was until that point not discussed, became subject of intense haggling⁶⁵⁴. By shutting down joint ventures, the State Council was able to draw a clear line between what was allowed and what was not. By doing so, it made room for a more comfortable bargaining position in its WTO negotiation on *market access* in telecommunication. The State Council's decision was also eased by the fact that the WTO commitments would allow FDI back in the country, albeit under uniform conditions and much stricter supervision than previously.

No exception is the rule

One company initially thought it had escaped the measures. Born out of a memorandum signed in February 1993 with the State Planning Commission (SCP), Shanghai Symphony Telecommunication was intended to be something of a trailblazing test case, well in advance of WTO accession and above commitments⁶⁵⁵. Many observers had expected the deal between AT&T and Shanghai Telecom to serve as a reference to how the regulation would play out for foreign-invested operators. But to their dismay, not only did the joint-venture encounter many problems to get off the ground, in the end AT&T's equity participation was trimmed down and market access was restricted to Pudong, in accordance with China's WTO commitment⁶⁵⁶. Actors close to the deal attribute the difficulties to the novel nature of the venture and to the lack of existing regulations

⁶⁵³ Interview (B-004), conducted in Beijing, 19 September 2001.

⁶⁵⁴ See Chapter 6.

⁶⁵⁵ Studwell (2002: 104).

⁶⁵⁶ Reducing many years of expensive negotiations to little (Interview (B-002), conducted in Beijing, 27 August 2001).

dealing with such a joint venture. In the words of a manager directly involved with the venture:

*“Whenever AT&T met a problem, it felt like making the rules on the go, on the run: regulatory problems were encountered at each step in the process of setting up the JV, defining the business scope, and even defining whether the actual regulator was local or central.”*⁶⁵⁷

The Shanghai Symphony case served as a brutal reminder of the keen attention that the government paid to its telecommunication sector. It also demonstrated the intricate relationship between local and central policy-makers and the inability of the domestic partner to broker a deal that would have given a foreign company a head start in the Chinese market⁶⁵⁸. However, other telecommunication services providers have made inroads in the market since then. Flag Telecom became the first and only *private* operator having landed a submarine telecommunication cable in China⁶⁵⁹. In addition, in March 2003 South Korea’s SK Telecom joined hands with China Unicom to create the first Sino-foreign value-added mobile telecom service provider in China (see Table 34).

In line with its WTO commitments, China allows, as of December 2004, foreign operators a 25% stake in basic services joint ventures. Although 18 overseas firms are said to have applied to establish foreign-invested telecommunication enterprises by November 2004, investment remains scant⁶⁶⁰. This lack of interest for major acquisitions should not only be attributed to regulatory uncertainty or the ceiling on foreign participation⁶⁶¹. The problem also lies with the imbalance between the five or six state-owned companies who can choose from more than a dozen international carriers. Chinese operators are therefore in no hurry to come to grips with foreign competition and as long as they are able to meet their investment needs on the international financial market, they will remain in a very comfortable bargaining position⁶⁶².

⁶⁵⁷ Interview (B-011), conducted in Beijing, 6 September 2001.

⁶⁵⁸ Some observers have attributed the relative failure of the deal to Shanghai Telecom’s reluctance to cannibalise its own business.

⁶⁵⁹ A privilege granted because the landing of the cable brought a lot of experience, technology and modern equipment at a time where CoCom was still in place (Interview (B-003), conducted in Beijing, 28 August 2001).

⁶⁶⁰ Like DoCoMo’s USD 8 million investment in two wireless value-added service providers.

⁶⁶¹ The way the regulatory structure was set up for foreign investment does not provide a model where there is any inducement for the Chinese operators to partner with a foreign operator: the two partners have to set up a separate joint venture and get a separate licence (Interview (B-039), conducted in Beijing, 27 November 2003).

⁶⁶² Interview (B-009), conducted in Beijing, 4 September 2001 and (B-017), conducted in Beijing, 14 September 2001.

Table 34: Operating joint ventures in China telecommunication services, 2004

Company name	Domestic company	Foreign company	Percentage	Comment
Shanghai Symphony Telecom	Shanghai Telecom (60%) and Shanghai Information Investment (15%)	AT&T	25%	March 2002. Offers IP-based data services for business clients in Shanghai's Pudong district
UNISK (Beijing) Information Technology	China Unicom	SK Telecom	49%	2003. Registered capital of USD 6 million. Provides value-added mobile telecommunication services
Beijing Honglian 95 Information Industries	CITIC 21CN (Bermuda-incorporated)		49%	2004. Provides value-added mobile telecommunication services

Source: Compiled by author from Factiva and Interfax (2004).

In addition, for most international flag carriers, the capital requirements and, more importantly, the foreign equity limits have acted as a disincentive (see Table 35).

Table 35: Capital requirements and equity limits for foreign operators

Category	Coverage	Minimum registered capital	Maximum foreign equity ^a
Basic services	Nation-wide or across provinces	RMB 2 billion USD 247 million	49%
	Within provinces	RMB 200 million USD 24.7 million	
Value-added services	Nation-wide or across provinces	RMB 10 million USD 1.24 million	50%
	Within provinces	RMB 1 million USD 0.124 million	

Note: ^a An additional requirement rules out consortiums made of investors whose shares cannot reach a 30% threshold (e.g. respectively 15.3% and 14.7% for Chinese and foreign investors applying for a basic licence).

Source: Compiled by author from FITE (article 5, 6 and 8).

As a result, a few companies have resorted to alternative ways of taking part in the market by taking participation in some of the Chinese operators via the Hong Kong Stock Exchange or private placements (see Table 36).

Foreign investors are left with one of the following avenues: passive investment in red-chip telecommunication companies (e.g. China Netcom), minority investment in national telecommunication company (e.g. Vodafone and China Mobile), new WTO joint venture (e.g. SK Telecom and China Unicom) or offshore indirect investment structures. But even after spending more than USD 3 billion, Vodafone's relationship with China Mobile

remains mostly limited to technical cooperation and excludes any form of relation with provincial subsidiaries⁶⁶³.

Table 36: Foreign participation in China basic telecommunication services, 2005

Domestic Company	Foreign company	Percentage	Comment
China Mobile	Vodafone	3.27%	Two-step acquisition (USD 2.5 billion in late 2000 and USD 750 million in May 2002). Interested in raising this to 20% if 3G services are launched
China Unicom	Hutchison Whampoa	1.6%	USD 400 million stake at time of IPO (June 2000). In addition, 49-51% joint-venture focusing on telecom consultancy and marketing services in China established in September 2000
China Netcom (HK)	Goldman Sachs, News Corp., Dell, Sun Hung Kai, Henderson Land and Kerry Group	12%	USD 300 million through equity financing
China Netcom (HK)	Telefonica	9.9%	After a first 3% and 2% acquisition, the additional 4.9% stake is worth about USD 538 million

Note: In addition, China Telecom is considering taking on international strategic investors, with potential candidates including NTT DoCoMo, France Telecom or Verizon Communications Inc (AFX, 2005a).
Source: Analysts reports and FT (2003).

This lack of activity hides a deeper form of integration. Both companies are actually cooperating on deep-level issues that will have repercussions on the whole industry. The outcome of this strategy will only be visible in 3-5 years, i.e. with the delivery of new services based on a common standard. This kind of technical cooperation is in line with the announced strategy to take common position on standards issues⁶⁶⁴. In other words, all foreign shareholdings in the listed subsidiaries are merely portfolio investment with no direct influence over corporate behaviour⁶⁶⁵.

Two questions are relevant here. First, why has FDI remained absent from the telecommunication sector, with the exception of some equity stakes and value-added services ventures, despite the WTO-mandated opening of the market? Second, why had the government acted so defensively in comparison to the manufacturing sector?

In our view, three factors have prevented investment. First, foreign companies are not sure about the predictability and transparency of the Chinese environment. Right after

⁶⁶³ This has partly to do with the fact that China Mobile's provincial subsidiaries have often had very privileged relationship with the local governments and that their strategies have been correspondingly impacted.

⁶⁶⁴ Interview (C-021), conducted in Beijing, 3 September 2002. Another instance of the collaboration of CMC and Vodafone is within 3GPP and Open Mobile Alliance (OMA).

⁶⁶⁵ Roseman (2005: 35).

accession foreign investors were confused over the timeline for the liberalisation of different services, the requirement that foreign operators have to go into JVs, and the fact that the Ministry of Information Industry (MII) applies a very restrictive and narrow interpretation to the scope of liberalisation under the framework of the WTO agreement⁶⁶⁶. Second, they are not sure of the profitability of the market. Third, there are significant barriers in terms of level of capital required⁶⁶⁷.

Comparison with manufacturing

China's rejection of FDI in telecommunication services was unusual relative to other economic sectors in China or to other countries at a similar level of development⁶⁶⁸. In telecommunication equipment manufacturing, except for the period from 1978 to 1986 where it remained banned from some infrastructure industries, FDI was selectively promoted in China and integrated with its industrial policy, embodying the government's principle of "*importing and transferring, digesting and absorbing, and growing and exporting*"⁶⁶⁹. The promotion of FDI in the manufacturing of telecommunication equipment and terminals derived from China's objective to become a major manufacturing and R&D base for MNCs and, in the mid-1980s the information technology industry (i.e. electronics and telecommunications) even became the leading beneficiary of FDI⁶⁷⁰. But the manufacturing sector did not remain exempt of restrictions. In addition to maintaining a licensing system⁶⁷¹, MII set up "one-on-one" regulations that required one exported terminal for each terminal sold domestically. The National People's Congress (NPC) approved in 2000 and 2001 Amendments to the Chinese and Foreign Equity Joint Ventures Law, Amendments to the Chinese and Foreign Contractual Co-operative Enterprise Law, and Amendments to the Foreign-Capital Enterprise Law⁶⁷². The Catalogue for Guiding Foreign Investment in Industry, which came into effect on

⁶⁶⁶ Interview (C-004), conducted in Beijing, 12 June 2002.

⁶⁶⁷ Interview (C-002), conducted in Beijing, 11 June 2004. In their study on telecommunication liberalisation in Asia, Fink, Mattoo et al. attribute limits on foreign ownership to two additional reasons: in case of rent-generating restrictions on competition, limits may seek to balance the efficiency-enhancing and the rent appropriation aspects of foreign investment; limits may also induce foreigners to form equity joint ventures so that local investors can learn by collaborating (Fink, Mattoo et al., 2001).

⁶⁶⁸ Mueller and Lovelock (2000: 732).

⁶⁶⁹ Tan (2001: 8, 14).

⁶⁷⁰ Statistics reveal that, between 1983 and 1994, 40 JVs were formed in the telecommunication sector (Zhu, 2001: 50). For example Motorola established a strategy consisting of investment (part of that was bringing technology to China), localisation of management (in 1994-1995, 11-12% of the management was local while in 2001, it was up to over 75%), local content and local sourcing (which matched up with the government's agenda to locate in China, export and buy local), and joint ventures and partnerships (Interview (B-005), conducted in Beijing, 13 September 2001).

⁶⁷¹ Initially 10 licences were issued to GSM phone sets manufacturers. The same practice was repeated for CDMA terminal manufacturers for which MII issued 19 licences (Interview (B-020), conducted in Beijing, 17 September 2001).

⁶⁷² The three laws are the pillars of China's FDI legal framework (Tang, 2002: 37).

April 1, 2002, encourages foreign investment in the production of 29 specific categories of electronic and communications equipment. It reflects China's WTO commitments and, in particular, it addresses a number of areas of interest to technology, media and telecommunications companies⁶⁷³.

The causes for banning FDI from telecommunication services are numerous and they evolved over time, but two stand out⁶⁷⁴. First, by restricting access to FDI, MPT shielded the incumbent operator from domestic competition⁶⁷⁵. Second, Chinese policy-makers tend, like in other countries, to safeguard the national industry's interests. As we will see in the next chapter, the difference of treatment between manufacturing and services lasted well after China's accession to the WTO. In fact, some of the largest foreign equipment manufacturers, such as Ericsson, were not expecting to be much affected by the WTO accession on the grounds that they already knew how to set up JVs, make them operational and profitable⁶⁷⁶. But the sharp decline in protection of electronics goods (from 21.69 to 3.44%) is undoubtedly related to China's agreement to implement the ITA as part of its accession package⁶⁷⁷. First of all, when it came to setting up a new factory or joint venture, large equipment manufacturer have always been closer to MOFTEC than to MII. If not an ally of multinationals, the former was often described as being heedful to the interests of foreign investors. Second, since foreign trade was mostly the prerogative of MOFTEC, the regulations were "favourable" to foreign investment⁶⁷⁸.

Would the presence of FDI have altered the scope, nature and pace of reforms? Mueller and Lovelock found that the prospect of WTO accession was a highly influential factor in motivating the Chinese to open up their domestic market to foreign direct investment. They argued that in the absence of external pressure:

⁶⁷³ The aim of the new legislation is to channel foreign investment into areas where the central government desires increased foreign involvement and to strictly control other industries where foreign capital and expertise is required but only under close supervision (Leigh, 2002).

⁶⁷⁴ For Mueller and Tan (1997: 39), the restriction on foreign involvement rest on security concerns, financial reasons and the lack of reform at the provincial and local level. Several factors, including top-level political interventions and a tug-of-war among government agencies, have been attributed to China's policy change regarding foreign investment in telecommunications (Wang, 2003: 276).

⁶⁷⁵ Ure (2002: 2).

⁶⁷⁶ Interview (B-007), conducted in Beijing, 31 August 2001.

⁶⁷⁷ Ianchovichina, Martin et al. (2000: 26).

⁶⁷⁸ Interview (B-007), conducted in Beijing, 31 August 2001.

“China's state would remain closed to FDI and rely entirely upon domestic competition and structural reform of China Telecom to modernise and develop its telecommunication sector”⁶⁷⁹.”

Similarly, Mueller and Tan had argued that services markets in China would remain closed as long as national industrial policy and domestic political considerations define the agenda⁶⁸⁰. The question of whether trade policy would override the status quo was of course central to the WTO negotiations. The ban coincided with a renewed activity in WTO negotiations and a broader administrative restructuring led by the State Council, and aimed at personnel reduction and change of government functions⁶⁸¹.

At first glance, China's policy towards FDI in the telecommunication sector during the period preceding the WTO accession may seem paradoxical. The government was at the same time willing to attract foreign capital to develop the industry and banning foreign participation in management⁶⁸². However, this apparent contradiction disappears under closer examination. The government has taken advantage of foreign investors' longing to access the Chinese market. Or as Sautédé put it, *“Chinese authorities have been able to keep control of the agenda for foreign investment as a function of their own requirements for national development.”*⁶⁸³

⁶⁷⁹ Mueller and Lovelock (2000: 756). In their model, the state's willingness to keep a ban on FDI depends heavily upon the assumption that foreign strategic investors would continue to make substantial investments without equity.

⁶⁸⁰ Mueller and Tan (1997: 112).

⁶⁸¹ Chan and Drewry (2001).

⁶⁸² Lu (1994: 202).

⁶⁸³ Sautédé (2002: 37).

Explaining FDI restrictions through national security and sovereignty

Administrative reforms in the last two decades have created new incentives and opportunities for government agencies to compete with one another for economic resources, including FDI⁶⁸⁴. One factor that sets the reform of Chinese telecommunication apart is the government's ability to stir a path which put enough pressure on the incumbent operator and MII to initiate reforms without giving in to the demands of foreign multinationals and governments. To achieve this, the government was able to rely on the sacred principles of national security and sovereignty⁶⁸⁵. Control of communications networks and services has long been viewed as an essential component of national sovereignty, and in Asia the linkage between national security and telecommunications has frequently been invoked as one reason for restricting foreign ownership of operators. The ability to communicate internationally was nevertheless equally recognised as being of critical importance to a country's prospects of development, leading governments to balance these opposite political and functional imperatives⁶⁸⁶.

Historically, concerns about national sovereignty in telecommunications emerged with the proliferation of Western technology in the 1950s and accelerated throughout the 1960s, becoming of pivotal importance during the 1970s in the multilateral negotiations on the standards for direct satellite broadcasting⁶⁸⁷. From the mid-1970s to the mid-1980s, the debate revolved around transborder data flows⁶⁸⁸. The centrality of national sovereignty in the international telecommunication regime was further eroded during the Uruguay Round⁶⁸⁹. This is not to say that it has been fully discarded, as today's trade rules for telecommunications services are a compromise between trade liberalisation and state sovereignty⁶⁹⁰. Nations nonetheless achieved a shared view on international telecommunications issues, based on the pragmatic assessment that relinquishing a degree

⁶⁸⁴ Wang (2000: 540).

⁶⁸⁵ Chinese policies in the human rights and telecommunication regimes, for example, have reflected its leaders' resolve to guard against the influx of foreign values and ideas "to take what is good from the outside world and filter out what is potentially harmful to them" (Economy and Oksenberg, 1999: 20).

⁶⁸⁶ Chong and Chow (1999: 5), Janda (1999) and Drake (2001: 27-28).

⁶⁸⁷ Hamelink (1993).

⁶⁸⁸ Many governments and independent analysts worried that the use of TDF, particularly by American-based MNCs, could have negative effects on national economic, legal, and socio-cultural independence. Cumulatively, these effects were said to undermine national sovereignty and justify new regulations (Drake, 1993: 259-260).

⁶⁸⁹ Tarjanne (1997: 43). From a regime standpoint, WATTC-88 had already initiated a progressive decoupling of the traditionally linked concepts of sovereignty and national monopolies over international telecommunications (Drake, 2000: 150).

⁶⁹⁰ Wolfe (1999) and Braithwaite and Drahos (2000: 352). International negotiations in particular were careful to preserve the sovereignty of independent nations to do what they wished with the revenues generated from international telecom services (Tarjanne, 1997: 50).

of national sovereignty would accrue ample dividends in terms of enhanced consumer welfare and speedy deployment of equipment and services⁶⁹¹.

The sovereignty principle rests on two dimensions. Internally, states can configure and govern their national networks and industries however they please as long as they play by the rules where international correspondence is concerned. Thus, sovereignty was routinely invoked to justify practices that had the effect of buttressing state monopoly control, an objective achieved by means of licence attribution⁶⁹². It was also used to support the notion that a national, unitary network under state control was a great device in the pursuit of national integration and the consolidation of national identity⁶⁹³. Externally, international relations have to be conducted in accordance with the mutual consent of the countries involved.

Table 37: Foreign-ownership concerns and counter-arguments

Concerns		Counter-arguments
Non-economic	Foreign ownership might compromise a nation's defence	<ul style="list-style-type: none"> • Armed forces in most countries have their own communication networks with the internal capability of operating them • Most networks have sunk costs that make them easy targets for nationalisation • There is an increasing variety of communication options available to large users
	Foreign owners may be less sympathetic to broad social objectives	<ul style="list-style-type: none"> • No proof of domestic inclination to support those objectives vs. profitability
Economic	Market will fail to produce an efficient outcome (economic rent)	<ul style="list-style-type: none"> • Restrictions on foreign ownership are probably not the optimal way for the host economy to capture the rent as they encourage production by less efficient domestic suppliers at the expense of more efficient foreign suppliers
	Market will fail to produce an efficient outcome (external economies)	<ul style="list-style-type: none"> • Technological externalities result from the diffusion of technology and R&D • Foreign ownership restrictions almost certainly retard technological changes

Source: Adapted from Globerman (1995).

The argument goes that technological innovations in telecommunications, liberalising policies, and the Internet's ascendancy threaten the ability of national governments to control the flow of communication and centrally manage that sector of the economy⁶⁹⁴.

⁶⁹¹ Frieden (2001: 149).

⁶⁹² Wright (1999: 558) and Drake (2000: 133).

⁶⁹³ Petrazzini (1995: 12).

⁶⁹⁴ Frieden (2001: 63). Globerman (1995) refutes the conventional sovereignty argument (i.e. foreign ownership might compromise a nation's defence) on the basis that armed forces in most countries have their own communication networks with the internal capability of operating them, and that there is an increasing variety of communication options available to large users. Mulvenon and Bickford (1999) provide a good insight of the PLA and the telecommunications industry in China.

Telecommunication sovereignty with Chinese characteristics

China's concept of sovereignty is closely inspired from the Western one where policy linkages between foreign investment and sovereignty are commonly made⁶⁹⁵. Chinese leaders have held the notion that telecommunication concerns the nation's security and sovereignty and therefore could not be opened to the outside world, a belief re-enforced by the old telecommunication regime, which provided China with a comfortable "womb" of state sovereignty within which to develop policy at its own pace⁶⁹⁶. In a centrally administered country like China, telecommunications were part of the national security network and part of Beijing's need to keep in touch with, and control the outlying provinces. In addition, telecommunication remains used as an instrument of industrial policy and as a vehicle to stimulate domestic equipment and component manufacturing. As a result, sovereignty, as well as the closely related issue of national security, has continuously influenced China's position on FDI and the broader direction of telecommunication reforms⁶⁹⁷.

Thanks to the WTO accession, China's policy debate on foreign investment in telecommunication has shifted from a strict ban to considerations of what degree and how soon foreign network equity ownership and telecommunication service operation could be allowed without subverting China's national interest. But while the long-held position has been challenged in recent years, the government remains concerned about telecommunications safety, national security and sovereignty. Recent regulations explicitly incorporate the notion of sovereignty. For example, the rules governing the administration of telecommunications construction (*tongxin jianshe guanli banfa*) provide that "*when managing telecommunications construction, it is necessary to safeguard the state sovereignty in telecommunications*"⁶⁹⁸.

⁶⁹⁵ A country's policy on foreign investment in services making the backbone of a nation's communications and information infrastructure is indeed often regarded as the indicator of a government's position on sovereignty vis-à-vis trade opportunities and economic growth (Wang, 2003: 268). For example, in the United States the need to keep national control of radio transmission systems was felt after an experience during the Second World War during which the US government could not control radio broadcast systems because of foreign ownership (OECD and Kurisaki, 1995).

⁶⁹⁶ Tipson (1999: 255).

⁶⁹⁷ Several scholars have directly attributed the country's conservative stance on FDI to the issue of sovereignty and national security. See Zhang and Peng (2000: 14), Rimmer and Comtois (2002: 108) and Xu (2002: 25-26).

⁶⁹⁸ Decree No. 20 jointly issued by MII and SDPC in February 2002. These worries are also illustrated by how the government deals with the Internet. In terms of legislation, China's State Secrets Bureau has issued in January 2000 the "State Secrecy Protection Regulations for Computer and Information Systems on the Internet".

In other words, the basic dilemma faced by China is one between social and political stability, national sovereignty and development. On one side, there is an acknowledgment that FDI can contribute to the development of the sector through transfer of capital, technology and management know-how. On the other side, policy-makers have repeatedly emphasised the importance of the telecommunication industry as well as its sensitivity:

“The industry is essential to state sovereignty, security and economic lifelines.”⁶⁹⁹

“Communications networks are part of a country's basic public facilities and serve as its nervous system, making their governance an issue of national sovereignty and security.”⁷⁰⁰

In their view, the principal threat to sovereignty and national security comes via FDI in telecommunication operations. Such argumentation is however contested by Janda, who argues that China is in a position to avoid both issues of dependency and control. The former is addressed both by legislation and by the army's own sophisticated and elaborate telecommunications network⁷⁰¹. For example, the PLA was given control over large sections of the broadcast spectrum for reasons of national security. China also has the necessary tools to protect national security both under its domestic legislative regime and under Articles XIV and XIVbis of the GATS⁷⁰².

Thus, what explains the persistence of sovereignty and national security in the rhetoric and actions of the government? Could the issue of sovereignty mask a legacy of power struggles or vested interests? For example, the issues of sovereignty and national security could have been put forward by MPT in an attempt to protect its monopoly from domestic and international competitors. As noted, senior MPT officials emphasised the centrality of telecommunication in terms of sovereignty and national security. In fact, they made no secret of their intention to keep all foreign influences away from the sector for security and sovereignty reasons, in spite of pressures from the WTO membership negotiations and of the need for network development⁷⁰³. The prominence should thus be understood as a continuity of the State Council's policies of economic development. Since the early 1980s, the State Council commissioned and endorsed proposals to give

⁶⁹⁹ Wu Jichuan quoted in (Savadove, 2002).

⁷⁰⁰ Liu Cai quoted in (Renmin Youdian, 1999).

⁷⁰¹ In particular, the 1993 National Security Law.

⁷⁰² See Janda (1999: 24-25) and Mulvenon and Bickford (1999). Similar arrangement such as “golden share” and legal doctrines like Section 606 of the Telecommunications Act of the United State grant power to the President to take over telecommunications system in such urgent occasions as war (Xu and Kan, 2000: 15).

⁷⁰³ Wang (2003: 274).

telecommunications development a key role in the national economy. It is however important to keep in mind that the notion of sovereignty is not restricted to the telecommunication sector. Chinese leaders remain vigilant against the potential incursion of unwanted foreign influence in areas as disparate as human rights and the environment. Thus, while embracing the technological advantages of participating in the telecommunications regime, Chinese leaders engage in a continuous battle against the “spiritual pollution” that such technology invites⁷⁰⁴. Sovereignty is closely related to the concept of national security. There is a worry that foreign ownership of telecommunication facilities might enable state secrets to be sent out of China easily and that the telecommunications infrastructure might be out of control during a state of emergency⁷⁰⁵. Accordingly, concerns over national security are addressed in the telecommunication regulation (article 57 to 66).

Chinese policy-makers are also certainly aware that the choice of ICT architecture is not politically neutral, especially when it comes to considerations of national security⁷⁰⁶. As noted, China has expressed security concerns through technology policy and legislation⁷⁰⁷. The need to upgrade their technology has, nonetheless, forced the government to make exceptions⁷⁰⁸. The FLAG Europe-Asia cable system went live on 22 November 1997, carrying traffic for over 60 leading international carriers. With the help of China Telecom, it became the first and only *private* operator to land a submarine cable in China. For people close to the deal, the reasons the government agreed were threefold: first, landing a submarine cable in China was bringing experience, technology and modern equipment; second, at the time, China still suffered from a number of export controls because of the of the Wassenaar Arrangement⁷⁰⁹ and last, the capacity of circumventing the foreign investment blockade also lied in the nature of Flag’s business. Far from offering customer telecommunication services, one could argue that Flag “only” sold undersea capacity from Europe to Japan and happened to have a landing station in Shanghai. Having said this, a number of constraints remained. First, no law or regulation was governing the business of international submarine capacity. Second, when the company attempted to branch into the wholesale service area, i.e. selling network and

⁷⁰⁴ Economy (1998: 8).

⁷⁰⁵ Xu and Kan (2000: 5).

⁷⁰⁶ Hughes (2002: 208-210). Still, some observers believe that national security concerns will have lesser influence and determining weight (Interview (B-003), conducted in Beijing, 28 August 2001).

⁷⁰⁷ Feigenbaum (2003: 202) and Segal (2003: 167).

⁷⁰⁸ Most of this section is based on interview (B-003), conducted in Beijing, 28 August 2001.

⁷⁰⁹ The Wassenaar Arrangement was established in order to contribute to regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies.

managed bandwidth services, the initial findings were not very encouraging. It also appears that the main concern was about the ownership of the submarine cable⁷¹⁰.

In summary, the shift of telecommunication to the supranational level has heightened the visibility of sovereignty and national security in the policy debates. Although the emphasis on national sovereignty in dealing with network use may sound somewhat out of tune with the age of global communication, MII is likely to remain highly interventionist given concerns over security and sovereignty⁷¹¹. In fact, concerns over sovereignty and national security have been included in the regulatory framework.

Outward foreign direct investment

China's increased integration in the world economy has had important effects on its domestic economy⁷¹². The opening of the country to foreign investment, products and services, has turned the country into a key market for most MNCs. In turn, we assist today at the first signs of China's expansion abroad⁷¹³. Basic computing and network equipments are the first areas in the telecommunication sector where China is becoming globally competitive⁷¹⁴. Over the past few years, some of the leading domestic equipment manufacturers have seen their revenues from domestic and foreign sales grow dramatically, with the latter accounting for around 40% of total revenue (see Table 38)⁷¹⁵.

Table 38: Leading Chinese equipment manufacturers foreign and total sales, 2001-2004

Company	2001 Sales (USD million)		2002 Sales (USD million)		2003 Sales (USD million)		2004 Sales* (USD million)		%
	Foreign	Total	Foreign	Total	Foreign	Total	Foreign	Total	
ZTE Corporation	260	1,685	558	1,330	600	3,200	1,640	4,100	39.05%
Huawei	328	3,100	610	3,035	1,050	3,830	2,280	5,580	40.86%

Note: * Contracted sales; exports by Chinese telecommunication equipment makers were worth nearly USD30 billion in 2004.

Source: Compiled by author from various sources.

In parallel, domestic companies started to acquire assets and invest abroad. In 2002, TCL bought the bankrupt Schneider Electronics. Huawei, as part of a venture capital

⁷¹⁰ In the second part of the 1990s, ownership of submarine cables moved relatively rapidly from the "club" model, in which consortia of dominant Telecommunications Operators (TOs) jointly owned the cables, to a private ownership model where private companies or new operators financed the construction of the cable and then sold capacity to whomever required it.

⁷¹¹ Wang (1999a: 283)

⁷¹² See (Lardy, 2002; Zweig, 2002).

⁷¹³ The average annual outward FDI flow has grown from USD 0.4 billion in the 1980s to USD 2.3 billion in the 1990s. In 2002 China invested USD 2.7 billion abroad, contributing to an accumulated book value of at least USD 35 billion outward FDI stock (on a balance-of-payments basis) at the end of 2002 (UNCTAD, 2003).

⁷¹⁴ At least in lower and mid-level markets (Interview (B-027), conducted in Beijing, 11 October 2001).

⁷¹⁵ For example, ZTE has joined with a regional telecommunication group in Africa to install a new communication system in 20 countries (Shacinda, 2002).

consortium, has invested USD 2 million in LightPointe Communications Inc., an American company that makes wireless optical devices⁷¹⁶. Thus, while accessing foreign technology meant promoting FDI in China and setting up joint ventures with leading MNCs, it takes today more and more the form of establishing R&D centres in developed countries and entering into international alliances. Huawei Technologies and ZTE Corporation have each established a number of R&D centres abroad⁷¹⁷ and the latter has signed a Memorandum of Understanding (MOU) with Portugal Telecom to establish strategic cooperation in R&D and market expansion⁷¹⁸. It has also concluded an alliance with Intel to develop and promote WiMAX.

Chinese operators too have shown impulses to expand abroad. In 2002, China Unicom won the right to operate a mobile-phone service in Hong Kong⁷¹⁹ and signed various MOUs involving no cash or equity investment with foreign operators such as Telstra, KDDI or Hutchison Whampoa. It later considered taking a minority stake in an overseas network, possibly in Indonesia or India⁷²⁰. Even the ultra-conservative China Telecom, held talks to with the Rajawali group on the purchase of Excelcomindo, Indonesia's third-largest mobile operator. China Netcom's purchase of Asia Crossing in 2003 and the recent attempt of China Unicom to acquire a 49% stake in Macau Telecommunications Co. hint at this increasing regional appetite⁷²¹.

Table 39: Chinese operators and their M&A activity, 2002-2005

Operator	Target	Date	Amount (USD)	Comment
China Netcom	Asia Global Crossing*	2002-11-19	270 million	Initial acquisition in partnership with Newbridge Capital and Softbank Asia Infrastructure Fund
China Telecom	Excelcomindo	2004-03-17	n.a.	Back-off amidst concerns about pricing and strategy
China Unicom	Macau Telecommunications	2004-12-01	n.a.	Acquisition of x%. Attempt currently blocked by CITIC's refusal to sell
China Netcom	PCCW	2005-01-20	1 billion	Acquisition of 20%

Note: *Now Asia Netcom.

Source: Compiled by author from Factiva.

⁷¹⁶ San Jose Mercury News (2004).

⁷¹⁷ Huawei now has research facilities in Sweden, Germany and America. It announced a USD 100million investment to expand its Bangalore facility, which works on mobile-phone software and broadband research (Anonymous, 2003).

⁷¹⁸ AFX (2005b).

⁷¹⁹ The company is licensed to offer MVNO services but the reason China Unicom applied for the licence is not to compete in the local market, but to provide better roaming services between Hong Kong and China (Hui, 2002).

⁷²⁰ Ubels (2003).

⁷²¹ Sender (2002) and Dickie (2003). Netcom and a host of investors now own the Asia unit of the collapsed Global Crossing entity. The purchase was the first key international acquisition by any Chinese telecommunication company.

Target acquisitions have not been in the most competitive markets, nor has there been many large-scale deals. For example Jiming Telecom started the first Chinese telecommunication joint venture abroad by setting up an operation in Kirghizstan. China Netcom's purchase of 20% in Hong Kong's PCCW Ltd for an amount estimated at USD 1 billion could nonetheless mark a turning point in the "go out" policy⁷²² and confirm the rise of Chinese operators as players in mergers and acquisitions with regional and global reach⁷²³. It will be very interesting to study how these companies fare in international markets. Beyond the purely financial or strategic nature of these acquisitions, it raises the question of whether domestic players can adapt to radically different regulatory environments and succeed without direct or indirect government support. It will also be worthwhile to study if regulatory "ideas" and policies encountered in foreign markets will make their way back to China via the large operators.

⁷²² Then-President Jiang Zemin asked officials to "encourage and help relatively competitive enterprises" to invest abroad.

⁷²³ It has been followed by rumours of China Mobile's intention to buy Hong Kong's CSL, a wholly owned subsidiary of Australia's Telstra Corp.

Concluding remarks

It is tempting to establish a causal link between the transformation in the international regime and China's domestic telecommunication reforms. On the one hand, China is a long-time member of the ITU and all the other multilateral agencies that have played a significant role in reforming telecommunication markets across the world. On the other hand, there has been a very limited cooperation on reforming telecommunication between China and international agencies. Despite being the key recipient of World Bank loans for many years, both parties seem to have set their priorities elsewhere.

It has been argued elsewhere that much of the evolution in Chinese policy and attitude toward international market norms is a result of China's participation in global and domestic markets *per se*, not the influence of multilateral institutions⁷²⁴. The agreements have undeniably enabled the Chinese to become familiar with international practices in the telecommunications sector and to gauge the importance of the discrepancies between these and the situation in China, bringing out into the open the main points of contention⁷²⁵. There are signs that the bureaucracy is increasingly attuned to regulatory development across the world. Whether through World Bank sponsored projects or mandates to domestic research institutes, MII pursues an effort of benchmarking and scanning of best practices⁷²⁶. Thus, in addition to confronting China with some liberalisation issues, it has locked the country in the process of coming closer to international telecommunication regulations (ITR).

This chapter has argued that, until the WTO accession in 2001, there was no significant pressure at the government level to enshrine the telecommunication reforms in a supra-national institutional framework. The shift of the telecommunication agenda from ITU to WTO, and China's absence from the latter, deprived domestic reformers from using the on-going transformation of the telecommunication regime as a lever for pushing their domestic liberalisation agenda. In addition, long-held concerns over sovereignty and national security have mitigated the impact of China's inclusion in the international regime. China's on-going dilemma between the need for development and concerns over sovereignty is crystallised by its position on FDI, where foreign players have confined to the value-added sectors. This stands in stark contrast with the telecommunication equipment sector, where foreign investment was not only welcomed by even encouraged.

⁷²⁴ Pearson (1999b: 227).

⁷²⁵ Sautedé (2002: 37).

⁷²⁶ The most recent example is the World Bank funded project to implement price cap regulation.

This is not to say that the transformation of the international telecommunication regime will not have an impact on China's telecommunication policy-making and reforms. To the contrary, the regulatory conventions embedded in the Reference Paper will sooner or later confront the Chinese regulators and policy-makers with their responsibilities, either through a domestic push to benefit from the new regulatory framework derived from the international rules or because of pressure exerted by a foreign government.

Finally, the increased integration in the world economy has also expressed itself through the presence of Chinese firms abroad. Equipment vendors clearly lead the trend of "going out" but operators have also recently started to cast their eyes on foreign markets.

The next chapter examines into more details the relationship between trade and China's telecommunication reforms.

6 Trade and telecommunication

Trade policy is the result of a mixture of economic theory, political pragmatism, and commercial savvy. In managing their trade policies, countries have to balance the political concepts of national sovereignty and independence and the economic reality of interdependence.

(Feketekuty, 1988: 150-151)

On December 11, 2001, the People's Republic of China officially joined the World Trade Organisation (WTO). During the 15 years that separated the resumption of its status as a contracting party and its accession to the multilateral trade institution, the country underwent profound economic transformations spanning across most industries. But, as we will see, the extent of the transformation brought upon China's telecommunication sector by its deeper integration in the emerging supranational telecommunication regime has been on the whole uneven, and to say the least, very disappointing for foreign operators.

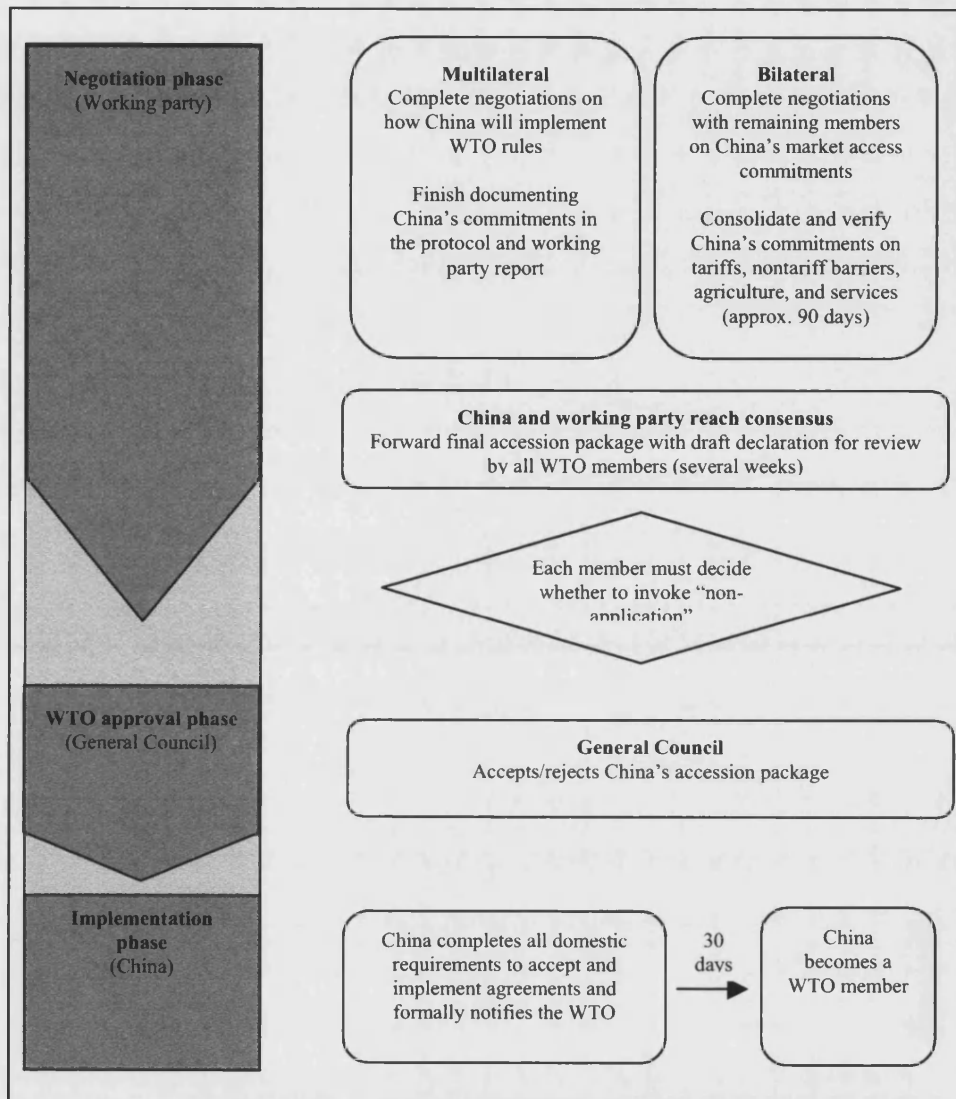
An enormous amount of literature has been devoted to China's WTO accession⁷²⁷. It is not the purpose of this section to discuss the ins and outs of the bid to join the multilateral trade institution. Suffice to say that China's protracted GATT/WTO accession process has been dynamic and complex, affected by broad political and economic factors at both the international and the domestic levels, and by the complex process of bilateral and multilateral negotiations (see Figure 13) over more than fifteen years⁷²⁸. On the one hand, the commitments and obligations China accepted involved substantial political and short-term economic costs, in terms of the necessary domestic adjustments and of overcoming domestic opposition. On the other hand, the accession negotiations were there to help provide the reformers an essential commitment to consolidate the necessary internal reforms⁷²⁹.

⁷²⁷ See among many others (Lardy, 1996, 1999; Wang, 1999c; Zheng and Yu, 1999; Fewsmith, 2000; Ianchovichina, Martin et al., 2000; Yang, 2000; Pearson, 2001).

⁷²⁸ In this sense, China's accession to the WTO is different from its participation in other international organisations (Harris, 1996: 140).

⁷²⁹ Accession negotiations often provide reformist governments in the queue for WTO membership with an essential commitment to consolidate the necessary internal reforms. In addition to influencing the progress of domestic reforms, the WTO accession process becomes a vital part of the acceding country's development strategy because of the interplay between the domestic and international politics of trade (Lanoszka, 2001: 578-586).

Figure 13: China's WTO accession process



Source: GAO (2000).

Initially, it was thought that China's WTO membership would strengthen the position of the reformers, legitimise and promote economic reform and assist the management of the reform process of deregulation"⁷³⁰. Similarly Studwell noted that,

*"Accession to the WTO was regarded by reformers as a solution to the nation's bureaucratic impasse – an external pressure to force deregulation and greater competitiveness on a recalcitrant bureaucracy. The government committed to the WTO from a position of weakness, not strength because of quiet desperation, not unified political resolve. It reached for outside force to do a job it was failing to do itself – the deregulation and de-bureaucratisation of China's economy."*⁷³¹

Scholars have argued that since its application to become a "member" of GATT in 1986, China's reform agenda has been increasingly set by membership requirements of the GATT and the WTO⁷³². This assertion needs to be qualified. In comparison to GATT, WTO rules applied to a whole new range of industries, including services such as distribution and telecommunication⁷³³. In fact, it is not until 1998 that basic telecommunication services were included in the schedule of commitments offered by Chinese negotiators.

This chapter presents both the history and an analysis of China's WTO negotiations on telecommunications services. It argues that the very limited extent of the concessions offered by the government resulted from the rift, staged or not, between MOFTEC and MII as well as from the relatively weak amount of political pressure that the State Council was able to exert on MII. The chapter also aims at better understanding how the commitments fit into the overall process of telecommunication reforms. The overall assessment is that both processes were on a "dual track" and that the institutional setting was unable to bridge the two tracks. The first section traces back the various offers made by the Chinese government in its bid to join first the GATT – and later the WTO – as well as the role played by the United States and the European Union in "shaping" the telecommunication commitments. The second section looks at how the commitments fit within the broader reform process and evaluates the prospects of compliance. The last section discusses additional regulatory concerns and compares the pre and post WTO era.

⁷³⁰ Harris (1996: 138).

⁷³¹ Studwell (2002: 262-263). See also Kim (2002: 439).

⁷³² Zhang (2003: 711).

⁷³³ Pearson (2001: 342).

History of the accession process and chronology of offers

“Opening the telecommunication market cannot be a condition of entering the WTO.”

(Wu Jichuan quoted in Chetham, 1997)

Although the first reaction from government officials after China had missed entry to the GATT was *“we will not open the operation of telecommunication network for a considerable long time”*⁷³⁴, the WTO accession process has been marked by a gradual improvement of the conditions offered by the Chinese side⁷³⁵. Telecommunication services were mostly absent from the negotiations during most of China’s accession to GATT and WTO. Before 1998, the concession made by the Chinese negotiators consisted in the limited opening of two cities for value-added services. The signing of the BTA in 1997 and consequent pressure from foreign governments marked a turning point both for domestic reforms and for the negotiation. Following the July 1998 concessions made by Long Yong Tu in Geneva, Zhu Rongji called on MII in August 1998 to make preparations for the opening up of the telecommunication market. Shortly after that, Zhu put an end to the CCF investment scheme via State Council order 98⁷³⁶. While until July 1999 China continued to disfavour the “radical” idea of trading telecommunications network and services for WTO accession, the government decided to significantly lower trade tariffs and reduce non-tariff barriers, and worked out new packages of concessions in previously prohibited industry sectors to meet the WTO criteria⁷³⁷. A first breakthrough came with the conclusion of the bilateral agreement between China and the United States in November 1999, quickly followed in May 2000 by the agreement with the European Union. Table 40 shows the chronology of WTO commitments. A number of elements emerge. First, the scope of the negotiation grew larger with time – before 1998 the negotiations mentioned only value-added services. Second, the weight of telecommunication in the overall negotiation changed over the years. Initially, China hardly bulged from its negotiating position. But telecommunication became a core issue with the dramatic change in the international regime brought forward by the BTA⁷³⁸.

⁷³⁴ Ma (1996).

⁷³⁵ Two factors have driven this progression. First, the Working Party has insisted on the necessity to abide by the BTA, including the signing of the Reference Paper. Second, and more importantly, the bilateral agreements negotiated with the US and the EU largely determined the concessions made by China.

⁷³⁶ Mueller and Lovelock (2000: 735) argue that WTO accession was not a significant factor in the bargaining that went on within the sector until the middle of 1998. Indeed, until July 1998, the Chinese proposal was limited to allowing 25% of foreign investment in telecommunications value-added services ventures in Shanghai and Guangzhou. Although the signing of the BTA in February 1997 meant to re-think the deal, it seems that at first, China was not willing to incorporate the telecommunication element in its bid, arguing that it was not there at the time of its original application (O’Neill, 1997).

⁷³⁷ The Chinese Premier’s 1999 tentative offer of 35% foreign investment in telecommunications sector had not yet been granted final bureaucratic approval (Fan, 1999: 5).

⁷³⁸ Interview (B-037) conducted in Beijing, November 25, 2003.

Table 40: Chronology of WTO commitments

Date	Basic telecommunication	Mobile communication	Value-added services
Pre-1998	No proposal	No proposal	25% in Shanghai, Guangzhou ^c
July 1998	No proposal	25% equity stake 5 YAA ^a	30% equity stake
March 1999	No proposal	35% equity stake 3 YAA	
April 1999	49% equity 4 YAA in telecom services		51% equity 4 YAA for paging and VAS
July 1999	25% in basic telecommunication		30% in VAS
October 1999	n.a.	n.a.	49% equity OA ^b 50% equity 2 YAA
November 1999	Implement the pro-competitive regulatory principles of the BTA and allow foreign suppliers to use any technology to provide services (technological neutrality)		
	No geographic restrictions on wire line 6 YAA	No geographic restrictions on mobile 5 YAA	No geographic restrictions on paging and VAS 2 YAA
	49% foreign ownership across all services		50% 2 YAA on VAS 50% 3 YAA on paging
May 2000	Liberalise domestic-leased circuit services ⁷³⁹ Operate between cities ⁷⁴⁰		
	Satisfactory settlement on mobile investments in China Unicom (CCF)		
	25% 3 YAA 49% 6 YAA	25% OA 49% 3 YAA	30% OA 49% 1 YAA 50% 2 YAA

Notes: ^a Years after accession (YAA) and ^b On accession (OA). ^c At the very beginning, the USA asked for 67%, then came with a second proposal of 51%; China firstly only agreed on 25%⁷⁴¹.

Source: Compiled by author from various sources.

Third, some areas of the negotiation proved more difficult than others. For some sensitive topics, such as limitation on equity, the progress was slow. As no decision could be reached on where to draw the line (49, 50 or 51% equity) the negotiation was postponed⁷⁴². Last, one can distinguish two main phases in the negotiation. Prior to April 1999, the negotiation was rather open and the Chinese were receptive to the American point of view⁷⁴³. The bombing of the Embassy in Belgrade delayed the negotiations several months⁷⁴⁴. After the summer, negotiations resumed and in November 1999, the USA concluded their agreement with China, which then laid the ground for the EU negotiation. After November 1999, the agreement underwent some modifications, which allowed to improve the transitional phase aspect. For example, the EU negotiators managed to obtain an agreement where communication between cities was added to the initial city opening.

⁷³⁹ Allowing foreign telecommunication companies to sell spare capacity.

⁷⁴⁰ As opposed to restricting them to activities within each city where 75% of Chinese domestic mobile traffic occurs.

⁷⁴¹ Interview (B-038), conducted in Beijing, 25 November 2003.

⁷⁴² Interview (B-031), conducted in Beijing, 15 November 2002.

⁷⁴³ The agreement at the time was good but remained sensitive.

⁷⁴⁴ Some voices say that the agreement in April 1999 was better than the one in November. For example, value-added services were at one point open at 51% (instead of the final 50%).

Role played by foreign countries and domestic actors

As pointed out by Mueller and Lovelock, China was engaged simultaneously at two levels. At one level, the Chinese government had to enter bilateral negotiations with over 100 member states in order to achieve a consensus on the terms and conditions of its accession⁷⁴⁵. In addition, it had to work through the Working Party. Members of the Working Party were mostly concerned by the lack of transparency surrounding the process of extending and receiving licences for service provision. They wanted China to publish a list of licensing regulators and of bodies authorising and approving the licences, which the Chinese government confirmed it would do⁷⁴⁶. In essence, Members wanted to make sure that: licences would not be barriers to trade, licensing procedures would be published prior to their effectiveness, enough time would be given to review a licensing decision, a prompt decision would be made, information would be made available in written form and the regulating institution would be separated from the regulated business. At another level, bargaining occurred between China's State Council and Ministry of Foreign Trade and Economic Cooperation (MOFTEC) on one side, and the various line ministries that managed the industrial sectors that would be affected by WTO concessions on the other. The resulting set of domestic trade-offs defined the offer China's government was willing and able to make to other states in the WTO negotiations⁷⁴⁷.

The United States and the European Union's pivotal role in the negotiation

Given their interest in opening the Chinese telecommunication market to their domestic operators, it is no surprise that both the United States and the European Union played a dominant role during the bilateral negotiations⁷⁴⁸. The start of the US-China bilateral negotiation can be dated to 1993 with AT&T's agreement to cooperate on switching equipment manufacturing, which rationale was to ensure continued backing of the USA in China's application to rejoin GATT⁷⁴⁹. At the end of 1994, in its new offer to the GATT, China had, apparently for the first time, "swung the door wide-open in telecommunication" although it appeared later that it had only plans to open the valued-added services segment⁷⁵⁰. Despite some high-level visits to China⁷⁵¹, negotiations were

⁷⁴⁵ Mueller and Lovelock (2000: 734-735).

⁷⁴⁶ Interview (A-004), conducted in Geneva, 28 May 2001.

⁷⁴⁷ Mueller and Lovelock argue that at a third level, industrial ministries and state enterprises with a substantial stake in the sector bargained with the State Council over policy, resources, and regulation.

⁷⁴⁸ Other countries with large telecommunication interests, such as Japan or Australia, do not seem to have placed telecommunication at the centre of their demands.

⁷⁴⁹ Reuters (1993).

⁷⁵⁰ Jin (1994).

suspended in 1998 following the ban of CCF, and US negotiators threatened China with trade sanctions⁷⁵². However, American and Chinese negotiators kept working hard on the WTO deal. In April 1999, many observers saw Zhu Rongji's visit to the United States as a potential breakthrough⁷⁵³. The visit caused significant stir in China and the conservative fringes used the opportunity to voice their complaints⁷⁵⁴. The bombing of the Chinese Embassy in Belgrade dealt a severe blow to the overall negotiations dynamic and, by September 1999, 15 areas of disagreement remained, one of the most important being in the area of telecommunications. According to the USTR posting⁷⁵⁵, China agreed to allow foreign companies to own up to 51% of telecommunication companies in the service area, but Shi's message was that the Chinese had only offered 49%⁷⁵⁶. To some, one of the main reasons why the Chinese government could sail through the perfect storm in 1999 towards a WTO agreement is that its decision-making was restricted to a small circle, thanks to senior leaders' takeover of decision-making powers over the WTO bid, and to the closed political system. Top-down decision making, bypassing bureaucracy, and restraint of the media were the key components in Chinese decision-making regarding the WTO⁷⁵⁷. On November 15, 1999, the USA and China finally signed the bilateral treaty, followed in May 2000 by the signature of Permanent Normal Trade Relations (PNTR) status. By settling earlier, the USA provided a base for other countries' negotiations. In the area of telecommunication, the major difference between the various bilateral deals that followed rested in joint venture equity shares⁷⁵⁸. In February 2000, EU negotiators were seeking the right to a 51% foreign ownership of Chinese telecommunication firms, going beyond the 49% ownership rights negotiated in 1999 by the United States on mobile and fixed-line networks and the 50% for VAS, including Internet Service Providers⁷⁵⁹. MII officials managed nevertheless to convince foreign negotiators to scale

⁷⁵¹ In October 1997, Commerce secretary William Daley opened the first China U.S. Telecommunication Summit, a forum for discussions on telecom policy between government representatives.

⁷⁵² Telenews Asia (1998).

⁷⁵³ This surge of activity followed an exchange of correspondence between President Clinton and Jiang Zemin at the end of 1998 and the beginning of 1999. It turned out that both countries signed only an agreement on the commercial use of US digital telecommunication technology in China.

⁷⁵⁴ Minister Wu reportedly tendered his resignation, which was not accepted (Fewsmith, 1999: 5).

⁷⁵⁵ During the negotiations, the USTR was supported by various lobbying groups, such as TIA, which provided input of what the telecom industry wanted to see in an agreement as well as information on the status of the Chinese market (Interview (E-001), conducted by e-mail, January 5 2004).

⁷⁵⁶ Fewsmith (1999: 8). Shi Guangsheng was the head of MOFTEC.

⁷⁵⁷ Lai (2001: 244).

⁷⁵⁸ Interview (B-037), conducted in Beijing, 25 November 2003. EU officials have claimed that the content of the US deal covered about 80% of their requirements. The remaining 20% included further reductions of tariffs on priority products including autos, and more concessions on ownership of telecommunication operators (Anonymous, 1999).

⁷⁵⁹ Reuters (2000b).

back from the 51% ownership by explaining China's actual situation in terms of "*reform, opening, economic strength and of what China could bear*"⁷⁶⁰.

Difference between the EU and US negotiations

Since the Reference Paper had already been agreed upon, the negotiation with the EU revolved around issues of licensing, transparency and choice of partner⁷⁶¹. A number of differences emerge both from the process and content of the negotiation. EU negotiators have indicated they were aware of "a red line they could not cross"⁷⁶². They remained conscious of the fact that the government wanted to control the sector but nevertheless managed to push the US-China agreement further and clarify certain points. American negotiators focused more on systematic matters, while Europeans concentrated on the complete, sector-specific liberalisation and concrete benefits. As a result, the former were focused on issues such as Intellectual Property Right (IPR) protection, trading rights or the pricing system, while the latter were mostly seeking to obtain a number of licences. In the words of a Chinese negotiator:

*"The EU was as greedy as the USA but didn't push very hard from the political point of view: it was not soft on concrete benefits but refrained from applying political pressure."*⁷⁶³

One factor explaining the difference in negotiating styles was that, at the time, some European countries were themselves in the process of reforming their telecommunication system, and were not persuaded that the full liberalisation and deregulation of telecommunication was the best solution.

The mobile sector turned out to be of particular importance to the EU. Buoyed by the economic environment at the time and the industry's offensiveness, the trade commissioner Pascal Lamy managed to glean an additional 1% in the mobile sector. Insiders claim that for strategic reasons, MII did not want to see the investment level go above 50%⁷⁶⁴. Once the ceiling was fixed, the EU focused on negotiating the clarification

⁷⁶⁰ Interview (B-031), conducted in Beijing, 15 November 2002. This echoes the call for "telecommunication reforms in conformity with China's actual situation" (Zhou Deqiang quoted in Xinhua, 1998).

⁷⁶¹ Interview (B-030), conducted in Beijing, 13 November 2002.

⁷⁶² Interview (B-030), conducted in Beijing, 13 November 2002.

⁷⁶³ Interview (B-041), conducted in Beijing, 28 November 2003.

⁷⁶⁴ The negotiation around majority ownership contained a strong symbolic element. In basic services, a 50% ownership meant to disburse a considerable amount of money (Interview (B-041), conducted in Beijing, 28 November 2003).

of the partner in joint investment⁷⁶⁵. Thus, while Lovelock saw bilateral negotiations as “a means for the Chinese government to play countries off against each other” it turned out to be quite the contrary⁷⁶⁶. Having reached an initial bilateral agreement with the United States, the Chinese team had to negotiate hard to prevent making further concessions to the European Union.

The rift between MOFTEC and MII

Despite claims that the Chinese government presented a “single face” at the table of negotiations, at least two constituencies can be identified. On one side, the Ministry of Information Industry (MII) and its arch-conservative Minister Wu were defending a very limited opening of the sector to foreign participation. On the other side, MOFTEC, led by Minister Long, was attempting to answer its broad mandate to negotiate an overall WTO accession. In practice, this meant bridging the gap between the international demand for market access and strong domestic reluctance to do so, in addition to answering the demand of the State Council to further liberalise the market.

Throughout the overall WTO accession negotiation, MOFTEC was responsible for most of the day-to-day work on China’s GATT/WTO bid and for the coordination of China’s negotiating position with other interested domestic bureaus and industries⁷⁶⁷. Through its role of overall coordinator for the WTO negotiation, MOFTEC collected views from academics and industrial associations, while other ministries were responsible for submitting their plans⁷⁶⁸. Indeed, different concerns existed around the table and MOFTEC was in charge of preparing the position, offers and counter-offers⁷⁶⁹. To reach a negotiation position, MOFTEC involved a number of stakeholders. For the telecommunication negotiation, it consulted with officials from MII or leaders of China Telecom and China Unicom. It also talked to foreign investors, since the results of the negotiation would impact all parties interested. The round of consultation was about what to do and what to offer. It also had to take account of the issues pertaining to the sector. MOFTEC studied the process of opening other countries’ telecommunication sector as

⁷⁶⁵ The partner is ‘undetermined’, i.e. a joint venture can be set up with any partner, meaning that the company has to be Chinese but does not need to be a SOE. It can come from any industry, i.e. does not need to be from the telecommunication sector.

⁷⁶⁶ Lovelock (1999: 313).

⁷⁶⁷ Pearson (2001: 346-347).

⁷⁶⁸ In its function of coordinator for the overall negotiation. MOFTEC acted in the same function as the USTR (Interview (B-041), conducted in Beijing, 28 November 2003).

⁷⁶⁹ In 1998, the State Council Inter-ministerial Coordination Group on GATT Negotiations (SCICGATTN) was renamed the State Council Inter-ministerial Coordination Group on GATT (SCICGATT) but later dissolved because of lack of results in coordinating ministries. The role of coordinator was taken up by MOFTEC (Lai, 2001).

well as current liberalisation progress, consulting with experts and consultants, both foreign and domestic. To do so, MOFTEC convened a services team and held frequent meetings as telecommunication was felt to be a very complex issue⁷⁷⁰. In addition, MOFTEC had to cater for the “demands” originating from the USA and the EU in the framework of the bilateral agreements. As a result, it organised and conducted those negotiations. MOFTEC was not only directly involved in the negotiation process but also responsible for the implementation of the negotiation⁷⁷¹.

One factor that rendered the process more complex was that, from the outset, MOFTEC’s authority was limited. For example, it did not have a formal responsibility to negotiate or coordinate certain issues in the WTO negotiations – such as telecommunication, where MII took the lead – neither did it have final authority to make the major decisions on issues related to WTO negotiations. At the level of day-to-day coordination and negotiation on telecommunication, MOFTEC appeared quite weak, failing to bring to the table representatives of the industry invited to coordination meetings and even negotiations⁷⁷². In addition to the strain between MOFTEC and MII, tensions also existed between the team that lead the WTO negotiation and the various Ministries that were going to have to implement the commitments⁷⁷³. An additional difficulty was the differing view that each constituency had of its role in the accession process. MOFTEC saw itself as being in a better position to negotiate for two reasons. First, it was acting on behalf of a mandate of the State Council. Second, it had a better idea of the offers and counter-offers that could be made to balance the different sectors⁷⁷⁴.

The second actor engaged in the telecommunication negotiation was MII⁷⁷⁵. MII and Minister Wu Jichuan firmly believed that they could very well develop their own telecommunication system. In their eyes, the tremendous growth experienced by China’s telecommunication sector during the 1990s attested that it had the capacity to develop

⁷⁷⁰ It turned out to be less complex than audio-visual, legal or financial services (Interview (B-037) conducted in Beijing, November 25, 2003).

⁷⁷¹ Interview (B-033), conducted in Geneva, 12 November 2003.

⁷⁷² Pearson (2001: 362).

⁷⁷³ Interview (B-039), conducted in Beijing, 27 November 2003.

⁷⁷⁴ Interview (B-033), conducted in Geneva, 12 November 2003 and (B-037), conducted in Beijing, 25 November 2003.

⁷⁷⁵ Before 1998, the two ministries (MPT and MEI) had their own responsibilities for submitting a plan. After the merger of the two Ministries, there were two fields: goods (*huowu*) and services (*fuwu*). For goods trading (*maoyi*) the main question was imports tariffs (*jinkou guanshui*) and market entry (*shichang jiuru*). For services, the questions were how to chose the opening to the world and what should the scale be (Interview (B-031), conducted in Beijing, 15 November 2002).

without having to rely on foreign participation⁷⁷⁶. In other words, MII believed that market liberalisation forced by WTO membership would bring more disadvantages and risks than benefits to the country's fledgling telecommunications and information services, even though it may have provided more incentives for China's information technology sector to grow⁷⁷⁷. An important driver of MII's position was that the negotiations were to be pursued "according to China's economic development skill and to what could be undertaken". Having said this, MII has changed gradually during this 10-year process, being at first a hardliner, then softening its position – but remaining nevertheless very tough with USTR⁷⁷⁸. The other driver for MII was to preserve the interest of China Telecom. As a result, from 1998 onwards, MII was present during all the negotiation process and was most active and tough on the equity restrictions. Some observers hypothesised that MII became concerned with the possibility that telecommunication liberalisation would be used to keep the heat out of other areas like financial services⁷⁷⁹.

The official explanation on the relationship between MII and MOFTEC is that the former was in charge of market opening, while the latter had to bundle the policy into the service commitments, thus shouldering their duties separately⁷⁸⁰. For MII, MOFTEC was just a channel through which commitments were negotiated. As a result, MII often had the final say on major issues⁷⁸¹. In fact, Premier Zhu Rongji and President Jiang Zemin made the final decision. For sure, the process did not appear to run smoothly at all times but there is no conclusive evidence on whether the tension between MOFTEC and MII was staged or not. Minister Wu's letter of resignation, as an answer to the concession made by Zhu Rongji during his trip to the United States in 1999, would indicate that there was actually quite a gap between what the State Council and MII saw as acceptable. On the other side, MOFTEC's ability to set the commitments at a relatively low level from the start and to maintain such a position throughout the negotiation tends to confirm that the State Council remained extremely conscious of the necessity to keep MII satisfied. It seems that a certain amount of distrust existed between MII and MOFTEC. MII thought that MOFTEC wanted to extract too many concessions, while MOFTEC officials claimed that

⁷⁷⁶ Interview (B-041), conducted in Beijing, 28 November 2003.

⁷⁷⁷ Fan (1999: 5).

⁷⁷⁸ Interview (B-041), conducted in Beijing, 28 November 2003.

⁷⁷⁹ Chetham (1997).

⁷⁸⁰ Interview (B-040), conducted in Beijing, 28 November 2003.

⁷⁸¹ Interview (B-003), conducted in Beijing, 28 August 2001.

they were well aware that sectoral interests could not be sacrificed⁷⁸². Whenever MOFTEC challenged MII too much and faced significant resistance, the former played its trump card – it was acting on behalf of the State Council⁷⁸³. In fact, voices within MOFTEC deny the assertion that there was any *specific* goal in a particular sector, insisting rather on the fact that *accession* was the goal, together with further opening of the Chinese market⁷⁸⁴. At times, the position of MOFTEC and MII were irreconcilable and the disagreement had to be taken up to the State Council. The latter would then instruct both parties on the way to go. However, the divide between both Ministries should not be overestimated. Both administrations were working with China's national interest in mind⁷⁸⁵.

In summary, MII's power turned out to be a considerable factor in the end-game negotiations, with telecommunications being the major stumbling block in concluding bilateral negotiations with both the US and EU⁷⁸⁶. Domestically, little evidence indicates that the bureaucracy or other institutions played a key role in the 1999 WTO talks⁷⁸⁷. Foreign multinationals, like Motorola, which worked hard to establish Permanent Normal Trading Relations (PNTR), lobbied their respective governments⁷⁸⁸. Yet little evidence suggests that it influenced the position of the American or Chinese negotiators.

⁷⁸² Interview (B-037) conducted in Beijing, 25 November, 2003.

⁷⁸³ Interview (B-041), conducted in Beijing, 28 November 2003.

⁷⁸⁴ Interview (B-037) conducted in Beijing, 25 November, 2003.

⁷⁸⁵ Interview (B-037) conducted in Beijing, 25 November, 2003 and Interview (B-033), conducted in Geneva, 12 November 2003.

⁷⁸⁶ Macintosh (2001: 15).

⁷⁸⁷ Lai (2001: 246).

⁷⁸⁸ Interview (B-005), conducted in Beijing, 13 September 2001.

The commitments

As noted, prior to its WTO accession, China prohibited foreign companies from providing any type of basic telecommunications services. During the accession process, Chinese negotiators made important commitments allowing foreign firms to provide a broad array of telecommunications services, including both basic and value-added services. Having said this, foreign providers remained subject to significant limitations. First, they had to establish joint ventures with Chinese partners in order to enter the telecommunications market. Second, limits were placed on the share of foreign equity in the joint ventures. These limitations on the participation of foreign equity in the joint ventures in China allow an increasing share of foreign equity over a 1–6 year period following China’s accession to the WTO, but prohibitions on foreign *majority* ownership will remain at the end of the phase-in period⁷⁸⁹. Third, geographic limitations were placed although these are to be completely phased out over a 2–6 year period following accession (see Table 41).

Table 41: Final schedule of commitments

	Upon accession	After 1 year	After 2 years	After 3 years	After 4 years	After 5 years	After 6 years
Value-added and paging services ^{790, 791}	30% ^a	49% ^b	50%	50%	50%	50%	50%
Mobile voice and data services	25% ^a	35% ^b	35% ^b	49% ^b	49% ^b	49%	49%
Fixed-line and long distance ⁷⁹²	0%	0%	0%	25% ^a	25% ^a	35% ^b	49%

^a Limited to Beijing, Shanghai, Guangzhou
^b Limited to Beijing, Shanghai, Guangzhou, Chengdu, Chongqing, Dalian, Fuzhou, Hangzhou, Nanjing, Ningbo, Qingdao, Shenyang, Xiamen, Xian, Taiyuan, Wuhan

Note: Under article XVIII of GATS, parties are allowed to schedule commitments in addition to market access and national treatment commitments.

Source: WTO (2001a).

The Chinese negotiators had a vast spectrum of options to choose from, with commitments representing less than the status quo to ones exceeding the market opening at the time. They opted for a formula that mixed equity, geography and a phase-in period. By insisting on equity joint ventures, China guarded itself against the risk of losing of too much revenue

⁷⁸⁹ These types of limitations are common among WTO members that have made telecommunications commitments.

⁷⁹⁰ In the value-added service, all items (H-N) are listed. JVs in VAS are without restrictions on the number of suppliers but only in foreign equity (see table above). Item left out is E (telex) but it is of little importance nowadays. One can conclude that it covers all telecommunication services.

⁷⁹¹ Electronic mail, voice mail, on-line information and database retrieval, electronic data interchange, enhanced/value-added facsimile services (including store and forward, store and retrieve), code and protocol conversion, on-line information and/or data processing (including transaction processing).

⁷⁹² Voice services, packet-switched data transmission services, circuit-switched data transmission services, facsimile services, domestic private leased circuit services, international closed user group voice and data services (use of private leased circuit service is permitted).

to foreigners through other arrangement, such as cooperative JVs⁷⁹³. The second characteristic of the commitment is the geographical opening of the sector. Chinese negotiators felt that the opening of cities was very important to foreign investors, since in other industries they tended to focus on the large Chinese cities⁷⁹⁴. Unsurprisingly, the foreign community greeted with moderate enthusiasm the geographical limitation, calling it “*a crazy patchwork approach*”⁷⁹⁵. The opening based on geography followed on a well-established tradition of opening up on an experimental basis. It resembled the Special Economic Zones (SEZs) approach, which provided a testing zone for liberalisation that allowed to experiment with new ideas and new business models without binding the state to an excessive extent. In the negotiators’ view, limiting the market opening to only three cities at the beginning prevented foreign companies from immediately gaining a big share of business or from massively cutting down prices. In turn, the solution offered domestic service providers a transitional period in which they could adjust to the new situation⁷⁹⁶. The third salient feature of the agreement is the extensive use of the phase-in approach to accommodate China's demand for adjustment. While China's commitments take advantage of the flexibility given to developing countries under Article IV of the GATS, they compare favourably to those made by many Asia Pacific WTO Members during the Uruguay Round and the BTA (see Table 42)⁷⁹⁷.

Table 42: Policies and WTO commitments of selected Asian economies (fixed and mobile)

	China	Hong Kong	India	Indonesia	Japan	Korea	Malaysia	Singapore
Past policy	0%	100%	49%	35%	100%*	49% for facilities-based 20% for KT	49%	49% direct, 73.9% indirect 40% for ST
GATS**	Phased in up to 49%	100%	25%	35%	100%*	33% for facilities-based 20% for KT	30%	49% direct, 73.9% indirect

Note: *Except NTT and KDD; ** Describes a country's commitment to the WTO Basic Telecom Agreement.

Source: Compiled from Low and Mattoo (1998).

Both MII and MOFTEC appear to have been very satisfied by the outcome of the negotiation. MOFTEC judged that it was satisfactory for the sector and that the commitments could always be brought forward ahead of schedule. MII felt that it had not

⁷⁹³ Interview (B-034), conducted in Shanghai, 21 November 2003. In terms of equity, the negotiation floor was defined by Article 4 of the Sino-Foreign Equity Joint Venture Law, which requires at least 25% of foreign participation.

⁷⁹⁴ Interview (B-037) conducted in Beijing, 25 November, 2003.

⁷⁹⁵ Interview (B-039), conducted in Beijing, 27 November 2003.

⁷⁹⁶ Interview (B-041), conducted in Beijing, 28 November 2003.

⁷⁹⁷ Macintosh (2003: 267).

surrendered to foreign demands and managed to maintain control over the sector⁷⁹⁸. In the words of a Chinese negotiator:

*“Strictly speaking, the most ambitious goal would have been no opening at all. Reasonable expectations in negotiations depend on four factors: ability to accommodate change when making commitments, nature of foreign demands (in line with WTO or discriminative), ability of both sides to balance and find a middle ground and ability to predict and forecast the development of a sector.”*⁷⁹⁹

As noted earlier, the Chinese leadership was keen on locking in domestic reforms as much as possible via the WTO agreement. Some commentators think that MOFTEC actually played a critical role in accelerating the reform process. Through Minister Long Yong Tu, MOFTEC acted as a catalyst for the opening and reform. MOFTEC’s ultimate goal was to gain membership, and to reach it the Ministry was always moving things forward⁸⁰⁰. But two factors prevented the Ministry from taking a more liberal approach. First, the slow progress in state enterprise reform meant that outright opening of the telecommunication services sector would pose a serious competitive threat to the domestic operators, as well as endanger a valuable source of revenues. Second, the perception of telecommunication as a key to sovereignty and national security shared by the State Council gave MII significant leverage in its bid to defend the incumbent. As far as the nature of the demands is concerned, market access was an issue, as at the time of the negotiations the sector was not really open and *“people couldn’t differentiate basic service from value-added service (VAS)”*. At times, Beijing appeared unwilling to bulge⁸⁰¹. Towards the end of the bilateral negotiation with the United States, the liberalisation of services industries, such as telecommunication, insurance or banking became very sensitive issues. MOFTEC played an important role in breaking the stalemate. By explaining the respective negotiating positions to the USTR representatives and to the experts from MII, it managed to get both sides to meet halfway and move the overall negotiation forward. At times, it extracted concessions from MII – for instance, raising the maximum amount of equity to 49% in basic services, which would have been otherwise limited to 25%⁸⁰².

In addition, the international environment was very helpful in pressuring the Chinese negotiators. The Basic Telecommunication Agreement (BTA) and the ensuing opening of

⁷⁹⁸ Interview (B-037), conducted in Beijing, 25 November 2003.

⁷⁹⁹ Interview (B-033), conducted in Geneva, 12 November 2003.

⁸⁰⁰ Interview (B-041), conducted in Beijing, 28 November 2003.

⁸⁰¹ Pearson (2001: 347) argues that the highly bureaucratic decision-making process played a large part in creating the stalemate in the bilateral negotiations with the United States.

⁸⁰² Interview (B-041), conducted in Beijing, 28 November 2003.

telecommunication markets worldwide offered a framework for the negotiation. Like in many countries, both developed and developing, telecommunications ranked among the last sectors to be opened and MII needed to be “pushed”, both in the negotiation and negotiation offerings. At the same time, domestic pressure – brought mainly through the questioning of China Telecom’s monopoly from various quarters – was useful for the negotiators, since MOFTEC had no sectoral authority⁸⁰³.

In our view, MII’s overwhelming presence during the final rounds of the negotiation coupled with MOFTEC’s relative lack of power to broker a telecommunication deal early, partly attest Pearson’s theory that a bureaucratic interests model, in which narrow economic interests of industries and ministries dictate their positions on the WTO, prevailed for the WTO negotiations⁸⁰⁴. One of the key differentiator between telecommunication services and other services laid in the strategic and political aspects of the telecommunication sector, which were giving MII a very strong position from which to lead the negotiations. The issue of national security, close to the heart of the top leadership provided an additional cushion of comfort. Another distinctive factor of the telecommunication negotiation laid in the confidence exhibited by MII. In contrast with the banking sector, which was burdened by problems such as bad loans, the network development had been achieved without having to resort to direct government investment and support. Minister Wu therefore found himself in a very comfortable position to negotiate the conditions of opening with MOFTEC. A direct consequence was that, unlike what happened in other sectors, very little consultation happened within the industry⁸⁰⁵. Telecommunication commitment did nevertheless share similarities with other sectors – for example, insurance and local currency services also followed a geographic approach in market opening.

The lack of a decision-making authority prevented MOFTEC from pushing the commitments too far away from what MII was prepared to offer. Thanks to a largely constructive approach, it bridged positions that had seemed irreconcilable. But it did even more by accelerating the reform process. When compared with other sectors – in particular financial services – it turns out that MII was not the most conservative Ministry. Since the telecommunication sector generated a lot of interest, it was the focus

⁸⁰³ Interview (B-037), conducted in Beijing, 25 November, 2003.

⁸⁰⁴ Pearson (2001: 351).

⁸⁰⁵ Interview (B-041), conducted in Beijing, 28 November 2003.

of constant attention. In a sense, the WTO negotiations over-protected the telecommunication sector, by making it a central object of negotiations⁸⁰⁶.

The most important influence of the WTO accession probably rests in the change of mindset that took place. Officials, bureaucrats, managers of state-owned enterprises and entrepreneurs were all exposed to new concepts, such as transparency or fair competition. The accession process shifted the idea of a market economy with Chinese characteristics to a market economy based on WTO rules. At the same time, it furthered the promotion of foreign trade and the protection of foreign direct investment⁸⁰⁷.

⁸⁰⁶ Interview (B-023), conducted in Beijing, 19 September 2001.

⁸⁰⁷ Interview (B-041), conducted in Beijing, 28 November 2003.

The issues of regulatory consistency and compliance

“Compliance acquires a market value under an impartial regulatory system.”
(Levi and Sherman, 1997: 322)

“If properly implemented by the Chinese government, application of the regulatory framework provided for by the GATS and the Reference Paper will bring about an extraordinary change in the nature of the telecommunication market in China.”
(Kantor, 2000: 149)

“A slow implementation of WTO market entry may yet save many foreign investors from themselves.”
(Ure, 2002: 18)

“Compliance acquires a market value under an impartial regulatory system.”
(Levi and Sherman, 1997: 322)

In the eyes of many observers, China’s accession to the WTO represented at most half of the task at hand. The serious work was to start with the actual implementation of the negotiated commitments⁸⁰⁸. The main issue in implementing the WTO agreement lays in the decentralised administrative structure of the telecommunication sector as well as in the institutional characteristics of the industry. China’s traditional power structure, established during the central-planning era, divided administration of all aspects of the economy among different agencies. Liberalising trade regulations thus requires depriving these economic agencies of their powers and interests, or at least reducing their authority substantially⁸⁰⁹. In fact, out of five administrative levels (national, provincial, municipal, prefecture and county levels) identified by Lovelock, only one was relevant to the negotiation. Whereas bargaining was happening between all the levels for funding or network development, only the national level was involved in the WTO negotiations. As a result, lower-level bureaucrats may experience resistance in implementing the agreement⁸¹⁰. As noted, the policy-makers have, over the past decade, shown a strong tendency to resist change, preferring status quo. New policies – even those dictated by political leaders – have only met with partial success. In addition to these factors, implementation issues will manifest themselves through consistency and compliance.

Consistency

The area that causes problems of consistency with the WTO commitments is the classification of services and the telecommunication regulation. For this purpose, China

⁸⁰⁸ “The most difficult challenge is not specifying the policy and regulatory objectives but implementing them effectively” (Melody, 1997c: 16).

⁸⁰⁹ Wang (1999c: 42).

⁸¹⁰ In an attempt to minimise such resistance, the central government has started to organise training classes at the provincial level (Lovelock, 1996: 690-691). However, without a strong judiciary, this will have only little impact on the provinces’ discretion.

has revised and complemented the existing framework. First, the government issued a revised classification of services in 2003. While China's definition of basic and value-added services is itself not inconsistent with the WTO GATS and the BTA (see Table 43), MII effectively "gutted" the value of licences in early 2003 by issuing a telecommunication services classification catalogue (with no prior notice) that eliminated or reclassified as basic service the VAS applications most useful to MNCs and large Chinese enterprises. Foreign telecommunication providers are effectively prohibited from providing value-added services in the China market under the current classification scheme⁸¹¹. In foreign quarters, there is hope that the telecommunication law will replace the existing categories of basic and value-added services with the more objective and transparent Type I (facilities-based) and Type II (non facilities-based) classifications⁸¹².

Table 43: WTO Schedule versus Classification, 2003

WTO Schedule	Classification 2003
<i>Basic Telecommunications Services:</i> Mobile voice and data services	Mobile cellular communications services
<i>Domestic services:</i> a. Voice services, f. Facsimile services; c. Circuit switched data transmission services b. Packet switched data transmission service g. Domestic Private Leasing Circuit Services	Fixed network local telephone services; fixed network long distance telephone services Type II data communications services Services for domestic communications service facilities
<i>International services:</i> a. Voice services; f. Facsimile services; c. Circuit switched data transmission services; g. International closed user group voice services b. Packet switched data transmission services	Fixed network international long distance telephone services Internet data transmission services; International data communications services
<i>Internet:</i> International closed user group data services	Internet data transmission services
<i>International private lines:</i> International closed user group data services	International data communication services
<i>Value-added telecommunications services:</i> n.. On-line information and/or data processing (including transaction processing); k. Electronic data interchange h. E-mail; i. Voice mail; l. Enhanced/value-added facsimile services (store and forward, store and retrieve) j. On-line information and database retrieval m. Code and protocol conversion	On-line data processing and transaction processing services Storage and retransmission services Information Services [Not applicable]

Source: Baker & McKenzie (2003b: 23).

In addition to the classification of services, China issued in March 2002 a revised guidance category for foreign investment⁸¹³. Second, in order to be consistent with the

⁸¹¹ China's definition of leading telecommunication services providers is the following: those providers who possessed necessary basic telecom facilities, whose fixed local telephone business represented more than 50% shares of the market within local networks, and who had a substantial impact on the market access of other telecom operators – China Telecom and China Netcom (GAO, 2004: 72).

⁸¹² Brilliant and Waterman (2004).

⁸¹³ Interview (C-004), conducted in Beijing, 12 June 2002.

requirements of the BTA and in replacement of the long-awaited telecommunication law, MII passed a number of administrative measures, which complement the regulations issued in September 2000. While most of the requirements are addressed in the regulation or in the complementary measures, the principal ground for concern remains the lack of regulatory independence. Table 44 details the inconsistencies between the WTO's BTA and China's main telecommunication regulation.

Table 44: Comparison between the telecommunication regulation and the Reference Paper requirements

Requirement of WTO Basic Telecommunication Agreement	China's telecommunication regulation (September 2000)	Remarks
Anti-competitive practices	Article 41-42 ⁸¹⁴	In line with WTO requirements
Interconnection	Article 17-22	Complementary measures in 2001
Universal service obligations	Article 44	No clear definition of USO
Licensing process	Article 9-10, 13	Complementary measures in 2002
Resource allocation	Article 27-30	Room for administrative discretion
Regulatory independence	Article 3	Principal ground of concern

Source: Adapted from (Lu and Wong, 2003).

Finally, a limited number of inconsistencies between the commitments and the regulation on foreign-invested telecommunication enterprises (FITE) have emerged. For example, the requirements for registered capital found in the FITE (issued in December 2001) are not inscribed in China's schedule of commitments and therefore inconsistent with accession obligations⁸¹⁵.

Compliance

Much of the literature on WTO compliance in China draws from a formal institutionalist focus that analyses the laws and regulations at the national level to the exclusion of other, possibly more salient factors affecting implementation⁸¹⁶. Concerns are centred on three core issues: independence of the regulator, licensing and market access. Indeed, by signing onto the Reference Paper, China accepted a number of regulatory principles. In theory, this meant changing from its traditional sporadic intervention on an *ad hoc* basis into a transparent legal and regulatory framework⁸¹⁷. There was a strong hope that the acceptance of the regulatory framework provided for by the GATS and the Reference Paper, as well as its implementation, would help China in transforming its regulatory regime⁸¹⁸. While the record to date suggests that the government is making a substantial

⁸¹⁴ Macintosh (2003: 271). Articles 41 and 42 of China's telecommunication regulation address the issue of competitive safeguards. In fact, they exceed the relatively limited requirements of the Reference Paper.

⁸¹⁵ Macintosh (2003: 274).

⁸¹⁶ Mertha and Zeng (2005: 335).

⁸¹⁷ Xu and Kan (2000: 20) and Mattoo (2002: 15-16).

⁸¹⁸ Lardy (2002: 67). Kantor argued that China would move towards a competitive telecommunications market supervised by an independent regulator (Kantor, 2000).

effort to comply with a broad range of its obligations and that it believes that further economic liberalisation and opening up are essential to meeting long-term economic goals⁸¹⁹, it remains short of the letter of its commitments. It is true that, as part of its massive legislative effort at the time of accession⁸²⁰, China has formulated the FITE. However, the legislation regulates mostly issues of principle rather than implementation details. It also lacks transparent transaction and complete notary and hearing systems. Finally, we know that implementation is more likely to be successful where the network is integrated and actors have a shared understanding of the policy problems faced and how to solve them within a governance framework, conditions which are not entirely satisfied at present⁸²¹.

Two additional questions are worth examining. First, how much could the WTO concessions and the ensuing opening to foreign investment be kept separate from domestic reforms? Second, how much pressure did WTO negotiation put on the opening of the telecommunication sector to domestic investors? Deputies to the 3rd Session of 9th NPC have submitted a proposal to the session calling on the government to open up the entire telecommunications sector to domestic private companies after China joins the WTO. The rationale behind this was that allowing domestic private firms to enter the field first and compete on an equal basis would be a good rehearsal, making both private and state-owned firms more competitive⁸²². Some of the demands raised were later satisfied in an indirect manner by the rules governing foreign investment in the telecommunication sector as the document included the participation of private domestic industry into the value-added sector⁸²³.

Independence of the regulator

As noted previously, the State Council separated the regulatory body from the operational business by establishing the MII in 1998 and giving up all its management functions to China Telecom. In theory, the administrative re-shuffle was aimed at creating an environment in which MII could regulate in an impartial, fair and transparent manner and act as an independent regulator. Independence of the regulator is addressed in paragraph

⁸¹⁹ Lardy (2002: 142).

⁸²⁰ MOFTEC announced in May 2002 that, in order to comply with WTO rules, more than 2,300 laws and regulations had been amended and 830 abolished since December 2001.

⁸²¹ Gains (2003: 77).

⁸²² China Online (2000) and Hou (2000).

⁸²³ Reuters (2000a). The opening of telecommunication services to private investment alongside with other key sectors, such as power and civil aviation, was confirmed in 2005 by the NDRC (BBC Monitoring, 2005)

309 of the Working Party Report. It provides that, for services that China has scheduled in the GATS, “regulatory authorities must be separate from and not accountable to the service suppliers they regulate”. Since the RP only requires that regulatory authorities be independent from operators – and not from government – one could argue that China fulfils the principle of regulatory independence. Having said this, the structural characteristics of the regulator notably differ from other services. In the energy sector, the State Electric Regulatory Commission (SERC) has been operating since March 2003⁸²⁴ and a number of commissions have been put in place in the financial services sector (see Table 45).

Table 45: Status of independent regulators and competition authorities in China, by sector

Telecommunication	Energy	Financial services	Competition authority
No regulatory commission. Relative independence from the operators but not from the government	State Electric Regulatory Commission (SERC)	China Insurance Regulatory Commission (CIRC) China Banking Regulatory Commission (CBRC) China Securities Regulatory Commission (SCRC)	No competition authority. Anti-monopoly law in draft

Note: The Countering Unfair Competition Law is the only effective competition law of China up to now. In most developing nations, the scarcity of competition legislation and competition authorities makes it very difficult to consider solutions to the challenges laid down by liberalisation, other than the setting up of an independent, professional regulator, capable of promoting competition in a transparent and fair manner (WTO, 1999b).

Source: Compiled by author.

While the mere existence of these commissions does not guarantee a fair regulatory environment, they signal at least the government’s intention to bring some order to these sectors. In addition, the lack of independence of China’s telecommunication sector is compounded by the fact that there is no competition authority⁸²⁵.

Discussion

Cortell and Davis identify two factors that determine whether a domestic actor’s appropriation of an international norm will affect the state’s policy choices: the domestic salience or legitimacy of the norm and the domestic structural context within which the policy debate transpires⁸²⁶. Issues of compliance are both sectoral and cross-sectoral. In the field of telecommunication, the most important cross-sectoral issues lay in the

⁸²⁴ It seems that the World Bank has been very closely involved in the creation of the commission. See World Bank (2002).

⁸²⁵ In many countries, the typical policy configuration in telecommunications at the national/regional level is a dual regime consisting of sector-specific regulation, on the one hand, and enforcement of antitrust rules, which apply to other sectors as well, on the other hand (Koopmann, 2001: 5-6).

⁸²⁶ Two elements of a country’s domestic structure appear significant: the relative centralisation of decision-making authority and the extent to which international rules are institutionalised into domestic law (Cortell and Davis, 1996).

domains of transparency (regulatory transparency and independence of the regulator), excessive capitalisation requirements and standards.

Many countries have set up commissions to supervise China's compliance with its WTO obligations. The most active is undoubtedly the United States, which relies both on government and non-government resources (e.g. USTR and GAO reports for the former and U.S.-China Business Council, American Chamber of Commerce in China or USITO for the latter). As noted by Pearson,

*“For a country that is centralised and exclusionary, international rules will only affect national policy when and if authoritative officials are predisposed to the prescriptions and proscriptions embodied in international institutions.”*⁸²⁷

Compliance to the WTO in spirit is not surprising at all⁸²⁸. China has a very good record in complying with international regimes: it seldom breaks its promise on the regulations or commitments made⁸²⁹. In addition, the Working Party clearly insisted on the issue of compliance. The Report of the Working Party explicitly mentions that:

*“The WTO Agreement fell within the category of ‘important international agreements’ subject to the ratification by the Standing Committee of the National People's Congress. China would ensure that its laws and regulations pertaining to or affecting trade were in conformity with the WTO Agreement and with its commitments so as to fully perform its international obligations.”*⁸³⁰

The real question thus lies in whether China will *in the position* to comply with the letter of the law and whether other members will make use of the WTO to ensure potential trade issues are solved. As of today, only one case against China has been brought in front of the WTO. While not directly linked to telecommunication, the row over semiconductors with the USA serves as a reminder that China is keen to play a growing role in the information technology sector. It also indicates that its major trading partners, and notably the USA, are keeping a close eye on China's technological developments and on any attempts to erect tariff or non-tariff trade barriers.

The central concern lies with China's capacity to adapt to the regulatory order imposed by the Reference Paper. As discussed in Chapter 3, the telecommunication regulation (*dianxin tiaoli*) formally addressed all of China's obligations under the Reference Paper.

⁸²⁷ Pearson (1999b: 214).

⁸²⁸ Economy (1998: 23) argued early that, notwithstanding ups-and-downs, China had the potential to be an effective, responsible, and committed participant in international regimes.

⁸²⁹ Interview with author (B-020), conducted in Beijing, 17 September 2001.

⁸³⁰ Paragraph 67 (WTO and Working Party on the Accession of China, 2001b).

In some cases – for competitive safeguards, for instance – China has even undertaken commitments greater than those required under the WTO Reference Paper. Many areas remain grounds for concern. Licensing may not fulfil the requirements of transparency and non-discrimination. While the regulation deals with independence of regulation, interconnection, scarce resources, and USO obligations in a manner formally consistent with the Reference Paper, the uncertainty lies in the capacity to enforce and implement it in a WTO consistent manner. Given the lack of judiciary, China's compliance to its broader WTO commitments will rest on two actors: MII and the operators. This is perhaps the most worrying aspect of the compliance issue. MII has shown over the years to pay little heed to the regulatory framework. Operators, often closely connected to MII for historical reasons, or because of administrative re-shuffling, may not be the most adamant proponents of WTO compliance. Having said this, the compliance issue should not be over-exaggerated. Few governments have had any experience or institutional context for this kind of regulatory activity in the telecommunication sector, and those who have accumulated regulatory experience took a number of years to acquire it⁸³¹. It is therefore not astonishing that the Chinese government faces and will face implementation issues.

It is doubtless that the nature and level of China's compliance with its obligations will become clear only over a long period of time. The implementation is subject to political, legislative, and administrative constraints, which has led scholars to seriously doubt the impact of the WTO accession on the telecommunication industry⁸³². In the realm of legislation, evidence suggests it has been common for the Ministry in charge to come up with some fairly conservative implementation regulations that undermine some of the commitments or take advantage of some of the legal and market infrastructure to undercut the commitments⁸³³. In terms of transparency, MOFTEC continues to have to wage battles internally with other Ministries as to the interpretation of China's commitments and the resultant implementation requirements. Moreover, concerns go beyond transparency of regulation to quality of regulation. Administratively, the massive capacity-building effort required to train thousands of civil servants at the provincial and local level has only begun. Finally, the huge gap between China's telecom regulatory institutions and the requirements of the Reference Paper, plus weak and moderate terms and conditions, constitute extra barriers for China's implementation of its commitments.

⁸³¹ Low and Mattoo (1998: 26).

⁸³² Zhang (2000: 31).

⁸³³ Interview (B-039), conducted in Beijing, 27 November 2003.

Additional issues of concern

In addition to the issues of compliance and consistency brought forward by the accession, the current weakness of the regulatory environment raises a number of concerns. They centre around three issues: pricing, universal service and interconnection.

When setting prices for public utilities, important public welfare services and goods subject to natural monopolies and services, which are of vital interest to the general public, government pricing authorities would hold public hearings and invite consumers, operators and other concerned parties to comment and debate on the necessity and impact of a price adjustment. However, government pricing “*shall be applied in a manner consistent with Article 6 of GATS and the Reference Paper*”⁸³⁴. Under the terms of the Reference Paper, each country can define its own objectives for universal service as long as it is administered in a neutral manner and is not more burdensome than necessary. In order to implement a universal service programme domestically, a government could take a variety of approaches, but most of these will be inconsistent either with the spirit of GATS or the 1997 Telecommunications Commitments⁸³⁵. The current support system of universal service obligations is no longer consistent with competition in telecommunications and China’s accession to WTO. China could speed up the reform, in order to provide operators with incentives to fulfil universal service obligations and to achieve the goal of universal service policy⁸³⁶. However, by accepting the regulatory principles specified in the Telecommunications Reference Paper, China has committed to ensuring that the incumbent supplier does not undermine market access by charging prohibitive rates for interconnection to its established networks. The creation of a regulator is only a first step. Persuading the dominant interest groups to concede control is fraught with difficulty⁸³⁷. Regulatory responses should define adequate terms and prices of interconnection in order to prevent the anti-competitive behaviour of dominant operators. The lack of adequate remedies that governments could design to eradicate these practices in order to ensure fair network interconnection constitutes a non-tariff barrier⁸³⁸.

⁸³⁴ Paragraph 60 of the Working Party indicates that “China would publish in the official journal the list of goods and services subject to state pricing and changes thereto, together with price-setting mechanisms and policies” (WTO and Working Party on the Accession of China, 2001b).

⁸³⁵ McLarty (1998: 55-56).

⁸³⁶ Several scholars have asked for the implementation of an effective universal service policy. Their proposal included the setting up of a new accounting system compatible with international standards and the building of the necessary legal framework. Even though Article 44 of the TR mentions universal service policy, there are no concrete implementation guidelines (Lin, Ma et al., 2002: 61-62).

⁸³⁷ Mattoo (2002: 15-16).

⁸³⁸ Stephenson (2001: 19-20). In 2004, interconnection accounted for 7.53% of China Telecom’s revenue.

How strictly China complies with its obligations will no doubt become clear only in the long run. How pressures for compliance play out in the context of different national institutions, especially when these institutions are evolving, will be crucial for China⁸³⁹. As part of the transitional review mechanism, China agreed to regularly update its lists of laws and regulations, its licensing procedures and conditions. It also confirmed the independence of the regulatory authorities from the service suppliers and its pledge to indicate the state of play of licensing applications on sector and sub-sector levels⁸⁴⁰. In addition, four members of the WTO – namely the USA, the EU, Australia and Japan – seem intent on forcing China to comply with its commitments⁸⁴¹. The institutional interests of MOFTEC have become increasingly aligned with the norms of the international regime, and it often has been an able advocate within the government for China’s adoption of international practices⁸⁴². But, as Harris notes, the WTO’s accession is seen as different from others as it will involve substantial political and short-term economic costs (in the form of domestic adjustment and domestic opposition)⁸⁴³. Thus, making it a protracted process.

Deeper integration

China, like many other developing nations involved in broad economic and state reforms as well as telecommunication reforms, has and will require considerable regulatory flexibility to test various forms of market arrangements and the role of the state in the emerging regulatory environment. However, the growing presence of private investments in the sector and the increasing influence of multilateral agreements such as those developed in the context of the WTO are putting limits on the legal and operational flexibility of regulators. In addition, the regulatory reforms are constrained by China’s desire to play an increasingly central role in the sector. China’s ambition to become a key player in the telecommunication sector is best embodied in the development of domestic standards for the third generation of mobile telephony (3G). The next section explores how the central government’s ambition to transform a number of companies into global champions has raised the fears of protectionism in various capitals.

⁸³⁹ Pearson (2004: 574).

⁸⁴⁰ Annex 1A, chapter V, paragraph a-e (WTO and Working Party on the Accession of China, 2001b).

Paragraph 309 expresses concern about maintaining independence of regulators from those they regulate.

⁸⁴¹ GAO (2004).

⁸⁴² Pearson (1999a: 189).

⁸⁴³ Harris (1996: 140).

Shifting barriers

“Standards have become one of the most important non-tariff barriers to trade, especially national product standards that specify design or performance characteristics of manufactured goods.”

(Mattli and Bütte, 2003)

Since China’s WTO accession, the regulator and the other policy-making agencies have made efforts – crowned or not with success – to dismantle barriers of trade and erect the basis of a regulatory environment compliant with international norms and rules. These positive developments contrast with more worrying signs. Foreign governments and MNCs are increasingly concerned with the shifting of visible barriers of trade, like restrictions on market access, to more subtle forms of protectionism. Recent cases show that China has moved to develop, adopt, and increasingly mandate unique national technology standards across a wide range of technology products⁸⁴⁴. This attitude, which is not new, is reminiscent of the tendency toward techno-nationalism observed in a number of countries during the 1980s⁸⁴⁵. This once again point toward a continuity in policy-making. The role of standards is assuming a growing policy importance, especially at the intersection of national technology policies of norms and practices characterising international trade and investment in the global economy. Standards are essential for addressing market failures – such as imperfect information – and negative externalities – such as environmental degradation. They are also important in facilitating well-functioning markets where technical compatibility – network externalities – is important⁸⁴⁶.

A large body of literature discusses the issue of standards in telecommunication⁸⁴⁷. Apart from the many goods-related standards that may apply to the equipment used in supplying telecommunications, technical standards may affect the supply of telecommunications services in two important respects. First, standards, which are often technical in nature, may be applied to the suppliers themselves – such as service or network performance

⁸⁴⁴ Examples include a mandated encryption standard for wireless communications devices and the development of unique national standards for AVS for media/TV, IGRS for connectivity, and EVD for recording media.

⁸⁴⁵ China has long pursued technological strategies motivated by nationalism, and elements of techno-nationalism are clearly still evident in contemporary research, technology, and industrial policies (Suttmeier and Yao, 2004: 18). For a discussion on earlier forms of techno-nationalism, see (Reich, 1987; Ostry and Nelson, 1995).

⁸⁴⁶ At the same time, the design and operation of standards must also be such as to avoid the misappropriation or capture of public policy in these areas to construct unwarranted obstacles to competition and trade (WTO, 2005).

⁸⁴⁷ For a discussion on standards in telecommunication, see (Knight, 1992; Genschel and Werle, 1993; Joseph and Drahos, 1998; Schmidt and Werle, 1998; Gruber and Verboven, 2001; OECD, 2001b; Werle, 2001a).

requirements that the suppliers must satisfy – in discriminating manners. Second, technical standards are the principal basis for spectrum management and frequency allocation and assignment. In addition, standards may have direct implications on policy⁸⁴⁸.

The main sources of standards-related elements of the WTO telecommunications regime are the GATS, including the Annex on telecommunications, the BTA, including the RP, the Agreement on Technical Barriers to Trade (TBT) including a code of good practice for the preparation, adoption and application of standards, and the agreements on government procurement (AGP)⁸⁴⁹. Regarding technical standards, paragraph 7(a) of the Annex states, “Members recognise the importance of international standards for global compatibility in inter-operability of telecommunication networks and services and undertake to promote such standards through the work of relevant international bodies, including the International Telecommunication Union and the International Organisation for Standardisation”⁸⁵⁰. Werle notes that for the WTO, standards are to be used as instruments of pro-competitive trade policy while national governments tend to use them in an anti-competitive way. Therefore, according to the WTO rules, divergent national standards should be aligned to only one (international) standard in negotiations aiming at harmonisation⁸⁵¹.

Two rules are of particular interest to the telecommunication services sector. The first grants national authorities the right to adopt as regulations standards concerning essential requirements in order to ensure, for example, environment and health protection or the technical integrity of telecommunications systems⁸⁵². The second rule includes transparency and public availability requirements concerning standards and technical regulations⁸⁵³. Suttmeier and Yao have argued that, accordingly, Chinese decision makers have turned their attention to standards as part of “*a strategy for meeting new competitive*

⁸⁴⁸ In industries with significant network externalities, standardisation and compatibility issues raise important questions both for regulation and for competition policies (Bourreau and Dogan, 2001: 173).

⁸⁴⁹ GATS contains standards-related provisions on services, specifically, in Article VI paragraphs 4 and 5. TBT focuses on products and not on services. The AGP does not explicitly address telecommunications but covers all areas of public procurement of goods and services. Standards are referred to in Article VI, which requires that technical specifications shall not be prepared, adopted or applied with a view to, or with the effect of, creating unnecessary obstacles to international trade (Werle, 2001b).

⁸⁵⁰ WTO (1999a).

⁸⁵¹ Werle (2001b: 39).

⁸⁵² Under TBT, formal provisions to discourage using standards as TBT’s have been strengthened, but implementation has been difficult (Suttmeier and Yao, 2004: 23).

⁸⁵³ In recent years a number of voices have called for the inclusion of *binding* rules on technology neutrality throughout the telecommunications sector in the next round of negotiation.

*challenges and obligations resulting from China's accession to the WTO*⁸⁵⁴. Akin to the regulatory environment, China has given reassurances about its intention to play by international rules. It has recognised the importance of adopting international standards, which had been used as a basis for the development of its technical regulations, standards and conformity assessment procedures⁸⁵⁵. Table 46 provides some indicators, which allow us to measure China's effort to adopt international standards.

Table 46: Selected indicators of standard organisations

Country	Staff directly employed	Annual budget (thousand CHF)	Government subsidy in % of total revenue	Total number of standards published (12/2002)	Voluntary standards in % of total number of standards	Number of international standards adopted as national standards (12/2002)
China	60	16'580	100	20'206	86	8'931
India	1'996	23'844	n.a.	17'764	99	1'070
Japan	108	26'500	100	9'009	100	n.a.
Korea	244	32'732	100	15'176	100	7'054
USA	77	24'426	3	n.a.	100	836

Source: Adapted from WTO (2005).

The war for standards in China's telecommunication sector

That said, in recent years, the war for standards has been an increasing cause of concern to the telecommunication sector. The majority of the issues were affecting the equipment sector. While considered by some as a red herring, the saga of radiation standard illustrates well the new sort of non-tariff barriers that China could consider using⁸⁵⁶. It was followed a few years later by the row over a new standard for wireless applications – the Wireless Authentication and Privacy Infrastructure (WAPI) – which prompted the reaction from the US Commerce and State Departments. The State General Administration for Quality Supervision and Inspection and Quarantine (AQSIQ), and the Standardisation Administration of China (SAC) issued WAPI, which forbade the import, manufacture, and sales of equipment that did not accord with the new standard of wireless network products. These standards went into effect in December 2003 without having

⁸⁵⁴ Suttmeier and Yao (2004: 5-9).

⁸⁵⁵ Moreover, the Administration for Quality Supervision and Inspection and Quarantine (AQSIQ) has recognised as international the standards issued by 42 international organisations.

⁸⁵⁶ The draft regulations, first published late 2001 by an official committee developing mobile phone safety standards, diverged from a standard that prevailed elsewhere in the world and was endorsed by the World Health Organisation. One reason for the government to back out from its initial plan appears to be the concerted answer by various actors in the industry, like the telecommunication association, some foreign manufacturers and the European Union. Representatives from the China Mobile Communications Association urged the government to follow international benchmarks. More probably though is the disastrous consequences it would have had on the domestic manufacturers like Huawei, ZTE, TCL or Haier: such a strict standard would have greatly increased the cost of both domestic telecom network operators and mobile phone makers as well as engendered obstacle for the export of mobile phone.

been notified to the WTO⁸⁵⁷. The government's attempt to push through the new standard contravened in several ways to international rules – including the denial of national treatment to imported products, the use of standards that are more trade-restrictive than necessary to fulfil a legitimate objective, the use of mandatory standards that do not comply with accepted international standards, or local content requirements for access to the Chinese market⁸⁵⁸.

Most standard issues are confined to the equipment sector. Some of them nonetheless have direct bearings on the service sector. A case in point is the choice of standard for 3G. By agreeing to the Reference Paper, China has committed to technology-neutral scheduling, which means that any basic service may be provided through any means of technology – cable, wireless or satellites. The upcoming attribution of 3G licences will give the Chinese government a golden opportunity to prove at the same time its commitments to technology neutrality and to regulatory independence. To satisfy both principles, it will have to “de-link” the licences from any given technology – CDMA-2000, WCDMA or the domestically developed TD-SCDMA. In other words, it will not be allowed to force an operator to use of a particular technology in exchange for a 3G licence. The logical choice for the operators is mostly conditioned by the technology of the existing network. For example, China Mobile, who runs a GSM network, should adopt W-CDMA⁸⁵⁹.

For the time being, China has agreed to suspend indefinitely its proposed implementation of a mandatory wireless encryption standard and revise its standard, taking into account comments received from Chinese and foreign firms⁸⁶⁰. Moreover, it has promised to support technology neutrality with respect to the adoption of 3G standards⁸⁶¹. China also announced that Chinese regulators would not be involved in negotiating royalty payment

⁸⁵⁷ WAPI was drafted by MII's technology office in May 2003 (Interfax, 2003a). The new standard differed significantly from the internationally recognised standards that MNCs have adopted. In addition, the government was trying to impose its standard by providing the necessary algorithms only to a number of domestic companies, forcing multinational manufacturers to work with the licensed Chinese companies.

⁸⁵⁸ Trade-related standards include those governing product categorisation and product codes, for example, as well as standards for services. Industrial standards are typically the purview of particular line ministries, while the SAC governs “national” standards for multiple industries.

⁸⁵⁹ The company has apparently taken pre-emptive actions in this direction by applying for a W-CDMA licence (SinoCast, 2005c).

⁸⁶⁰ It has also agreed participate in international standards bodies on wireless encryption for computer networks.

⁸⁶¹ During the Joint Commission on Commerce and Trade (JCCT) held in May 2004, China announced steps toward a market-based and technology neutral approach to the development of next generation wireless standards for computers and mobile phones. It remains nevertheless to be seen whether domestic pressures from equipment manufacturers who have invested large amounts of money into the development of TD-SDCMA technology will remain unheard.

terms with relevant intellectual property rights holders. By the end of 2004, however, it had become evident that there was still pressure from within the Chinese government to ensure a place for China's home-grown 3G standard. The United States will therefore carefully monitor developments in this area in 2005⁸⁶². This will allow, in theory at least, telecommunications service providers in China to make their own choices as to which standard to adopt – and to refrain from negotiating royalty payment terms with 3G IPR holders⁸⁶³. The IPR cost is a major concern for vendors who do not own any or enough tradable essential patents and the largest groups in this camp are the Chinese and other Asian equipment vendors. In the case of a very large and diversified manufacturer such as Samsung, the lack of sufficient 3G patents is mitigated by the ownership of other patents in other technology streams — e.g. memory, Plasma, LCDs — that can be used for barter purposes. Other vendors, such as the Chinese, don't have any such relief and are therefore much worse off.

China's battle for specific standards is obviously not only linked to a given technology, but also to economic and political considerations⁸⁶⁴. The IPR costs of Asian 3G handset manufacturers range from 18% to 25% of the handset's average selling price or as much as USD 50 per handset. As a reference, 2G royalties on handsets range from 3% to 8% of the average selling price. China has made no secret about its desire and ambition to develop its own intellectual property. This has however put the government in front of a dilemma. On the one hand, relatively few firms have succeeded in the development of infrastructure and phones based on non-domestic standards. In other words, firms are given a significant competitive advantage when their countries create a system, which eventually becomes a worldwide standard⁸⁶⁵. On the other hand, the government does not want to create a “debased” telecommunication market because it imposed its own standards. In addition, the government does not necessarily want to favour one domestic company if that means that all the other ones risk losing their competitiveness in their battle for global market share⁸⁶⁶. For the time being, and given China's ambition to nurture national champions, it comes as no surprise that the government has backed a

⁸⁶² USTR (2004).

⁸⁶³ The government is likely to choose the technologies that will generate best prospects for the equipment industry in China. In the case of 3G, the Government is expected to issue licenses based on both W-CDMA and CDMA2000, so that China's manufacturers can leverage the scale of the domestic market to become global players. TD-SCDMA may have a small role, for example in limited franchise areas, for the sake of national pride, but no nation-wide rollout.

⁸⁶⁴ Fan (2001: 183).

⁸⁶⁵ Funk (1998).

⁸⁶⁶ Interview (B-007), conducted in Beijing, 31 August 2001.

limited number of domestic companies⁸⁶⁷. It remains, nonetheless to be seen, if the government will take the risk of imposing TD-SCDMA, or for that matter any other given standard, on the domestic operators.

⁸⁶⁷ Jensen and Thursby (1996) argue that governments set standards in order to improve the chances of domestic firms in R&D competition.

Concluding remarks

For Joseph and Drahos, the significance of the GATS does not lie in what it achieved initially, but rather in the set of expectations it generated. The GATS set up the expectation of a liberalisation of telecommunications and made use of a multilateral bargaining mechanism (the NGBT) to make sure that some action followed these expectations⁸⁶⁸. A similar analogy can be drawn with the impact of the WTO accession on the China telecommunication's reform process. Instead of provoking a radical shift in the regulatory environment, the accession set up a framework locking in the reform process.

Several elements allow us to put into perspective the importance of the WTO accession on reforms. First, while China's initial request for GATT membership preceded the initial reforms of the sector, telecommunication services were not included in the negotiations until the mid-1990s. It is only with the Basic Telecommunication Agreement (BTA) in 1997, that telecommunication services became part of the accession package. Second, there is evidence that the leadership in charge of telecommunications could not conceive that the WTO would entail a change in the way the industry was run. Former Minister Wu put all his weight to limit market access for both domestic and foreign operators. The combination of pre-emptive actions and of institutional setting thus limited the impact of the WTO's accession process. The tension was increased by the differing objectives of the various players involved in the telecommunication negotiations. On one side, foreign countries were keen on obtaining very precise concessions in terms of market access or equity holding, while on the other side MII was willing to open up in a very limited manner. In the middle, MOFTEC and the leadership were conceiving the WTO accession as an important goal in the wider reform process⁸⁶⁹. Third, institutional weaknesses in general, and the one in the telecommunication sector in particular, make implementation difficult. While there is no doubt that a number of key issues, such as interconnection, independence of the regulator or licensing remain unresolved, it seems hasty to jump to the conclusion that the impact of the WTO accession has vanished. China's WTO accession protocol is "here to stay". The government has shown its strong commitment to abide by the agreement and – unless there is an extraordinary and highly unlikely turn of events – to build on the accession to further the reform process *in all sectors* of the economy. Thanks to the relentless efforts of Minister Wu, telecommunication has so far been shielded from massive inroads of foreign operators. Instead, the government has

⁸⁶⁸ Joseph and Drahos (1998: 101-102).

⁸⁶⁹ Interview (B-041), conducted in Beijing, 28 November 2003.

been able to restructure the sector (and the operators) without haste, while maintaining control. At the same time, the breadth and depth of the negotiation implies the engagement of an enormous amount of resources, from the altering, or in certain cases, the creation of a legal framework to the training of thousands of civil servants to understand and implement the commitments.

While this chapter has argued that reforms and accession were on dual tracks, both processes can be viewed as independent only to a certain point. Given the commitments made by the Chinese government, it is only a question of time before foreign investors and private operators are able to enter the market. The next chapter discusses the reconciliation of domestic and international pressures and how the institutional setting will mediate the reconciliation.

Part IV:

Conclusions

7 Domestic reforms, substantive issues and the state

“Telecommunication reforms are not the mechanical outcome of policy implementation. To the contrary, they are the product of complex and dynamic interactions among conflictive interests.”
(Petrazzini, 1995: 5)

“There is nothing automatic about the definition of policy preferences or the path of policy and institutional change as internationalisation grows.”
(Keohane and Milner, 1996: 255)

In their classic study of China’s telecommunication reforms, Mueller and Tan have argued that policy changes could be initiated in three ways – proposals from top leaders, government ministries and agencies-initiated policy changes within their own jurisdiction, or a coalition of rival ministries proposing a redistribution of power, control, and assets among rival ministries⁸⁷⁰. This thesis set out to examine the evolution of China’s telecommunication policy-making in light of the major transformations that were taking place in the international telecommunication regime – both in terms of market liberalisation and creation of a supranational framework. One of the key questions raised throughout the research was whether the process of China’s accession to the WTO was to act as an additional factor that could fundamentally disrupt the way policy was initiated and conducted in the telecommunication sector. As of today, this has not been the case. Strong vested interests and institutional path dependency have largely undermined the effect of imposing a supranational framework onto the existing policy-making structure.

Part I and II have shown that China’s regulatory policy-making has overwhelmingly been crafted by domestic factors. The first round of reforms, initiated in 1993 saw the introduction of competition. For this to take place, the new entrants relied mainly on the support of the State Council and the desire of rivalling Ministries to secure a share of the emerging telecommunication market. The partial listing of corporatised operators on foreign stock exchanges, which followed a few years later, was driven more by consideration to maximise financial revenues than by the wish to align with international practices⁸⁷¹. The hopes that listed operators – now subject to investor scrutiny – would improve the sector’s governance and regulatory transparency, were rapidly squelched. Instead, it led to an idiosyncratic model of liberalisation in which the state remained very much involved in the telecommunication services sector, either through its ownership of the operators via SASAC or through the actions of the various policy-making agencies,

⁸⁷⁰ Mueller and Tan (1997: 53).

⁸⁷¹ We are witnessing today similar developments in the railway sector where the government has initiated reforms in pricing, rights of operation and opening to private capital (Xinhua, 2005a).

whose interests are not always aligned. The influence of non-domestic factors on regulatory policy-making should nonetheless not be completely discarded. The legislations passed in 2000 and thereafter satisfy more or less the requirements defined by the WTO's Reference Paper. The nature, scope and extent of the reforms have, in a sense, shown some signs of harmonisation with regulatory frameworks found in other countries. While it is clear that the future of its domestic regulatory policy-making will be dictated in parts by the supranational telecommunication framework, major concerns subsist. As of today, relatively limited progress has been achieved in terms of market access – for foreign or Chinese private companies – and there are continuing concerns about the implementation of the regulations passed since 2000, leading to a number of pressing substantive issues.

The first section summarises China's telecommunication regulatory policy-making in the era of economic and trade reforms. It reviews China's telecommunication reforms through a summary of the structural reforms, the process of regulation and the substantive regulatory issues. It then weights China's telecommunication liberalisation programme against other experiences around the world and more particularly in Asian countries. The second section discusses the substantive issues, which plague the sector's reform. The last section turns to the issue of the emergence of a regulatory State in China. A central question raised by the research is indeed whether the bargaining framework, often used to analyse and to explain policy-making in China, maintains its explanatory power in light of the economic and trade reforms and of the internationalisation process.

Framing China's telecommunication reforms

"Reform in policy-making was coming from two directions: internally where reforms were needed, and externally where the WTO promoted reform."

Senior MII official⁸⁷²

Reforms can take one of three directions: rationalisation, democratisation and power shifts. As this thesis has shown, reforms in the Chinese telecommunication sector went in at least two directions! Ministries with policy-making functions were streamlined and downsized – through outright reduction of civil servants and the spinning off of departments⁸⁷³. Provincial and municipal telecommunication bureaus became empowered with regulatory functions – setting up regulatory bodies and supervising provincial markets – and took advantage to experiment with regulatory measures at the local level. Power shifts have been more difficult to assess. Since the replacement of the archconservative Minister Wu in 2003 by Wang Xudong, it has become harder to locate the centre of decision-making. The mere fact that the telecommunication law is still in drafting – after more than a decade – shows MII's failure to establish itself as a credible regulatory authority. It also indicates a lack of consensus among the policy-makers who are unable to compensate for the absence of the long awaited telecommunication commission. The episodic intervention of SASAC and NDRC on a number of issues – such as the merger of the six operators into two or three super-providers, or the timing of 3G licences – further indicates that no finite boundary has been set around the various policy-makers' functions⁸⁷⁴. In our view, it is precisely the overlapping of some of the functions and of the policy domains that leads to the current status quo of the telecommunication reform⁸⁷⁵.

Structural reforms

The structural reform took the form of partial liberalisation. The most visible structural reforms have, no doubt, been the introduction of competition, the creation of MII in 1998 and the passing of the telecommunication regulation in 2000⁸⁷⁶. Table 47 summarises the history of China's telecommunication reforms⁸⁷⁷.

⁸⁷² Interview (B-031), conducted in Beijing, 15 November 2002.

⁸⁷³ These departments were "re-born" as research institutes and have taken the role of think tanks for MII and other policy-making bodies.

⁸⁷⁴ In theory, SASAC remains in charge of optimising state assets and NDRC entrusted with further sectoral reform.

⁸⁷⁵ For example, in telecommunication SAIC is responsible for checking anti-competitive conduct under the Unfair Competition Law, NDRC is charged with responsibility for checking anti-competitive conduct with respect to price-setting, and MII has the right to check anti-competitive conduct (Guan, 2003: 240).

⁸⁷⁶ The paradox of regulating while liberalising should not come as a surprise. As noted by Pearson (2003: 5) "in transition economies, regulatory reform combines some deregulation – stepping back of the state

Table 47: Overview of reform period and reform components

	Pre-reform era	First round of reforms		Second round of reforms	Third round of reforms
	1978-1993	1993-1995	1995-1998	1998-2001	Post-2001
Policy-makers	MEI, MPT	MEI, MPT, SPC, SETC		MII, SDPC, SETC	MII, NDRC, SASAC
Regulator		MPT		MII	
Regulation	Ad hoc administrative measures			Telecommunication Regulation	FITE
Ownership	State-owned, controlled by MPT	Corporatisation		IPOs (majority state-owned)	State-owned but control grouped under SASAC
Competition	None	Creation of China Unicom		Spin off of China Mobile and creation of China Netcom	Breaking up of China Telecom into Northern and Southern units
Pricing	Set by government			Flexibility for VAS	Limited flexibility for operators
Source of funding	Government and foreign loans	Domestic loans and international financing		IPOs and bonds	
Adoption rates	Minimal	Exponential	Steady	Steady	Declining
Market access and FDI	Explicit ban		Circumventing the ban	Renewed ban	Limited investment

Source: Compiled by author.

Funding aside, most of the structural reforms undertaken by the government have met with limited success⁸⁷⁸. The creation of China Unicom in the first half of the 1990s or the spin-off of mobile operations into a new company (China Mobile) bore little effect in promoting competition; neither did the break-up of China Telecom into a northern and southern territory put an end to monopolistic behaviours. Interconnection issues and more importantly incumbent power have severely limited the new entrants' capacity to compete. In theory, the objective of government policy should be to promote competition in those market segments that are highly contestable – such as distribution services – and to provide a mix of liberalisation and pro-competitive regulation in those markets where

from the economy – but also new regulations and re-regulation, often for the first time codifying the relationship between government and market, and building new institutions to direct this relationship.”

⁸⁷⁷ It proposes a periodisation of the events around four distinctive periods: a pre-reform era, followed by three rounds of reforms. While subjective by nature, periodisation allows us to discern potential causal links between a given set of institutions and reform periods. Periodisation is a cornerstone of virtually all historical analysis that involves the simplification of history through the recognition of certain types of events or processes as more “important” than others and that uses the dates of those events as dividing lines for a chronology (Katznelson, 1997).

⁸⁷⁸ The key problem for developing countries is attracting hard currency capital, skills and technology on terms that are sustainable for the long-term, while retaining control over policy direction (Melody, 1997c: 20; Pisciotta, 1997: 337).

the degree of contestability is low, such as basic services⁸⁷⁹. Unfortunately, the government has failed to pass authoritative legislation to this end. True competition remains a distant goal. The impact of the structural reforms has also been mitigated when it comes to regulatory independence. By accepting the regulatory principles specified in the Reference Paper, China has committed to instituting an independent regulator and thus to changing its traditional sporadic intervention on *ad hoc* basis into a transparent legal and regulatory framework.⁸⁸⁰ With the separation of the incumbent from the MPT and later MII, China has in theory filled the RP's condition that "the regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services" and that "the decisions of and the procedures used by regulators shall be impartial with respect to all market participants". Unfortunately, the gap between theory and reality remains wide. Although corporatisation took place in the mid-1990s, formal independence of the operators can only be traced to the transfer of ownership to SASAC in 2003. Moreover, whereas regulatory and policy authority tend to be separated – e.g. through the existence of a Ministry in charge of telecommunication and an independent regulatory agency – China has for now kept both functions under MII. This, combined with the lack of a clear definition of each policy-maker's function and to informal policy-making influences, have left the regulator almost powerless. The Telecommunication Regulations represented a welcome first effort by a national rule-making body to standardise the administration of China's rapidly changing telecommunications industry. It also helped prepare and position China to undertake many of its telecommunication-related WTO commitments⁸⁸¹. Unfortunately, it failed to address the issue of convergence and suffered from the lack of a more general law regulating the sector. In addition, MII's lack of power and enforcement capacity render this legislation largely useless. Overall, the structural reforms carried out since 1993 proved to be disappointing. The regulatory process can at least in part, explain this.

The regulatory process

The principles of good regulatory decision-making are well-known. They include transparency, objectivity, professionalism, efficiency and independence⁸⁸². The two main issues in defining a transparent regulatory process are the institutions to which the regulator is accountable and the set of mechanisms through which accountability takes

⁸⁷⁹ Stephenson (2001: 19).

⁸⁸⁰ Xu and Kan (2000: 20) and Mattoo (2002: 15-16).

⁸⁸¹ Horsley (2001a).

⁸⁸² Intven, Oliver et al. (2000: 1 - 19).

place. An essential step in achieving legitimisation is the establishment of transparent and inclusive procedures for the reconciliation of conflicting interests using public-interest criteria. Merely establishing transparent procedures is not enough⁸⁸³. For now, China lacks a mechanism where operators' views can be formally heard when a piece of legislation is getting drafted⁸⁸⁴. The performance of a regulatory system also largely depends on the regulator's determination to promote competition regardless of the form of the institutional structure. In addition, risks of poor regulatory performance are higher in transitional countries due to fewer checks and balances on regulatory behaviour⁸⁸⁵. Levy and Spiller have argued that performance can be satisfactory with a wide range of regulatory procedures, as long as three complementary mechanisms restraining arbitrary administrative action are all in place: a) substantive restraints on the discretion of the regulator; b) formal or informal constraints on changing the regulatory system; and c) institutions that enforce the above formal – substantive or procedural – constraints⁸⁸⁶. Table 48 applies Levy and Spiller's framework to analyse China's regulatory history throughout the successive reform eras. In the first place, China crucially lacks a set of mechanisms through which accountability takes place⁸⁸⁷. In addition, the core agency to which the regulator is accountable – the State Council – seemed to have lacked sufficient restraining mechanisms to prevent MII discretionary actions.

Levy and Spiller have argued that regulatory commitment can be developed in what appears to be problematic environments, but that without such commitment, long-term investment will not take place⁸⁸⁸. China's regulatory history has so far shown that, and contrary to what Levy and Spiller argued, commitment has been quite difficult to develop. This has however not prevented investment, since telecommunication companies

⁸⁸³ Samarajiva (2000a: 185).

⁸⁸⁴ Interview (C-004), conducted in Beijing, 12 June 2002.

⁸⁸⁵ For instance because the transparency framework is usually not as well developed, inefficient judicial review functions under a weaker rule of law, consumer interests are poorly organised, in line with a weaker vigilant civil society in general, parliaments carry out less oversight of performance or competition authorities are weaker or nonexistent (Min, 2000: 4-6).

⁸⁸⁶ To understand a country's ability to commit to particular regulatory processes and institutions, they find it useful to look at regulation as a "design" problem with two components: regulatory governance and regulatory incentives. The governance structure incorporates the mechanisms a society uses to restrain the discretionary scope of regulators and to resolve the conflicts to which these restraints give rise. The regulatory incentive structure comprises the rules governing pricing, subsidies, competition and entry, interconnection, and the like (Levy and Spiller, 1996: 4).

⁸⁸⁷ For Stern and Trillas (2003: 197) accountability is the key to achieving regulatory stability through political legitimacy and market credibility.

⁸⁸⁸ Levy and Spiller (1994) also found evidence of the need for institutional constraints to ensure the credible commitment of regulators to increased infrastructure investment. Hennisz (2002) empirically confirmed these findings for the electricity and telecommunications sector. His analysis showed that institutional constraints on political actors, which limited the potential for arbitrary policy change, were positively related to increases in infrastructure growth rates, even when accounting for unobserved country-level heterogeneity.

were in large part state-owned, allowing the government to implement its FYP “through” the operators. More surprising though is the enthusiasm displayed by MNCs to invest. All knew indeed that they were treading a regulatory grey zone. There, it seems, the factor that helped convince those foreign operators was the China is the “*only market that combines the critical mass with enormous potential for further growth.*”⁸⁸⁹

Table 48: Regulatory history and restraining mechanisms of China’s telecommunication sector

Period	Regulatory history	Restraining mechanisms		
		Substantive restraints	Restraints on system changes	Enforcement of restraints
1978 to 1993	No law No independent regulator and internal regulations	Opaque	Vagueness provided for administrative discretion in interpreting the law	Weak judiciary but strong executive (State Council)
1993 to 1998	No law No independent regulator and internal regulations	Opaque	Conflicting interests among stakeholders	Weak judiciary but strong executive
1998 to 2001	No independent regulator but major regulation passed in 2000	Telecommunication regulation complemented by administrative measures	Major overhaul of country wide legislative system	Weak judiciary and weakening executive, weak regulator
Post 2001	No independent regulator but major regulation passed in 2000	Telecommunication regulation complemented by administrative measures	Major overhaul to comply with WTO	Weak judiciary, weakening executive, weak regulator

Note: The legislative and executive institutions provide room for the State Council to draft regulations although there is increased questioning at the NPC. Judicial institutions remain weak and politically manipulable.

Source: Adapted from Levy and Spiller (1996).

The objective of broad economic and state reforms coupled with telecommunication reforms requires considerable regulatory flexibility to test various forms of market arrangements and the role of the state⁸⁹⁰. Having said this, too much flexibility causes other problems since operators and investors alike prefer having a certain amount of regulatory visibility⁸⁹¹. It is true that the government, through MII and other institutions such as SASAC or NDRC, gives the impression of having retained a significant control over the sector⁸⁹². At the same time, the government control has been eroded by the extension of the market economy, institutional fragmentation, investor scrutiny and the lack of an overarching telecommunications commission, given that the once all-powerful MII has not been able to establish itself as a credible independent regulator. Moreover, the

⁸⁸⁹ Interview (C-002), conducted in Beijing, 11 June 2002.

⁸⁹⁰ Petrazzini (1997: 359).

⁸⁹¹ In addition, the introduction of new telecommunication services and products, including cellular systems, communication devices, and information technology products, is significantly affected by the degree of regulatory control (Wilson, 1997: 81).

⁸⁹² The major shake up of telecommunications operators’ top executives in November 2004 serves as a reminder of the government’s ability to interfere in corporate activities and signals its intention to maintain a firm grasp over the sector.

listed telecommunications operators must now take account of capital market opinion⁸⁹³. Abrupt regulatory changes now risk attracting immediate sanctions from the market place.

⁸⁹³ In 2002, MII approved a 750% hike in the ‘call completion rate’ – the rate charged to foreign telecommunication companies, including those based in Hong Kong, to complete calls to China. The sudden increase drew sharp criticism from Hong Kong officials and some carriers. It seemed the increase was sought by China’s largest phone company China Telecom, in a bid to boost interest (by boosting its profits) in its then upcoming IPO, which was meeting with lukewarm interest among investors. The move failed to spark momentum, however, and the IPO was eventually halved from its originally planned size. In addition, it is reported that China Unicom and China Mobile lost USD 25 million in market capitalisation due to rumours that MII would introduce a Calling Party Pays regime (Anonymous, 2005).

Substantive regulatory issues

“Regulatory outcomes ultimately structure market outcomes.”

(Vogel, 1997: 181)

Despite impressive growth figures and technological leapfrogging, China’s telecommunication reforms have been confronted with a number of serious substantive regulatory issues, such as licensing, interconnection, price regulation or the provision of universal service. Although these issues are not unique to countries undergoing liberalisation of their telecommunication sector, China’s institutional setting renders the tasks to solve them extremely difficult. This section reviews the main issues that plague the sector’s reform.

Table 49: A summary of best practice in telecommunication regulation

Area	Best practice regulation
Universal service	A fair and transparent telecommunication regulatory framework, technologically neutral licensing practices and an effective regulatory body responsible for implementing policies
Licensing	Transparency, public consultation, balancing certainty and flexibility
Interconnection	Provide advance regulatory guidelines, focus interconnection obligations on the incumbent, transparency and non-discrimination
Price regulation	Financing, efficiency and equity objectives

Source: Intven (2000) and ITU (2003).

Licensing

In 1994, as part of eight policies of telecommunication development, the State Council announced the licensing of value-added and mobile telecommunication services⁸⁹⁴. Further clarification of the licensing process was provided in the September 2000 telecommunication regulations⁸⁹⁵. But, in spite of the introduction of regulations⁸⁹⁶ and the foreign community's repeated calls for transparent procedures⁸⁹⁷, information on existing licences and, more importantly, on licensing schedules (*how many* licences are to be issued and *when*) remains hard to get. Licensing of third-generation mobile telephony (3G) provides a prime example. Both MII and NDRC have made contradictory public announcements on the number and timing of the 3G licence issuing⁸⁹⁸. In addition,

⁸⁹⁴ Lu (2002a: 17). Regulation 55 issued by the State Council but drafted by MPT defined certain telecommunication services as open to domestic competition and established a licensing system for new entrants to be administered by MPT and its provincial branches.

⁸⁹⁵ Articles 7 to 22 (State Council of the People's Republic of China, 2000).

⁸⁹⁶ In theory, licensing issues are covered both by the telecommunication regulation and by the Decree No. 19 “Measures on the Management of Licence for Telecommunication Businesses Operations” (*dianxin yewu jingguan xukezheng*) (Ministry of Information Industry, 2002b).

⁸⁹⁷ Interview (B-001), conducted in Beijing, 27 August 2001. Transparency was also debated within the Working Party during the WTO accession.

⁸⁹⁸ The latest rumour announced that China would release four third-generation licences with a price tag between RMB 100 and 200 million (Dow Jones Chinese Financial Wire, 2005).

licensing requirements may be inconsistent with Reference Paper requirements of transparency and non-discrimination⁸⁹⁹: under WTO commitments, national policy-makers are free to adopt a variety of criteria in the granting of licences, as long as they are public and transparent⁹⁰⁰. However, China's licence application is still not streamlined as the framers of the relevant provisions of the Working Party Report intended⁹⁰¹. In spite of paragraph 308 listing the requirements around licensing procedures, a strict interpretation of the FITE regulation could lead to the basic telecommunication service licensing process for a foreign operator to take a minimum of 496 days⁹⁰². Table 50 describes the official licensing procedures issued by MII.

Table 50: Overview of licensing procedure, 2004

	Type of operator	Licence authority and capital requirement	Application review	Duration	Equity requirement
Domestic	Basic telecommunication ^a	MII and State Council	180 days		State-owned > 51%
	Value-added services ^b	MII and State Council if more than 1 province, else provincial regulatory body	60 days		None
Foreign	Basic telecommunication	MII and State Council if more than 1 province (RMB 200 million), else provincial regulatory body (RMB 2 million)	180 days	5-10 years	49%
	Value-added services	MII and State Council if more than 1 province (RMB 10 million), else provincial regulatory body (RMB 1 million)	90 days	5 years	50%

Note: ^a Provision of public network infrastructure (data and voice); ^b Using public network to provide services.

Source: Adapted from Lu and Wong (2003: 87).

In addition, the high capitalisation requirements offer little incentive to a potential Chinese joint venture partner to tie up with a foreign partner (at least RMB 1 million in passive capital). With basic telecom infrastructure and services already in place, there is little reason for a potential Chinese partner to build a separate infrastructure through a joint venture that would compete with the Chinese parent. China's capitalisation requirements are also inconsistent with the licensing practices of other liberalising economies. A global review of start-up capital requirements for basic telecom services providers finds none in the United States, EU member states, Canada, Japan, Australia,

⁸⁹⁹ In 2002, the Law on Administrative Licensing was promulgated by the Standing Committee. It states that only the NPC, the State Council and local People's Congress have the right to determine whether one activity needs an administrative licence. Departments under the State Council will no longer have the right to do so.

⁹⁰⁰ Blouin (2000: 140).

⁹⁰¹ Paragraph 306 (WTO and Working Party on the Accession of China, 2001b).

⁹⁰² Interview (B-034) conducted in Shanghai, 21 November, 2003.

Argentina, Brazil, or Chile. Hong Kong requires a performance bond. India requires a bank guarantee ranging from USD 5 to 10 million, depending on geographic scope. Korea requires a USD 2.5 million performance bond or bank guarantee. Singapore requires a performance bond, scaled according to business scope. Only Taiwan maintains comparable capitalisation requirements to those of China.

One of the great ironies of China's telecommunication reforms lies in the fact that some of its most pressing issues, such as interconnection, independence of regulators or competitive safeguards, are all part of the Reference Paper, but that in spite of signing it, the government has largely been unable to comply with its obligations⁹⁰³.

Interconnection

In network industries such as telecommunications, it is not enough simply to introduce competition through licensing⁹⁰⁴. The fundamental issue posed by interconnection is straightforward: without a right to interconnection, the incumbent can combine positive network externalities with its installed base to foreclose or severely handicap other competitors⁹⁰⁵. Furthermore, without regulatory intervention, interconnection arrangements are likely to reflect the respective market power of the players at the time of the negotiation, and to be used by the PTO to create artificial barriers to entry and shape competitive opportunities to its own interest. Three interconnection principles are critical for the promotion of non-discriminatory telecommunication markets – mandatory interconnection of networks, no discrimination across network operators for the same service, pricing rules involving reciprocity, unbundling and imputation of interconnection⁹⁰⁶. To this end, interconnection charges must reflect multiple objectives. It goes without saying that reaching good decisions in interconnection policy requires a sophisticated understanding of the economics of network interconnection, technological expertise, and information on cost and demand⁹⁰⁷. Thus interconnection regulation and,

⁹⁰³ In other areas, such as interconnection, scarce resources or universal service obligations, the regulation is formally consistent with Reference Paper obligations, but there is uncertainty to what extent the regulation will be enforced and implemented in a WTO consistent manner.

⁹⁰⁴ Even at the point of introducing competition a number of related actions are necessary, especially with regard to interconnection and access to scarce resources such as frequencies, numbers and rights of way (Samarajiva, 2000b: 712).

⁹⁰⁵ Economides (1996) and OECD (2001a: 44).

⁹⁰⁶ Melody (1997a: 55-57, 61) identifies four interconnection issues: technical (e.g. standards), service (e.g. uniform definitions), competitive (e.g. terms of access and use) and regulatory (e.g. criteria to determine access). See also Stephenson (2001: 19-20).

⁹⁰⁷ An intelligent interconnection policy is the key to the harmonious development of competition in the telecommunication industry. To this end, interconnection charges must reflect multiple objectives. They must induce an efficient use of networks, encourage their owners to invest while minimising cost, generate

more importantly, empowerment of the regulator are crucial to solving interconnection issues⁹⁰⁸. Furthermore, the power of an incumbent telecommunications network to control the terms of interconnection depends both on the size of its own network relative to the rival and whether or not the incumbent could expect to gain the rival's customers in the event of failure to interconnect⁹⁰⁹.

Like in other countries, interconnection has been an uphill battle for new entrants. While the SPC had passed, as early as March 1996, a regulatory document on the financial settlement for network interconnection⁹¹⁰, China Unicom had not only to apply for interconnection to various subsidiaries of China Telecom, but to re-apply to MII to be granted interconnection rights⁹¹¹. Likewise, the ability of the two new regional fixed network incumbents created from the break-up of China Telecom – China Netcom in the north and China Telecom in the south – to enter each other's regions has been conditioned on their progress in providing interconnection to each other⁹¹². Finally, it is reported that some specialised networks owned by different government departments and SOEs are *beyond* interconnection regulations and are only willing to sell access at much higher prices⁹¹³.

Several causes underlie China's interconnection problems. First, the existing regulatory instruments dealing with interconnection seem largely ineffective. Although the September 2000 regulation dealt with interconnection of telecommunication networks in Articles 17 to 21, the regulator had to issue three subsequent measures shortly after. In addition to the "Measures on the Settlement of Call Charges between Telecommunication Networks" (*dianxin wangjian tonghuafei jiesuan banfa*), MII had to pass Decree No. 9, "Provisions on Administration of Interconnections Between Public Communications Networks" (*gongyong dianxin wangjian hulian guanli guiding*) and Decree No. 15, "Measures for Settlement of Interconnection Disputes in Telecommunications Networks" (*dianxin wangjian hulian zhengyi chuli banfa*)⁹¹⁴. It seems however that operators tend to ignore these measures and that MII lacks the power to implement them. Second, the

an efficient amount of entry into infrastructure and services, and do all of this at a reasonable regulatory cost (Laffont and Tirole, 2000: 98-99).

⁹⁰⁸ Schwarz and Satola (2000: 8).

⁹⁰⁹ OECD (2001a: 44).

⁹¹⁰ Xu and Pitt (2002: 71).

⁹¹¹ China Tietong too has seen its launch delayed by interconnection problems with China Telecom, as it had to apply for interconnection with each of the provincial subsidiaries.

⁹¹² Willner (2002: 46).

⁹¹³ Lu and Wong (2003: 104).

⁹¹⁴ See Ministry of Information Industry (2001b; 2001a; 2002a).

current settlement criterion does not seem to constitute the right incentive for operators ensuring interconnection⁹¹⁵. For instance, China Telecom argued that the burden of universal service was not adequately represented in the interconnection price. Similarly, China Mobile has argued that it incurred large investment costs to develop its mobile network⁹¹⁶. Third, the pressure exerted by financial markets has further complicated the issue. Revenue derived from interconnection is indeed significant (see Table 51).

Table 51: Interconnection revenue assumptions/estimates, 1999-2003

	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003E</u>
Total local (million minutes)	106,000	117,700	117,800	146,212	152,107
Total domestic long distance (million minutes)	32,311	42,431	48,059	68,650	69,505
Total international long distance (million minutes)	1,409	1,677	2,421	1,325	1,485
Total minutes	139,720	161,808	168,280	216,187	223,097
% of minutes subject to interconnection revenue	56.90%	49.60%	36.00%	33.60%	32.50%
Average interconnection tariff (RMB/min)	0.06	0.06	0.06	0.06	0.06
Interconnection revenue (RMB million)	4,770.04	4,855.53	3,816.59	4,358.33	4,350.39
Interconnection revenue (USD million)	574.70	585.00	459.83	525.10	524.14

Source: CSFB (2003).

In 2002, access charges accounted respectively for 3.6% and 3.3% of China Telecom and China Netcom total revenues⁹¹⁷. China Mobile has to pay something like RMB3 billion per year for interconnecting with fixed line. It is so expensive that the mobile operator decided to build its own fixed-line backbone^{918, 919}. To solve the interconnection issue, MII formed in 2003 a special group with the aim of creating an inter-carrier settlement and interconnection monitoring system⁹²⁰. Later that year it announced new regulations for the settlement of interconnection charge and relay expenses among telecom operators.

⁹¹⁵ China applies revenue sharing to interconnection charges. In such an approach, new entrants pay the incumbent operator a share of their revenues from interconnected services (or all services). This approach is simple but considered as non-transparent, potentially inefficient and anti-competitive (Intven, Oliver et al., 2000: III-24). In telecommunications, access and interconnection prices are also to a large extent determined on a revenue sharing basis. For instance, no charge is imposed on termination between mobile networks. But since China adopts RPP in mobile networks, such regime is equivalent to an equal sharing of revenues under CPP. Indeed, such revenue sharing scheme is also explicitly implemented for the interconnection from fixed line to fixed line networks. The interconnection charge is regulated to be equal to half of the rival's retail prices (Laffont, 2004: 204).

⁹¹⁶ Interview (B-035), conducted in Shanghai, 21 November 2003.

⁹¹⁷ Access charges usually account for 15 to 30% of the dominant operator's revenue in other countries (Lu and Wong, 2003: 103).

⁹¹⁸ Interview (B-011), conducted in Beijing, 6 September 2001.

⁹¹⁹ Starting in December 2003, interconnection charges for calls made between fixed-line and between mobile networks were settled at RMB 0.06 (USD 0.007) per minute. Previously, fixed-line telephone operators charged mobile operators interconnection fees when a mobile phone called a fixed-line number while the reverse would not be charged (Interfax, 2003b, 2003c).

⁹²⁰ The system is scheduled for completion in the middle of 2004, and was to inspect 31 municipalities, provinces, and autonomous regions across China. On August 14, 2003, the Chinese Government issued the 75th governmental file to seriously regulate the Chinese chaotic telecoms market. The document mainly aimed at improving telecoms interconnecting services among different China-based telecoms carriers, limiting malicious price competition, and ensuring rational competition in the Chinese telecoms market (SinoCast, 2004c).

The new regulations, which became effective in December 2003, specified the amount for interconnection charges – prior to these new regulations, there had been no interconnection charge between China Mobile and China Unicom. In addition, operators have taken things into their own hands by allying in aspects of interconnection and pricing system. In Jiangsu, they have recently reached a *self-discipline agreement* composed of 26 articles that clearly prescribe carrier interconnection, inter-carrier settlement, billing rate reduction for promotion, and telecom facility construction⁹²¹.

In brief, there is already a push in the right direction from the regulator, but anywhere else, incumbents have found more sophisticated ways to stay one step ahead of the regulator and hold onto the advantage of economies of scale from being the biggest operator in the market. The difference has been that in China the incumbent found a very receptive voice (or a regulator), which was willing to ignore the roadblocks that the incumbent was throwing up⁹²².

Price regulation

Closely linked to interconnection is the issue of price regulation. Of all utility services, telecommunications is often regarded as the only sector to have seen sufficient competition to begin to reduce the need for tariff regulation⁹²³. Telecommunication prices in China have traditionally been government-set prices (*ding jia*) or government-guided prices (*zhidao jia*) – that is where the government usually specifies a range of prices. As a result, operators had very limited flexibility in setting their own tariffs. In 2001, companies were allowed to set their own prices for certain services “in accordance with market levels”⁹²⁴. In addition to the tariff regulation introduced at the beginning of 2002, a new rule on price statements for telecommunication services, jointly drafted by MII and the SDPC, took effect on August 1, 2002 (see Table 52). It requires service providers to clearly display their service content and billing rate, and to provide a channel for public inquiry⁹²⁵. Retail service prices are still regulated where effective competition is lacking, based not on a single transparent test but on a mixture of cost concepts and other factors such as perceived needs of the industry⁹²⁶.

⁹²¹ SinoCast (2004d).

⁹²² Interview (B-008), conducted in Beijing, 3 September 2001.

⁹²³ Harris (2003: 37).

⁹²⁴ MII gave up control on long-distance pricing, especially for Voice over Internet Protocol (VoIP) services, leading to major price cuts by China Unicom and China Netcom.

⁹²⁵ Interfax (2002c).

⁹²⁶ For example, China Unicom had a 10% discount buffer (Interview (B-029), conducted in Beijing, 12 October 2001).

Table 52: Telecommunication services subject to tariff deregulation, August 2002

Segment	Comment
Fixed local	Voice messaging, narrow-band ISDN value-added services, tele-info services
Long-distance	Video and voice teleconference
IP services	Domestic and international long-distance
Paging	Usage tariffs, data services
Data services	Both domestic long-distance & international
Cellular	SIM card fees, domestic/international long-distance roaming, SMS and VAS
Satellite	Transponder leasing, VSAT, satellite phones and pagers

Note: Basic tariffs for fixed-line local calls and long-distance calls, as well as mobile tariffs, have been excluded, as they remain regulated at fixed rates by the government.

Source: MII.

Like in other countries, the tariff structure had a clear cross-subsidising feature, with the rate of return much lower (intra-city) for city services and higher for long-distance and international services⁹²⁷. The various tariff adjustments have also impacted China Telecom's revenue stream and its capacity to provide universal access⁹²⁸.

For many years, the current official line was that the government would continue to set prices for basic telecom services affecting national security and the national network, whereas value-added services would be priced by enterprises themselves or through government-guided prices⁹²⁹. In fact, in 2004, the State Council declared that the communications companies had *no rights* to change charge ratings at their discretion⁹³⁰. By March 2005, rumours were circulating that carriers would gain pricing power after MII's plan to introduce market principles into the reforms⁹³¹. Regulatory officials nonetheless openly admit that telecommunication price regulation is not as effective as it is used to be. In fact, even though administered prices without any flexibility are officially imposed, price wars are common⁹³². This opinion is qualified by a local manager: "*the local government, the bureau of telecommunication management can decide to a large extent if you can make a price war*"⁹³³. Lately, there have been rumours of a change in the policy direction: the government would no longer directly set prices, but instead would adopt a system by which the enterprises apply (*shenbao*), the government approves (*shenpi*), and then the government publicly announces (*gonggao*). In addition, a clear

⁹²⁷ Lu and Wong (2003: 22).

⁹²⁸ Lin, Ma et al. (2002: 22).

⁹²⁹ The principle for setting prices should be cost-based pricing.

⁹³⁰ SinoCast (2005b).

⁹³¹ There have also been talks about launching an independent regulatory body to supervise telecommunications fees. The State Telecommunications Management Commission is expected to see the light around 2006 or 2007. It is hoped that the commission will be able to curb the sector's price wars and fierce competition (Anonymous, 2005). In the meantime, China Telecom and China Netcom obtained approval from NDRC and MII to adjust fixed-line phone charges. Under the notice jointly issued by the two departments, the country's top two fixed-line phone carriers are permitted to collect advance payment for basic services calculated by days (SinoCast, 2005a).

⁹³² Laffont (2004: 198).

⁹³³ Interview (B-035), conducted in Shanghai, 21 November 2003.

distinction will be made between what prices are administered by MII, and what prices are administered by the newly established provincial Telecommunication Administration Bureaus⁹³⁴. The trend is thus to gradually create a free market environment for pricing, by gradually giving more flexibility on tariffs to the service providers rather than having the government making the decision⁹³⁵.

Universal service

According to MII, there were about 101.6 million fixed-line phone subscribers in the rural areas at the end of 2004, up from 93.1 million at the end of 2003. In urban areas, there were about 215 million users, against 175 million at the end of 2003 (see Figure 14, Table 53 and Table 54)⁹³⁶. The respective annual growth rates (respectively under 10% and above 20%) underline the mounting divides between both areas⁹³⁷, which the government attempts to bridge through its 'Go West' policy (*xibu da kaifa*⁹³⁸). The uneven distribution of fixed-line telephony in China is highlighted in Figure 15, which shows that

Table 53: Mobile and fixed-line switching capacity, 2003

Region	Population (million)	Breakdown	Mobile (million)	Breakdown	Fixed line (million)	Breakdown
East	399	32.3%	181.3	53.8%	167.8	48.0%
Central	480	38.8%	87.2	25.9%	109.0	31.2%
West	357	28.9%	68.6	20.3%	72.6	20.8%
Total	1,236	100.0%	337.0	100.0%	349.3	100%

Source: MII.

Table 54: Urban vs. rural fixed-line penetration, March 2004

Region	Urban	Rural	Total	Penetration
East	95	47	141	35.4%
Central	59	36	94	19.6%
West	42	17	59	16.5%
Total	196	99	295	23.9%
Penetration	38.2%	13.7%	23.9%	

Source: MII.

The concept of universal service consists in ensuring quality telecommunications services at affordable rates to consumers, including low-income consumers, in all regions of the nation, including rural, insular, and high-cost areas⁹⁴⁰. Universal service policies are typically justified through a combination of network externalities, ‘merit’ goods and political factors or regional development goals, although Clarke and Wallsten find little evidence that subsidies have been used to meet universal service goals under monopoly provision. Methods of funding universal service obligations include cross-subsidies (financed through the general tax and transfer system), as well as universal service funds and auctions⁹⁴¹. However, both privatisation and liberalisation trends make it impossible to maintain significant cross-subsidies in the structure of prices⁹⁴². The compatibility of competition and universal service obligations is the object of intense political and economic debates, and there is no definite conclusion as to whether competition is harmful or beneficial to the universal-service objective⁹⁴³.

In many Asian countries, internal cross-subsidisation was widely used to promote universality⁹⁴⁴. In China, the current system of universal service obligations is based both on internal cross-subsidies of the dominant operator and “favourable” government fiscal policies⁹⁴⁵. In fact, universal service policy was for a long time implemented through

⁹⁴⁰ Laffont and Tirole (2000: 219).⁹⁴¹ Clarke and Wallsten (2002: 4-12).⁹⁴² Kessides (2004: 25).⁹⁴³ Barros and Seabra (1999: 59) and Gasmi, Laffont et al. (2000: 222).⁹⁴⁴ Intven, Oliver et al. (2000: VI-55).⁹⁴⁵ Actually, from a legislative perspective, Article 44 of the September 2000 regulation provides for universal service obligations. Although Article 44 specifies that the administration is incumbent to the

offering fiscal policy support to the operator to make investments in expanding network coverage. Currently, the operators do not equally share universal service obligations and, as a matter of fact, only China Telecom has such obligations based on implicit contracting inherited from the monopolistic era⁹⁴⁶. The policies concerning universal access were often made explicit via the Five-Year Plans. For example, there was a requirement in the 9th FYP (1996-2000) to have at least one telephone line going to every administrative village (*cun cun tong dianhua*) by the end of the plan⁹⁴⁷. The government then reverted to more realistic objectives. It achieved 80% of administrative connectivity by 2000, and planned that the proportion of villages with access to telephone services would increase from 80% by the end of 2000 to 95% by 2005 – those of urban areas would reach 100%⁹⁴⁸. Later, the 10th FYP called for the establishment of a universal service contribution and government subsidising mechanism⁹⁴⁹.

China's ultimate stated goal remains the implementation of "one family, one telephone" in urban area and telephone services in every rural administrative village⁹⁵⁰. According to the state mid-term and long-term plans, the fixed line project into villages will be implemented in two stages. At the end of the first stage, all the administrative villages would have access to fixed lines by 2010; at the end of the second stage, all the "natural villages" would have access to fixed lines and Internet. MII launched the fixed line project into villages at the beginning of 2004, saying that by the end of 2005, it would open fixed line phones to 40,000 administrative villages, giving 95 % of them access to fixed line⁹⁵¹. In addition, policy-making bodies have also started to debate the creation of a universal service fund. In 2000, SDPC proposed two scenarios to that end: collect a proportion of the revenues of all operators⁹⁵² or transform installation and connection fees directly into a universal service fund⁹⁵³. In January 2004, MII commenced a trial on universal service obligations (USO) in five provinces in conjunction with the country's

department in charge of the information industry, it emphasises the centrality of the State Council in the overall management of universal service.

⁹⁴⁶ Lin, Ma et al. (2002: 20).

⁹⁴⁷ Interview (B-002), conducted in Beijing, 27 August 2001.

⁹⁴⁸ Lin, Ma et al. (2002: 65).

⁹⁴⁹ Including flexible taxation and investment policies to encourage the development of telecommunications services in poor areas and villages' government subsidies for the provision of dedicated government and Party networks, emergency communications services and the publishing of the Party's doctrine and books for blind people (TRP, 2001).

⁹⁵⁰ Li and Wang (2003: 2).

⁹⁵¹ Xinhua (2004b).

⁹⁵² On the condition that installation fees for fixed line phone, connection fees for mobile phones, and all kinds of surcharges and government funds on top of telecom services are repealed (Lin, Ma et al., 2002: 23).

⁹⁵³ And, on top of that, to collect the remaining funds as a proportion of the revenues of all operators (Lin, Ma et al., 2002: 23).

six basic-service telecom carriers. The focus was on using alternative wireless and satellite technologies, such as CDMA450, SCDMA400 and VSAT. The initial fund size for USO is likely to be less than RMB10 billion, or 2% of telecom spending⁹⁵⁴.

Discussion

All the issues discussed above are not restricted to China's telecommunication sector. In fact, even the most "mature" telecommunication sectors have had to tackle them during their transition from a state-owned monopolistic operator to a competitive telecommunication sector. In many transition economies there is an important political link between the scope of the Ministry's power and the level of independence of the regulation bureau⁹⁵⁵. In China too the reforms have initially failed to create a truly independent regulator. Instead, the regulator remains fully integrated within the Ministry in charge of telecommunication (MII). A direct consequence of the regulator's lack of independence is that it remains subject to political influence and strong vested interests.

In order to address the substantive issues brought by the telecommunication reforms, the government will have first to resolve the nature of the regulatory authority itself. But even if a regulatory authority is established with the necessary jurisdiction, it must still be effective⁹⁵⁶. As noted by Pearson "*regulatory authority and independence in China does not yet derive from legal sources, nor is regulatory enforcement backed up by legal means*"⁹⁵⁷. While the days of selective enforcement seem to fade away, a sense of weak enforcement capacity still largely prevails in the telecommunication sector⁹⁵⁸. The gap between MII, which has remained shielded from a fundamental re-structuring and kept operating along state-run lines, and operators who need increasingly respond to market forces is only more apparent.

It is also important to keep in mind that the impact of regulatory incentives – such as the rules governing utility pricing or interconnection – comes to the forefront only if

⁹⁵⁴ The government may allocate funds from the budget and, as such, contribution from the telecom carriers should not exceed 1.0% of revenue. China Telecom has not disclosed its spending in rural areas, but it should be a net beneficiary of USO implementation (Deutsche Bank, 2004).

⁹⁵⁵ Schwarz and Satola (2000: 22). The more powers are granted to the Ministry, the more palatable, from a political perspective, it will be to confer a healthy level of independence on the bureau.

⁹⁵⁶ Pisciotta (1997: 348-349). It is also critical to establish a legal framework for fair and consistent regulatory decision-making. Finally, any regulatory process must be customised to meet the unique requirements of a particular country.

⁹⁵⁷ In short, independence is constrained by the fact that the regulator is not independent from policy-making bodies and that it lacks authority (Pearson, 2003: 21, 28).

⁹⁵⁸ Interview (B-003), conducted in Beijing, 28 August 2001 and interview (B-005), conducted in Beijing, 13 September 2001.

regulatory governance has successfully been put into place⁹⁵⁹. Laffont and Tirole point out that the adoption of high-powered schemes must go hand-in-hand with the existence of political and bureaucratic institutions that alleviate capture problems⁹⁶⁰. Otherwise, as argued by Stern and Trillas, countries with limited institutional capacity should carry out regulation by simple, minimum discretion procedures or, if possible, by reliance by the regulatory agency on contract enforcement⁹⁶¹.

Table 55: Comparison between standard institutional structure in developed market economies and China

Function	Responsible organisation	China
Policy development	Government Ministry or Executive Branch	MII, NDRC, SASAC
Regulation	Separate regulatory authority	MII
Network operations	PTOs (privately or commercially operated)	China Telecom, China Netcom, China Mobile, China Unicom, China Tietong

Source: Adapted from Intven (2000).

Unfortunately, China’s existing regulatory governance remains opaque and to a large extent subject to capture by vested interests. Moreover it seems ill equipped to build new institutions with meaningful implementation power in the short run⁹⁶². What was perceived by Lovelock as a factor contributing to the implementation of China’s national information infrastructure policy framework – the lack of institutional constraints – has proven a stumbling block to in-depth reforms of the regulatory environment⁹⁶³. Thus one of the key dilemmas faced by China is to balance a development of telecommunications that fits into a global framework for progress while accommodating its national interest⁹⁶⁴. As noted by Henisz and Zelner, “*the ability of a laggard country to catch up with countries with more developed telecommunications infrastructure depends not only on economic characteristics but also on the ability of that laggard country’s institutional environment to constrain arbitrary behaviour on the part of government officials.*”⁹⁶⁵ The failure of the Chinese government to create a regulatory regime to effectively implement the new policy of liberalisation represents essentially a problem of institutional change. As institutional analysts have observed, institutional change very rarely has revolutionary dimensions and is most often undertaken with cognisance of the existing arrangements,

⁹⁵⁹ Levy and Spiller (1994). Likewise Spiller and Tommasi (2005) emphasise the institutional aspects that impact on the nature of regulatory institutions, and thus on regulation and sectoral performance.

⁹⁶⁰ Laffont and Tirole (2000: 58).

⁹⁶¹ The alternative view is that proper regulatory governance arrangements are crucial precisely because telecom and other utility regulation cannot avoid discretion (Stern and Trillas, 2003: 197).

⁹⁶² In theory, institutions determine the capacity of governments to legislate and implement policies. Institutions also determine the strategies of political or economic actors by virtue of the opportunities and constraints they provide. Finally, they determine the distribution of power among political or economic actors.

⁹⁶³ Lovelock (1999).

⁹⁶⁴ Fan (2001: 238).

⁹⁶⁵ Henisz and Zelner (2001: 144).

resulting in institutional path-dependency. The set of existing institutions – Ministries and Commissions – prevented, or at least, reduced the impact of the new institution represented by the telecommunication regulation passed in 2000.

Comparison with other Asian and developing countries

As noted earlier, the late 1980s saw telecommunications policy in developed and developing countries alike enter an era of liberalisation. However, the origins, modalities and outcomes of reforms have varied according to countries' level of development⁹⁶⁶. For example, telecommunication restructuring in many developing countries has been linked to economic adjustment programs driven by fiscal crisis and economic decline⁹⁶⁷. In more developed countries (MDCs), the pressure of large corporate users and actors outside the state apparatus played a key role in bringing about the initial push for telecommunication reform while in least developed countries (LDCs) the reform often emerged at the core of the state itself⁹⁶⁸. Approaches to policy reform have differed markedly across regions and countries and in practice few developing countries have embraced the liberalisation programme wholeheartedly. For example, most governments have been unwilling to commit to complete liberalisation immediately, preferring instead a gradual reform process, encompassing the privatisation of state-owned operators and the introduction of competition⁹⁶⁹. While Snow had predicted that developing countries would evolve towards a more competitive deregulated environment as they experience economic growth⁹⁷⁰, many of them have been reluctant to introduce full competition in basic services. Regulators in transition and developing countries (TDCs) have been too reluctant to do so, assuming that an open market would lead to high unemployment in the sector and to the likely bankruptcy of PTOs. In addition these countries generally did not have a body of competition legislation or competition commissions, nor had the judicial systems capable of dealing with the emerging complexity and dynamism of the service sector. Another trend in TDCs has been to leave key strategic decisions, such as overall sector policy and final selection or approval of the licences applicants, with the Ministry in charge of telecommunication, while locating responsibility for all other day-to-day regulatory issues with the regulatory bureau⁹⁷¹.

A number of procedural and structural reasons have been used to explain differences in outcome. First, the best successes with telecommunication reforms have been experienced by countries that attended to regulatory reforms first, thus underlining the importance of making an effective transition from government-as-operator to government-as-

⁹⁶⁶ Petrazzini (1997: 360) links the divergent policy outcomes of telecommunication reforms in developing countries to a long tradition of state intervention.

⁹⁶⁷ Petrazzini (1995: 14) and Kessides (2004: 33).

⁹⁶⁸ Petrazzini (1995: 21).

⁹⁶⁹ See (Fink, Mattoo et al., 2003: 462); Noll (1999b: 1); Li, Qiang et al. (2000: 1).

⁹⁷⁰ Snow (1985: 290).

⁹⁷¹ Schwarz and Satola (2000: 22).

regulator⁹⁷². Efforts to “de-politicise” operations, decision-making, and resource allocations in the telecommunication sector of developing countries have taken two main paths. On the one hand, governments have privatised state-owned carriers and opened the market to third party entry. On the other, they have started to restructure the regulatory process by creating relatively autonomous agencies operating at arms’ length from government. For example, setting up a highly professional, well financed, and independent regulatory agency, and opening the telecom market to the disciplines of competition should be at top priority in every country’s development agenda. But experience has shown that reforms can increase the demand for regulatory intervention and stretch regulatory resources in developing countries to their limits. In addition, regulatory agencies are still heavily involved in the pursuit of more general socio-economic goals, such as expansion of basic services, the building of a national telecommunication infrastructure, and the control of the industry “in the national interest”⁹⁷³. Second, the process will be most effective if attention is paid to the order in which structural changes occur⁹⁷⁴. Wallsten, who finds that the sequencing of the liberalisation matters, confirms this: countries that established separate regulatory authorities prior to privatisation saw increased telecommunications investment, fixed telephone penetration, and cellular penetration compared with countries that did not⁹⁷⁵. A comparison with other Asian countries is particularly informative (see Table 56).

Table 56: Telecommunication performance indicators of selected Asian economies, 2002

Country	Telecom revenues USD million	GDP/head in USD	Main lines /100	Telecom revenues		
				As % of GDP	Per head USD	Per line USD
China	50,994	995	3.4	4.03	40.1	237
Hong Kong	6,255	23,140	56.5	3.87	896.0	1,628
India	^a 7,645	484	4.0	1.50	7.3	185
Indonesia	^a 2,167	796	3.7	1.25	10.0	279
Korea	21,737	10,050	48.9	4.56	458.3	934
Thailand	4,141	2,036	8.3	3.27	66.6	637

Note: ^a in 2001.

Source: Compiled by author from ITU and UNCTAD.

The evaluation is conducted along the main axes of liberalisation – privatisation, competition and regulation – and includes the dimension of the international

⁹⁷² Pisciotta (1997: 348). Slow development of regulatory agencies has often limited the benefits of reform (Smith and Wellenius, 1999: 1).

⁹⁷³ Petrazzini (1997: 360-361) and Petrazzini (1997: 333-337).

⁹⁷⁴ The first-level conditions relate to the establishment of an institutional structure that clearly defines separate and distinct roles for the basic functions. The second-level issues are concerned with the necessary resources (human and capital) for telecommunications development (Melody, 1995).

⁹⁷⁵ Wallsten (2002).

telecommunication regime. According to Fink, Mattoo et al., the vast majority of Asian economies have, over the past decade embarked on a telecommunication reform path. Liberalisation programmes undertaken by Asian governments combine, with some variations, three elements: a shift from public to private ownership, increased scope for foreign ownership (and/or control), and the establishment of pro-competitive regulations (see Table 57)⁹⁷⁶. In addition, a number of things can be observed. Despite the move away from traditional public monopolies, most Asian governments are still unwilling to allow unrestricted entry, to eliminate limits on private and foreign ownership, and establish strong independent regulators⁹⁷⁷.

Most private investment in other regions – Latin America or Africa – came from divestiture and reforms to create competitive markets, but in Asia most private investment in infrastructure came from greenfield investments to meet growing demand⁹⁷⁸. Second, independence of the regulator has also been subject to resistance from Asian governments. By 1999 only Singapore had an independent regulator in place. Third, the introduction of competition in the fixed-line segment varied both in time and in the segments (local, long distance or international long distance)⁹⁷⁹. Fourth, when it comes to foreign investment, the picture is more or less balanced (see Table 42). Asian governments traditionally kept a tight hold on foreign investment in telecommunication, although there are some cases where political leaders were willing to trade total control for maximum growth⁹⁸⁰. In brief, and despite marked differences among Asian countries – notably if one considers the level of development, governments have preferred a gradual reform process, opting for a programme of “managed liberalisation”⁹⁸¹.

⁹⁷⁶ Low and Mattoo (1998: 16) and Fink, Mattoo et al. (2001). They identify as drivers of growth the fast-paced evolution of telecommunications technology and the general trend towards policy reform to foster network expansion and the introduction of new services.

⁹⁷⁷ Fink, Mattoo et al. (2001: 1).

⁹⁷⁸ Countries have opted for a “mixed” model where public service monopolies were maintained but private investment was allowed through build-operate-transfer (BTO) arrangement.

⁹⁷⁹ Duch (1991: 94) finds that cross-national variations in competition policy is a function of political constituencies and institutions.

⁹⁸⁰ Chong and Chow (1999: 5) and Wang (1999a: 286).

⁹⁸¹ See Noll (1999b: 1), Li, Qiang et al. (2000: 1) and Fink, Mattoo et al. (2003: 462).

Table 57: Sequence of telecommunications reform in 6 Asian countries, 1989-1999

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
China											
Privatisation											
Fixed competition									LD		
Mobile ^a	1							2			
IRA											
India											
Privatisation											
Fixed competition										L	
Mobile ^a							8	14	19	19	20
IRA											
Indonesia											
Privatisation							19%		23%		
Fixed competition											
Mobile ^a	1		3		4	6		7			
IRA											
Korea											
Privatisation					10%	20%		29%			
Fixed competition			LD					LD			L
Mobile ^a	1							2	5		
IRA											
Malaysia											
Privatisation		25%									

		L
2		

national long

MOBILE											
IRA											
Singapore											
Privatisation									11%		17%
Fixed competition											
Mobile ^a											
IRA											

Note: IRA=Independent Regulatory Agency; L=Local; LD=Long distance; ILD=Inter distance; ^a Number of providers.

Source: Mattoo (2002).

services. It also shares one of the central characteristics defining many Asian governments' approach to telecommunication policy-making, namely strong state involvement. A number of differences nonetheless emerge. First, China is among the few countries that have allowed some degree of competition – in long distance services – prior to allowing a change of ownership in the incumbent supplier and creating an independent regulator. Second, China has opted for maintaining in one locus the Ministry and the regulator⁹⁸³. These differences in the liberalisation programme should come as no surprise as many studies of liberalisation in utility industries stress the importance of national institutions for reform⁹⁸⁴. Each country designing and conducting telecommunication reforms faces unique political, economic and cultural issues⁹⁸⁵. For example, deregulation strategies have been self-evidently different in Hong Kong and China due to differences existing in political and economic systems⁹⁸⁶.

The broad objectives of China's telecommunication policy have been – and still are – mostly articulated through the FYPs⁹⁸⁷. Most of them were centred on quantitative objectives, such as increasing the switchboard capacity or the number of terminals per one hundred residents⁹⁸⁸. In addition, like other Asian countries, the government embarked on the development of a national information infrastructure (see Table 58). However, it never formally announced any formal national information infrastructure (NII) initiative. The closest China came to defining an NII initiative was through the creation of the leading group on informatisation and the ensuing Golden Bridge projects⁹⁸⁹.

⁹⁸³ The future of the Ministry has always given rise the wildest speculations. Whether it is to be dissolved and replaced by some kind of organisation like the FCC or OFCOM remains unanswered. Some scholars forecast that the TAB might become an independent regulator in the future (Interview (B-003), conducted in Beijing, 28 August 2001).

⁹⁸⁴ Bartle (2002).

⁹⁸⁵ Pisciotta (1997: 347) and Li et al. (2000; 2002b).

⁹⁸⁶ Xu and Pitt (1999).

⁹⁸⁷ Various policies and approaches have been put in place over the reform period to make sure that enough financing was available to support the industry's development. Early on, fiscal decentralisation allowed provincial authorities to expand networks at their own pace. It also prepared for the progressive transfer of investment that originated almost exclusively from the state to a structure resting mainly on self-raised funds.

⁹⁸⁸ Starting with the 8th FYP (1991-1995), the government also set as a goal to achieve connectivity of 100% of China's administrative village.

⁹⁸⁹ Golden Bridge was initiated in March 1993 by Zhu Rongji. It was more formally known as the National Public Economic Information Communications Network. Its aim was to develop an infrastructure for the informatisation of the national economy around a hybrid network architecture (Dai, 2002: 146). On the Golden projects and NII, see also (Sviokla, Clark et al., 1996; Farhoomand and Lovelock, 1999; Lovelock, 1999; Fries, 2000; Ure and Liang, 2000; Gao and Lyytinen, 2003)

Table 58: Information infrastructure initiatives of selected APEC member economies

Country	Initiative	Date
Australia	<i>Networking Australia's Future Towards an Australian Strategy for the Information Society</i>	December 1994 July 1998
Chinese Taipei	<i>National Information Infrastructure (NII)</i>	August 1994
Canada	<i>The Canadian Information Highway</i>	April 1994
Indonesia	<i>Nusantara-21 Network and Information System</i>	January 1997
Japan	<i>Reforms toward the Intellectually Creative Society of the 21st Century</i>	May 1994
Korea	<i>Korean Information Infrastructure (KII) Vision 2020</i>	May 1995 February 1991
Malaysia	<i>Multimedia Super Corridor (MSC)</i>	August 1995
Singapore	<i>IT2000 – A Vision of an Intelligent Island</i>	March 1992
Thailand	<i>IT2000 – Thailand IT Policy into the 21 Century</i>	May 1997

Source: Adapted from Blanning, Bui et al. (1997) Lovelock (1997) and Saga (1999: 341).

As noted by Lovelock, at the policy level the NII was been first and foremost a statement of *intent*: the intent to coordinate across what have been previously disparate industries in order to create (or maintain) a competitive economic framework⁹⁹⁰. This is not to say that telecommunication policy-making was not affected by China's informatisation drive. In fact, the development of a high-quality telecommunication infrastructure lay at the core of the *xinxihua* programme. The NII was, however, not articulated around specific reforms. Moreover, in spite of the high-ranking officials who sat in them, the successive leading groups and their sub-commissions did not dispose of sufficient clout to push through any significant reform.

⁹⁹⁰ Lovelock (1997).

Rise of the regulatory State?

“At its most general, the rise of the regulatory state describes a shift in policy emphasis from macro-economic stabilisation and redistributive welfare policies towards a greater concern with competitiveness and economic efficiency, and favouring legal authority and rule-making over alternative policy instruments such as public ownership, planning or centralised administration”.
(Majone 1994, 77-80).

As pointed out by Mueller, pricing, finance, competition, ministerial politics, trade policy, national security and sovereignty, and political control are often decisive factors shaping the future of telecommunications⁹⁹¹. The challenge for the regulatory framework of the future is to develop consistent, relevant and pro-competitive regulations that are flexible enough to adapt to new development, in both technologies and services, and to reflect the different perspective of both providers and consumers⁹⁹². Substantive issues aside, the telecommunications sector has traditionally been characterised by national, and to some extent regional, variations in regulation, wherein domestic provision and consumption has been subject to the regulatory strictures put in place by state authorities. Regional and global organisations are now functioning as key nodes of telecommunications regulation – organisations that together constitute the emergence of a global system of regulation⁹⁹³. Pearson attributes the idiosyncratic evolution of China’s telecommunication policy-making to the fact that at the time of the 1998 administrative restructuring, MII remained outside the scope of the SETC. In her view, regulation of telecommunications is thus positioned to evolve with different structures and norms⁹⁹⁴.

According to Lovelock, we are assisting at the demise of the previous regulatory framework, putting an end to the era of coordinated competition⁹⁹⁵. Whereas the emerging regulatory framework is indeed characterised by a clearer definition of the functions of the policy-making agencies and a better definition of the legal instruments regulating the industry, the era of coordinated competition may not yet be history. The various proposals of NDRC to merge the operators in order to have two mobile operators and three to four fixed-line operators attest of the government’s heavy-handed interventionism. An additional factor that has prolonged the system is the country’s difficulties to establish an independent regulatory agency with implementation capacities that run from the centre to the provinces. Whereas we observe a shift to regulation by independent agencies in many parts of the world, China still applies *regulation by*

⁹⁹¹ Mueller (1994: 172).

⁹⁹² Li, Qiang et al. (2000: 8).

⁹⁹³ Simpson and Wilkinson (2001: 3-4).

⁹⁹⁴ Pearson (2004: 576).

⁹⁹⁵ Lovelock (1999).

statutory control in which a legislature or local government passes a law regulating some activity, and the administration enforce the law and monitors its application.

The future of China's telecommunication regulatory structures will, doubtlessly, also be dictated by domestic political judgments concerning the appropriate pace of China's economic reform. Telecommunications has so far been a particular area of contention, with substantial resistance to change at all levels of the administration⁹⁹⁶. Moreover, thanks to unabated growth, the State Council has seen its power to restructure the sector limited, thus preserving MII from too much policy-making "interference". There are nonetheless encouraging signs that the reforms remain on track. In February 2005, China has opened up a number of state-owned and once-strategic sectors of its economy to local and foreign private investment, in a decision that will extend the role of entrepreneurs in industries that have long been monopolised by the government⁹⁹⁷. The sweeping reform – which was announced in a policy document released by the State Council – will legalise private investment in sectors including power, rail, aviation and oil.

The type of regulations – and their content – issued by MII after 2000 indicates that policy-makers are increasingly concerned with economic efficiency and competitiveness – rather than with redistributive welfare policies⁹⁹⁸. In contrast to the welfare state, the regulatory state governance form involves a complex set of changes in public management involving the separation of operational from regulatory activities in some policy areas (sometimes linked to privatisation), a trend towards separating purchasers and providers of public services (through policies of contracting out and market testing) and towards separation of operational from policy tasks within government departments and the creation of executive agencies⁹⁹⁹. In other words, the regulatory state entails a shift from traditional bureaucratic mechanisms towards instruments of regulation and greater emphasis placed on formal rules and monitoring by freestanding agencies¹⁰⁰⁰.

⁹⁹⁶ Macintosh (2003: 282).

⁹⁹⁷ State-owned enterprises raise special problems for regulatory institutions, since agency-to-agency relationships require clear lines of authority and accountability – lines that political leaders often leave vague. International experience suggests that predatory pricing and other anti-competitive behaviours must be monitored by the regulatory agency or by some antitrust authority (Yu, Berg et al., 2004).

⁹⁹⁸ Until September 2000, the Chinese government created and modified the regulatory framework through broad policy statements rather than legislation.

⁹⁹⁹ Mitnick identifies four modes of regulation: by the common law, by statutory control, by franchise contract or by independent agencies (Mitnick, 1980).

¹⁰⁰⁰ Scott (2004: 4). This is not to say that the rise of the regulatory state brings only positive effects to the sector. Jordana and Sancho (2002: 2) find that the introduction of regulatory policy-making led to a type of policy process which was more focused on interest groups, where costs and profits were distributed among a very defined set of groups or companies – for example, conflicts between new entrants to the market versus established companies.

Are we then witnessing the rise of a regulatory state in China's telecommunication sector? A number of scholars have put forward the hypothesis that the Chinese state is learning how to regulate the market¹⁰⁰¹. As we have seen, the government made great efforts in the 1990s to improve its bureaucratic capacity to regulate market behaviour. These efforts were translated in the creation of a governmental regulator¹⁰⁰². China's regulatory reform maintains nonetheless a strong social and industrial policy imperative. Regulation of network industries – seen as central to the industrialisation goals of the government – is designed to achieve social policy such as continuing the inflow of revenues from large state enterprises, as well as the provision of universal services and development of the Western region.

Table 59: Dimensions of China's regulatory state in telecommunication

Dimension	Particular issues	China
Ownership and market structure	<i>Ownership distribution</i>	Partial transfer of ownership from state to public via listing on foreign stock exchange. State ownership is in the hands of SASAC
	<i>Structure of policy domain</i>	Fragmentation of policy-making between MII, SASAC and NDRC
	<i>Vertical separation</i>	Increased vertical integration
Allocation of regulatory authority	<i>Authority and organisation of regulatory agency</i>	MIIT act simultaneously as Ministry and regulatory authority. Appointment procedures and funding opaque
	<i>Distribution of regulatory competencies across actors</i>	MIIT in charge of telecommunication but SARFT still in charge of cable
Decision-making style	<i>Formalised relationships between actors in terms of social obligations, price control and enforcement</i>	Increasingly transparent procedures despite episodic heavy-handed intervention. Enhance interaction between policy-makers and industry players through hearings.

Source: Adapted from Lodge and Stirton (2004).

In a sense, China has initiated a shift from regulation by statutory control to regulation by independent agencies¹⁰⁰³. Loughlin and Scott have identified three basic changes associated with this shift: 1) the separation of 'provision' from 'production', that is, the separation of policy-setting and operational activities – for example, through the transfer of state-owned enterprises to the private sector ('privatisation') but also through state-owned enterprise reforms, such as 'corporatisation'; 2) the creation of free-standing independent regulatory agencies which perform such activities as regulating prices, monitoring compliance with licence provisions and handling consumer complaints and; 3) the formalisation of relationships within the policy domain, including a shift from implicit

¹⁰⁰¹ Lü (2004).

¹⁰⁰² Pearson (2003: 4, 28). See also (Pearson, 2004).

¹⁰⁰³ The independence of regulatory institutions must not be understood as autonomy for developing actions and programming policies ignoring the government, but rather as the probability of implementing policies without the interference of political agents or of agents of the private sector (Baudrier, 2001: 5).

understanding of norms of adequate service towards greater reliance on explicit formal rules, service standards and performance measures¹⁰⁰⁴. The first “condition” has been fulfilled through the corporatisation of the state-owned operators in the mid-1990s and the subsequent transfer to SASAC. The creation of an independent regulatory agency¹⁰⁰⁵ is another matter. The USTR sees China’s inability to establish an independent regulator in the telecommunications services sector as the result of continuing resistance within the government to fully divorce itself from key decision-making¹⁰⁰⁶. But given the current political institutions and structure in China, it is hard to conceive that regulatory independence from politicians, government and the regulated industry could be achieved in the near term. The rise of the regulatory state also goes together with the creation of national regulatory agencies (NRA). In general, the telecommunication regulator is responsible for technical regulation (e.g. spectrum allocation, number allocation, type approval, and standard setting) as well as telecommunication specific economic and social regulation (e.g. licensing, universal service, price regulation, the interconnection regime and rights-of way)¹⁰⁰⁷. While the concept of regulator could in general be considered as referring primarily to the activity of rule-making, the concept of NRA does not, at least in the telecommunications sector, mean an institution entrusted with the setting up of the rules (e.g. institutions like parliaments or government) but is, in principle, used to describe the body in charge of rule implementation and application¹⁰⁰⁸. China’s telecommunication sector remains thus short of the type and reach of institutions that comprise a regulatory state. This is not surprising. The advance of the regulatory state is conditioned by sectoral characteristics, the coexistence of multiple modes of regulation, path dependency and locus¹⁰⁰⁹. For example, a recent study has shown that in the Commonwealth Caribbean the emergence of the institutional properties of the regulatory state has been both partial and patchy¹⁰¹⁰.

¹⁰⁰⁴ Loughlin and Scott (1997: 205-207).

¹⁰⁰⁵ The definition of a regulator’s independence is still subject to intense debate. Gilardi offers a comparison of seven European telecommunication regulators and finds scores of independence ranging from 0.36 for Belgium to 0.74 for the United Kingdom (Gilardi, 2002).

¹⁰⁰⁶ USTR (2004: 68). USTR has singled out concerns about China’s telecommunication environment in respect to burdensome capitalisation requirements, the barrier to offering of basic services on a purely resale basis and the elimination of restrictions on the entities with whom a foreign licensee can partner (USTR, 2005).

¹⁰⁰⁷ OECD (2000: 22).

¹⁰⁰⁸ Queck (2000: 252).

¹⁰⁰⁹ Jordana and Levi-Faur (2004: 5-9).

¹⁰¹⁰ The imperative of prioritising efficiency considerations over redistributive objectives, as well as heightened complexity and interdependence within key policy domains are thought to have given rise to the regulatory state in Europe (Lodge and Stirton, 2004).

Concluding remarks

As this thesis suggests, regulatory arrangements to make the new liberalised market structure workable are by no means adopted easily. The economic reforms that took place from the mid-1980s, and the ensuing restructuring in the telecommunications sector had proportions of revolutionary change in the basic policy regime. Subsequent developments, however, also evidenced the assertions that institutional change is evolutionary and that institutions persist in the face of a change in the market and technology conditions that might require a different institutional configuration in order to be efficient. The slow pace in reforming telecommunications regulation can be explained by the fact that regulators reveal a preference not to introduce policies that vastly diminish their roles¹⁰¹¹. In addition, Ministerial rivalries have represented a domestic counter-constituency that has blunted the impact of both the domestic constituency in favour of engagement, and of international forces¹⁰¹².

Joseph and Drahos have argued that “the single most important institution that is creating a whole new set of relations and structures in modern telecommunications is the market”¹⁰¹³. Evidence suggests that market forces have nonetheless started to shape China’s policy-making and regulatory environment. The government and regulator expose themselves to reaction from the stock market in case of unexpected policy announcements. In spite of high bureaucratic resistance, the central leadership has frequently intervened to mould the evolution of policy into a more liberal direction¹⁰¹⁴. However, this has done little to ease some of the crucial regulatory issues that plague the sector’s reform. Issues of interconnection, price regulation hold back the development of a competitive telecommunication market. The comparison of China’s reform model with other countries in Asia has confirmed that the impetus, process and outcome of the reforms differed from other countries. In other words, following the example of its economic reforms, China developed an idiosyncratic model of liberalisation. The restructuring of the telecommunications sector, which started along the lines of global liberalisation programmes and which could have been buttressed by the accession to the WTO was both shaped and blocked by diverse interests emanating from the fragmented Chinese political structure.

¹⁰¹¹ Noll (1999a: 19).

¹⁰¹² Pearson (1999b: 228).

¹⁰¹³ Joseph and Drahos (1998: 100).

¹⁰¹⁴ Mertha and Zeng (2005: 321-322).

China's regulatory failure in the telecommunication sector must be analysed at several levels: first of all, and despite the government's pledge to grant independence to the regulator, the sector still suffers from continued and excessive political involvement – for example, the announced government-engineered merging of operators. Secondly, one could not fail to observe a tendency to agency drift. During the WTO negotiation, MII showed enormous resistance, which culminated with the alleged resignation of Minister Wu after Zhu Rongji's visit to the United States in 1999. Thirdly, the regulatory environment suffers from poor design. Some regulatory incentives are self-defeating – universal service and production efficiency must be balanced against the objective of efficient pricing. The sector also suffers from limited formal participation of a number of actors – notably the operators – in the regulatory decision-making process. More damaging, though, is the regulatory's slow response to environmental change. Convergence has created a new set of issues which the current agency rivalry and legislation are ill-suited to address. Finally, there is already a certain amount of regulatory capture.

8 Reforms in the post-WTO era

“The accession process did not have an impact on China’s telecommunication.”

Interview with retired senior MII official¹⁰¹⁵

In theory, the rules specified by the WTO shape – at least to some extent – members’ domestic telecommunications regulatory institutions¹⁰¹⁶. Views on the potential impact of China’s WTO membership on the sector’s reforms were controversial, to say the least. On one side, some scholars expected the influence on the sector’s regulatory reforms to be *“limited and transit unless accompanied by significant changes in the institutional regulatory environment”*¹⁰¹⁷ and to contrast with the powerful impact of China’s economic reforms. It was argued that both the regulatory barriers and conservative regulatory stance supported the view that the WTO accession would not have a dramatic effect on the liberalisation process. In addition, it was argued that much had already been done to prepare and defend against the threat of foreign entrants¹⁰¹⁸. On the other side, the argument went that the pressure to enter the WTO pushed forward the reform of China’s telecommunication sector¹⁰¹⁹. For instance, the publication of regulations was seen as a substantial regulatory response to the accession¹⁰²⁰. Sautedé went even further arguing that:

*“The procedure for entry into the WTO and the signing of bilateral agreements have been accompanied by an important restructuring of the sector, conceived and implemented precisely with that background in mind.”*¹⁰²¹

Few elements allow to categorically support his statement. The WTO’s regulatory principles may nonetheless prove to be the most important single aspect of the results of the telecommunications negotiations, in terms of real guarantees of market access^{1022, 1023}. The WTO accession process did not cause a direct restructuring of the policy-making actors. However, it further integrated the Ministries and the various commissions in

¹⁰¹⁵ Interview (B-038), conducted in Beijing, 25 November 2003.

¹⁰¹⁶ Zhang (2001: 462).

¹⁰¹⁷ Zhang (2000: 3; 2001: 468) and Zhang (2001: 462).

¹⁰¹⁸ Pangestu and Mrongowius (2002: 40).

¹⁰¹⁹ See Fan (1999: 7) and Nolan and Hasecic (2000: 171).

¹⁰²⁰ DeWoskin (2001: 649).

¹⁰²¹ Sautedé (2002: 38).

¹⁰²² Low and Mattoo (1998: 26).

¹⁰²³ Foreign direct investment in the telecommunications sector is essentially subject to three types of international agreements: multilateral agreements, regional agreements and bilateral agreements. For example, the settlement of international traffic and payments under the auspices of the International Telecommunication Union (ITU) agreement, government regulations on technical standards, which are subject to the WTO Agreement on Technical Barriers to Trade, or practices on government purchases, which are subject to the Government Procurement Code, as well as countries commitments’ on TRIPS. Furthermore, FDI decisions are also affected by host countries trade policies towards merchandise imports and hence these countries’ WTO commitments (Drabek, 2001: 11).

charge of telecommunication in the global environment. While not dictating the behaviour of the policy-makers, it set boundaries around the sector, which, in theory, will limit their margin of manoeuvre in the future. The accession process had the largest impact on regulations.

Table 60: Regulation by type and body, 1978-2004

	Ministry of Information Industry			State Council		
	Notice (<i>tongzhi</i>)	Provision (<i>guiding</i>)	Measure (<i>guanli banfa</i>)	Notice (<i>tongzhi</i>)	Provision (<i>guiding</i>)	Regulation (<i>tiaoli</i>)
Pre-WTO	1	4 (1)	5 (5)	1	1	2
Post-WTO	1	2	7	-	1	-

Note: Number in parenthesis indicated temporary nature (*zanxing*).

Source: Compiled by author.

Before 1998, all the regulations were drawn by MPT, which had both the function of administration (*guanli*) and of operations¹⁰²⁴. With the merger of MEI and MPT, regulatory responsibilities fell upon MII. Unlike in some other sectors, part of China's new regulatory environment for telecommunication started to come out in advance of WTO accession¹⁰²⁵. But those who had seen this anticipation as a sign for the development of a strong legal regulatory framework and the opening of the telecommunication sector to non-state and foreign players quickly became disenchanted¹⁰²⁶. While MII showed at times encouraging signs of withdrawing from areas such as pricing, the regulatory environment has remained overwhelmingly non-transparent and subject to *ad hoc* intervention. Indeed, in order to comply with the WTO commitments and to address some crucial domestic regulatory issues, MII keeps relying on administrative measures (*guanli banfa*), such as the "Measures on the Administration of International Communication Gateway" (*guoji tongxin churu kouju guanli banfa*) and to a lesser extent on provisions (*guiding*), such as the "Provisions on Marking Clearly the Prices of Telecommunication Services" (*dianxin fuwu mingma jiage guiding*), instead of being able to rely on an all-encompassing law. Having said this, the long-overdue telecommunication law is once again on the agenda¹⁰²⁷. The legislation is expected to provide the industry with a solid legal basis as well as clarify the role of the various policy-making bodies. Enactment of the law is only a first step into the establishment of a sound regulatory structure. Without an institutional framework capable of implementation, the reach of the law – like that of existing regulations – is likely to remain limited.

¹⁰²⁴ Interview (B-031), conducted in Beijing, 15 November 2002.

¹⁰²⁵ Interview (B-032), conducted in Beijing, 18 November 2002.

¹⁰²⁶ Lu (2002b: 11-12).

¹⁰²⁷ Xinhua Financial Network News (2004).

China has done fairly well in beginning to implement public access to laws and regulations. Nevertheless, standards by which the government agencies exercise their discretion – discretionary approval authority – are also badly needed. The new regulations seem to have incorporated some elements to this effect – at least in the MII regulations before accession. The government agency is now required to make a decision within a fixed time frame, as well as to give written replies, and expose their reasons when an application is rejected¹⁰²⁸.

In our view, the impact of the WTO accession on the regulatory framework can be seen as dual. On one side, in order to comply, at least in theory, with the conditions set forth by the Reference Paper and with the requirements of the Working Group for clear and transparent licensing procedures, a number of regulations were required to be in place *at the time* of accession¹⁰²⁹. The most visible evidence of how regulatory institutions were lies first and foremost in the two regulations enacted in 2000 and 2001. In themselves, both the telecommunication regulation and the FITE represented significant improvement of China's telecommunication regulatory framework.

Melody argues that the keys to telecommunication reform are a clear separation of operational management, regulatory and policy-making functions, an increase in competitive market forces through liberalised market entry and access to network and the establishment and maintenance of effective regulation¹⁰³⁰. A central finding of this thesis is that even a strong Ministry like MII or the State Council failed to push through much-needed telecommunication reforms. The post-WTO era has been characterised by a number of regulatory developments. Regulatory transparency has improved – most laws and regulations are readily available and made public before their enactment (see Table 61 and Table 62).

¹⁰²⁸ Interview (B-032), conducted in Beijing, 18 November 2002.

¹⁰²⁹ Until the WTO accession, Ministerial pronouncements and notices were treated in the same way as administrative regulations originating from the State Council. In the WTO era, formal laws and administrative regulations have a higher status than Ministerial pronouncements (Interview (B-032), conducted in Beijing, 18 November 2002).

¹⁰³⁰ Melody (1995: 259; 1997b: 2).

Table 61: Comparison of main telecommunication issues before and after WTO accession

Issues	Pre-WTO	Post-WTO
Licensing	No transparency	Commitment to transparency but weak implementation
Interconnection	Subject to incumbent goodwill and MII complacency	Theoretical compliance but lack of enforcement power
Tariffs	Determined by MII	Determined by MII and NDRC but increasingly in the hands of operators
Independence and impartiality of regulator	No independence	No independence from the government but relatively less interventionist than before
Universal service	Responsibility of China Telecom	Various schemes to devise an USO fund
Competitive safeguards	Exceed WTO requirements but hard to implement	Exceed WTO requirements but hard to implement

Source: Compiled by author.

Table 62: Telecommunication regulatory environment assessment, fixed sector

	Pre-1994	1994-1998	1998-2001	2001-present
Market entry	Poor	Unsatisfactory	Unsatisfactory	Unsatisfactory
Interconnection	Poor	Poor	Unsatisfactory	Unsatisfactory
Price regulation	Poor	Unsatisfactory	Neutral	Neutral
Regulation of anti-competitive practices	Poor	Poor	Unsatisfactory	Unsatisfactory
Universal service	Poor	Poor	Unsatisfactory	Neutral

Source: Compiled by author.

Without an authoritative law, China's governance of the telecommunication industry has traditionally relied on a combination of provisions from other laws, decrees and administrative measures from relevant ministries and industry bureaus and policy decisions handed down from the State Council. One of the hopes attached to China's WTO accession was that it would promote telecommunication law making and end up in the issuing and implementation of a comprehensive telecommunication law¹⁰³¹. But as noted by Horsley:

“China was not ready to enact a comprehensive telecommunications law, but mindful of the need to establish a national regulatory framework in anticipation of China's impending entry into the World Trade Organization (WTO), China's State Council issued the Telecommunications Regulations.”¹⁰³²

On the other side, the overall accession caused the amount of legislative work to be carried out by the State Council to grow enormously. The scattering of the resources available, added to the streamlining of most administrations, hindered the government's ability to further improve the regulatory environment. Paradoxically, thus the amount of legislation that the State Council needed to review, consolidate and get out in relation to

¹⁰³¹ Magida (2001: 78) and interview (B-031), conducted in Beijing, 15 November 2002.

¹⁰³² Horsley (2001a: 34).

the WTO commitments, the passing of both regulations diminished the necessity and urgency of passing the new telecommunication law¹⁰³³.

Finally, some saw the WTO accession as “the termination of the historical restriction over foreign direct investment in the public telecommunications network and the commencement of intensified telecommunications deregulation in China”. While the role of governments across the world shifts from participation to regulation, China’s telecommunication sector still displays worrying signs of government interference.

One thing is certain: the world telecommunication slump further shielded the Chinese market from global operators’ reach¹⁰³⁴.

Whether the pressure emanating from China's entry to the WTO played a role to propel China's government to restructure China’s telecommunication regulatory regime and industry remains debatable. What is sure, however, is that the Chinese leadership found in the BTA a mean to anchor its reform programme. In other words, without the pressure from the WTO, China would have probably not taken such drastic actions in so short time. Second, even though the separation of regulatory and operational function is the most significant progress in China's telecommunication reforms, it is just a necessary rather than sufficient condition to create a fair, transparent, pro-competitive, and independent regulator in accordance with the requirement of Reference Paper. In any case, the WTO accession came into the collective consciousness of the Chinese people at all levels – certainly at all high levels of government and in the leadership of Chinese companies. It signalled that China was integrating the world economy and therefore not able to continue with the age-old proposition that “the country is different and therefore does things its own way”.

¹⁰³³ Interview (C-001), conducted in Beijing, 10 June 2002.

¹⁰³⁴ Interview (B-039), conducted in Beijing, 27 November 2003.

Overview and contribution of the dissertation

The thesis set out to examine the evolution of China's telecommunication regulatory policy-making in the context of trade and economic reforms. Two main themes were investigated. The first one assessed the nature and extent of the telecommunication reforms that took place since the mid 1990s. The thesis offers a case study to the debate between the experimentalist and the convergence school¹⁰³⁵. China's telecommunication reforms tend to re-enforce the former. Reforms have been characterised by gradualism, and in spite of the remaining issues, the performance of the institutions have been successful. The question nonetheless remains whether the outcome of the reforms has proceeded from a deliberate experimental approach of China's political leadership or whether they emerged from a lack of consensus between reformers and conservatives. For DeWoskin, regulatory and structural change in the sector has been highly motivated by four converging pressures: 1) high-level recognition of the need to support China's economic growth with a vastly improved IT infrastructure; 2) intense and meticulous negotiations with major trading partners to bring China into the WTO; 3) technology change that obviated many regulations that were either not adjusted with sufficient nimbleness or unenforceable from their beginning, and 4) dependence and exposure to international capital markets¹⁰³⁶. While all three rounds of reforms bear similarities with the liberalisation trends observed in most countries, it is very interesting to note that the Chinese "development model" has more *adapted* than *adopted* the orthodox programme proposed by a Washington Consensus type of liberalisation. For example, China's telecommunications reforms have been carried out by governmental orders (and applied through administrative measures), which is different from other countries where the transformation is enacted by laws¹⁰³⁷. Two additional arguments explain this. First, the government wished to continue with a gradual liberalisation in order to allow domestic companies to adjust to full competition. Second, the reform-oriented members of the State Council were probably seeking a more significant liberalisation of the telecommunication sector but did not want to (or could not) assume the political cost of such liberalisation.

China's particular institutional setting – opaque regulatory mechanisms and ill-defined regulatory boundaries – coupled with the increasing complexity of the issues at stake in a liberalised telecommunication market – interconnection, universal service obligations – explain in large parts the difficulty the country faces in further reforming the sector.

¹⁰³⁵ See Sachs and Woo (2000: 5).

¹⁰³⁶ DeWoskin (2001: 652).

¹⁰³⁷ Gao and Lyytinen (2003: 228).

While MII's role as a policy-making agency has remained important during the reform process, its influence on the reforms themselves is less clear. Despite public announcements of restructuring, MII has mostly put its feet against the wall when it came to reforming the industry. Since its creation in 1998, there are few successful components of the telecommunication liberalisation that can be attributed to its work. The economic reforms that took place from the mid-1980s, and the subsequent restructuring in the telecommunications sector – through corporatisation and the introduction of competition – had proportions of revolutionary change in the basic policy regime. Subsequent developments, however, also proved the assertions that institutional change is evolutionary and that institutions persist in the face of a change in the market and technology conditions that might require a different institutional configuration in order to be efficient. The failure of the Chinese government to create a regulatory regime to effectively implement the new policy of liberalisation represents essentially a problem of institutional change. As institutional analysts have observed, institutional change rarely has revolutionary dimensions, resulting in institutional path-dependency. As this thesis suggests, regulatory arrangements to make the liberalised market structure workable were (and are) by no means adopted easily. Zhao found that policy-making in economic issue areas was increasingly fragmented and policy debates and bargaining are increasing among bureaucratic institutions involving technical criteria. This institutional pluralism that characterises economic policy, as well as the science and technology issue area, tends to lead to incremental policy changes¹⁰³⁸. In other words, the restructuring of the telecommunications sector, which started along the lines of global liberalisation programmes and which could have been buttressed by the accession to the WTO, was both shaped and blocked by diverse interests emanating from the fragmented Chinese political structure and its particular institutional setting.

In our view the Chinese government's response to potential regulatory competition from other developing countries that could have led to a disinterest of foreign investors lies in a very subtle strategy to use the carrot and stick approach. Although it became rapidly clear that the prospects of foreign investment in the telecommunication sector would remain limited, the government banked on the two major characteristics that define the Chinese telecommunication market: the fact that it has both a substantial critical mass and at the same time huge potential for further growth. Contrary to all expectations, most foreign

¹⁰³⁸ In contrast, the ideological policy area was becoming somewhat more pluralistic, but with authority for making decisions about sensitive political issues still more concentrated in the hands of a few top leaders than in institutions (Zhao, 1995: 238-242).

telecommunication operators maintained their presence in the market – through their representative office in Beijing.

Cross-ministerial conflicts of interest, overall leadership, and market regulation will remain the most critical policy issues that the central government has to address in the next round of structural reforms.

The second theme explored the relationship between domestic and international factors in crafting the reforms. In particular, it examined impact of the China's WTO accession process on the telecommunication reforms. Today, the rules created and enforced by traditional regulatory bodies on a national scale are now only part of a multi-layered regime that includes international treaties, voluntary self-regulation, and semi-public cooperative arrangements under the umbrella of a vast collection of organisations¹⁰³⁹. Historical institutional analysts, and more specifically those looking at economic performance, argue that despite similar external pressures, national policy responses and outcomes differ owing to their contrasting institutions. They thus largely downplay the role of trans-national forces and do not expect strong levels of convergence. This thesis largely confirms the historical institutional axiom – already invested by Thatcher's claim that national institutions strongly affect patterns of policy-making¹⁰⁴⁰. The thesis also confirmed Hall's assertion that the directions and logics of policies as well as the interests served by them show a high degree of continuity over time¹⁰⁴¹. The shift in the international telecommunication regime did not lead to a significant shift in China's telecommunication policy-making. Several reasons explain the lack of China's WTO accession on the sector's reform. First, the negotiated agreement allowed the government and the domestic operators to "buy some time and re-organise" in face of the coming foreign competition. Second, a weak regulatory framework and the absence of an overarching telecommunication law have maintained a lack of transparency in the sector. Third, the government's desire to maintain an overall control over the sector for security and sovereignty reasons has definitively tilted the balance in favour of a conservative and gradual restructuring of the sector. In other words, both processes were on dual tracks.

¹⁰³⁹ Galperin (2004: 166).

¹⁰⁴⁰ Thatcher (1999). On the contrary, Serot (2002: 974) suggests that international pressures are not subsumed under institutional factors. For him, powerful international forces – encompassing technological, economic developments, as well as regulatory change at the supranational level – overcome the impact of national institutions.

¹⁰⁴¹ Hall (1986).

In spite of that, evidence shows that the government took its pledge seriously. The issuing of several regulations and administrative measures shortly before and after accession attests this. Passing legislation unfortunately represents only half of the necessary effort to reform the sector. A set of institutions – a judiciary or an independent regulator vested with authority – capable of enforcement or of avoiding regulatory discretion and capture are also required. In other words, while having to deal with a limited amount of external pressure, the Chinese model of liberalisation was being written from the inside.

The thesis has also argued that the *bargaining* approach to policy-making in the telecommunication sector has allowed, and even facilitated, the first stage of reforms but that it is ill suited for participation in the emerging supranational telecommunication framework. In fact, given China's commitment to abide by internationally defined norms and rules, the room for bargaining will be severely limited. Finally, the thesis suggests that we need to understand the institutional determinants of regulatory governance to understand regulatory performance. In this sense, this approach to regulatory institutions differs from the two main strands of the economics of regulation literature of the last twenty years – the Chicago school and the incentives theory of regulation.

Limits of the research

Given more time, an in-depth comparison with other utilities would have been useful to evaluate the idiosyncrasy of China's approach to telecommunication reforms. Instead, brief points of comparison are provided in Chapter 2 and 4, notably on the issue of regulatory independence and competition.

Henisz, Zelner et al. propose that coercion and emulation as the two basic mechanisms that underlie policy diffusion across countries. For them, countries adopt market-oriented policy reforms in telecommunications "as *external* actors with coercive power gain leverage over the domestic policy-making apparatus, and as the legitimacy of reforms grows through their prior adoption by peer countries"¹⁰⁴². One aspect of the reform that has been neglected is the role of epistemic communities. Epistemic communities are "networks of professionals with recognised expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area"¹⁰⁴³. Milner notes that in environments of high uncertainty policy-makers are likely to rely on such communities for their advice. Epistemic communities frame the issue for collective debate, provide novel solutions, and create new perceptions of national interests¹⁰⁴⁴. The academic dispute over the ways of breaking up China Telecom is one example of the role of epistemic communities in China's telecommunication sector.

Perhaps the most fundamental theoretical problem faced by institutionalism might be deemed the paradox of constraint. On the one hand institutions gain much of their explanatory power from the argument that they impose constraints on the behaviour of their members, and that individuals cannot function effectively in unrestrained, market-like situations¹⁰⁴⁵. This constraint is important whether researchers employ a normative, historical, or rational choice orientation toward institutions. On the other hand, if institutions are the products of human choices then there are few real constraints on behaviour. If this is true then the decision by each individual to accept the restraint on behaviour is a more important predictive factor than the rules themselves.

¹⁰⁴² Henisz, Zelner et al. (2004: 39).

¹⁰⁴³ Haas (1992: 3).

¹⁰⁴⁴ Milner (1997) argues that the preferences of both societal and political actors influence policy choices. Preferences do not translate directly into policy as in standard arguments. Instead policy is determined by the strategic interaction among the actors' preferences, given the institutional context. The role of political actors and the strategic interaction between them and societal actors becomes central to the domestic game of international cooperation.

¹⁰⁴⁵ See Granovetter (1985).

Throughout this thesis, only scant reference has been made to the judiciary. In our view, the influence of the China's judiciary branch in telecommunication policy-making remains extremely limited. There have, nonetheless, been a few cases where telecommunication issues were brought in front of a court and where the regulator was overturned¹⁰⁴⁶. It remains to be seen how the eventual challenging of service providers would play out in a domestic court¹⁰⁴⁷. More interesting will be to witness how the relevant authorities would implement a potential ruling of the WTO's Dispute Settlement Body (DSB) against China. For now, the only dispute brought against China to the WTO was the case filed by the United States regarding discriminatory tax rebate policy for integrated circuits¹⁰⁴⁸.

¹⁰⁴⁶ The Chen brothers were running a corner shop in Fujian. They also had a computer-based IP telephony service that they offered to people who bought a certain amount of produce in their shop. The IP telephony service became so popular that they started to "sell time" and do only that. At that time, MII began to feel that they were being sidelined and called it smuggling of information. The brothers were arrested and their equipment confiscated. They appealed and when it reached an intermediate people's court level, the judge who, unusually, brought in Internet experts, ruled that what they were doing was not covered by any extent regulations and therefore could not be prosecuted. MII was furious but responded in the only way it could, which is to issue regulations stating that only an approved telecommunication operator could supply IP telephony. By doing so, it opened the door for Jitong and China Unicom to offer IP telephony services. Jitong leapt at the opportunity because they had no other business. Unicom followed shortly afterwards (Interview (B-002), conducted in Beijing, 27 August 2001).

¹⁰⁴⁷ See Guan (2003).

¹⁰⁴⁸ Xinhua (2004c).

Future Research

As noted, telecommunication is an area of regulation characterised by technical complexity and uncertainty, which combined with the fact that state actors are anxious to secure the benefits of reform, makes it an area ripe for modelling. The shift to competitive markets in telecommunication is an example of global regulatory convergence rather than harmonisation, because the details of regulation of matters like equipment, basic and enhanced services still vary greatly¹⁰⁴⁹. The first research area is to further investigate the reforms of China's telecommunication sector in light of the on-going WTO negotiations on telecommunication and see whether China is able to pursue its idiosyncratic approach to regulation. Since 2000, nine WTO Members have made specific submissions regarding further liberalisation of telecommunications services and three additional Members have addressed liberalisation of telecommunications services in their general GATS submissions¹⁰⁵⁰. These documents indicate that the primary focus of the services negotiations will be on: (1) improving specific commitments to liberalise telecommunications services; (2) clarifying the scope and coverage of specific commitments on telecommunications services given the convergence of and development of new high tech services; (3) developing disciplines on the regulation of telecommunications services; and (4) development-related issues¹⁰⁵¹. A central theme of this thesis has been the relationship between domestic and international factors in defining telecommunication policy-making. Now that China is a formal member of the WTO, it will be very interesting to witness how the country positions itself and what role it intends to play – for instance as a leader of the G21 – in the current WTO negotiation.

Given the government's emphasis on *xinxihua* and of the on-going negotiations at the WTO on e-commerce, a second area of interest could be to extend the research to Internet policy-making by conducting a comparison between both sectors. In January 2005, the State Council has promulgated an opinion reflecting the government's determination to encourage the development of e-commerce in China¹⁰⁵². It is interesting to notice that the government considers that its main function in the development of e-commerce in China is that of a supportive administrator, and that enterprises should lead the way in advancing development. Although the support has yet to be detailed, one can imagine that

¹⁰⁴⁹ Braithwaite and Drahos (2000: 355-356).

¹⁰⁵⁰ The Members are Australia, the United States, the European Community, Canada, Switzerland, South Korea, Mexico, Colombia and Cuba (in chronological order of submission).

¹⁰⁵¹ Wunsch-Vincent (2004: 98).

¹⁰⁵² "Several Opinions on Accelerating the Development of Electronic Commerce" (State Council of the People's Republic of China, 2005).

it entails the implementation of the Electronic Signature Law¹⁰⁵³ as well as the formulation of measures concerning e-commerce, online payment and taxation, security, privacy protection and other activities.

The thesis aimed at being a “building block” of a cross-national institutional analysis of telecommunication reforms in developing countries. Russia sits on top of the list of countries sharing quite a number of similarities with China – Russia has been negotiating its entry into the WTO while reforming its telecommunication sector and both are transition economies¹⁰⁵⁴. It could also be interesting to make a comparison with India since it is one of the only developing countries of similar size to China. This would further enlighten our understanding of whether China’s policy-making and reform path is really unique. Finally, whereas this thesis centred on the institutional factors that contributed to the “stability” of the reform, more research needs to be conducted about the relationship between the details of the reform and subsequent performance. If the state control on the telecommunication sector has been as great as the previous chapters suggest, what explains such phenomenal growth in spite of an adverse institutional environment?

¹⁰⁵³ The Law on Electronic Signature was issued by the Standing Committee of the National People’s Congress and will take effect on April 1, 2005. It grants electronic signatures the same legal effect as handwritten signatures and seals in business transactions, with the exception only of the unilateral electronic notice to the public cancelling services like water, electricity, and gas. It aims at setting up market access system for online certification providers to ensure the security of e-commerce.

¹⁰⁵⁴ See (Schwarz and Satola, 2000; Bruce and Elixmann, 2002).

Appendix 1: Key telecommunication policy-makers

Policy-Maker	Scope of Authority	Notes
National People's Congress (quanguo renmin daibiao dahui or NPC)	<ul style="list-style-type: none"> • State's highest and only authority responsible for: <ul style="list-style-type: none"> – promulgating laws 	<ul style="list-style-type: none"> • Expected to adopt the Telecommunication Law (TL)
State Council (guowuyuan or SC) and State Council Informatisation Office (SCIO)	<ul style="list-style-type: none"> • Central administrative authority responsible for: <ul style="list-style-type: none"> – promulgating regulations – issuing administrative orders – approving certain administrative measures – drafting certain laws for the NPC 	<ul style="list-style-type: none"> • Promulgated the Telecom Regulations • Promulgated the FIE Telecom Regulations • Submits draft TL to NPC
Ministry of Information Industry (xinxi chanye bu or MII), ex-Ministry of Post and Telecommunications (youdian bu or MPT)	<ul style="list-style-type: none"> • Government body responsible for overseeing: <ul style="list-style-type: none"> – telecommunications, including: <ul style="list-style-type: none"> – multimedia – broadcasting – satellite – the Internet • Also responsible for promulgating: <ul style="list-style-type: none"> – administrative measures – notices – circulars – industry standards 	<ul style="list-style-type: none"> • Promulgated the Notice on the Adjustment of the Telecom Business Catalogue and other telecom related administrative measures • Formed by a merger of MPT and the Ministry of Electronics Industry (MEI) • Rumoured merger with SARFT
State Administration of Radio, Film & Television (guangbo dianxin dianshi zongju or SARFT)	<ul style="list-style-type: none"> • Government body responsible for overseeing: <ul style="list-style-type: none"> – Cable channels – Satellite – Broadcasting, Film, and TV 	<ul style="list-style-type: none"> • Rumoured merger with the MII
National Development and Reform Commission (fazhan he gaige weiyuanhui or NDRC), ex-State Development and Planning Commission (SDPC)	<ul style="list-style-type: none"> • Government body responsible for formulating policies applicable to: <ul style="list-style-type: none"> – foreign investors – large scale projects – pricing – manufacturing licences, including handset vendors – other long-term and macro-economic plans 	<ul style="list-style-type: none"> • Promulgated and amended the Investment Catalogue of Foreign Investment Industries • Promulgated relevant telecom pricing policies
Ministry of Commerce (shangwubu or MOFCOM), ex-Ministry of Foreign Trade and Economic Cooperation (MOFTEC)	<ul style="list-style-type: none"> • Government body responsible for: <ul style="list-style-type: none"> – formulating and carrying out detailed policies applicable to foreign trade, economic cooperation and foreign investment – guiding national foreign investment administration – governing establishment and operation foreign-invested enterprises 	<ul style="list-style-type: none"> • Formulated the Investment Catalogue of Foreign Investment Industries • One of the examination authorities in respect of foreign investment in telecom industry
Ministry of Finance (caizhengbu or MOF)	<ul style="list-style-type: none"> • Government body responsible for formulating: <ul style="list-style-type: none"> – finance policies – taxation policies – certain macro-economic policies 	<ul style="list-style-type: none"> • Manages budget planning and execution • Manages the use of international loans
State-owned Assets Supervision and Administration Commission (SASAC) (guoyou zichan jian du guan li weiyuanhui), ex-SETC	<ul style="list-style-type: none"> • Government body responsible for: <ul style="list-style-type: none"> – maintaining/increasing the value of State assets 	<ul style="list-style-type: none"> • Completed the ownership transfer of all the telecommunication operators • Proposed several plans to restructure the telecommunication sector

Source: Adapted from Dudek, Weaver II et al. (2001) and Soderberg, Bjorkstrom et al. (2005)

Appendix 2: Comparison between draft and final FITE

A. Basic Telecom Investor Qualification Requirements

Draft	Final
<p><i>A.1 Foreign Investor</i></p> <ul style="list-style-type: none">• Licensed operator in home jurisdiction• > USD 10 billion average revenue • PRC Representative Office > 3 years• Good operation reputation• No foreign consortium (each foreign investor must qualify)	<ul style="list-style-type: none">• Licensed operator in home jurisdiction• No minimum revenue test but must have ‘adequate’ capital and specialised personnel• No Representative Office requirement• Clean operational record• Foreign consortium permitted; only Principal Foreign Investor (PFI) required to meet above tests, PFI must be largest foreign investor with > 30% of total foreign investor equity
<p><i>A.2 Chinese Investor</i></p> <ul style="list-style-type: none">• State majority-controlled• Licensed operator • > RMB 3 billion average revenue • Good operation reputation• No Chinese consortium (each Chinese investor must qualify)	<ul style="list-style-type: none">• No state ownership requirement• No licence requirement but must comply with non-specific MII ‘industry requirements’• No minimum revenue test but must have ‘adequate’ capital and specialised personnel• No prior basic telecom operation test• Domestic consortium permitted; only Principal Chinese Investor (PCI) required to meet above tests; PCI must be largest Chinese investor with > 30% of total Chinese investor equity

B. Value-Added Telecom Investor Qualification Requirements

<p><i>B.1 Foreign Investor</i></p> <ul style="list-style-type: none">• > USD 500'000 average revenue• > USD 1 million assets• Good operation reputation required• No foreign consortium	<ul style="list-style-type: none">• No minimum revenue test• No minimum asset test• Prior positive value-added telecom operation• Foreign consortium permitted (same PFI tests)
<p><i>B.2 Domestic Investor</i></p> <ul style="list-style-type: none">• > RMB 2 million average revenue• > RMB 3 million assets• Good operation reputation• No domestic consortium	<ul style="list-style-type: none">• No minimum revenue test• No minimum asset test• No prior value-added telecom operation test• Domestic consortium implicitly permitted

C. Other (Applicable To Both Basic And Value-Added Telecom FITEs)

<p><i>C.1 Investment Vehicle</i></p> <ul style="list-style-type: none">• Equity Joint Venture (EJV) only	<ul style="list-style-type: none">• EJV only
<p><i>C.2 Management</i></p> <ul style="list-style-type: none">• Chairman of board and General Manager	<ul style="list-style-type: none">• No restriction on appointment of Chairman and GM appointed only by Chinese party
<p><i>C.3 Approval/Licensing</i></p> <ul style="list-style-type: none">• 2 step process:<ul style="list-style-type: none">- MII and MOFCOM approval for establishment of telecom FITE followed by SAIC issuance of business licence- MII approval of operating licence for telecom FITE	<ul style="list-style-type: none">• Consolidated multi step process:<ul style="list-style-type: none">- MII telecom FITE project approval (=< 180 days for basic and = 90 for value-added)- SAIC issuance of telecom FIE business licence- MOFCOM approval of telecom FITE JV contract and AA (=< 90 days)- MII issuance of telecom operating licence (period not specified)

Appendix 3: Milestones in China's telecommunication reforms, 1979-2003

Date	Milestone
June 1979	The State Council approves the Ministry for Post and Telecommunication (MPT) proposal to set up a dual leadership system. MPT assumed central planning role for Post and Telecom. Vertical structure of MPT-PTA-PTB-PTE emerged
1980-84	MPT and Ministry of Finance authorize the regional bodies to charge installation fees, retain profits and use them for infrastructure development. Reform in tariff and accounting policies
October 1984	The State Council stipulates a six-point instruction to give priority to postal and telecommunication development. Adoption of the "Three 90-percent" policy by State Council.
1984-86	MPT contracts performance responsibilities to local PTAs and PTBs
1988	MPT links PTB and PTE wage fund increase to growth measured on various parameters. Controversial move of letting PTAs set up their own telecommunication regulatory bodies. China Telecom (Directorate General of Telecommunications ¹⁰⁵⁵) is recognized. The State Council announces 16-character policy outlining the principles of unification of planning, coordination of ministerial administration, definition of responsibilities at different levels, mobilization of resources for infrastructure construction.
1989	MPT instructs province-level PTAs to set up telecommunication regulatory bodies
1990	PTAs allowed to set local telephone rates on their own and charge a cost based installation fee as opposed to stiff predetermined charges earlier
1990-93	Non-MPT suppliers of value-added services, mobile telephone services and satellite communication services emerge in some regions
April 1994	China Unicom (supported by MEI, the Railways and Power ministries) is set up to compete with China Telecom. It provides fixed line and mobile services. Ji Tong is set up under MEI to provide value-added and data services
1994	Wages further incentivised and linked to stricter growth parameters
1995	China Telecom de-linked from MPT and registered as a legal enterprise. Corporatisation of local postal and telecom enterprises started. Internet commercially available
June 1995	The State Council promulgates the "Catalogues of Industries for Guiding Foreign-Funded Investment", banning FDI from telecommunication
March 1998	The Ministry of Information Industries (MII) formed by the merger of MPT, the Ministry for Electrical Industries (MEI), the Ministry of Radio, Film and Television (MRFT) and portions of other ministries with telecom services. MII is to distance itself from administrative and operational functions and focus on regulation
October 1998	CCF ventures are declared illegal by MII
1999	China Telecom is broken up along functional lines into 4 parts. The CCF financing model (mostly used by Unicom) is banned by the State Council
November 1999	China signs the bilateral agreement with the USA. National Informatisation Leading Group is formed by State Council
September 2000	Promulgation of Telecommunication Regulations by the State Council, providing the industry with a legal framework
March 2001	Railcom starts operations offering basic telecommunication services
September 2001	State Leading Group for Informatisation set up to oversee the ICT sector. National Informatisation Promotion Office set up under State Council to implement policies and measures for informatisation.
October 2001	State Council splits China Telecom into two regional companies along North-South lines
December 2001	State Council promulgates the Regulations on Foreign-Invested Telecom Enterprises
June 2003	Completion of a nationwide supervision system overseen by MII and provincial governments
2004	Transfer of operators' ownership to SASAC is completed

Source: Compiled by author and adapted from Lu and Wong (2003)

¹⁰⁵⁵ The DGT comprised 29 provincial PTAs, all of which offered local and long-distance services through the 1990s.

Appendix 4: Revised classification (2003)

Basic Telecommunications Services (BTS)	
Class 1 BTS	Class 2 BTS
<p>Fixed Communications Services</p> <ul style="list-style-type: none"> • Fixed Network Local Telephone Services • Fixed Network Domestic Long-Distance Telephone Services • Fixed Network International Long-Distance Telephone Services • IP Telephone Services • International Communications Facilities Services <p>Cellular Mobile Communications Services</p> <ul style="list-style-type: none"> • 900/1800 MHz GSM 2G Digital Cellular Mobile Communications Services • 800 MHz CDMA 2G Digital Cellular Mobile Communications Services • 3G Digital Cellular Mobile Communications Services <p>Class 1 Satellite Communications Services</p> <ul style="list-style-type: none"> • Satellite Mobile Communications Services • Satellite International Private Line Services <p>Class 1 Data Communications Services</p> <ul style="list-style-type: none"> • Internet Data Transmission Services • International Data Communications Services • Public Telegraph and Subscriber Telegraph Services 	<p>Trunking Communications Services</p> <ul style="list-style-type: none"> • Analogue Trunking Communications Services • Digital Trunking Communications Services <p>Radio Paging Services</p> <p>Class 2 Satellite Communications Services</p> <ul style="list-style-type: none"> • Lease/Sale of Satellite Transponders • Domestic VSAT Communications Services <p>Class 2 Data Communications Services</p> <ul style="list-style-type: none"> • Fixed Network Domestic Data Transmission Services • Wireless Data Transmission Services Network Access Services • Wireless Access Services • Customer Premises Network (CPN) Services <p>Domestic Communications Facilities Services</p> <p>Network Custodian Services</p>
<p>Note: BTS sub-categories to be managed as VATS: analogue trunking communications services; radio paging services; domestic VSAT telecommunications services; class 2 data communications services (including fixed network domestic data transmission services and wireless data transmission services); CPN services; and network custodian services.</p>	
Value-Added Telecommunications Services (VATS)	
Class 1 VATS	Class 2 VATS
<p>On-line Data Processing and Transaction Management Services</p> <p>Domestic Multi-party Communications Services</p> <p>Domestic Internet Virtual Private Network (VPN) Services</p> <p>Internet Data Center (IDC) Services</p>	<p>Store and Forward Services</p> <ul style="list-style-type: none"> • Voicemail • X.400 Email Services • Facsimile Store and Forward Services <p>Call Centre Services</p> <p>Internet Access Services (ISP)</p> <p>Content Services</p>
<p>Note: China's WTO telecommunications services commitments and the sub-categories under the new Catalogue are correlated as follows:</p> <ul style="list-style-type: none"> • China's WTO commitment with respect to "mobile voice and data services" falls under cellular mobile communications services (1.1.2 of the new Catalogue) • China's WTO commitments with respect to domestic "voice services", "facsimile services", "circuit-switched data transmission services" are included within fixed network local telephone services and fixed network [domestic] long-distance services" (1.1.1 (a) and (b) under the new Catalogue) • Packet-switched data transmission services" under the domestic telecommunications WTO commitments falls under class 2 data telecommunications services (1.2.4 above) • Domestic private leased circuit services" under the WTO commitments correlates to domestic communications facilities services (1.2.6 of the new Catalogue) • China's WTO commitments with respect to international "voice services", "fax services", "circuit-switched data transmission services" and "international closed user group voice services" are included within fixed network international long-distance services" (1.1.1 (c) under the new Catalogue) • Packet-switched data transmission services" under the international communications WTO commitments falls under internet data transmission services and international data telecommunications services (1.1.4 (a) and (b) of the new Catalogue) • While internet "international closed user group data transmission services" under the WTO commitments belongs to internet data transmission services under the Catalogue (1.1.4(a)), "international closed user group data transmission services" utilising international private leased lines falls under international data communications services (1.1.4(b) of the Catalogue) 	

Source: Lovells, Beijing (2003)

Bibliography

- Abrenica, J. and Warren, T. (2000) *Towards the Millennium Round: East Asia and International Trade in Telecom Services*. Washington, D.C.: World Bank.
- AFX (2005a) *China Telecom considers taking on foreign strategic investors - report*. 17 November.
- AFX (2005b) *Portugal Telecom, Chinese telecom manufacturer ZTE sign co-operation deal*. 14 January.
- Ali, I. and Fan, E. X. (2004) *The Primacy of Reforms in the Emergence of People's Republic of China and India* (ERD Policy Brief Series No. 32). Manila: Asian Development Bank.
- Allison, G. T. (1971) *Essence of decision; explaining the Cuban missile crisis*. Boston: Little.
- Amann, E. and Baer, W. (2005) 'From the developmental to the regulatory state: the transformation of the government's impact on the Brazilian economy', *The Quarterly Review of Economics and Finance*, 45 (2-3): 421-431.
- Ambrose, W. W., Hennemeyer, P. R., et al. (1990) *Privatizing Telecommunications Systems: Business Opportunities in Developing Countries*. IFD-10. Washington D.C.: International Finance Corporation.
- AmCham (2003) *American Business in China (White Paper)*. Beijing.
- Andrews-Speed, P. and Dow, S. (2000) 'Reform of China's electric power industry Challenges facing the government', *Energy Policy*, 28 (5): 335-347.
- Andrews-Speed, P., Dow, S., et al. (2000) 'The Ongoing Reforms to China's Government and State Sector: the case of the energy industry', *Journal of Contemporary China*, 9 (23): 5-20.
- Anonymous (1999) 'China: China - Trade pact clears way for accession', *China Economic Review*. 31 December.
- Anonymous (2003) 'Chinese firms abroad Spreading their wings', *Economist*. 4 September.
- Anonymous (2005) *China - Regulatory Environment*. Paul Budde Communication Pty Ltd.
- APEC Telecommunications Working Group (2002) 'Proposal for establishing a group on information communication and network security', APEC Telecommunications Working Group, 25th Meeting. Hanoi, Vietnam, 11-15 March.
- Aronson, J. D. and Cowhey, P. (1988) *When Countries Talk: Trade in Telecommunications Services*. Washington, D.C.: American Enterprise Institute.
- Asia Development Bank (2003) *The 2020 Project: Policy Support in the People's Republic of China*.
- Asia Pulse (2004) *China To Establish Telecom Supervision System*. 24 December.
- Asia Pulse (2005a) *China's Value-Added Mobile Biz Dominated by Private Capital*. 18 August.
- Asia Pulse (2005b) *Chinese Government Aims for 95% Telecom Coverage in Villages*. 18 May.
- Asian Development Bank (2000) *Project Completion Report on the Second Telecommunications Project (Loan No. 1382-PRC) in the People's Republic of China (PRC 26410)*. Manila: Asian Development Bank.
- AWSJ (1994) 'China Plans to Seek \$6 Billion in Loans', *Asian Wall Street Journal*, 31 October.
- Baker & McKenzie (2003a) 'Calling the shots in Shanghai's telecom industry', *China Law & Practice*, 17 (5): 103.
- Baker & McKenzie (2003b) 'China classifies telecom services', *China Law & Practice*, 17 (4): 23.

- Baldwin, R. and Cave, M. (1999) *Understanding regulation : theory, strategy, and practice*. Oxford; New York: Oxford University Press.
- Baldwin, R., Scott, C., et al. (1998) *A reader on regulation*. Oxford: Oxford University Press.
- Barros, P. P. and Seabra, M. C. (1999) 'Universal service: does competition help or hurt?' *Information Economics and Policy*, 11 (1): 45-60.
- Bartle, I. (2001) 'Transnational economic and technological forces, institutions and policy change: the reform of telecommunications and electricity in Germany, France and Britain', National regulatory reform in an internationalised environment. Grenoble, France. April 6-11, 2001.
- Bartle, I. (2002) 'When Institutions No Longer Matter: Reform of Telecommunications and Electricity in Germany, France and Britain', *Journal of Public Policy*, 22 (1): 1-27.
- Baudrier, A. (2001) 'Independent Regulation and Telecommunications Performance in Developing Countries', Annual ISNIE Conference. Berkley, 13 -15 September.
- Bauer, J. M. (1995) 'Alternatives to Private Ownership', in B. Mody, J. M. Bauer and J. D. Straubhaar (eds), *Telecommunications Politics: Ownership and Control of the Information Highway in Developing Countries*. Mahwah, N.J.: L. Erlbaum. pp. 261-285.
- Bauer, J. M. (1999) 'Competition as a Turbulent Process: Lessons for Telecommunications Regulatory Reform', 27th Telecommunication Policy Research Conference. Alexandria, Virginia, 25-27 September.
- Bauer, J. M. (2003) 'Prospects and Limits of Comparative Research in Communications Policy-Making', 31st Research Conference on Communication, Information and Internet Policy. Arlington, VA, 19-21 September.
- BBC Monitoring (2005) *China opens power, telecoms, civil aviation to private investment*. 25 March.
- Bellier, M. and Zhou, Y. M. (2003) *Private Participation in Infrastructure in China: Issues and Recommendations for the Road, Water, and Power Sectors*. Working Paper No. 2. Washington, D.C.: World Bank, International Finance Corporation.
- Berrah, N., Lamech, R., et al. (2001) *Fostering Competition in China's Power Market*. Working Paper No. 416. Washington, D.C.: World Bank.
- Blackman, A. and Wu, X. (1999) 'Foreign direct investment in china's power sector: trends, benefits and barriers', *Energy Policy*, 27 (12): 695-711.
- Blanning, R. W., Bui, T. X., et al. (1997) 'National information infrastructure in Pacific Asia', *Decision support systems*, 21 (3): 215-227.
- Blouin, C. (2000) 'The WTO Agreement on Basic Telecommunications: a reevaluation', *Telecommunications Policy*, 24 (2): 135-142.
- Boisot, M. and Child, J. (1988) 'The Iron Law Of Fiefs: Bureaucratic Failure And The Problem', *Administrative Science Quarterly*, 33 (4): 507-527.
- Borrus, M. and Cohen, S. S. (1998) 'Building China's Information Technology Industry: Tariff Policy and China's Accession to the World Trade Organization', *Asian Survey*, 38 (11): 1005-1017.
- Bortolotti, B., D'Souza, J., et al. (2002) 'Privatization and the sources of performance improvement in the global telecommunications industry', *Telecommunications Policy*, 26 (5-6): 243-268.
- Bourreau, M. and Dogan, P. (2001) 'Regulation and innovation in the telecommunications industry', *Telecommunications Policy*, 25 (3): 167-184.
- Boylaoud, O. and Nicoletti, G. (2000) *Regulation, Market Structure and Performance in Telecommunications*. Economics Department Working Paper No. 237. Paris: OECD.
- Braathen, E. (2004) 'Institutions matter: engineers and telecommunication development in Mozambique and Zimbabwe', *Telematics and Informatics*, 21 (1): 25-47.

- Braga, C. A. P., Fink, C., et al. (2002) *Telecommunications-Related Services: Market Access, Deeper Integration and the WTO*. Discussion Paper 158. Hamburg: Hamburg Institute of International Economics.
- Brahm, L. J. (ed.) (2001) *China's Century: The Awakening of the Next Economic Powerhouse*. Singapore: John Wiley & Sons.
- Braithwaite, J. (1994) 'A sociology of modelling and the politics of empowerment', *British Journal of Sociology*, 45: 445-480.
- Braithwaite, J. and Drahos, P. (2000) *Global business regulation*. Cambridge: Cambridge University Press.
- Briceno, C., Estache, A., et al. (2005) *Infrastructure Services in Developing Countries: Access, Quality, Costs, and Policy Reform*. Working Paper No. 3468. Washington D.C.: World Bank.
- Brilliant, M. A. and Waterman, J. (2004) *China's WTO Implementation: A Three-Year Assessment*. U.S. Chamber of Commerce.
- Bruce, R. and Elixmann, D. (2002) *Key Issues Facing the Russian Telecommunications Sector*. Washington, D.C.: World Bank.
- Burns, J. P. (2003) "'Downsizing" the Chinese State: Government Retrenchment in the 1990s', *The China Quarterly*, 175: 775-802.
- Business Daily Update (2004) *More foreign investment in telecoms sector urged*. 16 December.
- Chan, C.-P. and Drewry, G. (2001) 'The 1998 State Council Organizational Streamlining: personnel reduction and change of government function', *Journal of Contemporary China*, 10 (29): 553-572.
- Chang, H. F. (1994) 'Lian Tong: A quantum leap in the reform of China's telecommunications', *Telecommunications Policy*, 18 (3): 206-210.
- Chen, B. and Feng, Y. (2000) 'Openness and trade policy in China: An industrial analysis', *China Economic Review*, 11: 323-341.
- Chen, K. (2004a) 'Telecom: China Crafts First Telecom Law - Rules Will Guide Carriers, Help Protect Consumers, Ensure Fair Competition', *The Wall Street Journal Europe*, 21 May.
- Chen, Y. (2004b) 'Boom in handset manufacturing expected', *China Daily*, 9 December.
- Chetham, A. (1997) 'China: A giant at the gates of destiny', *South China Morning Post*, 28 August.
- Cheung, M. K. (2002) 'What Factors are Driving China's Mobile Diffusion?' *Electronic Markets*, 12 (1): 22-26.
- China (Hainan) Institute of Reform and Development (2002) *China's Accession to the WTO and Infrastructure Reform*. Beijing: Foreign Languages Press.
- China Daily (2005) *China telecom sector needs industry alliance*. 8 July.
- China Online (2000) *China: China's telecom sector should be open to private competition - petition*. 8 March (originally in Zhongguo Xinwen She. 6 March, 2000).
- Cho, S.-W. (1998) *The dynamics of institutional reform in telecommunications: globalization, liberalization, and regulatory change*. New York: Garland Pub.
- Chong, R. B. and Chow, W. (1999) 'Financing Telecommunications Projects In Asia: A Promising Regulatory Perspective', *Federal Communications Law Journal*, 52 (1): 1-19.
- Clarke, G. R. G. and Wallsten, S. (2002) *Universal(ly Bad) Service: Providing Infrastructure Services to Rural and Poor Urban Consumers*. Working Paper No. 2868. Washington, D.C.: World Bank.
- Clifford, M. (1994) 'China: A Question of Money', *Far Eastern Economic Review*. 47. 7 April.
- Comor, E. A. (1998) *Communication, commerce, and power: the political economy of America and the direct broadcast satellite, 1960-2000*. Houndmills, Basingstoke, Hampshire; New York: Macmillan Press Ltd; St. Martin's Press.

- Cortell, A. P. and Davis, J. W. (1996) 'How Do International Institutions Matter? The Domestic Impact of International Rules and Norms', *International Studies Quarterly*, 40: 451-478.
- Cowhey, P. F. (1990) 'The international telecommunications regime: the political roots of regimes for high technology', *International Organization*, 44 (3): 169-199.
- Cowhey, P. F. and Klimentko, M. M. (2001) *The WTO Agreement and Telecommunications Policy Reform*. Working Paper No. 2601. Washington, D.C.: World Bank.
- Cowhey, P. F. and Richards, J. (2000) 'Dialling for Dollars: Institutional Designs for the Globalization of the Market for Basic Telecommunication Services', in J. A. Hart and A. Prakash (eds), *Coping with globalization*. New York: Routledge. pp. 243-288.
- Cronin, F. J., Parker, E. B., et al. (1991) 'Telecommunications infrastructure and economic growth : An analysis of causality', *Telecommunications Policy*, 15 (6): 529-535.
- CSFB (2003) *China Telecom Monthly: May 2003 - IPPs and DSL*. Hong Kong: Credit Suisse First Boston.
- Cui, H. (2001) 'Interview with Chen Huai, deputy director of the market research institute of SCDRC', *China Economic Times*, 9 April.
- Cui, S. (2002) 'The Regulatory Reform in Telecommunication Sector in China', Third Workshop of the APEC-OECD Co-operative Initiative on Regulatory Reform. Jeju Island, Korea, 16-18 October.
- Dai, X. (2002) 'Towards a Digital Economy with Chinese Characteristics', *New Media & Society*, 4 (2): 141-162.
- Dasgupta, S., Lall, S., et al. (2001) *Policy Reform, Economic Growth, and the Digital Divide: An Econometric Analysis*. Working Paper No. 2567. Washington, D.C.: World Bank, Development Research Group.
- Datta, A. and Agarwal, S. (2004) 'Telecommunications and economic growth: a panel data approach', *Applied Economics*, 36 (15): 1649-1654.
- Davidson, W. H., Wang, D.-M., et al. (1989) 'Telecommunications Policy and Economic Development: Models for the People's Republic of China', *China Economic Review*, 1 (1): 93-108.
- Démurger, S. (2001) 'Infrastructure Development and Economic Growth: An Explanation for Regional Disparities in China?' *Journal of Comparative Economics*, 29 (1): 95-117.
- Deutsche Bank (2003) *China Wireless Sector: Industry structure, competition and market share*. Hong Kong: Deutsche Bank.
- Deutsche Bank (2004) *China Telecom Snippets: USO trial and aging population*. Hong Kong: Deutsche Bank.
- DeWoskin, K. J. (2001) 'The WTO and the Telecommunications Sector in China', *The China Quarterly*, 167 (1): 630-654.
- Di, A. Z. and Liu, J. (1994) 'Telecommunications development and economic growth in China', *Telecommunications Policy*, 18 (3): 211-215.
- Dickie, M. (2003) 'Industry leaders are seeing big changes and looking for overseas growth', *Financial Times*, 16 December: 6.
- Ding, L. and Haynes, K. E. (2004) 'The Role of Telecommunications Infrastructure in Regional Economic Growth of China', 32nd Telecommunications Policy Research Conference. Washington, D.C., October 1-3.
- Dittmer, L. (1995) 'Chinese Informal Politics', *The China Journal* (34): 1-34.
- Dittmer, L. (2001) 'The Changing Shape of Elite Power Politics', *The China Journal*, 45 (January 2001): 53-67.

- Doh, J. P. and Teegen, H. J. (2003) 'Private Investment in Emerging Markets Telecommunications Infrastructure: Global Trends, National Policies, Firm Strategies', *Competition and Change*, 7 (1): 39-60.
- Dornisch, D. (2001) 'Competitive dynamics in Polish telecommunications, 1990-2000: growth, regulation, and privatization of an infrastructural multi-network', *Telecommunications Policy*, 25 (6): 381-407.
- Dow Jones Chinese Financial Wire (2005) *China 3G Licenses Release Delayed*. 4 July.
- Drabek, Z. (2001) *Investment policies and telecommunications regimes*. ERAD-2001-01. Geneva: World Trade Organisation.
- Drabek, Z. (2002) *Investment Policies and Telecommunications Regimes*. Discussion Paper 166. Hamburg: HWWA-Institut für Wirtschaftsforschung.
- Drahos, P. and Joseph, R. A. (1995) 'Telecommunications and investment in the great supranational regulatory game', *Telecommunications Policy*, 19 (8): 619-635.
- Drake, W. J. (1993) 'Territoriality and Intangibility: Transborder Data Flows and National Sovereignty', in K. Nordenstreng and H. I. Schiller (eds), *Beyond National Sovereignty: International Communications in the 1990s*. Norwood: Ablex. pp. 259-313.
- Drake, W. J. (2000) 'The Rise and Decline of the International Telecommunications Regime', in C. T. Marsden (ed.), *Regulating the Global Information Society*. London: Routledge. pp. 124-177.
- Drake, W. J. (2001) 'Communications', in P. J. Simmons and C. de Jonge Oudrat (eds), *Managing Global Issues: Lessons Learned*. Washington, D.C.: Carnegie Endowment for International Peace. pp. 25-74.
- Drake, W. J. and Noam, E. M. (1997) 'The WTO deal on basic telecommunications: Big bang or little whimper?' *Telecommunications Policy*, 21 (9/10): 799-818.
- Du, C. X. (2003) 'Foreign Investment in China's Telecommunication Services: An Assessment of the Country's Policy Development Process', *Pacific Telecommunication Review*, 24 (3): 4-22.
- Duch, R. M. (1991) *Privatizing the economy: telecommunications policy in comparative perspective*. Ann Arbor: University of Michigan Press.
- Dudek, M. D., Weaver II, D. R., et al. (2001) 'The PRC Telecom Regulatory Regime: Piecing Together the Puzzle (originally published in Hong Kong Lawyer)', available at http://www1.jonesday.com/FILES/tbl_s31Publications/FileUpload137/417/HK%20Lawyer%200901.pdf (accessed on 4 January 2004).
- Dyson, K. H. F. and Humphreys, P. (1990) 'Introduction: politics, markets and communication policies', in D. K. and P. Humphreys (eds), *The political economy of communications: international and European dimensions*. London: Routledge. pp. 1-32.
- Economides, N. (1996) 'The Economics of Networks', *International Journal of Industrial Organisation*, 14: 673-699.
- Economist Intelligence Unit (2005) *What's new in your industry: Telecoms & technology*. 14 February.
- Economy, E. (1998) *China Confronts the Challenge of Globalization*. New York, NY: Rockefeller Brothers Fund, Project on World Security.
- Economy, E. (2001) 'The Impact of International Regimes on Chinese Foreign Policy-Making: Broadening Perspectives and Policies...But Only to a Point', in D. M. Lampton (ed.), *The Making of Chinese Foreign and Security Policy in the Era of Reform*. Stanford: Stanford University Press. pp. 230-253.
- Economy, E. and Oksenberg, M. (1999) *China joins the world: progress and prospects*. Council on Foreign Relations Press.
- EIU ViewsWire (2001) *Telecoms updates*. 10 September.

- Esserman, S. G. (2000) *Telecommunications and the International Trade System*. Center for Strategic and International Studies.
- Euromonitor (2003) 'Global Market Information Database', available at <http://www.imd.ch> (accessed on December 29, 2003).
- Euromonitor (2004) 'Global Market Information Database', available at <http://www.imd.ch> (accessed on 15 December 2004).
- Fan, X. (1996) *China Telecommunications: Constituencies and Challenges* (879716-36-4 P-96-4). Cambridge, MA: Harvard University.
- Fan, X. (1999) *China's WTO Accession and its Telecom Liberalization*. Washington, D.C.: CSIS.
- Fan, X. (2001) *Communications and Information in China: Regulatory Issues, Strategic Implications*. University Press of America.
- Farhoomand, A. and Lovelock, P. (1999) *Building China's NII: Policy Co-ordination and the 'Golden Projects'*: Centre for Asian Business Cases, University of Hong Kong. 399-095-1: 22.
- Feigenbaum, E. A. (2003) *China's techno-warriors: national security and strategic competition from the nuclear to the information age*. Stanford, CA: Stanford University Press.
- Feketekuty, G. (1988) *International Trade in Services: An Overview and Blueprint for Negotiations*. Washington, D.C.: American Enterprise Institute.
- Feketekuty, G. (1992) 'Negotiating the World Information Economy', in H. M. Sapolsky, R. J. Crane, N. W. Russell and E. M. Noam (eds), *The telecommunications revolution: past, present, and future*. London and New York: Routledge. pp. 167-198.
- Feketekuty, G. (1999) 'Setting the Agenda for Services 2000: The Next Round of Negotiations on Trade in Services', available at http://www.globalservicesnetwork.com/setting_the_agenda_for_ser.htm (accessed on 15 February 2004).
- Fewsmith, J. (1999) *China and the WTO: The Politics Behind the Agreement*. Seattle: National Bureau of Asian Research.
- Fewsmith, J. (2000) *The Impact of WTO/PNTR on Chinese Politics*. Seattle: National Bureau of Asian Research.
- Fewsmith, J. (2001) *Elite politics in contemporary China*. M.E. Sharpe.
- Fink, C., Mattoo, A., et al. (2001) *Liberalizing Basic Telecommunications: The Asian Experience*. Working Paper No. 2718. Washington, D.C.: World Bank.
- Fink, C., Mattoo, A., et al. (2003) 'An assessment of telecommunications reform in developing countries', *Information Economics and Policy*, 15 (4): 443-466.
- Finnemore, M. (1996) 'Norms, Culture, and World Politics: Insights from Sociology's Institutionalism', *International Organization*, 50 (2): 325-47.
- Frieden, R. (2001) *Managing Internet-Driven Change in International Telecommunications*. Boston: Artech House.
- Fries, M. (2000) *China and Cyberspace: The Development of the Chinese National Information Infrastructure*. Bochum: Bochum University Press.
- FT (2003) 'FT primer - China's telecoms market', *Financial Times*.
- Funk, J. L. (1998) 'Competition between regional standards and the success and failure of firms in the world-wide mobile communication market', *Telecommunications Policy*, 22 (4-5): 419-441.
- Gabriele, A. (2004) 'Policy alternatives in reforming energy utilities in developing countries', *Energy Policy*, 32 (11): 1319-1337.
- Gains, F. (2003) 'Executive Agencies in Government: The Impact of Bureaucratic Networks on Policy Outcomes', *Journal of Public Policy*, 23 (1): 55-79.
- Galperin, H. (2004) 'Beyond Interests, Ideas, and Technology: An Institutional Approach to Communication and Information Policy. Special Issue: Socio-Cultural

- Determinants of Communication and Information Policy', *Information Society*, 20 (3): 159-168.
- GAO (2000) *China's Membership Status and Normal Trade Relations Issues*.
- GAO (2004) *U.S.-China Trade: Opportunities to Improve U.S. Government Efforts to Ensure China's Compliance with World Trade Organization Commitments* (GAO-05-53). Washington, D.C.: United States Government Accountability Office.
- Gao, P. and Lyytinen, K. (2000) 'Transformation of China's telecommunications sector: a macro perspective', *Telecommunications Policy*, 24 (8/9): 719-730.
- Gao, P. and Lyytinen, K. (2003) 'China Telecommunications Transformation in Globalization Context', IFIP Working Groups 8.2 and 9.4 Joint Conference: IS Perspectives and Challenges in the Context of Globalization. Athens, Greece, 15-17 June.
- Garcia-Murillo, M. A. and MacInnes, I. (2000) 'Regulatory Convergence in the Information Industry', 28th Telecommunication Policy Research Conference: Communication, Information, and Internet Policy. Alexandria, Virginia, 23-25 September.
- Gasmi, F., Laffont, J. J., et al. (2000) 'Competition, universal service and telecommunications policy in developing countries', *Information economics and policy*, 12 (3): 221-248.
- Genschel, P. and Werle, R. (1993) 'From National Hierarchies to International Standardization: Modal Changes in the Governance of Telecommunications', *Journal of Public Policy*, 13 (3): 203-225.
- Giddens, A. (1984) *The Constitution of Society*. Cambridge: Polity Press.
- Gilardi, F. (2002) 'Policy credibility and delegation to independent regulatory agencies: a comparative empirical analysis', *Journal of European Public Policy*, 9 (6): 873-893.
- Gillick, D. (1992) 'Telecommunications Policies and Regulatory Structures', *Telecommunications Policy*, 16 (December 1992): 726-731.
- Globerman, S. (1995) 'Foreign ownership in telecommunications: A policy perspective', *Telecommunications Policy*, 19 (1): 21-28.
- Goodman, D. S. G. (2004) 'The Campaign to "Open Up the West": National, Provincial-level and Local Perspectives', *China Quarterly*, 178: 317-334.
- Granovetter, M. (1985) 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology*, 91 (3): 481-510.
- Green, S. and Ming, H. (2005) 'China's Privatization Ministry? The State-owned Assets Supervision and Administration Commission', in S. Green and G. Liu (eds), *Exit the Dragon: Privatization and State Ownership in China*. London: Blackwell. pp. 169-195.
- Gruber, H. and Verboven, F. (2001) 'The evolution of markets under entry and standards regulation - the case of global mobile telecommunications', *International Journal of Industrial Organization*, 19 (7): 1189-1212.
- Guan, S. Y. (2002) *The Development of Telecommunications Competition in China*. Toronto: Faculty of Law, University of Toronto.
- Guan, S. Y. (2003) 'China's telecommunications reforms: from monopoly towards competition'. Thesis (LL.M.), Faculty of Law, University of Toronto.
- Guermazi, B. (2000) *Exploring the Reference Paper on Regulatory principles*. Montreal: McGill, Center for the Study of Regulated Industries.
- Guo, S. (2003) 'The Ownership Reform in China: what direction and how far?' *Journal of Contemporary China*, 12 (36): 553-573.
- Haas, P. M. (1992) 'Introduction: Epistemic Communities and International Policy Coordination', *International Organization*, 46 (1): 1-35.
- Hall, P. A. (1986) *Governing the economy: the politics of state intervention in Britain and France*. Cambridge: Polity.

- Hall, P. A. and Taylor, R. (1996) 'Political Science and the Three Institutionalisms', *Political Studies*, 44: 936-957.
- Hamelink, C. J. (1993) 'Globalism and National Sovereignty', in K. Nordenstreng and H. I. Schiller (eds), *Beyond national sovereignty : international communication in the 1990s*. Norwood, NJ: Ablex Pub. Co. pp. 371-393.
- Hamrin, C. L. and Zhao, S. (1995) 'Introduction: Core Issues in Understanding the Decision Process', in C. L. Hamrin and S. Zhao (eds), *Decision-making in Deng's China: perspectives from insiders*. New York and London: M.E. Sharpe.
- Hao, Y. (1997) *China's Telecommunications: Present and Future*. Stanford: Stanford University, Center for International Security and Arms Control.
- Hardy, A. P. (1980) 'The role of the telephone in economic development', *Telecommunications Policy*, 4 (4): 278-286.
- Harris, C. (2003) *Private Participation in Infrastructure in Developing Countries - Trends, Impacts, and Policy Lessons*. Working Paper No. 5. Washington, D.C.: World Bank.
- Harris, S. (1996) 'China's role in the WTO and APEC', in D. S. G. Goodman and G. Segal (eds), *China rising: nationalism and interdependence*. London: Routledge. pp. 134-155.
- Harwit, E. (1998) 'China's telecommunications industry: development patterns and policies', *Pacific Affairs*, 71 (2): 175-193.
- Harwit, E. (2004) 'Spreading Telecommunications to Developing Areas in China: Telephones, the Internet and the Digital Divide', *China Quarterly*, 180.
- Hauser, H. (2004) *Mexico - Measures Affecting Telecommunications Services*. University of St. Gallen: Swiss Institute for International Economics and Applied Economic Research (SIAW-HSG): 4.
- He, J. (2002) 'Recent Status of P.R. China in Participating APEC TEL MRA', available at <http://www.apectelwg.org/apecdata/telwg/25tel/mratf/telwg25-mratf05.pdf> (accessed on 28 July 2003).
- He, Z. (1997) 'A History of Telecommunications in China: Development and Policy Implications', in P. Lee (ed.), *Telecommunications and development in China*. Cresskill, N.J.: Hampton Press. pp. 55-87.
- Henisz, W. (2002) 'The institutional environment for infrastructure investment', *Industrial and Corporate Change*, 11 (2): 355-389.
- Henisz, W. J. and Zelner, B. A. (2001) 'The Institutional Environment for Telecommunications Investment', *Journal of Economics & Management Strategy*, 10 (1): 123-147.
- Henisz, W. J., Zelner, B. A., et al. (2004) *International Coercion, Emulation and Policy Diffusion: Market-Oriented Infrastructure Reforms, 1977-1999*. WP 2004-05. Philadelphia: University of Pennsylvania, Reginald H. Jones Center.
- Hills, J. (1994) 'Dependency Theory and its Relevance Today: International Institutions in Telecommunications and Structural Power', *Review of International Studies*, 20.
- Hills, J. and Michalis, M. (2000) 'Restructuring regulation: technological convergence and European telecommunications and broadcasting markets', *Review of International Political Economy*, 7 (3): 434-464.
- Ho, A., Scott, A., et al. (2002) *China Telecoms Workshop: Policy, Technology & Practice*. Hong Kong: Merrill Lynch.
- Holland, T. (2002) 'The Perils of Privatization: China's attempts to privatize China Telecom haven't been met with much investor enthusiasm, which doesn't bode well for future offerings', *Far Eastern Economic Review*. 55. 14 November.
- Horsley, J. P. (2001a) 'China's New Telecommunications Regulations and the WTO', *The China Business Review*, 28 (4): 34-41.
- Horsley, J. P. (2001b) 'PRC regulation of foreign telecom equipment and the WTO', *The China Business Review*, 28 (5): 66-68.

- Hou, M. (2000) 'China: Private firms supported deputy proposed opening telecom to domestic firms', *Business Weekly (China)*. 12 March.
- Houben, H. (1999) 'China's economic reforms and integration into the world trading system', *Journal of World Trade*, 33 (3): 1-18.
- Hufbauer, G. C. and Wada, E. (1997) 'Policy Issue Beyond the WTO Agreement', in G. Hufbauer and E. Wada (eds), *Unfinished Business: Telecommunications after the Uruguay Round*. Washington, D.C.: Institute for International Economics. pp. 3-11.
- Hughes, C. R. (2002) 'China and the globalization of ICTs: Implications for international relations', *New Media & Society*, 4 (2): 205-224.
- Hui, Y. (2002) 'Unicom wins HK licence', *South China Morning Post*, 6 February: 1.
- Ianchovichina, E., Martin, W., et al. (2000) *Assessing the Implications of Merchandise Trade Liberalization in China's Accession to WTO*. Washington, D.C.: World Bank.
- Interfax (2000) *China: China's telecom infrastructure and its approved WTO-compliant regulations*. 27 October.
- Interfax (2002a) *Chinese Electronics Firms Urge Government to Waive Mobile Phone Production Permit System*. 2 December.
- Interfax (2002b) *Newly Established Alcatel Shanghai Bell Targets USD 2 Bln Sales for 2001*. 14 June.
- Interfax (2002c) *Ruling on Price Statements for China's Telecom services Takes Effect on August 1*. 1 August.
- Interfax (2003a) *China Soon to Release Two National Technical Standards for WLAN Equipment*. Shanghai, 12 June.
- Interfax (2003b) *China Working on Reform of Telecom Network Interconnection Charge System*. 24 November.
- Interfax (2003c) *MII Issues New Interconnection Charge Settlement Regulation*. Shanghai, 14 November.
- Interfax (2004) *Chinese Government Approves Joint Venture Between China Unicom and SK Telecom*. 9 February.
- Intven, H., Oliver, J., et al. (2000) *Telecommunications Regulation Handbook*. Washington, D.C.: World Bank.
- ITU (1999) *Trends in telecommunication reform: convergence and regulation 1999* (926108141X). Geneva: International Telecommunication Union.
- ITU (2001) *Yearbook of Statistics: Telecommunication Services 1990-1999* (92-61-09101-6). Geneva: International Telecommunication Union.
- ITU (2002) *Competition Policy in Telecommunications (CPT/04)*. Geneva: International Telecommunication Union.
- ITU (2003) 'Universal Access Regulatory Best Practice Guidelines', available at http://www.itu.int/ITU-D/treg/Events/Seminars/2003/GSR/Documents/BestPractices_E_31.pdf (accessed on 1 February 2005).
- ITU (2004) China Telecommunication Statistics. Personal Communication. Geneva, 8 January.
- Ives, P. M. (2003) 'Negotiating Global Change: Progressive Multilateralism in Trade in Telecommunications Talks', *International Negotiation*, 8 (1): 43-78.
- Jacobson, H. K. and Oksenberg, M. (1990) *China's participation in the IMF, the World Bank, and GATT: toward a global economic order*. University of Michigan Press.
- Janda, R. (1999) 'Benchmarking a Chinese Offer on Telecommunications: Context and Comparisons', *International Journal of Communications Law and Policy* (3): 27.
- Jensen, R. and Thursby, M. (1996) 'Patent Races, Product Standards, and International Competition', *International Economic Review*, 37 (1): 21-49.

- Jin, M. (1994) 'China: Progress in service sector is significant', *Business Weekly (China)*. 10 October.
- John, P. (1998) *Analysing public policy*. London: Pinter.
- Jordana, J. and Levi-Faur, D. (2004) 'The Politics of Regulation in the Age of Governance', in J. Jordana and D. Levi-Faur (eds), *The Politics of Regulation: Examining Regulatory Institutions and Instruments in the Governance Age*. Cheltenham: Edward Elgar.
- Jordana, J. and Sancho, D. (2002) 'Institutional Constellations and Regulatory Policy', *The Politics of Regulation*. Barcelona, 29-30 November.
- Joseph, R. and Drahos, P. (1998) 'Contested Arenas in International Telecommunications: Towards an Integrated Political Perspective', in S. Macdonald and G. Madden (eds), *Telecommunications and socio-economic development*. Amsterdam; Oxford: North-Holland. pp. 99-118.
- Jussawalla, M. (1982) 'International Trade Theory and Communications', in M. Jussawalla and D. M. Lamberton (eds), *Communication economics and development*. [Honolulu] Hawaii; Elmsford, N.Y.: East-West Center; Pergamon Press. pp. 82-99.
- Jussawalla, M. (1995) 'Telecommunications Privatization and Capital Formation in the ASEAN', in B. Mody, J. Bauer and J. Straubhaar (eds), *Telecommunications politics: ownership and control of the information highway in developing countries*. Mahwah, N.J.: L. Erlbaum. pp. 165-178.
- Jussawalla, M. (1997) 'The Contribution of Foreign Investment in China's Telecommunications Industry', in D. Ryan (ed.), *Privatization and competition in telecommunications: international developments*. Westport, CT: Praeger. pp. 47-58.
- Kantor, M. (2000) 'Foreign Direct Investment in Chinese Telecoms: Changes in the Regulatory Scheme', *Cambridge Review of International Affairs*, 13 (2): 136-151.
- Katznelson, I. (1997) 'Reflections on history, method, and political science', *Political Methodologist*, 8: 11-14.
- Keller, P. (2000) 'China's impact on the Global Information Society', in C. Marsden (ed.), *Regulating the global information society*. London: Routledge. pp. 265-284.
- Keohane, R. O. and Milner, H. V. (1996) 'Internationalization and China's Economic Reforms: A Conclusion', in R. O. Keohane and H. V. Milner (eds), *Internationalization and Domestic Politics*. Cambridge; New York: Cambridge University Press. pp. 186-206.
- Kessides, I. N. (2004) *Reforming Infrastructure: Privatization, Regulation, and Competition*. Washington D.C.: World Bank.
- Kim, I. (2002) 'Accession into the WTO: external pressure for internal reforms in China', *Journal of Contemporary China*, 11 (32): 433-458.
- Kim, Y., Ho, I. S. M., et al. (2003) *Developing Institutional Investors In People's Republic Of China*. World Bank Country Study Paper. Washington, D.C.: World Bank.
- Kitschelt, H. (1986) 'Four Theories of Public Policy Making and Fast Breeder Reactor Development', *International Organization*, 40 (Winter 1986).
- Knight, I. N. (1992) 'Global telecommunication standards - who needs them?' *Telecommunications Policy*, 16 (4): 288-290.
- Kong, Q. (2003) 'Quest for Constitutional Justification: privatization with Chinese characteristics', *Journal of Contemporary China*, 12 (36): 537-551.
- Koopmann, G. (2001) *Competition Policies and Telecommunications Regimes*. Discussion Paper No. 125. Hamburg: Hamburg Institute of International Economics.

- Kraemer, K. L. and Dedrick, J. (1994) *National Computer Policy and Development in China*. Working Paper PAC-060A. Center for Research on Information Technology and Organizations (CRITO).
- Laffont, J. J. (2004) 'Management of Public Utilities in China', *Annals of Economics and Finance*, 5: 185-210.
- Laffont, J.-J. and Tirole, J. (2000) *Competition in telecommunications*. Cambridge, MA: MIT Press.
- Lai, H. H. (2001) 'Behind China's World Trade Organization agreement with the USA', *Third World Quarterly*, 22 (2): 237-255.
- Lampton, D. M. (1992) 'A plum for a peach: Bargaining, interest and bureaucratic politics in China', in K. Lieberthal and D. M. Lampton (eds), *Bureaucracy, politics and decision making in post-Mao China*. Berkeley: University of California Press.
- Langdale, J. (1982) 'Competition in telecommunications', *Telecommunications Policy*, 6 (4): 283-299.
- Lanoszka, A. (2001) 'The World Trade Organization Accession Process: Negotiating Participation in a Globalizing Economy', *Journal of World Trade*, 35 (4): 575-602.
- Lardy, N. R. (1996) *China and the WTO*. Policy Brief No. 10. Washington, D.C.: Brookings Institution.
- Lardy, N. R. (1999) *China's WTO Membership*. Washington, D.C.: Brookings Institution.
- Lardy, N. R. (2002) *Integrating China into the global economy*. Washington, D.C.: Brookings Institution Press.
- Lee, G. (2005) 'New rules to lift mobile sector; Mainland handset manufacturers may consolidate to rival foreign dominance', *South China Morning Post*, 22 February.
- Lee, P. S. N. (1991) 'Dualism of Communications in China', *Telecommunications Policy*, 15 (6): 536-544.
- Lee, P. S. N. (1997) 'Uneven Development of Telecommunications in China', in P. Lee (ed.), *Telecommunications and development in China*. Cresskill, N.J.: Hampton Press. pp. 113-129.
- Leigh, N. (2002) 'Technology prospers under China's new rules', *International Financial Law Review*, 21 (7): 49-50.
- Lembke, J. (2002) 'EU regulatory strategy for mobile Internet', *Journal of European Public Policy*, 9 (2): 273-291.
- Levi, M. and Sherman, R. (1997) 'Rational Compliance with Rationalized Bureaucracy', in C. K. Clague (ed.), *Institutions and Economic Development: Growth and Governance in Less-Developed and Post-Socialist Countries*. Baltimore: Johns Hopkins University Press. pp. 390.
- Levi-Faur, D. (1997) 'The Governance of International Telecommunications; Cross-international Study of International Policy Regimes for Terminal Type-Approval and Networks Interconnection', Conference on Non-State Actors and the Global System. ESRC Centre for the Study of Globalization and Regionalization, University of Warwick, 31 October-1 November.
- Levi-Faur, D. (2003) 'The politics of liberalisation: Privatisation and regulation-for-competition in Europe's and Latin America's telecoms and electricity industries', *European Journal of Political Research*, 42 (5): 705-740.
- Levy, B. and Spiller, P. T. (1994) 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation', *Journal of Law, Economics and Organization*, 10 (2): 201-246.
- Levy, B. and Spiller, P. T. (1996) *Regulations, institutions, and commitment: comparative studies of telecommunications*. Cambridge: Cambridge University Press.
- Li, M. and Wang, J. (2003) 'China's Telecommunications Universal Service in a Competitive Environment', UNU/WUDER Project Conference on Spatial Inequality in Asia. United Nations University Centre, Tokyo, 28-29 March.

- Li, T. (2003) 'Telecom Law Well Underway, Network Convergence Remains a Difficulty', *China Business Post*, 26 July (translated by USITO).
- Li, W., Qiang, C. Z.-W., et al. (2000) *The Political Economy of Telecommunications Reforms*. Washington, D.C.: World Bank.
- Li, W. and Xu, L. C. (2002a) 'The Impact of Privatization and Competition in the Telecommunications Sector around the World', available at http://faculty.darden.virginia.edu/liw/papers/Impact_of_Privatization.pdf (accessed on 22 January 2004).
- Li, W. and Xu, L. C. (2002b) 'The Political Economy of Privatization and Competition: Cross-Country Evidence from the Telecommunications Sector', *Journal of Comparative Economics*, 30 (3): 439-462.
- Liang, W. (2002) 'China's WTO Negotiation Process and its Implications', *Journal of Contemporary China*, 11 (33): 683-719.
- Liang, X. and Zhu, Y. (1994) 'China', in E. M. Noam and D. Komatsuzaki (eds), *Telecommunications in the Pacific Basin*. New York: Oxford University Press. pp. 73-85.
- Liebermann, E. S. (2001) 'Causal Inference in Historical Institutional Analysis', *Comparative Political Studies*, 34 (9): 1011-1035.
- Lieberthal, K. (1995) *Governing China*. New York: Norton.
- Lieberthal, K. (2003) *Governing China: from revolution through reform*. New York: W. W. Norton.
- Lieberthal, K. and Lampton, D. M. (eds) (1992) *Bureaucracy, politics, and decision making in post-Mao China*. Berkeley: University of California Press.
- Lieberthal, K. and Oksenberg, M. (1986) 'Understanding China's Bureaucracy', *China Business Review*, 13 (6): 24-31.
- Lieberthal, K. and Oksenberg, M. (1988) *Policy making in China: leaders, structures, and processes*. Princeton, N.J.: Princeton University Press.
- Lin, T., Ma, Q., et al. (2002) *Universal Service Obligations in China's Telecom Sector: Situations, Reforms, and Implementations*. Beijing: Research Center for Regulation and Competition.
- Liu, C. (2003) Zhongguo Dianxinye De Fazhan Yu Gaige (*Reforms and Development of Chinese Telecom Enterprises*). Personal Communication. Beijing, 25 November.
- Liu, M. (2001) *Administrative reform in China and its impact on the policy-making process and economic development after Mao: reinventing Chinese government*. Lewiston, N.Y. and Lampeter: Edwin Mellen Press.
- Lodge, M. and Stirton, L. (2004) 'Withering in the Heat? In Search of the Regulatory State in the Commonwealth Caribbean', available at <http://www.stirton.net/Bake'n'shark6.pdf> (accessed on 17 June 2005).
- Loo, B. P. Y. (2004) 'Telecommunications reforms in China: towards an analytical framework', *Telecommunications Policy*, 28 (9-10): 697-714.
- Loughlin, M. and Scott, C. (1997) 'The Regulatory State', in P. Dunleavy (ed.), *Developments in British Politics 5*. Basingstoke: Macmillan.
- Lovelock, P. (1996) 'China's telecommunications policy and Hong Kong, 1997: bargaining positions', *Telecommunications Policy*, 20 (9): 685-698.
- Lovelock, P. (1997) 'The Asian NII Experience', available at http://www.isoc.org/inet97/proceedings/E3/E3_2.HTM (accessed on 5 February 2001).
- Lovelock, P. (1999) 'The evolution of China's national information infrastructure (NII): a policy-making analysis'. PhD thesis, University of Hong Kong.
- Lovelock, P. (2003) The Role of the LSG in China's Information Economy. Personal Communication. 2 March.
- Lovelock, P. and Ure, J. (2000) 'Telecommunications Policy-Making in China: A Two-Tier Bargaining Model', *China Quarterly* (submitted).

- Low, P. and Mattoo, A. (1998) *Reform in basic telecommunications and the WTO negotiations: The Asian Experience*. Staff Working Paper. Geneva: World Trade Organisation.
- Lu, D. (1994) 'The management of China's telecommunication industry', *Telecommunications Policy*, 18 (3): 195-205.
- Lu, D. (2000) 'China's Telecommunications Infrastructure Build-Up: On Its Own Way', in T. Ito and A. O. Krueger (eds), *Deregulation and Interdependence in the Asia-Pacific Region*. University of Chicago Press.
- Lu, D. (2002a) 'Building up China's Telecommunications Infrastructure', in D. Lu and J. Wong (eds), *China's Economy in The New Century: Structural Problems And Policy Issues*. Singapore: World Scientific. pp. 325-372.
- Lu, D. (2002b) 'Telecommunications: Moving towards Competition', in S.-J. Wei, G. J. Wen and H. Zhou (eds), *The Globalization of the Chinese Economy*. Cheltenham: Edward Elgar. pp. 47-67.
- Lu, D. and Wong, C. K. (2003) *China's telecommunications market: entering a new competitive age*. Cheltenham: Edward Elgar.
- Lü, X. (2004) 'From Player to Referee : Emerging Regulatory State in China', available at <http://www.cefc.com.hk/uk/cefc/seminaire.php?idsem=56> (accessed on 15 July 2005).
- Lynch, D. C. (2000) 'The Nature and Consequences of China's Unique Pattern of Telecommunications Development', in C.-C. Lee (ed.), *Power, money, and media: communication patterns and bureaucratic control in cultural China*. Northwestern University Press.
- Ma, J. (1996) 'China: WTO lacks key to telecoms door', *South China Morning Post*, 3 July.
- Ma, L., Chung, J., et al. (forthcoming) 'E-government in China: Bringing economic development through administrative reform', *Government Information Quarterly*, In Press, Corrected Proof.
- Ma, Q. (2002a) 'Defining Chinese Nongovernmental Organizations', *Voluntas - International Journal of Voluntary and Nonprofit Organisations*, 13 (2): 113-130.
- Ma, S.-Y. (2002b) 'Role of the state in Chinese enterprises listed in Hong Kong', *The Pacific Review*, 15 (2): 279-298.
- Macintosh, I. (2001) 'Regulating the New Economy: Implications of WTO accession for Telecommunications and E-Commerce in China', *China and the World Trade Organization: Legal and Economic Implications of Accession*. Australian National University, Canberra, 16-17 March.
- Macintosh, I. (2003) 'Regulating the new economy: implications of WTO accession for telecommunications and e-commerce in China', in D. Z. Cass, B. Williams and G. R. Barker (eds), *China and the world trading system: entering the new millennium*. Cambridge: Cambridge University Press. pp. 263-282.
- Magida, D. (2001) 'Only fools rush in', *Telecommunications*. 1 April.
- March, J. G. and Olsen, J. P. (1989) *Rediscovering institutions : the organizational basis of politics*. New York: Free Press.
- March, J. G. and Olsen, J. P. (1996) 'Institutional Perspectives on Political Institutions', *Governance*, 9 (3): 247-264.
- Mattli, W. and Büthe, T. (2003) 'Setting International Standards: Technological Rationality or Primacy of Power?' *World Politics*, 56 (1): 1-42.
- Mattoo, A. (2002) *China's Accession to the World Trade Organization: The Services Dimension*. Working Paper No. 2932. Washington, D.C.: World Bank.
- McLarty, T. L. (1998) 'Liberalized telecommunications trade in the WTO: implications for universal service policy', *Federal communications law journal*, 51 (1): 58.

- Megginson, W. L., Bortolotti, B., et al. (2001) *Sources of Performance Improvement in Privatised Firms: A Clinical Study of the Global Telecommunications Industry*. Working Paper No.26.01. Fondazione Eni Enrico Mattei.
- Megginson, W. L. and Netter, J. M. (2001) 'From state to market: A survey of empirical studies on privatization', *Journal of Economic Literature*, 39 (2): 321-389.
- Melody, W. H. (1995) 'Privatization and Developing Countries', in B. Mody, J. M. Bauer and J. D. Straubhaar (eds), *Telecommunications politics: ownership and control of the information highway in developing countries*. Mahwah, N.J.: L. Erlbaum. pp. 249-260.
- Melody, W. H. (1997a) 'Interconnection: Cornerstone of Competition', in W. H. Melody (ed.), *Policy Objectives and Models of Regulation*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 49-61.
- Melody, W. H. (1997b) 'Introduction', in W. H. Melody (ed.), *Telecom reform: principles, policies and regulatory practices*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 1-9.
- Melody, W. H. (1997c) 'Policy Objectives and Models of Regulation', in W. H. Melody (ed.), *Telecom reform: principles, policies and regulatory practices*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 13-27.
- Melody, W. H. (1997d) 'Telecom reform: principles, policies and regulatory practices', in W. H. Melody (ed.), *Policy Objectives and Models of Regulation*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 13-27.
- Mertha, A. (forthcoming) "Policy Enforcement Markets": How Bureaucratic Redundancy Contributes to Effective IPR Policy Implementation in China', *Comparative Politics*.
- Mertha, A. and Zeng, K. (2002) 'Political Institutions, Local Resistance, and China's Harmonization with International Law', available at <http://www.artsci.wustl.edu/~amertha/pdf/WTO.pdf> (accessed on 13 December 2004).
- Mertha, A. and Zeng, K. (2005) 'Political Institutions, Local Resistance, and China's Harmonization with International Law', *China Quarterly*, 182: 319-337.
- Milner, H. V. (1997) *Interests, Institutions, and Information: Domestic Politics and International Relations*. Princeton, N.J.: Princeton University Press.
- Min, W. (2000) *Telecommunication Regulations: Institutional Structures and Responsibilities*. Working Paper No. 237. Paris: Organisation for Economic Co-operation and Development.
- Ministry of Information Industry (1999) *Annual Report on China's Information Industry*. Beijing.
- Ministry of Information Industry (2001a) *Measures on the Settlement of Call Charges between Telecommunication Networks*. Decree No. 9. 14 March.
- Ministry of Information Industry (2001b) *Provisions on Administration of Interconnections Between Public Communications Networks*. Decree No. 9. 29 April.
- Ministry of Information Industry (2002a) *Measures for Settlement of Interconnection Disputes in Telecommunications Networks*. Decree No. 15
- Ministry of Information Industry (2002b) *Regulations on the License for Operation of Telecommunication Businesses*. Decree No. 19
- Mitnick, B. M. (1980) *The political economy of regulation : creating, designing, and removing regulatory forms*. New York: Columbia University Press.
- Mody, B. and Tsui, L.-S. (1995) 'The Changing Role of the State', in B. Mody, J. Bauer and J. Straubhaar (eds), *Telecommunications politics: ownership and control of the information highway in developing countries*. Mahwah, N.J.: L. Erlbaum. pp. 179-198.

- Mondaq Business Briefing (1996) *Commentary on the Guangzhou Municipality Administration of Telecommunication Regulations*. 27 November.
- Mowery, D. C. and Rosenberg, N. (1989) *Technology and the pursuit of economic growth*. Cambridge: Cambridge University Press.
- MPT (1993) *Provisional Arrangement for the Approval and Regulation of the Decentralized Telecommunications Services*.
- Mueller, M. (1994) 'China: still the enigmatic giant', *Telecommunications Policy*, 18 (3): 171-173.
- Mueller, M. (1997) 'China's Telecommunication Sector and the WTO: Can China Conform to the Telecom Regulatory Principles?' *China as a Global Economic Power: Market Reforms in the New Millennium*. Fudan University.
- Mueller, M. and Lovelock, P. (2000) 'The WTO and China's ban on foreign investment in telecommunication services: a game-theoretic analysis', *Telecommunications Policy*, 24 (8/9): 731-759.
- Mueller, M. and Tan, Z. (1997) *China in the Information Age: Telecommunications and the Dilemmas of Reform*. Washington D.C. and Westport, CT: Center for Strategic and International Studies/Praeger.
- Mulvenon, J. C. and Bickford, T. J. (1999) 'The PLA and the Telecommunications Industry in China', in J. C. Mulvenon and R. H. Yang (eds), *The People's Liberation Army in the Information Age*. RAND. pp. 245-257.
- Munir, K. A. and Phillips, N. (2002) 'The concept of industry and the case of radical technological change', *The Journal of High Technology Management Research*, 13 (2): 279-297.
- Naftel, M. and Spivak, L. J. (2000) *The telecoms trade war: the United States, the European Union and the World Trade Organisation*. Oregon: Hart Publishing.
- Naughton, B. (1995) *Growing out of the plan: Chinese economic reform, 1978-1993*. New York, NY: Cambridge University Press.
- Naughton, B. (2002) 'China's Economic Think Tanks: Their Changing Role in the 1990s', *China Quarterly*, 171: 625-635.
- Naughton, B. (2003) 'The State Asset Commission: A Powerful New Government Body', *China Leadership Monitor* (8).
- Nee, V. (1992) 'Organizational Dynamics of Market Transition: Hybrid Forms, Property Rights, and Mixed Economy in China', *Administrative Science Quarterly*, 37 (1): 1-27.
- Newbery, D. M. G. (1999) *Privatization, restructuring, and regulation of network utilities*. Cambridge, MA: MIT Press.
- Ng, M. (2002) 'China Mobile to opt for bonds', *The Standard*, 7 August.
- Nolan, P. and Hasecic, M. (2000) 'China, the WTO and the Third Industrial Revolution', *Cambridge Review of International Affairs* (13-2): 164-180.
- Nolan, P. and Wang, X. (1999) 'Beyond privatization: Institutional innovation and growth in China's large state-owned enterprises', *World Development*, 27 (1): 169-200.
- Noll, A. M. (2000a) 'Telecommunication privatization: mixed progress', *Info*, 2 (1): 21-23.
- Noll, R. (2000b) 'Notes of Privatizing Infrastructure Industries', Summer Research Workshop - World Development Report 2002: Institutions for Markets. Washington, D.C., 17-19 July.
- Noll, R. G. (1986) 'The Political and Institutional Context of Communications Policy', in M. S. Snow (ed.), *Marketplace for telecommunications: regulation and deregulation in industrialized democracies*. New York: Longman. pp. 42-65.
- Noll, R. G. (1999a) *The Economics and Politics of the Slowdown in Regulatory Reform*. Washington, D.C.: AEI-Brookings Joint Center for Regulatory Studies.

- Noll, R. G. (1999b) *Telecommunications Reform in Developing Countries*. Working Paper No. 99-11. Washington, D.C.: AEI-Brookings Joint Center for Regulatory Studies.
- OECD (1997) *The OECD Report on Regulatory Reform: Synthesis*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2001a) *Restructuring public utilities for competition*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2001b) *Standards-Related Barriers and Trade Liberalisation: Telecommunications Sector Study - Interim Report*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2003a) *Examples of Information and Communication Technology (ICT) in National Development Plans as of February 2003*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2003b) *Review of the development and reform of the telecommunications sector in China*. Paris: Organisation for Economic Co-operation and Development.
- OECD, Fukasaku, K., et al. (1999) *China's unfinished open-economy reforms: Liberalisation of services*. Paris: Organisation for Economic Co-operation and Development.
- OECD and Kurisaki, Y. (1995) *The changing role of telecommunications in the economy: globalisation and its impact on national telecommunication policy*. Working Paper No. 3. Paris: Organisation for Economic Co-operation and Development.
- O'Neill, M. (1997) 'China: US trains guns on telecom, services markets', *South China Morning Post*, 10 October.
- Ostry, S. and Nelson, R. R. (1995) *Techno-nationalism and techno-globalism: conflict and cooperation*. Washington, D.C.: The Brookings Institution.
- Pangestu, M. and Mrongowius, D. (2002) *Telecommunication Services in China: Facing the Challenges of WTO Accession*. Washington, D.C.: World Bank.
- Pearson, M. M. (1999a) 'China's Integration into the International Trade and Investment Regime', in E. Economy and M. Oksenberg (eds), *China joins the world: progress and prospects*. Council on Foreign Relations Press. pp. 161-205.
- Pearson, M. M. (1999b) 'The Major Multilateral Economic Institutions Engage China', in A. I. Johnston and R. S. Ross (eds), *Engaging China: the management of an emerging power*. New York: Routledge. pp. 207-234.
- Pearson, M. M. (2001) 'The Case of China's Accession to GATT/WTO', in D. A. Lampton (ed.), *The Making of Chinese Foreign and Security Policy*. Stanford: Stanford University Press. pp. 337-370.
- Pearson, M. M. (2003) 'Mapping the Rise of China's Regulatory State: Economic Regulation and Network and Insurance Industries', Paper prepared for the annual meeting of the Association of Asian Studies. New York, 27 March.
- Pearson, M. M. (2004) 'China's WTO Implementation in Comparative Perspective: Lessons from the Literatures on Trade Policy and Regulation', *Review of International Affairs*, 3 (4): 567-583.
- Petrazzini, A. (1996a) 'Competition in Telecoms - Implications for Universal Service and Employment', *Public Policy for the Private Sector*. Note No. 96. October.
- Petrazzini, B. A. (1995) *The political economy of telecommunications reform in developing countries: Privatization and liberalization in comparative perspective*. Westport, CT: Praeger.
- Petrazzini, B. A. (1996b) *Global Telecom Talks: A Trillion Dollar Deal*. Washington, D.C.: Institute for International Economics.
- Petrazzini, B. A. (1997) 'Regulating Communication Services in Developing Countries', in W. H. Melody (ed.), *Telecom reform: principles, policies and regulatory practices*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 355-370.

- Pisciotta, A. A. (1997) 'Global Trends in Privatisation and Liberalisation', in W. H. Melody (ed.), *Telecom reform: principles, policies and regulatory practices*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 337-353.
- Putnam, R. D. (1988) 'Diplomacy and domestic politics: The logic of two-level games', *International Organization*, 42 (3): 427-460.
- Qiu, J. L. (2002) 'Coming to Terms with Informational Stratification in the People's Republic of China', *Cardoso Arts & Entertainment*, 20 (157): 157-180.
- Queck, R. (2000) 'The future of national telecommunications regulatory authorities', *Info*, 2 (3): 251-269.
- Reich, R. (1987) 'The Rise of Techno-Nationalism', *The Atlantic*, 259 (5): 62-69.
- Renmin Youdian (People's Post and Telecom) (1999) *MII Official Sheds Light on China's Post-Monopoly Telecom Policy*. 25 February.
- Reuters (1993) *China: AT&T sees huge prospects from China deal*. Beijing, 23 February.
- Reuters (2000a) *China: China drafts rules on foreign telecoms investment*. Beijing, 21 July.
- Reuters (2000b) *China: EU angles for telecoms prize in China WTO talks*. 24 February.
- Rhodes, R. A. W. and Dunleavy, P. (1995) *Prime minister, cabinet, and core executive*. New York: St. Martin's Press.
- Rimmer, P. J. and Comtois, C. (2002) 'China's transport and communications firms: transforming national champions into global players', *Asia Pacific Viewpoint*, 43 (1): 93-114.
- Robinson, P. (1991a) 'Globalization, telecommunications and trade', *Futures*, 23 (8): 801-814.
- Robinson, P. (1991b) 'The international dimension of telecommunications policy issues', *Telecommunications Policy*, 15 (2): 95-100.
- Ros, A. J. (1999) 'Does Ownership or Competition Matter? The Effects of Telecommunication Reform on Network Expansion and Efficiency', *Journal of Regulatory Economics*, 15 (1): 65-92.
- Ros, A. J. and Banerjee, A. (2000) 'Telecommunications privatization and tariff rebalancing: evidence from Latin America', *Telecommunications Policy*, 24 (3): 233-252.
- Roseman, D. (2005) 'The WTO and telecommunications services in China: three years on', *Info*, 7 (2): 25-48.
- Roy, D. (1998) *China's Foreign Relations*. New York: Rowman & Littlefield Publishers, Inc.
- Rubsamen, V. (1989) 'Deregulation and the State in Comparative Perspective: The Case of Telecommunications', *Comparative Politics*, 22 (1): 105-120.
- Rufin, C., Rangan, U. S., et al. (2003) 'The Changing Role of the State in the Electricity Industry in Brazil, China, and India: Differences and Explanations', *American Journal of Economics and Sociology*, 62 (4): 649-675.
- Ruggie, J. G. (1975) 'International Responses to Technology: Concepts and Trends', *International Organization*, 29 (3): 557-583.
- Sachs, J. and Woo, W. T. (2000) 'Understanding China's Economic Performance', *Journal of Policy Reform*, 4 (1): 1-50.
- Saga, K. (1999) 'APEC: steps to harmonising regional telecom policy', *Telecommunications Policy*, 23 (3/4): 335-344.
- Saich, T. (2001) *Governance and politics of China*. Basingstoke: Palgrave.
- Samarajiva, R. (2000a) 'Establishing the legitimacy of new regulatory agencies', *Telecommunications Policy*, 24 (3): 183-187.
- Samarajiva, R. (2000b) 'The role of competition in institutional reform of telecommunications: lessons from Sri Lanka', *Telecommunications Policy*, 24 (8-9): 699-717.

- Saunders, R. J., Warford, J. J., et al. (1983) *Telecommunications and economic development*. Baltimore: Published for the World Bank [by] the Johns Hopkins University Press.
- Sautedé, E. (2002) 'Telecoms in China: Towards a Post-WTO Shock Therapy', *China Perspectives*, 41 (May-June 2002): 33-45.
- Sauvant, K. P. (1983) 'Transborder Data Flows and the Developing Countries', *International Organization*, 37 (2): 359-371.
- Sauvant, K. P. (1986) 'Trade in data services: The international context', *Telecommunications Policy*, 10 (4): 282-298.
- Savadove, B. (2002) 'Winds of reform slow to blow throughout sector', *South China Morning Post*, 15 November: 8.
- Schmidt, S. K. and Werle, R. (1998) *Coordinating technology: studies in the international standardization of telecommunications*. Cambridge, MA: MIT Press.
- Schneider, V. and Tenbücken, M. (2003) 'Divergent Convergence: The Diffusion of Regulatory Reform in the Telecommunications Sector', Workshop on the "The Internationalization of Regulatory Reforms". University of California, Berkeley, April 25-26.
- Schwarz, T. and Satola, D. (2000) *Telecommunication Legislation in Transitional and Developing Economies*. Working Paper No. 489. Washington, D.C.: World Bank.
- SCMP (1997) 'Growth may pressure Beijing to loosen grip', *South China Morning Post*, 28 August.
- Scott, C. (1998) 'The proceduralization of telecommunications law', *Telecommunications Policy*, 22 (3): 243-254.
- Scott, C. (2004) 'Regulation in the Age of Governance: The Rise of the Post-Regulatory State', in J. Jordana and D. Levi-Faur (eds), *The Politics of Regulation*. Cheltenham: Edward Elgar.
- Segal, A. (2003) *Digital dragon: high-technology enterprises in China*. Ithaca: Cornell University Press.
- Sender, H. (2002) 'Asia Global Crossing Bid Signals Chinese Arrival as Merger Players', *The Wall Street Journal*, 19 November.
- Serot, A. (2002) 'When national institutions do not matter. The importance of international factors: pricing policies in telecoms', *Journal of European Public Policy*, 9 (6): 973-994.
- Shacinda, S. (2002) 'China's ZTE to help build African telecom network', *Reuters News*, 20 December.
- Shambaugh, D. (2001) 'The Dynamics of Elite Politics During the Jiang Era', *The China Journal*, 45 (January 2001): 101-111.
- Shen, J. (2000) 'The Impact of China's Entry into the WTO on the Chinese Telecommunications Industry', *Cambridge Review of International Affairs* (13-2): 121-135.
- Shirk, S. L. (1993) *The political logic of economic reform in China*. Berkeley: University of California Press.
- Shirk, S. L. (1996) 'Internationalization and China's Economic Reforms', in R. O. Keohane and H. V. Milner (eds), *Internationalization and Domestic Politics*. Cambridge [England]; New York, NY, [USA]: Cambridge University Press. pp. 186-206.
- Simpson, S. and Wilkinson, R. (2001) 'Conceptualising Regulatory Change - Explaining Shifts in Telecommunications Governance', 29th Telecommunication Policy Research Conference.
- Singh, J. P. (1999) *Leapfrogging development?: the political economy of telecommunications restructuring*. Albany: State University of New York Press.

- Singh, J. P. (2000) 'The institutional environment and effects of telecommunication privatization and market liberalization in Asia', *Telecommunications Policy*, 24 (10/11): 885-906.
- SinoCast (2004a) *China Railcom May Issue Enterprise Bonds*. 10 February.
- SinoCast (2004b) *China to Release Telecom Law Next Year*. 18 November.
- SinoCast (2004c) *Major Issues in China's Telecom Sector Expected to Be Solved*. 20 January.
- SinoCast (2004d) *Six Telecom Operators Reach Self-discipline Agreement*. Nanjing, 2 March.
- SinoCast (2005a) *Adjusting Scheme for Fixed-line Phone Charges Approved*. 5 August.
- SinoCast (2005b) *China Likely to Loose Restrictions on Telecom Service Prices*. 19 July.
- SinoCast (2005c) *China Mobile Applies for WCDMA License*. 11 July.
- SJMN (2004) 'Huawei invests in U.S. wireless optical equipment', *San Jose Mercury News*, 3 February.
- Smith, P. L. and Wellenius, B. (1999) *Strategies for Successful Telecommunications Regulation in Weak Governance Environments*. Washington, D.C.: World Bank.
- Snow, M. S. (1985) 'Regulation to deregulation: the telecommunications sector and industrialization: Evidence from the Pacific rim and basin', *Telecommunications Policy*, 9 (4): 281-290.
- Soderberg, B., Bjorkstrom, J., et al. (2005) *The ICT Landscape in the PRC: Market Trends and Investment Opportunities*. Washington, D.C.: World Bank.
- Spiller, P. T. and Cardilli, C. G. (1997) 'The Frontier of Telecommunications Deregulation: Small Countries Leading the Pack', *The Journal of Economic Perspectives*, 11 (4): 127-138.
- Spiller, P. T. and Tommasi, M. (2005) 'The Institutions of Regulation: An Application to Public Utilities', in C. Ménard and M. M. Shirley (eds), *Handbook of New Institutional Economics*. Dordrecht, The Netherlands: Kluwer Academic Press.
- State Council of the People's Republic of China (1994) *Notice on the trial use of joint investment in local and long-distance telecommunications networks*. Directive No. 571. November.
- State Council of the People's Republic of China (2000) *Telecommunications Regulations of the People's Republic of China*. Order No. 291. 25 September.
- State Council of the People's Republic of China (2001a) *Provisions on the Administration of Foreign-Invested Telecommunications Enterprises*. Decree No. 333. December 21 (translation).
- State Council of the People's Republic of China (2001b) *Provisions on the Regulation of Foreign Invested Telecommunications Enterprises*. Decree No. 33. 11 Decembre (effective 1 January, 2002).
- State Council of the People's Republic of China (2005) *Several Opinions on Accelerating the Development of Electronic Commerce (Opinions)*
- Steinmo, S., Thelen, K. A., et al. (1992) *Structuring politics: historical institutionalism in comparative analysis*. Cambridge, England; New York: Cambridge University Press.
- Stephenson, S. M. (2001) *Non-Tariff Barriers and the Telecommunications Sector*. Working Paper No. 160. Hamburg: HWWA-Institut für Wirtschaftsforschung-Hamburg.
- Stern, J. and Trillas, F. (2003) 'Independence and discretion in telecommunications regulation: lessons from independent central banks', *Utilities Policy*, 11 (4): 191-201.
- Strange, S. (1996) *The retreat of the state: The diffusion of power in the world economy*. Cambridge: Cambridge University Press.
- Studwell, J. (2002) *The China dream, the elusive quest for the greatest untapped market on earth*. London: Profile Books.

- Suttmeier, R. P. and Yao, X. (2004) *China's Post-WTO Technology Policy: Standards, Software, and the Changing Nature of Techno-Nationalism*. Seattle, WA: National Bureau of Asian Research.
- Sviokla, J. J., Clark, T. H., et al. (1996) *China's Golden Projects: Reengineering the National Economy*: Harvard Business School. 9-396-283: 21.
- Tan, Z. (1994) 'Challenges to the MPT's monopoly', *Telecommunications Policy*, 18 (3): 174-181.
- Tan, Z. (1995) 'China's information superhighway. What is it and who controls it?' *Telecommunications Policy*, 19 (9): 721-731.
- Tan, Z. (2001) 'Foreign Direct Investment, Government Policy, and Indigenous Manufacturers: Implications for China's Telecommunication Industry', available at <http://web.syr.edu/~ztan/Tan-d-TPRC2001.pdf> (accessed on 12 December 2003).
- Tang, H. S.-C. and Lee, P. S. N. (2003) 'Growth in adversity: non-economic factors in telecommunications development in China', *Telematics and Informatics*, 20 (1): 19-33.
- Tang, W. (2002) 'Clearance, amendment and formulation of China's laws and regulations to support China's entry into WTO', Second Workshop of the APEC-OECD Co-operative Initiative on Regulatory Reform. Merida, Mexico, April 24-25.
- Tanner, M. S. (2002) 'Changing Windows on a Changing China: The Evolving "Think Tank" System and the Case of the Public Security Sector', *China Quarterly*, 171: 559-574.
- Tarjanne, P. (1997) 'The Limits of National Sovereignty: Issues for the Governance of International Telecom', in W. H. Melody (ed.), *Telecom reform: principles, policies and regulatory practices*. Lyngby: Den Private Ingeniørfond, Technical University of Denmark. pp. 41-50.
- Tarjanne, P. (1999) 'Preparing for the next revolution in telecommunications: implementing the WTO agreement', *Telecommunications Policy*, 23 (1): 51-63.
- Taylor, M. (2002) 'Reforming China's Telecommunications Laws: Lessons from the Australian Experience?' *International Journal of Communications Law and Policy*, Issue 7 (Winter 2002/2003): 1-29.
- Telecommunication Project Research (2002) 'China Info File', available at <http://www.tpr.hku.edu/> (accessed on 5 July 2002).
- Telenews Asia (1998) *China: China - Wu Jichuan strengthens control of MII*. 8 October.
- Thatcher, M. (1999) *The politics of telecommunications: national institutions, convergence, and change in Britain and France*. New York: Oxford University Press.
- Thelen, K. and Steinmo, S. (1992) 'Historical Institutionalism in Comparative Politics', in S. Steinmo, K. Thelen and F. Longstreth (eds), *Structuring Politics : Historical Institutionalism in Comparative Politics*. Cambridge: CUP.
- Tipson, F. S. (1999) 'China and the Information Revolution', in E. Economy and M. Oksenberg (eds), *China joins the world: progress and prospects*. Council on Foreign Relations Press. pp. 231-265.
- TRP (2001) 'China: Summary of the Tenth Five-Year Plan (2001-2005) – Information Industry', available at <http://www.trp.hku.hk/infocfile/china/2002/10-5-yr-plan.pdf> (accessed on June 30 2004).
- Tuthill, L. (1997) 'The GATS and new rules for regulators', *Telecommunications Policy*, 21 (9/10): 783-798.
- Tuthill, L. (2003) 'Current State of Commitments on Telecom Reform and Regulatory Principles', Regional ITU-ESCAP-WTO Seminar on Telecom and Trade Issues. Bangkok.
- Ubels, H. (2003) 'China To Spearhead Pickup In Asia M&A Action', *Dow Jones Capital Markets Report*, 14 December.

- UNCTAD (2003) *China: an emerging FDI outward investor*. Research Note. United Nations Conference on Trade and Development.
- UNPAN (1998) 'Administrative Reform and Development in China since the 1980s' (accessed on 8 June 2004).
- Ure, J. (1994a) 'Reforms in China's Telecommunications', Seminar on Telecommunications in the PRC. Hong Kong, 20 April.
- Ure, J. (1994b) 'Telecommunications, with Chinese characteristics', *Telecommunications Policy*, 18 (3): 182-194.
- Ure, J. (1997a) 'China's Telecommunications: Options and Opportunities', in P. Lee (ed.), *Telecommunications and development in China*. Cresskill, N.J.: Hampton Press. pp. 245-262.
- Ure, J. (1997b) *Telecommunications in China - More Than Was Bargained For?* Hong Kong: TRP.
- Ure, J. (2002) 'China's Telecoms and IT Sectors: Planning and the WTO?' available at http://www.trp.hku.hk/papers/2002/china_planning_wto.pdf (accessed on 20 December 2003).
- Ure, J. (2004) 'FDI in Telecommunications Services in Asia', UNCTAD and ASEAN High-Level Policy Seminar on Services FDI and Competitiveness. Ritsumeikan University, Kyoto, 2-4 March.
- Ure, J. and Liang, X.-J. (2000) 'Convergence and China's National Information Infrastructure', in M. A. Hukill, R. Ono and C. Vallath (eds), *Electronic communication convergence: policy challenges in Asia*. New Delhi and Thousand Oaks, CA: Sage Publications. pp. 115-147.
- Ure, J. and Vivorakil, A. (1997) 'Privatization of Telecoms in Asia', in D. Ryan (ed.), *Privatization and competition in telecommunications: international developments*. Westport, CT: Praeger. pp. 1-20.
- Urey, G. (1995) 'Infrastructure for Global Financial Integration: The Role of the World Bank', in B. Mody, J. M. Bauer and J. D. Straubhaar (eds), *Telecommunications politics : ownership and control of the information highway in developing countries*. Mahwah, N.J.: L. Erlbaum. pp. 113-133.
- US-China Business Council (2003) *China's WTO Implementation: An Assessment of China's Second Year of WTO Membership*. Submitted in response to the Office of the USTR's Request (Federal Register Page 43247, 7/21/03). Washington, D.C.
- USITO (2004a) *China's Compliance with its Accession Commitments to The World Trade Organization (WTO)*. Written Comments to the U.S. Government Interragency Trade Policy Staff Committee In Response to Federal Register Notice 03-18467. Washington D.C. 15 September.
- USITO (2004b) *Prepared Statement of the U.S. Information Technology Office (USITO)*. Delivered by Mark Bohannon. Washington D.C. 23 September.
- USTR (2004) *2004 Report to Congress on China's WTO Compliance*. Washington, D.C.
- USTR (2005) *Results of the 2005 Section 1377 Review of Telecommunications Trade Agreements*. Washington, D.C.
- Vagliasindi, M. (2004) 'The role of investment and regulatory reforms in the development of infrastructure across transition economies', *Utilities Policy*, 12 (4): 303-314.
- Van Der Geest, W. (1998) 'Bringing China into the concert of nations: An analysis of its accession to the WTO', *Journal of World Trade*, 32 (3): 99-115.
- Varoudakis, A. and Rossotto, C. M. (2004) 'Regulatory reform and performance in telecommunications: unrealized potential in the MENA countries', *Telecommunications Policy*, 28 (1): 59-78.
- Vogel, S. K. (1996) *Freer markets, more rules: regulatory reform in advanced industrial countries*. Ithaca, NY: Cornell University Press.
- Vogel, S. K. (1997) 'International Games With National Rules: How Regulation Shapes Competition in 'Global' Markets', *Journal of Public Policy*, 17 (2): 169-193.

- Wallsten, S., Clarke, G. R. G., et al. (2004) *New Tools for Studying Network Industry Reforms Developing Countries: The Telecommunications and Electricity Regulation Database*. Washington, D.C.: World Bank.
- Wallsten, S. J. (2000) *Telecommunications Privatization in Developing Countries: The Real Effects of Exclusivity Periods*. Washington, D.C.: World Bank.
- Wallsten, S. J. (2002) *Does Sequencing Matter? Regulation and Privatization in Telecommunications Reforms*. Working Paper No. 2817. Washington, D.C.: World Bank.
- Wang, G. (1999a) 'Regulating network communication in Asia: a different balancing act?' *Telecommunications Policy*, 23 (3/4): 277-287.
- Wang, G. (2003) 'Foreign investment policies, sovereignty and growth', *Telecommunications Policy*, 27 (3-4): 267-282.
- Wang, H. (2000) 'Informal institutions and foreign investment in China', *The Pacific Review*, 13 (4): 525-556.
- Wang, J. (1999b) 'Signs of Opening in Telecom', *The China Business Review*, 26 (3): 8-14.
- Wang, W. (2001a) 'Impact on Telecommunications and Internet Information Services', in K. T. Lee, J. Y. Lin and S. J. Kim (eds), *China's Integration with the World Economy: Repercussions of China's Accession to the WTO*. Seoul: Korea Institute for International Economic Policy. pp. 288-307.
- Wang, Y. (1999c) 'Why China went for WTO', *The China Business Review*, 26 (4): 42-45.
- Wang, Y. (2001b) 'China', in T. Yamamoto and K. G. Ashizawa (eds), *Governance and civil society in a global age*. Tokyo and New York: Japan Center for International Exchange. pp. 91-115.
- Wang, Y. (2002) 'China Unicom Back on Market', *Business Weekly*, 24 September.
- Warren, T. (1995) *Trade in Telecommunications Services: An Issues Paper*. Adelaide: Australia-Japan Research Centre, Australian National University.
- Warren, T. (1998) 'The Political Economy of Telecommunications Services Trade and Investment Policy: Australia, Japan and the US', in S. Macdonald and G. Madden (eds), *Telecommunications and socio-economic development*. Amsterdam; Oxford: North-Holland. pp. 77-95.
- Warren, T. (2000) 'The Identification of Impediments to Trade and Investment in Telecommunications Services', in C. Findlay and T. Warren (eds), *Impediments to trade in services: measurement and policy implications*. London: Routledge. pp. 391.
- Wauschkuhn, M. (2001) *Telecommunications and Economic Development in China*. Working Paper No. 16. Bremen: Institute for World Economics and International Management.
- Wei, X. (2001) 'The Competition Policy and Administrative Monopoly in China', First Workshop of the APEC-OECD Co-operative Initiative on Regulatory Reform. Beijing, China. 19-20 September, 2001.
- Welch, T. and Molz, R. (2002) *How Does Trade Sales Privatization Work? Evidence from the Fixed-Line Telecommunications Sector in Developing Economies*. Working Paper No. 79.2002. Fondazione Eni Enrico Mattei.
- Wenders, J. T. (1988) 'The economic theory of regulation and the US telecoms industry', *Telecommunications Policy*, 12 (1): 16-26.
- Werle, R. (2001a) 'Standards and Standards Organizations in the International Free Trade Regime', *Knowledge, Technology & Policy*, 14 (3): 127-140.
- Werle, R. (2001b) *Standards in the International Telecommunications Regime*. Discussion Paper No. 157. Hamburg: HWWA-Institut für Wirtschaftsforschung-Hamburg.

- Wilkin, P. (2001) *The political economy of global communication: an introduction*. Pluto Press.
- Willner, C. (2002) 'Regulatory Reforms in the Telecommunications Sector', Third Workshop of the APEC-OECD Co-operative Initiative on Regulatory Reform. Jeju, Korea, 16-17 October.
- Wilson, J. S. (1997) 'Telecommunications Liberalization: The Goods and Services Connection', in G. Hufbauer and E. Wada (eds), *Unfinished Business: Telecommunications after the Uruguay Round*. Washington, D.C.: Institute for International Economics. pp. 63-85.
- Wolfe, R. (1999) 'Reconstructing domestic regulation in the trade regime', Prepared for delivery to the International Studies Association. Washington D.C., 19 February.
- Woodrow, R. B. (1991) 'Tilting towards a trade regime the ITU and the Uruguay round services negotiations', *Telecommunications Policy*, 15 (4): 323-342.
- World Bank (2002) *Establishment of a State Electricity Regulatory Commission in China: A Suggested 'Roadmap'*. Washington, D.C.: World Bank.
- World Market Research Centre (2004) 'Country Report: China' (accessed on 15 December 2003).
- Wright, D. (1999) 'Sovereignty and universal service: sacred cows in the satellite industry', *Telecommunications Policy*, 23 (7/8): 557-568.
- WTO (1999a) *International Regulatory Initiatives In Services*. 99-0765. Geneva: World Trade Organisation, Council for Trade in Services.
- WTO (1999b) 'Special session on telecommunications services', available at http://www.wto.org/english/tratop_e/serv_e/telecom_e/blois1_e.htm (accessed on 8 December 2004).
- WTO (2002) *Assessment of Trade in Services*. 02-6991. Geneva: World Trade Organisation, Council for Trade in Services Special Session. Communication from the People's Republic of China.
- WTO (2005) *World Trade Report 2005*. Geneva: World Trade Organisation.
- WTO and Working Party on the Accession of China (2001a) *Part II - Schedule of Specific Commitments on Services: List of Article II MFN Exemptions (WT/ACC/CHN/49/Add.2)*. Geneva: World Trade Organisation.
- WTO and Working Party on the Accession of China (2001b) *Report Of The Working Party On The Accession Of China (WT/ACC/CHN/49)*. Geneva: World Trade Organisation.
- Wu, H. and Zhu, B. (2003) 'The Patterns and Prospect of Financing in the Telecommunication Industry in China', *Communication and Strategies*, 52 (4): 139-153.
- Wu, Y. (2003) 'Deregulation and growth in China's energy sector: a review of recent development', *Energy Policy*, 31 (13): 1417-1425.
- Wunsch-Vincent, S. (2004) *WTO, E-commerce, and Information Technologies: From the Uruguay Round through the Doha Development Agenda*. Washington D.C.: Institute for International Economics.
- Xinhua (1998) *Switzerland: Road to telecommunication liberalization can be different, Chinese official says*. Geneva, 16 March.
- Xinhua (2004a) *China Mobile and China Telecom Annual Reports*. 2 April.
- Xinhua (2004b) *Fixed phone line to reach all China villages by 2010*. 17 December.
- Xinhua (2004c) *US Files WTO trade Case Against China*. 19 March.
- Xinhua (2005a) *China opens railway sector to commercial capital*. 25 July.
- Xinhua (2005b) *Foreign investors to enter China's telecom market mainly through value-added service and mobile-Internet*. 8 July.
- Xinhua (2005c) *Postal business to be split into sectors*. 22 July.
- Xinhua Financial Network (XFN) News (2003) *China govt voices support for commercial use of TD-SCDMA 3G platform*. 29 August.

- Xinhua Financial Network (XFN) News (2004) *China's draft telecoms law to be submitted to State Council mid-June*. 10 June.
- Xu, Y. (2000) 'The WTO and its effects on the Chinese Telecommunications Industry', ITU Telecom Asia. Hong Kong, 4-9 December.
- Xu, Y. (2002) 'China's Accession to the WTO and Its Implications for Foreign Direct Investment in Chinese Telecommunications', *Communications and Strategies* (45): 17-47.
- Xu, Y. and Kan, K. (2000) 'Dancing with wolves: Is Chinese telecommunications ready for the WTO?' International Telecommunications Society Conference. Buenos Aires, Argentina, 2-5 July.
- Xu, Y. and Pitt, D. C. (1999) 'One country, two systems: contrasting approaches to telecommunications deregulation in Hong Kong China', *Telecommunications Policy*, 23 (3/4): 245-260.
- Xu, Y. and Pitt, D. C. (2002) *Chinese telecommunications policy*. Boston: Artech House.
- Xu, Y., Pitt, D. C., et al. (1998) 'Competition without privatization - the Chinese path', in S. Macdonald and G. Madden (eds), *Telecommunications and socio-economic development*. Oxford: North-Holland. pp. 375-392.
- Yang, D. L. (2001) 'The Great Net of China', *Harvard International Review*, 22 (4): 64-69.
- Yang, Y. (1999) 'Completing the WTO accession negotiations: Issues and challenges', *The World Economy*, 22 (4): 513-534.
- Yang, Y. (2000) 'China's WTO Accession - The economics and politics', *Journal of World Trade*, 34 (4): 77-94.
- Yeoh, B.-S. and Rajaraman, R. (2004) 'Electricity in China: The Latest Reforms', *Electricity Journal*, 17 (3): 60-69.
- Yu, L., Berg, S., et al. (2004) 'Market performance of Chinese telecommunications: new regulatory policies', *Telecommunications Policy*, 28 (9-10): 715-732.
- Zhang, B. (2000) 'Promoting Liberalization and Regulatory Reforming: the Impacts of the WTO on China's Telecom Industry', International Telecommunications Society Conference. Buenos Aires, Argentina, 2-5 July.
- Zhang, B. (2001) 'Assessing the WTO agreements on China's telecommunications regulatory reform and industrial liberalization', *Telecommunications Policy*, 25 (7): 461-483.
- Zhang, B. (2002) 'Understanding China's telecommunications policymaking and reforms: a tale of transition toward liberalization', *Telematics and Informatics*, 19 (4): 331-349.
- Zhang, B. and Peng, M. W. (2000) 'Telecom Competition, Post-WTO Style', *The China Business Review*.
- Zhang, C. and Heller, T. C. (2004) *Reform of the Chinese Electric Power Market: Economics and Institutions*. WP No. 3. Palo Alto: Center for Environmental Science and Policy, Stanford University.
- Zhang, Y. (2003) 'Reconsidering the economic internationalization of China: implications of the WTO membership', *Journal of Contemporary China*, 12 (37): 699-714.
- Zhao, S. (1995) 'The Structure of Authority and Decision-Making: A Theoretical Framework', in C. L. Hamrin and S. Zhao (eds), *Decision-making in Deng's China: perspectives from insiders*. Armonk, NY: M.E. Sharpe. pp. 233-245.
- Zhao, Y. (2002) 'The ITU and national regulatory authorities in the era of liberalization', *Space Policy*, 18 (4): 293-300.
- Zheng, B. and Yu, Y. (1999) *Impacts of China's Entry into WTO on China's Economy*.
- Zhou, Q. 'The Dispute between Ineffective Competition and Unnecessary Competition', available at <http://www.ccer.edu.cn/faculty/zhouqr> (accessed on 11 February 2001).

- Zhu, H. (2001) 'The Impact of the Industrialisation Policy on Telecommunications, the Deregulation Process and Foreign Financing: China's Case', *Communication and Strategies*, 41 (1).
- Zhu, S. and Li, X. (2003) 'China powers up: China plugs away at power sector reform 2003', *China Business Review*, 30 (3): 20-23.
- Zita, K. (1994) 'China: Steps Toward Political and Financial Reform', in E. M. Noam and D. Komatsuzaki (eds), *Telecommunications in the Pacific Basin*. New York: Oxford University Press. pp. 86-105.
- Zweig, D. (2002) *Internationalizing China: domestic interests and global linkages*. Ithaca: Cornell University Press.