

London School of Economics and Political Science

**The prospects for old-age income security  
in Hong Kong and Singapore**

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## Abstract

Family support is the central pillar of old-age income security in Hong Kong and Singapore. But demographic ageing, among the fastest internationally, implies fewer adult children to provide support, while the public pension systems remain lean even by East Asian standards. Future elderly cohorts therefore face growing risks of financial hardship. This study examines the current extent of this problem, its prospects in the coming decades, and the possibilities of pension reform. It is unique in combining historical and prospective approaches towards policy causes and effects within a comparative framework. First, it analyses work, incomes, and living arrangements among elderly persons in 1995/1996 and 2005/2006 using microdata from national surveys. Next, it models possible living arrangements, income sources, and pension outcomes for future elderly cohorts using a macrosimulation model and illustrative cases. Finally, it examines the historical factors affecting pension policy development and assesses the potential for reform.

Elderly poverty is more serious than often acknowledged—three quarters of elderly persons have incomes below 40% of the median wage, including a quarter of those in work in Singapore. Children's transfers are prevalent and large, while co-residence boosts elderly incomes on a household basis. But co-residence is already falling. By 2030, half of elderly persons may not live with their children. Almost a third may have access to neither market income nor children's contributions. Pensions are estimated to replace less than a third of men's final wage and are equivalent to a quarter or less of the median wage for women. Although developmental policy paradigms disfavour generous public pension systems in both places, explicit policy demands by the public keep up the pressure on policymakers in Hong Kong. In Singapore, reform prospects may depend on the growth of ideational competition and the availability of policy proposals to focus public concerns and rejuvenate policy thinking.

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## 1. Introduction

### 1.1 Research problem

This study is about the prospects for old-age income security in Hong Kong and Singapore. Recent debates about public old-age pensions in the industrialised countries have focused on the balance between fiscal sustainability at the national level and social protection for the individual within a climate of demographic ageing and welfare austerity. However the elderly populations in Hong Kong and Singapore face a different problem. The public pension systems in these societies are very lean despite recent reforms to protect retirement savings in Singapore and the introduction of a new pension scheme in Hong Kong in 2000. Some projections suggest that public pensions are able to replace no more than a third of pre-retirement earnings in the two systems, compared to around 60% in the OECD countries (OECD, 2012). Instead elderly persons rely primarily on their adult children for financial support, with 60-80% of them reporting income receipts from their children. Intergenerational transfers are therefore internalised within the household, rather than conducted through risk-pooling public pension schemes. Traditionally strong family support has kept this system in balance. But whereas population ageing threatens the contribution base of pay-as-you-go (PAYG) pension systems, longer life expectancies and falling fertility rates in Hong Kong and Singapore are straining the availability of family support to elderly persons within the family, both in the form of intergenerational co-residence and direct cash contributions from children. Unless public pension systems expand, these demographic pressures indicate possible risks of financial hardship in old age.

The extent and pace of demographic ageing in the two populations are remarkable by international standards (United Nations, 2010). Already, persons aged 65 in 2010 can expect to live for another 19 years in Singapore and 20 years in Hong Kong, compared to 18 years in the United Kingdom (UK). In terms of the population median age, Hong Kong stands at 42 years compared to Singapore's 38 years and the UK's 40 years. On these indicators, Hong Kong currently is already edging close to Japan, which has one of the world's oldest populations. The picture suggested by projections is even more striking. While the ratio of elderly to non-elderly persons was below 0.20 in Hong Kong and Singapore in 2010 compared to 0.28 in the UK, it is expected to reach 0.40 in the two places by 2030 compared to 0.38 in the UK, and will

be among the highest in the world. The median age of the two populations will then be around 47 years compared to just 41 in the UK. This dramatic demographic shift is driven by improving life expectancy and declining fertility. The total fertility rates in Singapore and Hong Kong have been falling for several decades, from around five in the 1960s to sub-replacement levels by the mid-1980s. During that time, life expectancy at birth surpassed European levels.

In combination, the pace of demographic ageing, the strain on family support, and ungenerous public pension systems suggest that Hong Kong and Singapore represent distinct and serious cases of old-age income security at risk, making them an important target for research. Broad similarities in their policy and informal arrangements for old-age income allow meaningful comparisons and the drawing of relevant lessons, while variations in their political environments are useful for understanding how policy context affects pension development.

The exact nature of the risks to income security depends on several factors: the relationship between ageing and income; the impact of demographic trends on family support arrangements; and the potential benefits from public pension systems. These suggest that the three key axes of the problem—demography, policy, and family—ought to be examined together. But East Asian pensions research tends not to consider these issues jointly. The demography, sociology, public policy, and social policy literatures have separately examined ageing trends, intergenerational exchange, historical policy development, and pension system performance. This makes it difficult to come to firm conclusions about where income security is headed. Questions that lie along disciplinary boundaries, such as the income effects of living arrangements, the implications of demographic pressures on income sources, and how political context may affect the prospects for income security, are also not picked up. This study aims to fill these gaps by addressing in a coherent way the different major dimensions of old-age income security. Accordingly the main research question is worded broadly as: *What are the prospects for old-age income security in Singapore and Hong Kong?*

## **1.2 Research landscape and scope for contributions**

The research question can be approached in three steps. First, what is the extent to which old-age income security is currently a problem? Second, how far is family support likely to recede in future and are the public pension systems equipped to fill the gap? Third, can public pension systems reform and respond to growing needs if

current provisions are inadequate? Current debates on these issues are found in three main literatures: on poverty and family support arrangements in old age; on public pension systems and their outcomes; and on the development and reform of East Asian social security systems. These literatures are discussed at relevant junctures throughout the chapters to follow and are integrated with the original work in this study. Research on old-age income situations is discussed in Chapter 2, while the theoretical debate on intergenerational exchange and major empirical findings about family support in the existing literature are covered in Chapter 4. As for studies on pension systems, the key findings on pension outcomes in Hong Kong and Singapore are reviewed in Chapter 3, while Chapter 5 presents a methodological critique focusing on projections. Finally, Chapter 8 includes a review of the public policy literature on the factors behind social security reforms. To minimise repetition, this section briefly surveys the literature and explains how this study proposes to fill the gaps.

#### *Poverty and family support in old age*

As old age is associated with the transition from work to retirement, there has long been interest in the economic well-being of the elderly population, focusing particularly on their income package and risk of poverty (Casey & Yamada, 2002; Disney & Whitehouse, 2001; Falkingham & Johnson, 1992; Hutton, 1996; OECD, 2001; Whitehouse, 2000), and how these might change during retirement from a longitudinal perspective (Bardasi, Jenkins, & Rigg, 2002; Zaidi, 2008).

Old-age income situations: In Hong Kong there has been a steady flow of studies highlighting significant pockets of poverty especially among older persons (T. L. Lui & Wong, 1995; Stewart MacPherson & Chan, 1996; Stewart MacPherson & Lo, 1997; H. Wong, 2005; H. Wong & Chua, 1996). For example, in studies commissioned by the Hong Kong government, MacPherson (1994, 1998) used a budget standards approach to derive a minimum acceptable standard of living and found that it was higher than the prevailing public assistance rates. La Grange and Yung's (2002) study analysed elderly persons' strategies for coping with low incomes and estimated that they needed about 70% of the median population work income to meet minimum living standards. More recently, Lau (2005) found that 39-45% of elderly persons who lived with other family members had incomes below 60% of the median equivalised household income, whereas 75% of elderly persons who lived alone fell below this income threshold. The literature on old-age income security is

much more limited for Singapore. One study made use of panel data from the late 1990s to examine income levels and perceived income adequacy among elderly persons (A. Chan, Ofstedal, & Hermalin, 2002). It found considerable fluctuation in incomes over a span of four years but only a weak correlation between income levels and perceptions of economic wellbeing. However the study did not directly assess income adequacy.

An alternative to academic literature is official reports. For Hong Kong, these reports highlight that in recent years, the median work income of elderly persons was two thirds that of all workers, while households with elderly persons had lower incomes than the rest of the population (Censtatd, 2008). Official studies in Singapore also report that elderly workers earn less from work and that elderly persons in general have very low gross incomes (Housing and Development Board, 2010; Ministry of Community Development, 1995, 2005; Ministry of Manpower, 2009). But these reports do not examine income distributions in detail and offer limited analysis of elderly subgroups. On the whole, research on old-age poverty in both populations is hampered by the lack of accessible and consistently collected datasets which are necessary for building an understanding of how income situations develop across time. Current knowledge of elderly persons' economic situations is particularly patchy in Singapore, where poverty among any demographic group is seldom explicitly studied and remains largely an invisible problem.

Family support: Income security in old age, especially in East Asian contexts, is related to family support in the form of co-residence with adult children and their cash contributions. Research about the motivations of intergenerational exchange has highlighted individual factors such as altruism and exchange (Becker, 1974; Cox, 1987); cultural factors or tastes (Hashimoto, 1991; Jones, 1993); and policy factors such as modernisation and welfare regimes (Aspalter, 2001; Burch & Matthews, 1987; Burgess, 1960; Esping-Andersen, 1997, 1999). The foremost theories, altruism (support as a response to need) and exchange (support in return for gifts or services received), have both found some empirical support in studies on Singapore and Hong Kong (K. L. Chou, 2010; Kang, 2008). In the 1990s, two major studies of elderly income sources in Singapore found that transfers from children were both prevalent and important relative to other incomes sources (A. Chan, 1997; A. Chan, Biddlecom, Ofstedal, & Hermalin, 2003). About 85% of older adults aged 60 and above received transfers regularly from children living apart, and more older women reported transfers

than men. Other income sources such as pensions and rent were cited by just 7-9% of older persons. Around 85% of older adults also lived with at least one child in Singapore, and co-residence often implied rent-free living and better access to practical support in both Hong Kong and Singapore (W. K.-M. Lee, 2004; Mehta, 1999).

At the moment, few studies on financial transfers to elderly parents in Hong Kong and Singapore examine how the incidence of transfers varies for different elderly subgroups, especially by income level and gender. Most of the research focuses on the incidence of transfers rather than amounts which can give a more precise indication of the impact of such support. As for intergenerational co-residence, little is known about the relationship between these living arrangements and income security. There is also considerable uncertainty regarding the outlook for future elderly cohorts in Hong Kong and Singapore. One message from research on Singapore in the 1990s is that family support through co-residence remains strong and has not declined (A. Chan, 1997, 2005). But on the other hand, there are concerns about the possible impact of demographic ageing on such living arrangements (A. Chan, 2005; Martin, 1990). Intergenerational co-residence has not been closely studied using more recent data. To the author's best knowledge, future levels of family support in these two societies have also not been analysed using modelling techniques.

This study therefore aims to make a number of contributions towards current understanding of poverty and family support in old age:

- Drawing on nationally representative survey datasets from Hong Kong and Singapore at two points in time (1995/1996 and 2005/2006) that have not been analysed together before, it examines older persons' income security and how this is related to work, access to different income sources including children's transfers, and living arrangements. This analysis updates and extends previous understanding of family support and tracks changes across a decade.
- Throughout the above analysis, the focus is on aspects that have not received sufficient attention or have been completely overlooked in the literature, such as the incidence and scale of low incomes; the relationship between income levels, income sources, and co-residence; the amounts of transfers; the potential income effects of co-residence; and the relative positions of men and women.



- As the research question concerns prospects, an important contribution of the study is towards understanding possible developments in old-age income security. This study constructs an original macrosimulation model to estimate future trends in the living arrangements of elderly persons, and their access to market income and children's contributions. Apart from adding to empirical understanding, these projections demonstrate an original application of macrosimulation to co-residence and income sources. The study also models the future availability of children in Hong Kong using aggregate demographic indicators.

#### *Public pension systems and outcomes*

In the European and international contexts, there is a wealth of studies on pensions within old-age income packages and the effects of pension reforms (N. Barr & Diamond, 2009; Grech, 2010b; Holzmann & Hinz, 2005; Pensions Commission, 2004, 2005; Whitehouse, 2007; Zaidi & Grech, 2007). In Singapore, discussions about the Central Provident Fund (CPF) have been critical of the exclusion of economically inactive persons; inadequate savings due to pre-retirement withdrawals; and low nominal interest rates that are not transparently linked to investment returns (Asher, 1995, 2000, 2002a, 2004; Cardarelli, Gobat, & Lee, 2000). Analysis of public pensions in Hong Kong have criticised the Mandatory Provident Fund's (MPF) omission of vulnerable groups with weak links to the labour market and the scheme's high administrative costs (Chow & Chou, 2005; Ho, 1997; Mok, 2000).

As data on pension payouts are not available for both systems, researchers have used illustrative cases, or hypothetical individuals, to model possible pension outcomes under a range of scenarios (N. C. Chia & Tsui, 2012; F. Lui, 1998; McCarthy, Mitchell, & Piggott, 2002; Siu, 2002). Several of these have found that Singapore's public pensions are relatively low by international standards, although the range of estimates varies widely. The OECD's (2012) multi-country study estimates that for workers who join the pension system in 2008 at 20 years old under currently legislated pension rules and retire after a full career with stable earnings, the average male earner will achieve a replacement rate—the ratio of pensions to pre-retirement earnings—of only 13% in Singapore and 34% in Hong Kong, compared to 57% across the OECD countries. Other single-country studies have arrived at higher replacement rates for

Singapore, ranging from 28% in McCarthy, Mitchell and Piggott's (2002) study which assumes that some CPF savings are used to purchase housing, to 52% in Chia and Tsui's (2012) study which simulates wage growth paths and work participation profiles using historical data.

For understanding the pension systems in Hong Kong and Singapore, the existing studies pose several challenges. First, the OECD study is the only one to directly compare projected pension outcomes in Hong Kong and Singapore. However its estimates for Singapore are based on a conservative and unrealistic assumption that the entire permissible amount in the CPF is depleted for housing and other purposes before retirement. This explains the low estimated replacement rates. Second, due to different assumptions being adopted in single-country studies that separately project pension outcomes for Hong Kong and Singapore, their findings are not entirely meaningful when reported outside their methodological contexts and cannot be directly compared. The wide range of estimates for Singapore alone illustrates how decisions about model assumptions can drastically affect the results. Third, most of the existing studies are based on static sets of pension rules that do not reflect the impact of different cohorts' career entry timing relative to historical policy changes such as contribution rate adjustments in Singapore and the introduction of new schemes in Hong Kong in the past decade.

This study therefore attempts a new set of projections of pension outcomes in Hong Kong and Singapore which addresses these gaps. The projections are built around six base cases of men and women with different levels of education, representing different points across the income distribution. Other model parameters are held constant for Hong Kong and Singapore and key variables such as life expectancy, career length, and the interest rate for calculating annuities are subject to sensitivity analyses. Two withdrawal scenarios are applied to Singapore. The first, like the OECD study, assumes maximum pre-retirement withdrawal from the CPF for other purposes to produce baseline estimates of pension benefits. The second assumes average withdrawal based on historical withdrawal patterns. Projections for Hong Kong also consider two policy scenarios based on eligibility for a new means-tested pension scheme. These scenarios give a more realistic indication of the different circumstances that individuals may experience in the two systems. Finally, instead of static pension rules, historically accurate rules are used to calculate pension outcomes

for the illustrative cases for each year of entry into the pension systems between 1990 and 2010.

*Social security development and reform in East Asia*

European welfare states: The sizeable literature on public policy change is relevant to understanding the possibility of reform in Hong Kong and Singapore's pension systems. In the context of European welfare states, the main explanations for social policy development have either been functional or political. Functional arguments attribute the growth of pension systems to industrialisation and globalisation (Cameron, 1978; Wilensky, 1975), while political arguments emphasise the mobilisation of left political power to demand social policies and state capacity to provide them (Korpi, 1980, 1989; Skocpol, 1985). More recent research has turned to post-industrialism to explain the pressure on welfare generosity (Pierson, 1998), but has also identified divergence in national responses depending on the legacy of existing policy and institutional structures of policymaking (Bonoli, 2000, 2003; Pierson, 2000). For instance, Myles and Pierson (2000) argue that switching from a PAYG to a funded pension system creates a "double payment problem" as it requires current workers to contribute towards the pensions of current retirees and save for their own future retirement, which means such reforms are unlikely to find public support and may be politically costly.

However these theories do not transpose well into the East Asian context because of differences in political environment and history. Functional accounts draw on historical developments in specific settings. Industrialisation in East Asia, for instance, was not accompanied by a large-scale expansion of social provisions (Chow, 1985b). Political theories can be equally problematic. In places like Singapore which do not have a strong social democratic tradition and where politics is dominated by a single party, the power resources perspective can be difficult to apply because of its assumptions about the left-right political spectrum and the role of organised labour. Moreover the tradition of semi-authoritarian governments in the region has shown that state capacity may not always translate into expansive public pension policy in the way Skocpol described. Instead it has enabled East Asian governments to realise their inherent policy preferences (Fu, 2003), reflecting either local cultural norms or state ideologies. Finally institutionalist explanations based on the structure of government or

pension system design seem to run ahead of developments in both the politics and the pensions of East Asia.

East Asia: Instead East Asian studies have explained lean social security systems using cultural predispositions towards informal support and governing philosophies that are wary of extensive welfare programmes (Chow, 1985b; Jones, 1993; Ramesh, 1992). In Singapore, a high level of state autonomy and the need for political consolidation led to a cautious expansion of public pension provision based on mandatory saving (Fu, 2003), while in Hong Kong, the colonial administration initially justified a minimalist social welfare approach using Chinese familial traditions (Wilding, 1997). But from the 1990s, democratisation across several East Asian societies including Hong Kong gave rise to political competition and public demands which spurred the growth of social policy (Chow, 1995; Ramesh, 2000).

The current literature leaves a number of questions unanswered. First, the choice of pension model is not adequately explained. Singapore's choice of the CPF model has been explained in terms of its compatibility with nation-building. But it can be argued that more solidaristic forms of provision such as social insurance or tax-funded universal pensions would have been equally if not more effective for promoting a sense of social unity. Second, if governing ideologies towards social policy were a key factor in the choice of pension models, what were the bases of these ideologies? Third, if democratisation is important to pension development, why has there been more policy activity in recent years in Hong Kong where the government is only partially elected, compared to Singapore which has been an electoral democracy since 1965?

To address these issues, this study presents an analysis that accounts for the origins and stability of the CPF system in Singapore compared to the initial reliance on public assistance and flat-rate allowances in Hong Kong; and recent decades of policy inactivity in Singapore despite growing concerns about population ageing and retirement income, compared to the policy contestation resulting in the implementation of Hong Kong's MPF in 2000. The analysis develops an original synthesis of three theoretical perspectives. The first is the role of ideas in policy change, both as policy paradigms that constrain the range of policy solutions, and as policy discourse through which political actors generate new policy strategies. The second is developmentalism, based on the notion of the developmental state, which sustains its legitimacy through the delivery of economic development while suppressing social spending and the

social forces that demand it. The third is democratisation, in particular its effects on the tolerance of plural policy discourse that may generate alternatives to current policy.

Having surveyed the literature and existing gaps in understanding, and set out the areas to which this study hopes to contribute, the next section outlines the structure of the study.

### **1.3 Outline of study**

The main research question is: *What are the prospects for old-age income security in Singapore and Hong Kong?* From this, the rest of the study is divided into three parts, each taking on a pair of secondary research questions. Part 1 examines the extent to which old-age income security is a problem, asking:

- (i) *What is the current state of old-age income security in Hong Kong and Singapore?*
- (ii) *How important are public pensions and family support to income security?*

Part 1 begins original analysis of the national survey datasets. The main datasets are from the 1995 and 2005 rounds of the National Survey of Senior Citizens in Singapore and the 1996 and 2006 rounds of the Hong Kong Population By-census. The Singapore surveys targeted households with at least one member aged 55 and above, and covered areas such as household composition, work participation, income sources, and asset ownership. The two rounds of survey reached almost 5,000 households each, about 0.5-0.6% of all resident households. Each of the Hong Kong by-census datasets captures 1% of all living quarters at the time of data collection based on equal probability sampling, covering 62,000 to 69,000 individuals of which 10% to 13% were elderly. As with most census studies, it captured household composition, work participation, and income levels. But as they were not primarily targeted at elderly persons, the surveys did not consider income sources in detail, such as public pensions or family transfers. Additional data for both populations were obtained from other national sources such as the Sample Household Survey in Singapore which records the amount of transfers to elderly parents; Hong Kong's Supplementary Enquiry to the General Household Survey 2000 which contains information on income sources and assets; and the Thematic Household Survey 2008 which has information on income sources and the amount of children's transfers in

Hong Kong. This is the first time these datasets are being analysed within a common comparative framework to answer questions about old-age income security.

Chapter 2 starts with a discussion of the demographic trends and projections underlying the challenge of income security, and reviews what is currently understood about elderly poverty in the literature. It uses the national datasets to analyse work participation among different age groups and compares the findings with cohort work participation profiles estimated from International Labour Organization (ILO) data. Next the chapter looks at individual income levels and the risks of low income by age and work participation. Finally it compares access to various income sources such as children's transfers and public pensions in Hong Kong and Singapore, and for different income groups.

Chapter 3 looks at the current public pension systems in Hong Kong and Singapore. It first describes the background and structure of the two systems. Considering how Singapore's public pension system allows the diversion of retirement savings towards housing, one section is devoted to analysing housing and asset ownership in both places, and the opportunities and challenges associated with liquidating housing value for retirement income. The chapter then assesses the available evidence on pension outcomes, both from empirical data and theoretical projections, and highlights how issues of intergenerational sustainability pertain not just to the fiscal balance of public pension systems but the configuration of public and private income sources for elderly populations as a whole. This leads in to Chapter 4 which shifts focus to the other pillar of old-age income security, family support.

Chapter 4 first reviews the literature on motivations for intergenerational exchange to provide a theoretical background for understanding empirical trends. The next section presents original projections of the number of surviving children to mothers of four birth cohorts between 1944 and 1974 in Hong Kong, as kin availability is a primary determinant of the level of support from children. This is followed by analyses of intergenerational co-residence patterns based on the national survey datasets and how co-residence patterns vary with elderly persons' financial independence as suggested by labour force participation and individual income levels. The chapter then looks at the likelihood of children's transfers under different living arrangements and draws from several survey datasets to examine the amounts of transfers to elderly parents. Finally the chapter compares individual and equivalised household incomes in Hong Kong to illustrate the income effects of co-residence with

working-age children, which also imply adverse consequences from any decline in family support, which is the subject of the next part of the study.

Part 2 investigates the prospects for old-age income security by looking into the future. It answers two questions:

- (iii) *How is the level of family support expected to change for future cohorts of elderly persons?*
- (iv) *What are the possible public pension outcomes?*

Chapter 5 first reviews the methodological options for modelling old-age income security. For projecting future living arrangements, the main options are to combine fertility histories with mortality data by cohort, and macrosimulation which first stratifies a base population into cells with similar characteristics, and then applies incidence patterns of certain events—which may be directly taken from the base population or derived through extrapolation and statistical modelling—to the cell matrix. Macrosimulation has been used both in household projections and studies of future care and support for elderly persons. To project possible pension outcomes, the main options are microsimulation which models the policy experiences and outcomes of large samples of individuals and households, and the illustrative cases approach which applies policy rules to a set of stylised individuals and then examines the effects of varying certain policy and model parameters. The chapter weighs the considerations for each of these approaches, explains the choice of macrosimulation and illustrative cases for this study, and concludes by outlining the analytical plan for subsequent chapters.

Chapter 6 is the first of two chapters that present projections of future elderly populations and their prospects for income security using original models. The chapter constructs a macrosimulation model by combining the national survey datasets from 1995/1996 and 2005/2006 with population projections by the United Nations and labour force projections by the ILO. This model is used to estimate the numbers of elderly persons who live with their spouse, their children, both, or neither between 2005/2006 and 2030. Two change scenarios are adopted. The first assumes that patterns of living arrangement by sex, age group, and labour force participation change at the same rate as between 1995/1996 and 2005/2006. The second assumes that living arrangements change at half this rate. The two scenarios produce a range of estimates

to accommodate the unavoidable uncertainty associated with these projections. Next the chapter builds on these projections of living arrangement to estimate elderly persons' access to market income including contributory public pensions, and children's contributions. The analysis concludes by identifying the likelihood of future elderly cohorts to have no access to both market income and children's contributions, as well as no support through co-residence.

Chapter 7 uses illustrative cases to model pension outcomes for six base cases of men and women with different levels of education in Hong Kong and Singapore, with wage profiles reflecting historical wage data. In each system, two policy scenarios are considered, based on eligibility for a means-tested pension scheme that was newly introduced in Hong Kong in 2013, and different levels of pre-retirement withdrawals from Singapore's CPF. The projections also incorporate different years of entry into the pensions systems between 1990 and 2010. Sensitivity analyses examine the impact of varying assumptions related to life expectancy, career length, and the interest rate for calculating annuities. The second part of Chapter 7 uses the gap between the projected pension outcomes and various income thresholds to analyse possible demands for children's support. The analysis considers two types of income threshold—aimed at poverty avoidance and consumption smoothing; two forms of support—cash transfers from children living apart and income sharing with co-resident children; and different family configurations—single elderly men and women as well as couples, with one to two children. The results highlight the possible economic strain on the available children or elderly persons who are unable to secure such support.

The broad messages from Part 2 are that a sizeable proportion of elderly persons may be at risk of receiving no family support and that pension outcomes, while they are expected to improve, will remain quite low by international standards. Given the difficulty of reversing demographic trends, these findings lead to the question of how far one might expect the public pension systems to improve. Part 3 of the study therefore looks at the political possibilities of an expansion of public pension provision. It does this in two steps, guided by these questions:

- (v) *What factors affect pension policy development in the two societies?*
- (vi) *What are the pressures for and constraints on reforms to improve the generosity of public pensions?*



Chapter 8 begins by reviewing the major explanations for social policy expansion and reform in the European literature, and highlights how different factors are thought to apply to East Asian societies. Several gaps remain in the existing accounts of public pension development in Hong Kong and Singapore. The rest of the chapter therefore presents an original comparative case study analysis of the factors that have influenced pension policy development in Hong Kong and Singapore from the 1950s to the 2000s. The analysis divides developments into two periods. Between the 1950s and 1980s, different modes of developmentalism operated in Hong Kong and Singapore. The more interventionist and autonomous style of governance in Singapore implied a compatibility with a large state-run savings-based pension system, while Hong Kong's government continued to minimise state involvement in social welfare by relying on simple assistance and allowance schemes. Then in the 1990s and 2000s, democratisation in Hong Kong increased plurality in the political arena and civil society, enabling policy discourse and competition that led to the introduction of the MPF. In the meantime strict controls on political debate in Singapore restricted the search for policy alternatives despite public concern about retirement income. This analysis not only contributes to historical understanding of the two public pension systems but also identifies important policy drivers and dynamics to guide thinking about the possibility of future reforms.

Chapter 9 uses the two factors of developmental governing logic and democratic policy discourse to weigh the potential and constraints for further pension reforms in Hong Kong and Singapore against the background of recent developments. The discussion focuses on three “streams” of policymaking: the “problem”, or public demands for change; the “policies”, or prioritisation by decision makers; and the “politics”, or the mobilisation of interest groups and political participation to exert pressure for reforms. The analysis takes into account findings from recent opinion polls, official statements and policy initiatives, and the tension between social mobilisation and controls on civil freedoms in both societies. The chapter concludes by assessing the overall potential for reforms in each system.

The concluding chapter outlines how the key findings from the study shed light on the research questions; highlights the empirical, methodological, and conceptual contributions; points out the limitations and areas for future research; and sets out the key policy messages for Hong Kong and Singapore. There is a prevailing understanding that both societies must expect considerable demographic pressure in

the coming decades, which will make old-age income provision more important and also more challenging. But there is no consensus on whether policy efforts should more usefully focus on shoring up traditional modes of family support or building up the public pension systems to more adequate standards. This study responds to this dilemma by assessing the extent of the income security problem in old age, how it may develop in the next two decades, whether public pensions can fill any gaps in family support, and the conditions under which pension reform may take place. In doing so, it also highlights the considerable cost in terms of financial hardship among elderly persons should policy intervention fall short.

## **Part 1**

### **Problem**

## **2. The background and current situation of ageing, work, and income security**

Hong Kong and Singapore present a distinct variant of the universal “old-age crisis” (World Bank, 1994). Pensions research in developed countries is largely concerned with public pension provision under conditions of population ageing—both fiscal sustainability at the institutional level and income adequacy at an individual level. But the nature of the challenge to old-age income security brought on by the demographic transformation in Hong Kong and Singapore is different. Compared to the advanced economies in Europe, Singapore and Hong Kong are ageing more quickly, offer far less generous public pensions, and rely more heavily on family support in the form of intergenerational co-residence and cash transfers from adult children. Yet few studies on old-age income security in the region directly address the relative and changing effects of policy structures and familial mechanisms. Part 1 of this study begins assessing these effects by considering in turn demographic, policy, and family factors, using a combination of original analyses of national datasets and published data.<sup>1</sup> This chapter sets out the demographic context of the policy challenge by first summarising recent demographic trends in both societies. Next it examines retirement patterns. It then analyses the relationship between ageing and income security, focusing on the relative income levels and income sources of elderly persons. Throughout the study, elderly persons are defined as persons aged 65 and above.

### **2.1 Demographic trends**

Hong Kong and Singapore are rapidly ageing societies by international standards. According to projections by the United Nations (UN, 2010), their populations are expected to be among the oldest in the world within two decades by most indicators (Table 2.1, Table 2.2).<sup>2</sup> Hong Kong’s period life expectancy at 65 years old was

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<sup>1</sup> Some of the material in Part 1 of the study has previously been published by the author in Ng (2011).

<sup>2</sup> Demographic projections are built on assumptions about fertility and life expectancy that reflect both historical trends and expectations about the future. The UN (2010) makes projections based on a number of different scenarios. The trends presented here are for the medium variant: Total fertility is assumed to converge on 1.85 for all countries; life expectancy is assumed to continue increasing but at a lower rate for countries like Hong Kong and Singapore where it is already high; and recent rates of international migration are assumed to continue. Period life expectancy is shown instead of cohort life expectancy. The latter takes into consideration expected changes in mortality rates in subsequent years and is a more useful measure of life expectancy (Pensions Commission, 2004). It is usually higher than period life

already the second longest in the world in 2010, 20 years compared to 18 in the United Kingdom (UK). In 2010 the ratio of the 65+ to the 20-64 age-group (i.e. old-age dependency) was below 0.2 in both places compared to 0.28 in the UK, ranking outside of the top 40 internationally. But by 2030 the UN projects that Singapore and Hong Kong will rank 8th and 22nd respectively with ratios at 0.4 and above, surpassing that of the UK. The population median age in Singapore may increase by nine years over the two decades compared to just one year in the UK, pushing Singapore up the international ranking by 27 places. Across all these indicators the two populations may become among the oldest in Asia comparable to societies such as Japan, the Republic of Korea, and Macau.

**Table 2.1** Population ageing in selected countries between 2010 and 2030

	Hong Kong	Singapore	Japan	United Kingdom
<i>2010</i>				
Period life expectancy at 65 <sup>a</sup>	20	19	21	18
Old-age dependency (ratio of 65+ to 20-64) <sup>b</sup>	0.18	0.14	0.38	0.28
Population median age <sup>b</sup>	42	38	45	40
Total fertility rate <sup>c</sup>	1.0	1.3	1.3	1.8
<i>2030</i>				
Period life expectancy at 65	22	21	23	20
Old-age dependency (ratio of 65+ to 20-64)	0.45	0.40	0.57	0.38
Population median age	48	47	51	41
Total fertility	1.5	1.6	1.7	2.0

Source: (a) Figures are for 2005-10 and 2025-30, from United Nations (2010); (b) From United Nations (2011); (c) Figures are for 2005-10 and 2025-30, from United Nations (2011)

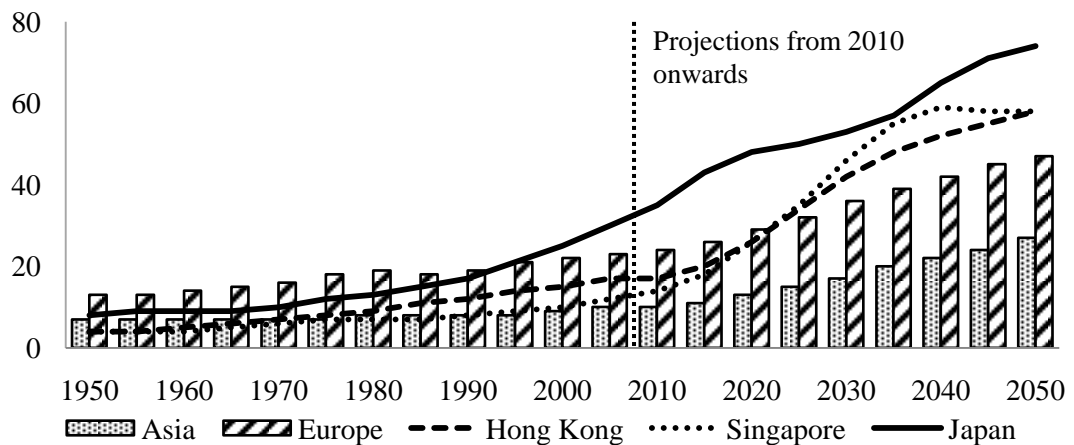
expectancy where life expectancy is rising. But cohort life expectancy figures are not available in the UN and national projections for Hong Kong and Singapore.

**Table 2.2** Selected country rankings for population ageing indicators, 2010 and 2030

	Period life expectancy at 65		Old-age dependency (ratio of 65+ to 20-64)		Population median age	
<i>2010</i>						
World	1	Japan	1	Japan	1	Japan
	2	<i>Hong Kong</i>	2	Italy	2	Germany
	3	Switzerland	3	Germany	3	Italy
	21	<i>Singapore</i>	53	<i>Hong Kong</i>	6	<i>Hong Kong</i>
			70	<i>Singapore</i>	43	<i>Singapore</i>
Asia	1	Japan	1	Japan	1	Japan
	2	<i>Hong Kong</i>	2	Georgia	2	<i>Hong Kong</i>
	3	Israel	3	Israel	3	Rep. of Korea
	5	<i>Singapore</i>	5	<i>Hong Kong</i>	5	<i>Singapore</i>
			11	<i>Singapore</i>		
<i>2030</i>						
World	1	Japan	1	Japan	1	Japan
	2	<i>Hong Kong</i>	2	Germany	2	Italy
	3	Switzerland	3	US Virgin Is.	3	Portugal
	18	<i>Singapore</i>	8	<i>Hong Kong</i>	6	<i>Hong Kong</i>
			22	<i>Singapore</i>	16	<i>Singapore</i>
Asia	1	Japan	1	Japan	1	Japan
	2	<i>Hong Kong</i>	2	<i>Hong Kong</i>	2	<i>Hong Kong</i>
	3	Macau	3	<i>Singapore</i>	3	Rep. of Korea
	5	<i>Singapore</i>			4	<i>Singapore</i>

Source: Ranking on period life expectancy based on 2005-2010 and 2025-2030, from United Nations (2010); other data from United Nations (2011)

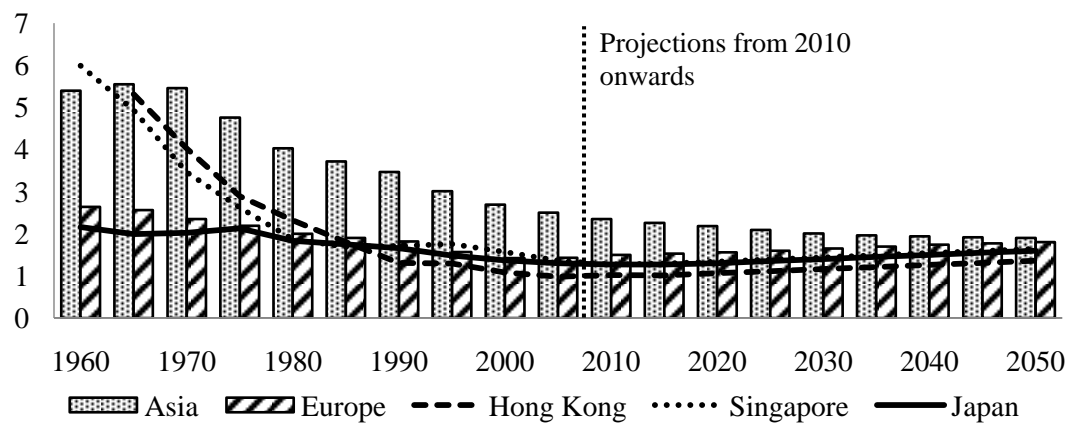
Internationally, demographers observe several waves of population ageing that broadly parallel the level of national development (Heller, 2006). The advanced industrialised nations in Europe started ageing the earliest and currently have the oldest populations. The newly-industrialised economies, including East Asia, are at the forefront of a second wave of ageing that will see them overtake most European countries before the middle of the century. The developing nations in the rest of Asia and the South still have the youngest populations and will not experience the extent of population ageing now happening in East Asia for a few more decades. In 1950, the old-age dependency ratios in Hong Kong and Singapore were both below the Asian average and well below European levels (Figure 2.1). By 2000, Singapore and Hong Kong were both above-average in Asia. It is projected that by 2025, their ratios will exceed Europe's. There will however still be a wide gap between these two populations and that of Japan, the oldest in Asia.

**Figure 2.1** Ratio of 65+ to 15-64-year-olds, 1950 to 2050, percentage

Note: Asia and Europe refer to all United Nations member countries in the respective regions. See source for complete list.

Source: United Nations (2010)

Underlying this dramatic demographic shift are two separate trends, declining fertility and improving life expectancy. The fertility rate in Singapore and Hong Kong have been falling for several decades (Figure 2.2). Total fertility, which is the average number of children born to a woman over her lifetime, decreased from around five in the 1960's to sub-replacement levels by the mid-1980's. Fertility rates have not recovered despite active pro-natal policies particularly in Singapore (Ministry of Community Development, 2011), but the trend has flattened in recent years. In 2010 the total fertility rate was 1.0 in Hong Kong and 1.3 in Singapore, no higher than that of Japan, which has one of the world's oldest populations. This reflects wider patterns in the region. In the last half-century, the average fertility rate has decreased much faster in Asia than in Europe. As a result, the gap in fertility rate between the two regions has narrowed.

**Figure 2.2** Total fertility rate, 1960-2050

Note: Asia and Europe refer to all United Nations member countries in the respective regions. See source for complete list.

Source: United Nations (2010)

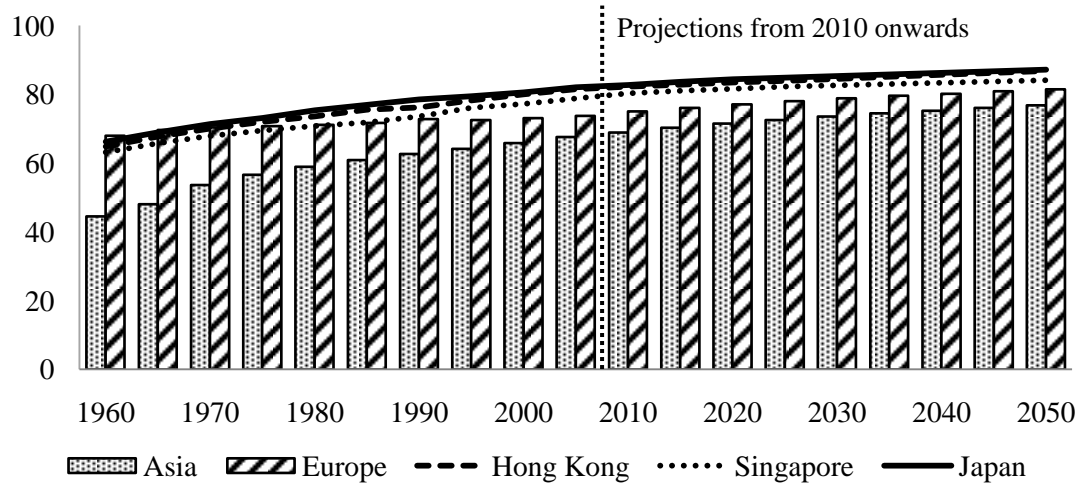
The opposite has happened with life expectancy. Measured at birth, life expectancy in Singapore and Hong Kong was already higher than the Asian average in the 1960's, and had risen above European levels by the 1980's (Figure 2.3). Life expectancy in Hong Kong has matched that of Japan since 2000. A more informative indicator for old-age income policymaking is life expectancy at retirement age, currently 65 years old in both countries. According to national data, the average life expectancy for persons aged 65 years old rose from 15 years to 20 years between 1980 and 2000 in Hong Kong, and between 1985 and 2010 in Singapore (Census and Statistics Department, 2007; Department of Statistics, 2012). The current life expectancies of persons aged 65 in Hong Kong and Singapore are well above Asian and European averages and are expected to remain so in the coming decades (Figure 2.4). In 2010, a person at the retirement age of 65 could expect to live for another 18.8 years in Singapore and 20.4 years in Hong Kong, compared to 20.9 years in Japan and just 16.8 years in Europe on average.

In European societies that depend on public pay-as-you-go (PAYG) pensions, a larger elderly population relative to working-age adults implies a lower financial contribution base and higher payouts, which may strain the financial sustainability of these pension systems. But for defined contribution (DC) pension systems based on individual accounts, like in Singapore and Hong Kong, longer life expectancies would require individuals to set aside more savings or retire later, in order to maintain the same living standards in old age compared to preceding cohorts. Over time, demographic ageing is also experienced at the household level as smaller family sizes,



which may result in a greater share of responsibility per adult child to support elderly parents. These issues are examined in more detail in Chapter 4.

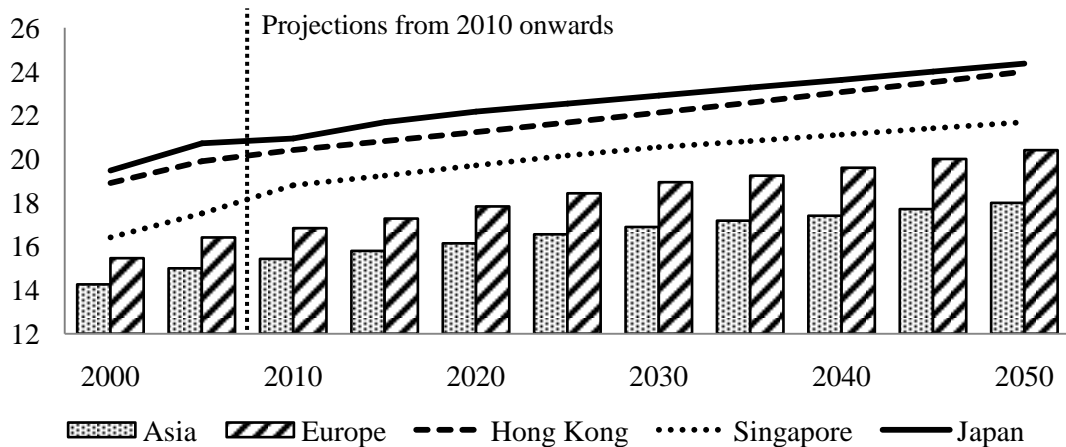
**Figure 2.3** Period life expectancy at birth, 1960-2050



Note: Asia and Europe refer to all United Nations member countries in the respective regions. See source for complete list.

Source: United Nations (2010)

**Figure 2.4** Period life expectancy at 65 years old, 2000 to 2050



Note: Asia and Europe refer to all United Nations member countries in the respective regions. See source for complete list.

Source: United Nations (2010)

### *Summary*

To summarise the demographic context for Hong Kong and Singapore:

- Their populations were already among the oldest in Asia in 2010 with Hong Kong experiencing more advanced ageing than Singapore. Their period life expectancy at 65 and population median age followed closely behind Japan's. But in terms of population age structure they still had lower proportions of older persons compared to European countries like Germany and Italy.
- However if current trends persist both populations may experience a dramatic transformation in the age composition of their populations over the next two decades. Their old-age dependency ratios will rank among the highest in the world and are projected to exceed the European average by 2025. Singapore will also catch up quickly with Hong Kong on various measures of demographic ageing.
- This demographic shift has been driven by falling fertility rates and improving life expectancies over the past few decades when the average number of children born to a woman over her lifetime decreased from around five in the 1960's to sub-replacement levels by the mid-1980s.
- Regardless of the model of public pension system in place these trends imply that greater resources will be required in old age assuming constant retirement age. In Hong Kong and Singapore, where there are no PAYG pensions like in many European countries, these demographic trends will translate into a greater strain on individual savings under DC pension accounts and on family support as fewer adult children are available.

However broad demographic indicators do not fully convey the implications of ageing for income security in later life. Harper (2006) has argued that the pressures of demographic ageing are period- and cohort-specific, and can be shaped by policy intervention. The implications of the above trends must also be understood in the light of existing public and informal arrangements for retirement income and how these arrangements may themselves change.

## 2.2 Research on ageing and poverty in Hong Kong and Singapore

The income situations of recent and current cohorts of elderly persons provide a starting point for assessing the extent to which longer life expectancies may further strain financial resources in old age. Where old age is already associated with low relative incomes, more years in retirement may present a serious challenge to income security if public pension provision and family support remain unchanged. This section reviews the literature on the relative incomes of elderly persons in Hong Kong and Singapore and summarises recent quantitative evidence on their income situations.

### *Hong Kong*

Hong Kong has a long history of income poverty studies that were initially motivated by concerns about the adequacy of benefit levels under the Comprehensive Social Security Assistance (CSSA) Scheme. In the 1990s, the Hong Kong Legislative Council's call for a formal review of the CSSA Scheme led to a commissioned study by MacPherson (1994, 1998) who used a budget standards approach to derive a minimum acceptable standard of living that was found to exceed the CSSA benefit rates. In a separate study, Wong and Chua (1996) concluded that about 15.5% of households in Hong Kong lived in poverty by analysing the expenditures of low-income households. These and other studies around the time<sup>3</sup> paved the way for research on particular age groups such as the elderly population. For example La Grange and Yung's (2002) study adapted Peter Townsend's (1979) deprivation index to identify the poverty thresholds of single elderly persons by analysing their strategies for coping with low incomes, such as cutting back on spending and activities. Based on a sample of 400 elderly persons, the authors concluded that HK\$7000 a month was required to meet minimum living standards, equivalent to about 70% of the median work income in the population at the time of the study.

Recent official reports indicate that elderly workers and households with elderly persons in Hong Kong receive lower incomes than the rest of the population. In 2006 the median work income of elderly persons was two thirds that of all workers (Table 2.3). Despite an increase by almost 10 percentage points over the preceding

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<sup>3</sup>See Lui & Wong (1995), MacPherson & Chan (1996), MacPherson & Lo (1997), and Wong (2005).

decade this ratio highlights a considerable wage gap between elderly and non-elderly workers. The gap in earnings may reflect differences in occupational spread. Whereas one-third of older workers were engaged in lower-paying elementary occupations in 2006, only one-fifth of all workers were in these occupations. Although elderly women still earn less, their earnings improved relative to men in 2006.

**Table 2.3** Median monthly work income of elderly workers (65+), Hong Kong 1996-2006, Hong Kong dollars

	1996	2001	2006
Men	5,600	6,500	7,000
Women	4,000	4,200	5,500
Ratio of women to men (%)	71	65	79
All elderly workers	5,100	6,000	6,500
All workers	9,500	10,000	10,000
Ratio of elderly to all workers (%)	54	60	65

Source: Census and Statistics Department (2008)

Moreover household incomes show an opposite trend (Table 2.4). In 1996, the median gross income of elderly households was almost 20% lower than that of all households. By 2006, this gap had almost doubled, in spite of gains in the relative work income of older workers. This may be indicative of a household composition effect that will be explored in more detail in Chapter 4—a decline in intergenerational co-residence has meant an increase in elderly-only households that tend to have lower incomes than households with working-age members. This was also observed by Lau (2005) whose analysis of the 2001 Hong Kong census data found that 39-45% of elderly persons who lived in larger households with other family members had incomes below 60% of median equivalised household income, whereas 75% of elderly persons who lived alone fell below this income threshold (Table 2.5).<sup>4</sup> Aggregate data from official reports remain the most readily available source of information about ageing and poverty in Hong Kong. But these may conceal heterogeneity within the elderly population. For example being male, younger, single, in work, and better educated are associated with having higher individual incomes among elderly persons (K.L. Chou, Chow, & Chi, 2006a).

<sup>4</sup> Lau adopts the equivalence scale from Gordon and others (2000) which was developed from budget studies, instead of the square root scale currently in use by the OECD. Among researchers, there is no consensus on what is the best equivalence scale. Atkinson, Smeeding & Rainwater (1995) provide an overview of the range of equivalence scales in use and their implications for income calculations.

**Table 2.4** Median gross monthly household income, Hong Kong 1996-2006, Hong Kong dollars

Actual value	1996	2001	2006
Elderly households <sup>a</sup>	14,100	12,200	11,100
All households	17,500	18,700	17,300
Ratio of elderly to all households (%)	81%	65%	64%

Note: (a) Households with at least one member aged 65 years old and above.

Source: Census and Statistics Department (2008)

**Table 2.5** Poverty rates by household type, Hong Kong 2001

Type of household	Percentage with income below 60% of median equivalised household income
Single person	75
Two or more elderly members	45
One elderly member	39
No elderly member	20

Source: Based on Lau (2005)

### *Singapore*

The available literature on poverty among the elderly or even the income situations of the general population in Singapore remains rather patchy. In one such study Lee (1998) observes that while extreme poverty among the elderly population has largely been eliminated in Singapore particular groups such as older women and elderly Malays may be at risk of inadequate incomes. However the scope of Lee's analysis is constrained by lack of access to microdata. Chan, Ofstedal and Hermalin's (2002) study on income levels and perceived income adequacy among elderly persons in Singapore and Taiwan makes use of panel survey data from the late 1990s which found considerable fluctuation in incomes over a span of four years and only a weak correlation between objective and subjective measures of economic wellbeing. However the study does not attempt an objective analysis of income adequacy beyond looking at movements across income brackets over time. Other recent studies on poverty and ageing in Singapore are more descriptive and do not address income security issues in an empirical way (e.g. A. Chan, 2009; Low, 2001; M. T. Yap, 2003)

Official studies in Singapore generally do not treat poverty and income equality issues directly but provide some indicative data. These suggest that the general income situation of elderly persons is a concern even though interpretation is complicated by data being captured on different bases across years. Elderly workers earn less from

work and elderly persons in general have very low gross incomes. In the mid-1990s the median gross income of elderly individuals was just one quarter of the median work income of all workers (Table 2.6). In the mid-2000s, 96% of persons aged 75 and above had gross incomes that were below the population median work income. Among elderly persons who worked, their median work income in 2008 was 40% as much as the median worker in the general population. Unequal work incomes persist at the household level. The median work income of all elderly households was only 32% that of non-elderly households (Table 2.7). The figures further suggest the importance of co-residence with working adult children. When only elderly households with work income are considered—disregarding elderly-only households with no members in the workforce—their median work income increases to 66% that of non-elderly households.

**Table 2.6** Income and earnings of elderly persons and the working population, Singapore, mid-1990s and mid-2000s, Singapore dollars

	Median monthly earnings of working population	Elderly persons (65+)	
1995/96	1600	Gross monthly income	Median \$400, 2% had \$2000 or more
2005/06	2000	Gross monthly income	6% of 65-74 and 4% of 75+ had \$2000 or more
2008	2500	Monthly earnings	Median \$1000

Sources: Ministry of Community Development, Youth and Sports (1995, 2005), Housing and Development Board (2010), Ministry of Manpower (2009)

**Table 2.7** Median household income from work of elderly and non-elderly households, Singapore 2008, Singapore dollars

	All households	Households with work income
Elderly households <sup>a</sup>	1400	3100
Non-elderly households	4500	4600
Ratio of elderly to non-elderly households (%)	32	66

Note: (a) Households headed by someone aged 65 years and above. A household head is someone regarded as such by other household members, usually but not always the most senior member.

Source: Housing and Development Board (2010)

### *Summary*

To summarise what can be gathered from the literature:

- Elderly workers earn less than younger workers in Hong Kong and Singapore, about 40% as much in Singapore in 2008 and 65% as much in Hong Kong in 2006. Elderly persons' gross incomes in Singapore are also very low relative to population work incomes. In 2005 only 4% of elderly persons aged 75 and above had gross incomes above median population earnings.
- Elderly households have lower incomes in both places—in terms of work income in Singapore and gross income in Hong Kong. The weakening relative income position of elderly households in Hong Kong despite improvements in the earnings of elderly individuals suggest possible adverse income effects from changes in household structures associated with the broader demographic trends outlined at the start of this chapter.

Existing research signals an overall income disadvantage faced by elderly persons, but provides a very limited picture of the nature of that disadvantage. Many questions remain as to how work participation and income levels change with age, differences between men and women, and the full range of income sources that matter to income security in retirement. These are addressed in the following sections through original analyses of several national survey datasets.

### **2.3 Survey datasets**

The discussion from this section onwards makes use of four main datasets that come from two repeated cross-sectional surveys, the 1995 and 2005 rounds of the National Survey of Senior Citizens in Singapore and the 1996 and 2006 rounds of the Hong Kong Population By-census. The Singapore surveys targeted households with at least one member aged 55 and above. The two rounds of survey reached almost 5,000 households each, about 0.5-0.6% of all resident households. The respondents were chosen using stratified sampling based on housing type. The data are weighted by age, ethnicity, and gender based on the 1990 and 2000 Census of Population. Each of the Hong Kong by-census datasets captures 1% of all living quarters at the time of data

collection based on equal probability sampling, covering 62,000 to 69,000 individuals of which 10% to 13% were elderly. The key variables, their definitions, and coding in the analyses to follow are described in Appendix A at the end of this report.

The timing of the surveys allows comparisons between Hong Kong and Singapore across roughly matching periods. However there were some challenges to harmonising the data:

- The data from Hong Kong include all ages but the Singapore survey covers a narrower age range which enables comparisons only between elderly persons (65+) and older adults (55-64) but not with the working-age (15-64) population as a whole.
- The Hong Kong by-census generally has better data on income levels. Household income, for example, was captured in both years in Hong Kong but only in 1995 for Singapore. This is part of a larger problem of inconsistent data structure in the Singapore survey over the two rounds. The analysis of household income in a later chapter therefore focuses on Hong Kong. The Hong Kong by-census also records income in exact amounts whereas the Singapore survey uses income categories which constrain analysis of distribution. There are several options for estimating data points from grouped data. One is to adopt the mid-points of income brackets but this is largely arbitrary and does not overcome the problem of unbounded top income categories. More complex techniques are available to estimate inequality measures especially if the category averages are known (Chotikapanich, Rao, & Tang, 2006; Cowell, 2000). This study opts to estimate income levels using interval regression which is more straightforward to implement and has been used to analyse income mobility in Singapore (I. Y. H. Ng, 2007; Stewart, 1983). The regression tables and a comparison of the estimated and actual income distributions are shown in the Appendix to this chapter.
- Thirdly, as the Singapore survey is focused on older persons, it has information on income receipts from sources such as children's contributions, pensions, and annuities. But questions about the exact amounts of income received from each



source were not asked. For this, the discussion below relies on additional aggregate data from the 2008 Housing and Development Board Sample Household Survey which covers public housing residents. But the analysis is very limited as it was not possible to gain direct access to the dataset. The Hong Kong by-census differentiates only between work and non-work income but records the amount of each income type. Given the importance of understanding elderly persons' income sources, additional analysis was done on supplementary data from two other one-off surveys in Hong Kong. The first is the 2000 Supplementary Enquiry to the General Household Survey on the Socio-demographic, Health and Economic Profiles of Elderly People and Soon-to-be Old People, which sampled about 0.2% of the population aged 45 years old and above, as part of the larger General Household Survey that relied on stratified random sampling. The second is the 2008 Thematic Household Survey on the Socio-demographic Profile, Health Status and Self-care Capability of Older Persons which sampled about 0.4% of households. All persons aged 60 years old and above in each household were interviewed. These supplementary datasets provide information not only on elderly income sources but also amounts.

## **2.4 Work and retirement**

Work is important to old-age income security because longer careers during working age imply more savings under the defined contribution pension systems in Hong Kong and Singapore. On the other hand early retirement, often more common among women, both lowers pension savings and increases the length of retirement over which the savings must be spread. Continuing to work in old age also generates an income stream for elderly persons. Raising the retirement age and promoting work among healthy elderly persons in line with rising life expectancies are therefore critical strategies for improving old-age income security. In Singapore, for instance, the government has introduced re-employment legislation for elderly workers and increased the eligibility age for withdrawing public pension savings (see Section 9.3).

Considering the importance of work, it is examined in different ways throughout the study. In Chapter 6, the projections of future living arrangements among elderly persons take into account labour force participation, while the projections of future access to market income include work income. The modelling of

pension outcomes in Chapter 7 adopts different wage levels and career lengths. To begin with, this section focuses on how work patterns change with age, how work participation has changed over time for successive cohorts, and the differences for men and women, based on the survey data. The incidence of low incomes by workforce participation status and access to work income are discussed in subsequent sections. The analysis is relatively concise as the survey data on work are limited and only a minority of elderly persons in Singapore and Hong Kong are still in the workforce, as discussed below. A key question here is whether it is reasonable for policymakers to expect longer life expectancies to result in more years in work.

*Workforce participation among different age groups*

Table 2.8 shows the labour force participation rates for men and women of different age groups in the survey years. In general, workforce participation falls away steadily from 55 onwards. By comparison to the OECD countries Hong Kong's elderly workforce participation rates are lower while Singapore's are higher (Table 2.9). Singaporean men have particularly high workforce participation from 65 onwards at 22%, compared to 17% among the OECD countries. This is consistent with research which shows that Singaporeans are realistic about the need to work more years in order to meet retirement needs (Goodman & Harper, 2008). Like in many developed countries, women in Hong Kong and Singapore have lower participation rates than men, both before and after 65 (Department of Statistics, 2011). For age groups 65 and above, around a tenth or less of women were in the workforce compared to up to a third of the men. In total, elderly men were three times as likely as women to be in the workforce in the two populations, compared to twice as likely in the OECD countries. The implications are that women are likely to have lower pension rights as well as less work income from 65 onwards, and elderly women can be expected to depend more heavily than men on other public and informal income sources, especially children's contributions.

**Table 2.8** Labour force participation rate by sex and age, Hong Kong 1996 and 2006, Singapore 1995 and 2005, percentage

Hong Kong	1996			2006		
	Men	Women	All	Men	Women	All
18-49	93	66	79	88	72	79
50-54	92	43	70	87	52	70
55-59	82	28	57	70	33	51
60-64	53	15	35	41	14	28
65-69	29	6	17	20	7	14
70-74	15	3	9	13	4	8
75+	9	1	4	6	2	3
All 65+	19	4	10	12	4	8
Singapore	1995			2005		
	Men	Women	All	Men	Women	All
55-59	77	25	51	76	33	54
60-64	55	17	36	61	30	46
65-69	32	9	20	33	13	22
70-74	18	6	11	20	10	15
75+	9	2	5	11	3	6
All 65+	20	5	12	22	8	14

Source: Own analysis using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

**Table 2.9** Labour force participation rate of elderly persons (65+) in Hong Kong, Singapore, and OECD countries, 2005/2006, percentage

	Hong Kong 2006	Singapore 2005	OECD countries 2006
Men	12	22	17
Women	4	8	8
All	8	14	12

Source: Own analysis for Hong Kong and Singapore using data from Hong Kong Population By-census 2006 and Singapore National Survey of Senior Citizens 2005 ; OECD (2010)

There are contrasting trends over the 10 years between Hong Kong and Singapore. In 1995/1996, both men's and women's workforce participation were higher in Hong Kong for the 55-59 age group but slightly higher in Singapore for the older age groups. Compared to 1996, men's workforce participation in Hong Kong fell noticeably in 2006 by around 9 to 12 percentage points in the 55-69 age range. Women's participation grew for the 55-59 age group but otherwise remained stable. Overall workforce participation in Hong Kong therefore fell for older adults. But in Singapore women's workforce participation saw strong growth across most age groups from 55 onwards between 1995 and 2005. The percentage of women in the workforce almost doubled for those aged between 60 and 64. Men's workforce participation

remained stable except for the 60-64 age group, possibly indicating delayed retirement among those in their 60s.

The cross-sectional data for 1996 show that between the age groups of 55-59 and 65-69, men's workforce participation in Hong Kong fell from 82% to 29%. But matching participation figures for age groups ten years apart in the two survey rounds reveals that the decline in work participation as men crossed the retirement age of 65 was steeper than the cross-sectional data suggest. Disregarding population entry and attrition, among the cohort of men born in 1937-41 in Hong Kong, workforce participation in fact fell from 82% in 1996 (when they were aged 55-59) to just 20% in 2006 (when they were aged 65-69). On the other hand, workforce participation decreased less quickly with age for Singaporean women born in 1936-40 than the 1995 data suggest, from 25% in 1995 (when they were aged 55-59) to 13% in 2005 (when they were aged 65-69). As a result of the above trends labour force participation in Singapore, roughly comparable to Hong Kong's in the mid-1990s, exceeded that in Hong Kong by between three to 18 percentage points across age groups from 55 onwards by the mid-2000s.

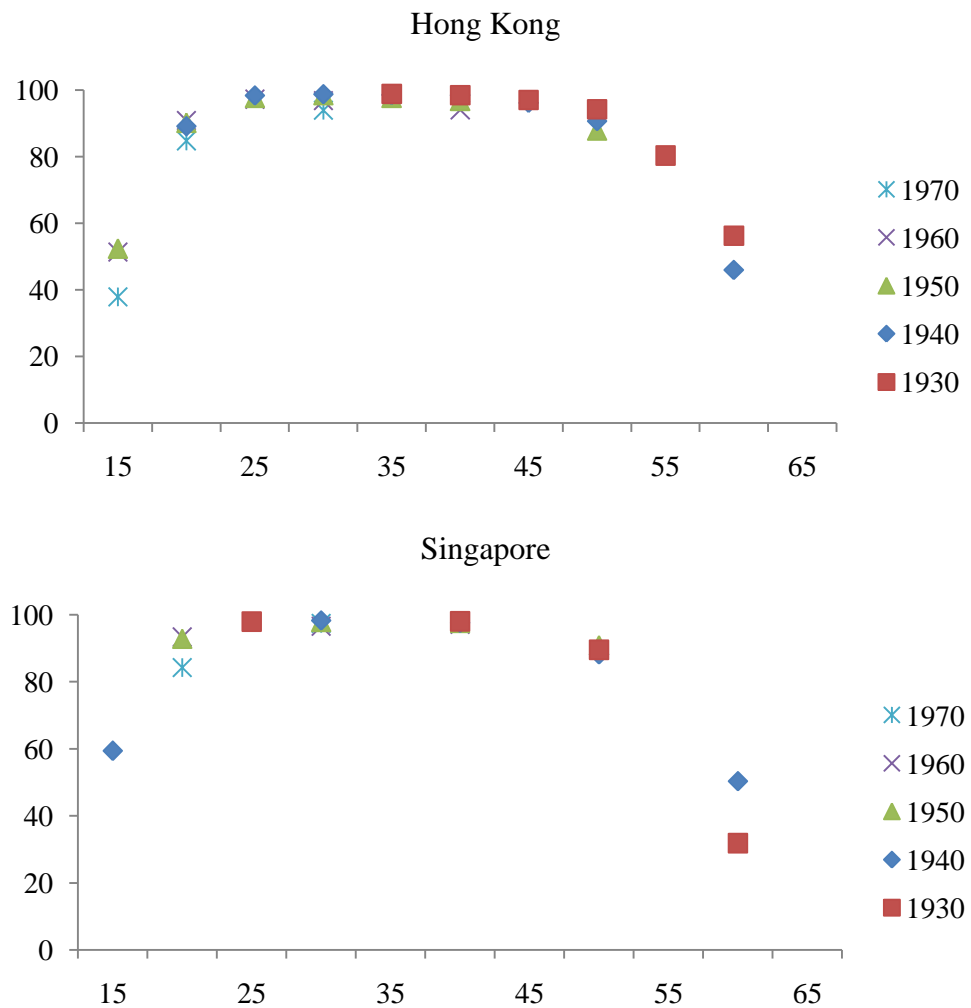
#### *Workforce participation across cohorts*

In the absence of panel data on workforce participation in the two populations, changes in work patterns over the lifetimes of different cohorts may be approximated by linking aggregate figures for ascending age groups over successive years. The figures below show the labour force participation rates of five cohorts born ten years apart between 1930 and 1970 from the age of 15 estimated based on International Labour Organization (2012) data. This does not account for changes in cohort membership between survey years.

Even with missing data points for certain years and incomplete trajectories for younger generations, the overall pattern of the data clearly suggests that men's labour participation has changed very little for cohorts spanning some 40 years in both populations (Figure 2.5). In Singapore, labour participation increases only at 60 years old, from 32% to 50% between the 1930 and 1940 cohorts. Participation rates at younger ages and between other cohorts have remained stable. For Hong Kong, there in fact appears to be a fall in work participation at the youngest and oldest ages—men may be delaying entry into the workforce and retiring earlier. Only 38% of men born in 1970 entered the workforce at 15 years old, compared to more than 50% in

preceding cohorts. There is also a decrease in labour force participation at 60 years old from 56% to 46% between the 1930 and 1940 cohorts. In terms of actual rates, men's labour force participation profiles are comparable in Singapore and Hong Kong, peaking at close to 100% between the ages of 25 and 45, and falling away to around 50% by 60 years old.

**Figure 2.5** Labour force participation of men by age for birth cohorts 1930-1970 in Hong Kong and Singapore, percentage

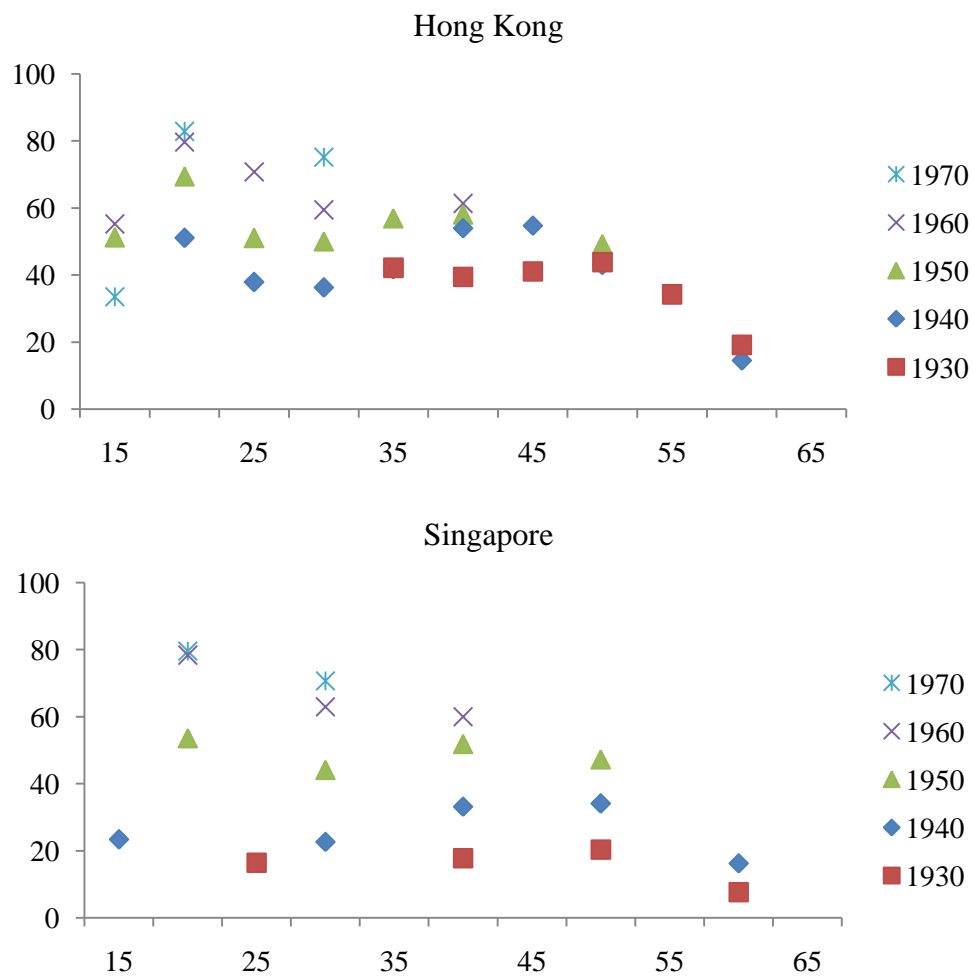


Source: Own analysis based on International Labour Organization (2012)

Women's work participation has shown far more dramatic changes, especially at younger ages and in Singapore (Figure 2.6). Between the 1930 and 1970 birth cohorts in Singapore, women's work participation at 20 years old expanded fourfold from around 20% to 80%. In Hong Kong, women's labour force participation saw smaller but still significant gains from around 50% to 80%. The work participation

profiles of women in the two populations therefore became very similar for the most recent cohorts: participation peaks at around 80% at 20 years old, then halves by 50 years old, and falls to a fifth or less by 60 years old. Rising work participation for women cannot be assumed to continue. Participation gains across cohorts have been narrower at higher ages, and in fact appears to be slowing down even at younger ages. Compared to changes between earlier cohorts, there is little difference in participation rates for the 1960 and 1970 birth cohorts in Singapore up to 30 years old.

**Figure 2.6** Labour force participation of women by age for birth cohorts 1930-1970 in Hong Kong and Singapore, percentage



Source: Own analysis based on International Labour Organization (2012)

### *Summary*

To summarise the findings about elderly persons' participation in the workforce:

- Workforce participation declines with age and is lower for women in Hong Kong and Singapore. In 2005/2006, just 7% to 13% of women were still in the workforce by the age of 65-69 compared to 20-33% of men. Elderly men aged 65 and above were three times as likely as women to be in the workforce.
- Between 1995/1996 and 2005/2006 total workforce participation among older adults fell in Hong Kong particularly for men between the ages of 55 and 69, but rose in Singapore due to a noticeable increase in women's workforce participation across all age groups between 55 and 74.
- Comparing workforce participation during the lifetimes of cohorts born between 1930 and 1970, men's workforce participation has remained remarkably stable, apart from an increase from 32% to 50% at 60 years old between the birth cohorts of 1930 and 1940 in Singapore, and signs of a delay in workforce entry and earlier retirement among men from more recent cohorts in Hong Kong.
- Women's labour force participation has expanded dramatically across successive birth cohorts, particularly at younger ages and in Singapore. At 20 years old, women's work participation has risen from around 20% to 80% in Singapore, and from 50% to 80% in Hong Kong. But participation gains are smaller at higher ages and appear to be slowing down.

So far the evidence from Hong Kong and Singapore does not suggest a strong link between longer life expectancy and more years in work. This is clearest in the case of elderly men in Hong Kong whose workforce participation has decreased between 1996 and 2006. The Singapore government has in fact found it necessary to introduce initiatives to promote work at older ages in recent years.<sup>5</sup>

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<sup>5</sup> The Workfare Income Supplement was introduced in 2007 to provide a benefit paid through a mix of cash and CPF contribution to workers aged 35 and above whose average monthly work incomes fall

## 2.5 Individual income levels

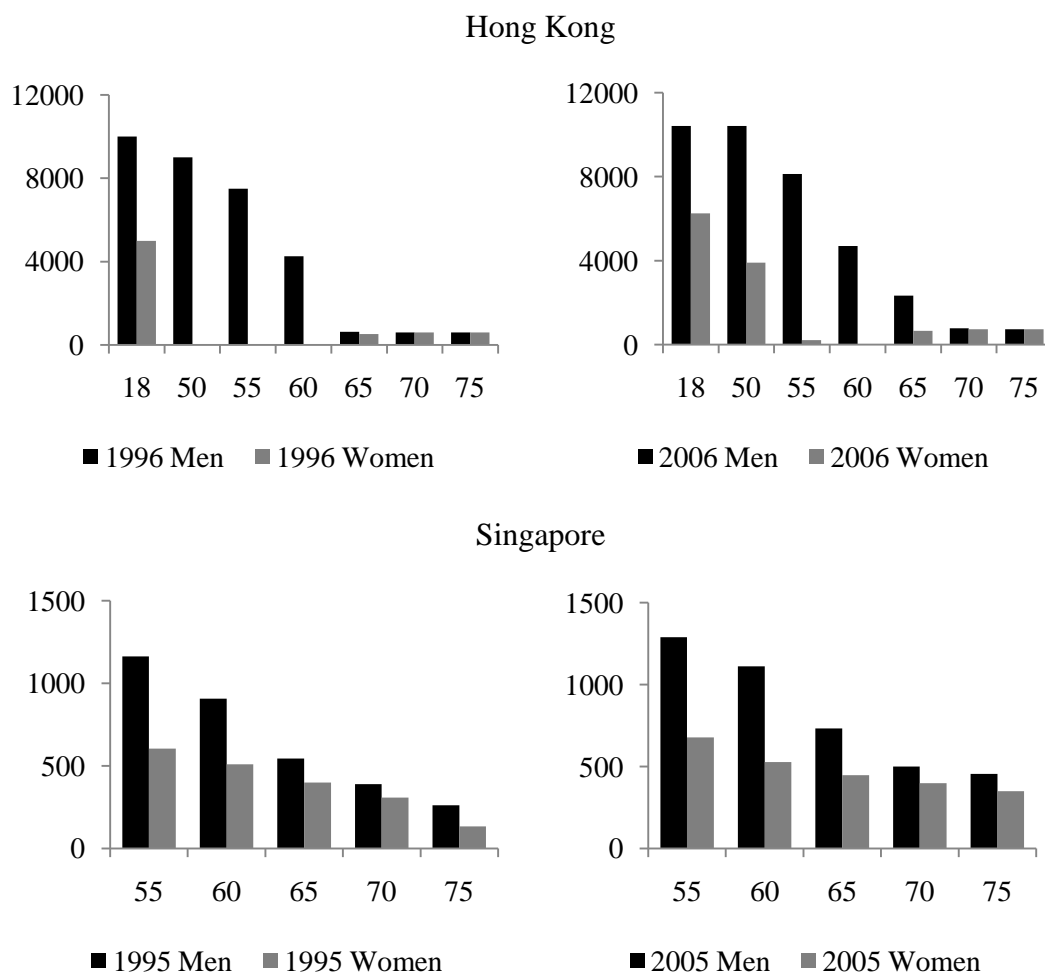
The steady fall of workforce participation with age as seen in the analysis so far suggests a similar downward age gradient in individual incomes. This is borne out by a comparison of median individual gross monthly incomes in Hong Kong and Singapore by sex and age (Figure 2.7). Among both populations, individual incomes decline dramatically for older persons and are lower for women. In Hong Kong the age gradient of median individual income is particularly sharp, falling to 0 or close to zero by around 50-55 years old. From 65, incomes for women increase very slightly and remain flat for both men and women, and the income gap between men and women disappears, suggesting dependence of both genders on receipts of the flat-rate old age allowance under the Social Security Allowance Scheme (SSAS). Real incomes grew between the 1990s and 2000s across all age groups (55 onwards for Singapore). In Singapore the oldest age groups saw the highest income growth. Individual incomes were 1.7 times as high in 2005 as compared to 1995 for men aged 75 and above and 2.6 times as high for women in the same age group. But in Hong Kong, the patterns are less clear with the most pronounced gains experienced by women aged 50-54 and men aged 65-69.

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below a designated floor (CPF Board, 2013b). In 2010 the income floor of \$1700 was about 68% of median work income. The Retirement and Re-employment Act was enacted in 2013 to mandate employers to offer annual re-employment contracts to workers from the statutory retirement age of 62 (Ministry of Manpower, 2013).



**Figure 2.7** Median individual gross monthly incomes by sex and age, Hong Kong 1996 and 2006 (1996 Hong Kong dollars), Singapore 1995 and 2005 (1995 Singapore dollars)



Note: Numbers on horizontal axes denote starting ages in each age group  
Source: Own analysis using data from Hong Kong Population By-census 1996, 2006;  
Singapore National Survey of Senior Citizens 1995, 2005

The convention in international income studies, such as by the OECD and the Luxembourg Income Study (LIS), is to adopt between 40% and 60% of the median equivalised household income as a threshold of poverty risk. But as data on equivalised household incomes for the general population are not available for Singapore, the analysis here adopts various proportions of the median population gross work income as convenient approximations of these thresholds. By this measure, elderly persons in Hong Kong and Singapore have very low individual incomes that suggest a disparity in living standards between the elderly and working populations, before any income sharing within households (Table 2.10). Singapore fares worse, with 94% of elderly persons receiving individual incomes that are below 0.6 times

population median work income in 1995. The older age groups were the most disadvantaged—98% of the 75 and above age group had individual incomes below 0.6 times the population median work income and 94% had incomes below the 0.4 threshold. The income situation improved slightly in 2005 with smaller proportions of elderly persons falling below these thresholds but the vast majority still received individual incomes no higher than 0.6 times median population work income. The situation is somewhat better in Hong Kong even though most elderly persons still receive very low individual incomes relative to the workforce—79% to 82% had individual incomes that are less than 0.4 to 0.6 times the median work income in 1996. Like in Singapore, the elderly population's relative income positions in Hong Kong also improved in 2006, but there was a larger reduction in the proportion of elderly persons receiving the lowest relative incomes. The gap between the share of elderly persons receiving less than 0.4 median population work income in Hong Kong and Singapore therefore opens up from 5 to 10 percentage points by 2005/2006. Using 1.5 times median population work income as a benchmark of high-income status, Hong Kong comes up in a better position than Singapore although the difference was smaller by the second survey round. In the mid-1990s, 8% of elderly persons in Hong Kong had high incomes compared to none in Singapore. By the mid-2000s, 4% of elderly persons in Singapore had high individual incomes compared to just 7% in Hong Kong.

**Table 2.10** Percentage of population by age group with individual incomes below various proportions of median population gross work income, Hong Kong 1996 and 2006, Singapore 1995 and 2005

	Hong Kong					
	1996			2006		
	Below 0.4	Below 0.6	Above 1.5	Below 0.4	Below 0.6	Above 1.5
65-69	73	77	10	63	72	10
70-74	79	83	9	68	78	7
75+	84	88	6	71	81	6
All 65+	79	82	8	68	78	7
	Singapore					
	1995			2005		
	Below 0.4	Below 0.6	Above 1.5	Below 0.4	Below 0.6	Above 1.5
65-69	73	88	0	68	84	7
70-74	86	96	0	78	88	4
75+	94	98	0	87	93	2
All 65+	84	94	0	78	88	4

Source: Own analysis using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

Comparing the relative individual incomes of elderly persons inside and out of the workforce reveals a few surprising patterns (Table 2.11). As might be expected, persons in the workforce are less likely to receive low individual incomes. But strikingly in 1995/1996, even among elderly Singaporeans in the workforce, 59% had individual incomes below 0.6 times median population gross work income, more than double the 27% of the elderly workforce in Hong Kong. This gap grew in the 2000s. In Singapore elderly persons outside the workforce became less likely to have low incomes but the relative individual incomes of elderly persons in the labour force deteriorated. While the proportion of the elderly workforce in Hong Kong who had individual incomes below 0.4 times median work income decreased to just 9%, the proportion of elderly persons in the Singapore workforce who had incomes below this threshold more than doubled to 27%. More than one in four elderly persons despite remaining in the workforce in Singapore had very low individual incomes by comparison to the working population. These figures highlight that while more elderly people are working past retirement age in Singapore, their work has not paid off relative to elderly workers in Hong Kong. Harper (2006) has argued that the promotion of longer working lives may be an unavoidable policy strategy as life expectancies increase, but public provision must also grow in tandem to protect elderly persons who are financially vulnerable. The evidence here, that longer careers cannot be assumed to result in better individual incomes, provides support for this argument.

**Table 2.11** Percentage of elderly persons (65+) by workforce participation status with individual incomes below various proportions of median population gross work income, Hong Kong 1996 and 2006, Singapore 1995 and 2005

Hong Kong						
	1996			2006		
	Below 0.4	Below 0.6	Above 1.5	Below 0.4	Below 0.6	Above 1.5
Out of workforce	86	89	7	73	83	5
In workforce	14	27	21	9	17	36
Singapore						
	1995			2005		
	Below 0.4	Below 0.6	Above 1.5	Below 0.4	Below 0.6	Above 1.5
Out of workforce	94	99	0	83	90	0
In workforce	13	59	0	27	57	0

Source: Own analysis using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

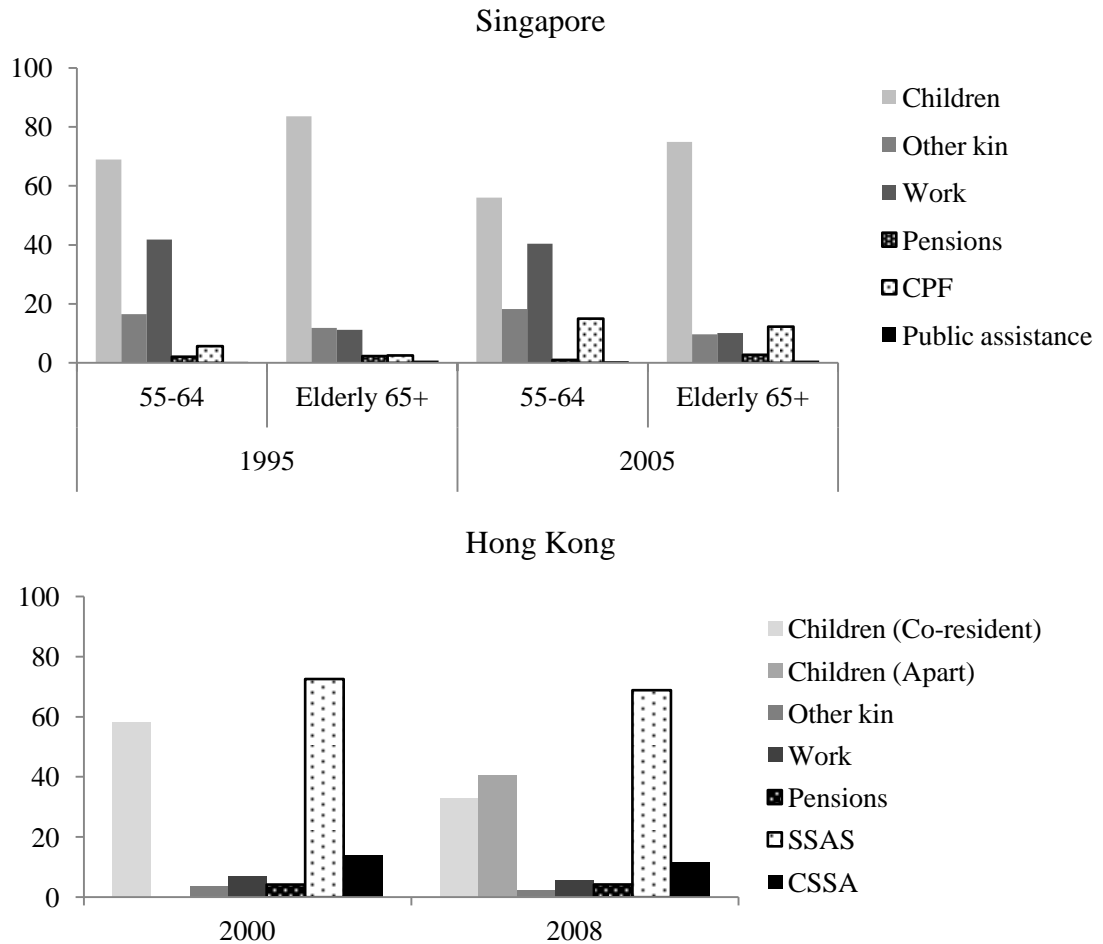
## 2.6 Income sources

In the 1990s, two major studies of elderly income sources in Singapore established that transfers from children were both prevalent and important relative to other incomes sources, and that this changed very little during retirement. Using data from the 1995 round of the National Survey of Senior Citizens, Chan (1997) found that 85% of older adults aged 60 and above received transfers regularly from children living apart, and that 91% of older women reported these transfers compared to 77% of the men. A follow-up study of the respondents in the 1995 survey four years later found that the proportion of older persons (by then aged 64 and above) who cited transfers from family and friends as a “major source of income” increased slightly from 79% to 81% between 1995 and 1999, while the proportion citing work and business as the main income source fell from 15% to 10% (A. Chan, et al., 2003).<sup>6</sup> Other sources such as pensions and rent were cited by just 7-9% of older persons in the two years. There is limited understanding of how elderly persons’ income sources have changed since the 1990s. There is also little knowledge of how income sources vary for different groups, particularly by income level and gender. The following original analysis of data from two time points in Hong Kong and Singapore addresses some of these issues.

<sup>6</sup> The 1995 survey asked “what is your main source of financial support” while the 1999 survey asked respondents to “rank your major source of income”. Both surveys did not offer more detailed definitions or guidance to participants. See study for details (A. Chan, et al., 2003).

Different income sources were important to elderly persons in Hong Kong and Singapore (Figure 2.8). Despite a decline between 1995 and 2005, about 80% of elderly Singaporeans received some income from their children in the two years. Other income sources were less common. Work and other kin provided income to about 10% of elderly persons, while pensions and public assistance were negligible. Importantly, income receipts from the CPF increased from 3% to 12% of the elderly population between 1995 and 2005. This raises the important question of whether CPF income will be adequate to make up for lower support from children as family sizes become smaller. Future access to different income sources is analysed in Chapter 6. In contrast to Singapore, elderly persons in Hong Kong were most likely to obtain income from the SSAS. In 2000 and 2008, 69% to 73% of the elderly population received benefits from this scheme. Children's contributions, the most common income source in Singapore, were reported by almost 60% of elderly persons in Hong Kong in 2000. The 2008 survey distinguished between co-resident children and those living apart from their elderly parents, which limits direct comparison with 2000. In 2008, children were still the second most common income source in Hong Kong, with 33% of elderly persons receiving income from co-resident children and 41% from children living apart.

**Figure 2.8** Percentage of elderly persons (65+) who reported income receipts from selected sources in Singapore and Hong Kong, late-1990s and late-2000s



CPF: Central Provident Fund, SSAS: Social Security Allowance Scheme, CSSA:

Comprehensive Social Security Assistance Scheme, "Pensions" refer to private pensions

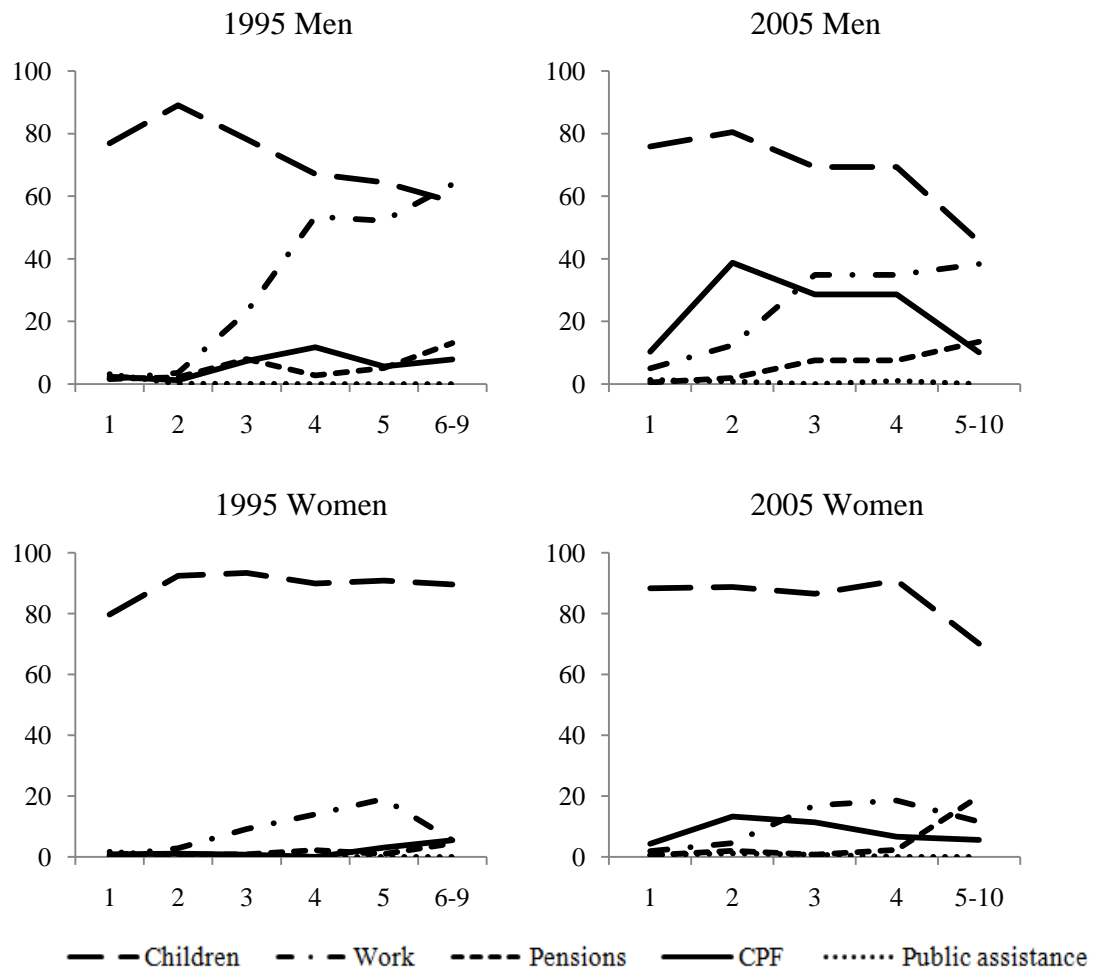
Note: Income from children was not differentiated by living arrangement for 2000.

Source: Own analysis using data from Singapore National Survey of Senior Citizens 1995, 2005, Supplementary Enquiry to the Hong Kong General Household Survey 2000, and Hong Kong Thematic Household Survey 2008.

The major difference between income sources in Singapore and Hong Kong, notwithstanding changes within each population between the survey years, is that elderly persons in Singapore were almost singularly dependent on their children for income, whereas it was common to draw income from both the children and public sources in Hong Kong. Together, the SSAS and the CSSA Scheme (a means-tested social assistance programme) provided income to more than 80% of the elderly population in Hong Kong. But in Singapore, the CPF and public assistance combined provided income to only 3% of elderly persons in 1995 and 13% in 2005. Public assistance alone was an income source less than 1% of the time in both years. This contrast reveals the vulnerability of older Singaporeans to receding family support.

In Singapore, children contributed income to more than 80% of elderly women across all income brackets apart from the highest in 2005, while this proportion ranged between 40% and 90% for the men (Figure 2.9). On the other hand, more men received income from work than women, especially in the higher income groups. In general, the CPF had become a more common income source in 2005 as compared to 1995, but the increase from 4% to 19% was larger for men, as compared to the increase from 1% to 7% for women. Overall the retirement income sources of elderly men in Singapore were more dynamic between the two years and had become more varied by 2005. While the proportion of men drawing income from children and work both decreased, the proportion that turned to the CPF increased, resulting in a wider range of income sources across all income brackets. For women, income sources were less diverse to begin with and were more static over time. Apart from an increase in the use of CPF income of 6 percentage points, and changes in income from children and private pensions for those in the highest income bracket, the overall range of women's income sources remained heavily imbalanced towards a dependence on children. Less than one in five elderly women in both years drew income from any other source.

**Figure 2.9** Percentage of elderly persons(65+) who reported income receipts from selected sources in Singapore by income band, 1995 and 2005



Income bands for 1995 are (1) <\$250, (2) \$250-\$499, (3) \$500-\$749, (4) \$750-\$999, (5) \$1000-\$1249, (6-9) \$1250+. For 2005 are (1) \$1-\$499, (2) \$500-\$749, (3) \$750-\$999, (4) \$1000-\$1249, (5-10) \$1250+.

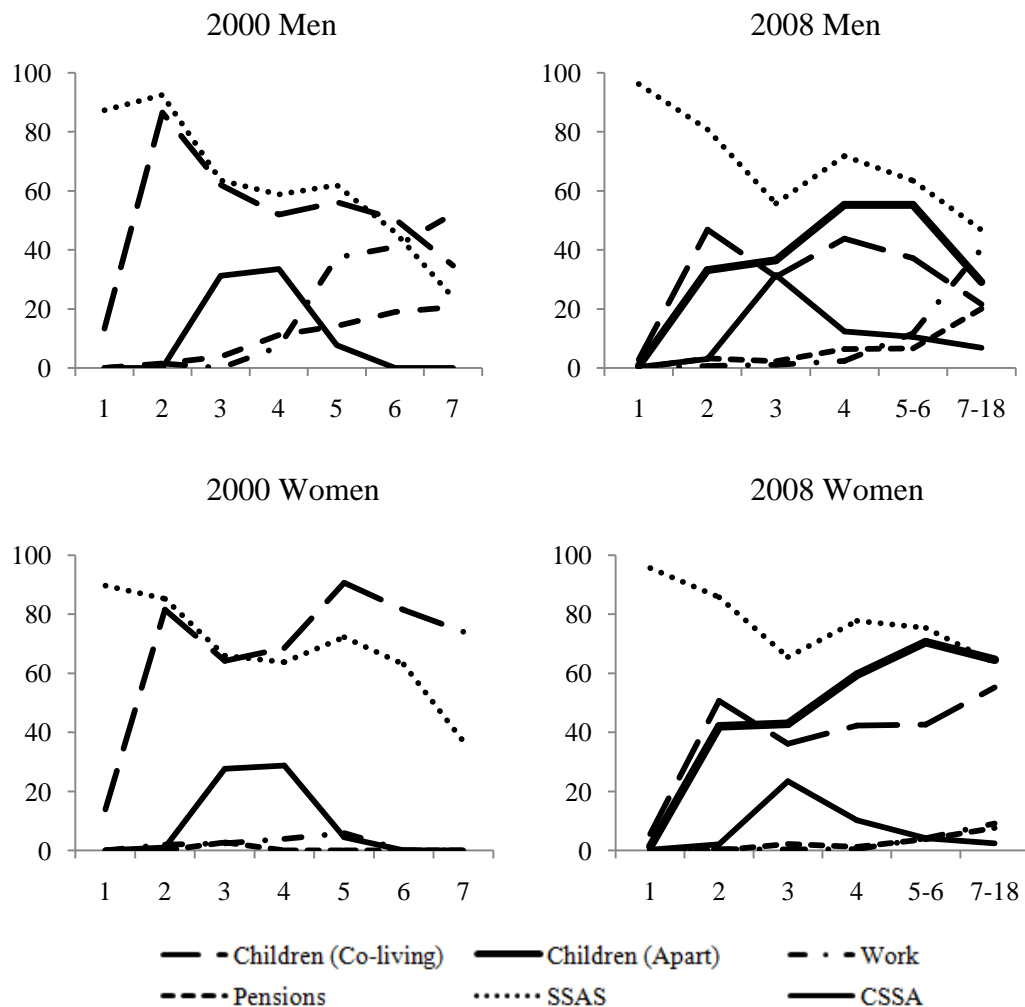
Source: Own analysis using data from Singapore National Survey of Senior Citizens 1995, 2005

Like in Singapore, children were a more common income source for elderly women than for elderly men in Hong Kong, while work and pensions were more common for the men in spite of a sharp contraction in the incidence of work income from 40-50% in 2000 to 10-40% in 2008 (Figure 2.10). But while the proportion of elderly persons in Singapore who received income from their children was either stable (for the women) or decreased (for the men) with higher income levels, children's contributions did not vary consistently with income according to the Hong Kong data. In particular for the elderly women in 2008, children's contributions became more common at higher income levels but came mostly from non-co-resident children. This suggests diverse motivations for intergenerational transfers, which may not always be



related to financial need or linked to co-residence (see Chapter 4). Income sources were also different among low-income elderly persons in the two populations. While children were the most common income source even among those in the lowest income band in Singapore, less than 6% of the bottom groups in Hong Kong received income from their children in 2008. Instead, 96% of them received benefits from the SSAS. As receipts from the SSAS decreased in the third and fourth income bands, the CSSA became more common, demonstrating how the two schemes provide successive layers of income protection.

**Figure 2.10** Percentage of elderly persons (65+) who reported income receipts from selected sources in Hong Kong by income band, 2000 and 2008



Income bands for 2000 are (1) \$1 to <\$1000, (2) \$1000-\$1999, (3) \$2000-\$2999, (4) \$3000-\$4999, (5) \$5000-\$9999, (6) \$10000-\$19999, (7) \$20000+. For 2008 are (1) <\$1000, (2) \$1000-\$1999, (3) \$2000-\$2999, (4) \$3000-\$3999, (5-6) \$4000-\$5999, (7-18) \$6000+.

Source: Own analysis using data from Supplementary Enquiry to the Hong Kong General Household Survey 2000 and Hong Kong Thematic Household Survey 2008.

Personal savings have been documented as an important source of retirement income (Leeson & Harper, 2008). Due to unavailable data—savings as an income source was not recorded in the 1995 Singapore survey nor in the Hong Kong datasets—it is not possible to further analyse savings in this study (except as an asset in Chapter 3). What data are available show that in 2005, 38% of elderly Singaporeans reported savings as an income source. In Hong Kong, more than 90% of elderly persons own some savings (Figure 3.6). Additionally, a 2012 multi-country survey of adults aged 25 and above conducted by HSBC (2013a, 2013b) found that cash savings was most frequently cited as a possible retirement income source—by 56% of respondents in Hong Kong and 69% in Singapore. The respondents also expected savings to represent the largest proportion of retirement income—26% in Hong Kong and 34% in Singapore, compared to less than 15% from public pensions and less than 10% from family transfers. But these findings may reflect respondents' expectations of independence more than the actual significance of savings. In the same HSBC survey, 29% of respondents in Hong Kong and 41% in Singapore reported not saving at all for retirement. Furthermore there is evidence that children's transfers are far larger than the survey respondents anticipate, taking up almost two thirds of average elderly incomes among the two populations in recent years (see Chapter 4). In Singapore, elderly persons with lower incomes are also less likely to have savings (Figure 3.6), while very high CPF contribution rates may constrain the capacity for private savings in general. It is therefore possible to overstate the importance of savings as an income source, particularly based on attitudinal data.

### *Summary*

To summarise the findings on individual income levels and sources:

- Individual incomes fall steeply with age in Hong Kong and Singapore. Women generally have lower incomes than men but the gap narrows among the older age groups. Between the 1995/1996 and 2005/2006 real incomes grew for almost all age groups in the surveys, with elderly Singaporeans experiencing the greatest gains.
- Due to the steep age gradient, both elderly populations had very low individual incomes relative to the median work income of the working population.

Singapore fares worse, with 94% of elderly persons receiving individual incomes that are below 0.6 times population median work income in 1995 and 88% still in this category in 2005 despite improvements during the decade. There were smaller proportions of elderly persons falling below these income thresholds in Hong Kong but more than two-thirds were still receiving incomes below 0.4 times median work income in 2006.

- Strikingly in Singapore the proportion of the elderly workforce receiving individual incomes below 0.4 times median work income rose from 13% to 27% between 1995 and 2005, compared to a reduction from 14% to 9% in Hong Kong. Higher workforce participation therefore cannot be taken to imply greater income security.
- The most common income source in Singapore was by far children's financial contributions. Between 1995 and 2005 elderly men's access to children's contributions fell especially in the higher income brackets where work income was more common. But at the same time the proportion of elderly men citing CPF as an income source grew for almost all income levels. Elderly women however continued to depend almost singularly on their children, with less than one in five drawing income from alternative sources.
- In Hong Kong both children's contributions and the SSAS were available to more than half of the elderly population. The SSAS was equally common to elderly men and women as a source of income, with lower access among the higher income groups. Like in Singapore, work income was more relevant to the men. Among the women, those who had access to children's contributions were in the higher income groups, suggesting the importance of this income source.

## 2.7 Summary

The policy challenge of income security among the elderly populations of Hong Kong and Singapore has an important demographic dimension. But in addition to the size and proportion of the elderly population, the nature of the policy challenge depends on how elderly persons in these societies secure the financial resources they require in old age. This chapter focused on the basic relationship between ageing, work, and individual incomes. The main findings are:

- The populations of Hong Kong and Singapore are already among the oldest in Asia, with period life expectancies at 65 following closely behind Japan's. On current projections the age composition of the two populations are expected to transform in the next two decades, achieving old-age dependency ratios that will exceed the European average by 2025.
- These trends imply that greater resources will be required in old age assuming constant retirement age. In Hong Kong and Singapore, where there are no PAYG pensions like in many European countries, these demographic trends will translate into a greater strain on individual savings under DC pension accounts and on family support as fewer adult children are available.
- Related to demographic ageing is whether longer life expectancies imply longer careers that will provide an adequate income stream past 65. Published data indicate that elderly workers earn much less than younger workers in Hong Kong and Singapore, about 40% as much in Singapore in 2008 and 65% as much in Hong Kong in 2006. There is also evidence from Hong Kong suggesting that while elderly persons' relative earnings have improved, the income effects may not be noticeable as elderly-only households with lower combined incomes become more common.
- Based on survey data from 1995/1996 and 2005/2006, workforce participation declines steadily with age and is lower for women in Hong Kong and Singapore. Elderly men aged 65 and above were three times as likely as women to be in the workforce in 2005/2006. Total workforce participation among older

adults fell in Hong Kong after 1996 particularly for men between the ages of 55 and 69, but rose in Singapore after 1995 due to a significant increase in women's workforce participation from the age of 55 to 74.

- Comparing workforce participation during the lifetimes of cohorts born between 1930 and 1970, there has been little change to men's workforce participation but a clear expansion of work among women especially at younger ages. But these gains among women are more significant at younger ages and have slowed down between recent cohorts. The evidence so far does not suggest a strong link between longer life expectancy and more years in work.
- Individual incomes fall steeply with age in Hong Kong and Singapore. Women generally have lower incomes than men but the gap narrows among the older age groups. Using 0.4 times the median population work income as a threshold, 78% of elderly persons in Singapore and 68% in Hong Kong had low individual incomes in 2005/2006. Strikingly in Singapore a quarter of the elderly workforce fell below this income threshold compared to just 9% in Hong Kong. Higher workforce participation therefore cannot be taken to imply greater income security.
- Rather than earnings the most common income source in Singapore was children's financial contributions. Between 1995 and 2005 elderly men became less likely to receive these contributions and more likely to have CPF income. But elderly women continued to depend almost singularly on their children, with less than one in five drawing income from alternative sources, despite a context of expanding work participation among women. In contrast both children's contributions and the SSAS were available to more than half of the elderly population in Hong Kong. The SSAS was equally common to elderly men and women as a source of income, with lower access among the higher income groups.

The findings in this chapter reveal a larger scale of old-age poverty than was previously described in the literature, as well as the relationship between income security and age, gender, and work participation. Between the two populations, Singapore fared worse than Hong Kong in the 1990s in terms of old-age income security, then experienced very slight improvements in the 2000s, but these did not change the overall picture. Following the above analysis of the availability of income sources, the next two chapters examine in detail the key pillars of public pensions and family support.

## Appendix 2.1 Statistical tables

**Table 2A.1** Interval regression estimates of individual income, Singapore 1995

Variables	Coefficients
Female	1.056 (15.92)
Age	-14.22*** (0.968)
Married	304.6*** (42.74)
Widowed	188.7*** (43.91)
Divorced, separated	156.7** (65.08)
Malay	-95.31*** (20.80)
Indian	-91.03*** (23.96)
Primary school education	60.88*** (16.20)
Secondary school education	314.1*** (24.25)
Tertiary education	807.9*** (38.06)
Household size	-8.227* (4.555)
Number of children co-resident	63.57*** (7.091)
Number of children living apart	29.96*** (3.206)
No work income	-586.8*** (17.25)
No contributions from children	153.0*** (14.50)
Constant	1,462*** (75.88)
Observations	4,707

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 2A.2** Interval regression estimates of individual income, Singapore 2005

Variables	Coefficients
Female	-37.68 (25.64)
Age	-6.692*** (1.548)
Married	226.9*** (58.24)
Widowed	187.5*** (61.31)
Divorced	184.4** (79.69)
Separated	794.3*** (140.5)
Malay	-176.2*** (36.04)
Indian	-87.42** (37.88)
Primary school education	83.14** (33.81)
Secondary school education	374.0*** (28.26)
Tertiary education	1,609*** (41.95)
Household size	41.99*** (8.463)
Number of household members in work	-39.38** (15.57)
Number of children co-resident	42.14** (17.51)
Number of children living apart	16.21** (7.232)
No work income	-710.2*** (29.28)
No contributions from children	85.27*** (27.68)
No contributions from spouse	-82.53** (37.48)
Constant	1,326*** (122.8)
Observations	4,343

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1



**Table 2A.3** Distribution of individual incomes based on survey data and estimation by interval regression, Singapore 1995 and 2005, percentage

Singapore dollars	1995			2005	
	Actual	Estimated		Actual	Estimated
Below 250	19	17	Below 500	37	34
250-499	30	31	500-749	21	22
500-749	19	21	750-999	10	10
750-999	11	9	1000-1249	12	8
1000-1249	9	12	1250-1499	4	8
1250-1499	4	6	1500-1999	5	9
1500-1749	2	2	2000-2499	3	4
1750-1999	1	1	2500-2999	2	3
2000 and above	5	1	3000-4999	2	0
			5000 and above	2	2

### 3. A comparison of public pension systems in Hong Kong and Singapore

This chapter considers the first of two key sources of income security in old age, public pensions. The second, family support, is discussed in Chapter 4. Public pensions are mainly provided through the Central Provident Fund (CPF) in Singapore, and a tiered system combining the Social Security Allowance Scheme (SSAS), the Comprehensive Social Security Assistance Scheme (CSSA), and the Mandatory Provident Fund (MPF) in Hong Kong.<sup>7</sup> The background and structure of both systems are first described below, followed by a discussion of housing and other assets as possible alternative sources of retirement income. Next, the chapter reviews the evidence on pension outcomes under the two systems. The final section reflects on the sustainability of public pensions in Hong Kong and Singapore from the perspective of recent debates about intergenerational conflict.

#### 3.1 Public pensions in Hong Kong

##### *Policy background*

As the policy histories of the public pension systems in Hong Kong and Singapore are covered in more detail in Part 3 of the study, the background sections here briefly summarise the context of the two systems.

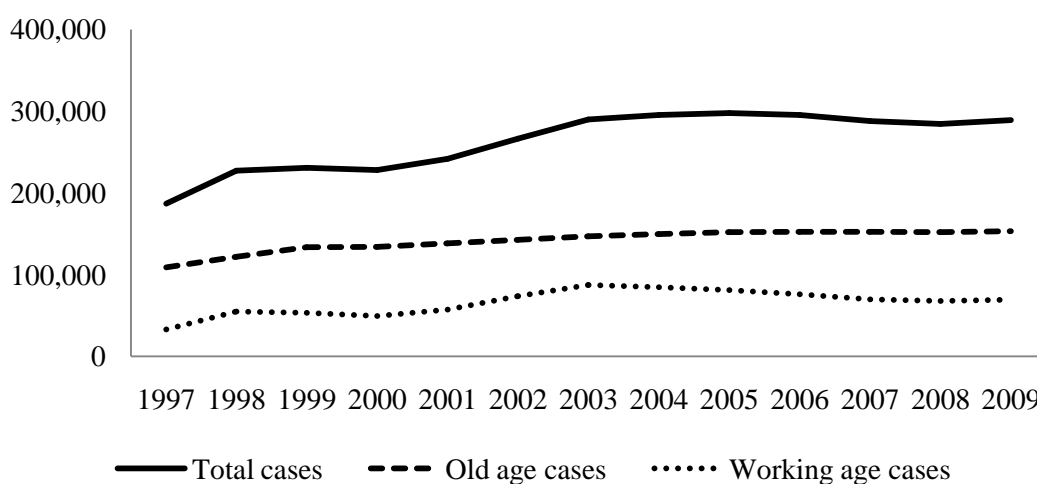
Historically the colonial government has played a limited role in social security in Hong Kong. MacPherson (1993) observed that the policy stance was “a convenient conjunction of cultural sensitivity and cost-saving” (p. 52). The government encouraged traditional familial obligations while suppressing the tax burden on businesses and social expenditure. Social assistance was only formalised in 1971 with the Public Assistance Scheme, which provided means-tested benefits to persons who were unemployed or unable to work. This scheme was renamed the Comprehensive Social Security Assistance (CSSA) Scheme in 1993. Due to the lack of a public

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<sup>7</sup> Separate public pension schemes exist for civil servants in Hong Kong and Singapore. In Singapore most public servants except political office holders, long-serving Members of Parliament, members of the Administrative Service, and police and military personnel were transferred to the CPF scheme in 1986 (Low & Aw, 2004). Separate provident fund schemes exist for civil servants and teachers in Hong Kong. These generally feature employer (i.e. government) contributions that increase with length of service (Civil Service Bureau, 2013; Education Bureau, 2013). Civil service pensions are beyond the scope of this study.

pension system, the CSSA has traditionally been an important source of income for the elderly population. Even in recent years, old age cases still account for more than half of the CSSA cases (Figure 3.1). Towards the end of the 1990s the government became increasingly concerned about the CSSA caseload which doubled between 1993 and 1998 (Social Welfare Department, 1998). The cost of the scheme also grew over the years to almost 10% of government recurrent expenditure in the 2000s. A 1998 review by the Social Welfare Department led to a downward revision of the assistance rates but not for elderly applicants.

**Figure 3.1** Number of cases under the Comprehensive Social Security Assistance (CSSA) Scheme, 1997-2009



Source: Social Welfare Department (2010)

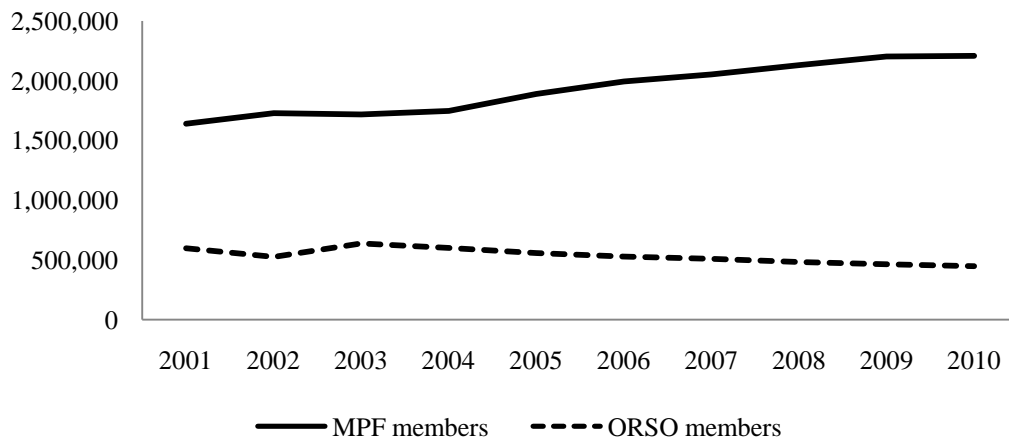
Soon after the introduction of the Public Assistance Scheme, the Disability and Infirmity Allowance was established in 1973 (Chow, 1978, 1985b). This was a tax-financed demogrant for elderly persons who met the physical criteria, administered on a flat-rate basis and without means-testing. As all elderly persons above 75 years old were considered infirm, the allowance functioned in effect as a universal basic pension. It was renamed the Special Needs Allowance Scheme in 1979 (Brewer & MacPherson, 1997). In 1988 the allowance was restructured into a universal Higher Old Age Allowance from 70 years old and a means-tested Normal Old Age Allowance for persons between 67 and 70. A gradual expansion of the scheme saw the eligibility age for the latter allowance reduced from 67 to 66 years old in 1990, and further to 65 years old in 1991. The scheme was renamed the Social Security Allowance Scheme (SSAS) in 1993.

Parallel to these public schemes, voluntary occupational pensions had been offered by employers in Hong Kong for many decades, numbering 1,500 schemes by the end of the 1970s (Ramesh, 2004). These varied widely in terms of funding and benefits. In 1993 the Occupational Retirement Schemes Ordinance (ORSO) was passed to regulate these schemes (MPF Schemes Authority, 2012). The law sets broad requirements for the schemes to meet their liabilities and on investments and the administration of assets. Discussions regarding a national provident fund had begun as early as the 1960s under the British administration but legislation for the Mandatory Provident Fund (MPF) was only passed in 1995 just before reversion to Chinese rule. The scheme started operation in December 2000. To facilitate transition to the MPF system, providers of ORSO schemes that were in place by 1995 were allowed to seek exemption from the MPF provided their schemes were governed by a trust and encompassed benefits for death, disability, and retirement. Members of exempted schemes are not required to participate in the MPF.<sup>8</sup> Workers who voluntarily join new occupational pension schemes set up from 1995 onwards are required to subscribe to the MPF. The list of MPF-exempted ORSO schemes is therefore capped and will not grow. This arrangement extends protection of retirement savings to MPF-exempted ORSO scheme participants. Since 2001 ORSO scheme membership has been gradually replaced by the MPF (Figure 3.2). Between 2001 and 2013, the number of available ORSO schemes has fallen from 6400 to 5200, while the number of participating employers has declined from 8800 to 6900 (MPF Schemes Authority, 2001, 2013). As the ORSO is gradually being phased out and is already a much smaller system than the MPF, it is not covered in the analysis in the rest of this study.

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<sup>8</sup> In organisations that offer MPF-exempted ORSO schemes, their existing staff and new employees who join after 2000 are allowed to make a one-time choice between the MPF and the ORSO schemes. For the existing staff, the payment of their ORSO benefits will be based on the original ORSO scheme rules. But for new employees, upon ceasing employment, they must transfer a share of their accrued ORSO benefits – known as the MPF minimum benefits – to a holding MPF account, to be withdrawn according to MPF rules. If there are any residual benefits after this transfer, these may be withdrawn according to the ORSO scheme rules.

**Figure 3.2** Employee membership in the Mandatory Provident Fund (MPF) and Occupational Retirement Schemes Ordinance (ORSO) Schemes, Hong Kong 2001-2010



Source: MPF Schemes Authority (various years)

#### *Policy structure*

Public old-age pensions are accessed through a combination of the CSSA Scheme, the SSAS, and the MPF in Hong Kong. Their rules are as such:

- The CSSA Scheme provides the equivalent of a minimum income guarantee for households (Social Welfare Department, 2012). Assistance rates are derived from the shortfall between household income and a table of prescribed living expenses. These expenses comprise a basic component known as standard rates that vary by household size, old age, ill health, and disability; top-ups known as supplements related to single parenthood, community living for persons with severe disability, and transport; and more than thirty types of special grants to support diverse household needs such as housing rental, utilities, medical rehabilitation, social care services, and children's education. Applications are further subject to tests of residency and assets. The limits for the latter also vary by household size, old age, ill health, and disability. According to the latest rates, an elderly couple at 65 years old who earn no income and have less than HK\$59,000 worth of assets are entitled to HK\$5,530 excluding further supplements and discretionary grants, equivalent to 46% of the median monthly work income of HK\$12,000 in 2012 (Census and Statistics Department, 2013a). The CSSA Scheme covers approximately 15% of the population aged 60 and above.

- Up to April 2013, the SSAS provided two types of monthly allowance for old age and severe disability. The Normal Old Age Allowance began at 65 years old and came with an asset and income test. The combined asset and monthly income limits for an elderly couple were HK\$281,000 and HK\$10,520 respectively. From 70 years old, all residents were eligible for the universal Higher Old Age Allowance. Both allowances were flat rate at HK\$1,090 per person per month, about 9% of the median work income. The SSAS covers 55% of the elderly population aged 65 and above. From April 2013, these allowances were superseded by the Old Age Living Allowance (OALA). Between 65 and 69, the OALA replaces the Normal Old Age Allowance with a flat-rate pension that is about twice as high at HK\$2,200 and is subject to the same means test. From 70 years old, persons who pass the means test receive the OALA while others continue to receive the universal Higher Old Age Allowance, which is now simply known as the Old Age Allowance. Comparatively, the CSSA Scheme offers more generous benefits than the SSAS but is subject to stricter asset criteria. Persons who are already receiving assistance from the CSSA Scheme are therefore not entitled to SSAS benefits as no one is allowed to be on both schemes at the same time.
- The MPF is a defined contribution, privately managed, provident fund scheme (MPF Schemes Authority, 2012). It is compulsory for the majority of workers aged between 18 and 65 years old and most self-employed persons. Employers and employees each contribute 5% of monthly salary to the employee's account under a MPF fund, subject to minimum and maximum income levels of HK\$5,000 and HK\$20,000. For workers who earn less than HK\$5,000, only the employer is required to contribute. Both parties may make additional voluntary contributions and the government occasionally makes one-off contributions. Trustees are appointed by a regulator to offer MPF schemes, each consisting of a spread of funds of different risk levels. The employer chooses a scheme for the employees, while each employee decides on the

specific fund to invest in.<sup>9</sup> The MPF Schemes Authority oversees the governance aspects of the funds and monitors compliance with statutory standards. The trustees appointed under the MPF are required to take out professional indemnity insurance to protect scheme members from losses due to financial misconduct. The government has also established a statutory Compensation Fund with HK\$600m seed capital to compensate workers in instances where the insurance is insufficient to cover losses. When changing employment, workers may transfer their savings and accrued dividends to the MPF scheme at the new workplace. The final balance in the provident fund account, comprising all contributions plus investment returns, may be withdrawn as a lump sum at age 65 or 60 with early retirement. Coverage levels under the MPF are very high (Table 3.1). Almost 100% of employees and 69% of the self-employed workforce participated in 2012, adding up to a total coverage of 95% for the entire employed population (MPF Schemes Authority, 2013).

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<sup>9</sup> In March 2013 there were 19 approved trustees offering 41 schemes made up of almost 500 different funds (MPF Schemes Authority, 2013). The MPF funds fall into three categories – Master Trust Schemes for general employees and the self-employed; Employer-sponsored Schemes for organisations with large numbers of staff; and Industry Schemes that are more portable to accommodate labour mobility in the catering and construction sectors. All but three schemes belong to the first category.

**Table 3.1** Coverage of the Mandatory Provident Fund (MPF) in Hong Kong, 2012

	Persons (thousands)	Percentage
Total employed population 18-65	3,600	
Employees	3,200	100
Exempted from MPF <sup>1</sup>	900	27
Required to participate in MPF	2,400	73
Actual participants	2,300	72
Self-employed	300	100
Exempted from MPF <sup>2</sup>	4	1
Required to participate in MPF	300	99
Actual participants	200	69
Total required to participate in MPF <sup>3</sup>	2,700	100
Total actual participants (total coverage)	2,600	95

Note: Numbers may not add up due to rounding.

1. Exemptions apply to civil servants, teachers, members of MPF-exempted ORSO schemes, domestic employees, some foreign workers, and workers in short-term employment.

2. Licensed hawkers are exempted.

3. About 14% of the employed population belong to other retirement schemes while 11% are not required to join any retirement schemes.

Source: MPF Schemes Authority (2013)

### 3.2 Public pensions in Singapore

#### *Policy background*

Singapore's Central Provident Fund (CPF) was introduced in 1955 by the British colonial administration after lengthy deliberations that almost resulted in a social insurance scheme (Low & Aw, 2004). The CPF has historically been closely linked with nation-building and economic management. As a mandatory centrally managed defined contribution scheme with payouts only at retirement, it helped to raise resources for infrastructure development following Singapore's independence (Hu, 1986). But not long after, strong economic performance and annual budget surpluses meant that the government could fund projects such as public housing from operating revenue and no longer needed to tap on CPF funds (Asher, 1985, 1995). Instead the savings have been mostly invested abroad by the state-run Government of Singapore Investment Corporation (GIC). Throughout its history the CPF has been subjected to almost continuous parametric adjustment and reform. These changes can be summarised as three trends.



In the first few decades and particularly in the 1980s, the CPF scheme expanded to incorporate a multitude of other social objectives unrelated to retirement (Table 3.2). The most important of these is the Public Housing Scheme which allows the use of CPF savings to buy public residential property, accounting for high home ownership rates as well as a significant drain on retirement saving. The Medisave Scheme diverts about a fifth of monthly CPF contributions for hospitalisation expenses, which allows a high ratio of out-of-pocket to public healthcare financing in Singapore. From 1986 it was permitted to use a portion of CPF savings for private investment in approved financial products. The range of approved investments was gradually liberalised subsequently.

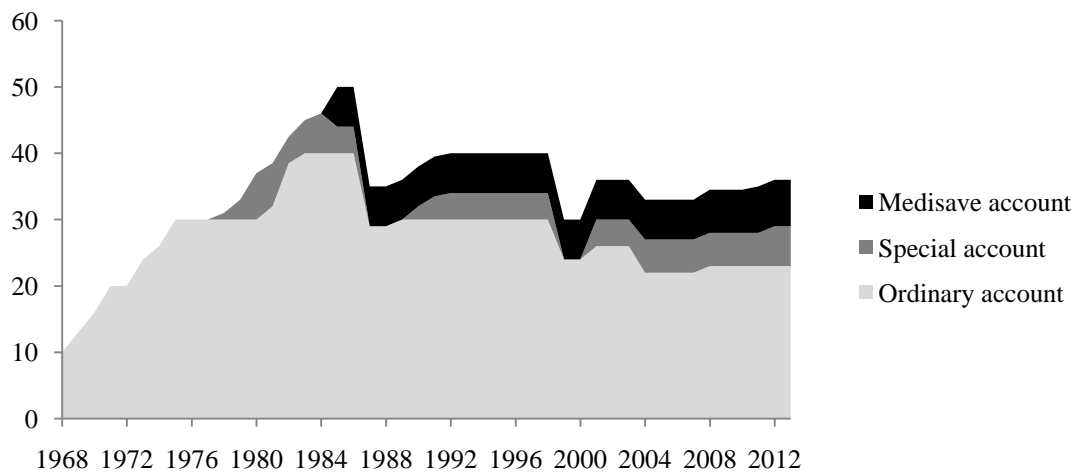
**Table 3.2** Major policy extensions to Singapore's Central Provident Fund (CPF)

Purpose	Year	Scheme
Housing	1968	<i>Public Housing Scheme</i> For purchasing public housing
	1981	<i>Approved Residential Properties Scheme</i> For purchasing private housing
Health	1984	<i>Medisave Scheme</i> For hospitalisation and approved treatment expenses
	1990	<i>Medishield Scheme</i> An insurance scheme for catastrophic illnesses
	2002	<i>Eldershield Scheme</i> A severe disability insurance scheme for older adults
Education	1989	<i>Education Scheme</i> Allows loans from individual CPF savings to support children through tertiary education
Investment	1978	<i>Singapore Bus Services Share Scheme</i> First approved investment scheme using CPF savings
	1986	<i>Approved Investment Scheme</i> For private investment in approved financial products, later expanded and renamed CPF Investment Scheme
Insurance	1982	<i>Home Protection Insurance Scheme</i> To assist family members with mortgage payments in the event of permanent incapacity or death
	1989	<i>Dependents' Protection Insurance Scheme</i> To provide financial support for family members in the event of permanent incapacity or death

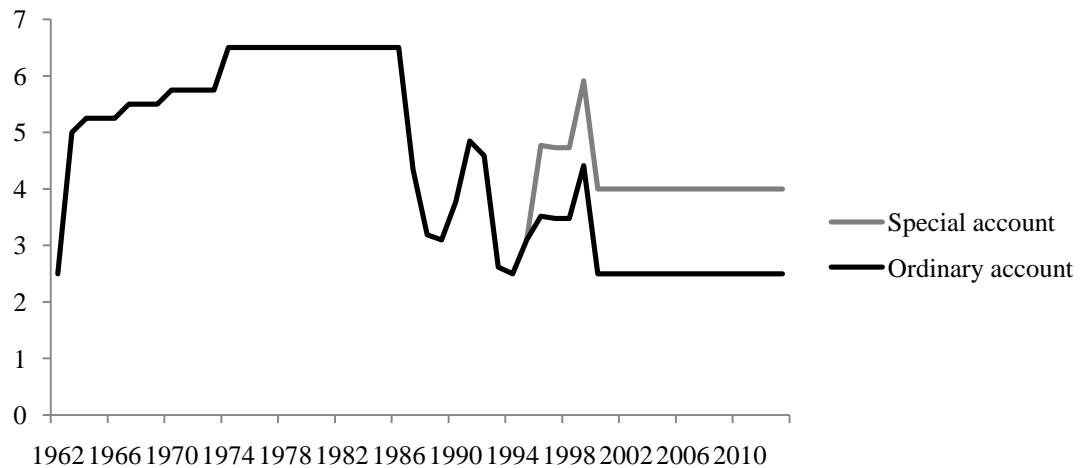
Source: Adapted from Asher (2004), Low & Aw (2004), and CPF Board (various years)

The second trend is the fluctuation of contribution and interest rates. As the CPF scheme grew to cater for more policy purposes, contribution rates initially rose in tandem then became more unpredictable. A stable rate of 10% from 1955 to 1968 grew to a high of 50% in 1985 (Figure 3.3). These were followed by three sharp rate cuts in 1986, 1998, and 2003 in response to economic downturns, as employer contribution rates were used as a tool for calibrating wage costs. Critically in the first two rounds of rate cuts, contributions to the Special Account that is protected for retirement was entirely stopped. Amidst concern about the adequacy of the CPF for retirement, a government-appointed committee advised in 2002 against “using the CPF as a counter-cyclical, cost-cutting tool, except as a last resort in exceptional economic circumstances” (Economic Review Committee, 2003, p. 8). Perhaps reflecting a shift in thinking among policymakers, the cut in 2003 was more moderate and was to Ordinary Account contributions only. From 1962 onwards the CPF’s nominal interest rates also began to show volatility, peaking at 6.5% in the 1970s before falling and stabilising at 2.5% from 2000 onwards (4% for the Special Account, Figure 3.4).

**Figure 3.3** Central Provident Fund (CPF) contribution rates and allocation, 1955-2013, percentage of monthly wage



Note: All rates as at January of each year and for the youngest workers. From 1988 older workers paid progressively lower contributions. Rates did not change between 1955 and 1968. The Special and Medisave Accounts were only introduced in 1977 and 1984 respectively.  
Source: CPF Board (2013a, various years)

**Figure 3.4** Central Provident Fund (CPF) nominal interest rates, 1955-2013

Note: All rates as at January of each year. Rates did not change between 1955 and 1962. The Special Account was introduced in 1977 but rates were the same as for the Ordinary Account until 1996.

Source: CPF Board (2013a)

Perhaps to counter the diversification of the CPF scheme and lower contribution and interest rates over time (Figure 3.4), a number of reforms were implemented to safeguard saving for old age. The 1977 introduction of the Special Account had already ensured that a portion of contributions would not be accessible for non-retirement purposes such as housing (Low & Aw, 2004). Due to the political sensitivity of raising the CPF payout age which was then 55, the government instead introduced the Minimum Sum Scheme in 1987 which stipulated the retention of a minimum amount in the CPF account to finance benefits from 62. Only savings in excess of the minimum could be withdrawn at age 55. Thereafter the minimum amount was revised upwards periodically and the withdrawal requirements were further tightened in 2003 (CPF Board, various years). In 2009 a compulsory annuity scheme that pays benefits till death replaced the previous arrangement of spreading payouts over a period of 20 years. In 2012 the payout age was increased from 62 to 63 and will eventually reach 65 in 2018.

#### *Policy structure*

Under current CPF rules, employees aged up to 35 are required to contribute 20% of their monthly salary while employers contribute an additional 16% (CPF Board, 2013a). Lower contribution rates apply for older employees (Table 3.3). Monthly savings are allocated to three separate accounts at different ratios depending on age:

the Ordinary Account for housing and other pre-retirement withdrawals, the Special Account that is ring-fenced for retirement, and the Medisave Account which finances healthcare spending. The administratively determined nominal annual interest on savings is 2.5% for the Ordinary Account and 4% for the other two accounts.<sup>10</sup> Savings above S\$20,000 in the Ordinary Account and S\$40,000 in the Special Account may be invested in approved financial products and the profits withdrawn before retirement. At the end of 2011 about 27% of CPF members had taken out such investments using their Ordinary Account savings while 14% had invested using their Special Account savings (CPF Board, various years). At 55 years old, total savings plus interest in excess of a minimum sum can be withdrawn as a lump sum. The minimum sum is then used to pay the premium for an annuity scheme known as CPF LIFE that provides a monthly benefit for life from 63 years old.

**Table 3.3** Central Provident Fund (CPF) contribution rates, 2013

Age	Contribution (% monthly earnings)			Allocation (% monthly earnings)		
	Employer	Employee	Total	Ordinary Account	Special Account	Medisave Account
Up to 35	16	20	36	23	6	7
36-45	16	20	36	21	7	8
46-50	16	20	36	19	8	9
51-55	14	18.5	32.5	13.5	9.5	9.5
56-60	10.5	13	23.5	12	2	9.5
61-65	7	7.5	14.5	3.5	1.5	9.5
Above 65	6.5	5	11.5	1	1	9.5

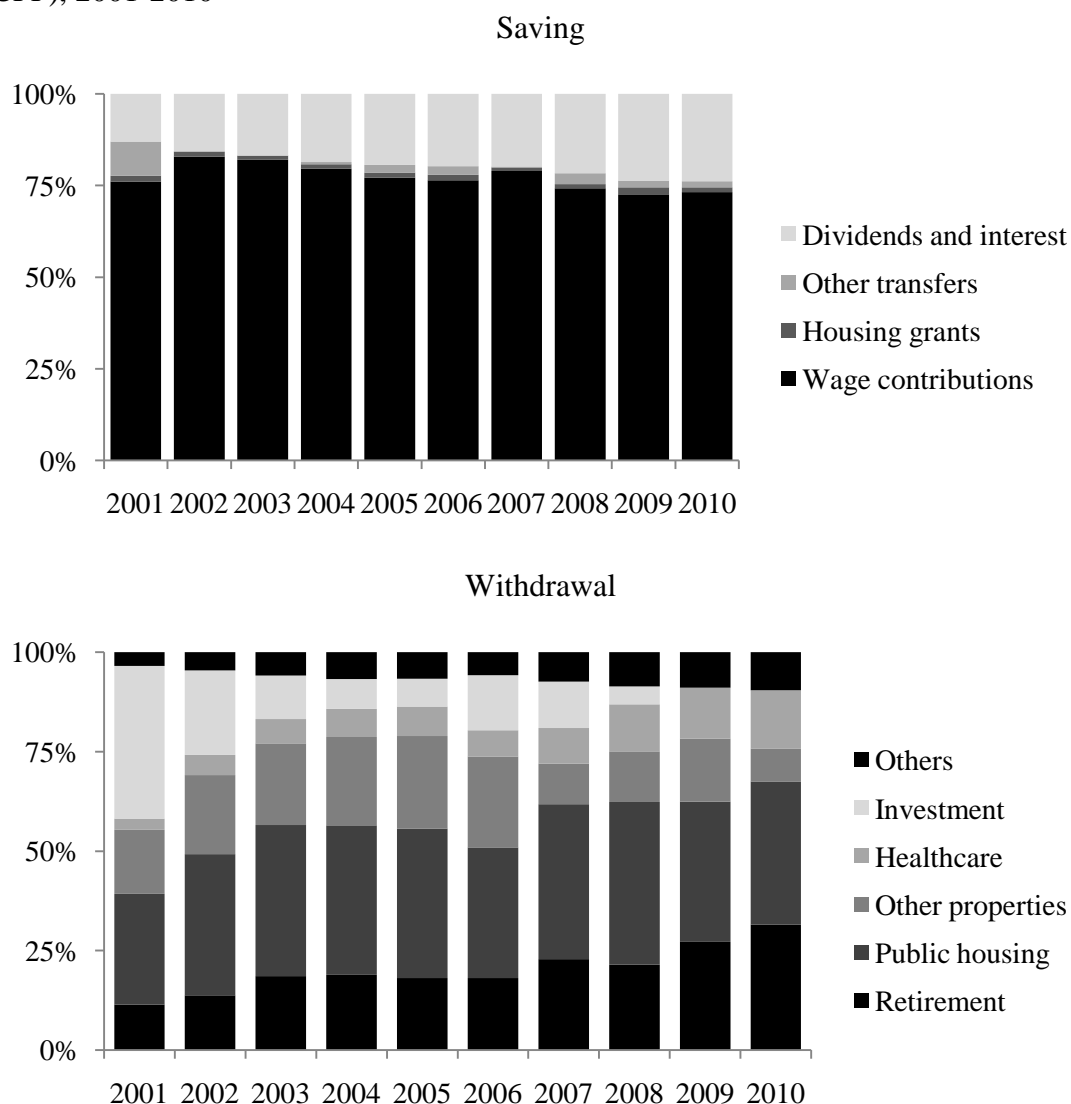
Source: CPF Board (2013a)

Due to the scope and flexibility of possible pre-retirement withdrawals, even individuals who make the same level of CPF contributions may eventually have vastly different savings left over for retirement. Historical aggregate saving and withdrawal data help to illustrate how the CPF has been financed and the distribution of savings

<sup>10</sup> These are also the legislated minimum annual interest rates. Every quarter the rate for the Ordinary Account is checked against a weighted sum of 12-month fixed deposit and month-end saving deposit interest rates at major local banks and revised if this exceeds 2.5%. The interest rate for the Special and Medisave accounts is compared against the 12-month average yield of 10-year government securities plus one percent, also on a quarterly basis. While market-related, these rules are essentially arbitrary as CPF savings, being held over a much longer time, are not directly comparable to these benchmarks.

across various purposes in recent years. While these may yet change in future, the historical trend helps to give a sense of the structure of the CPF scheme. Figure 3.5 shows the annual aggregate saving and withdrawal under the CPF from 2001 to 2010. The composition of CPF saving remained quite stable over the period. On average wage contributions represent about 77% of total annual saving, while dividends and interest account for another 19%. The remaining 3% is made up of government grants to support home ownership and other ad hoc transfers, for example as part of “wealth-sharing” schemes when the economy performs well. The use of CPF saving has shown more variation across years. Between 2001 and 2010 public housing and other property purchases took up 53% of total annual withdrawals on average, representing the greatest single use of CPF savings. The data also suggest a gradual reprioritisation of retirement and healthcare over financial investment. Higher health and disability insurance spending drove the total withdrawal for healthcare purposes from 3% to 15%. Although the absolute amount of withdrawals for retirement remained stable, the steady fall in withdrawals for other purposes such as investment and properties other than public housing meant that retirement withdrawals represented 32% of total annual withdrawals in 2010 compared to 11% in 2001, averaging 20% over the period.

**Figure 3.5** Annual aggregate saving and withdrawal under the Central Provident Fund (CPF), 2001-2010



Source: Own analysis based on CPF Board (various years)

It is also informative to compare the annual flow of withdrawal against saving. Between 2001 and 2010, the total amount of withdrawals for housing and other properties as a proportion of total saving ranged from 17% (in 2010) to 43% (in 2002) and averaged 32%, with a downward trend over time. Withdrawals for investment was equivalent to an average of 10% of total saving, also decreasing over time. The decline of these withdrawals may be related to broader trends in investment conditions and the housing market, as the CPF rules pertaining to them have not been significantly

tightened.<sup>11</sup> Taking the ten-year averages, about 40% of annual saving is deducted for non-retirement purposes. This is equivalent to reducing the contribution rate for retirement to 22% of monthly wage, rather than the actual rate of 36%.

Besides the CPF, Singapore operates a strict means-tested public assistance scheme that supports elderly persons who are unable to work, have no stable income, and lack family support (Ministry of Social and Family Development, 2013). The coverage of the scheme is extremely limited. Between 2007 and 2012, around 3000 persons received assistance each year, equivalent to less than 1% of the elderly population aged 65 and above. The rate of assistance is also very low. In 2012 an elderly couple would receive S\$700 per month, about 12% of the median monthly household income from work.<sup>12</sup> As the current scheme is negligible to old-age income security for the majority of the elderly population in Singapore (see Chapter 2 on income sources), it is not covered in the projections in later chapters.

### *Summary*

- Elderly persons in Hong Kong depend on three public sources of income. The CSSA Scheme provides assistance to make up the difference between household income and prescribed living expenses. The SSAS and OALA Schemes provide a means-tested allowance for persons aged 65-69, and a universal allowance equivalent to a basic pension or a more generous means-tested allowance from 70 onwards. The MPF is a defined contribution, privately managed, provident fund scheme to which the employer and employee each contributes 5% of monthly salary. Savings are invested in funds chosen by the employee and paid out as a lump sum at age 65. Prior to the introduction of the MPF elderly persons were heavily dependent on the CSSA Scheme and still make up half of all CSSA cases. The CSSA Scheme covers about 15% of the population aged 60 and above while the SSAS, which is less generous, covers about 55% of elderly persons aged 65 and above.

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<sup>11</sup> However an earlier scheme allowing CPF savings to be used for non-residential private property was phased out in 2006.

<sup>12</sup> In 2012 there were 3,047 public assistance recipients, the elderly population size was 378,700, and the median monthly household income from work among residence households excluding employer CPF contributions was \$6000 (Department of Statistics, 2012, 2013b; Ministry of Social and Family Development, 2013).

- The CPF is the main pillar of old-age income security in Singapore. Although the scheme started as a retirement policy, reforms over the years expanded its scope to cover housing, health, education, investment, and insurance. Historically employers' CPF contribution rates have been cut periodically to improve wage competitiveness during economic downturns. But concerns about the impact on retirement saving has led to reforms to protect a minimum sum of savings and to postpone payouts. Currently employers and employees each contribute 16% and 20% of monthly salary to the scheme. Contributions are divided into accounts for retirement, healthcare, and other usage. Administratively determined interest rates of between 2.5% and 4% are paid on savings, and withdrawal upon retirement is via compulsory annuity. Between 2001 and 2010 about half of all CPF withdrawals were for housing while just 20% were for retirement.

There are several important differences between the two systems in terms of implications for retirement income. First, taken as a whole, the tiered public pension system in Hong Kong is more comprehensive and balanced, and offers better protection to individuals with disadvantageous work histories. The almost singular reliance on the CPF in Singapore exposes some elderly persons to greater risk of income insecurity in old age. Second, in practice, CPF contributions for retirement are lower than the total contribution rates suggest. This is due to large pre-retirement withdrawals for properties and investment, as well as the diversion of contributions towards healthcare. Third, although MPF savings are subject to market risk, the system allows greater individual choice and transparency. The CPF on the other hand is protected from market risk by legislated minimum interest rates. But the rates are low and the style of central management may imply political risk. These issues are discussed in later sections.

### **3.3 Housing and asset ownership**

Given that the largest CPF withdrawals are for housing, the policies that link the CPF to housing purchase and the potential of housing assets to contribute towards retirement income must be considered. This section examines asset ownership using the national survey datasets described earlier and reviews recent policy experiences with encouraging the liquidation of housing assets in Singapore. Although the

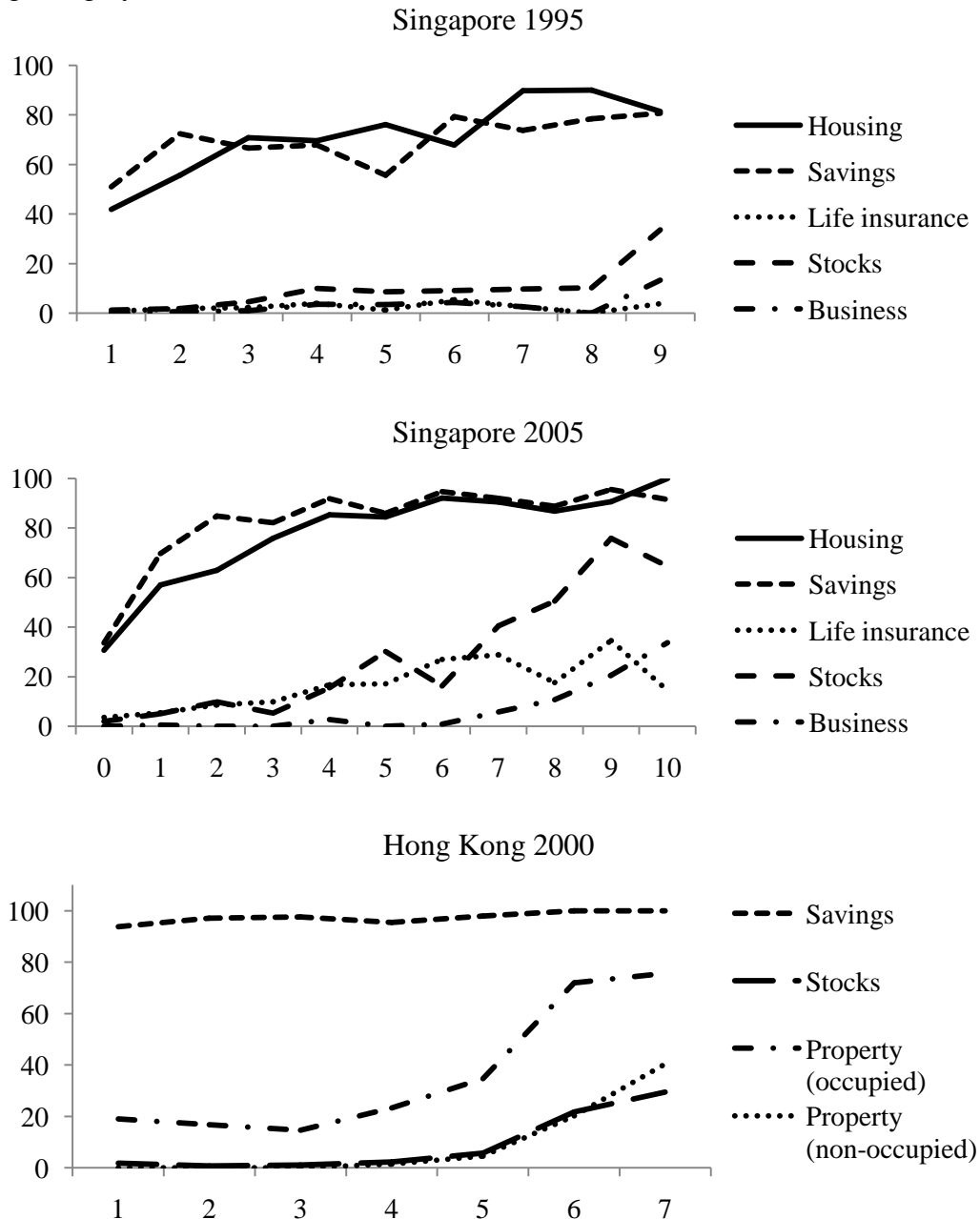


diversion of mandatory retirement savings towards housing is more relevant to Singapore's CPF, comparison with Hong Kong is useful for understanding the patterns and scale of asset ownership among both elderly populations and helps to provide a more complete picture of financial security.

#### *Asset ownership*

Current CPF rules permit the entire sum of savings in the Ordinary Account to be withdrawn to pay for public or private housing, either directly or through monthly mortgage payments, up to a threshold or "valuation limit" that varies from 100% of the property's assessed market value for resale public housing, to 150% of assessed value for private housing (CPF Board, 2013a). As a result, Singaporean households may have considerable wealth tied up in housing. In a simulation study, McCarthy, Mitchell, and Piggott (2002) estimated that in Singapore three quarters of elderly persons' total wealth are in the form of housing. The data on asset ownership provide some corroboration. In Singapore the most common assets owned by elderly persons were savings and housing (Figure 3.6). In 2005, 75% of elderly persons had savings while 63% owned housing. But in Hong Kong, 97% had savings and just 23% owned the property they lived in.

**Figure 3.6** Percentage of elderly persons (65+) who own assets in Singapore and Hong Kong by income band



**Singapore 1995:** Income bands in Singapore dollars are (1) Less than \$250, (2) \$250-499, (3) \$500-749, (4) \$750-999, (5) \$1000-1249, (6) \$1250-1499, (7) \$1500-1749, (8) \$1750-1999, (9) \$2000+. Median work income of \$1630 falls within band (7).

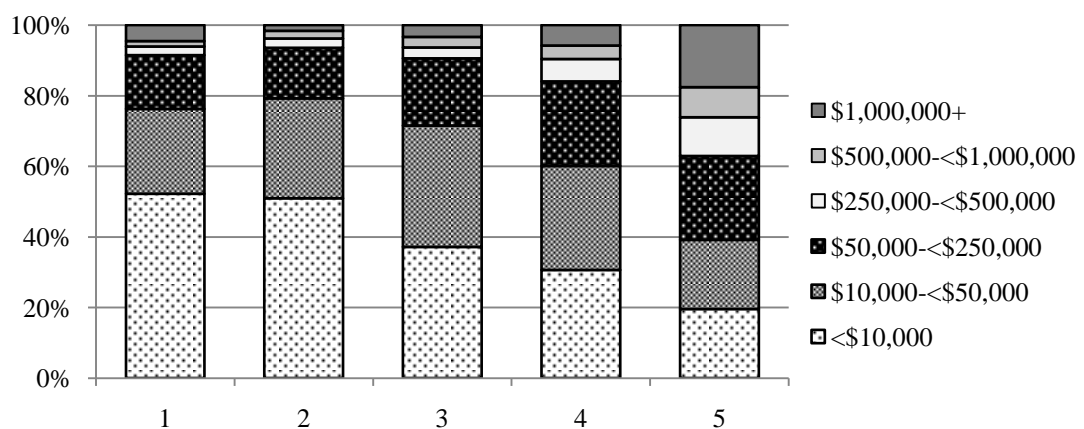
**Singapore 2005:** Income bands in Singapore dollars are (0) None, (1) \$1-499, (2) \$500-749, (3) \$750-999, (4) \$1000-1249, (5) \$1250-1499, (6) \$1500-1999, (7) \$2000-2499, (8) \$2500-2000, (9) \$3000-4999, (10) \$5000+. Median work income of \$2020 falls within band (7).

**Hong Kong:** Income bands in Hong Kong dollars are (1) \$1-999, (2) \$1000-\$1999, (3) \$2000-\$2999, (4) \$3000-\$4999, (5) \$5000-9999, (6) \$10000-19999, (7) \$20000+. Median work income of around \$10000 falls between bands (5) and (6).

Source: Own analysis using data from Singapore National Survey of Senior Citizens 1995, 2005; Hong Kong General Household Survey Supplementary Enquiry on the Socio-demographic, Health and Economic Profiles of Elderly People and Soon-to-be Old People 2000.

However Figure 3.6 also indicates that asset ownership was highly unequal. In Singapore, elderly persons with lower incomes were also poorer in assets. The data for both 1995 and 2005 show that individuals from higher income bands were more likely to own each of the five types of asset. In 2005, among persons with no income, 31% owned the house they were living in, 34% had savings, and fewer than 4% had each of the remaining types of asset. About 47% of them had none of the five types of asset. In contrast, among elderly persons from the highest income bracket, ownership of housing reached 100%, savings 92%, stocks 65%, and business 34%. Similarly, in Hong Kong, there is a visible income gradient in asset ownership, particularly for occupied property. These suggest that poor income positions were unlikely to be reversed by access to financial assets in either population. Furthermore data on the value of assets show that in Hong Kong, those with lower individual incomes also owned smaller amounts of asset (Figure 3.7).<sup>13</sup> For instance, in the lowest income bracket, the total value of assets owned excluding occupied properties for 52% of elderly persons was below HK\$10,000, or slightly less than the median monthly work income of HK\$10,600 that year. But in the highest income bracket, total asset value was below HK\$10,000 for only 20% of the asset owners.

**Figure 3.7** Value of assets owned excluding occupied properties among elderly asset owners (65+) in Hong Kong by income band, 2008



Income bands in HK\$ are (1) \$0-\$1999, (2) \$2000-\$2999, (3) \$3000-\$3999, (4) \$4000-\$5999, (5) \$6000+. Median work income in 2008 was HK\$10,600.

Source: Own analysis using data from Hong Kong Thematic Household Survey 2008.

<sup>13</sup> Similar data are not available for Singapore, although a press report has suggested that in 2005 even the bottom household income quintile group had average housing equity roughly equivalent to more than five years of median work income (H. Y. Tan, 2011). On the other hand, economists have pointed out that HDB flats are not allowed to be used as collateral for loans to finance other retirement needs.

Between 1995 and 2005, the inequality of asset ownership may have widened in Singapore. While in 1995 the ownership of stocks, insurance, and businesses was below 10% for all but the highest income band, a distinct income gradient emerged in 2005 particularly for stocks (Figure 3.6). Stock ownership in 2005 was close to zero in the lowest income bands but rose steadily up to around two thirds in the highest income bands. Even at the lower end of the income distribution, elderly persons with higher individual incomes experienced greater gains in asset ownership between 1995 and 2005. Table 3.4 shows that in 1995, ownership of housing and saving were comparable for persons with individual incomes that were equivalent to 30-50% and 50-60% of median population monthly earnings. But by 2005, a gap opened up between the two groups. For persons with individual incomes that were 30-50% of median earnings, housing ownership rose from 71% to 76% while ownership of savings increased from 67% to 82%. But for the 50-60% income group, these rates increased from 70% to 85%, and from 68% to 92%, respectively.

**Table 3.4** Percentage of lower income elderly persons (65+) in Singapore who own assets, 1995 and 2005

Elderly income as share of median gross monthly earnings of all workers	30% to 50%		50% to 60%	
	1995	2005	1995	2005
Housing	71	76	70	85
Savings	67	82	68	92
Life insurance	2	10	4	17
Stocks, shares, bonds	5	5	10	16
Business	1	0	4	3

Note: The ratios of elderly incomes to population earnings are approximated from income bands.

Source: Own analysis using data from Singapore National Survey of Senior Citizens 1995, 2005

#### *Housing as a source of retirement income*

For elderly persons who do own assets, the next question is how far these can contribute to retirement income. The focus here is again on housing. In theory, housing assets can contribute to income security in a variety of ways (Pensions Commission, 2004): they enable rent-free living; they can generate rental income; they can be sold for profit when elderly persons move in with others or downsize to smaller or cheaper housing (i.e. trade down); and they can be monetised through equity-release instruments like reverse mortgages. Historically, CPF rules were gradually liberalised

in order to promote home ownership. But as concern grew about the diversion of saving away from retirement in the 1990s, attention turned towards policies to allow the liquidation of housing value (see Chapter 8 on these policy developments). Some of these policies include:

- Subletting rules have been gradually relaxed and currently permit public flats to be rented out provided that a minimum occupancy period has been met (Housing and Development Board, various years).
- Since 1998, the public housing authority has been building 30-year lease studio flats for persons aged 55 and above, which promotes downsizing to release equity from larger properties (H. Y. Tan, 2006). A one-time cash grant called the Silver Housing Bonus was introduced in 2012 for elderly persons who move into smaller properties.
- Reverse mortgages had been available for private property owners since 1997 and were cautiously introduced into the public housing sector in 2006 for homeowners aged 62 and above with just two commercial providers offering both lifelong and term-based options (Housing and Development Board, various years; Loo, 2006; G. Ng, 2006)<sup>14</sup>.
- The public housing authority established its own Lease Buyback Scheme in 2009 which buys back the term of lease in excess of 30 years from homeowners aged 62 and above with an upfront lump sum payment and an annuity for life (Cheam, 2008, 2009b). This is essentially a reverse mortgage scheme that combines term and annuity features, in that the property must be vacated after 30 years although the scheme will continue to pay a monthly income for life. Homeowners who outlive 30 years may have their lease extended or be relocated to rental housing (Housing and Development Board, 2013). To make the scheme more attractive, the housing authority also adds a

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<sup>14</sup> In the previous year policymakers had expressed their doubts about the viability of such schemes as they believed that the value of public housing was too low to generate a significant monthly income for elderly persons (Leong, 2005).

cash grant to the assessed value of the lease and has recently relaxed the eligibility criteria.

These measures have had mixed results. In a national survey of public housing residents in 2008, just 12% of elderly persons aged 65 and above cited subletting their properties as a source of income, while 8% had traded down and a negligible 2% had participated in the Lease Buyback Scheme (Housing and Development Board, 2010). In comparison the 55-64 age group who were approaching retirement were less favourable towards renting out their properties for retirement income (6%) but were more prepared to trade down (16%). The government's Lease Buyback Scheme remained unpopular among this younger cohort with just 2% expecting to take up the option. Other data reported in the press are consistent with these findings. Among owners of public flats aged 55 and above in 2013, about one in ten were renting out rooms or their entire properties (Yong, 2013). While the uptake of studio flats has been strong, the total stock of such flats was just 2,400 in 2009 compared to about 254,000 flats owned by persons aged 55 and above in 2013 (T. Tan, 2009; Yong, 2013). But the worst response by far has been towards reverse mortgages. Reverse mortgages for private property owners stopped in 2008, with the main commercial provider having issued about 500 loans since these were launched in 1997 (Cheam, 2009a). The first commercial reverse mortgage scheme for public housing attracted less than 20 homeowners in the first two years and has largely been superseded by the government-run Lease Buyback Scheme since 2009 (Mathi, 2008). While the latter appears to be more popular, with 80 participants in the first six months (Foo, 2009), the total subscription of less than 500 out of 234,000 eligible households by the end of 2012 suggests that it is not yet an important strategy for liquidating housing assets among elderly households (Chin, 2012; Hui, 2012b).

International experience also suggests that the acceptance of equity-release schemes among the elderly population and their impact on retirement income security cannot be assumed. The first issue, as pointed out in the previous section, is that housing equity is often unequally distributed and correlates with income. This is also true in the UK even though the value of housing assets rises less than proportionately with income levels (Pensions Commission, 2004), which means that housing equity has limited potential to elevate low-income elderly persons from poverty or to reduce income inequality among the elderly population (Hancock, 1998). A study in the

United States has found that because low-income persons also tend to have less housing equity, incomes from reverse mortgage annuities would be significant only for persons over 85 with short remaining life expectancies (Venti & Wise, 1991). Simulations performed by Mayer and Simon (1994) found that reverse mortgage annuities can boost the incomes of almost 40% of elderly households by more than 20%, although these were more likely to be poor households with very low income levels.

The second issue is that elderly persons may simply prefer to keep their housing assets. Venti and Wise (2000) found that most elderly households did not give up home ownership, and those who did were likely to have experienced a recent catastrophic event such as the death of a spouse. Housing equity served as precautionary saving, or a buffer for financial and personal shocks rather than a resource for normal living expenses. In the UK, the Pensions Commission (2004) has concluded that most housing assets are retained for bequest rather than monetised to fund retirement expenses, contributing further to adverse selection problems, small markets, and poor interest rates for equity-release products. In Singapore, too, the lack of a mature market for reverse mortgages, the uncertainty of housing prices at the point of redemption, and the possible effects on housing value should a large number of properties be released into the market may pose problems (Asher, 2003; Asher & Newman, 2003; R. Chen & Nicolas, 2006). Chia and Tsui (2005) estimate that private reverse mortgage schemes may only be able to provide an annuity of around 54% of median household income based on the value of a 4-room flat in 2000. The bequest motive is also an important consideration. Finch and Mason (2000) have argued that inheritance forms an important part of the negotiation of kin relationships in the UK, although more recently, Rowlingson (2006) has observed that housing may be increasingly perceived as a financial rather than emotional investment and that elderly parents have become more open to using housing equity for retirement needs. In Singapore, a qualitative study found that bequest is important to Chinese and Indian elderly persons (Mehta, 1999). In Hong Kong, there is also evidence that childless elderly persons with no bequest concerns are more prepared to take up reverse mortgages (K.L. Chou, Chow, & Chi, 2006b).

### *Summary*

- Overall the available evidence suggests that elderly persons with lower incomes were less likely to have access to financial assets, owned assets of lesser value, and experienced slower gains in asset ownership over time. Although housing ownership is much higher in Singapore than in Hong Kong, only 31% of elderly Singaporeans with no individual income owned housing in 2005 compared to 100% of persons in the highest income bracket. In Hong Kong, half of elderly persons from the lowest income bracket had assets worth less than HK\$10,000 in 2008, compared to just a fifth of persons from the highest income bracket. Home ownership in Singapore increased by 5 percentage points between 1995 and 2005 for elderly persons with individual incomes equivalent to 30-50% of median earnings, but rose by 15 percentage points for those with individual incomes of 50-60% of median earnings.
- The impact of linking the CPF to housing has been to tie up savings in housing wealth. In theory, housing ownership can contribute to financial security because it enables rent-free living and can generate rental income. Housing equity can also be released through trading down and instruments like reverse mortgages. However policies to encourage these options have had mixed results in Singapore. Only a small proportion of elderly persons has chosen to sublet rooms or trade down. Response to reverse mortgages has been even poorer. International experience highlights that the inequality of home ownership and a preference for keeping housing assets as precautionary saving or for bequest may limit the potential of housing ownership as a source of retirement income. Arguments that the diversion of individual CPF savings towards housing will reliably and substantially benefit old-age income security must therefore be treated with caution.

### **3.4 Pension outcomes: Criticisms and evidence**

#### *Policy critiques*

There is a sizeable literature assessing the adequacy of the public pension systems in Hong Kong and Singapore. Much of the Hong Kong literature has been critical of the current pension system. The main concern regarding the CSSA and SSAS has been



that their rates are insufficient to main an adequate standard of living. Criticisms of the MPF go further:

- Mok (2000) argues that the scheme does not offer a layer of basic income protection for vulnerable groups with weak links to the labour market, such as women and low earners. Drawing from the Chilean experience, he also anticipated (as the MPF had just begun operation at the time of his writing) high administrative charges due to the portability of the scheme and felt that the private management model of the MPF would expose retirement savings to excessive market risk. Some of these concerns have since borne out. The return to MPF investments has been highly volatile in the first 10 years of the scheme (discussed later in this section). A recent study also estimated that the total fees and administrative costs of the MPF were about 1.7% of the total assets under management from 2010 to 2011, compared to 1.3% in Mexico's FORES scheme, 1.2% in the Australian superannuation scheme, and 0.8% in the United States's 401(k) plan (Ernst & Young, 2012).
- Others have argued that the MPF's low contribution rates and the time required for the scheme to mature suggest that older cohorts of Hong Kongers will find little income protection under the scheme, calling instead for a fundamental reform of the pension system including an expansion of basic income protection and the introduction of a universal pension (Chow & Chou, 2005; Ho, 1997; Mok & Sze, 2010). In a particularly critical study, the author went as far as to argue that "The case of Hong Kong's MPF tells us that a limited democratic polity is an effective institution for safeguarding the interests of the bureaucracy and business community" (C. K. Chan, 2003, p. 129).

In the case of the CPF, researchers have remarked on its effectiveness as a large and reliable source of funds for public investment which can promote economic growth (Asher, 1995). Asher (1995) argues that it encourages individual responsibility for social security and avoids the potential "distortions and welfare losses" associated with pay-as-you-go systems as it is fully funded. He has also highlighted that the CPF makes timely payouts and is generally efficient (Asher, 2004). But mounting concern

in the 1990s about the adequacy of the scheme as the main source of retirement income was widely covered in the press (Henson & Chung, 1994; Long, 1999) and documented in a broad literature critiquing various aspects of the policy's design and governance:

- Within the overall configuration of the public pension system, individuals are expected to rely primarily on the CPF. But like the MPF, the CPF does not serve the needs of persons who are economically inactive or disadvantaged<sup>15</sup>. Policymakers are careful to say that the CPF provides only a modest level of retirement income and should be complemented with other income sources (CPF Board, various years). Yet there is very limited public provision outside of the CPF while informal kinship support is under threat as families become smaller. High contributions to the CPF may also affect the scope for private saving especially among low earners (Cardarelli, Gobat, et al., 2000).
- Among CPF members, savings are insufficient to maintain even a minimum standard of living for most retirees. Since detailed data on account balances upon retirement are not released, this observation is usually based on indirect evidence such as average account sizes and the rate of return to savings relative to average income growth (e.g. Asher, 2002b, discussed below). Furthermore the CPF has no elements of social risk-pooling or redistribution, and both inflation and longevity risks are borne by the individual. As an “alternative to the welfare state”, the CPF system appears to favour larger socio-economic goals over individual income security (Asher, 1995, 2002b, 2004).
- Low CPF savings has been attributed to several factors. First, although total contribution rates to the CPF are very high by international standards, a large proportion of the savings is diverted to other purposes (Cardarelli, Gobat, et al., 2000). Second, contribution rate adjustments to stabilise the economy has hurt

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<sup>15</sup> A wage supplement scheme for low-earning workers aged 35 and above, called the Workfare Income Supplement, was introduced in 2007 in an attempt to address this (CPF Board, 2013b). The benefit is split between cash and a CPF top-up. But this does not cater for situations where workers have intermittent employment rather than persistently low wages. Delaying retirement is another option for improving income security. Re-employment legislation was introduced in 2012. From the age of 62, older workers must be offered re-employment annually up to 65 years old, eventually to be raised to 67 (Ministry of Manpower, 2013).

accumulation for retirement, especially cuts to Special Account contributions. Third the administered interest rates are low. Asher (1995, 2002a, 2002b) has found that the basic interest rate of 2.5%, while guaranteed by the government and in that sense risk-free, is too low to even protect the principal. In some years real interest was negative after accounting for inflation. As Asher argues, the payment of short-term interest rates on what are very long-term savings is equivalent to an implicit tax on CPF wealth which also has regressive effects because lower-income individuals have larger proportions of their wealth tied up in their CPF accounts.

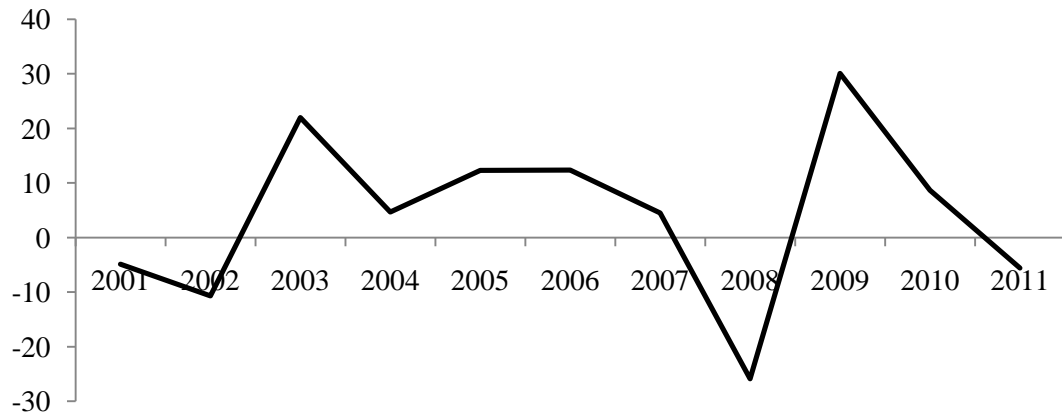
- The interest rate policy is one aspect of a larger problem with the governance of the CPF. Investment of CPF funds by the GIC is not subject to parliamentary oversight or public scrutiny, so CPF members cannot assess the correspondence between the government's investment returns and their own return on savings (Asher, 2004). Asher (2002b) believes that this arrangement constitutes a significant political risk to old-age savings. He advocates instead "greater transparency, public accountability, autonomy for the provident and pension funds, and enforcing internationally comparable accounting and disclosure standards" (Asher, 2000, p. 27).

### *Empirical evidence*

One of the drawbacks of the existing literature on the public pension systems in Hong Kong and Singapore is the lack of empirical corroboration, a direct result of the unavailability of data from public agencies. Both the MPF Schemes Authority and the CPF Board do not release information on benefit levels at an individual level. It is therefore not possible to analyse pension outcomes across different segments of the population. For the MPF even aggregate data on account sizes are not published. The only available indication of the health of MPF savings is the annualised internal rate of return, which has seen considerable fluctuation between 2001 and 2012, ranging from -26% during the financial crisis of 2008 to 30% when markets rebounded the year after (MPF Schemes Authority, various years; Figure 3.8). The average rate of return from the start of the scheme is 4%. The aggregate figures however conceal possible variation at an individual level due to choice of funds, as the performance of different

fund types has varied. From 2000 equity, mixed asset, and bond funds have seen annualised returns of around 4%, compared to less than 1% for money market funds.

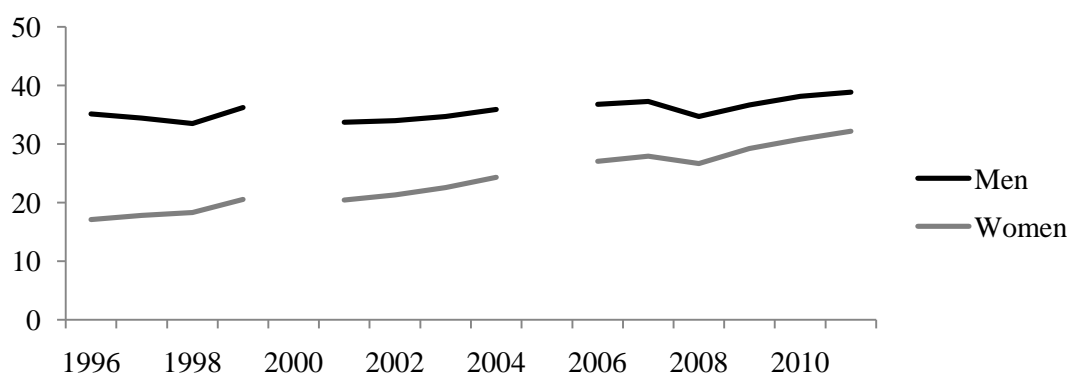
**Figure 3.8** Annualised internal rate of return to Mandatory Provident Fund (MPF) funds, 2001-2012



Source: MPF Schemes Authority (various years)

Equally for the CPF empirical pension outcomes are not known. But average account balances at ages close to retirement help to provide a general picture. Figure 3.9 shows the average CPF balance for members aged 51-55 expressed as months of population median work income. This is the best age group to use as optional withdrawals at 55 may distort the distribution of account balances at higher ages. From 1996 to 2011 the average CPF balance is three years of population median work income for men and just two years for women. This amount is clearly inadequate considering the period life expectancy at 55 was 27 years for men and 31 for women in 2011 (Department of Statistics, 2013a). There is a slight increase for men from 35 to 39 months of median work income and a larger increase for women from 17 to 32 months. This meant that while women had lower balances throughout the period they were beginning to close the gap in recent years. These data provide a useful benchmark for the analysis of possible pension outcomes from the CPF.

**Figure 3.9** Average Central Provident Fund (CPF) balance of members aged 51-55 as months of population median work income, 1996-2010



Note: Median work income was not reported in 2000 and 2005.

Source: Own calculations from CPF Board (various years); median work income from Ministry of Manpower (various years)

Another approach to approximate pension outcomes is to make use of the level of the minimum sum set by the government, which establishes a target pension saving that policymakers deem adequate “to support a modest standard of living during retirement” (CPF Board, 2007, p. 22). Table 3.5 shows the pension benefits that the target savings translate into under both the old payout arrangement before the introduction of compulsory annuity and under the new annuity system, according to estimations by the CPF Board.<sup>16</sup> Comparing two cohorts who turned 55 in 2003 and 2009, this target saving provides a monthly pension equivalent to 31% of median monthly work income for the 2003 cohort and 43% for the 2009 cohort under the old Minimum Sum Scheme, according to CPF Board projections. The later cohort achieves better payouts because their minimum sum is set higher. But there is a considerable gap between the minimum sum target and what individuals actually save. For instance, in 2009, only 32% of all individuals who turned 55 achieved the minimum sum. Actual average savings of those aged 51-55 was 69% of the minimum sum. When the two cohorts are compared using the same projections but based on the average account balances of the 51-55 age group, monthly pensions are only around a quarter of median work income. The new annuity scheme disadvantages older transitional cohorts who cannot pay their annuity premiums a full 10 years before

<sup>16</sup> These calculations are done using an online pension estimator provided by the CPF Board. They could not be verified as the underlying formulas are not shown. See Section 3.2 on differences between the old and new payout arrangements.

payout starts. The 2003 cohort is therefore projected to receive payouts that are about 10% lower than the 2009 cohort relative to median earnings. For the younger cohort, expected monthly pensions from the new scheme are equal to or higher than those from the old scheme, depending on whether the target minimum sum is met at 55 years old. But they still fall below half of median earnings. Compared to a OECD (2012) study that assumes maximum deductions for pre-retirement purposes and therefore arrives at replacement rates of below 20% (see next section), these estimations provide more realistic benchmarks against which the modelling results in later analysis can be compared.

**Table 3.5** Estimated monthly pension payouts for cohorts who turned 55 in 2003 and 2009, nominal values and share of population median gross work income, Singapore dollars

CPF balance	2003		2009	
	Old scheme	New scheme	Old scheme	New scheme
Minimum Sum target	610	390-480	1040	810-1060
	31%	20-24%	43%	33-44%
Actual average balance of 51-55 age group	450	300-360	610	580-760
	23%	15-18%	25%	24-31%

Note: These payouts are derived using an online calculator on the CPF website. The exact actuarial rules for calculating payouts under both schemes are not published. “Old scheme” refers to the Minimum Sum Scheme which allows individuals to withdraw as a lump sum any savings in excess of a stipulated minimum sum at age 55. This minimum sum is paid out over 20 years from 65 onwards. In 2013, this scheme will be fully replaced by a “new scheme”, the CPF LIFE. It is a mandatory annuity scheme that provides a monthly income for life from 65. The premium is paid for using the minimum sum at age 55.

Source: Based on CPF Board (2013a, various years)

### *Summary*

Critiques of the public pension systems in Hong Kong and Singapore have focused on the following:

- The MPF does not offer basic income protection to vulnerable groups with weak links to the labour market, such as women and low earners. Investment returns are uncertain and scheme portability has contributed to high administrative costs by international standards. Some analysts have therefore

called for fundamental reforms to the pension system, including the introduction of a universal pension.

- Like the MPF, the CPF does not favour persons who are economically inactive or disadvantaged. Moreover the high rate of contribution displaces private saving and there is limited public provision outside the CPF. Even among CPF members, savings may be insufficient to maintain even a minimum standard of living for most retirees. This has been attributed to a combination of large pre-retirement withdrawals especially for housing, periodic contribution rate cuts to promote economic recovery, and low administered interest rates. The last problem reflects possible governance issues as the investment of CPF funds is currently not subject to parliamentary oversight or public scrutiny.
- Some of the arguments remain at a theoretical level due to the lack of empirical data on actual pension outcomes. The only available information on the outcomes of the MPF indicate that the return on investment has been volatile over the last decade, ranging between -26% and 30%. Returns are also different across types of fund so individual situations may vary widely depending on fund choices. For the CPF, the average account balance at age 51-55 has been around three years of population median work income for men and two years for women between 1996 and 2011. The average balance has increased gradually for women but they still have lower savings on average than men. Average CPF account balances for persons aged 51-55 in 2009 translate into pensions that are 24-31% of the population median gross wage.

### **3.5 Pension outcomes: Theoretical projections**

#### *Standardised projections*

Given the difficulties with gathering empirical evidence, projecting theoretical replacement rates provides an alternative for studying possible pension outcomes. It is also useful in the case of Hong Kong since it will be many years before retirees have a full participation record with the MPF. Studies that project pension outcomes commonly adopt the income replacement rate as the main indicator, defined as the ratio of pension income to pre-retirement income, and can be expressed relative to

previous earnings to assess consumption smoothing or relative to a minimal standard of living to examine poverty avoidance (N. Barr & Diamond, 2009; Holzmann & Hinz, 2005).

The most comprehensive comparative study of theoretical replacement rates in the region is the Asia-Pacific edition of the OECD's (2012) *Pensions at a Glance*. The study projects pension entitlements from mandatory pension systems for formal private-sector workers, by gender and earnings levels. The projections assume that workers join the pension system in 2008 at 20 years old under currently legislated pension rules and retire after a full career with stable earnings.<sup>17</sup> The derived net replacement rates (i.e. the ratio of net pension income to net individual lifetime average earnings) in Singapore and Hong Kong were found to be low by international standards (Table 3.6). The average male earner will achieve a replacement rate of only 13% in Singapore and 34% in Hong Kong, compared to 57% across the OECD countries.<sup>18</sup> Singapore performs particularly poorly, even by regional comparison. The replacement rate for the average male earner in Singapore is less than half that of Malaysia, and less than a third of the rate in Korea. Whereas pension systems in the OECD countries offer higher income replacement to lower earners, pension entitlements in Singapore are proportional to earnings.

The OECD estimates show how, when modelling CPF benefits, the treatment of pre-retirement withdrawals such as for housing is particularly important because they can take up a substantial proportion of total savings. The flexibility built into CPF rules for this purpose theoretically accommodates diverse modelling assumptions. In this case, the OECD's approach of omitting the Ordinary Account, which can potentially be entirely used up for housing, is equivalent to reducing monthly contribution by 79% based on 2012 rates. The resulting pension replacement rates are therefore likely to be conservative. Chapter 7 presents original projections based on more realistic assumptions about pre-retirement withdrawals.

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<sup>17</sup> Different assumptions about economic conditions such as wage growth and inflation are applied to different clusters of countries categorised according to recent economic trends, but it is assumed that all countries will converge towards a common set of baseline assumptions—drawn from the OECD countries—over 40 years.

<sup>18</sup> For Singapore, the projections are based on the CPF. For Hong Kong, they include the SSAS and the MPF, but not the CSSA.



**Table 3.6** Projected net income replacement rates in different pension systems, percentage

	Ratio of net pension income to net individual lifetime average earnings for men (Women, where different)	
	With half average earnings	With average earnings
OECD (34)	72 (71)	57 (56)
United Kingdom	54	32
Korea	64	42
Hong Kong	39 (34)	34 (33)
Malaysia	30 (27)	30 (27)
Singapore	13 (11)	13 (11)

Source: OECD (2012), assuming maximum permissible pre-retirement withdrawals for Singapore's Central Provident Fund

Replacement rates are only slightly lower for women in both countries. But given that these are theoretical replacement rates, they are likely to conceal gender gaps in attained pension incomes due to different work patterns between men and women. Pension systems that have a tight link between contributions and benefits disadvantage women who tend to have less continuous careers, lower earnings, and an earlier retirement age (Frericks, Knijn, & Maier, 2009; Leitner, 2001). Women also have longer retirements on average due to higher life expectancy and widows in particular may become financially vulnerable. In contrast to some European public pensions such as in the United Kingdom, the CPF and MPF do not offer credits to women in respect of their care responsibilities. Women may be particularly at risk of old-age income insecurity in Singapore because there are no universal pensions to protect the low-income. The projections in Chapter 7 adopt actual wage levels by sex as a starting point and incorporate sensitivity analyses around rates of wage growth and career length to better reflect women's experiences.

#### *Single-country studies*

Other than the OECD's comparative study, single-country studies have examined the MPF and CPF. These are described in more detail in Chapter 5 (Table 5.1). The discussion here briefly reviews the findings from selected studies. For Hong Kong, analysis has focused on differences between older and younger cohorts with different lengths of participation in the MPF. Assuming 3% real wage growth and 4% real rate of return on savings, Lui (1998) estimated that MPF pensions will replace between 5%

(for the oldest workers) and 187% (for the youngest) of the wage at entry age. Adopting wage at entry age as the referent inflates the income replacement rate especially for more recent cohorts and is less informative than using either lifetime average wage or last drawn wage, because it does not reflect changes in living standards during the transition to retirement. Using varying rates of real wage growth from 1% to 3%, Siu (2002) estimated final income replacement rates of between 67% and 114% for the full-career worker. Neither study considered the impact of wage levels.

Comparatively there is a much larger literature on projected CPF outcomes. The Singapore literature often attempts to offer a closer representation of local policy conditions given the CPF's uniqueness as a pension instrument, but has so far not considered the impact of historical policy changes, such as to contribution and interest rates, on different cohorts of elderly persons. All of the studies cited below are based on static policy rules.

- A study by Chen and Wong (1998) calculated pension entitlements as annuitised benefits and compared these against a living standard benchmark of roughly 40% average wage. They found that under most assumptions, CPF pensions would be adequate for retirement, but lower earners came closer to the subsistence threshold.
- A IMF country report on Singapore estimated the income replacement rate achievable under the CPF with a full career from 20 years old and average income based on the 15-19 age group in 1995 that grows at a real rate of 4% annually (Cardarelli, Gobat, et al., 2000). The model uses planned contribution rates as of 2000 (i.e. 40% up to age 54 and decreasing thereafter) and assumes 2% real return to saving. It also incorporates housing purchase at 30 years old financed by a 20% cash payment and a 25-year mortgage for the remaining cost both paid out of the CPF, as well as withdrawals for health, education, and personal investment at average levels. With a retirement age of 65, these conditions result in a base case **replacement rate of 37%** (presumably based on last-drawn income although this was not stated) which can reach 83% with no housing withdrawal or fall to 23% with expensive housing.

- The issue of housing purchase is the focus of a study by McCarthy, Mitchell and Piggott (2002) who model both the earnings replacement rate and housing wealth for a range of hypothetical cases. The base case starts a full career from 22 with annual earnings of S\$30,000 (roughly equivalent to male median earnings in 2000) which grows at a real rate of 2%. CPF contribution is based on 2000 rates with annual real interests of between 0 and 1.5% for different CPF accounts. Housing purchase takes place once the CPF saving is sufficient for the cash down payment and further CPF saving funds mortgage payments up to the maximum amount allowed for this purpose. They estimate that upon retirement at 62 the base case achieves a final earnings **replacement rate of 28%** (30% if retiring at 65) but also has housing wealth that is almost four times as much as CPF wealth, based on real housing returns of 4%. Increasing the allocation of CPF contributions to the Special Account from 4% to 8% boosts the replacement rate to just 30%, whereas doubling the subsidy for buying public housing increases the rate to 49%.
- A recent study undertaken by independent academics commissioned by the Singapore government arrives at more favourable findings using the latest CPF rules and administrative data not usually available in the public domain (N. C. Chia & Tsui, 2012). The model differs from past studies in several ways: (i) it simulates wage growth paths for men and women at the 30th, 50th, and 70th wage percentile using Labour Force Survey data from 2001-2011, that peak at around 40 years old before tapering off with age; (ii) instead of full careers, lower levels of labour participation are assumed based on historical CPF contribution records from 1981; (iii) the annuitisation of CPF savings is calculated by the CPF Board based on two currently available annuity plans that retirees must choose from. 2012 contribution and interest rates are applied. The projections also incorporate housing purchase at 30 years old, with CPF savings fully utilised for the cash down payment and the subsequent 30-year mortgage. The model arrives at gross **replacement rates of 52%** for the male median case and 50% for women using wages at 55 as the denominator, but

notes that replacement rates may fall by up to 30 percentage points if each case chooses housing that is larger by just one size.

### *Summary*

Given the lack of empirical data on pension outcomes, studies have modelled these outcomes using a range of approaches. Their main findings are:

- Under standardised assumptions, both Hong Kong's and Singapore's public pension systems do not fare well by regional and international standards. An OECD study estimates that the combined benefits from the MPF and SSAS in Hong Kong are equivalent to about 34% of average lifetime earnings for men receiving average work incomes throughout their career, and 33% for women. The CPF provides even less, at just 13% for men and 11% for women.
- Other single-country studies focusing on the MPF have estimated that the scheme will replace between 5%-187% of initial wage for successive cohorts of retirees; or between 67% and 114% of final income under different rates of real wage growth.
- For the CPF several studies have incorporated housing purchase since a large proportion of CPF savings are withdrawn before retirement for this purpose. Depending on assumptions about earnings, pre-retirement withdrawals, and other parameters, earlier studies have estimated an income replacement rate of between 28% and 37%. A more recent study with a distinctive methodological approach estimates replacement rates of around 52%

For the purposes of understanding the relative performance of the pension systems in Hong Kong and Singapore, the current literature poses several challenges. First, the OECD study is the only one to directly compare projected pension outcomes in the two systems. However its estimates for Singapore are likely to be very conservative as it assumes that the entire CPF Ordinary Account is depleted before retirement. This partly explains why Singapore's replacement rates are much lower than those in Hong Kong and other countries in the region. Second, while there are a

number of single-country studies that separately project pension outcomes for Hong Kong and Singapore, their findings are not entirely meaningful when reported outside their methodological contexts and therefore cannot be directly compared. The wide range of estimates for the CPF alone illustrates how decisions about model assumptions on a vast array of parameters covering work patterns, earnings, policy rules, participation history (including pre-retirement withdrawals), mode of payout, and the economic environment can drastically affect the results. The effects of individual parameters are also not always straightforward to interpret. For example, in Chia and Tsui's (2012) study that arrived at unusually high replacement rates, some of their assumptions have an upward bias (e.g. adopting current contribution rates), others depress estimates (e.g. assuming incomplete careers), while several are difficult to assess as they make use of unpublished information (e.g. on wage growth paths and annuitisation formulas). Third, most of the existing literature does not examine the impact of entry timing by incorporating historically accurate rules. This is a serious omission as the CPF has undergone regular rate adjustments while Hong Kong introduced major new schemes—such as the MPF and OALA—in the past decade. Under these conditions, comparing static sets of pension rules does not fully depict the relative positions of successive cohorts of retirees. Some of these methodological issues are discussed in more detail in Chapter 5 and guide the design of the original projections in Chapter 7.

### **3.6 Intergenerational conflict and sustainability**

From one point of view, much of the debate about the fiscal sustainability of public pension in European welfare states does not seem applicable to Hong Kong and Singapore. Whereas the sustainability of pay-as-you-go (PAYG) pension systems is sensitive to demographic fluctuations that affect the total flows of contributions from the working population and payouts to pensioners, the CPF and MPF are fully-funded savings and do not incur public spending other than administrative costs and minor transfers. Instead, these provident funds represent significant resources for government investment in the case of Singapore and for boosting commercial pension markets in Hong Kong (C. K. Chan, 2003; Hu, 1986). In 2009, the total balance of all CPF accounts was equivalent to nearly 60% of GDP.

But sustainability can also be understood in a broader sense of social stability and fairness over time. Researchers have therefore examined the potential for

intergenerational conflict, or whether welfare policy design over time promotes distinct generations of lifetime “winners” and “losers” (Thomson, 1991). Thomson argues that in New Zealand, there exists a “selfish generation” born during 1920-1945 who contributed less than the total benefits they obtained from the welfare system over their lifetime, due to rapid welfare expansion in the postwar years and the subsequent ageing of the welfare state to favour older persons. Younger generations are in the opposite position of putting in more than they will stand to receive. Scholars of political economy have also warned that generational conflict, or “chrono-politics”, may replace class conflict, increase the rigidity of welfare institutions, and prevent the reform of maladaptive policies (Bonoli, 2005; Esping-Andersen, 1999).

While the idea that welfare policy should promote generational equity appears intuitive and is persuasive from a philosophical point of view, the generational conflict thesis has been challenged from several angles. First, empirical analysis does not always produce conclusions that support the notion of intergenerational inequity. Generational accounting techniques provide a way to assess the fiscal balance between generations (Cardarelli, Sefton, & Kotlikoff, 2000) and estimate intergenerational transfers based on the consumption and income of different age groups (Ermisch, 1989). Following this line of analysis, Hills (1995) has shown that in the case of the United Kingdom, only the generation born between 1901 and 1921 made a net gain from the welfare state. In 1995, it was too soon to tell the position of later cohorts without making projections, but they were expected to break-even in terms of their aggregate taxes and benefits. Second, public opinion studies that examine age-related differences in the level of support for social spending in Europe have found that differences based on country and class are often more significant (Blome, Keck, & Alber, 2009; Busemeyer, Goerres, & Weschle, 2009). In the Anglo-Saxon welfare states, for example, support for pension spending is higher among middle-aged than elderly persons. Third, empirical research on family exchanges points to strong generational solidarity as seen in regular exchanges of monetary gifts and practical help between elderly parents and their children in many parts of Europe (Attias-Donfut & Arber, 1999; Kohli, 1999). In particular, researchers have found that public pension benefits are partly shared with younger generations when pensioners give financial support to their adult children (see next chapter). Blome et al. (2009) therefore argue that generational conflict is a myth that results from focusing only on public transfers. They argue that private transfers actually strengthen generational solidarity. Fourth,

Blome et al. (2009) also believe that age is unlikely to become a divisive factor in welfare politics like social class, because every person is connected through familial ties to older generations and will eventually grow old—“tensions arising from institutional categories are then softened, because social policy questions always have specific application to one’s own parents” (p. 260).

In the context of pensions, Grech (2010a) proposes a broader concept of social sustainability to assess pension reforms. Instead of asserting a priori the existence of generational conflict, he develops an innovative framework that combines the twin objectives of pensions to achieve income adequacy and alleviate poverty, with the two major constraints of intergenerational balance and financial sustainability. He evaluates intergenerational balance by comparing the pension wealth of current and future generations, and assesses financial sustainability by comparing the contributions they need to make to fund these payments. To date, this is the only framework that combines primary pension objectives with concerns about generational balance to evaluate potential reform outcomes. The sophistication of this line of analysis serves further to illustrate that the intergenerational balance implied by any set of pension rules is unlikely to be transparent to average citizens, and that the notion of intergenerational conflict may be more academic than practical (Attias-Donfut, 2000). As Attias-Donfut argues, public opposition to pension reforms is more likely to be motivated by a threat to personal pension entitlements rather than by an encompassing calculus of benefits paid out by the welfare state across generations.

The issue of intergenerational sustainability and conflict has not entered into the East Asian pensions literature for a number of reasons. The defined-contribution pensions in Singapore and Hong Kong do not channel resources from working adults to the elderly population via the welfare state. Any imbalance in pension entitlements across generations is therefore likely to be seen as a matter of individual responsibility rather than policy deficiency. The current elderly cohorts are also not particularly favoured by the public pension systems. In fact, the direction of generational inequity may be opposite. Data on CPF savings and self-reported membership show that older cohorts of Singaporeans have less income protection from the CPF, due to lower contribution rates in the past (CPF Board, various years). The oldest retirees would also have had shorter membership with the CPF. In the case of Hong Kong’s MPF, workers who had joined the labour force before the MPF was introduced would similarly have lower savings for retirement. Reflecting this concern, both governments

have in recent years made several ad hoc payments into the pension accounts of older citizens (K. W. Chan, 2012; CPF Board, various years).

But there may be less explicit generational links within the MPF and CPF systems. Asher (2002a, 2002b) has argued that since the CPF lends the entire fund to the government and pays administered interest rates that are not decided by market performance, it resembles an earnings-related PAYG system in that the government debt eventually has to be serviced by future taxpayers when payout to older cohorts are due. Reforms to the CPF in 1987 also introduced a mechanism for topping up the accounts of family members (Low & Aw, 2004). The gradual easing of top-up rules led to a doubling of the number of donors as well as amount of transfers between 2007 and 2008 alone (CPF Board, various years). This provision highlights that even within defined-contribution systems based on individual accounts, demographic pressure and familial obligations imply an increasing burden on younger generations who have to set aside a larger amount of pension savings for a longer retirement especially in anticipation of having less support from their own children in future, as well as take on a larger responsibility for their parents since there are fewer siblings. This burden, not unlike the double payment problem commonly associated with the movement from pay-as-you-go to defined-contribution systems, is likely to increase unless public pension provision expands.

### 3.7 Summary

- Elderly persons in Hong Kong have access to three public pension sources: (i) the CSSA Scheme which provides assistance to make up the difference between household income and prescribed living expenses; (ii) the SSAS Scheme which provides a means-tested allowance from age 65 and either a universal allowance or a means-tested allowance at a higher rate from 70; and (iii) the MPF which draws contributions of 5% of monthly salary each from the employer and employee, and pays out total savings and investment returns at age 65 as a lump sum. In Singapore the CPF is the main pillar of old-age income security but also caters for other purposes like housing and health. Employers and employees each contribute 16% and 20% of monthly salary to the scheme. Total savings plus interest calculated using administrative rates may be withdrawn via compulsory annuity from 63, to be raised to 65 eventually. Between 2001 and 2010 about half of all CPF withdrawals were for



housing while just 20% were for retirement, although the latter share has been on the rise. Taken as a whole, the public pension system in Hong Kong is more comprehensive and balanced, and offers better protection to individuals with disadvantageous work histories.

- CPF provisions for housing mean that elderly persons are more likely to own housing assets in Singapore than in Hong Kong. However housing and asset ownership may be highly unequal in both places. The evidence suggests that elderly persons with lower incomes were less likely to have access to financial assets, owned assets of lesser value, and experienced slower gains in asset ownership over time. Only 31% of elderly Singaporeans with no individual income owned housing in 2005 compared to 100% of persons in the highest income bracket. In Hong Kong, half of elderly persons from the lowest income bracket had total assets worth less one month's median work income in 2008, compared to just a fifth of persons from the highest income bracket. Asset ownership is therefore unlikely to reverse the relative financial positions of low-income elderly persons.
- Even for persons who own housing, the conversion of their housing assets into retirement income cannot be assumed. In theory, housing assets can contribute to financial security because they enable rent-free living, can generate rental income, and can be liquidated through trading down and instruments like reverse mortgages. However policies to encourage these options have had mixed results in Singapore. In 2008, only 12% of elderly persons had sublet their properties for income and 2% had participated in the government Lease Buyback Scheme. Even among the younger 55-64 generation, just 2% expected to use the scheme in old age. This is consistent with evidence from other countries that elderly persons often prefer to keep their housing assets as precautionary saving and for bequest.
- Critiques of the public pension systems in Hong Kong and Singapore have focused on the lack of protection for vulnerable groups with weak employment histories, especially in Singapore. The high administrative costs of the MPF

have been highlighted as a concern. The CPF has further been criticised for offering inadequate income protection in retirement due to large pre-retirement withdrawals, periodic contribution rate cuts to promote economic recovery, and low administered interest rates. But empirical data to support these arguments are lacking. The only available information on the outcomes of the MPF indicate that the return on investment has been volatile over the last decade, ranging from -26% to 30%. For the CPF there is some evidence that savings are inadequate. The average account balance at age 51-55 has been around three years of population median work income for men and two years for women between 1996 and 2011. These are extremely low considering the period life expectancy at 55 was 27 years for men and 31 years for women in 2011.

- An alternative approach to understanding possible pension outcomes is through projections for hypothetical cases. Under standardised assumptions, both Hong Kong's and Singapore's public pension systems do not fare well by regional and international standards. An OECD study estimates that the combined benefits from the MPF and SSAS in Hong Kong are equivalent to about 34% of lifetime average earnings for men receiving average work incomes throughout their career, and 33% for women. The CPF provides even less, at just 13% for men and 11% for women. Other single-country studies have produced different results. For the CPF, studies incorporating housing purchase have arrived at income replacement rates of between 28% and 52%. These studies face several limitations. The OECD's comparative study adopts a very conservative assumption of maximum pre-retirement withdrawals from the CPF which is likely to underestimate pension outcomes. Other single-country studies of Hong Kong and Singapore do not start from the same model parameters and therefore arrive at widely varying results that are not directly comparable. Furthermore most studies assume static rules that do not reflect historical policy changes and the impact of entry timing. The projections in Chapter 7 aim to address some of these limitations.

- Studies on Hong Kong and Singapore have not generally assimilated into the wider debate in the pensions literature about sustainability. This debate firstly concerns the fiscal sustainability of public pension systems as demographic changes weaken the contribution base and increase demands on payouts. But sustainability is also understood in terms of social stability and the potential for intergenerational conflict due to welfare policies that promote distinct generations of lifetime winners—who take out more from the welfare state than they put in—and lifetime losers. Some of the early claims about selfish generations have since been challenged by a range of empirical evidence and theoretical arguments.
- On the surface, fiscal sustainability issues associated with pay-as-you-go pension systems do not seem to apply to fully funded schemes like the CPF and MPF that do not channel resources directly from working-adults to the elderly population. But there may be less explicit generational links within the MPF and CPF systems that raise questions about sustainability. It has been argued that since the CPF lends the entire fund to the government and pays administered interest rates, it resembles an earnings-related pay-as-you-go system where the government debt eventually has to be serviced by future taxpayers. Moreover even within defined-contribution systems based on individual accounts, demographic pressure and familial obligations imply an increasing burden on younger generations who have to set aside a larger amount of pension savings for a longer retirement especially in anticipation of having less support from their own children in future, as well as take on a larger responsibility for their parents since there are fewer siblings. This burden is akin to the double payment problem commonly associated with the movement from PAYG to defined-contribution systems, and is likely to increase unless public pension provision expands.

The next chapter examines the issue of sustainability more closely as it turns to the topic of familial obligations and support under the pressures of demographic ageing.

## **4. The role of family support: Availability of children, intergenerational co-residence, and financial transfers**

The discussion so far has highlighted a decrease in work participation and individual incomes with age and the limitations of public pensions as a source of income security during old age in Hong Kong and Singapore. This chapter shifts the focus to the remaining major source of financial security, family support. It is concerned with how family support in the form of adult children's co-residence and cash transfers makes a difference to the elderly population. The discussion begins with a review of the literature on why children support their elderly parents, to provide a theoretical backdrop for interpreting the empirical findings in the rest of the chapter. This is followed by original analyses of trends in the availability of children to elderly parents among recent cohorts, patterns of intergenerational co-residence and financial transfers, and elderly household incomes in Hong Kong and Singapore. The empirical work draws on the same 1995/1996 and 2005/2006 survey datasets used in earlier chapters and several additional data sources.

### **4.1 Why children support their elderly parents**

The factors that may influence the extent of family support for elderly persons have been extensively debated in the literature. Albertini, Kohli and Vogel (2007) have suggested that these can be broadly categorised into structural, institutional, and cultural factors that reside within and beyond the family (Table 4.1). Structural factors such as demography, household composition, and individual income levels may affect the need and capacity for family support. Institutional factors such as social policies may incentive family transfers or even, in some instances, penalise family members who withhold such support. Cultural factors may account for gender roles in providing support, as well as differences in practices across communities and societies. Of these, the literature in general and East Asian research more particularly have been dominated by three main clusters of explanation: individual, cultural, and societal factors. The rest of this section reviews these explanations. Demography is analysed separately in Section 4.2.

**Table 4.1** Factors that affect intergenerational transfers

	Macro (outside family)	Micro (within family)
Structural	Demography, labour force, income distribution	Household composition, education, occupational status, income
Institutional	Legal obligations on transfers, taxation, social security policies	Household division of labour
Cultural	Family, gender, and age values	Attitudes and practices

Source: Albertini, Kohli & Vogel (2007)

*Individual factors: Altruism and exchange*

The foremost theories about transfer motives, both of cash and services, are altruism and exchange. Altruism interprets transfers as a response to the elderly parent's needs, which may be indicated by factors such as income level, health status, extent of disability, and widowhood. Exchange theory proposes that financial support is offered by children in return for services received, such as care or household chores, or in repayment of an earlier financial gift or investment, such as in the children's education. Historically the two perspectives have been competitive. Early theoretical work by Becker (1974) modelled behaviour where the head of the family makes cash transfers to family members to offset any fluctuations in the distribution of income within the family. This form of intra-family altruism has the potential to neutralise policy interventions that redistribute resources across generations (Barro, 1974). On the other hand, in defence of exchange theory, Bernheim, Shleifer and Summers (1985) proposed that bequests are used strategically by parents to obtain services from their children, seen in more frequent contacts with children among parents with greater wealth to bequeath. Cox (1987) also argued that inter-vivos transfers serve as payments for services exchanged between family members.

There is now a large body of evidence supporting the motivations of both altruism and exchange. The two theories are usually tested using the operational logic that altruism predicts an increase in the likelihood and amount of financial transfers when the recipient's income is lower, whereas the exchange model suggests that transfers are less likely to occur when the recipient has higher income but the amounts will be higher when they do (Cox & Rank, 1992). The exchange model further requires a positive correlation between transfers in one direction and some form of service

rendered in return. Empirical research suggests that these motivations vary for different directions and types of transfer.<sup>19</sup>

- Using data from the United States, Altonji, Hayashi & Kotlikoff (1996) found that higher parental incomes and assets decreased the likelihood and size of transfers from children, which is consistent with the compensatory principle of altruism. A study by McGarry and Schoeni (1997) showed that among siblings, those with lower incomes were consistently more likely to receive cash transfers from their parents regardless of family size and even when exchanges over many years are taken into account. In both studies, the authors found no evidence that providing services predicted receiving transfers. More recently, Karagiannaki (2011) found a similar correlation between the child's current income and transfers from parents using British data.
- On the other hand, in Cox & Rank's (1992) study, help given to parents and the frequency of contact were positively associated with the children's probability of receiving transfers. The study also used geographical distance between non-co-resident parents and children to distinguish the workings of altruism and exchange, arguing that living further apart increases the cost and lowers the likelihood of giving practical assistance, but should not affect the flow of transfers if the latter is motivated solely by altruism. Instead, the data showed that distance had an inverse relationship with the probability of transfers to children, suggesting an underlying exchange process.
- Varied cross-national evidence has recently emerged from the Survey of Health, Ageing, and Retirement in Europe (SHARE) which studies persons aged 50 and above in 19 European countries. The study has found that while financial transfers were not more likely for elderly parents in poor health, practical support was (Attias-Donfut, Ogg, & Wolff, 2008a). More than two-thirds of elderly persons with the most severe disability received practical

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<sup>19</sup> Research in Western societies has mostly focused on cash gifts from elderly parents to adult children in return for services performed, as this cycle of exchange is more common than children providing cash contributions to their parents as is the case in Hong Kong and Singapore. This difference is addressed in the later discussion on cultural factors.

support, whereas only a quarter of other elderly persons did (Attias-Donfut, Ogg, & Wolff, 2008b). At the same time, elderly persons who became disabled or contracted a long-term illness were more likely to provide financial transfers, possibly in exchange for in-kind support and care. There is both a response to need and a cycle of exchange, when different types and directions of transfer are taken into account. The authors concluded that “the family situation, demographic events, health as well as economic resources affect the propensity both to give and receive money, although the SHARE data evidence a limited role for all these factors” (Attias-Donfut, et al., 2008a, p. 188).

- In the East Asian literature, studies that explicitly test theories of altruism and exchange suggest that the mixed dynamics of altruism and exchange may also apply here. In Singapore, elderly persons who are widowed, not working, and less educated are more likely to receive cash transfers from their children (Kang, 2008). At the same time, elderly parents who help with household chores are more likely to receive financial contributions, but not parents who provide advice or financial assistance to their children. In Hong Kong, access to alternative income sources such as transfers from relatives, the Comprehensive Social Security Allowance (CSSA) scheme, and private pensions predict smaller amounts of transfers from children, whereas subgroups that tend to have lower individual incomes (see Chapter 2 and section 4.3) such as women, widows, and elderly persons living with their children are likely to receive larger transfers (K. L. Chou, 2010). At the same time, Chou argues that exchange motives may be present, as elderly parents who owned some types of asset received higher amounts of transfers.

There are similar debates over whether intergenerational co-residence is predicted by the level of needs.<sup>20</sup> An early study investigated a dramatic rise in the percentage of persons living alone between 1950 and 1976 using time series data for different states in the USA (Michael, Fuchs, & Scott, 1980). It found that the generosity of state social security payments (i.e. pensions) to survivors predicted the proportion of widows aged 65 and above who were living alone, although other

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<sup>20</sup> See Grundy (1992) for a concise summary of the main factors identified in the literature.

variables like median income and poverty levels among elderly women were not significant. Pampel (1983), studying data from around the same time, found that income alone explained less than 15% of the increase in persons living alone. However his study was concerned with all adults aged 25 and above, not elderly persons. While transfers have a clear direction, an additional challenge when analysing co-residence is that it may be meeting the needs of either generation. Several studies have argued that living arrangements reflect adult children's needs for housing and support before they are able to finance an independent lifestyle (Aquilino, 1990; Ward, Logan, & Spitze, 1992). They found that parental characteristics such as marital status, health, and educational level were not significant predictors of co-residence, but having unmarried children was: 2% of parents with no unmarried children lived with their children, compared to 63% of parents with three or more unmarried children. In intergenerational households, parents performed more household tasks on average than the children did. These households were also more likely to live in homes owned by the parents.

The debate about altruism and exchange, however, has yet to overcome some fundamental conceptual challenges to understanding and detecting transfer motives. As Cox and Rank (1992, p. 306) point out, "reciprocity is not conclusive evidence for exchange because it is also consistent with two-way altruism". It has been suggested that altruism may be impure in the sense that a family member may be motivated to provide help by the "warm glow" felt afterwards (1989). The motivations for interactions within the family may not be as distinct or explicit as research seems to presume. Across the European countries included in the SHARE study, respondents were most likely to cite "no specific reason" for receiving transfers rather than other need- or exchange-based explanations (Attias-Donfut, et al., 2008b). In her synthesis of the early anthropological literature on the United Kingdom (UK), Finch (1989) observed that people take into account diverse considerations such as genealogical proximity, likeability, past and prospective reciprocity, and the context of the demand when deciding whether to fulfil kinship obligations to lend support. Help-giving tends to involve a process of negotiation between two parties where the potential recipient has to define a balance between accepting help and maintaining a sense of independence. Theories focusing on the individual alone may therefore provide only a partial picture of intergenerational transfers.



*Cultural factors: Generations and gender in an Asian context*

Just as Finch (1989) noted more explicit kinship obligations among the South Asian communities in the UK, research on intergenerational exchange in East Asian societies has traditionally paid special attention to local cultural norms based on principles of familial responsibility.<sup>21</sup> Most of this body of research links the flow of resources across generations to Confucianist teachings.<sup>22</sup> Early examples include Chow's (1987) study of Western and Chinese social welfare where he argued that culture determines how societies interpret the objectives of social policy. He observed that in Western countries, the state is responsible for redistribution based on the rights of social citizenship and equality between individuals. But public social welfare in Chinese societies is perceived as an act of state benevolence. Instead, the family and wider kinship network assume primary responsibility for taking care of its members. Jones (1993) was among the first to argue that the central role of the family marks the distinctiveness of East Asian social policy, coining the term Confucian welfare states in recognition of the social and policy influence of Chinese heritage in these societies. A strong patrilinear tradition, where sons assume primary filial responsibility regardless of marital status whereas married daughters are expected to devote themselves to the wellbeing of the husband's family, is sometimes regarded as a key aspect of Confucianist traditions (Hermalin & Yang, 2004). Such customs have been observed in the patterns of intergenerational co-residence in Hong Kong and Singapore (see section 4.3).

Research on different Asian societies has also found other cultural factors such as religiosity and ethnicity to be significant predictors of levels of co-residence (W. K.-M. Lee, 2004; Martin, 1989). This flags the cultural diversity within supposedly Confucianist societies such as Singapore. In a study by Ofstedal, Knodel, and Chayovan (1999), they found that in Singapore 77% of Chinese elderly persons who had adult sons in 1995 lived with their sons, compared to 47% who lived with their daughters. But among the Malays, the gender difference was less obvious, with 68% living with their sons and 63% with their daughters. The gender difference among Chinese families was even more pronounced in the case of married children. For

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<sup>21</sup> A similar explanatory approach focuses on cultural "tastes" or preferences (Lesthaeghe, 1983). Beresford and Rivlin (1966), for example, refer to an intrinsic consumer demand for privacy among American families which explains the prevalence of nuclear households. Macro-trends in co-residence are therefore interpreted as changes in lifestyles and social fads.

<sup>22</sup> See review in Fu (2008).

Chinese elderly fathers without a co-resident spouse, the proportion living with their married sons was 2.7 times as high as that living with married daughters. But for Chinese elderly mothers who were without a spouse, this ratio was 3.6. Among all Chinese elderly parents, the ratio of those living with their single sons as compared to single daughters was only around 1.3. The corresponding ratios for Malay elderly persons were much narrower, ranging from 0.9 to 1.2, suggesting that there was no clear preference to live with either sons or daughters.

A major drawback of cultural explanations is that, on their own, they do not fully depict the tension that societies experience between cultural ideals, policy aims, and popular practices (Martin, 1990). Martin has pointed out that that historically, patriarchal ideals were not uniformly achieved across China, while their influence was relatively recent in Korea and Japan. Furthermore the governments in these societies had initiated reforms that were against the grain of Confucianist traditions, such as promoting the equality of women. On the other hand, in Singapore, the government actively promulgates family values as an Asian virtue, and has adopted a range of policies to encourage family support for elderly persons: children are allowed to top up the Central Provident Fund (CPF) accounts of their parents; there are subsidies for children who purchase public housing near to their parents' home; and under the Maintenance of Parents Act, children may be brought to Court by their parents for failing to provide financial support. Yet fewer elderly persons have expressed a preference to live with their adult children in recent years (Housing and Development Board, 2010), consistent with the downward trend in expectations about children's support in many Asian societies (Croll, 2008). Without accounting for these countervailing forces, and especially when it is not subjected to empirical investigation, culture can come across as a post hoc explanation or theory of last resort (H. Chang, 2007).<sup>23</sup>

#### *Societal factors: Modernisation and welfare regimes*

Underlying the body of research on cross-national patterns in family support for elderly persons (Albertini, et al., 2007; Kohli, 1999; Saraceno & Keck, 2010) is a

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<sup>23</sup> For example, in a recent study to test normative obligations of support to elderly parents in Singapore, Kang (2008) reasoned that since several socio-economic variables did not predict transfers from children in regression analysis, cultural influences must therefore have been at work. Deploying culture as a residual explanation in this way is not fully satisfactory.

larger debate on the theory of modernisation and the effects of policy on intergenerational exchange within the household. Modernisation theory expects industrialisation and development to gradually replace traditional familial care arrangements with the solidaristic provisions of the welfare state (Burgess, 1960; Cowgill, 1972). An economic interpretation is that rising incomes allow individuals to purchase “goods” traditionally found within the household, such as companionship and personal care, from the market instead (Burch & Matthews, 1987). This promotes the growth of market alternatives to household goods which encourages further household nuclearisation. Developing societies may therefore expect to experience the same social changes as they follow the path of modernisation set by the industrialised societies. But others have argued that societies and families do not respond to social transformation in the same way because of other factors such as demography and local kinship patterns (Hashimoto, 1991; Thornton & Fricke, 1987). Empirical research so far has shown that family support even in the industrialised societies has not fully given way to state support and that family members across generations still exchange a wide range of resources and services (Kohli, Künemund, & Vogel, 2008).

Recent debates have turned to whether an encroaching welfare state will eventually “crowd out” family functions. Apprehension towards the erosion of family support is a common theme in the political discourse of Hong Kong and Singapore.<sup>24</sup> There is also some evidence in the East Asian context that more generous public pensions may displace family provision. Panel studies in Taiwan found that elderly respondents gradually switched from family to public income sources as the public pension system expanded during the 1990s, with national-level schemes having a stronger effect than county-level ones (Biddlecom, Hermalin, Ofstedal, Chang, & Chuang, 2001; Fu, 2008). A study on the income sources of elderly persons in 1995 found that owning CPF savings predicts lower access to children’s contributions (A. Chan, 1999), although this demonstrates the displacement of family provision by formal rather than publicly funded programmes.

However Künemund and Rein (1999) have argued that because family transfers to elderly persons are motivated not just by needs, but also reciprocity and affection, even comprehensive welfare states cannot crowd out the role of the family. Instead

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<sup>24</sup> See Chow (1978), Wilding (1997) for Hong Kong and Balakrishnan (2008, March, 2009, February) for Singapore.

state provisions that channel resources such as pension benefits to elderly persons may affect the direction of family transfers, “crowding in” family exchange by enabling elderly parents to give assistance to their children and grandchildren. In fact, Chou (2010) argues that in Hong Kong, the anticipation of bequest may explain why elderly parents who have savings in public pension schemes also receive larger transfers from their children. Overall, in both Hong Kong and Singapore, crowding out is not a serious threat to informal income sources as public pensions remain underdeveloped. Moreover, while crowding out by policy provision may have implications for the strength of family bonds, its effects from an old-age income security perspective are not necessarily negative. The substitution of familial transfers with state support may be positive for income security if such support is sustainable and effectively reaches those who lack financial independence. The more worrying risk for the elderly populations in Hong Kong and Singapore is that as norms of familial obligation change and access to mandated retirement savings improves, the population segments that experience an erosion of family support are not the same ones that acquire greater pension rights. This issue is examined in Chapter 6 which models the possible income sources for future elderly cohorts.

Compared to the modernisation and crowding out theories, the political economy literature on welfare regimes offers a more nuanced and systematic approach to assessing the roles of the state, the family, and the market. Esping-Andersen’s influential work in 1990 identified three clusters of welfare regimes among the advanced economies, based on the organisation of welfare production between the state and the market. Countries were differentiated based by the degree of de-commodification, or how far welfare state provisions reduce individual dependence on the labour market for welfare needs. Since then some scholars have proposed modifications such as a fourth cluster comprising the South European welfare states, while others have argued that this regime typology is overly focused on the male breadwinner and should take into account further dimensions such as gender (Lewis, 1992), age, and generational relations (Lynch, 2006; Saraceno & Keck, 2010). Further to de-commodification, there is a growing body of research on the role of the family in informal welfare production based on the notion of de-familialisation, or the extent to which welfare state provisions reduce individual dependence on the family (Esping-Andersen, 1999). A full characterisation of welfare regimes is now understood to require consideration of three intersecting dimensions – the welfare producer (state,

market, or family), the welfare consumer group (differentiated by characteristics such as gender, age, and labour market participation), and the type of welfare resource (benefits or services, as well as policy domain). The balance of welfare production even within the same welfare system may differ depending on the consumer group and type of welfare in question. The role of the family must therefore be understood within the larger context of this complex matrix. One example of this approach is Blome, Keck and Alber's (2009) comprehensive study comparing state and family provisions for elderly persons and families with children, in terms of both benefits and services, in France, Italy, Sweden, and Germany.

East Asian welfare is seldom comprehensively studied in this manner. Most of the research output focuses on documenting state provisions by policy area while limited work has been done on the balance of state and family welfare for specific target groups (e.g. Aspalter, 2001, 2002; Holliday & Wilding, 2003; Ramesh, 2004; K. Tang, 2000). But there are several exceptions. Jacobs's (1998) study systematically compares both public and private social spending in social security, health, housing, and education across East Asia using aggregate statistics. The study found that social security spending in Singapore and Hong Kong were almost entirely private, because public pensions are savings-based and non-contributory social assistance is limited. Kwon (1999) drew on microdata from national surveys in Korea and Taiwan to compare the role of private and public transfers in elderly households at different income deciles. In both countries, private transfers are more important sources of income than social insurance and means-tested benefits, especially for poorer families.

Apart from the substantive findings, a major contribution of the welfare regime literature is in highlighting the fit and complementarity between different sets of welfare institutions.<sup>25</sup> These complementarities have implications for the sustainability and vulnerabilities of individual welfare regimes, because they are based on different assumptions about the division of responsibility between the state, the market, and the family (Esping-Andersen, 1999). Hong Kong and Singapore are often regarded as familialistic regimes, but despite some early interest, countries in the region have never been convincingly situated within the welfare regime typology used in Europe. Scholars have separately referred to the liberal, conservative, and familialistic

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<sup>25</sup> The term "institutional complementarity" was first used by Hall and Soskice (2001) in their work on varieties of capitalism, in which they also highlighted the fit between particular configurations of market, labour, and welfare institutions.

tendencies of East Asian welfare states (Aspalter, 2001; Esping-Andersen, 1997, 1999). Others have proposed distinct types for this region, such as Confucian (Jones, 1993), as mentioned earlier, or productivist (Holliday, 2000).<sup>26</sup> While it is beyond the scope of this review to fully debate East Asia's regime type (or types), a cursory comparison of Singapore and Hong Kong with other established welfare regime types on Esping-Andersen's two major dimensions of de-commodification and de-familialisation shows why East Asian welfare states are difficult to place (Table 4.2). In terms of de-commodification, Singapore and Hong Kong resemble the liberal regime in their use of stringent means-tested benefits. But in terms of de-familialisation, they bear similarities to the regime in Southern Europe. In fact, social spending data and intergenerational co-residence rates suggest that they are more liberal than the Anglo-Saxon liberal regime and more familialistic than Southern Europe (Börsch-Supan et al., 2008; International Labour Organization, 2010). Social welfare for elderly persons is therefore achieved through a set of complementary strategies. First, defined contribution pensions and economic policy promote elderly employment and welfare production through the labour market. Second, intergenerational family support is a key source of old-age income, especially for those with low lifetime work income. Third, the state avoids replacing either market or family welfare functions, such as through comprehensive state pensions.

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<sup>26</sup> Jones (1993) directly compares East Asia to Esping-Andersen's three worlds of welfare in her description of the Confucianist welfare state as: "Conservative corporatism without (Western-style) worker participation; subsidiarity without the Church; solidarity without equality; laissez-faire without libertarianism: an alternative expression of all this might be 'household economy' welfare states – run in the style of a would-be traditional, Confucian, extended family" (p.214). The productivist welfare regime—a reference to the political economy literature on productivism—is based on the observation that East Asian governments prioritise economic development above all else. Some scholars have argued that East Asian governments do not subjugate social welfare to economic development, but rather pursue a programme of shared growth that seeks to raise living standards through rapid economic development (Birdsall & Haggard, 2000; Hort & Kuhnle, 2000).

**Table 4.2** Locating Singapore and Hong Kong as a welfare regime

	De-commodification	De-familialisation
Social democratic	High de-commodification, universal public benefits	High de-familialisation, comprehensive public services
Southern Europe <sup>a</sup>	Moderate de-commodification, status-based transfers	Low de-familialisation, family-dependent
Liberal	Low de-commodification, means-tested benefits	Moderate de-familialisation, market-based services
Hong Kong, Singapore	Low de-commodification, means-tested benefits	Low de-familialisation, family-dependent

Note: (a) Esping-Andersen's original typology included conservative welfare regimes. The Southern Europe cluster is a sub-type identified later by other scholars as a familialistic variant in Continental Europe. It is included here as it offers a more relevant comparison with Hong Kong and Singapore.

Source: First three regime types based on Esping-Andersen (1990, 1999), own analysis for Hong Kong and Singapore.

Under these conditions, Hong Kong and Singapore may face the vulnerabilities of both the liberal and Southern European welfare regimes. Already, the challenge of social stratification faced by the liberal welfare states has surfaced in Hong Kong and Singapore in the form of income inequality levels that are higher than in the United States (United Nations Development Programme, 2010). Income inequality between elderly and non-elderly persons in Singapore and Hong Kong has been discussed in Chapter 2. Esping-Andersen (1999) also argues that the familialistic regimes in Southern Europe have experienced an overall reduction in welfare for families and individuals because they continue to place heavy care expectations on the family despite changes in family structure and gender roles. This signals a possible risk to relying on adult children as the main pillar of income security in Singapore and Hong Kong, especially at a juncture of social change. The rest of this chapter assesses empirically the role of the family in providing for elderly persons and identifies early signs that this model of old-age income security may not be sustainable in these societies.

### *Summary*

While the focus of this study is not on explaining family support for elderly persons, the review in this section helps to provide theoretical perspective on the stability of a familial model of income security, and on the findings in later sections. In summary the review found that:

- At the individual level, the two dominant explanations of family transfers have been altruism and exchange. The altruism argument is that transfers are a response to need, whereas exchange theory proposes that children's financial contributions are a reciprocal gesture for gifts and services from their parents. In Europe and the United States there has been evidence that both having needs and giving practical help increase the probability of receiving transfers, even though much of the research has been about parents' cash gifts to their children rather than the other way round. There is also some evidence of altruism and exchange motives at work within families in Singapore, even though both theories appear to simplify the complex considerations behind the flow of resources across generations and within households.
- At the society level, culturally-defined kinship obligations have attracted much scholarly attention. An influential argument from the late 1980s is that Confucianist principles of filial responsibility woven into Chinese traditions account for the family's role in providing for elderly persons in societies like Hong Kong and Singapore. Within this framework, assumptions about the son's greater role in caring for the parents have some empirical basis. But the cultural argument faces difficulties reconciling variations in popular practices and the effects of policy intervention.
- From a macro-policy perspective, it has been argued that modernisation ushers in welfare states that displace the family's care role. However state-financed public pensions in Hong Kong and Singapore have not grown significantly despite economic development. In fact there is a distinct risk that as family support recedes, public pensions may not be adequate to fill the gap. Current understanding from welfare regime research suggests that Hong Kong and Singapore may be less de-commodified than the liberal regimes and less de-familialised than the Southern European regimes, leaving them highly vulnerable to any setbacks to family welfare production.



## 4.2 Availability of children

One of the most direct determinants of family support in old-age is whether and how many children are available. Although having children is not necessarily the same as receiving support, research evidence has consistently found kin availability to be a useful predictor of co-residence. Elderly persons with more surviving children are more likely to co-reside with one (Martin, 1989), are less likely to live alone (Wolf, 1984), and have more social contact with other persons (Bachrach, 1980). Chou (2010) has also found that the number of children significantly predicts the amount of transfers to elderly parents in Hong Kong. It is therefore important to understand the demographic dynamics that may affect the availability of children.

There have been two major demographic shifts in industrialised societies in the past half century—a dramatic reduction in fertility and sustained improvements to mortality (Michael Murphy, 2010). Hong Kong and Singapore too have had steadily increasing life expectancies and declining fertility since the 1970s. Some researchers believe that these developments will result in future elderly persons having fewer adult children who can provide social and practical support (A. Chan, 2005; M. T. Yap, Thang, & Traphagan, 2005). But studies done on kin availability in the UK and subsequently extended to France and Finland point to a more complex interaction of demographic factors, with results that are often not self-evident from broad trends (Michael Murphy & Grundy, 2003; Michael Murphy, Martikainen, & Pennec, 2006). The number of children available to elderly persons depends on fertility, both in terms of the number of children and the parents' age at childbearing, as well as mortality, which affects the likelihood that the children are still alive when the parents are at very advanced ages. For example using detailed fertility histories collected in census studies combined with historical and projected mortality for individual cohorts, Murphy and Grundy (2003) modelled the proportion of parents with surviving children in the UK from 1911 to 2050. They found that while lower fertility levels will affect the number of available children for women aged 70 years and below, better survival chances among the adult children will offset these effects for elderly parents aged 80 years and above. The net result is that over the next quarter century, successive cohorts of elderly persons in the UK are more likely to have at least one surviving child. This body of research highlights that the prospect of having surviving children can only be understood by studying the unique coincidence of mortality and fertility trends for specific cohorts within individual populations.

*The broad picture based on aggregate indicators*

For Hong Kong and Singapore, published aggregate indicators provide the first clues. Table 4.3 shows selected period and cohort demographic indicators related to marriage, fertility, and life expectancy for both populations from the 1980s. The rate and timing of marriage also matter because childbearing is commonly preceded by marriage in these societies.<sup>27</sup> The data on Hong Kong show that the rate of marriage fell sharply from 77 marriages per 1000 unmarried women in 1981 to just 18 marriages in 2011. This downward trend may be partly driven by an older population age structure that means fewer women around the age of marriage, as well as delayed marriage. Age at first marriage increased by five years over the period. But on a cohort basis, the percentage of women ever married has also fallen for the cohorts about to reach 65. Assuming childbearing is associated with marriage this trend alone will have an impact on the proportion of elderly persons with no children.

In terms of fertility there is a clear trend of later childbearing, with the median age at first childbearing closely tracking the median age of first marriage. Importantly total fertility fell steadily between 1981 and 2001 then improved in 2011 as more women from mainland China are choosing to give birth in Hong Kong in recent years (Census and Statistics Department, 2012b). On average, women born in 1931 had 5 children by age 50, but women born in 1961 had just 1.6 children. The last but one column shows the combined effect of fewer and later marriages, and delayed and lower fertility. Among the 1941 cohort of women only 6% had no children by age 50. For the 1961 birth cohort this had surged to 23%. While fertility fell, period life expectancy at birth went in the opposite direction, showing a remarkable gain of nine years in just three decades.

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<sup>27</sup> Data on the proportion of children born to single mothers are not available for both Hong Kong and Singapore. But an official report on Hong Kong notes that “virtually all births in Hong Kong are associated with marriage” (Census and Statistics Department, 2012b, p. 97). The same report explains that the youngest women among all married women have the highest fertility rate because of “the propensity of marriage as a result of premarital pregnancy” (p. 38).

**Table 4.3** Marriage, fertility, and life expectancy indicators for Hong Kong and Singapore

(a) Hong Kong 1931-2011

	Marriage			Fertility			Life expectancy at birth
	Number of marriages per 1000 unmarried women	Women's median age at first marriage	% women ever married by age 45-49	Median age at first child bearing	Total fertility rate	Average number of children born by age 50	% women with no children by age 50
<i>Birth cohort</i>							
1931	-	-	96	-	-	5.0	-
1941	-	-	98	-	-	3.4	6
1951	-	-	96	-	-	2.2	9
1961	-	-	88	-	-	1.6	23
<i>Period values</i>							
1981	77	24	-	25	1.9	-	-
1991	61	26	-	28	1.3	-	-
2001	27	28	-	29	0.9	-	-
2011	18	29	-	30	1.2	-	-

## (b) Singapore 1930-2010

	Marriage			Fertility				Life expectancy at birth
	Number of marriages per 1000 unmarried women	Women's median age at first marriage	% women ever married by age 45-49	Median age at first child bearing	Total fertility rate	Average number of children born by age 44	% women age 50+ with no children	
<i>Birth cohort</i>								
1930	-	-	97	-	-	-	-	-
1940	-	-	96	-	-	3.7	-	-
1950	-	-	93	-	-	2.2	-	-
1960	-	-	87	-	-	1.9	-	-
<i>Period values</i>								
1980	69	24	-	-	1.8	-	-	72
1990	61	25	-	-	1.8	-	-	75
2000	50	26	-	29	1.6	-	3.8	78
2010	37	28	-	30	1.2	-	4.4	82

Sources: Census and Statistics Department (2012b, 2012d) , Department of Statistics (2001, 2010, 2012), United Nations (2008a, 2008b)

The demographic indicators for Singapore point to a similar situation as Hong Kong, but with a slightly slower rate of decline in marriage and fertility. The rate of marriage decreased steadily from 69 per 1000 unmarried women in 1980 to 37 in 2010 while the median age of first marriage rose from 24 to 28. On a cohort basis there was a gradual decline in the proportion of women ever married by age 45-49 between the birth cohorts of 1930 and 1950, then a sharper fall for the 1960 cohort that will reach retirement age in the next decade. The period fertility indicators suggest a downward trend: total fertility fell from 1.8 to 1.2 between 1980 and 2010 while the percentage of women aged 50 and above with no children increased slightly over the past 10 years. Among cohorts of women born between 1940 and 1960, their average number of children born by the age of 44 decreased from 3.7 to 1.9. During this time period life expectancy at birth grew by 10 years. For both Hong Kong and Singapore the opposite fertility and mortality trends make it difficult to infer the availability of children in old age from aggregate data alone.

*Modelling the number of surviving children using cohort mortality data*

For Hong Kong the analysis of the number of surviving children can be extended by combining cohort fertility and mortality data and taking into account different childbearing timings. The approach below follows the broad logic in Murphy and Grundy's (2003) study but is considerably simplified as individual-level data on fertility histories are not available. So the analysis starts instead with the average number of children ever born to women of particular cohorts and then calculates attrition using cohort mortality data and projections. As the timing of childbearing by cohort is not known, including both the age at first childbearing and the duration between births, it is assumed for convenience that all the births to a mother take place at the same age. This results in an underestimation of the number of surviving children since in reality higher order births encounter lower probabilities of death than their older siblings in any given year. But the results from the analysis as shown below suggest that this underestimation is trivial. Additionally since the gender proportions of aggregate fertility figures are unknown the analysis takes the average of male and female mortalities when calculating attrition. The same modelling procedure could not be repeated for Singapore as cohort mortality data are only available for up to the last five years.

Table 4.4 summarises the main results of the analysis which covers women from four cohorts born 10 years apart between 1944 to 1974 in Hong Kong. The oldest of these cohorts turned 65 in 2009. The average number of children born to women by 50 years old fell steeply from 3.55 for the oldest cohort to 1.19 for the most recent. The two rightmost columns in the table show the estimated numbers of surviving children that mothers have when they reach the retirement age of 65 and then 85. Assuming the mother's age of childbearing remains at 20, the results indicate that the key determinant of the number of surviving children is the average number of children born to mothers whereas the children's improving mortality is relatively marginal and insufficient to offset the fertility gap across cohorts. A mother born in 1944 has 3.55 children on average, of whom 3.40 are estimated to survive by the time she turns 65 and 3.20 by the age of 85, with a total attrition of 0.35 children due to mortality. In comparison the average attrition of children whose mothers were born in 1974 is just 0.07 over 85 years. However because the 1974 cohort of mothers have just 1.19 children on average the final number of surviving children is still lower than earlier cohorts.

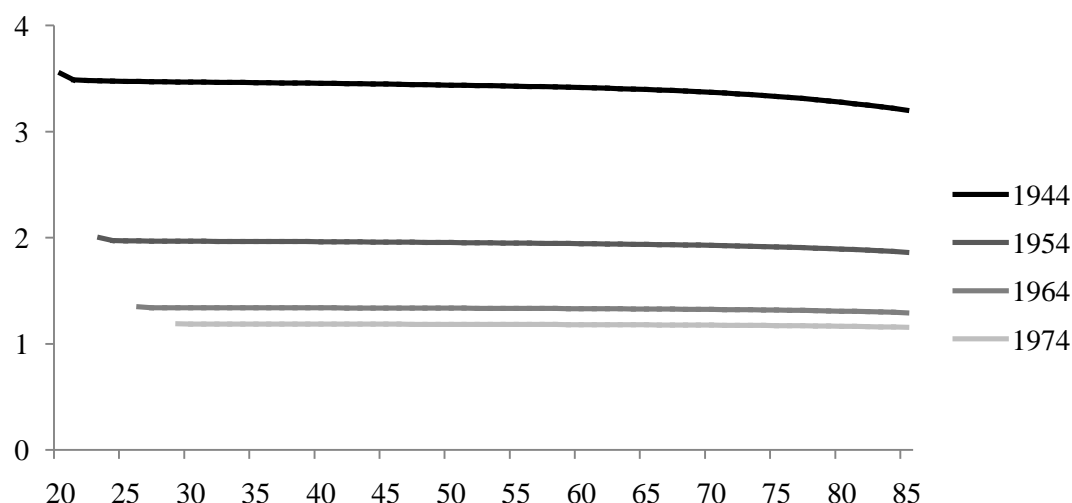
Even when childbearing is assumed to be delayed for later cohorts, the children's mortality gains from the wider age gap with their mothers is still too negligible to alter the overall decline in the availability of children across cohorts. For the 1974 cohort, delaying childbearing till 29 years old increases the number of surviving children from 1.12 to 1.16 when the mother reaches 85 years old, but this is still lower than the 1.29 to 3.20 surviving children for mothers of earlier cohorts by the same age. Figure 4.1 illustrates this dynamic more clearly. The children's mortality results in downward slopes in the number of surviving children as mothers age. Improvements to mortality means that the gradient of the slope becomes shallower for later cohorts while delays in childbearing further narrow the gap between the numbers of surviving children by age 85. But overall, the funnel shape of the graph is barely detectable and the availability of children still falls considerably across cohorts. From the graph it can be seen that even a delay of childbearing by up to nine years does not help to offset the fertility gap across cohorts. Spacing out the births within each cohort in a more realistic model is unlikely to significantly alter the shape of the projections.

**Table 4.4** Estimated numbers of surviving children when mothers born in 1944-1974 reach ages 65 and 85, Hong Kong

Mother's birth year (year when age 65)	Number of children born to mothers by age 50	Mother's age at childbirth	Surviving children when mother reaches age 65 (children's attrition from mortality)	Surviving children when mother reaches age 85 (children's attrition from mortality)
1944 (2009)	3.55	20	3.40 (0.15)	3.20 (0.35)
1954 (2019)	2.00	20	1.92 (0.08)	1.83 (0.17)
		23	1.94 (0.06)	1.86 (0.14)
1964 (2029)	1.35	20	1.32 (0.03)	1.26 (0.09)
		26	1.33 (0.02)	1.29 (0.06)
1974 (2039)	1.19	20	1.17 (0.02)	1.12 (0.07)
		29	1.18 (0.01)	1.16 (0.03)

Note: Figures for number of children born to mothers from 1964 and 1974 cohorts based on national projections, see sources. Children's mortality rates are held constant before 1971 and after 2041 as data are unavailable outside this period.

Source: Own calculations, based on fertility data in Census and Statistics Department (2010a) and mortality data in Census and Statistics Department (2012c, 2013b)

**Figure 4.1** Estimated numbers of surviving children by mother's age for mothers born in 1944-1974, Hong Kong

Note: Children's mortality rates are held constant before 1971 and after 2041 as data are unavailable outside this period.

Source: Own calculations, based on fertility data in Census and Statistics Department (2010a) and mortality data in Census and Statistics Department (2012c, 2013b)

Unlike Murphy and Grundy's (2003) study the above analysis does not derive the proportions of mothers with different numbers of children. Understanding the proportion of elderly mothers with no children, and therefore no access to an important source of support, would have been particularly useful but was not possible as the projections here were based on aggregate data. Chapter 6 extends the analysis here by presenting a more detailed model that directly considers the proportions of future elderly persons who live with their children or draw income from them.

Two important conclusions emerge from these projections. First the comparison with the UK shows that a continuous rise in life expectancy is more likely to contribute to greater numbers of surviving children in populations where fertility fluctuates or falls more gradually, and even then only when the parents are very old. Total fertility in the UK in fact rose from 2.14 to 2.68 between 1926 and 1960, while the mean age of childbearing fell from 28 for the 1926 cohort to 26 (1946 cohort) before rising back to 28 (1960 cohort) (Michael Murphy & Grundy, 2003). For the women of these cohorts, the number of children ever born fell less dramatically, from 2.18 to 1.96, and only after the 1946 cohort. As a result, the availability of children is expected to improve in the decades ahead. In contrast, over roughly the same timeframe of three decades, the average number of children born to women in Hong Kong shrunk from 3.55 to 1.19. The overall fertility trend was steep and unidirectional for the birth cohorts between 1944 and 1974. Therefore improving mortality is not expected to offset lower fertility. Second, previous research has documented that the effects of having more children on the likelihood of co-residence may taper off at higher parities (Bachrach, 1980). In Hong Kong, Chou (2010) found that having three or more children does not significantly increase the amount of transfers to elderly parents compared to two or fewer children. He concludes from this "ceiling effect" that lower fertility may not have as great an impact on support for elderly parents as commonly presumed. However the projections here show that from 2019 onwards, the retiring cohorts may have an average of fewer than two children—falling short of the ceiling. The availability of children is therefore likely to remain an important influence on family support.



### *Summary*

The discussion in this section has focused on the number of surviving children to elderly persons as a direct determinant of the availability of family support.

- The number of surviving children depends both on fertility—the number of children born to mothers of each cohort and the timing of child bearing, as well as mortality—the likelihood that the adult children are alive when the parents become very old. Research done in the UK has found that the cohorts of mothers now approaching retirement age are more likely to have at least one surviving child when they are aged 80 and above due to improving mortality among their children.
- Demographic indicators for Hong Kong and Singapore show a steady trend of fewer and later marriages for women, as well as delayed and lower fertility. But at the same time there have been impressive gains in life expectancy. These opposite trends make it difficult to infer the availability of children in old age.
- Therefore the number of surviving children for women born between 1944 and 1974 in Hong Kong was modelled by combining cohort fertility and mortality data on an aggregate basis. The main finding was that falling fertility is the key determinant of the number of surviving children whereas the effect of children's improving mortality is relatively marginal. On average, mothers born in 1944 may have 3.40 children by age 65 and 3.20 by 85, compared to 1.18 and 1.16 children for mothers born in 1974. The analysis highlights that improving mortality is likely to make a difference to the availability of children only when fertility falls more gradually, but not among populations like Hong Kong where fertility has fallen continuously and steeply. Although the availability of children may have a “ceiling effect” on the amount of transfers to elderly persons, the parities of retiring cohorts from 2019 onwards are likely to fall below this ceiling of three or more children.

### 4.3 Intergenerational co-residence

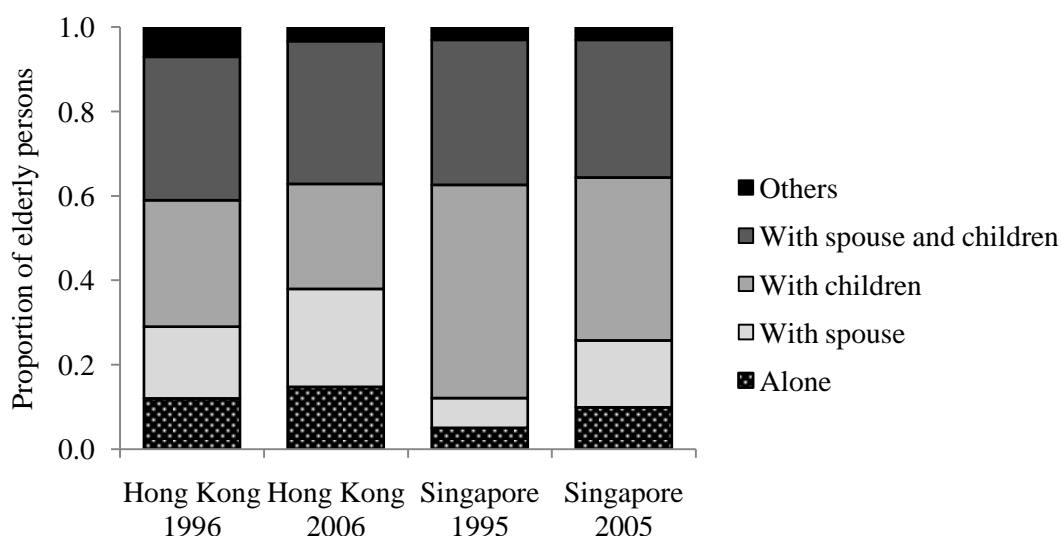
It is widely acknowledged that intergenerational co-residence is a common arrangement in East Asian families. In an early study, Chan (1997) observed from the 1995 National Survey of Senior Citizens that 85% of older adults aged 60 and above lived with at least one child in Singapore. Living arrangements were also relatively stable during retirement, with around 13% of elderly persons switching between co-resident and non-co-resident arrangements (A. Chan, 2005). However there were cultural variations. The elderly Chinese and Indians in Singapore—but not elderly Malays—were more likely to live with their sons than their daughters (M.B. Ofstedal, J Knodel, & N Chayovan, 1999, see discussion in Section 4.1). Co-residence often implies access to a range of resources. In Singapore, almost 80% of older adults aged 60 and above have meals with their co-resident children “often”, and elderly parents are more likely to receive physical care from co-resident than non-co-resident children (A. Chan, 1997; Mehta, 1999). In Hong Kong, co-residence usually means that elderly parents are able to live rent-free and do not have to pay for food and utilities (W. K.-M. Lee, 2004).

However there are two gaps in the current understanding of intergenerational co-residence in Hong Kong and Singapore. First there is ambivalence regarding the outlook for elderly persons’ living arrangements. One message from earlier research on Singapore is that family support through co-residence remains strong and has not declined, although these claims were based on data from a very short period in the late 1990s (A. Chan, 1997, 2005). On the other hand, there have been concerns about the possible impact of demographic ageing on such living arrangements (A. Chan, 2005; Martin, 1990). Both positions have not been empirically corroborated in recent years. Second, living arrangements are rarely cross-analysed with economic variables such as work participation and income level, which may help to reveal the vulnerability of particular elderly subgroups. The following original analysis of the national survey datasets described in Chapter 2 addresses these gaps. This section first reviews the extent of intergenerational co-residence in Hong Kong and Singapore before examining its relationship with financial dependence in old age. The next two sections look at financial support from children under different living arrangements and the combined household resources potentially available to elderly persons.

### *Overall levels of co-residence in Hong Kong and Singapore<sup>1</sup>*

Between the 1990s and 2000s, co-residence with adult children remained the norm for the majority of the elderly populations in Hong Kong and Singapore, with higher levels in Singapore (Figure 4.2). In the mid-2000s, 59% of elderly persons in Hong Kong and 72% in Singapore were living with their children. But over the 10 years there was a decrease in co-residence, with Singapore experiencing a sharper decline of 12 percentage points compared to 5 percentage points in Hong Kong. There was a corresponding increase in the proportion of elderly persons living alone or with their spouse only, from 29% to 38% in Hong Kong and from 12% to 26% in Singapore. These downward trends appear to be common to many industrialised societies even though different countries may start at different levels. Co-residence with children has also declined in Europe and is generally lower than in East Asian societies (Börsch-Supan, et al., 2008). In 2005 the proportion of elderly parents aged 60-69 who were living with their children ranged from 5% in Sweden to 41% in Italy.

**Figure 4.2** Living arrangements of elderly persons (65+) in Hong Kong and Singapore



Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

<sup>1</sup> Aggregate figures on recent living arrangements by sex and age are available from published reports on both Hong Kong and Singapore (Census and Statistics Department, 2008; Department of Statistics, 2001, 2006; Ministry of Community Development, 1995) but these do not permit further analysis such as on income levels and sources under different living arrangements. For consistency, the discussion of living arrangements throughout this section draws from original analyses of the national survey datasets rather than published aggregate data.

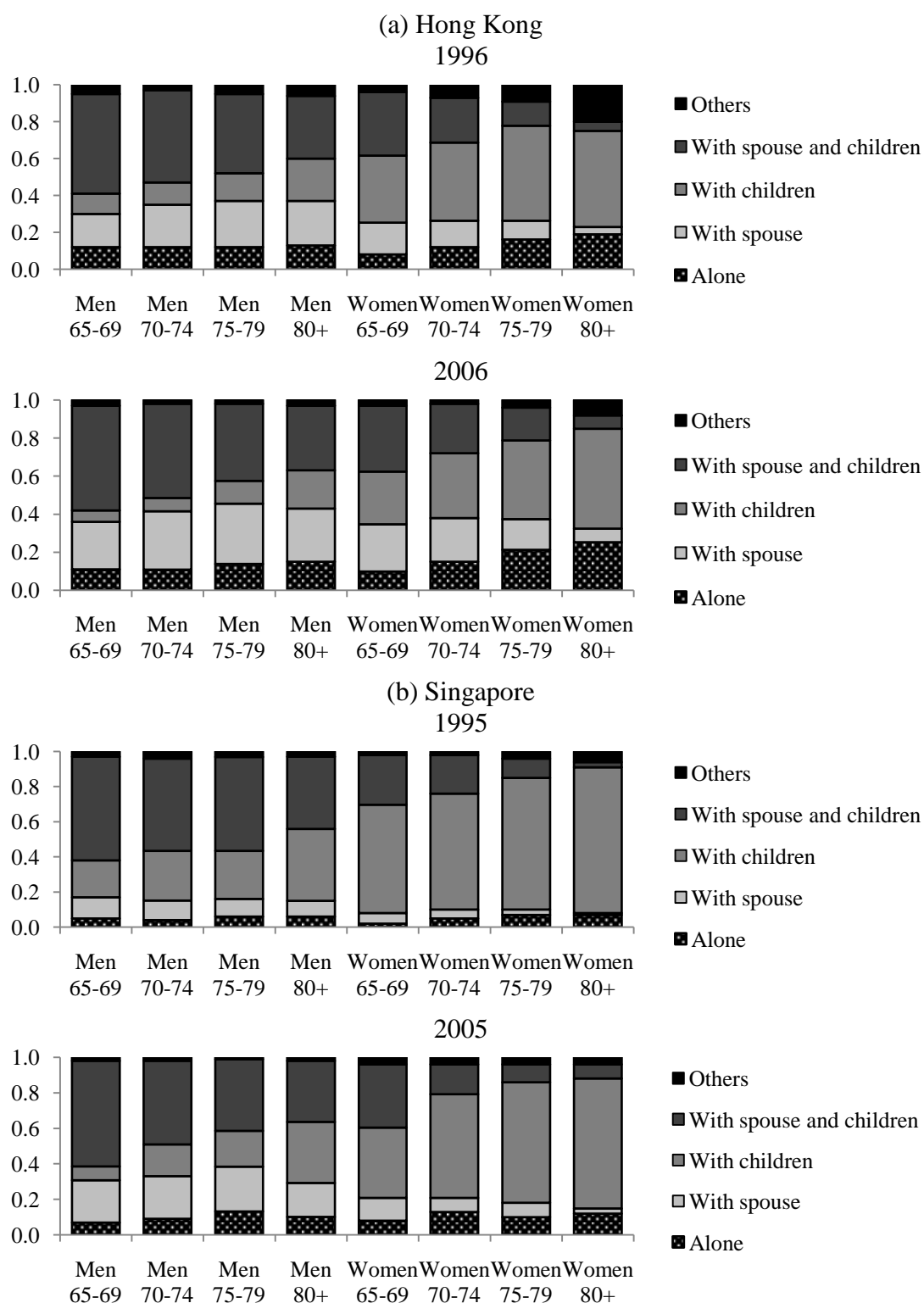
There have been consistent gender and age differences in living arrangements. In general, women were more likely to live with their children especially without the spouse, while men were more likely to live with their spouse with or without the children (Figure 4.3). This is partly due to women's longer life expectancies and younger ages at marriage than their husbands. Between 1996 and 2006, the gender difference narrowed in Hong Kong as levels of co-residence fell for all elderly persons, but to a greater extent for women. But in Singapore, as co-residence decreased for the elderly population, men who already had lower levels of co-residence in 1995 experienced a sharper decline in 2005. This resulted in a wider gender gap. Among men aged 70-79, the proportion who did not live with their children almost doubled between the two years.

In Hong Kong co-residence with the children was less likely for the older age groups. This is surprising considering that physical care needs tend to increase with age. For instance in 1996, 70% of women aged 65-69 were living with their children, compared to only 57% of women aged 80 and above. This may be related to nest-leaving as adult children set up home with their own families (Martin, 1989). The patterns for Singapore are less clear. In 1995 there appeared to be no significant age effects on the choice to live with children, with the total share of elderly persons living with children varying by no more than 4 percentage points across the age groups for either men or women. However age appeared to be related to a higher likelihood of living with children only rather than with both the spouse and the children. In 2005 there was greater variance in the total share of persons living with their children across age groups—14 percentage points for men and 8 percentage points for women. For women, the percentage living with children increased with age. But the likelihood of co-residence for the men fell between the ages of 65 to 79 before rising for the 80 and above age group. These data do not allow a separation of cohort and age effects but they do raise questions about the stability of intergenerational co-residence as a social norm and suggest that such living arrangements can no longer be assumed to be regular feature of life in old age.<sup>2</sup>

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<sup>2</sup> In both populations a small proportion of elderly persons lived with persons other than their spouse and children, such as grandchildren, siblings, other more distant kin, or friends. This group was relatively small in Singapore. But among women aged 80 and above in Hong Kong in 1996, one in five belonged to this category. While this may suggest a lack of children's support for the oldest women, it may also reflect their ability to find alternative care arrangements. Even though the proportion of women living under these arrangements fell in 2006, this may be an area for further research.

**Figure 4.3** Living arrangements of elderly persons (65+) in Hong Kong and Singapore by gender and age



Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

*Variations in co-residence by children's gender and marital status*

The survey datasets allow analysis of co-residence not just by parents' gender, as is usually presented in published sources, but also by children's gender and the presence of the children's spouse. This is an important aspect of intergenerational relations considering assumptions about patrilinear obligations in Chinese and Confucianist culture. Table 4.5 shows the distribution of living arrangements for elderly persons who co-resided with their children in Hong Kong and Singapore. Overall, co-residence with sons was more common than with daughters. Out of all the elderly persons living with their children in both Hong Kong and Singapore in 2005/2006, about 60% were living with their sons while less than a third were living with their daughters. But whether spouses were present appears to matter, both of the children and the parents. Elderly parents without their spouse were more likely to live with sons and their spouses, whereas elderly couples were more likely to live with sons only. Daughters with spouses on the other hand were the least likely to live with their parents. This arrangement accounted for under 10% of co-resident elderly persons in Hong Kong and Singapore. The two populations differed in one respect. Among elderly persons not living with their spouse, the distribution of living arrangements was very similar for men and women in Singapore, but was more varied for Hong Kong both between the sexes and across years.

**Table 4.5** Household composition of elderly persons (65+) who co-reside with children, Hong Kong 1996 and 2006, Singapore 2005, percentage

	Elderly persons not living with spouses			Elderly persons living with spouses	All
	Men	Women	All		
Hong Kong					
1996					
Sons only	30	25	26	32	29
Sons and their spouses <sup>1</sup>	35	41	40	20	29
Daughters only	11	12	12	19	15
Daughters and their spouses	10	12	12	5	8
Sons and daughters <sup>2</sup>	14	10	11	24	18
Total <sup>3</sup>	100	100	100	100	100
2006					
Sons only	34	26	27	38	34
Sons and their spouses	24	33	31	16	23
Daughters only	18	22	21	26	24
Daughters and their spouses	7	10	9	2	5
Sons and daughters	17	10	11	17	14
Total	100	100	100	100	100
Singapore					
2005					
Sons only	27	25	26	32	27
Sons and spouses	33	32	32	16	33
Daughters only	16	16	16	19	16
Daughters and spouses	9	12	12	6	9
Sons and daughters	15	14	14	28	15
Total <sup>2</sup>	100	100	100	100	100

Note: 1) Refers to spouses living in the same household, not marital status.

2) With or without their spouses

3) Figures may not add up to 100 due to rounding.

Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 2005

Between 1996 and 2006 in Hong Kong, there were some shifts within these broad patterns. Single children took on a greater role in sharing their households with their elderly parents. In 1996, 44% of co-resident elderly parents resided with either single sons or single daughters only. This increased to 58% in 2006. This may be a consequence of there being fewer children, and later marriage among younger generations resulting in a greater availability of single children. In particular co-residence with single daughters only rose by nine percentage points. While this was one of the least likely living arrangements in 1996, a quarter of co-resident elderly persons were living in the same household as their single daughters in 2006, overtaking the share of elderly persons living with sons and their spouses. This echoes trends in other Asian societies, including China, India, and Korea, of a growing

recognition of daughters as important care providers as elderly parents have fewer children—and therefore fewer sons—available (Croll, 2008). In the context of Hong Kong, this development has not been noted in earlier research on differences in co-residence based on children's gender (Knodel & Debavalya, 1997; M.B. Ofstedal, et al., 1999).

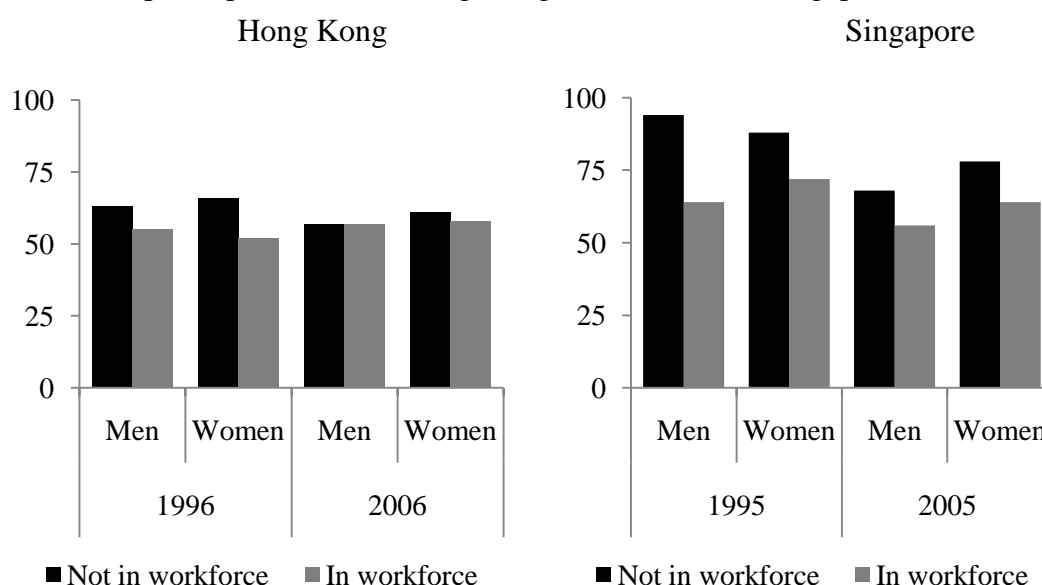
The above analysis provides some support for the argument that sons assume greater responsibility than daughters for the care of elderly parents through co-residence, and that this gap widens once the children set up families of their own. But the differences between Singapore and Hong Kong and changes in Hong Kong within a short span of 10 years suggest that cultural and gender norms of care responsibility cannot be narrowly defined. These norms are capable of responding to other forces such as demographic changes.

#### *Co-residence and financial dependence*

Remaining in the labour force in old age offers possible additional work income. Using work as a proxy for financial independence, Figure 4.4 shows the likelihood of elderly persons to live with their children by labour force participation status. Only a small minority of elderly persons in Hong Kong and Singapore, especially women, remain in the workforce (see Chapter 2). But those who were in the workforce were less likely to be co-resident with their children. This difference diminished for both populations by 2005/2006 but was still distinct for elderly men and women in Singapore.



**Figure 4.4** Percentage of elderly persons (65+) who lived with their children by labour force participation status, Hong Kong 1996 and 2006, Singapore 1995 and 2005



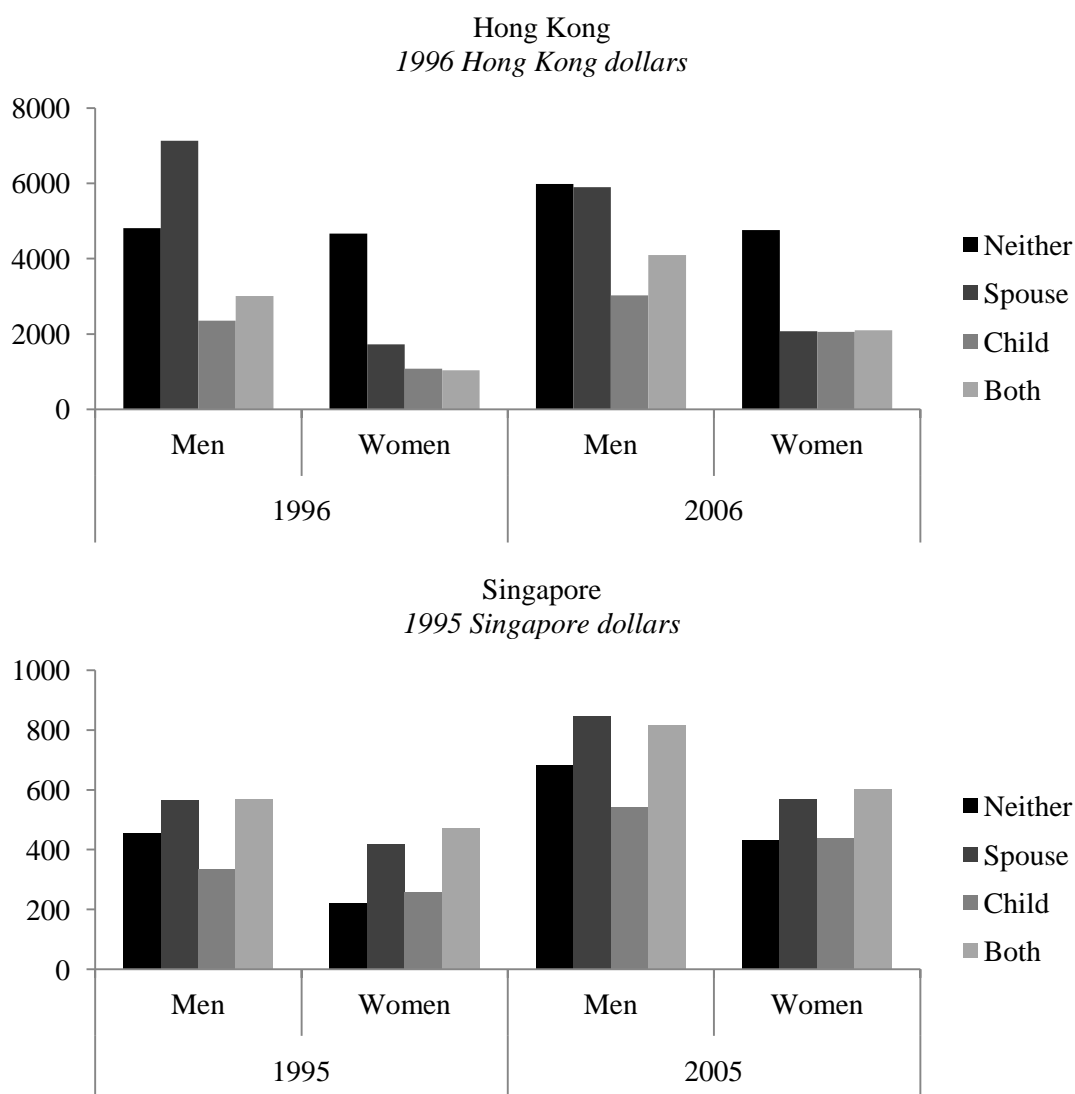
Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

An examination of individual income levels provides a better understanding of the relationship between elderly persons' financial means and living arrangements. Figure 4.5 shows the mean individual gross monthly incomes of the elderly populations in Hong Kong and Singapore in 1995/1996 and 2005/2006. There are a number of interesting variations between genders and across the two populations. In Hong Kong elderly persons living with their children had relatively lower incomes, regardless of the presence of the spouse. Living apart from the children is especially indicative of having higher individual incomes for elderly women. While women had lower incomes than men in any living arrangement, the widest gap in individual incomes was between elderly men and women who lived with their spouse only. In 1996 the average individual income of men living with their spouse only was HK\$7100, compared to HK\$1700 for women. This gap narrowed in 2006 as the income of men living with their spouse only fell to HK\$5900 while that of women rose to HK\$2100 in 1996 value. Nonetheless the income difference is suggestive of women's dependence on their spouses among elderly couples who lived apart from their children.

In Singapore elderly persons living with their children and not their spouse had some of the lowest average incomes, which appears to support the argument that co-residence may be a way to achieve better income security. But elderly couples who

lived with their children had among the highest incomes in both years. Instead the absence of the spouse is more consistently linked with having low individual incomes, which raises concerns particularly for elderly persons living with neither their spouse nor their children. In contrast to elderly women living on their own in Hong Kong who had the highest individual incomes among women, this group fared poorly in Singapore, with the lowest average income of any category of elderly persons in both years. Despite strong gains in real incomes between 1995 and 2005, overall individual income patterns by living arrangement remained remarkably stable.

**Figure 4.5** Mean individual gross monthly incomes of elderly persons (65+) by sex and living arrangements, Hong Kong 1996 and 2006, Singapore 1995 and 2005

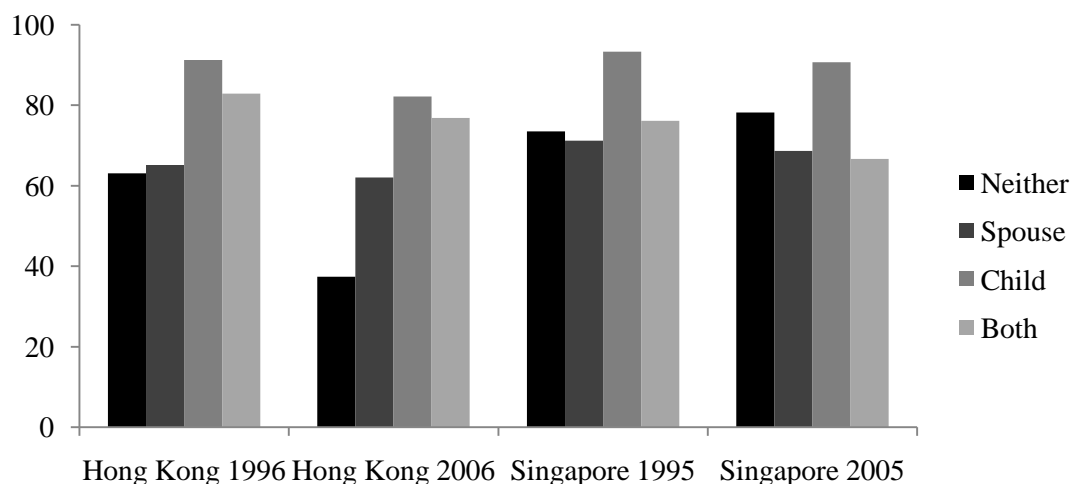


Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

Besides comparing individual incomes among elderly persons, these incomes can be analysed in relation to the working population to provide an indication of their living standards relative to the rest of society. The low-income threshold used here is 40% of the median population work income. As Chapter 2 highlighted, many elderly persons have low incomes by this standard. So it is not unexpected that the majority of elderly persons also have low incomes across most types of living arrangement (Figure 4.6). The observations here generally confirm what was indicated by Figure 4.5 above. Elderly persons living with their children only were most likely to have low relative incomes in Hong Kong and Singapore. In the four rounds of survey, 82-93% of elderly persons in this category had individual incomes below the 40% threshold. In Singapore elderly persons who lived with their spouse were less likely to have low incomes. But even among this group, two thirds had low incomes in 2005. In Hong Kong living apart from the children was more likely to indicate higher individual incomes. This was especially clear in 2006 when 37% of elderly persons living with neither the spouse nor the children had individual incomes below 40% of the median population work income, compared to 77% among persons living with both their spouse and their children and 82% among persons living with their children only.

Adopting income standards based on the working population reveals other differences between Hong Kong and Singapore. Although elderly persons in Singapore achieved real gains in individual income between 1995 and 2005, their income situation relative to the working population did not improve substantially over this period and in fact worsened for elderly persons living on their own. On the other hand while real income growth was slower for elderly persons in Hong Kong, the proportion with low individual incomes relative to the working population fell for all types of living arrangement and most noticeably for elderly persons living on their own. The income position of this group is the biggest difference between the two populations.

**Figure 4.6** Percentage of elderly population (65+) with individual incomes below 40% median population income in Hong Kong and Singapore, by living arrangement



Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005

### *Summary*

The two main messages from this section are that firstly, earlier optimism about the persistence of intergenerational co-residence may have been misjudged. Co-residence has fallen visibly in both Hong Kong and Singapore over just ten years. Secondly, the cross-analysis of living arrangements with individual incomes suggests that this downward trend may pose more serious risks to elderly persons who are more vulnerable in the first place.

- Co-residence with adult children remained the norm for the majority, with more than half of the elderly persons in Hong Kong and two-thirds in Singapore living with their children in 2005/2006. But there had been a decrease in co-residence between the 1990s and 2000s of about ten percentage points, which meant a rise in the likelihood of living alone or with the spouse only. On the whole, women were more likely to be co-resident with their children. This gender gap widened in Singapore over the ten years, with a doubling of the proportion of elderly men aged 70-79 not living with their children.
- Co-residence appears to vary by children's gender and partnership status. Out of all the elderly persons living with their children in Hong Kong and

Singapore in 2005/2006, about 60% were living with their sons while less than a third were living with their daughters. Daughters with a spouse present were the least likely to live with their parents. But between 1996 and 2006 in Hong Kong, co-residence with single daughters only rose by nine percentage points to overtake the proportion of elderly persons living with sons and their spouses. This casts some doubt on more deterministic interpretations of cultural and gender norms in these societies.

- In Hong Kong elderly persons living with their children had relatively lower incomes, regardless of the presence of the spouse. Living apart from the children was indicative of having higher individual incomes. Among elderly women, those living with neither their spouse nor their children had the highest individual incomes. But in Singapore, elderly persons living with their children only had lower incomes, not persons living with both their spouse and their children. Instead elderly persons living with neither their spouse nor their children had the lowest incomes, particularly the women. In 1995 and 2005, more than 90% of elderly persons living with their children only had individual incomes equivalent to less than 40% of the median population income in Singapore. Since co-residence may be a way of accessing financial security for elderly persons with low individual incomes, any decline in co-residence may also put them at greater risk of financial hardship.

#### **4.4 Financial transfers**

##### *Financial exchanges with elderly parents in different countries*

As mentioned in Chapter 2, previous research has found that in Singapore the majority of elderly persons receive regular transfers from their adult children and that women are more likely to receive transfers than men (A. Chan, 1997; A. Chan, et al., 2003). Published data also show that in Singapore, the incidence of financial support from adult children is eroding. In 1995, 84% of elderly persons received regular cash contributions from their children and about 80% cited children as their main source of financial security (Table 4.6). By 2005, fewer than 80% depended on their children for financial help and less than two thirds regarded their children as their main financial source. Directly comparable data have not been published for Hong Kong. Instead separate studies have documented the provision of financial support from the

perspective of the adult children instead of the elderly parents. Between 30% and 70% of adult children gave financial support to their parents in 1999 and 2009 (Table 4.7).

**Table 4.6** Percentage of elderly persons exchanging financial resources with children in Singapore, 1995-2008

Year	Parents' age	Receiving from children	Giving to children
1995	65+	84	29
2005	65-74	76	-
	75+	78	-
2008	65+	68	-

Note: The 1995 and 2005 surveys asked about “regular cash contributions”, while the 2008 survey asked about “financial sources to meet old-age needs”. 1995 based on co-resident children only. Other years based on all children.

Source: Ministry of Community Development, Youth and Sports (1995, 2005), Housing and Development Board (2010).

**Table 4.7** Percentage of adult children exchanging resources with parents in Hong Kong, 1999 and 2009

Year	Children's age	Financial transfers		Social support	
		Giving to parents	Receiving from parents	Giving to parents	Receiving from parents
1999	15+	30	-	-	-
2009	18+	39-70	15	13	7

Note: 1999 based on all adults with or without surviving parents; Yes/No responses; any amounts to co-resident parents; and only contributions above a minimum to non-co-resident parents. 2009 based on adults with surviving parents only. 39% gave financial support “very often” or “often”, while an additional 31% contributed “occasionally”.

Sources: Census and Statistics Department (2003, 2010c)

Despite different bases of calculation, the data on total family exchanges in Singapore and Hong Kong show clear differences when compared with Europe. In Singapore and Hong Kong, the older generations are net recipients in the family (Table 4.6, Table 4.7). In the case of Hong Kong, net transfers are upward from adult children to older parents in terms of both financial and time resources.<sup>3</sup> Table 4.8 shows data on Germany and Italy as examples, but the trend is similar across most parts of Europe, with differences only in the magnitude of exchanges across countries (Albertini, et al., 2007). Here, the net flow of financial resources is downward from older parents to adult children. On average in Europe, less than 5% of parents receive money regularly

<sup>3</sup> A 2006 survey found that in Hong Kong, older adults are net providers of financial and practical support—primarily to their children but also other family members—up to their 60s, when they become net recipients (Leeson & Harper, 2007).

from their children. But social support mainly flows upward from adult children to their parents. Elderly parents therefore hold a more balanced and less dependent role in the family, both contributing and receiving help.

**Table 4.8** Percentage of older adults (50+) exchanging resources with children in Germany and Italy, 2004

	Financial transfers		Social support	
	Receiving from children	Giving to children	Receiving from children	Giving to children
Germany	4	27	23	12
Italy	2	16	12	7

Source: Albertini, Kohli, & Vogel (2007)

Although adult children give less direct financial support to their parents in Europe, working-age adults transfer financial resources to elderly parents indirectly through social security contributions to pay-as-you-go (PAYG) pension systems (Attias-Donfut & Arber, 1999; Blome, et al., 2009). This policy mechanism for transferring financial resources across generations is much weaker in Hong Kong and Singapore, as seen in the discussion of their public pensions in Chapter 3. There is also a difference in timing. In Europe, there is a cyclical flow of financial resources between two generations within any one time period, mediated by public pension systems. But in Hong Kong and Singapore, the flow of financial resources between generations is unidirectional—upward—within a single time period. The “circle” of exchange is only complete when one considers that in the next time period, the new cohort of elderly parents will in turn expect financial support from their adult children (Mehta, 1999). The differences in family exchanges between Hong Kong and Singapore on the one hand, and European countries on the other, are therefore in the transfer channels, directions, and time periods implied in their respective generational contracts, which are sometimes obscured in more generalised cultural accounts of East Asian social policy.

#### *Children's financial transfers by living arrangement*

The current understanding of financial transfers to elderly parents in Hong Kong and Singapore is limited in two ways. First, few studies examine how the incidence of transfers varies for different elderly subgroups. Second, much of the East Asian sociology literature focuses on the incidence of transfers rather than amounts. As an

exception, a useful recent study that avoids both of these problems found that elderly women, widows, and persons living with their children were likely to receive larger transfers from their children in Hong Kong (K. L. Chou, 2010). The rest of this section extends current understanding by presenting original analysis of the incidence of children's financial transfers under different living arrangements and transfer amounts, using microdata from the national surveys mentioned earlier and additional data sources.

In 1995 and 2005, elderly persons in Singapore who co-resided with their children were more likely to rely on their children's financial contributions and less likely to receive income from all other sources, compared to elderly persons who did not live with their children (Figure 4.7). Elderly persons who were not co-resident with their children had more diverse income sources, such as other kin, work, pensions, and the CPF. But this gap in the diversity of income sources diminished between 1995 and 2005, suggesting that even those elderly persons who were not living with their children had come to be more reliant on children's support. Over the 10 years, the proportion of non-co-resident elderly persons who received income from their children increased from 54% to 60%, while access to other sources such as work and other kin decreased by about 10 percentage points.

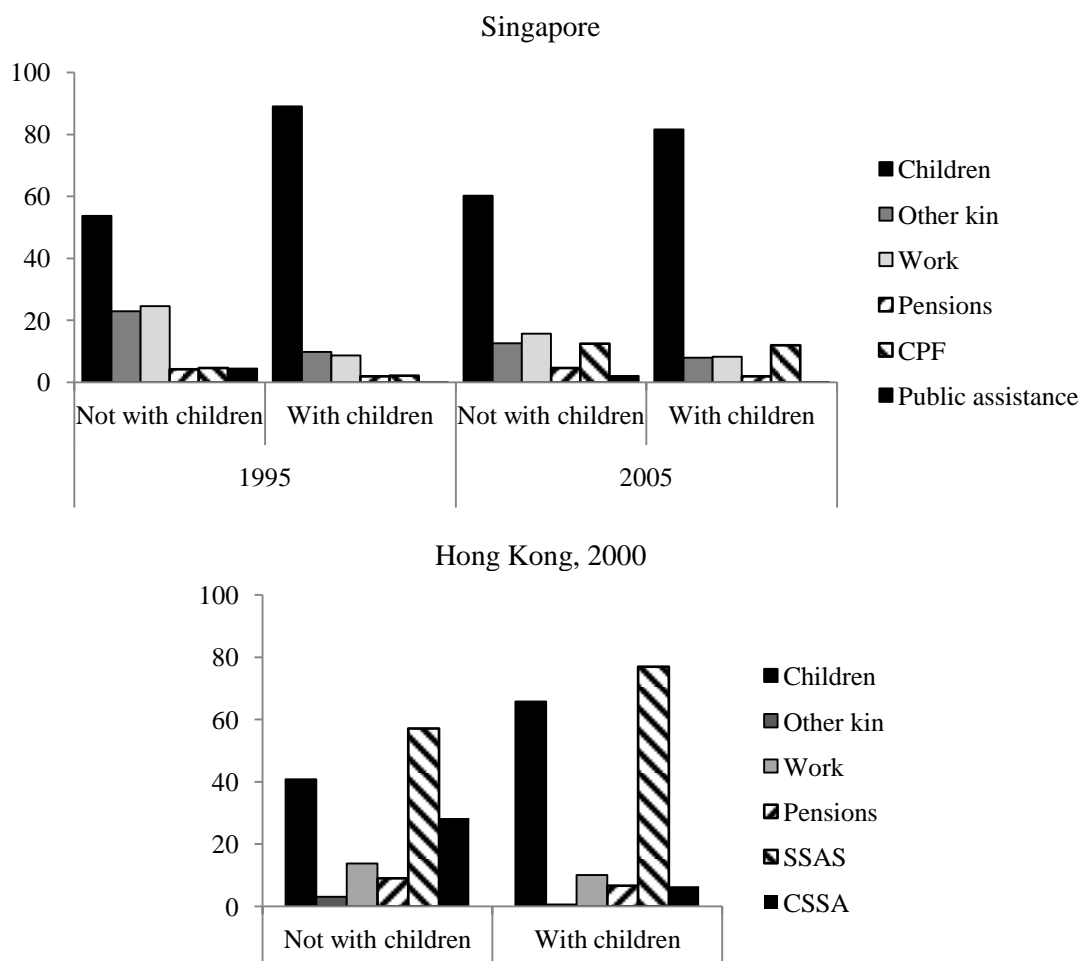
The receipt of public assistance in Singapore was slightly higher among elderly persons who were not co-resident. In 1995 and 2005, 4% and 2% of non-co-resident elderly persons received public assistance respectively, while only around 0.1% of co-resident elderly persons did. Although this partially reflects the eligibility criteria for public assistance which includes the absence of family support, it also suggests that independent living in old age may arise from two sets of opposite financial circumstances—as a choice enabled by financial independence or as a reflection of financial destitution in the absence of family support.

Co-resident elderly persons in Hong Kong were similarly more likely to receive income from their children and less likely to derive income from other sources such as work, pensions, and other kin. There are also interesting receipt patterns for the CSSA and Social Security Assistance Schemes (SSAS) by living arrangement. Co-resident elderly persons were more likely to receive the SSAS than the CSSA (which assesses eligibility on a household basis) because they tend to have lower individual incomes but higher household incomes due to working-age children in the household. On the other hand, elderly persons who lived on their own were more likely to qualify



for the CSSA than the SSAS (which is means-tested on an individual basis from the age of 65 to below 70) because they had higher individual incomes but lower household incomes. Depending on their living arrangements and financial situation, elderly persons in Hong Kong had recourse to one scheme or the other.

**Figure 4.7** Percentage of elderly persons (65+) who reported income receipts from selected sources in Singapore and Hong Kong by living arrangements, 1990s and 2000s



CPF: Central Provident Fund. SSAS: Social Security Allowance Scheme.

CSSA: Comprehensive Social Security Assistance Scheme.

Source: Own calculations using data from Singapore National Survey of Senior Citizens 1995, 2005, and Supplementary Enquiry to the Hong Kong General Household Survey 2000.

#### *Amount of transfers from children*

Current knowledge about the amounts of cash transfers from adult children to elderly parents is limited by the availability of data. In Singapore's National Survey of Senior Citizens, only the 1995 questionnaire contained a question on the amount of transfers.

Both the 1996 and 2006 By-census in Hong Kong did not ask detailed questions about income composition. Therefore for the analysis below, additional data had to be obtained from other sources. The first is the Housing and Development Board's 2008 Sample Household Survey in Singapore, which covers about 7900 households and is weighted to represent the population residing in public housing. Direct access to the microdata was not possible but the housing authority provided several useful aggregate indicators about children's transfers. For Hong Kong, this study obtained on-site access to microdata from the 2008 Thematic Household Survey for a limited duration, which includes grouped data on transfers. The following are the key findings.

Singapore: In Singapore transfers from children were equivalent to more than half of the average individual income of elderly persons in 2008 (Table 4.9), based on the average individual income of elderly persons in the 2005 National Survey of Senior Citizens adjusted for inflation between 2005 and 2008. Men and elderly persons in the bottom half of the distribution of household incomes received slightly more but the differences were not statistically significant. As mentioned earlier, elderly persons living apart from their children in Singapore tend to have greater financial independence—they have higher individual incomes and more diverse income sources. Table 4.9 shows that they also received larger amounts of transfers from children (statistically significant at 0.05 level)—68% of average individual income compared to 58% among elderly persons who co-resided with their children. This offers some corroboration for the prediction in exchange theory that cash transfers are less likely when recipients have higher pre-transfer incomes but are larger in amount when they do occur (see Section 4.1). But while co-resident elderly persons may receive smaller amounts of transfers from children, they often benefit from other in-kind support such as rent-free living, meals, and utilities (W. K.-M. Lee, 2004; Mehta, 1999).

Data from 1995 show the distribution of children's transfers as a proportion of elderly persons' individual incomes (Table 4.10). The most striking observation is that in 1995, children's transfers exceeded 75% of individual income for three quarters of all elderly persons. Generally elderly persons who were women, aged 70 and above, living with their children, and whose individual incomes were below 40% of the median population work income received transfers that represented bigger proportions of their total income. But this is largely a reflection of their lower individual incomes than the size of transfers (see Figure 4.5).

**Table 4.9** Mean monthly transfers received from all children by elderly persons (65+) living in public housing, as percentage of elderly persons' average individual income, Singapore 2008

<i>Sex</i>	
Men	64
Women	61
<i>Living arrangement</i>	
With children	58
Not with children	68
<i>Elderly household income distribution</i>	
Bottom half	65
Top half	61

Note: 82% of households lived in public housing in 2010 (Department of Statistics, 2012).

Source: Own calculations; mean transfers based on communication with Housing and Development Board, average total individual income of all elderly persons based on data from the National Survey of Senior Citizens 2005 adjusted for inflation.

**Table 4.10** Distribution of elderly persons (65+) by the proportion of individual income made up of children's transfers, Singapore 1995, percentage

		None	Less than 25%	25 to 49%	50 to 75%	More than 75%
All elderly persons		5	7	5	4	75
Sex	Men	9	12	5	5	65
	Women	3	4	5	3	83
Age	65-69	7	9	6	5	70
	70-74	4	6	4	4	79
	75+	6	6	4	3	77
Living arrangement	With neither	20	7	6	1	32
	Spouse only	10	13	5	4	59
	Child only	2	6	4	3	84
	With both	5	9	6	6	74
Individual income	Below 40% median population work income	3	4	3	3	85
	40% or more	21	25	15	8	24

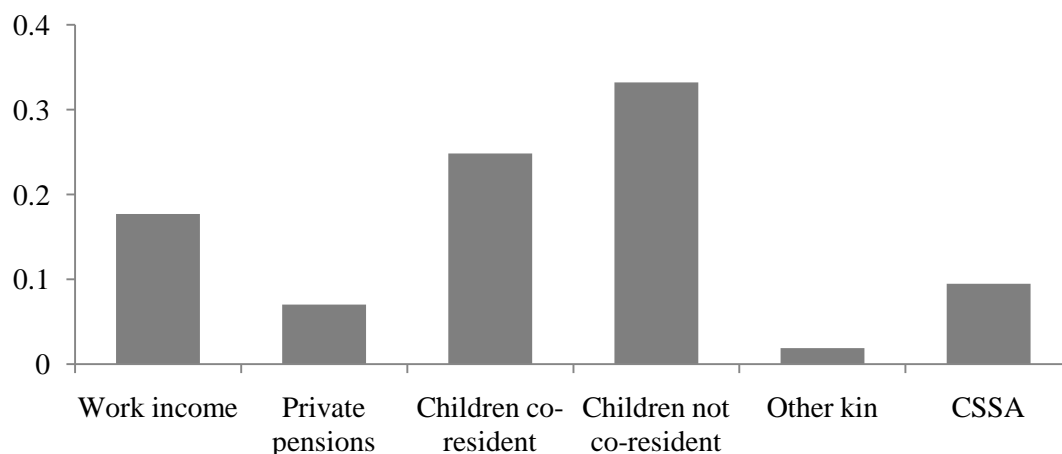
Source: Own calculations based on data from the National Survey of Senior Citizens 1995

Hong Kong: Data from the 2008 Thematic Household Survey in Hong Kong make two important contributions to the understanding of children's transfers. First they provide the only available empirical breakdown of elderly persons' individual incomes by specific sources. Second they distinguish between transfers from co-

resident children and those living apart, whereas the analysis so far has been in terms of the co-residency status of the elderly parents. Figure 4.8 shows that children who were not co-resident in fact contributed a larger amount than co-resident children—33% of elderly persons' average income in 2008 compared to 25%, based on the average total individual income of elderly persons in the 2006 Hong Kong By-census adjusted to 2008 value. In the literature, this has been interpreted as a possible compensatory arrangement, where children who do not share their housing with elderly parents perceive an obligation to provide larger transfers as an alternative form of “care” (W. K.-M. Lee, 2004). Altogether transfers from children were equivalent to almost two thirds of elderly persons' average individual income, very close to levels in Singapore. Work income accounted for 18%, while other sources such as allowances from the CSSA Scheme, private pensions, and transfers from other kin represented less than 10% each.

There are suggestions of altruistic transfer motives here, seen in the larger amounts received by elderly women and persons outside the labour force (Figure 4.9). Transfers from children living apart may also be calibrated according to need, taking into consideration the in-kind benefits and lower expenditures that co-resident elderly persons may enjoy. The amount of such transfers was smaller for elderly persons in more supportive living arrangements. Hence elderly persons living alone had the largest transfers from non-co-resident children, followed by those living with a spouse, living with children, and finally living with both the spouse and the children. Co-resident elderly persons already benefit from income sharing within productive households. The data here show that they also receive sizeable amounts of transfers from children both living together and apart, highlighting the multiple income protective effects of intergenerational co-residence.

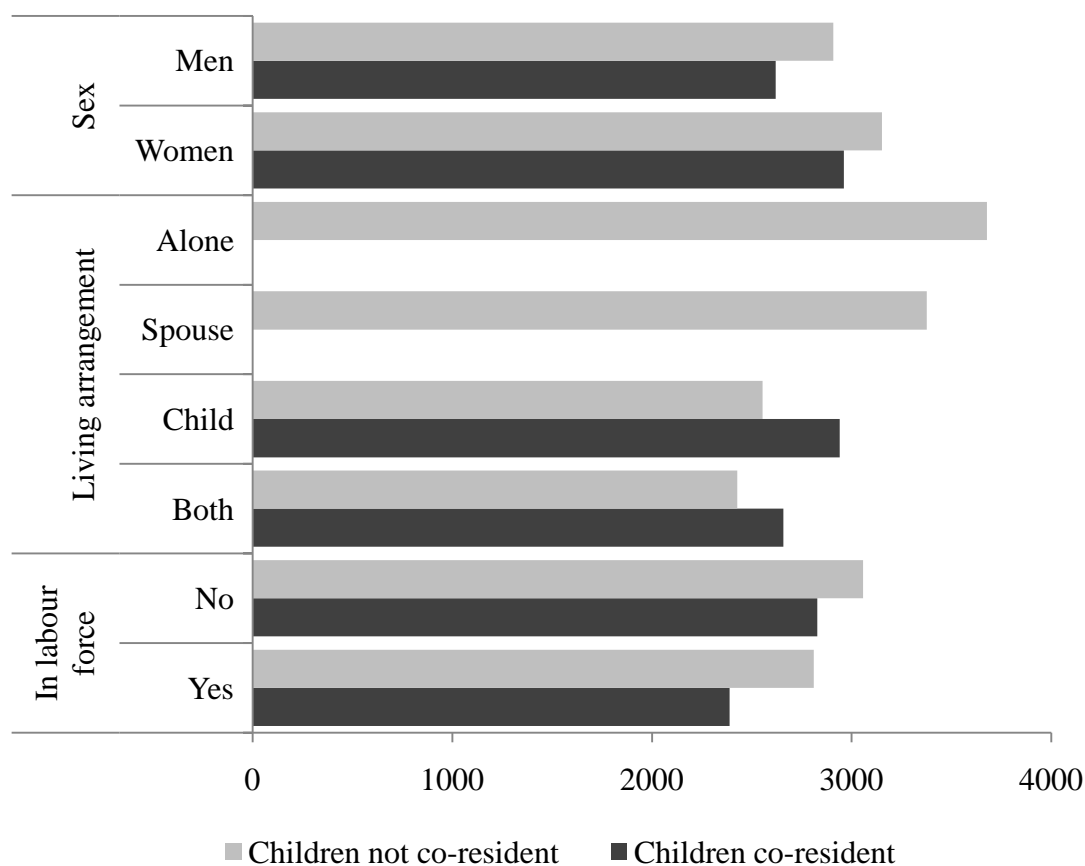
**Figure 4.8** Estimated proportions of elderly persons' (65+) average individual income from different sources, Hong Kong 2008



CSSA: Comprehensive Social Security Assistance Scheme.

Source: Own calculations; average income from each source for all elderly persons estimated using mid-points of income bands based on data from the Thematic Household Survey 2008, average total individual income of all elderly persons based on data from the Hong Kong Population By-census 2006 adjusted for inflation.

**Figure 4.9** Estimated mean monthly transfers received by elderly persons (65+) from children co-resident and living apart, Hong Kong 2008, Hong Kong dollars



Source: Own calculations using mid-points of income bands based on data from the Thematic Household Survey 2008

### *Summary*

- There are clear differences of channel, direction, and timing in the exchange of resources between elderly parents and their adult children in Hong Kong and Singapore compared to European societies. In Hong Kong and Singapore families, elderly parents are net recipients of cash transfers, with around 80% citing adult children as their main source of income in Singapore. In Europe, they are more likely to provide than to receive financial help—on average only 5% of elderly parents receive financial contributions from their children. This reflects better financial means due to European public pension systems. Whereas intergenerational exchange takes place primarily within the household in East Asian societies, such exchanges are mediated by the welfare state in Europe.
- In both Hong Kong and Singapore, elderly persons who lived with their children were more likely to report children's contributions as a source of income compared to elderly persons who lived on their own or with the spouse only. Co-resident elderly persons were also less likely to have access to other types of income, such as from work and private pensions. This is consistent with findings in the previous section that co-residence often signals lower work participation and individual incomes. Children's contributions are therefore not just common to elderly persons in general, but are especially important to elderly persons who have less financial independence.
- In Singapore transfers from children were equivalent to more than half of the average individual income of elderly persons living in public housing in 2008. As predicted by exchange theory, elderly persons not living with their children may be less likely to receive transfers, but those who did also received larger amounts. The 1995 survey data also show that as a proportion of individual income, children's transfers were equivalent to more than 75% for three quarters of all elderly persons. In Hong Kong about 33% of elderly persons' average income in 2008 came from non-co-resident children, while a further 25% came from co-resident children. The total of almost two thirds is comparable to amounts in Singapore. Elderly persons with lower financial

independence, such as women and persons outside the labour force, received more. Given the prevalence and size of children's transfers, and their particular importance to more financially vulnerable elderly persons, the lower availability of children due to demographic changes can be expected to impact on income security in old age.<sup>4</sup>

#### **4.5 Elderly income security at the household level**

So far the analysis of elderly incomes has been at the individual level. But one of the implications of co-residence with children is that elderly persons will have access to greater resources through income sharing within the household. This section looks at the combined household resources potentially available to elderly persons, a topic which has not been addressed in the literature so far. Parts of the analysis are for Hong Kong only as amounts of household income are not recorded in the Singapore surveys.

##### *Household sizes*

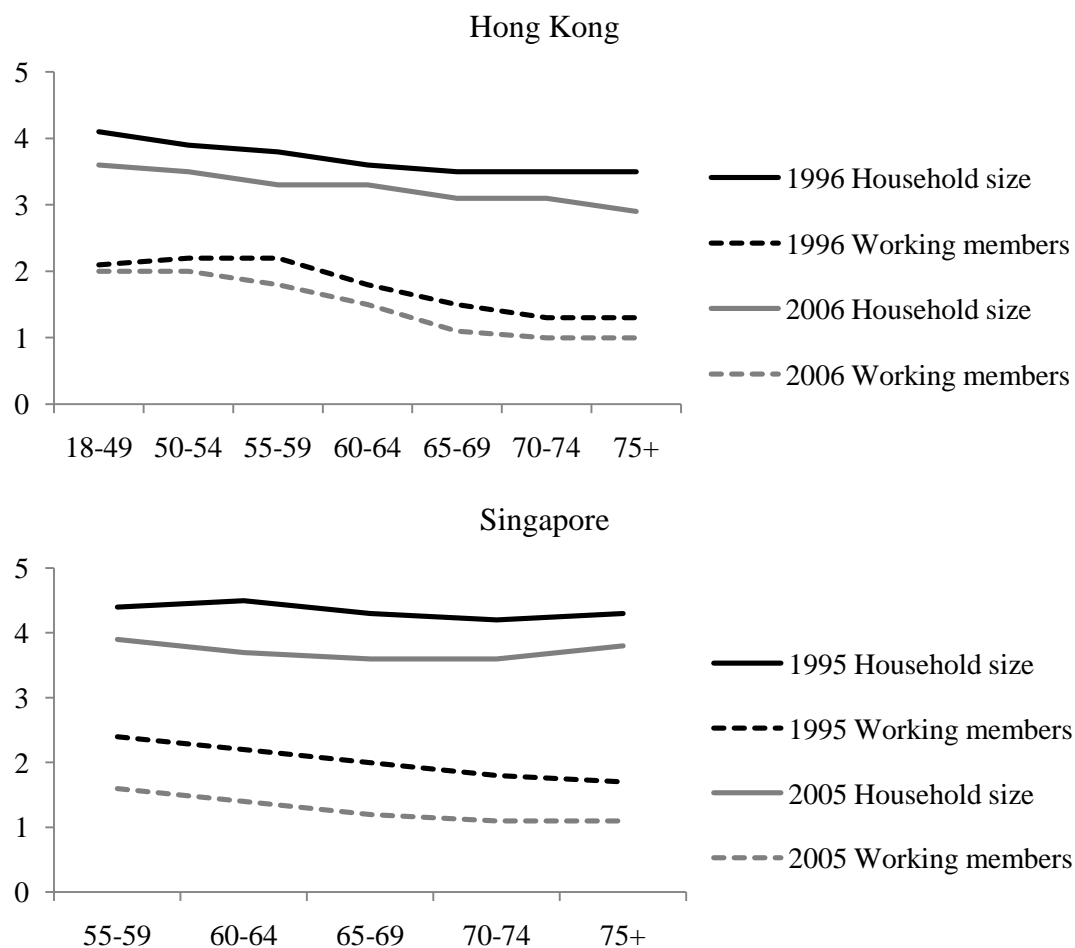
Figure 4.10 shows how average household size and number of working household members vary with age in Hong Kong and Singapore in 1995/1996 and 2005/2006. In Hong Kong household sizes decrease with age. In 1996 the average household size was 4.1 for persons aged 18 to 49 and just 3.5 for elderly persons aged 65 and above. Perhaps more importantly, the average number of household members in work peaked at 2.2 around the ages of 50 to 55 then fell steadily with age to a low of 1.3 for persons 70 years old and above. This is consistent with the lower levels of intergenerational co-residence at higher ages as observed earlier in the chapter. The same patterns were repeated in 2006 but there was also an overall decrease in both total household size and the number of members in work. In Singapore, where levels of co-residence with children did not change significantly with age, total household sizes remained stable across age groups. But in other respects the trends are similar to Hong Kong—the average number of working household members decreased with age and households

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<sup>4</sup> Another dimension that falls beyond the scope of this study is that while lower fertility increases the ratio of elderly persons (aged 65+) to working-age adults (aged 15-64), it also reduces the burden of dependency from young children (below 15). Total dependency in fact fell quite dramatically from 70% to 30% between 1970 and 2010 in Hong Kong and Singapore (UN, 2013). This trend has been observed by Goodman and Harper (2008) for Singapore and has also been documented in the UK (Pensions Commission, 2004). Elderly persons may have fewer adult children, but these adult children will each have fewer children of their own, such that overall demand on the resources of productive family members may not necessarily increase.

became smaller over time. The lower likelihood of work in the households of older persons can be expected to have an impact on elderly incomes calculated on a household basis.

**Figure 4.10** Average household size and number of working household members by age, Hong Kong 1996 and 2006, Singapore 1995 and 2005



Source: Own calculations using data from Hong Kong Population By-census 1996, 2006; Singapore National Survey of Senior Citizens 1995, 2005



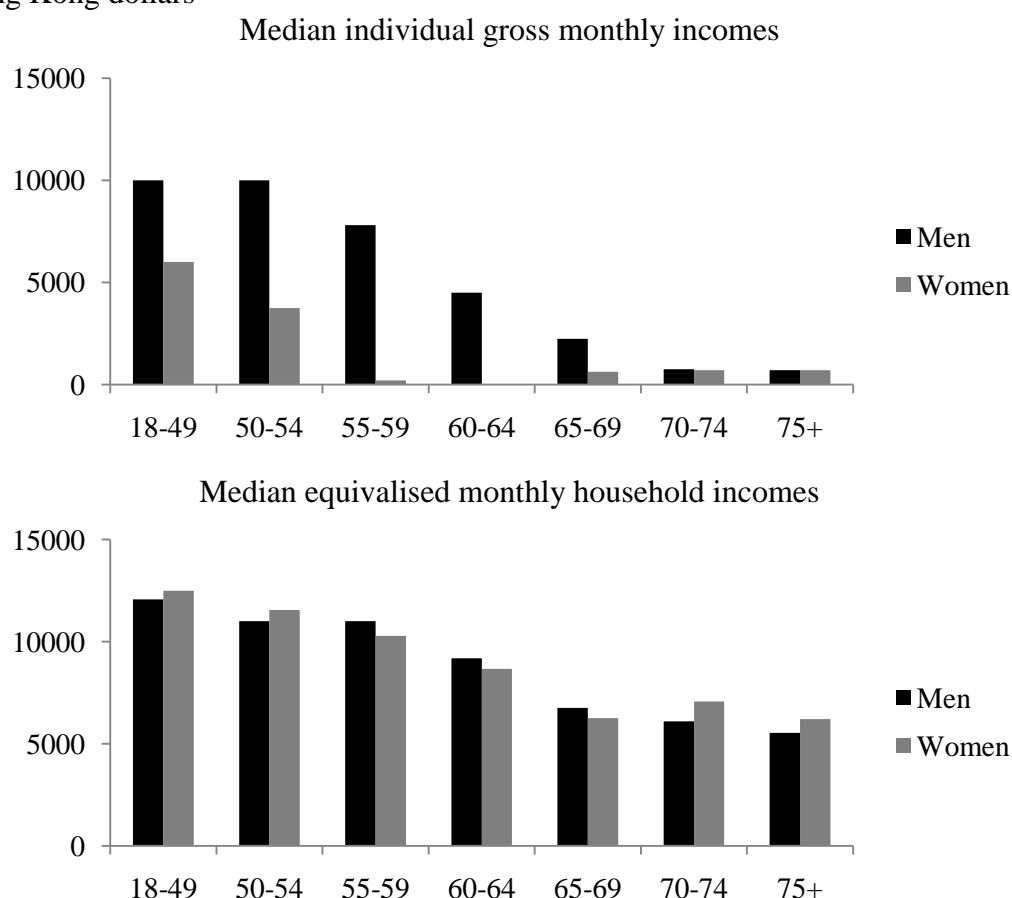
### *Comparison of individual and household incomes*

A central question underlying the analysis of co-residence, assuming equal income sharing within households, is how living with adult children transforms the income positions of elderly persons. Equivalised household income provides an estimate of the potential resources available to elderly persons from other household members by taking into consideration economies of scale within households. The following calculations for Hong Kong adopt the square root scale, following the OECD convention in recent income studies (see OECD, 2008)<sup>5</sup>. Figure 4.11 compares median individual and equivalised household incomes by age for Hong Kong in 2006 (the 1996 data are not shown as they present a broadly similar picture). Chapter 2 has already shown that elderly persons had lower individual incomes than the below-65 population and that individual incomes decreased with age. But there are two major differences when incomes are assessed on a household basis. First the older age groups experience the most noticeable gains when household resources are combined, even though incomes are boosted across all ages. For example, persons aged 70 and above had median individual incomes of around HK\$700 but equivalised household incomes of about HK\$6000. Second the position of women relative to men improves greatly. In fact women in all age categories outside of 55-69 had slightly higher equivalised household incomes than men. Not only does co-residence have an income protective effect for the elderly population as a whole, it could also potentially cancel out the gender gap in individual incomes.

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<sup>5</sup> Very limited data from Singapore illustrate such scale economies. In 2007-2008 the average monthly household expenditure per person was \$1600 in a single member household and \$940 in households with 6 or more members (Department of Statistics, 2009).

**Figure 4.11** Individual and household incomes by age and sex, Hong Kong 2006, Hong Kong dollars



Source: Own analysis using data from Hong Kong Population By-census 2006

Table 4.11 compares individual and household incomes by age, gender, and living arrangements. It shows the potential effects of co-residence and income sharing on relative income positions by various dimensions. The figures in the first two rows corroborate what is already shown in Figure 4.11. Calculating incomes on a household basis improves the income position of elderly persons relative to persons aged 18 to 64. In 1996 younger persons had individual incomes that were 12.5 times that of elderly persons but household incomes that were less than 1.5 times as high. This remained true in 2006 even though the gap in household incomes between elderly and younger persons became slightly wider.

Intergenerational co-residence also benefits the income situations of elderly persons who lived with their children relative to those who did not. In fact relative income levels by living arrangements were almost entirely reversed when measured on a household basis. In both years elderly persons living with neither the spouse nor the

children had the highest median individual income but the lowest median household income, whereas elderly persons who co-resided with their children had the lowest median individual income and the highest median household income. This lends support to the altruism perspective of co-residence as a response to need. Earlier analyses had already argued that aged parents who were less financially independent were more likely to live with their children. The analysis here provides some empirical support that this living arrangement could have contributed significantly to these parents' income security.

Table 4.11 further highlights possible income consequences from changing household composition as inter-generational co-residence became less common in 2006. Compared to 1996, the median equivalised household income of elderly persons who lived with their spouses fell by just 4-5% in real terms and either remained stable or increased for elderly persons with other living arrangements. But taken as a whole, the median household income for all elderly persons aged 65 and above shrunk by 16% over this period, a result of the increasing trend towards elderly households with no adult children and therefore lower combined incomes.

**Table 4.11** Median individual gross monthly incomes and equivalised monthly household incomes by age, sex, and living arrangements, Hong Kong 1996 and 2006, 1996 Hong Kong dollars

	1996		2006	
	Individual income	Equivalised household income	Individual income	Equivalised household income
Age 18-64	7,500	11,000	7,800	12,300
Age 65 and above	600	7,700	700	6,500
Men	600	7,600	1,000	6,300
Women	600	7,800	700	6,700
Living with neither	2,100	3,500	3,100	3,500
Living with spouse	600	3,800	1,000	3,600
Living with child	600	9,200	700	10,300
Living with both	600	9,500	700	9,100

Source: Own analysis using data from Hong Kong Population By-census 1996, 2006

Apart from boosting the incomes of certain groups of elderly persons relative to others, income sharing within households can alter the spread of elderly persons within the population income distribution. Table 4.12 shows, separately for different living arrangements, how elderly persons within each individual income quintile group are redistributed across household income quintile groups in 1996 and 2006. The matrices reveal clear differences by living arrangement. In 1996 a large majority of elderly persons not in co-resident households belonged to lower quintile groups in the population distribution of household incomes than they were in within the distribution of individual incomes. From the second to the top individual income quintile groups, 62% to 84% fall into lower quintile groups when their incomes are measured on a household basis. While 45% of non-co-resident elderly persons from the bottom individual income quintile group belong to higher household income quintile groups, no more than 9% of other elderly persons do better when their incomes are assessed at a household level. This illustrates how the sharing of incomes in elderly-only households, where members had low or no incomes, might have weighed down the income positions even of elderly persons who had adequate individual incomes to begin with.

The picture for elderly persons who lived with their children is vastly different. Compared to elderly persons who did not live with their children, lower proportions of co-resident elderly persons are in lower income quintile groups on a household basis than they are on an individual basis. Instead, for persons in the lowest individual income quintile group, 77% belong to higher household income quintile groups. Even for other elderly persons higher in the individual income distribution, income sharing within households improves their relative situation, with a third to half doing better within the household income distribution.

The same trends can be seen in 2006 with a few minor changes. For non-co-resident elderly persons belonging to the bottom 20% in the individual income distribution, a larger proportion remains in the bottom 20% of the household income distribution compared to 1996. The income effects of co-residence remain strong for elderly persons with low individual incomes although others from the third and fourth individual income quintile groups become more likely to fall into lower household income quintile groups.

**Table 4.12** Elderly persons (65+) within the population distribution of personal and equivalised household incomes, Hong Kong, percentage

1996

Individual income distribution	Equivalised household income distribution			Total
	Lower quintile groups	Same quintile group	Higher quintile groups	
<i>Elderly persons not living with children</i>				
Bottom quintile group	-	55	45	100
2nd	84	7	9	100
3rd	89	2	9	100
4th	92	8	0	100
Top quintile group	62	38	-	100
<i>Elderly persons living with children</i>				
Bottom quintile group	-	23	77	100
2nd	25	26	49	100
3rd	40	22	38	100
4th	43	27	30	100
Top quintile group	55	45	-	100

2006

Individual income distribution	Equivalised household income distribution			Total
	Lower quintile groups	Same quintile group	Higher quintile groups	
<i>Elderly persons not living with children</i>				
Bottom quintile group	-	78	22	100
2nd	91	5	3	100
3rd	93	4	3	100
4th	87	11	1	100
Top quintile group	50	50	-	100
<i>Elderly persons living with children</i>				
Bottom quintile group	-	27	73	100
2nd	25	28	47	100
3rd	52	21	27	100
4th	55	23	23	100
Top quintile group	37	63	-	100

Source: Own calculations using data from Hong Kong Population By-census 1996, 2006

### *Summary*

This section demonstrated the income effects of intergenerational co-residence in several ways, assuming equal income sharing within the household:

- Measuring incomes on an equivalised household basis, as an illustration of income sharing, dramatically boosts the income positions of elderly persons. The downward age gradient observed for individual incomes becomes less steep and the income gap between genders disappears, suggesting that the oldest persons and women may benefit most from living with their children.
- Adopting a household instead of individual income perspective also puts elderly persons in a more favourable position relative to working-age persons aged 18-64. In 1996 younger persons had individual incomes that were 12.5 times that of elderly persons but household incomes that were less than 1.5 times as high. Intergenerational co-residence also reverses the income situations of elderly persons who lived with their children relative to those who did not. In 2006 elderly persons living with neither the spouse nor the children had the highest median individual income but the lowest median household income, whereas elderly persons who co-resided with their children had the lowest median individual income but the highest median household income.
- On the whole, co-resident elderly persons of all individual income levels were far more likely than non-co-resident persons to move up the income distribution when the distribution is switched from an individual to a household basis. While the sharing of incomes in elderly-only households where members had low or no incomes weighs down the income positions of elderly persons, income sharing in intergenerational households with working-age members is more likely to improve elderly persons' income situations.

#### 4.6 Summary

This chapter examined the role of family support in old-age income security, focusing on the availability of adult children, the levels and patterns of intergenerational co-residence, and the incidence and impact of children's cash contributions. The discussion is set against a theoretical background of children's motivations for supporting their elderly parents.

- Factors affecting children's support can be divided into those at the level of the individual, the society, and policy. The two main individual factors are altruism—response to the parents' needs, and exchange—reciprocity for some form of gift from the parents. There is evidence of both types of process in the international and Singapore literatures, although both theories appear to simplify the complex considerations behind the flow of resources across generations. At the societal level, cultural norms based on Confucianist traditions have been used to explain intergenerational exchange in East Asian populations. But the cultural argument does not address tensions between cultural ideals, popular practices, and policy incentives. From a policy perspective, it has been suggested that modernisation ushers in market alternatives and welfare states that displace the family's role. However family support remains common in industrialised societies and state-financed public pensions in Hong Kong and Singapore have not grown significantly despite economic development. Current understanding from welfare regime type research suggests that Hong Kong and Singapore may be less de-commodified than the liberal regimes and less de-familialised than the Southern European regimes, leaving them particularly vulnerable to a decline in family support.
- The number of surviving children is a primary determinant of family support. It depends on the number of children born to mothers of each cohort and the likelihood that the adult children are alive when the parents become very old. Opposite trends in Hong Kong and Singapore—decreasing fertility and improving life expectancies—make it difficult to read off kin availability outcomes directly from summary demographic indicators. For Hong Kong, the original analysis in this section incorporating demographic parameters by

cohort suggests that the number of surviving children that mothers have when they reach 65 will decrease from 3.4 to 1.2 between the birth cohorts of 1944 and 1974. Improvements to mortality will not be sufficient to make up for the steep and continuous fall in fertility.

- Further original analysis was done on nationally representative datasets. The first form of support from children is co-residence. While it is well-recognised that co-residence with adult children is common in East Asian societies, the analysis here resulted in several important new findings. Contrary to expectations in the literature in the 1990s, co-residence declined by around ten percentage points between 1995/1996 and 2005/2006 to about 60% in Hong Kong and 70% in Singapore. Co-residence also varied by children's gender and partnership status, with about 60% of elderly parents living with their sons and less than a third living with their daughters. Daughters with a spouse present were the least likely to live with their parents. But between 1996 and 2006 in Hong Kong, co-residence with single daughters rose by nine percentage points to overtake the proportion of elderly persons living with sons and their spouses, suggesting some fluidity to gender norms.
- In Hong Kong elderly persons living with their children had relatively lower individual incomes regardless of the presence of the spouse. Living apart from the children was indicative of having higher individual incomes. But in Singapore, elderly persons living with their *children only* had relatively lower incomes, while women living with neither their spouse nor their children had the lowest incomes. In 1995 and 2005, more than 90% of elderly persons living with their children only had individual incomes equivalent to less than 40% of the median population income in Singapore. Co-residence with children may therefore be a way of accessing income security for the least financially independent persons, although the income implications of having a spouse present is different for elderly persons in Hong Kong and Singapore.
- The second form of support is children's cash contributions. The literature indicates higher incidence of upward transfers to parents in East Asian societies as compared to Europe. But the analysis here also found that the amount of



transfers is considerable. Among both populations, transfers from children were equivalent to almost two thirds of the average individual income of elderly persons. The Hong Kong data showed that co-resident elderly parents received transfers from children both living together and apart. About 33% of elderly persons' average income in 2008 came from non-co-resident children, while a further 25% came from co-resident children. There is some evidence of altruistic motivations, as women and low-income persons received larger contributions.

- Income sharing within intergenerational households dramatically improves the financial position of elderly persons. This is illustrated by comparing equivalised household incomes to individual incomes, assuming equal income sharing. When incomes are measured on a household basis, the downward age gradient observed for individual incomes becomes less steep and the income gap between genders disappears, suggesting that the oldest persons and women may benefit most from living with their children. In 1996 younger persons in Hong Kong had individual incomes that were 12.5 times that of elderly persons but household incomes that were less than 1.5 times as high. Intergenerational co-residence also reverses the income situations of elderly persons who lived with their children relative to those who did not. In 2006 elderly persons living with neither the spouse nor the children in Hong Kong had the highest median individual income but the lowest median household income, whereas elderly persons who co-resided with their children had the lowest median individual income but the highest median household income.

The theoretical review and data analysis in this chapter cast new light on the challenge of old-age income security in Hong Kong and Singapore. Family support as an altruistic process has been visible in many ways, not least the greater likelihood for elderly persons with lower individual incomes to receive such support. But by the same token, financially dependent elderly persons may also be hardest hit by any erosion of family support, of which there are already clear signs. It is now apparent that family support as a pillar of retirement income provision is not as resilient as cultural accounts often suggest. The most noticeable indication is the fall in intergenerational co-residence over the short span of a decade. The analysis of the

number of available children in Hong Kong suggests that this trend may continue in the coming decades. At the same time, as shown in Chapter 3, public pensions in Hong Kong and Singapore remain very lean. Policy initiatives to facilitate the liquidation of housing assets for retirement income in Singapore have also seen little success. Instead of social policy crowding out or in family provision, here a support gap may be opening up as pension policies are slow to catch up with demographic trends and compensate for receding informal support. Part 2 of this study takes on these critical issues by directly modelling future living arrangements, income sources, and pension outcomes.

## **Part 2**

### **Prospects**

## 5. Modelling old-age income prospects

As discussed in Chapters 2 to 4, the two key pillars of old-age income security in Hong Kong and Singapore are public pensions and family support in the form of intergenerational co-residence and cash contributions. Between the 1990s and 2000s, older persons became more likely to report income receipts from the Central Provident Fund (CPF) in Singapore, while the Comprehensive Social Security Assistance (CSSA) Scheme and the Social Security Allowance Scheme (SSAS) in Hong Kong remained among the most common income sources. While family support was high, there were signs that levels of co-residence with adult children were receding. Current demographic trends suggest that the availability of children to future retirees will continue to fall, with implications for both household income sharing and financial support for elderly parents. The financial security of future elderly cohorts is likely to depend on the interaction of these trends.

So far, no study has analysed the possible future living arrangements of elderly persons in Hong Kong and Singapore, or the likelihood of access to different income sources. As for pension outcomes, a number of studies have projected the possible pension replacement rates in the two systems, as briefly reviewed in Chapter 3. But they have three main shortcomings: the only study to compare the two systems (by the OECD) adopts conservative and possibly unrealistic assumptions about pre-retirement withdrawals under the CPF; single-country studies have diverse and sometimes opaque parameters that result in a wide range of estimates which are also not directly comparable; and most studies assume static rather than historically accurate rules that can better reflect the impact of entry timing on pension outcomes. This chapter therefore reviews the methodological options for studying the prospects for old-age income security in Hong Kong and Singapore, laying the basis for the original projections to follow. First, in terms of family support, it considers methods for projecting kin availability, household composition, and the availability of support to elderly persons. Next, for pensions, it discusses issues related to measuring pension outcomes and the main projection approaches. The chapter concludes by outlining the methodological framework for Chapters 6 and 7.

### **5.1 Modelling kin availability with fertility and mortality data**

One way to estimate the availability of children to elderly parents is to combine fertility histories with mortality data by cohort. The distribution of a given age cohort of women by the number of available children in a particular year can be derived from the probabilities of different numbers of live births to that cohort and the probabilities of the children surviving between birth and that year. This approach has been used to project the availability of children to women aged 60 and above in Britain, France, and Finland (Michael Murphy & Grundy, 2003; Michael Murphy, et al., 2006). For example, using data on births by mother's age from around 1910 to 2000 and cohort life tables based on age-specific mortality rates and projections up to about 2060, Murphy and colleagues (2006) were able to estimate the proportions of women from birth cohorts between 1920 and 1960 with different numbers of surviving children up to the age of 90. They found that in Britain, Finland, and France, the proportion of women with no living children in old age is higher for the earliest and most recent cohorts, and lowest for birth cohorts between 1940 and 1950. Across the 1960 cohorts of women, those in Britain are most likely to have no living children when they become elderly. They are also able to examine the sensitivity of these projections to fluctuations in fertility and mortality. This method has the advantage of simple data requirements and is relatively straightforward to implement. However nationally representative microdata on fertility histories over a substantial period are not available for Hong Kong and Singapore. What can be done using aggregate data was earlier shown in the modelling of kin availability in Hong Kong (see Chapter 2).

### **5.2 Household projections using macrosimulation**

Macrosimulation (also called the cell-based approach) is similar to participation ratio methods in demography that are commonly used for population projections (George, Smith, Swanson, & Tayman, 2004). The basic model involves first stratifying a base population into cells that share common characteristics (such as by sex, age group, and marital status) and then applying the incidence patterns of certain events (such as disability in old age, living arrangements, or social security receipts) across the cells in the base sample to later cohorts. Population-level outcomes can be derived by aggregating results from all the cells. Variations on this basic model may incorporate extrapolation of historical trends and statistical modelling of relationships between cell characteristics and the event of interest.

Early examples of this approach are household projection studies that use the headship rate method to help government agencies plan for public housing and other services (Kono, 1987). This method applies the headship rate, or ratio of heads of household to number of persons in each sex-age category, to population projections in order to estimate future changes in the number of households. Typically it is assumed that headship rates by sex and age remain constant. But in reality family nuclearisation related to urban migration, real income growth, and higher labour force participation may cause the headship rate to increase unevenly across population subgroups. To account for this possibility, dynamic headship rates based on an extrapolation of historical patterns of change, regression of socioeconomic variables, and national agencies' normative planning targets have also been used (United Nations, 1973). There are several shortcomings to the headship rate method (Kono, 1987; Zeng, Vaupel, & Wang, 1998). The notion of a household head is often based on self report and is not easy to define. The approach does not clearly specify the links between household numbers and underlying demographic factors like fertility, mortality, and marriage. Adopting household heads as a reference marker also does not accommodate more complex household forms like joint headship, or what is known as doubling-up in demography, or address the transfers of headship from parent to child in multigenerational households. These are serious limitations for the purposes of this study, given its interest in the fluidity of household structures and sizes due to changing patterns of intergenerational co-residence.

In a study of nine European countries, Gaymu, Ekamper and Beets (2008) make projections of the living arrangements and health status of persons aged 75 and above up to 2030.<sup>6</sup> The projections are done in three steps. First they adopt the population projections by sex, age, and marital status from Kalogirou and Murphy (2006).<sup>7</sup> Next the prevalence ratios of poor health for each combination of sex, age, and marital status are obtained from additional European and national datasets to incorporate health status into the projections from step one. Finally these projections are combined with the distribution of elderly individuals by sex, age, marital status,

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<sup>6</sup> This study was part of a larger European Community funded project called Future Elderly Living Conditions in Europe (FELICIE). The nine countries included in this study are Belgium, France, Germany, the Netherlands, Finland, England and Wales, Italy, Portugal, and the Czech Republic.

<sup>7</sup> These projections are generated using a multistate demographic model which applies mortality and nuptiality transition rates calculated from historical data to a base population (Kalogirou & Murphy, 2006).

and living arrangement in the base year<sup>8</sup>. The study found that in general, older persons with good health are more likely to live alone or as couples. But between 2000 and 2030, the critical demographic factor is a rise in the proportion of older persons who are married. Since married persons almost always live as couples regardless of health status, the projections indicate that the percentage living as couples will increase from 48% to 60% among men aged 85 and above and from 25% to 41% for women aged 75 and above. As living arrangements are categorised into alone, couples, others, and institutions, the findings do not address co-residence with children specifically.

Zeng and colleagues (1997; 1998) propose what they call an extended cohort-component approach that models year-to-year transitions between demographic and household statuses under a stricter accounting framework. First the base population is divided into a matrix based on age, sex, race, marital status, completed fertility, number of co-resident children, and number of co-resident parents. A series of accounting constraints and assumptions are then built into equations that calculate transition probabilities across these categories, to ensure internal consistency. For instance the number of children living with either parent after divorce must be equal to the total number of children living with both parents before the divorce. Apart from data on the base population, the model also relies on two additional types of data: (i) recent historical data for age-specific demographic events such as marriage, childbearing, departure from the parental home, migration, and death; and (ii) population-level parameters to constrain the projections, such as total fertility, mean age of first marriage, and migration flows. Importantly the model designates a reference person in each household, usually an older woman, who is defined by the availability of her spouse and the number of parents and children living in the same household. The distribution of future household structures and sizes can therefore be obtained by tracking the characteristics of these reference markers throughout the years of projection. This approach has been used to make projections of older persons' living arrangements in China and the United States (Zeng, Land, Wang, & Gu, 2013; Zeng, Wang, Jiang, & Gu, 2008).

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<sup>8</sup> The authors use a technique called entropy maximisation as described in Willekens (1999).

### 5.3 Projecting future care and support using macrosimulation

From the late 1990s, the Personal Social Services Research Unit (PSSRU) at the London School of Economics began developing a research programme on future long-term care demand and financing for elderly people in the UK using macrosimulation. The original model divided the 1995 population into cells by sex, age, household type, and dependency level, drawing on survey data from various sources like the General Household Survey and population census (Wittenberg, Pickard, Comas-Herrera, Davies, & Darton, 1998). This was then combined with population projections from the Government Actuary's Department to estimate the distribution of elderly persons across cells up to 2031. A series of multivariate models were used to determine the probability of receiving care for each cell, from which aggregate care demand and expenditures were calculated. The original study projected that the number of elderly people in the UK would increase by almost 57% between 1995 and 2031, resulting in a 61% growth in the demand for long-term care. Since then, the model has been continuously updated, integrated with cross-national studies (Comas-Herrera et al., 2006), and extended to incorporate the supply of care (Pickard, 2008).

Beyond informal care, macrosimulation has also been used to project public expenditure trends in the UK using households rather than individuals as units (Propper, 1993). The study divided each cohort into cells based on household characteristics such as the age and occupation of the head, and the total number of adults. Public expenditure per cell was calculated using service utilisation and cost data from other studies and then grossed-up to reflect actual population sizes. The study found that while there were distinct relationships between age and occupational group with total transfers, the relative per capita expenditure on health and education across age groups was expected to remain stable throughout the period of projection.

#### *Summary*

The level of support received by elderly parents depends on the availability of children and their willingness to co-reside or provide cash transfers. Kin availability for current and future cohorts can be estimated using historical fertility and mortality data. But these are not available for Hong Kong and Singapore. An alternative approach is macrosimulation, which has been extensively used in demography to model future household characteristics and the levels of care required by and available to elderly persons. While macrosimulation techniques vary widely in the level of complexity,



this approach's key elements such as stratification of a base sample, extrapolation of historical trends, and statistical modelling of prevalence ratios can be adapted for analysing living arrangements and income sources. These are incorporated into the projections in Chapter 6.

#### **5.4 Assessing pension outcomes**

The assessment of public pension systems depends firstly on their aims. The theoretical rationale for governments to establish pension systems is market failure through individual myopia (or inadequate saving for retirement) and limited availability of financial products (Holzmann & Hinz, 2005). Through public pension schemes, the government can also organise income redistribution both over the life cycle and from the rich to the poor, and promote social solidarity. In general, public pensions have two aims: at the national level, redistribution for poverty relief; and at the level of individuals and households, insurance and consumption-smoothing between working life and retirement (N. Barr & Diamond, 2009; Whitehouse, 2007). The adequacy of pension systems can therefore be assessed against these aims. The World Bank argues that additionally, healthy pension systems must be fiscally sustainable; robust to possible demographic, political, and economic shocks; and compatible with economic development. But pension research is usually more focused on three individual-level indicators (OECD, 2012; Whitehouse, 2007):

- Pension replacement rate measures the ratio of pension entitlements to individual earnings. Gross replacement rates are based on gross earnings, while net replacement rates account for taxes and social security contributions. The level of earnings may be taken at career end or averaged over the lifetime.
- Relative pension level measures pension entitlements as a proportion of average economy-wide earnings, which reflects current living standards. It also addresses the fact that very high replacement rates for very low income persons may not actually lift them out of poverty.
- Pension wealth is the discounted value of the lifetime stream of pension benefits. It is sensitive to the pension eligibility age, life expectancy, and

indexation arrangements that adjust pension payouts during retirement according to price or wage fluctuations, and as such is particularly useful for estimating the total cost of pension entitlements in defined benefit systems that do not cap payouts based on total individual savings as do defined contribution schemes.

Finding a benchmark for an adequate replacement rate is not straightforward. Various International Labour Organization (ILO) conventions recommend a target net replacement rate of between 40% and 55% (Holzmann & Hinz, 2005). A multi-country survey of adults aged 25 and above found that on average, the expected “comfortable” replacement rate was 66% in Singapore and 83% in Hong Kong (HSBC, 2013a, 2013b). The Pensions Commission (2004) in the United Kingdom (UK) argued that it is difficult to fix a level of pension adequacy as replacement rates need to be higher for people on lower incomes in order to reach an acceptable standard of living and because they are less likely to have private savings. Survey findings from the UK showed that desired replacement rates range from 350% for persons with the lowest current income to 57% among those with top current incomes. Consumption patterns may also change during retirement, as certain expenditures such as for commuting and recreation fall. Empirical expenditure data do not help to resolve the issue as they do not separate the availability of resources from actual need. The Pensions Commission therefore adopted benchmarks of 67% for median earners, 50% for top earners, and 80% for the lowest earners.

Grech (2013) has observed that indicators such as replacement rate and relative pension level only reflect pension outcomes at single points in time. Pension wealth, on the other hand, measures the effects of pension age, longevity, and indexation rules on pension generosity that replacement rates do not reveal. For example, measuring the lifetime pension income stream in terms of years of average wage shows that across ten European Union countries, women’s longer life expectancies do not translate into equivalent differences in pension wealth compared to men, even assuming full careers and similar wages. However the projected replacement rates for these countries are similar for both genders. The disparity is most apparent in countries where retirement periods are long and pension entitlements are not indexed to wages.

## 5.5 Microsimulation

Microsimulation has been used to study both future patterns of kinship and possible pension outcomes. This approach models large samples of micro-units (i.e. individuals, couples, or households) and the changes they experience from a longitudinal perspective. Models may vary in the way they set up the micro-database: some are drawn from representative cross-sectional surveys while others are synthetically created; base samples may cover a range of ages or focus on a single cohort. There are two types of microsimulation, static and dynamic. In static microsimulation, alternative conditions are applied to a representative sample of the population to enable scenario analysis. For example, the POLIMOD, a tax-benefit model first developed at the University of Cambridge in 1993, has been used recently to study the impact of benefits on alleviating child poverty in London, and to simulate the measures necessary to achieve poverty elimination targets (Buck, Sutherland, & Zantomio, 2007). A newer static model is the EUROMOD, which can be used to study the effects of tax-benefit rules on household income, distributional outcomes, and public budgets across the countries of the European Union, including pension benefits and expenditures (Mantovani, Papadopoulos, Sutherland, & Tsakloglou, 2005). As static microsimulation models do not account for changes to the composition of the base sample, they are less useful for modelling changes over the long term.

Dynamic models synthetically age the base sample by interacting randomly generated numbers with transition probabilities to simulate life cycle events such as marriage and separation, employment, disability, receipt of services and benefits, and death. The composition of the base sample is therefore fluid and experiences attrition, making it suitable for analysing policy effects that can only be seen over a long period (Pensions Commission, 2005). An early example is the LIFEMOD, which simulated the life histories of a synthetic cohort of 4000 individuals in Britain, and was used to study the effects of the welfare state from a life cycle perspective (Falkingham & Hills, 1995).

Murphy (2010; 2011) has used the Berkeley SOCSIM microsimulation model to project changes in kinship networks in England and Wales from the time of the first demographic transition when fertility and mortality both fell in the late 1800s, up to the second demographic transition around the 1960s characterised by lower and more fragile nuptiality. An initial population sample of 40,000 was subjected to fertility, nuptiality, and mortality events based on randomly generated variables and the actual

probabilities of these events in historical data. An interesting finding was that children's mortality especially at older ages had a greater impact on the availability of children in earlier cohorts, but has since become so low that parents' fertility is the major determinant of the number of surviving children.

The UK Pensions Commission has also used the Pensim2 microsimulation model to analyse the prospects for the existing pension system, the implications of reforms such as changes to pension ages, and the workability of a national pension savings scheme (Pensions Commission, 2005). The model tapped on large amounts of data on individual labour market and pension contribution histories from three different data sources.

While microsimulation can be a powerful tool for projecting long-term policy effects, its data requirements make it challenging to implement. This is especially so in Hong Kong and Singapore where longitudinal data required to understand the probabilities of life events and transition across different statuses on a cohort basis are not available. The time and computing resources required for microsimulation also make it difficult to fit within the scope of this study, within which the projections are only one component.

## **5.6 Projecting pension outcomes for illustrative cases**

An alternative approach for modelling possible pension outcomes with fewer data requirements is to use illustrative cases, also known as model cases or hypothetical individuals. This approach computes pension entitlements by applying policy rules to a set of stylised individuals. Individual models may vary in terms of the range of policy rules being assessed and the complexity of case profiles. For instance the effects of reforms can be examined by comparing pension outcomes under old and new rules. The characteristics of the illustrative cases may also be based on simple assumptions or more closely linked to empirical data. Early examples of this approach were motivated by the need to standardise the calculation of pension outcomes across countries for comparative analysis and used cases that were not highly differentiated. Various studies by Horlick (1970), Haanes-Olsen (1978), and Aldrich (1982) examine the pension replacement rates in multiple countries for recently retired hypothetical workers with full careers and average earnings. In comparison, McHale's (1999) study of the G7 countries included a greater range of cases. He modelled men and women separately, constructed age-earnings profiles from other data sources, calculated the

discounted present value of pension benefits using rules from before and after reforms, and included cases from two cohorts retiring at different points in relation to reform timings.

In more recent comparative literature, the scope of analysis using illustrative cases has broadened considerably. A study by the OECD (2001) calculated pension outcomes for individuals with 0.3 to 5 times the economy-wide average earnings, making it possible to compare how pension rights vary with earnings across nine OECD countries. The model was also used to project possible pension outcomes in the future based on current and legislated rules. The development of the APEX (Analysis of Pension Entitlements across Countries) model at the OECD in the mid-2000s made it possible to compare countries on a range of standardised pension indicators, by computing pension entitlements based on the policy parameters that are in force in each country and a set of universal assumptions. This resulted in the *Pensions at a Glance* series of reports that compares all the OECD countries, including a 12-country Asia Pacific edition (2011, 2012). The APEX model was also used in a large-scale World Bank study of retirement income systems in 53 countries (Whitehouse, 2007).

There are two major considerations when using illustrative cases. The first is a lack of representativeness, or how relevant the chosen cases are to the actual population (Grech, 2013; Whitehouse, 2003). While this limitation cannot be completely overcome, there are several strategies for improving the salience of hypothetical individuals. The most direct way is to increase the number of cases being modelled, usually to cover a wider range of earnings. The OECD does this by covering an earnings range relative to the economy-wide average, while Grech's (2010a) study on European pension reforms uses nine illustrative cases to represent each of the deciles within the population wage distribution and varies the assumptions regarding labour market histories. The realism of case profiles can also be improved by incorporating key life events and diversity in other individual characteristics that are relevant to the research question. For instance, Bridgen, Meyer, and Riedmüller's (2007) study of six European pension systems is based on a set of 15 cases that represent different risk biographies, each with a unique configuration of level of qualification, years of employment, lifetime wage, type of employer, partnership chronology, and number of children. Pensions are also calculated for couples by pairing up different combinations of cases. An (2009), following Rake (2000), constructed case profiles with dynamic earnings for women with different levels of

education and marital and fertility histories. She first used survey data to estimate a statistical model for the relationship between basic socio-demographic variables and earnings, and then derived the age-earnings profiles of the cases using fitted values from the model.

A less mentioned issue concerning representativeness is that most studies apply static (usually current) policy rules to illustrative cases, or at best two sets of rules reflecting conditions before and after reforms. This is equivalent to simulating “experimental” policy conditions and can help to reveal the implications of particular policy configurations. But in reality, individuals do not experience a frozen policy landscape. Instead their participation in a pension system over the course of their working lives intersects with historical policy changes, such that successive cohorts in fact experience a moving timeframe of policy rules. How much difference this makes to projected pension outcomes depends on the frequency and extent of changes to the pension system. In the case of Singapore, volatile contribution rates including several steep cuts suggest that historical policy changes need to be taken into account (see Chapter 3). Similarly in Hong Kong, the introduction of the MPF in 2000 can be expected to affect pension outcomes, with the impact dependent on the length of participation.

A second related consideration is that results for hypothetical individuals may be highly dependent on model assumptions. This is best illustrated by studies using this method to project benefits from Singapore’s CPF and Hong Kong’s MPF. Table 5.1 summarises the case profiles, economic parameters, treatment of contributions and withdrawals, and pension outcomes of key studies on the CPF and MPF from 1998 to 2013. The studies vary on almost every important parameter in the calculation of pension outcome: the starting age of work ranges from 18 to 25; retirement age from 62 to 65; remaining life expectancy from 15 to 20 years; the rate of inflation from 1% to 5%; and contribution rates for the CPF from 33% to 40% of monthly wage. Including sensitivity analyses can help to make the impact of these assumptions more transparent. But still, due to different assumptions, the replacement rates generated from these models vary widely and are not directly comparable. Estimates for the CPF range from about 30% of final earnings (K.-L. Lim, 2001; McCarthy, et al., 2002) to 85% for the lowest earners in Hui (2012a).

The studies in Table 5.1 also highlight a critical issue in the modelling of the CPF—assumptions regarding withdrawals for housing. The flexibility of CPF rules

means that out of the total monthly contribution of 36% of individual wage (based on the current rate for persons below 35), the amount going to retirement may range from just 6% if the maximum amount is withdrawn for housing and other permitted uses, to 29% if there are no pre-retirement withdrawals at all. This leaves considerable room for discretion when modelling CPF outcomes. At one extreme, the OECD (2012) assumes that the maximum permissible amount is withdrawn for housing and other purposes, resulting in what are most likely underestimated pension replacement rates of 6-13%. An alternative at the other extreme is to include total housing asset value when calculating pension outcomes. But this is equally unrealistic in view of the difficulties associated with policies to liquidate housing value (see Chapter 3).<sup>9</sup> For most persons, the actual level of withdrawal for housing probably lies somewhere in between the two extremes. One way to build this into the analysis is to estimate withdrawals based on historical housing prices, as done in Cardarelli, Gobat, and Lee (2000); McCarthy, Mitchell and Piggott (2002); and Chia and Tsui (2012). But given the range and volatility of housing prices and the level of housing mobility in Singapore (R. Chen & Nicolas, 2006; McCarthy, et al., 2002), the amount of uncertainty in any assumptions regarding housing choice suggests that the effort of such estimations is probably not worthwhile. The analysis in Chapter 7 therefore adopts a more straightforward approach of deducting a proportion of monthly contributions based on the ratio of aggregate withdrawals to contributions in the past decade, following Lim (2001) and Chen & Nicholas (2006), but also calculating results for two levels of assumed withdrawal to illustrate the impact of this parameter on pension outcomes.

### *Summary*

The motivations for embarking on an original analysis of possible pension outcomes in Hong Kong and Singapore in the following chapters are threefold: the major existing comparative study of the two systems adopts unrealistically conservative estimates for the CPF; single-country studies adopt varying assumptions that lead to a wide range of estimated pension outcomes which are difficult to compare; and studies rarely incorporate historically accurate pension rules that reflect the impact of entry timing.

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<sup>9</sup> Chia & Tsui (2012) come closest to this extreme in one of their model scenarios that includes imputed rent in the calculation of pension benefits.

In terms of methodological options, the main techniques for studying possible pension outcomes based on a given set of pension rules are microsimulation and illustrative cases. While microsimulation is a powerful tool for modelling the implications of pension rule changes for a given population and can incorporate complex changes to the base sample as it ages, the amount of data and other practical resources it requires makes it unsuitable for this study. The illustrative cases approach is simpler to implement and can flexibly accommodate diverse assumptions about the policy environment and individual biography. Representativeness can also be improved by increasing the range of cases and relating case profiles to empirical data. For this study, empirical age-earnings profiles could not be constructed as survey microdata for Singapore only cover persons aged 55 and above. But historical aggregate wage data can be used to inform assumptions about wage levels and growth rates, to make the hypothetical cases more relevant. Historically accurate pension rules can also be introduced into the projections. A particularly important assumption when modelling the CPF is pre-retirement withdrawals for housing. Subsequent analysis in this study assumes that a certain proportion of monthly contributions but not the entire permissible amount goes towards housing.

### **5.7 Summary and next steps**

There are several gaps in the existing comparative literature on pension outcomes in Hong Kong and Singapore. So far, elderly persons' future living arrangements and income sources have not been analysed, while various studies of possible pension outcomes adopt unrealistic assumptions about the CPF, fail to consider the impact of entry timing, or produce a very wide range of results that are difficult to compare. This chapter therefore reviewed common methods for projecting future support for elderly persons and possible pension outcomes, in order to develop an analytical plan for subsequent chapters. The methods reviewed include modelling kinship availability from fertility and mortality data, macrosimulation techniques, microsimulation, and using illustrative cases. Due to various data limitations, macrosimulation and illustrative cases are found to be most suitable for the purposes of this study. Chapters 6 and 7 will implement these two approaches following these steps:

- In Chapter 6, macrosimulation is first used to project the future living arrangements of elderly persons up to 2030, defined in terms of whether they



live with both their spouse and their children, their children only, their spouse only, or neither. The underlying sample is based on the United Nations population projections, while the prevalence ratios of the different living arrangements are taken from the national survey datasets used in earlier chapters. In successive phases, the projections then incorporate labour participation projections from the ILO and an extrapolation of historical patterns of change in living arrangements between the 1990s and 2000s.

- Finally the macrosimulation builds in a regression model of elderly persons' income sources again based on the survey data. This produces estimates of the proportions of elderly persons with access to market income including public pensions, or children's financial transfers. This is an original application of the macrosimulation approach which, to the author's best knowledge, has not been used to model access to income sources in this way.
- Chapter 7 considers the possible pension outcomes for persons with access to this income source. Pension outcomes are estimated for a set of illustrative cases. Taking into account the need for representativeness and empirical relevance, pensions are calculated for three men and three women with different educational levels, totalling six base cases each across the income distribution for Hong Kong and Singapore. Wage levels are based on historical data.
- A major limitation in previous studies is that they adopt a static set of policy rules which do not represent the historical experiences of different cohorts as the timing of their careers intersect with policy rule changes. The second set of projections break with this practice by adopting historically accurate pension rules starting from 1990 and 2000, and compare the results with projections using 2010 rules held constant.
- A second challenge in projecting CPF pension outcomes has been the treatment of pre-retirement withdrawals. Chapter 7 addresses this by calculating two sets of results throughout, based on two different withdrawal scenarios. Sensitivity

analyses are also done for other parameters such as the rate of wage growth, retirement age, life expectancy, and the interest rate for calculating annuities.

- To illustrate the implications of the projected pension outcomes, the final step of analysis estimates the demands for children's support based on the gap between the level of pension benefits and various income standards for poverty avoidance and consumption smoothing. The analysis considers both one-child and two-children scenarios, and support in the form of transfers from non-co-resident children and income sharing with co-resident children.

**Table 5.1** Studies of Singapore's Central Provident Fund (CPF) and Hong Kong's Mandatory Provident Fund (MPF) using illustrative cases

Study	Case profile	Economic parameters	Contribution and interest rates	Pre-retirement withdrawals	Pension outcomes
<i>Comparative study of Hong Kong and Singapore</i>					
OECD, 2012	<p>Range of 0.5-2 times 2008 average earnings for men/women, 2% real wage growth pa</p> <p>HK: Continuous career 20-50/60/65, remaining life expectancy 20 years</p> <p>SG: Continuous career 20-52/57/62, remaining life expectancy 19 years</p>	2.5% inflation pa, 2% annuity discount rate	<p>Int: 3.5% real</p> <p>Con: 10%</p> <p>Con: Total 34.5%, lower for older persons (2008 rates)</p>	<p>-</p> <p>Full withdrawal for non-retirement purposes, i.e. Ordinary/Medisave Acct savings disregarded</p>	<p>Annuity replaces 17-39% of lifetime average earnings for men (lower for higher earners) and 16-34% for women</p> <p>Annuity based on Special Acct savings, replaces 6-13% of lifetime average earnings for men (lower for higher earners) and 6-11% for women</p>

Study	Case profile	Economic parameters	Contribution and interest rates	Pre-retirement withdrawals	Pension outcomes
<i>Studies of Hong Kong's MPF</i>					
Lui, 1998	Entry age 20-60, 3% real wage growth pa, continuous career from entry age to 65, remaining life expectancy 15 years	4-7% annuity return	Con: 10% Int: 4-7% real	-	Annuity replaces 5-187% of wage at entry age with 4% investment return (lower for older entrants) or 7-476% with 7% return
Siu, 2002	Entry age 18-60, 1-3% real wage growth pa, continuous career from entry age to 65, remaining life expectancy 15 years	5% annuity return	Con: 10% Int: 5% real	-	Annuity replaces 5-126% of final salary with 1% real wage growth (lower for older entrants) or 5-72% with 3% real wage growth

Study	Case profile	Economic parameters	Contribution and interest rates	Pre-retirement withdrawals	Pension outcomes
<i>Studies of Singapore's CPF</i>					
Cardarelli, Gobat, & Lee, 2000	1995 average work income, 4% real wage growth pa, full career 20-retirement (age not specified)	2.6% nominal mortgage rate, 4% annuity return	Con: Total 40%, lower for older persons (1998 rates) Int: 2% real	Average withdrawals for healthcare/ education/ private investment, purchase of public housing at 30, average public housing prices (2-, 3-, and 4-room), 25-year mortgage	Annuity based on savings in Ordinary/Special/ Medisave Accts, replaces 23-44% of pre-retirement income for different levels of housing withdrawal
Swales, 2000	Range of 1-6 times 1999 median work income, 3% real wage growth pa	(Not specified)	Con: 1989-1999 rates then held constant thereafter Int: 3.1% real	Housing purchase at affordable prices (not specified)	Annuity based on savings in Ordinary/Special Accts, replaces 10-35% of pre-retirement work income
Lim, 2001	Ages 40/45/50 with monthly wages S\$1000-S\$3000 (covering more than half of CPF members in 1997), 7.7% nominal wage growth pa, continuous career from current age to 62, remaining life expectancy 15 years	4% annuity return	Con: Total 40%, lower for older persons (1998 rates) Int: Ordinary Acct 3.3%, Special Acct 4.8%, nominal	Withdrawals for non-retirement purposes estimated at 45-60%	Annuity based on savings at 55 (under old rules) in Ordinary/Special Accts, replaces 30-40% of final wage given 45% withdrawal (lower for older cohorts) or 27-33% final wage with 60% withdrawal

Study	Case profile	Economic parameters	Contribution and interest rates	Pre-retirement withdrawals	Pension outcomes
McCarthy, Mitchell & Piggott, 2002	1999 average earnings, 2% real wage growth pa, full career 22-62, life expectancy based on Singaporean annuitant tables	2.5% inflation pa, 4% real return on property pa, 2.6% nominal mortgage rate, 5% nominal annuity rate	Con: Total 40%, lower for older persons Int: Ordinary Acct 0%, Special Acct 1.5%, real	No withdrawal at 55, purchase of 4-room flat and upgrade to 5-room flat, 1998 average public housing prices, 25-30-year mortgage	Annuity based on savings in Ordinary/Special Accts, replaces 28% of final earnings (17-49% under alternative scenarios) and 296% of subsistence income based on Minimum Sum requirements
Chen & Nicolas, 2006	Low/middle/high income cases for 5-year age groups 20-59, based on 2004 average wages by occupational group and average acct balance, 4-8% real wage growth pa, continuous career from current age to 62, remaining life expectancy 20 years	1-5% inflation pa	Con: Total 33%, lower for older persons (according to long-term targets announced in 2003) Int: Ordinary Acct 2.5%, Special Acct 4%, nominal	Withdrawals for housing/healthcare/education estimated at 40-55%	Annuity based on savings in Ordinary/Special/Medisave Accts, compared against (i) subsistence income (ii) final salary (iii) 2004 single-person household expenditure of 1st/3rd/5th quintile group. At 40% withdrawal, benefits replace less than 60% of final salary for all cases and below subsistence for older cohorts

<b>Study</b>	<b>Case profile</b>	<b>Economic parameters</b>	<b>Contribution and interest rates</b>	<b>Pre-retirement withdrawals</b>	<b>Pension outcomes</b>
Chia & Tsui, 2012	2012 wages for men and women at 30th/50th/70th percentile, wage growth simulated from 2001-2011 age-earnings profile, careers 23-65 (women) or 25-65 (men) with unemployment 15-22% of the time each year	1.8% inflation pa, 2.6% nominal mortgage rate	Con: Total 36%, lower for older persons (2012 rates) Int: Ordinary Acct 2.5%, Special Acct 4%, additional 1% for first \$60,000, nominal	Purchase of public housing at 30, 2011 average public housing prices (3-, 4-, and 5-room), 30-year mortgage	Annuity based on savings in Ordinary/Special Accts, as calculated by CPF annuity plans (not shown), replaces 46-65% (men) and 45-62% (women) of earnings at 55 (lowest for P70 cases), reductions to net replacement of 12-32 percentage points with housing upgrade
Hui, 2013	2010 median work income for three educational levels, wage growth estimated from age-earnings profile, careers 24-65 with 0-2 unemployment spells, life expectancy 85	3% inflation pa, 2.6% nominal mortgage rate, 4% annuity return	Con: Total 36%, lower for older persons (2011 rates) Int: Ordinary Acct 2.5%, Special Acct 4%, additional 1% for first \$60,000, nominal	No withdrawal at 55, excess Medisave Acct contributions transferred to Special Acct, purchase of public housing at 30, maximum prices afforded by savings, 30-year mortgage	Annuity based on savings in Ordinary/Special/Medisave Accts, replaces 39-85% of final earnings (lowest for most educated), 22-57% with housing purchase, 34-42% with two unemployment spells

Source: Own summary based on indicated sources

## 6. Future elderly populations

This chapter projects the future distribution of the elderly populations in Hong Kong and Singapore by living arrangement and their access to market income and financial contributions from their children, using macrosimulation techniques. These projections are done from the point of the most recent national surveys for which microdata are available—2005 in Singapore and 2006 in Hong Kong—up to 2030. As the projections rely on patterns in the survey data, they are not done for a longer period over which the survey data may become less relevant and realistic. The first section presents basic projections that combine the United Nations (UN) population projections with patterns of living arrangement observed in the national survey data in 2005 and 2006. In the second section, the projections incorporate more dynamism—labour force participation is assumed to change according to projections by the International Labour Organization (ILO), and patterns of living arrangement are assumed to change at rates related to actual changes observed in the national survey data between 1995/1996 and 2005/2006. The third section builds on the dynamic projections of living arrangements to estimate access to different income sources among future elderly persons.

### 6.1 Future living arrangements according to basic projections

For the basic projections, the elderly population is divided into 24 cells or categories based on sex, age group, and living arrangements (Table 6.1). The elderly population size by age and sex in each year between 2005/2006 and 2030 is drawn from the UN population projections (UN, 2011). The 24 cells in the national survey samples are then grossed up to the UN population numbers to project living arrangements up to 2030. This involves weighting each of six clusters of cells with the same sex and age group so that it achieves its corresponding population size in the UN projections. This step essentially assumes that the relationship between living arrangement, sex, and age group in the national survey data remains constant throughout the period of projection. This simplifying assumption, which will be relaxed in subsequent projections, helps to estimate the effects of expected demographic change alone on elderly living situations as observed in 2005/2006.

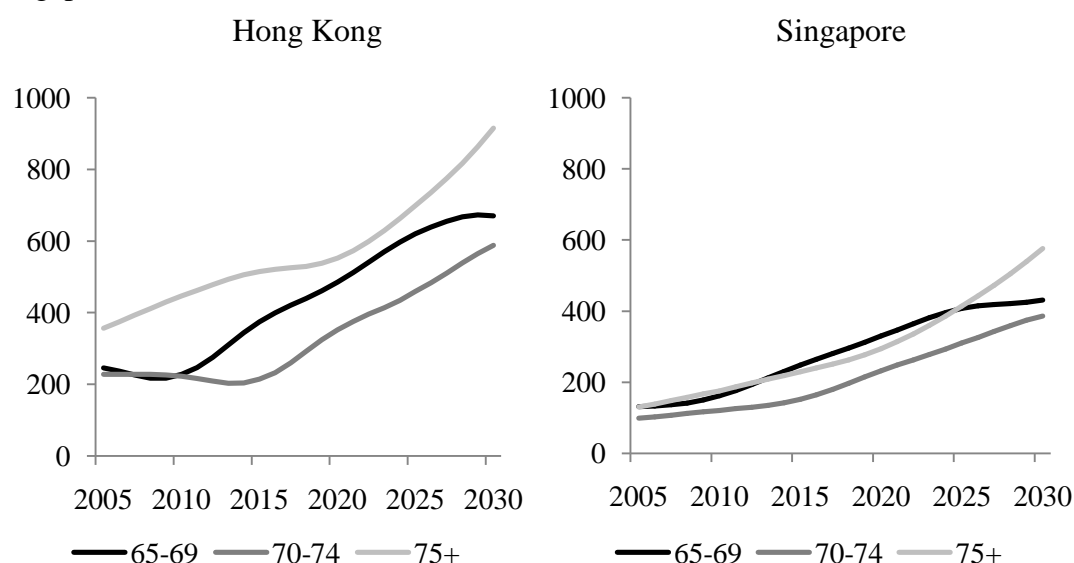


**Table 6.1** Variables used to divide elderly populations into 24 cells

Variables	Levels	Values
Sex	Women	From United Nations population projections
	Men	
Age	65-69	From United Nations population projections
	70-74	
	75+	
Living arrangements	Neither spouse nor child	From 2005/2006 national survey data, held constant
	Spouse only	
	Child only	
	Both spouse and child	

The results of the basic projections are driven by the UN population projections and the distribution of elderly persons' living arrangements in the mid-2000s. The UN (2010) makes projections for several different demographic scenarios. The one adopted here is the medium variant: total fertility is assumed to converge on 1.85 for all countries; life expectancy is assumed to continue increasing but at a lower rate for countries like Hong Kong and Singapore where it is already high; and recent rates of international migration are assumed to continue. As shown in Figure 6.1, although the total numbers of elderly persons are expected to rise quickly in Hong Kong and Singapore in the period up to 2030, the age composition of the elderly populations does not alter significantly for most of the period. In both places the only noticeable deviation happens at around 2025 when the growth in the youngest 60-65 age group slows down relative to the other age groups. In Singapore where population sizes by age group are much closer, the number of elderly persons aged 75+ overtakes those aged 65-69 for the first time at around 2025. But the overall demographic makeup by age group remains relatively stable. Similarly patterns of living arrangements by sex and age in the mid-2000s do not show steep variations. It can be seen from Table 6.2 that the largest difference between the total proportion of persons aged 65-69 and older age groups who live with their children is only around eight percentage points in Hong Kong and five in Singapore, with no consistent patterns by age and sex.

**Figure 6.1** United Nations (UN) projections of elderly populations in Hong Kong and Singapore, 2005-2030, thousands



Source: UN (2011)

**Table 6.2** Elderly populations by sex, age, and living arrangements, Hong Kong 2006 and Singapore 2005, percentage

		Men			Women		
		65-69	70-74	75+	65-69	70-74	75+
Hong Kong	Alone	14	12	16	13	17	29
	Spouse	25	31	30	25	23	12
	Child	6	7	15	28	34	47
	Both	55	50	38	35	26	12
	Total	100	100	100	100	100	100
Singapore	Alone	8	11	13	12	17	15
	Spouse	24	24	22	13	8	5
	Child	8	18	27	40	59	71
	Both	60	47	38	36	17	9
	Total	100	100	100	100	100	100

Source: Own calculations from Singapore National Survey of Senior Citizens 2005 and Hong Kong Population By-census 2006

The stability in the underlying population projections and living arrangement data account for smooth trends in the basic projections. Table 6.3 shows the projected living arrangements of elderly persons in Hong Kong and Singapore from 2005/2006 to 2030 based on expected demographic changes while keeping constant the distribution of types of living arrangement within sex-age categories. In both places elderly men are most likely to live with both their spouse and children. By 2030,

440,000 men in Hong Kong and 310,000 men in Singapore fall within this category. In contrast elderly women are most likely to live with their children only, with 460,000 in Hong Kong and 440,000 in Singapore expected to do so in 2030. In total the most common expected living arrangement in 2030 is with children only in Singapore but with both spouse and children in Hong Kong. Across the different living arrangements the elderly population in Hong Kong is projected to increase by about 2.6 times in Hong Kong and 3.7 to 4.0 times in Singapore.

**Table 6.3** Basic projections of elderly persons' (65+) living arrangements in Hong Kong and Singapore, 2005/2006-2030, thousands

		Men		Women		All		Ratio 2030 to 2005/ 2006
		2005/ 2006	2030	2005/ 2006	2030	2005/ 2006	2030	
Hong Kong	Alone	60	140	100	260	160	390	2.5
	Spouse	110	270	80	230	190	500	2.6
	Child	40	100	170	460	210	560	2.6
	Both	180	440	100	280	280	720	2.6
	Total	390	940	450	1230	840	2170	2.6
Singapore	Alone	20	70	30	110	50	180	3.9
	Spouse	40	150	20	60	60	210	3.8
	Child	30	120	110	440	140	560	4.0
	Both	80	310	40	140	120	450	3.7
	Total	170	640	200	750	360	1390	3.9

Source: Own calculations based on medium variant of United Nations (2011) population projections and distributions of living arrangement by sex-age categories in Singapore National Survey of Senior Citizens 2005 and Hong Kong Population By-census 2006

## 6.2 Future living arrangements according to dynamic projections

The next set of projections introduces two new factors. First, considering government interest to promote longer working lives and the rise in work participation in both populations in recent years (see Chapter 2), it is unrealistic to assume constant labour force participation rates. So projections of labour force participation by the International Labour Organization (ILO, 2012) are combined with the UN population projections to provide the basic elderly population numbers by sex, age, and labour force participation status up to 2030. This increases the number of cells in the underlying cell configuration to 48 (Table 6.4). Second the assumption that patterns of living arrangement do not change after 2005/2006 is relaxed. Instead the projections assume that living arrangements change within each of the twelve clusters of cells of

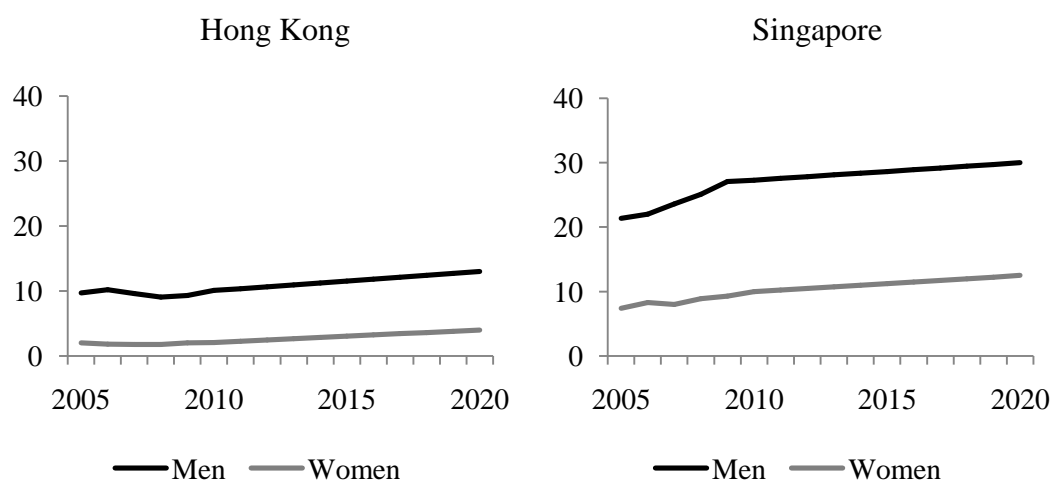
the same sex, age group, and labour force participation status at rates related to actual changes between 1995/1996 and 2005/2006 as observed in the national survey data.

**Table 6.4** Variables used to divide elderly populations into 48 cells

Variables	Levels	Values
Sex	Women	From United Nations population projections
	Men	
Age	65-69	From United Nations population projections
	70-74	
	75+	
Labour force participation	Not in labour force	From International Labour Organization (ILO) projections
	In labour force	
Living arrangements	Neither spouse nor child	From national survey data in 1995/1996 and 2005/2006
	Spouse only	
	Child only	
	Both spouse and child	

The ILO's (2012) labour force projections from 2005 to 2020 for men and women aged 65 and above in Hong Kong and Singapore are shown in Figure 6.2. As the ILO projections stop at 2020, participation rates are held constant from 2020 to 2030 in the analysis below. The ILO projections are also not differentiated by age so the distributions of labour force participation across elderly age groups are based on the national survey data in 2005/2006. On the whole, labour force participation is expected to rise, with much higher rates in Singapore than in Hong Kong and for elderly men compared to women. On the basis of 2005/2006 survey data, this may contribute towards less co-residence with children as elderly persons in the workforce were less likely to have lived with their children compared to those who were not in the workforce, especially in Singapore (Table 6.5).

**Figure 6.2** Labour force participation rates of elderly persons (65+) in Hong Kong and Singapore according to International Labour Organization (ILO) projections, 2005-2020, percentage



Source: International Labour Organization (2012)

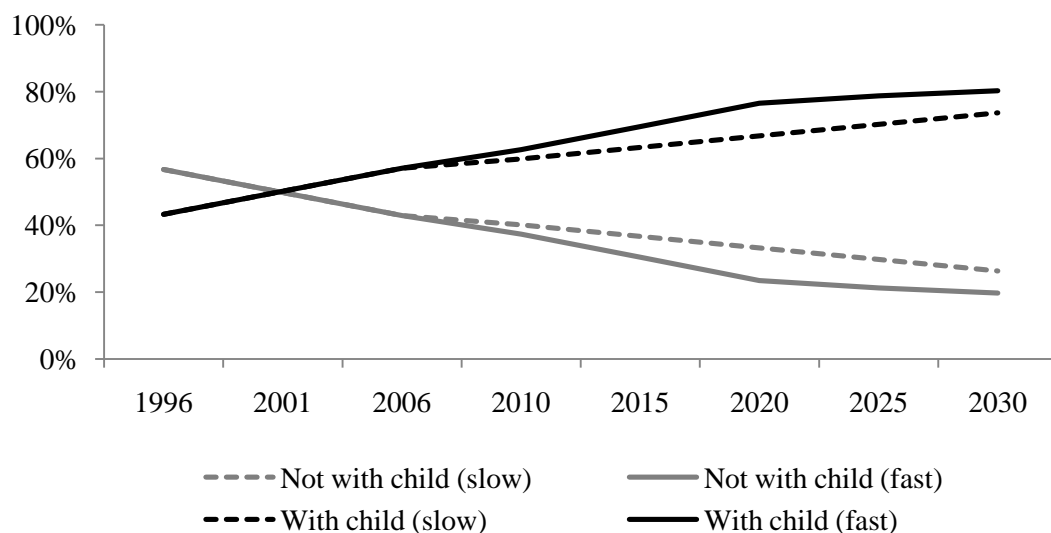
**Table 6.5** Percentage of elderly persons (65+) who lived with their children, Singapore 2005 and Hong Kong 2006

	In workforce	Not in workforce
Hong Kong	57	59
Singapore	58	74

Source: Own calculations from Singapore National Survey of Senior Citizens 2005 and Hong Kong Population By-census 2006

Living arrangements changed dramatically between 1995/1996 and 2005/2006 as discussed in Chapter 3. To better reflect these trends, two rates of linear change in living arrangements by age, sex, and labour force participation are extrapolated from the survey data and fitted into the projections. The first assumes that living arrangements continue to change at a “fast rate” equal to that between 1995/1996 and 2005/2006. The second assumes that living arrangements after 2005/2006 change at a “slow rate” half of that from 1995/1996 to 2005/2006. The implications of using these different rates are illustrated in Figure 6.3, which shows the assumed trends in living arrangements for one cluster of cells representing women aged 70-74 in Hong Kong who are in the labour force. The fast rate drives a wider divergence between the proportions of persons with different living arrangements than the slow rate until the kink in 2020 when certain cell sizes reach the lower constraint of 0.

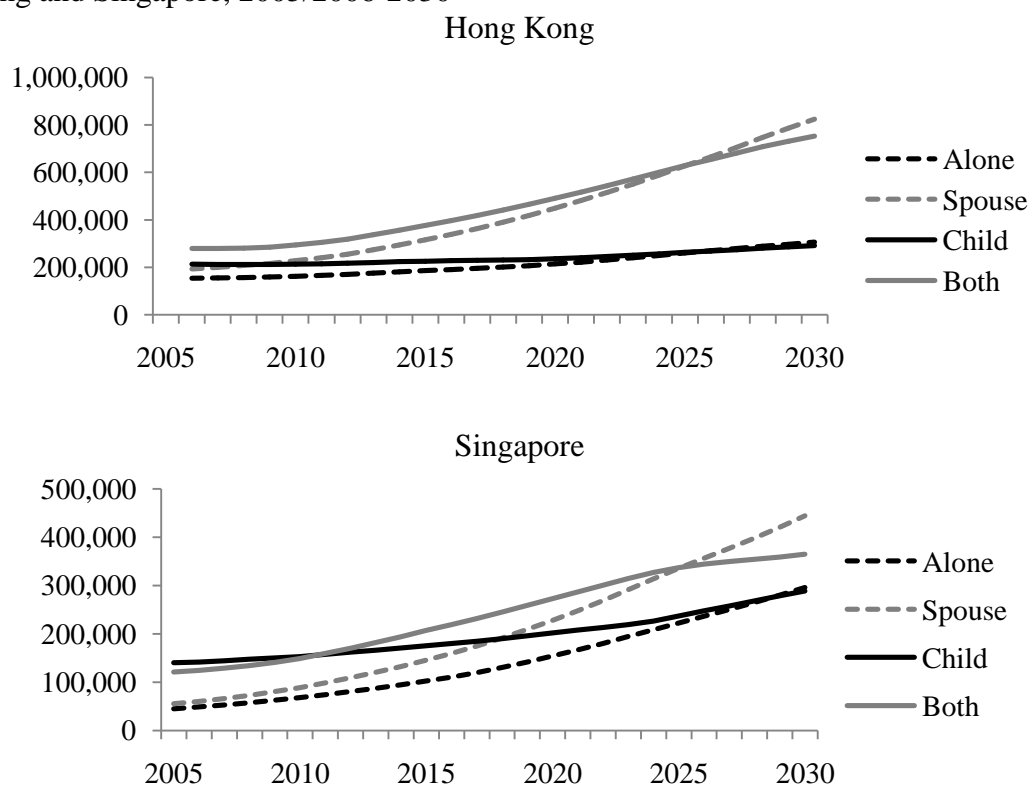
**Figure 6.3** Projected living arrangements up to 2030 for women aged 70-74 who are in the labour force in Hong Kong, based on different assumed rates of change



Source: For 1996 and 2006, own calculations based on Hong Kong Population By-Census 1996 and 2006. From 2006 onwards, own projections based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation as extrapolated from national survey data. Fast trend is based on linear change at the same rate as during 1996-2006 and slow trend is based on half this rate.

Figure 6.4 shows projections that apply the fast rate of change in living arrangements. There are a number of significant developments. In both populations, at the start of the projections, co-residence with children was more common than non-co-residence. But by 2030, living with the spouse only becomes the most likely arrangement. During this period, Singapore experiences more dramatic change as co-residence falls from 72% to 47% compared to a decline from 59% to 48% in Hong Kong. The most striking difference between the two populations is a much steeper rise in the number of persons living with neither the spouse nor the children in Singapore. Between 2005 and 2030, the number of elderly persons living alone in Singapore increases from 45,000 to 296,000, an increase of 6.6 times. In Hong Kong, this increase is from 154,000 to 348,000, or 2.3 times.

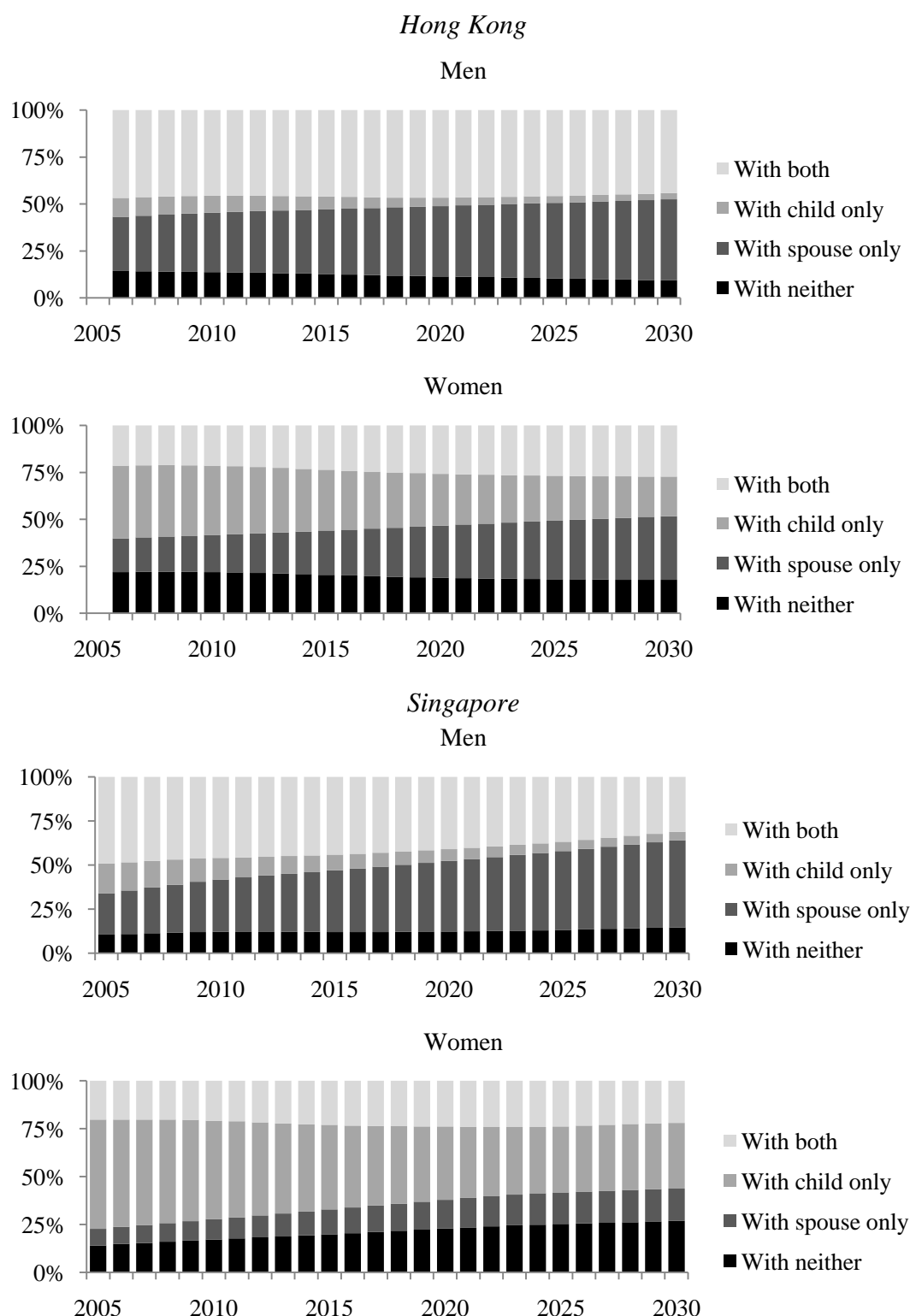
**Figure 6.4** Dynamic projections of elderly persons' (65+) living arrangements in Hong Kong and Singapore, 2005/2006-2030



Source: Own calculations based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at the same rate as between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006.

Projections at the fast rate of change also suggest different trends in living arrangements for men and women. Between 2006 and 2030 co-residence with children becomes less likely for both elderly men and women in Hong Kong, declining by 10 percentage points for men and 12 for women (Figure 6.5). Co-residence with children falls below half for men by 2026 and for women by 2028. Men continue to be more likely to be staying with a spouse only due to shorter life expectancies and higher ages at marriage than women. In 2030, 43% of men live with their spouse only compared to 34% of women. In contrast, the patterns of co-residence up to 2030 are much more dynamic in Singapore and the differences between the sexes greater. The proportion of elderly men living with their children decreases from 66% to 36%, and of women from 77% to 56%. By 2030, just 5% of elderly men live with their children only, compared to 17% in 2005. The proportion of elderly women living with neither their spouse or their children is expected to almost double from 14% to 27%.

**Figure 6.5** Dynamic projections of elderly persons' (65+) living arrangements by sex in Hong Kong and Singapore, 2005/2006-2030

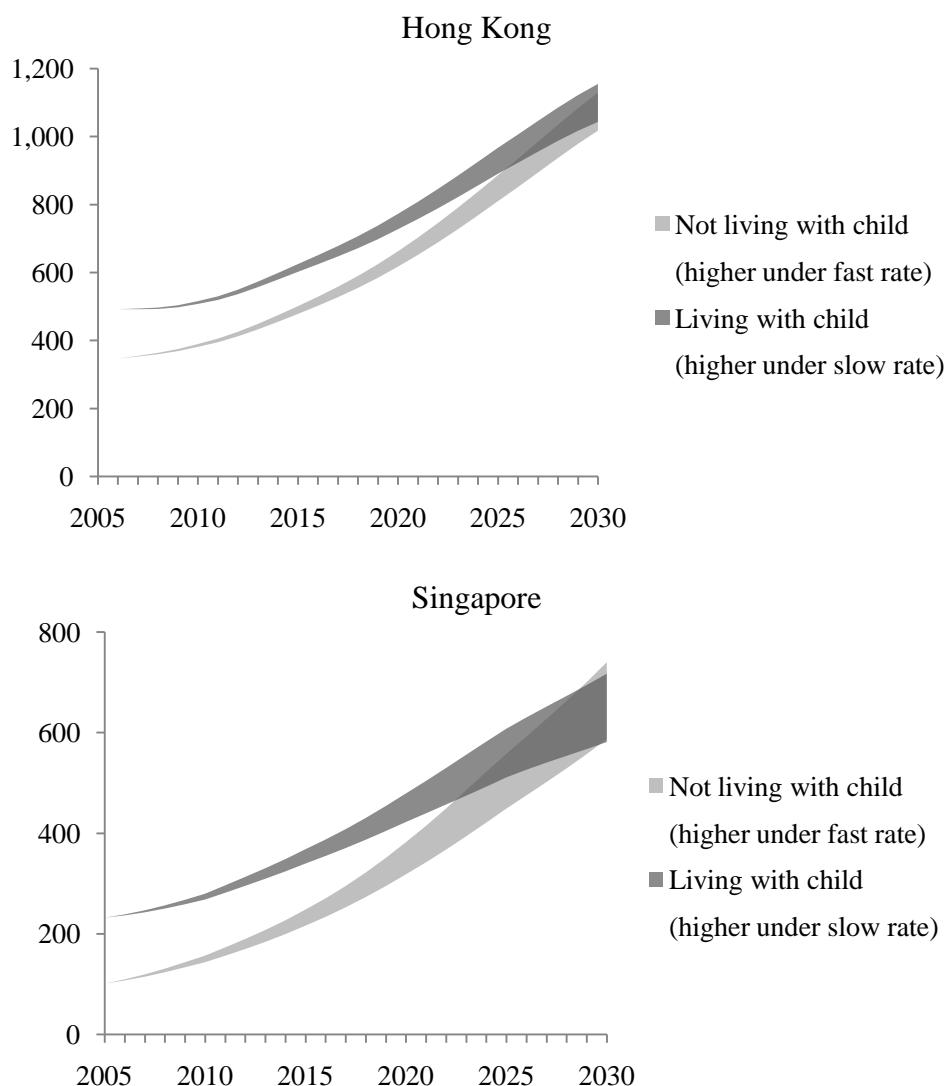


Source: Own calculations based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at the same rate as between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006.



Even with a more conservative assumption that living arrangements change at a slower rate from 2005/2006, the overall shape of the projections is not dramatically different, in that the relative likelihood of co-residence declines over the period. But results such as the surge in the number of persons living with the spouse only are delayed and no longer surface within the timeframe of the projections. Figure 6.6 compares the projected numbers of elderly persons by whether they are living with their children under the fast and slow assumed rates of change in living arrangements. The graphs show how far the differences in projections widen over time. The projections for Singapore are more sensitive to the assumed rates of change as there were larger shifts in the pattern of living arrangements here between the 1990s and 2000s, as compared to Hong Kong. In both places, adopting the fast rate of change results in a quicker decline in co-residence (bottom of the darker band in graph) and steeper rise in the number of persons not living with children (top of lighter band), with the number of co-resident elderly persons falling below half at around 2025 in Hong Kong and 2022 in Singapore. Assuming the slower rate of change results in a more gradual decline in co-residence (top of darker band) and slower increase in non-co-residence (bottom of lighter band), and the two lines show convergence but no longer intersect within the projection time-frame. By 2030, the estimated proportion of elderly persons not living with their children is 5 percentage points lower under the slower rate of change compared to the faster rate in Hong Kong, and 11 percentage points lower in Singapore.

**Figure 6.6** Range of projections of elderly persons' (65+) living arrangements in Hong Kong and Singapore based on different assumed rates of change, 2005/2006-2030, thousands



Source: Own calculations based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at two assumed rates: the fast rate, equal to the rate of change between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006; and the slow rate, which is half of the fast rate.

An international comparison lends some perspective. Table 6.6 shows the rates of intergenerational co-residence in selected European countries. The available data are for persons aged 50 and above, which may include co-resident children who have yet to leave the parental home and therefore overestimate co-residence rates for elderly persons aged 65 and above. Nonetheless, even at the fast rate of change, projected co-residence levels with adult children in Hong Kong and Singapore by 2030 are still

higher than in these European countries in 2004. Whereas intergenerational co-residence in Hong Kong and Singapore is almost 50% in 2030, the rate for Spain—a society often associated with familialistic Southern European traditions—is just 40% in 2004. In central European societies such as Germany and Switzerland, co-residence is even less prevalent, at 14-20%. As for Sweden, where extensive social policy performs some of the usual familial functions, co-residence is just 9%. From this point of view, even the fast rate of change assumed in the projections does not seem to lead to implausible results.

**Table 6.6** Elderly persons' co-residence with adult children: Projected levels for Hong Kong and Singapore compared to actual levels for selected European countries, percentage

Percentage	Hong Kong		Singapore	
	Slow rate	Fast rate	Slow rate	Fast rate
Age 65+				
2005/06	59	59	72	72
2030	53	48	58	47
Age 50+	Spain	Germany	Switzerland	Sweden
2004	40	14	20	9

Source: For Europe, Albertini, Kohli & Vogel (2007). For Hong Kong and Singapore, own calculations based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at two assumed rates: the fast rate, equal to the rate of change between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006; and the slow rate, which is half of the fast rate.

There are two other ways to examine how realistic the projections are. First, as these projections are done separately for men and women, an important check is how closely the numbers of men and women living with their spouse tally. According to the projections, by 2030, the ratio of elderly men to elderly women living with their spouse will be 1.1 in Hong Kong and 1.8 in Singapore. Ratios larger than one are to be expected as husbands are usually older and so for men who are just above 65, their co-resident wives may fall below 65 and therefore not count towards the elderly population. Empirically, in national survey data from the mid-1990s and mid-2000s, the ratio of elderly men to elderly women co-resident with their spouses ranged between 1.7 and 2.3 in Hong Kong and Singapore. The gender ratios of persons co-resident with their spouses as implied in the projections therefore appear to fall within an acceptable range.

A second and more direct way to test the projections is to compare the results with recent survey data. The most up to date information on elderly persons' living arrangements are from census studies in 2010 in Singapore and 2011 in Hong Kong. These provide empirical data exactly five years from the start of the projections. Table 6.7 compares living arrangements by sex based on the basic projections in the previous section, the dynamic projections above at the fast and slow rates, and actual census data:

- For Hong Kong, the projections are very accurate at this five-year point. The basic projections deviate the most from the empirical distribution, but still only by no more than three percentage points. The dynamic projections at the slow rate are a slight improvement, reducing the difference to two percentage points. Projections assuming the fast rate produce the best results—an almost exact fit with the census data except for a one percentage point difference in the proportions of elderly men and women living with both their spouse and children.
- The projections for Singapore show greater deviation from the census data. The basic projections are widest off the mark—the estimated proportion of women living with children only is 57% compared to 46% in the census data. As for the dynamic projections, the slow rate assumption produces a smaller underestimation of total co-residence among elderly women (61% compared to 58% under the fast rate and 63% in the census data), while the fast rate assumption generates a smaller overestimation of total co-residence among the men (72% compared to 74% under the slow rate and 70% in the census data). For elderly persons as a whole, the slow rate projections underestimate total co-residence by two percentage points while the fast rate projections overestimate co-residence by two percentage points, compared to the actual rate of 67%. The actual rate of change in the pattern of living arrangements between 2005 and 2010 may therefore lie somewhere between these two assumed rates.

**Table 6.7** Projected and actual living arrangements of elderly populations (65+), Hong Kong 2011 and Singapore 2010, percentage

			Projected			Actual
			Basic	Dynamic, slow rate	Dynamic, fast rate	
Hong Kong	Men	Alone	15	14	14	14
		Spouse	29	31	32	32
		Child	11	10	9	9
		Both	46	46	46	45
		Total	100	100	100	100
	Women	Alone	23	22	22	22
		Spouse	17	19	20	20
		Child	39	38	36	36
		Both	21	21	22	21
		Total	100	100	100	100
	All	Alone	19	18	18	18
		Spouse	23	24	26	26
		Child	26	25	23	23
		Both	32	33	33	33
		Total	100	100	100	100
Singapore	Men	Alone	11	12	12	11
		Spouse	23	27	30	26
		Child	17	14	12	12
		Both	49	47	46	51
		Total	100	100	100	100
	Women	Alone	14	16	17	16
		Spouse	8	9	10	14
		Child	57	54	51	46
		Both	20	20	21	24
		Total	100	100	100	100
	All	Alone	13	14	15	14
		Spouse	15	17	19	19
		Child	39	36	33	31
		Both	33	33	32	36
		Total	100	100	100	100

Source: Own calculations for projections. Basic projections based on medium variant of United Nations (2011) population projections and distributions of living arrangement by age-sex categories in the Singapore National Survey of Senior Citizens 2005 and the Hong Kong Population By-census 2006. Dynamic, slow rate projections based on UN population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at half the rate as between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006. Dynamic, fast rate projections are similar to the slow rate projections, except that living arrangements change at the same rate as observed in the survey data. Actual figures from Department of Statistics (2010) and Census and Statistics Department (2012a).

### *Summary*

So far, this chapter has presented two sets of projections of elderly persons' living arrangements in Hong Kong and Singapore. Combining the UN population projections with patterns of living arrangement by sex-age categories in the mid-2000s, the basic projections suggest elderly subgroups in different living arrangements will increase evenly between 2005/2006 and 2030. But these projections lack dynamism and do not sufficiently account for non-demographic change, particularly to work participation and living arrangement patterns over time.

The second set of projections incorporates projections of labour force participation by the ILO, which anticipate an upward trend in both populations, and changes to living arrangements by age, sex, and labour force participation status between 1995/1996 and 2005/2006 as observed in national survey data. The latter is applied using two rates—the same extent of change as between the 1990s and 2000s (i.e. the fast rate), and half of this rate (i.e. the slow rate). The projections suggest a fall in co-residence with children in both populations, with Singapore experiencing a steeper decline. By 2030, co-residence would have fallen from 59% to 48% in Hong Kong and from 72% to 47% in Singapore. Among elderly men in Singapore, the proportion living with their children falls from two thirds to about one third. The total number of elderly persons living alone in Singapore increases 6.6 times from 45,000 to 296,000, compared to just twice in Hong Kong. These trends are more gradual under the slow rate: the estimated proportion of elderly persons not living with their children by 2030 is 5 percentage points lower in Hong Kong and 11 percentage points lower in Singapore. A comparison of projected with actual distributions in 2010/2011 shows that estimations using the fast rate are almost an exact fit for Hong Kong, whereas developments in Singapore may fall somewhere between the fast and slow rates.

A possible factor that may affect living arrangements is behavioural adaptation among elderly persons. In the context of gender roles in caring for elderly parents in East Asian societies, Ofstedal, Knodel and Chayovan (1999) have argued that the risks posed by smaller family sizes may be ameliorated by adaptive fertility behaviour among parents with the most rigid preference—such as having more children to increase the chances of having a daughter, greater flexibility in life choices including living arrangements, or a loosening of traditional attitudes. In Hong Kong where the availability of children has fallen, the proportion of elderly persons living with single

daughters has already increased relative to those living with sons (see Chapter 4). To the extent that these trends are manifest in the survey data of the 1990s and 2000s, they would have influenced the above projections. But other unanticipated behavioural responses may yet emerge in the coming years.

### **6.3 Access to market income and children's contributions**

The next stage of projections models elderly persons' access to income sources incorporating the projections of living arrangements from the previous section. The projections are based on the same cell structure defined by sex, age group, labour force participation, and living arrangements (see Table 6.4). To understand the relationship between these personal characteristics and income sources, a multinomial logistic regression model was fitted into the national survey data. For Singapore the same 2005 survey dataset was used as in previous sections. But for Hong Kong the 2006 population by-census has no information on elderly persons' income sources. Therefore the regression analysis was carried out on data from a separate nationally representative survey conducted in 2008 covering about 10,000 households.<sup>1</sup>

Apart from data availability there were two other considerations when the predictor variables were chosen. The first was their relevance to the outcome variable, access to income sources. Living arrangements as coded in the cell structure includes both co-residence with children and with spouses. The survey data analysis from Part I of this study suggests a connection between co-residence with children and receipt of children's financial contributions. Co-residence with a spouse both indicates living arrangement and serves as a proxy for marital status. Labour force participation has obvious implications for access to market income such as wages and pensions. The second consideration is the small sample sizes of the survey datasets that provide the templates for the projections. Dividing the cells any further would have resulted in very low cell numbers that may affect the reliability of the projections.

Although the amount of income receipts from these sources are of interest, the survey datasets do not record exact levels of income by sources. The following analysis therefore focuses on access to different income sources. The outcome variable

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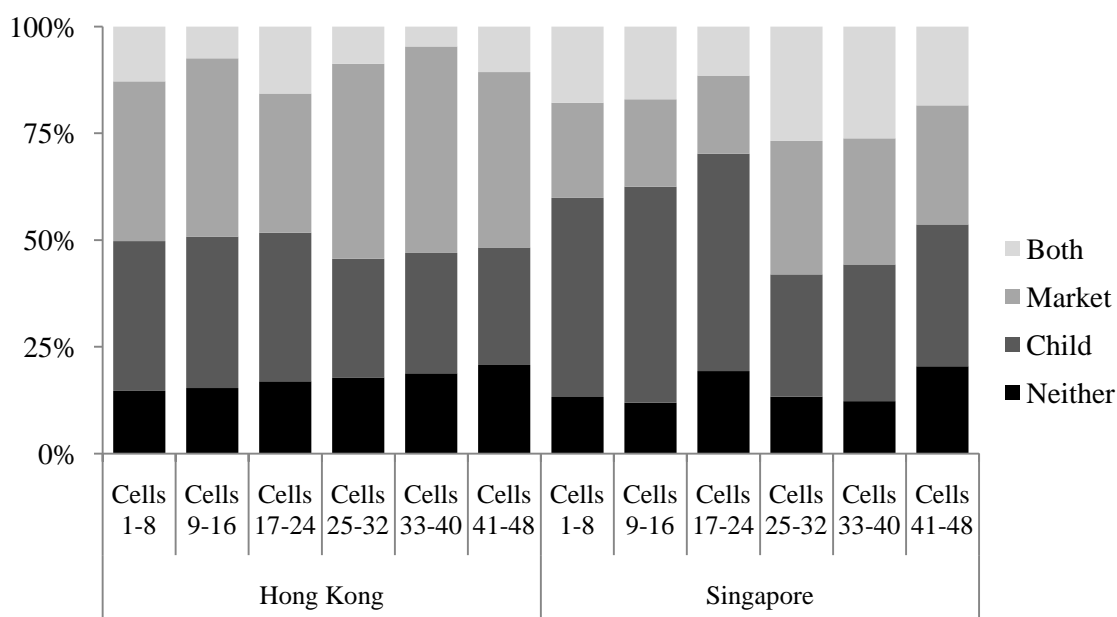
<sup>1</sup> More extensive use of the Thematic Household Survey on Socio-demographic Profile, Health Status and Self-care Capability of Older Persons 2008 dataset was not possible as the data agency permitted on-site access only, which meant that all analysis had to be completed on the agency's premises within a limited time.

was coded with four levels in the regression analysis: (1) neither market income nor children's contributions (where market income includes salary, public and private pensions, annuities, rent, and dividends), (2) children's contributions only, (3) market income only, and (4) both market income and children's contributions. The coding of income sources reflects findings from earlier survey data analysis. Market income and children's contributions are the most frequently cited income sources among elderly persons in the two populations. Other possible income sources such as contributions from other kin and public transfers are therefore omitted. The main public pensions in Singapore and Hong Kong, namely the Central Provident Fund (CPF) and Mandatory Provident Fund (MPF), are regarded here as market income since both schemes are based on mandatory savings deducted from monthly earnings. However due to the small number of persons in receipt of these pensions, they are not analysed separately but only in combination with other market income sources. Both regression models were significant at the 0.001 level (see statistical output in Appendix 6.1). Values representing the cell characteristics were then fitted into the regression model to derive the probabilities of the various income source scenarios, which were used as proportions to calculate the distribution of persons by income source within each cell.

This approach essentially assumes that the relationships between the cell variables and income sources between 2005/2006 and 2030 remain as they were in 2005 for Singapore and 2008 for Hong Kong. These relationships are shown in Figure 6.7 as the variations in income scenarios across the 48 cells used in the projections. For clarity of presentation, the graph shows average proportions for six clusters of cells each representing the same sex and age group. There is considerable variation across the cell clusters both between Hong Kong and Singapore and within each population. Access to market income diminishes with age in both populations but is especially low for women in Singapore. The likelihood of having neither market income nor children's contributions increases with age and is slightly higher in Hong Kong on average. Singaporean women have the greatest probability of receiving children's contributions only across all subgroups.



**Figure 6.7** Estimated probabilities of access to market income and children's contributions by cell cluster based on 2008 and 2005 survey data in Hong Kong and Singapore



Note: Cells 1-8: Women aged 65-69 (with different labour market participation status and living arrangements), Cells 9-16: Women aged 70-75, Cells 17-24: Women aged 75+, Cells 25-32: Men aged 65-69, Cells 33-40: Men aged 70-74, Cells 41-48: Men aged 75+.

Source: Own calculations, based on fitted values from regression of income source on sex, age, labour force participation, and living arrangements in Thematic Household Survey on Socio-demographic Profile, Health Status and Self-care Capability of Older Persons 2008 and Singapore National Survey of Senior Citizens 2005

The results of the projections are in Table 6.8. Based on the assumptions, for both Hong Kong and Singapore, the projections suggest an increase in access to market income and lower availability of children's contributions by 2030, signalling a decline in the traditionally important role of children in providing for elderly parents. The proportion of elderly persons with any amount of market income increases from 9% to 12% in Hong Kong, and from 26% to 30% in Singapore, while the total proportion with children's contributions falls from 62% to 61% in Hong Kong, and from 75% to 69-70% in Singapore. Whether the fast or slow rate of change is adopted for the underlying projections of living arrangement makes very little difference to the distribution of the elderly populations by access to these income sources (no more than one percentage point difference), although in terms of absolute numbers, the fast rate results in more elderly persons having neither market income nor children's contributions, fewer having children's contributions, and for Singapore, more persons with access to market income. The most striking trend pertains to persons with access

to neither market income nor children's contributions. The relative size of this group falls very slightly in Hong Kong but still reaches almost one third of the elderly population. In Singapore, this group represents a smaller proportion of 14% in 2005 but grows to 15-16%. By 2030, around 653,000-662,000 elderly persons in Hong Kong and 208,000-222,000 elderly persons in Singapore may have access to neither market income nor children's contributions.

**Table 6.8** Projected elderly populations (65+) in Hong Kong and Singapore by access to market income and children's financial contributions, 2005/2006-2030, thousands

(a) Hong Kong									
	Men			Women			All (percentage of total)		
	2006	2020	2030	2006	2020	2030	2006	2020	2030
Slow rate									
Neither	128	202	304	129	211	349	257 (31%)	414 (30%)	653 (30%)
Child	199	312	459	302	495	804	501 (60%)	807 (58%)	1263 (58%)
Market	51	98	144	11	31	51	62 (7%)	129 (9%)	194 (9%)
Both	14	25	37	7	16	27	21 (2%)	42 (3%)	64 (3%)
Fast rate									
Neither	128	204	306	129	214	356	257 (31%)	418 (30%)	662 (30%)
Child	199	310	456	302	492	796	501 (60%)	802 (58%)	1250 (58%)
Market	51	98	144	11	31	51	62 (7%)	129 (9%)	195 (9%)
Both	14	26	38	7	17	28	21 (2%)	43 (3%)	66 (3%)

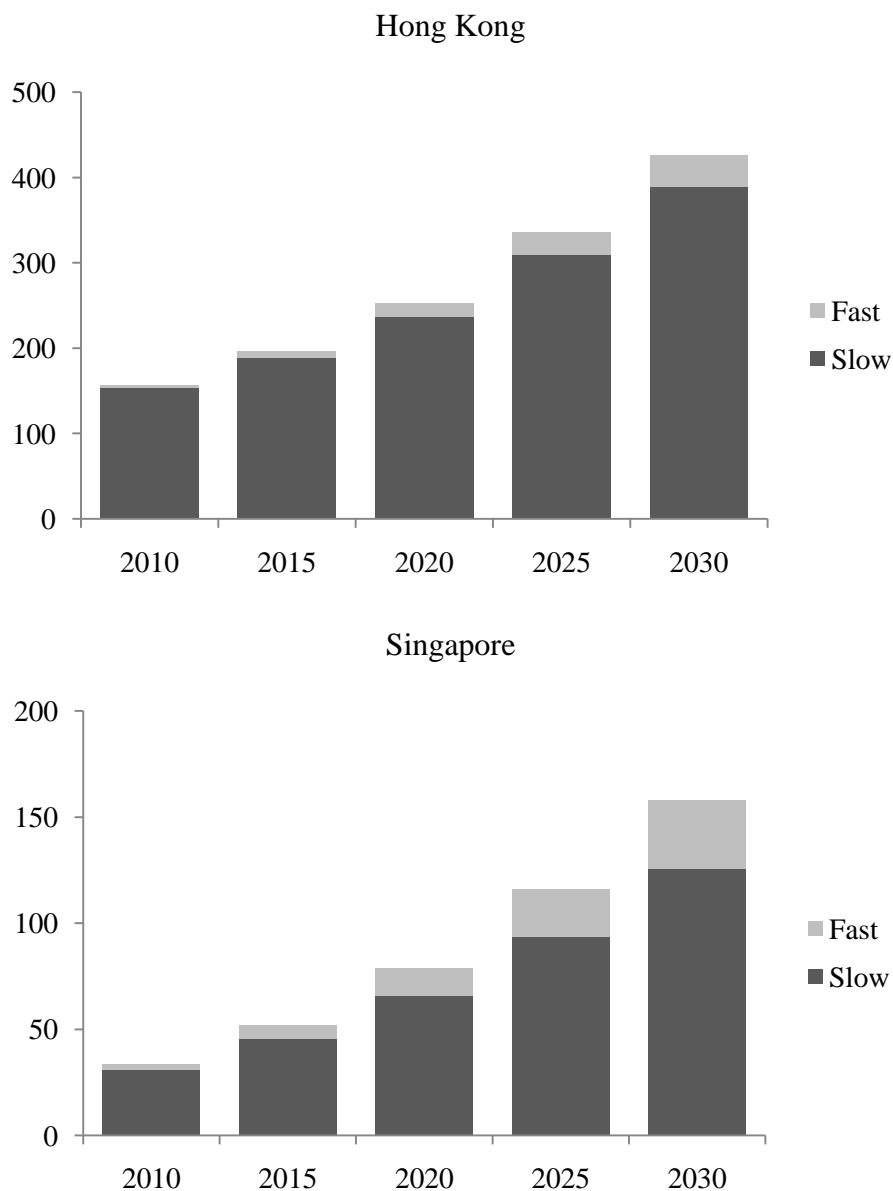
(b) Singapore									
	Men			Women			All (percentage of total)		
Slow rate	2005	2020	2030	2005	2020	2030	2005	2020	2030
Neither	22	53	93	27	66	115	49 (14%)	119 (14%)	208 (15%)
Child	78	167	266	141	312	505	218 (60%)	478 (56%)	771 (55%)
Market	31	91	147	11	35	59	41 (11%)	127 (15%)	206 (15%)
Both	35	86	136	19	47	74	54 (15%)	134 (16%)	210 (15%)
Fast rate	2005	2020	2030	2005	2020	2030	2005	2020	2030
Neither	22	55	98	27	70	124	49 (14%)	125 (15%)	222 (16%)
Child	78	163	256	141	306	493	218 (60%)	469 (55%)	748 (54%)
Market	31	93	151	11	38	64	41 (11%)	131 (15%)	215 (15%)
Both	35	87	136	19	46	72	54 (15%)	133 (16%)	208 (15%)

Note: Child refers to direct cash transfers to elderly parents. Market refers to market income such as salary, public and private pensions, annuities, rent, and dividends.

Source: Own calculations. Underlying projections of living arrangement based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at two assumed rates: the fast rate, equal to the rate of change between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006; and the slow rate, which is half of the fast rate. Income sources estimated by regression on selected individual variables in the 2005/2006 national survey datasets. See text for explanation.

Combining the earlier projections of living arrangements with the above analysis of income sources enables the identification of potentially vulnerable groups of elderly persons. Figure 6.8 charts the number of elderly persons with no access to market income and children's financial contributions, and who are also not co-resident with their children. Between 2010 and 2030, the size of this group grows from 153,000 to 390,000 in Hong Kong under the slow rate, or from 156,000 to 426,000 under the fast rate. In Singapore, the increase is from 31,000 to 126,000 persons under the slow rate, or from 34,000 to 158,000 under the fast rate. In both places, the risks of income insecurity increases: as a proportion of the total elderly population, this vulnerable group increases from 17% to 18-20% in Hong Kong and from 6% to 9-11% in Singapore.

**Figure 6.8** Projected elderly populations (65+) in Hong Kong and Singapore with no access to market income and children's contributions and who do not live with their children, 2010-2030, thousands



Note: Market income includes salary, public and private pensions, annuities, rent, and dividends.

Source: Own calculations. Projections of living arrangement based on medium variant of United Nations (2011) population projections, International Labour Organization (2012) labour force projections, and changes to living arrangements by age, sex, and labour force participation at two assumed rates: the fast rate, equal to the rate of change between 1995/1996 and 2005/2006 as observed in the Singapore National Survey of Senior Citizens 1995 and 2005 and the Hong Kong Population By-census 1996 and 2006; and the slow rate, which is half of the fast rate. Income sources estimated by regression on selected individual variables in the 2005/2006 national survey datasets. See text for explanation.

### *Summary*

This section built on the earlier projections of living arrangements by estimating access to two main types of income among elderly persons—children’s contributions and market income including public pensions. Assuming the relationship between access to these income sources and individual characteristics remains the same as in 2005 for Singapore and 2008 for Hong Kong, the projections suggest that during 2005/2006-2030, the proportion of elderly persons with market income will increase from 7% to 9% in Hong Kong and from 11% to 15% in Singapore, while the total proportion with children’s contributions falls from 62% to 61% in Hong Kong, and from 75% to 69% in Singapore. But despite better overall access to market income, the proportion with neither market income nor children’s contributions also increases slightly in Singapore from 14% to 15-16%, depending on underlying assumptions about how living arrangements change. Furthermore, the proportion of elderly persons at greater risk of income insecurity, because they do not have access to neither type of income and are not living with their children, may increase from 17% to 18-20% in Hong Kong, and from 6% to 9-11% in Singapore.

These projections cast new light on commonly held notions that higher labour force participation and educational achievements in successive cohorts in societies such as Singapore will mean that elderly persons, especially women, will have better access to market income and public pension systems in retirement, or that children will have greater means to support their parents even if there are fewer children available (e.g. A. Chan, 2005; C.-J. Tan, 2012, April). Chapter 2 has already shown that in both Hong Kong and Singapore, the expansion of lifetime labour force participation has stopped for men among the coming cohorts of retirees, and appears to be slowing down for women. Women’s access to CPF income had also increased very little relative to men’s between 1995 and 2005. The above projections, which incorporate the ILO’s assumptions of further growth in labour force participation, show that while market income may indeed become available to more elderly persons in future as children’s support declines, the total proportion of elderly persons with neither type of income may stagnate in the case of Hong Kong, or even grow in the case of Singapore.

## 6.4 Summary

- Taking into account expected changes in demographic structure and labour force participation, and the historical trend in living arrangements by age, sex, and labour force participation status between the 1990s the 2000s, the projections in this chapter suggest a decrease in co-residence with children in both Hong Kong and Singapore. At the start of the projections, living with children only or with the spouse and children were the most common. But by 2030, the most common arrangement is to live with the spouse only.
- The decline in co-residence with children is much sharper in Singapore, falling from 72% to 47% compared to a decline from 59% to 48% in Hong Kong between 2005/2006 and 2030. The proportion of elderly men living with their children in Singapore decreases from 66% to 36%, while the total number of elderly persons living with neither the spouse nor the children increases by 6.6 times from 45,000 to 296,000, compared to just twice in Hong Kong.
- If the assumed rate of change in living arrangements by age, sex, and labour force participation status is halved, co-residence declines more gradually. The estimated proportion of elderly persons not living with their children is 5 percentage points lower in Hong Kong and 11 percentage points lower in Singapore by 2030 compared to proportions under the full rate.
- Further projections based on a constant relationship between income sources and other personal characteristics as observed in national survey data in 2005/2008 indicate an increase in the proportion of elderly persons with access to market income from 7% to 9% in Hong Kong and from 11% to 15% in Singapore, while the total proportion with children's contributions falls from 62% to 61% in Hong Kong, and from 75% to 69% in Singapore.

- But there is also a rise in the proportion of elderly persons with access to neither market income nor children's contributions from 17% to 18-20% in Hong Kong, and from 6% to 9-11% in Singapore, depending on the underlying assumptions about how living arrangements change. By 2030, the size of this group may rise to 662,000 (30% of elderly population) in Hong Kong and 222,000 (16% of elderly population) in Singapore.
- To further isolate groups at risk of income insecurity, the projections of living arrangements and income sources were combined. This revealed an upward trend in the proportion of elderly persons with no access to market income and children's financial contributions, and who are also not co-resident with their children. Between 2010 and 2030, this group grows from 6% to 11% of the total elderly population in Singapore and from 17% to 20% in Hong Kong.

So far the projections have only addressed income sources. As market income including public pensions is expected to grow in importance, the next chapter turns to look at income sizes by analysing possible public pension benefits and the implications for demands on children's financial resources.

## Appendix 6.1 Statistical tables

**Table 6A.1** Multinomial logistic model for elderly persons' (65+) income sources in Singapore (N=2663)

Income source		B	Std. Error	z	P> z
Children's contributions only	Constant	0.353	0.179	1.98	0.048
	Men	-0.644	0.136	-4.73	0.000
	Age 65-69 (ref)				
	70-74	0.227	0.183	1.24	0.215
	75+	-0.273	0.150	-1.82	0.069
	In labour force	-0.967	0.239	-4.04	0.000
	Living with neither (ref)				
	Living with spouse only	1.635	0.217	7.54	0.000
	Living with children only	1.683	0.163	10.33	0.000
	Living with both	2.183	0.196	11.12	0.000
Market income only	Constant	-1.190	0.247	-4.82	0.000
	Men	0.573	0.199	2.88	0.004
	Age 65-69 (ref)				
	70-74	-0.013	0.235	-0.06	0.956
	75+	-0.681	0.215	-3.17	0.002
	In labour force	2.173	0.227	9.56	0.000
	Living with neither (ref)				
	Living with spouse only	0.724	0.273	2.65	0.008
	Living with children only	-0.445	0.267	-1.67	0.095
	Living with both	0.799	0.248	3.22	0.001
Both	Constant	-1.442	0.261	-5.52	0.000
	Men	0.493	0.173	2.84	0.004
	Age 65-69 (ref)				
	70-74	0.052	0.213	0.24	0.809
	75+	-0.900	0.190	-4.73	0.000
	In labour force	1.013	0.230	4.40	0.000
	Living with neither (ref)				
	Living with spouse only	1.640	0.290	5.66	0.000
	Living with children only	1.568	0.250	6.26	0.000
	Living with both	1.863	0.268	6.96	0.000

Note: Reference category is Neither children's contributions nor market income.  
Based on data from the Singapore National Survey of Senior Citizens 2005.



**Table 6A.2** Multinomial logistic model for elderly persons' (65+) income sources in Hong Kong (N=828420)

Income source		B	Std. Error	Wald	Sig.
Children's contributions only	Constant	1.123	0.007	28778.608	0.000
	Men	-0.448	0.005	7823.210	0.000
	Age 65-69	0.168	0.006	698.112	0.000
	70-74	0.130	0.006	476.390	0.000
	75+ (ref)				
	In labour force	0.271	0.082	10.996	0.001
	Living with neither	-1.066	0.007	21346.107	0.000
	Living with spouse only	-0.549	0.007	5493.958	0.000
	Living with children only	0.057	0.007	64.270	0.000
	Living with both (ref)				
Market income only	Constant	-3.484	0.020	29604.306	0.000
	Men	1.038	0.015	4976.012	0.000
	Age 65-69	0.869	0.016	2871.913	0.000
	70-74	0.678	0.016	1721.649	0.000
	75+ (ref)				
	In labour force	7.368	0.070	11071.912	0.000
	Living with neither	-0.176	0.018	91.742	0.000
	Living with spouse only	-0.045	0.019	5.804	0.016
	Living with children only	-0.158	0.019	69.590	0.000
	Living with both (ref)				
Both	Constant	-2.932	0.021	18938.385	0.000
	Men	0.355	0.017	457.535	0.000
	Age 65-69	0.499	0.019	726.442	0.000
	70-74	-0.356	0.022	257.617	0.000
	75+ (ref)				
	In labour force	6.321	0.071	7874.083	0.000
	Living with neither	-1.256	0.026	2333.375	0.000
	Living with spouse only	-0.250	0.022	132.916	0.000
	Living with children only	-0.060	0.021	8.251	0.004
	Living with both (ref)				

Note: Reference category is Neither children's contributions nor market income.  
Based on data from the Thematic Household Survey on Socio-demographic Profile, Health Status and Self-care Capability of Older Persons 2008.

## 7. Future pension outcomes

The previous chapter focused on the possible compositions of future elderly populations in Hong Kong and Singapore in terms of living arrangement and access to different types of income source. The analysis suggested an increase in the proportions of elderly persons without support from their children either through co-residence or direct cash transfers by 2030. This implies a greater role for market income sources in retirement, including public pensions. This chapter therefore turns to two key questions regarding the pension systems in Hong Kong and Singapore. First, what are the possible pension outcomes? Second, what as a result are the demands for children's support? The first section describes the model cases and assumptions. The next presents the core pension outcome projections using historical rules and varying rates of wage growth. The findings from these projections are then subjected to alternative career, life expectancy, and interest rate scenarios. Finally, section four examines what levels of support are expected from children based on the projected pension outcomes.

### 7.1 Model assumptions and parameters

#### *Illustrative cases by sex and education*

The pension projections in this chapter focus on six cases of men and women with different levels of education: primary school or less (M1 and W1 representing men and women respectively), secondary school (M2 and W2), and tertiary education (M3 and W3). Distinguishing the cases by educational level improves representation across the income distribution and makes the results more intuitive to interpret. These cases are assigned the actual gross median monthly wages of employed persons in the respective educational categories in Hong Kong and Singapore in 2010. The wage levels and the proportions of workers they represent are shown in Table 7.1. In both places, M1 and W1, the lowest educated cases, represent just over 10% of the employed workforce. Roughly similar proportions of workers have secondary and tertiary education in Singapore, just below 50% each. But in Hong Kong, just one third of workers have tertiary education. Instead M2 and W2 represent the almost 60% of workers who have secondary education. This is partly due to the different categorisation of persons with post-secondary but non-degree qualifications in the two places. As they represent a smaller group at the top of the educational attainment spectrum, the median wages of

M3 and W3 in Hong Kong are 1.6 to 2.1 times the median wage of all employed persons, compared to 1.3 to 1.7 times in Singapore. The chosen cases are therefore illustrative of the situations of workers with different qualifications in the two places, but are not strictly equivalent. The overall pattern of relative wages for the other cases is similar: M1 and W1 receive wages of 0.4 to 0.8 times the median wage of the employed workforce, while M2 and W2 receive wages of 0.7 to 1.0 times the workforce median wage.

**Table 7.1** Median gross monthly wage by sex and education in Hong Kong and Singapore, 2010

	Sex and education	Median gross monthly wage (dollars in national currency)	Ratio to median wage of all workers	Percentage of employed workforce
Hong Kong	M1	9,000	0.8	6
	M2	11,000	1.0	30
	M3	23,000	2.1	17
	W1	5,500	0.5	6
	W2	8,000	0.7	27
	W3	18,000	1.6	15
	All workers	11,000	1.0	100
Singapore	M1	1,500	0.5	7
	M2	2,100	0.8	24
	M3	4,500	1.7	25
	W1	1,000	0.4	6
	W2	1,800	0.7	18
	W3	3,500	1.3	21
	All workers	2,700	1.0	100

M1: Men with primary education or less, M2: Men with secondary education,

M3: Men with tertiary education, and similarly for women W1-3

Source: Report on Labour Force in Singapore 2010, Tables 20 and 27 (Ministry of Manpower, 2011); Quarterly Report on General Household Survey (April to June 2010), Table 5.3 (Census and Statistics Department, 2010b); communication with Hong Kong Censtatd.

### *Policy scenarios*

For Hong Kong, the pension projections take into account three different schemes<sup>1</sup> :

- The Mandatory Provident Fund (MPF) based on contributions of 10% monthly wage, with nominal interest rate fixed at 4% per year, following Singapore's nominal interest rate for Central Provident Fund (CPF) savings from 2000 onwards<sup>2</sup>
- The universal Old Age Allowance (OAA) under the Social Security Assistance Scheme (SSAS) from 70 years old
- An additional flat-rate means-tested scheme known as the Old Age Living Allowance (OALA) from 65 years old

Since individuals who qualify for the more generous OALA are taken off the OAA scheme, projections are done for two scheme combinations: the MPF and OAA, and the MPF and OALA.

For Singapore, three Central Provident Fund (CPF) scenarios based on different amounts of pre-retirement withdrawal for housing are considered<sup>3</sup>:

- The “maximum withdrawal” scenario assumes that the entire Ordinary Account is used up before retirement, leaving only the Special Account for retirement; this is equivalent to an actual contribution rate of 5% monthly wage (in terms of 2010 rates for workers up to 35 years old)
- The “average withdrawal” scenario assumes that the average amount of withdrawals is made from the Ordinary Account before retirement, leaving 33% of the Ordinary Account and the whole Special Account for retirement, equivalent to an actual contribution rate of 13% monthly wage.

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<sup>1</sup> See scheme details in Chapter 3. In reality, many elderly persons also rely on the Comprehensive Social Security Assistance Scheme (CSSA) which provides benefits based on household means tests (K.L. Chou, Chow, & Chi, 2004). The CSSA has been left out of the analysis here as it is not strictly an old-age pension scheme.

<sup>2</sup> Returns to the MPF depend on the individual's choice of fund to invest the savings and the market performance of these funds. Since these are variable and to facilitate comparison, it is assumed that MPF funds earn the same rate of interest as the CPF at 4%. Between 2001 and 2012, the average annual return for the MPF was 3.6% (see Chapter 3).

<sup>3</sup> See Chapter 3 for details of the CPF and discussion of housing withdrawals in general, and Chapter 5 for the treatment of such withdrawals in previous studies.

- The “no withdrawal” scenario assumes the whole of the Ordinary and Special Accounts are available for retirement, equivalent to an actual contribution rate of 28%.

For most of the projections that follow, results are reported only for the “maximum withdrawal” and “average withdrawal” scenarios. While the former results in unrealistic underestimations of pension outcomes, it sets an informative lower bound in the estimations since the regulations protect only the Special Account from pre-retirement withdrawals. The “maximum withdrawal” scenario is therefore the legal minimum which individuals must retain for retirement. The “average withdrawal” scenario is based on the estimated ratio of aggregate withdrawals for housing and other properties to total Ordinary Account saving between 2001 and 2010<sup>4</sup>, which works out to 67% on average. This serves as the upper bound of the projections. As the assumption of “no withdrawal” is quite unlikely in practice, and its inclusion would increase the range of projected outcomes to the extent that they would not be very meaningful to analyse, it is only reported near the end of section 7.2.

For both Hong Kong and Singapore, pension contribution wage floors and ceilings are based on 2010 rules and increased in line with wages.

#### *Other model parameters*

The following assumptions, pegged at levels adopted in the OECD’s (2012) Pensions at a Glance report series, apply to the base cases at the start of the projections but most of them will be gradually relaxed in the analysis:

- nominal wage growth of 4.55% per annum
- full careers from 20 to 65 years old

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<sup>4</sup> The published aggregate data on savings are not separated into the three different accounts—Ordinary, Special, and Medisave—in the CPF Annual Reports. There is no straightforward way to estimate the amount of saving going into the Ordinary Account since contribution rates as well as the allocation of monthly contributions into the accounts vary by age. For convenience, the estimation of Ordinary Account saving here was based on the contribution rates and allocation for workers aged between 35 and 45 since this lies roughly in the middle of the age range of the workforce assuming full careers from 20 to 65.

- life expectancies are calculated from national projections of period life expectancy from 65: 80 and 86 years for men and women in Hong Kong, and 80 and 84 years in Singapore
- interest rate for calculating annuities at 2%
- price inflation at 2.5%

## **7.2 Core projections: Historical rules, different wage growth rates, and policy changes**

### *Base cases*

As a first step, Table 7.2 shows the projected pension outcomes for the base cases, expressed as a percentage of final individual gross wage (or the gross pension replacement rate) and as a percentage of the median gross wage of all employed persons (or the gross relative pension level). They follow the existing and legislated pension rules in 2010 applied in perpetuity and answer the question: what might one expect to receive from these pension systems based on today's rules? It is clear that Hong Kong offers more generous pensions, replacing 27-36% of final individual wage across the six cases under the MPF and OAA, or up to 45% under the OALA instead. Replacement rates range between 15-19% in Singapore under the more conservative assumption of maximum housing withdrawal and barely reach a third even assuming average housing withdrawal.<sup>5</sup> In terms of poverty avoidance, both systems fare poorly. Only the most highly educated men in Hong Kong, represented by M3, achieve pensions that reach two-thirds of the median gross wage. For the other cases in Hong Kong and all cases in Singapore, the relative pension level is no more than half of median wage.

Men uniformly achieve better pension outcomes than women due to the assumed gender wage differences. Although W1 achieves the highest replacement rate of all cases in Hong Kong at 45%, this is more a reflection of the low final wage against which the pensions are compared. Of more importance is that relative to median gross wage, M2's pensions are about one and a half times that of W2 in both systems. Wage differences by educational level also have a visible impact. M3 and W3 receive pensions of two to three times that of M1 and W1 when measured against

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<sup>5</sup> The estimates under the maximum withdrawal scenario are close to those of the OECD, while estimates based on the average withdrawal scenario are not far from the results of other studies and the available empirical benchmarks. See Chapter 3.

median gross wage. Table 7.2 further illustrates the inherent uncertainty associated not just with these projections but also with the nature of these pension systems. Pension outcomes vary widely depending on eligibility for the OALA in Hong Kong and the amount of non-retirement withdrawals from the CPF. It is equally significant that even under the more generous scenario of “average withdrawal”, both replacement rates and pension levels for the CPF are lower than in the less generous MPF and OAA scenario in Hong Kong.

**Table 7.2** Projected pension outcomes for careers starting in 2010 according to pension rules in 2010, Hong Kong and Singapore

		M1	M2	M3	W1	W2	W3
Hong Kong <i>MPF,</i> <i>OAA</i>	Gross replacement rate (% final individual gross wage)	36	36	30	32	30	27
	Gross relative pension level (% median gross wage)	30	36	62	16	22	44
Hong Kong <i>MPF,</i> <i>OALA</i>	Gross replacement rate	44	42	33	45	38	31
	Gross relative pension level	36	42	68	22	28	50
Singapore <i>CPF</i> <i>maximum</i> <i>withdrawal</i>	Gross replacement rate	19	19	19	15	15	15
	Gross relative pension level	10	15	31	6	10	20
Singapore <i>CPF</i> <i>average</i> <i>withdrawal</i>	Gross replacement rate	30	30	30	25	25	25
	Gross relative pension level	16	23	50	9	17	32

MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Case M1: Men with primary education or less, M2: Men with secondary education, M3: Men with tertiary education, and similarly for women W1-3. Projections assume starting wages based on 2010 wage levels; 4.55% nominal wage growth; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities.

Source: Own calculations

### *Historical rules*

The projections above are for a mostly static policy environment with the exception of a few legislated contribution rate changes for the CPF after 2010 and do not reflect historical changes to pension regimes. Alternatively, pension outcomes can be calculated based on moving timeframes of historical pension rules starting from 1990 and 2000 (and held constant after 2012 since further changes are unknown). This models the pension experiences of those cohorts whose careers span 1990-2035 and

2000-2045. For Singapore, this incorporates gradually rising contribution rates particularly for older CPF members in more recent years. In Hong Kong, the introduction of the MPF in 2000 means that individuals who started working before then would have missed out on contributing to the scheme during part of their career. Table 7.3 shows that for both men and women, pension outcomes improve for the younger cohorts. For the 2000 cohort in Hong Kong, the first to be able to participate in the MPF for the whole of their careers, the pension replacement rates achieved by a combination of the MPF and the OAA are about four to seven percentage points higher than for the 1990 cohort. The relative pension levels also show how the MPF favours persons with higher wages. Across cohorts, W1 to W3 see gains of 2 to 8 percentage points compared to the 5 to 11 percentage points by M1 to M3. Pension outcomes are the same for the 2000 and 2010 cohorts (see Table 7.2) as the pension rules do not change after 2000. In Singapore the upward trend of pension replacement rates and relative pension levels is sustained between the 1990 and 2010 cohorts but the difference is less dramatic than in Hong Kong. This is perhaps not surprising given how low the pension benefits are even for the youngest cohort. Between the 1990 and 2010 cohorts, pension replacement rates increase from 13% to 15% for women and from 16% to 19% for men in the maximum withdrawal scenario. There are similar gains of about two percentage points assuming average withdrawal. Improvements are more marginal for cases with lower education. Over two decades the relative pension level of W1 rises from 5% to just 6% while that of W3 rises from 17% to 20% with maximum withdrawal.



**Table 7.3** Projected pension outcomes for careers starting in 1990 and 2000 according to historical pension rules, Hong Kong and Singapore

		M1	M2	M3	W1	W2	W3
Hong Kong MPF, OAA	<i>Career 1990-2035</i>						
	Gross replacement rate	30	29	24	28	25	22
	(% final individual gross wage)						
	Gross relative pension level	25	29	51	14	18	36
	(% median gross wage)						
	<i>Career 2000-2045</i>						
Hong Kong MPF, OALA	Gross replacement rate	36	36	30	32	30	27
	Gross relative pension level	30	36	62	16	22	44
	<i>Career 1990-2035</i>						
	Gross replacement rate	38	36	27	40	34	26
	Gross relative pension level	31	36	57	20	24	42
	<i>Career 2000-2045</i>						
Singapore CPF maximum withdrawal	Gross replacement rate	44	42	33	45	38	31
	Gross relative pension level	36	42	68	22	28	50
	<i>Career 1990-2035</i>						
	Gross replacement rate	16	16	16	13	13	13
	Gross relative pension level	9	12	27	5	9	17
	<i>Career 2000-2045</i>						
Singapore CPF average withdrawal	Gross replacement rate	18	18	18	15	15	15
	Gross relative pension level	10	14	29	5	10	19
	<i>Career 1990-2035</i>						
	Gross replacement rate	28	28	28	23	23	23
	Gross relative pension level	15	22	47	8	16	30
	<i>Career 2000-2045</i>						
	Gross replacement rate	29	29	29	24	24	24
	Gross relative pension level	16	23	48	9	16	31

MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Case M1: Men with primary education or less, M2: Men with secondary education, M3: Men with tertiary education, and similarly for women W1-3. Projections assume starting wages based on 2010 wage levels; 4.55% nominal wage growth; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities.

Source: Own calculations

### *Varied wage growth rates*

So far the projections have assumed uniform rates of wage growth for all the model cases. In reality the wages of women and individuals with lower education have grown more slowly in Hong Kong and Singapore in recent years. Data from Singapore suggest that on average, men and women with primary education aged 41 in 2011 would have experienced actual wage growth of 2% and 1% per year respectively from 2002 onwards, compared to 6% and 4% for their contemporaries with tertiary education (Table 7.4). A longer data series from Hong Kong shows a similar pattern. Individuals with tertiary education in Hong Kong experienced average annual wage growth of 8-9% between 1990 and 2011 compared to just 3-5% for persons with primary education. These trends underlie the rising income inequality in both places in recent times (MOM, 2011). To reflect the impact of varied labour market experiences and wage divergence over time, the next set of projections recalculates the pension outcomes for the 1990, 2000, and 2010 cohorts from earlier projections but using faster rates of wage growth for men and cases with higher education as indicated in Table 7.4.

**Table 7.4** Annual nominal wage growth for persons aged 41 in 2011 in Hong Kong and Singapore and assumed nominal wage growth for model cases, percentage

Actual	Men			Women		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
Hong Kong (from 1990)	5	6	9	3	4	8
Singapore (from 2002)	2	3	6	1	3	4
Assumed	M1	M2	M3	W1	W2	W3
	5	6	7	3	4	5

Source: Own calculations based on Report on Labour force in Singapore (Ministry of Manpower, various years) and communication with Hong Kong Censatd

With more realistic wage growth assumptions, the differences in replacement rates stretch further, falling for higher earners and rising for lower earners. For Hong Kong, this accentuates the downward gradient of pension replacement rate by education already seen in the earlier projections (Table 7.5). Due to higher final wages, the replacement rates for M3 are depressed to about 10% under the MPF and OAA, or one third of M1's replacement rates, compared to about four fifths under uniform wage growth. In Singapore this inverse relationship between education and pension

replacement now emerges whereas replacement rates were the same for M1-3 and for W1-3 in previous projections. In both systems, the slowing of wage growth at the lower end leads to particularly high replacement rates for women, surpassing those for men. The highest replacement rates for W1 in Hong Kong increase from 45% to 74%, whereas the rates for men fall from 44% to 39%. Assuming average withdrawal, W1 in Singapore now achieves replacement rates of up to 36% compared to 27% for men. But measuring pension amounts relative to median gross wage reveals a contrasting picture. Varying the rates of wage growth result in a fall in women's pension levels and a rise in men's pension levels, with the exception of the highest earning M3 cases due to the wage ceilings for MPF and CPF contributions.

**Table 7.5** Projected pension outcomes for careers starting in 1990, 2000, and 2010 according to historical pension rules with varied wage growth rates, Hong Kong and Singapore

		(a) Hong Kong					
		M1	M2	M3	W1	W2	W3
Nominal annual wage growth (%)		5	6	7	3	4	5
Hong Kong MPF, OAA	<i>Career 1990-2035</i>						
	Gross replacement rate	28	23	9	41	28	20
	(% final individual gross wage)						
	Gross relative pension level	27	42	51	11	16	39
	(% median gross wage)						
	<i>Career 2000-2045</i>						
	Gross replacement rate	33	26	11	50	34	24
	Gross relative pension level	33	49	62	13	20	47
	<i>Career 2010-2055</i>						
	Gross replacement rate	33	26	11	50	34	24
	Gross relative pension level	33	49	62	13	20	47
Hong Kong MPF, OALA	<i>Career 1990-2035</i>						
	Gross replacement rate	34	26	10	65	39	23
	Gross relative pension level	34	48	57	17	22	45
	<i>Career 2000-2045</i>						
	Gross replacement rate	39	30	12	74	45	27
	Gross relative pension level	39	55	68	19	26	53
	<i>Career 2010-2055</i>						
	Gross replacement rate	39	30	12	74	45	27
	Gross relative pension level	39	55	68	19	26	53

## (b) Singapore

		M1	M2	M3	W1	W2	W3
Nominal annual wage growth (%)		5	6	7	3	4	5
Singapore CPF maximum withdrawal	<i>Career 1990-2035</i>						
	Gross replacement rate	15	12	6	18	15	12
	Gross relative pension level	10	17	27	3	8	19
	<i>Career 2000-2045</i>						
	Gross replacement rate	16	13	6	21	16	13
	Gross relative pension level	11	19	29	4	9	21
	<i>Career 2010-2055</i>						
	Gross replacement rate	17	14	7	22	17	14
	Gross relative pension level	11	20	31	4	9	22
Singapore CPF average withdrawal	<i>Career 1990-2035</i>						
	Gross replacement rate	26	21	10	34	26	21
	Gross relative pension level	17	30	47	6	14	33
	<i>Career 2000-2045</i>						
	Gross replacement rate	26	21	10	35	27	22
	Gross relative pension level	17	31	48	6	14	34
	<i>Career 2010-2055</i>						
	Gross replacement rate	27	22	11	36	28	22
	Gross relative pension level	18	31	50	7	15	35

MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Case M1: Men with primary education or less, M2: Men with secondary education, M3: Men with tertiary education, and similarly for women W1-3. Projections assume starting wages based on 2010 wage levels; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities.

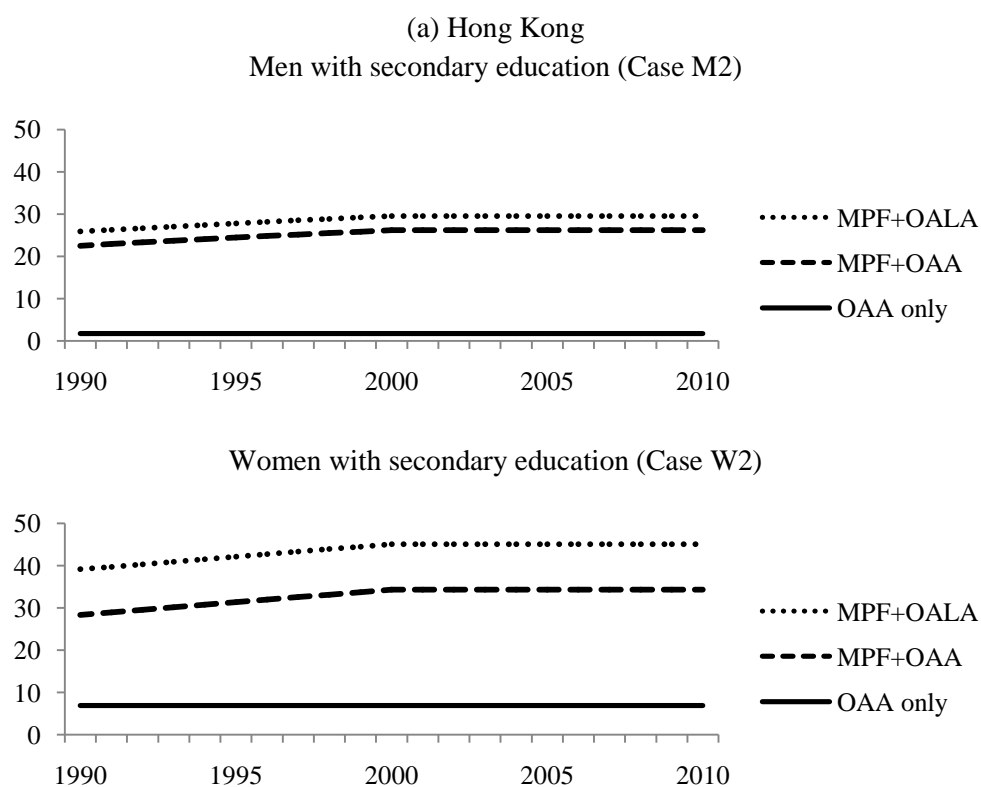
Source: Own calculations

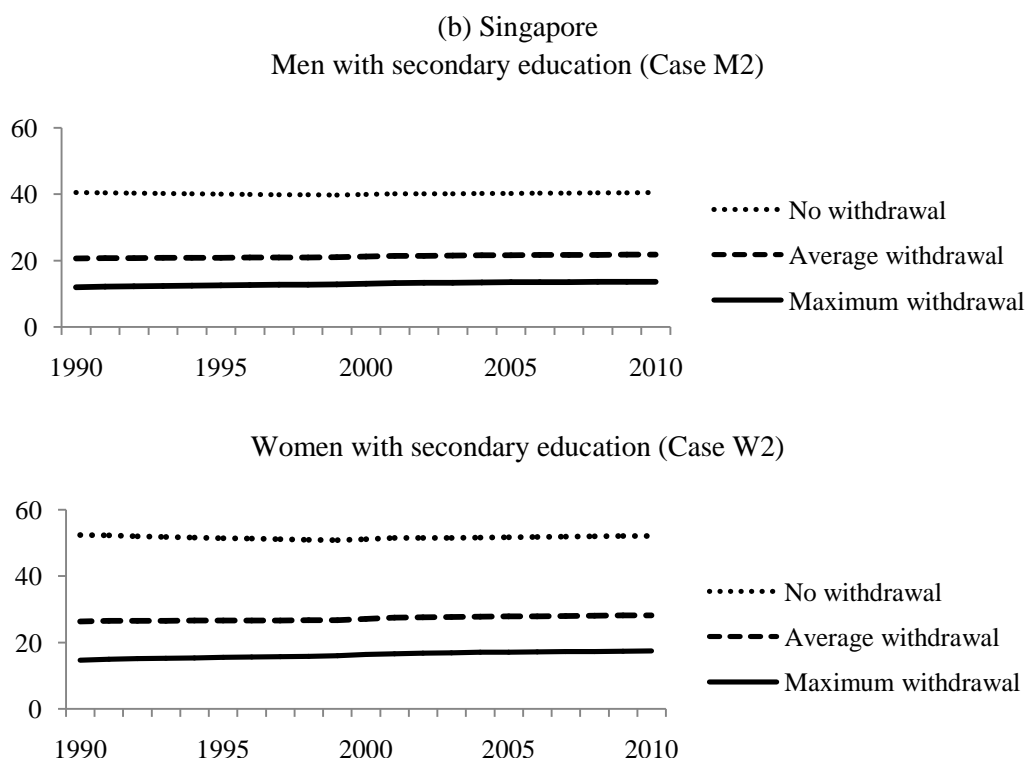
### Policy changes

The analysis so far has suggested how policy changes may affect pension outcomes: younger cohorts benefit more from recent reforms, while certain scheme combinations and scenarios—the MPF and OALA compared to the MPF and OAA, and average CPF housing withdrawal compared to maximum withdrawal—generate better pension rights. Figure 7.1 compares more explicitly the impact of these two factors, career timing and pension system design. The charts show the gross pension replacement rates, separately for M2 and W2, for cohorts starting their careers in each year between 1990 and 2010 under three policy scenarios. In Hong Kong, these scenarios are: (i) a pension system with the OAA only, if the MPF and OALA have not been introduced;

(ii) a pension system with the OAA and MPF from 2000 onwards, but without the OALA; and (iii) a pension system with the MPF from 2000 onwards and the OALA. For Singapore, the three scenarios are based on different levels of pre-retirement CPF withdrawal for housing as explained at the start of the chapter: (i) maximum withdrawal, depleting the Ordinary Account and leaving only the Special Account for retirement; (ii) average withdrawal, leaving 33% of the Ordinary Account in addition to the Special Account; and (iii) no withdrawal, leaving the entire Ordinary and Special Accounts for retirement.

**Figure 7.1** Gross pension replacement rates under different policy scenarios for careers starting between 1990 and 2010, Hong Kong and Singapore





MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, Scenarios for Singapore refer to assumed levels of pre-retirement withdrawal for housing under the Central Provident Fund (CPF). Projections assume starting wages based on 2010 wage levels; 6% nominal wage growth for M2 and 4% for W2; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities. Replacement rates are the ratios of pension benefits to individual final wages.

Source: Own calculations

In Singapore, recent parametric adjustments to protect the retirement saving component of the CPF—mainly an increase in the allocation of contributions towards the Special Account—slightly lift replacement rates for successive cohorts under the maximum withdrawal scenario which is wholly based on the Special Account. For men, these rates rise from 12% for the 1990 cohort to 14% for the 2010 cohort, compared to 15-17% for women. Under a more realistic assumption of average amounts of withdrawal, replacement rates increase to 21-22% for men and 26-28% for women, still showing a gentle upward slope over time. But the trend becomes flat in the no withdrawal scenario which takes into account both the Ordinary and Special Accounts. Men's replacement rates remain at 40% for cohorts between 1990 and 2010, while women's replacement rates in fact fall slightly before returning to 52%. This shows that although rate adjustments to the Special Account favour retirement saving, once other contribution and interest rate changes to the Ordinary Account are taken

into consideration, parametric adjustments to the CPF over the years do not have a consistently positive effect on pension outcomes. More importantly, any gains from fine-tuning contribution rates and later career timing are very slight compared to the gaps between the withdrawal scenarios. These show that a more critical factor for improving pension outcomes is to address current pension system design which allows the depletion of large amounts of savings for other purposes such as housing.

The results for Hong Kong illustrate the effects of fundamental reforms to pension system design. Under the OAA only scenario, replacement rates remain constant at around 2% for men and 7% for women regardless of career timing. The addition of the MPF significantly boosts the replacement rates to 23% for men and 28% for women in the 1990 cohort. These rates rise to 26% and 34% respectively by the 2000 cohort who are the first to have a full participation record with the MPF. The introduction of the OALA in 2013 means that, for persons who qualify through the means test, replacement rates increase to 26-30% for men and more noticeably to 39-45% for women across the 1990-2010 cohorts. Therefore in Hong Kong, while career timing and proximity to reforms have a slightly positive effect on pension outcomes, major changes to pension system design through the introduction of additional schemes have been the primary driver of improvements to pension rights.

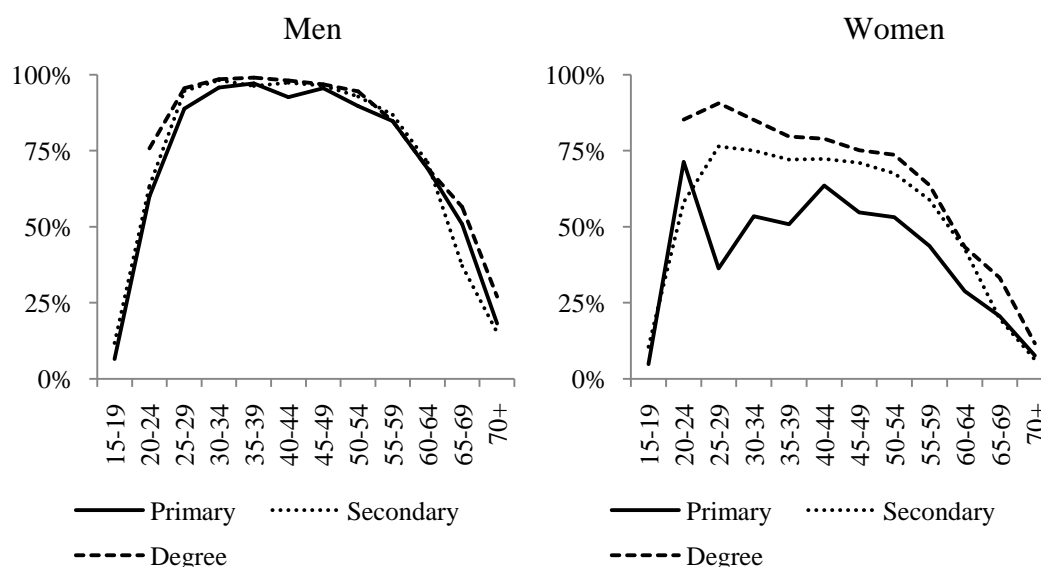
### **7.3 Sensitivity analyses: Career length, life expectancy, and interest rate for calculating annuities**

#### *Shorter careers for women*

The first factor that may affect pension outcomes is career length. This can be examined by altering the model assumptions underlying the projections in Table 7.5. As shown in Chapter 2, despite increasing labour force participation among women, total participation rates are still lower than men's and fall below 50% by 55-59 years old. Additionally education may be an important factor in women's workforce participation. Data from the 2010 Labour Force Survey in Singapore show that while labour force participation levels among men with different educational levels were almost indistinguishable, women with higher education were more likely to be in the workforce across all age groups (Figure 7.2). The next set of pension projections therefore incorporates two additional scenarios for W1-3, retirement at 60 and 55 years old. Of the three cases the implications of shorter careers for women with lower education, W1 and W2, are of particular interest. In accordance with the rules of the

two pension systems which designate the payout age as 65, the model assumes that contributions to the MPF and CPF stop at the retirement age in each scenario, but that the total balance in individual accounts continue to accrue interests until benefits are paid out.

**Figure 7.2** Labour force participation by age and education in Singapore, 2010



Source: Ministry of Manpower (2010)

Although shorter careers mean less pension contributions, they also imply lower final individual wages. The relationship between career length and pension replacement rate is therefore not straightforward. Table 7.6 shows that earlier retirement leads to lower gross replacement rates and relative pension levels for women in Hong Kong in both the OAA and the OALA scenarios. In general five fewer working years corresponds with a one to two percentage point reduction in pensions on both measures for W1 and W2. This increases the gap between men and women's pension outcomes. For instance if W2 in the 2000 cohort retires at 55 instead of 65, she achieves a combined MPF and OAA pension that is just 16% of median gross wage (instead of 20%) compared to M2's 49%. While women with tertiary education may be less likely to retire early than women with less education, the cost of doing so in Hong Kong is greater in terms of relative pension level. In the 1990 cohort, W3's MPF and OAA pensions are equivalent to just 29% of the median wage if she retires at 55 years old, compared to 34% at 60 years old, and 39% at 65 years old. In contrast, pension outcome changes due to fewer years of work are smaller and less consistent in



Singapore. As contribution rates are much lower at higher ages, the CPF contributions foregone are smaller compared to the differences in final wages due to fewer years in work. Younger retirement ages therefore lead to slightly higher pension replacement rates but lower relative pension levels. In all cases these outcomes do not vary by more than one to two percentage points.

**Table 7.6** Projected pension outcomes for women with shorter careers starting in 1990, 2000, and 2010 according to historical pension rules with varied wage growth rates, Hong Kong and Singapore

(a) Hong Kong

		Retirement age	W1	W2	W3
Hong Kong MPF, OAA	<i>Career 1990-2035</i>				
	Gross replacement rate	60	39	27	19
	(% final individual gross wage)	55	37	26	18
	Gross relative pension level	60	10	15	34
	(% median gross wage)	55	9	13	29
	<i>Career 2000-2045</i>				
	Gross replacement rate	60	48	34	24
		55	46	33	24
	Gross relative pension level	60	12	18	42
		55	11	16	37
	<i>Career 2010-2055</i>				
	Gross replacement rate	60	48	34	24
		55	46	33	24
	Gross relative pension level	60	12	18	42
		55	11	16	37
Hong Kong MPF, OALA	<i>Career 1990-2035</i>				
	Gross replacement rate	60	64	39	23
		55	62	38	22
	Gross relative pension level	60	16	21	40
		55	15	19	35
	<i>Career 2000-2045</i>				
	Gross replacement rate	60	73	45	27
		55	71	45	27
	Gross relative pension level	60	18	24	48
		55	17	22	43
	<i>Career 2010-2055</i>				
	Gross replacement rate	60	73	45	27
		55	71	45	27
	Gross relative pension level	60	18	24	48
		55	17	22	43

## (b) Singapore

		Retirement age	W1	W2	W3
Singapore CPF maximum withdrawal	<i>Career 1990-2035</i>				
	Gross replacement rate	60	18	15	13
		55	18	16	14
	Relative pension level	60	3	8	18
		55	3	7	17
	<i>Career 2000-2045</i>				
	Gross replacement rate	60	21	17	14
		55	21	18	15
	Relative pension level	60	4	8	20
		55	4	8	19
	<i>Career 2010-2055</i>				
	Gross replacement rate	60	22	18	15
		55	22	19	16
	Relative pension level	60	4	9	21
		55	4	9	20
Singapore CPF average withdrawal	<i>Career 1990-2035</i>				
	Gross replacement rate	60	34	28	23
		55	33	28	24
	Relative pension level	60	6	14	32
		55	6	13	30
	<i>Career 2000-2045</i>				
	Gross replacement rate	60	35	28	24
		55	34	29	25
	Relative pension level	60	6	14	33
		55	6	13	31
	<i>Career 2010-2055</i>				
	Gross replacement rate	60	36	30	24
		55	36	30	26
	Relative pension level	60	7	14	34
		55	6	14	32

MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Case W1: Women with primary education or less (nominal wage growth 3%), W2: Women with secondary education (4%), W3: Women with tertiary education (5%). Projections assume starting wages based on 2010 wage levels; period life expectancies of 86 in Hong Kong and 84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities.

Source: Own calculations

### *Longer life expectancies*

When life expectancies improve, the annuity stream generated from a fixed amount of individual savings in systems like the MPF and CPF has to last longer. The result is a smaller pension in each period of payout. The modelling so far has been based on national projections of the period life expectancy of persons at age 65 which do not take into account the possibility of further improvements to life expectancy during the lifetime of current cohorts. Table 7.7 shows the impact of a one year increase in life expectancies on pension outcomes. For the 2010 cohort in Hong Kong, this decreases the gross pension replacement rate by 0.6 to 2.1 percentage points for men and by 0.9 to 2.7 percentage points for women, with larger reductions if individuals receive the OALA as compared to the OAA. The impact on relative pension levels is also greater for the OALA cases. Overall M1-3 see their pensions fall by 1.8 to 3.7 percentage points and W1-3 by 0.5 to 2.0 percentage points relative to median gross wage. Longer life expectancies similarly imply smaller pensions in Singapore but the decline is less sharp. Across all cases, replacement rates fall by 0.4 to 1.5 percentage points while pension levels decrease by 0.2 to 2.7 percentage points. For both systems an increase in life expectancy has a greater impact on the pension levels of men and cases with higher wages, and a greater impact on the pension replacement rates of cases with lower wages.

**Table 7.7** Change in projected pension outcomes with a one year increase in life expectancy for careers starting in 2010 according to pension rules in 2010 with varied wage growth rates, Hong Kong and Singapore, percentage points

		M1	M2	M3	W1	W2	W3
Hong Kong <i>MPF, OAA</i>	Gross replacement rate (% final individual gross wage)	-1.8	-1.4	-0.6	-1.8	-1.3	-0.9
	Gross relative pension level (% median gross wage)	-1.8	-2.6	-3.3	-0.5	-0.7	-1.7
Hong Kong <i>MPF, OALA</i>	Gross replacement rate	-2.1	-1.6	-0.6	-2.7	-1.7	-1.0
	Gross relative pension level	-2.1	-2.9	-3.7	-0.7	-0.9	-2.0
Singapore <i>CPF maximum withdrawal</i>	Gross replacement rate	-0.9	-0.7	-0.4	-0.9	-0.7	-0.6
	Gross relative pension level	-0.6	-1.1	-1.7	-0.2	-0.4	-0.9
Singapore <i>CPF average withdrawal</i>	Gross replacement rate	-1.5	-1.2	-0.6	-1.5	-1.2	-0.9
	Gross relative pension level	-1.0	-1.7	-2.7	-0.3	-0.6	-1.5

MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Case M1: Men with primary education or less (nominal wage growth 5%), M2: Men with secondary education (6%), M3: Men with tertiary education (7%), and similarly for women W1-3 (wage growth 3-5%). Projections assume starting wages based on 2010 wage levels; full careers from 20 to 65; inflation at 2.5%; and interest rate of 2% for calculating annuities. Change in pension outcomes based on a starting point of 80/86 years of period life expectancy for men/women in Hong Kong and 80/84 in Singapore.

Source: Own calculations

#### *Higher interest rate for calculating annuities*

The various projections so far are based on a 2% interest rate for calculating annuities, following the rate adopted in OECD (2012). In reality, MPF savings are paid out as a lump sum and allowance rates under the OAA are adjusted periodically but not explicitly pegged to either prices or wages. CPF annuity payments are also subject to yearly reviews according to principles that are not fully disclosed (see CPF Board, 2013a). Standardising the formula for annuitising total retirement savings in the projections above therefore helps to make the outcomes of the two pension systems more comparable. But this rate also affects pension outcomes, particularly for cases with the highest and lowest education. Raising the interest rate to 4%, as in Lim (2001), boosts both pension replacement rates and relative pension levels (Table 7.8). For the 2010 cohort, replacement rates increase by up to 7 percentage points in both places, with M1 and W1 experiencing the largest gains. Relative pension levels

increase the most for M3 and W3, by 8-9 percentage points. The shifts are larger for Hong Kong. Under the more generous scenario of MPF and OALA, replacement rates now reach 33% for M2 and 51% for W2. But in Singapore, the replacement rates for equivalent cases even under the average withdrawal scenario are still just 25% and 34%.

**Table 7.8** Projected pension outcomes using 4% interest rate for calculating annuities for careers starting in 2010 according to pension rules in 2010 with varied wage growth rates, Hong Kong and Singapore

Pension outcomes at 4% interest (percentage)							
<i>Difference from outcomes at 2% interest (percentage points)</i>		M1	M2	M3	W1	W2	W3
Hong Kong MPF, OAA	Gross replacement rate	37	30	12	57	40	28
	(% final individual gross wage)	+4	+4	+2	+7	+6	+5
	Gross relative pension level	37	56	71	14	23	56
	(% median gross wage)	+4	+7	+9	+2	+3	+9
Hong Kong MPF, OALA	Gross replacement rate	44	33	13	81	51	31
		+5	+4	+2	+7	+6	+5
	Gross relative pension level	43	62	78	21	29	62
		+5	+7	+9	+2	+3	+9
Singapore CPF maximum withdrawal	Gross replacement rate	20	16	8	27	21	17
		+3	+2	+1	+4	+3	+3
	Gross relative pension level	13	23	36	5	11	26
		+2	+3	+5	+1	+2	+4
Singapore CPF average withdrawal	Gross replacement rate	31	25	12	43	34	27
		+4	+3	+2	+7	+5	+4
	Gross relative pension level	20	36	58	8	18	42
		+3	+5	+8	+1	+3	+7

MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Case M1: Men with primary education or less (nominal wage growth 5%), M2: Men with secondary education (6%), M3: Men with tertiary education (7%), and similarly for women W1-3 (wage growth 3-5%). Projections assume starting wages based on 2010 wage levels; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; and inflation at 2.5%. Source: Own calculations

### *Summary*

The results of the projections for the middle cases M2 and W2, or men and women with secondary education, are summarised in Figure 7.3. Assuming 2010 gender wage differences; nominal wage growth of 6% per annum for men and 4% for women; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities:

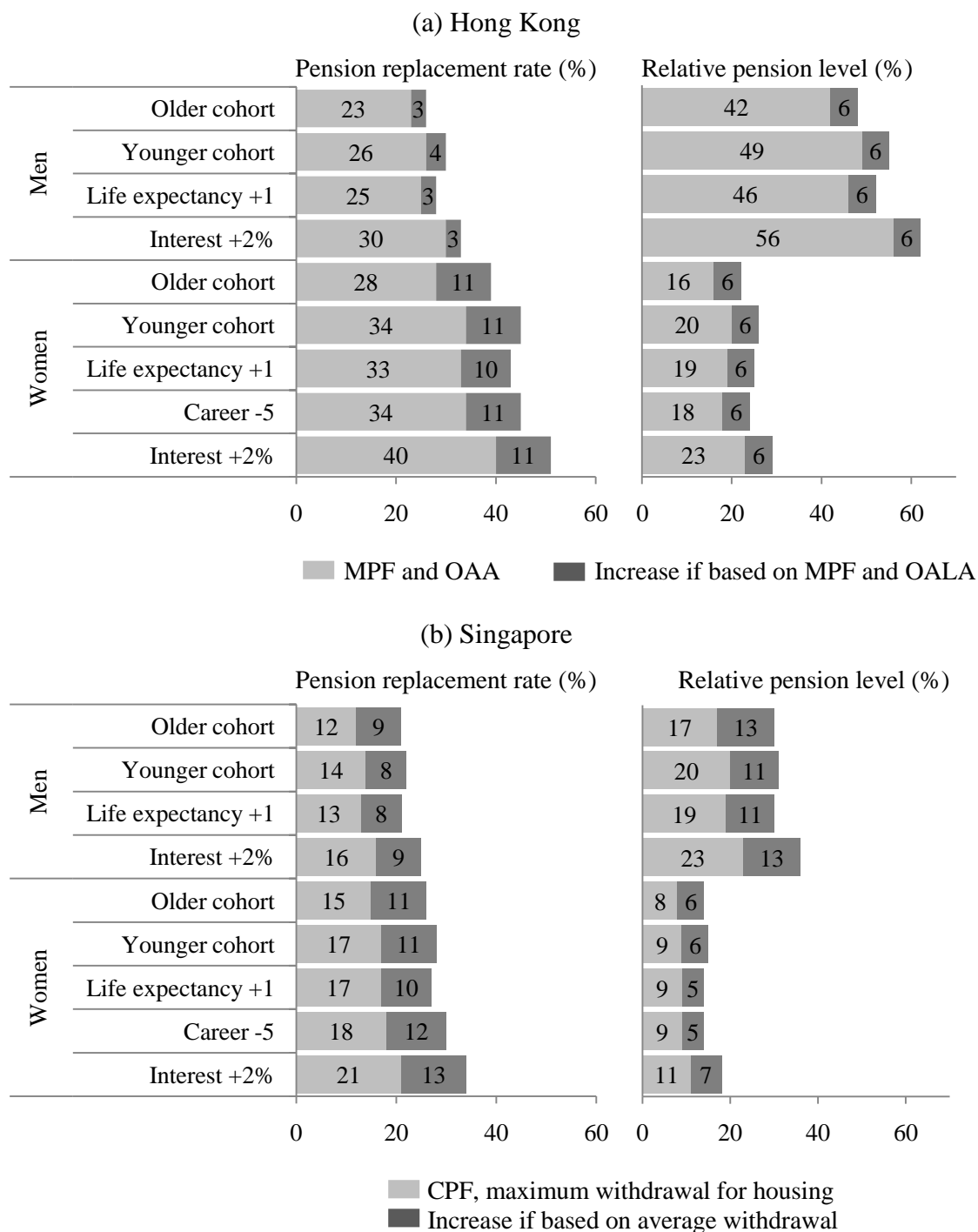
- On the whole, Hong Kong offers more generous pensions than Singapore. The replacement rate for men in the 1990 cohort is 23-26% in Hong Kong and 12-21% in Singapore, depending on eligibility for the OALA and the amount of CPF housing withdrawals. Relative to median gross wage, men's pensions are 42-48% in Hong Kong but only 17-30% in Singapore.
- Men generally achieve higher pensions relative to median gross wage but poorer replacement rates. Women on the other hand have better replacement rates due to lower final wages, but these conceal very low amounts of pensions. In Hong Kong, the 1990 cohort of women receive pensions that are half of men's or about 16-22% of median gross wage. Strikingly, women's pensions in Singapore are just 8-14% of median gross wage, also about half of what men achieve.
- Major reforms to pension system design in Hong Kong through the introduction of the MPF and OALA have boosted pension outcomes for all cohorts from 1990 to 2010 compared to the previous OAA-only regime. The younger 2010 cohort who spend a longer period under the new systems also experience replacement rate and pension level gains of 4-7 percentage points over the 1990 cohort. In Singapore, recent CPF contribution rate adjustments result in small increases in replacement rate and pension level for the younger cohort of about 1-2 percentage points under the maximum and average withdrawal scenarios. But replacement rates remain flat over time under the no withdrawal scenario and the major challenge to pension adequacy remains the current system design allowing large pre-retirement withdrawals.

- Longer life expectancy lowers pension outcomes. For the 2010 cohort, an increase of one year in life expectancy causes replacement rates to fall by 2 percentage points in Hong Kong and 1 percentage point in Singapore. Relative pension level also falls by 1-3 percentage points in Hong Kong and 1 percentage point in Singapore.
- Shorter careers result in smaller total pension contributions and therefore lower pension levels. But the effects on replacement rate are inconsistent because both final wages and pension contributions fall. Focusing on women, who are more likely to stop working before 65 than men in both places, a reduction of 5 years of work for the 2010 cohort decreases the pension level by 2 percentage points but does not change the pension replacement rate in Hong Kong. In Singapore, where contribution rates are much lower at higher ages, women's pension replacement rate improves by 2 percentage points with a shorter career but relative pension level decreases by 1 percentage point.
- Increasing the interest rate for calculating annuities boosts both replacement rates and relative pension levels. At a 4% interest rate instead of 2%, replacement rates increase by 3 to 6 percentage points for cases with secondary education in Hong Kong, while relative pension levels increase by 3 to 7 percentage points. In Singapore, the gains are 3 to 6 percentage points in replacement rate and 3 to 5 percentage points in relative pension level.
- There is greater uncertainty in pension outcomes associated with the amount of housing withdrawals under the CPF than due to eligibility for the OALA in Hong Kong. As the OALA is a flat-rate allowance, it adds six percentage points to the pension level relative to average earnings of all persons who qualify. It also boosts women's pension replacement rates by about a third. In Singapore, the differences in pension outcomes between the maximum and average withdrawal scenarios are much wider. With average withdrawal and more savings left for retirement, both replacement rates and pension levels increase by about 60% compared to the maximum withdrawal scenario. But

even with average withdrawal, pension outcomes are still much lower than in Hong Kong.



**Figure 7.3** Summary of projected pension outcomes for persons with secondary education according to historical pension rules, Hong Kong and Singapore



MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Starting wages based on 2010. Projections for “older cohort” assume full careers 20-65 starting in 1990; nominal wage growth of 6% for men and 4% for women; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and 2% interest rate for calculating annuities. “Younger cohort” refers to careers starting in 2010. “Life expectancy +1” adds one year to life expectancies, “Career -5” based on continuous careers 20-60, “Interest +2%” calculates annuities based on 4% interest rate, all for the younger cohort.

Source: Own calculations

#### **7.4 Demands for children's support**

Previous chapters have examined survey data which suggest the importance of adult children to the income security of elderly persons as well as a decline in children's support. This section approaches these issues from another angle, asking the question: given the projected amounts of public pensions, how much additional support will elderly persons need from their children? This demand can be estimated from the gap between the projected pension outcomes and various income standards, assuming elderly persons do not have access to any other sources of income. This is a new approach to interpreting pension outcomes that is particularly helpful for understanding the income security of older people in Hong Kong and Singapore, but also potentially useful for other populations where children are a critical source of retirement income. Cross-national studies typically model individuals only for brevity (e.g. OECD, 2009; Grech, 2010), while smaller scale comparative and single country studies that model couples and children usually focus on dependant's and survivor's pensions or the impact of parenthood on work patterns (e.g. Meyer, Bridgen, and Riedmüller, 2007; An, 2009).

The following projections adopt two types of income standard and examine two possible support scenarios. The income standards are: (i) 40-60% of median gross wage to reflect the poverty avoidance objective of pensions; and (ii) 40-60% of individual final wage as a measure of consumption smoothing. The support scenarios are: (i) one or two non-co-resident children who provide support through transfers; and (ii) one or two co-resident children who provide for their parents through income sharing within the household. The scenario of two co-resident children can also represent households where elderly parents are living with one adult child and his or her spouse. Otherwise, for simplicity, it is assumed that co-resident children are single and that there are no other persons living in the same household. The projections also do not consider instances where one child is co-resident and another is not.

Accordingly, in the first support scenario, the demand for transfers from non-co-resident children is derived from the difference between projected pensions (from earlier sections) and income standards. Where there are two children, they share this demand equally. In the second support scenario, the demands on co-resident children are calculated based on the principle that the total individual incomes of co-resident children added to the parents' projected pensions must meet the various income

standards. In scenarios where households have more than one person (i.e. elderly couples, or lone elderly persons with one or two co-resident children), incomes are equivalised using the square root scale. All demands for support are expressed relative to the median gross wage for comparability.

The projections focus on nine cases that start their careers in 2010 and therefore participate in the public pension systems following the rules in 2010: M1-3 and W1-3 as in previous projections and three couples CP1-3 formed by M1 and W1, M2 and W2, and M3 and W3, respectively. The assumption that partners tend to have equivalent educational backgrounds is largely corroborated by survey data from Singapore, although men with primary education became more likely to marry women with better educational qualifications between 2000 and 2010 (Table 7.9). The assumed family sizes of up to two children line up with the fertility trends in the two populations. In Hong Kong, the number of children born to women by the age of 50 fell from 2.2 for the 1950 cohort of women to 1.6 for the 1960 cohort. The equivalent indicators for Singapore are 2.2 and 1.9 children respectively (but by the age of 44 rather than 50; see Chapter 4 for discussion of number of surviving children).

**Table 7.9** Couples' educational qualifications in Singapore, 2000 and 2010, percentage

	Husband	Wife			Total
		Lower	Same	Higher	
2000	Primary or less	-	54	46	100
	Secondary	26	40	34	100
	Degree	32	68	-	100
2010	Primary or less	-	33	67	100
	Secondary	10	53	37	100
	Degree	23	77	-	100

Source: Department of Statistics (2011)

#### *Demands for children's support for poverty avoidance*

Below, the results for poverty avoidance are presented first, followed by the findings for consumption smoothing. For poverty avoidance, the focus is on the amounts of transfers elderly persons need from children living apart in order to reach 40-60% of median wage, and the individual incomes co-resident children must achieve so that equivalised household incomes including parents' pensions meet these targets.

**Hong Kong:** In Hong Kong, to achieve 60% of median wage with two children, the highest earning cases require little or no support through transfers, while their co-

resident children each has to achieve an income of less than a third of the median gross wage (Table 7.10). Elderly men without their spouses (M1-3) fare particularly well, with even M1 requiring transfers per child that are no more than 14% of the median gross wage. Single elderly mothers need more support. W1 and W2 require transfers of about a fifth of the median gross wage, whereas the demands for support by W3 are very similar to those for M2. Among the couples, only CP1 requires significant transfers of 14-20% of the median gross wage. This also means that W2 becomes less dependent on the children if she has a co-resident spouse. The incomes expected of co-resident children are at least twice as much as the transfers, but these are to be pooled within households of which the children are also members, rather than straight deductions from the children's financial resources. With a trend towards less intergenerational co-residence as suggested in Chapters 4 and 6, the demands for transfers may become increasingly important compared to income sharing with co-resident children.

For lower earning cases, lower living standards are perhaps more realistic. The median wage of workers represented by W1 and W2, for instance, were only about 0.4 and 0.7 times the population median wage in 2010 respectively (see Table 7.1). At lower standards, the amount of transfers required falls noticeably. To achieve 50% of median wage, only W1 requires transfers equivalent to more than 15% of the median wage and co-resident children's incomes to be above 33% of the median wage. At the 40% standard, only the lowest earning M1, W1, W2, and CP1 require any transfers at all. On the other hand, demands are much higher with just one child instead of two. Expected transfers per child double, reaching what seem to be unfeasible amounts for W1, W2, and CP1. For the 60% standard, W1 requires transfers that are almost half the median wage, while CP1 and W2 need transfers of 27-40%. Even at the lowest 40% living standard, W1 still needs transfers that are 21-27% of median wage. If the child is co-resident, the highest demands are for the income to reach around two thirds of the median gross wage.

**Table 7.10** Projected demands for children's support for poverty avoidance based on projected pension outcomes according to pension rules in 2010, Hong Kong, percentage of median gross wage

percentage of median gross wage		Transfers from children living apart (per child)		Income of co-resident children (per child)	
	Equivalent relative pension level (% median gross wage)	1 child	2 children	1 child	2 children
Target individual income: 60% median gross wage					
M1	33-39	21-27	11-14	46-52	33-36
M2	49-55	5-11	3-6	30-36	24-28
M3	62-68	-	-	16-23	18-21
W1	13-19	41-47	21-24	66-72	43-46
W2	20-26	34-40	17-20	59-65	39-42
W3	47-53	7-13	3-6	31-38	25-28
CP1	32-41	27-39	14-20	46-59	31-37
CP2	48-57	4-16	2-8	23-36	20-26
CP3	77-86	-	-	-	0-5
50% median gross wage					
M1	33-39	11-17	6-9	32-38	24-27
M2	49-55	0-1	0-1	16-22	16-19
M3	62-68	-	-	2-9	9-12
W1	13-19	31-37	16-19	52-58	34-37
W2	20-26	24-30	12-15	45-51	30-33
W3	47-53	0-3	0-1	17-24	17-20
CP1	32-41	13-25	6-13	29-41	21-27
CP2	48-57	0-2	0-1	6-18	10-16
CP3	77-86	-	-	-	-
40% median gross wage					
M1	33-39	1-7	1-4	18-24	15-18
M2	49-55	-	-	2-8	7-10
M3	62-68	-	-	-	0-4
W1	13-19	21-27	11-14	38-44	25-28
W2	20-26	14-20	7-10	31-37	22-25
W3	47-53	-	-	3-9	8-11
CP1	32-41	0-11	0-6	11-24	11-17
CP2	48-57	-	-	0-1	0-6
CP3	77-86	-	-	-	-

The upper and lower limits of each range of estimates are based on combined pension outcomes from the Mandatory Provident Fund (MPF) with the Old Age Allowance (OAA), and from the MPF with the Old Age Living Allowance (OALA), the latter combination being more generous. Case M1: Men with primary education or less (5% nominal wage growth), M2: Men with secondary education (6%), M3: Men with tertiary education (7%), and similarly for women W1-3 (wage growth 3-5%). CP1-3: Couples formed by M1 and W1, M2 and W2, and M3 and W3 respectively. Pension projections assume starting wages based on 2010 wage levels; full careers from 20 to 65; period life expectancies of 80/86 for men/women; inflation at 2.5%; and interest rate of 2% for calculating annuities. Non-co-resident children provide support through transfers, co-resident children through income sharing. Required transfers are the difference between projected pensions and income targets. Required income of co-resident children plus projected pensions equals income targets. Incomes of couples and co-resident families are equalised using the square root scale. Source: Own calculations

Singapore: The results for Singapore illustrate the implications of low pensions and the uncertainties associated with housing withdrawals (Table 7.11). All the cases require some transfers to reach even the lowest living standard in these projections. Unlike in Hong Kong, single elderly men in Singapore fare only slightly better than the women. To achieve 60% of the median wage with two children, less educated single elderly fathers, M1 and M2, require transfers per child of 14-24% of the median wage, compared to 23-28% required by W1 and W2. Whereas the women in Hong Kong fare better within couples rather than alone, CP1's demand for transfers are in fact higher than W1's in Singapore, around 30-35% compared to 27-28%. For most of the lower earning cases, M1, W1-2, and CP1-2, the incomes required of co-resident children are close to half of the median wage.

At the lowest income standard of 40% of the median wage, the amount of transfers required in Singapore reaches levels similar to those for a living standard of 60% in Hong Kong. The amounts required by the highest earning cases fall to below 10% of the median wage, while the highest transfers required by the men is just 14% of the median wage. But W1 and CP1 still require transfers close to 20% of the median wage. If there is just one child instead of two, then the demands for children's support appear rather implausible even for a 50% living standard: the transfers required per child for W1 are 43-46% of the median wage, while those for CP1 are as high as 56% with maximum housing withdrawal. Co-resident children must achieve incomes that are about two thirds of median gross wage for M1, W1, and CP1. These very high amounts imply financial hardship either for the elderly parents, their children, or the joint household.

**Table 7.11** Projected demands for children's support for poverty avoidance based on projected pension outcomes according to pension rules in 2010, Singapore, percentage of median gross wage

or median gross wage		Transfers from children living apart (per child)		Income of co-resident children (per child)	
Equivalent relative pension level (% median gross wage)		1 child	2 children	1 child	2 children
Target individual income: 60% median gross wage					
M1	11-18	42-49	21-24	67-74	43-46
M2	20-31	29-40	14-20	53-65	36-42
M3	31-50	10-29	5-14	35-54	27-36
W1	4-7	53-56	27-28	78-81	49-50
W2	9-15	45-51	23-25	70-76	45-47
W3	22-35	25-38	12-19	49-63	34-41
CP1	11-17	60-70	30-35	80-89	48-52
CP2	20-33	39-56	19-28	58-75	37-46
CP3	38-60	0-32	0-16	18-51	17-33
50% median gross wage					
M1	11-18	32-39	16-19	53-60	34-38
M2	20-31	19-30	9-15	39-51	28-33
M3	31-50	0-19	0-9	21-40	18-28
W1	4-7	43-46	22-23	64-67	40-41
W2	9-15	35-41	18-23	56-62	36-39
W3	22-35	15-28	7-20	35-49	26-32
CP1	11-17	46-56	23-28	62-71	38-42
CP2	20-33	24-42	12-21	40-58	27-36
CP3	38-60	0-18	0-9	1-33	7-23
40% median gross wage					
M1	11-18	22-29	11-14	39-46	26-29
M2	20-31	9-20	4-10	25-37	19-25
M3	31-50	0-9	0-4	6-25	10-19
W1	4-7	33-36	17-18	50-52	31-33
W2	9-15	25-31	13-15	42-47	27-30
W3	22-35	5-18	2-9	21-35	17-24
CP1	11-17	32-41	16-21	45-54	28-32
CP2	20-33	10-28	5-14	23-40	17-26
CP3	38-60	0-3	0-2	0-16	0-13

The upper and lower limits of each range of estimates are based on pension outcomes assuming maximum and average withdrawal for housing, the latter scenario resulting in more generous pensions. Case M1: Men with primary education or less (5% nominal wage growth), M2: Men with secondary education (6%), M3: Men with tertiary education (7%), and similarly for women W1-3 (wage growth 3-5%). CP1-3: Couples formed by M1 and W1, M2 and W2, and M3 and W3 respectively. Pension projections assume starting wages based on 2010 wage levels; full careers from 20 to 65; period life expectancies of 80/84 for men/women; inflation at 2.5%; and interest rate of 2% for calculating annuities. Non-co-resident children provide support through transfers, co-resident children through income sharing. Required transfers are the difference between projected pensions and income targets. Required income of co-resident children plus projected pensions equals income targets. Incomes of couples and co-resident families are equalised using the square root scale. Source: Own calculations

Just how relevant and realistic is this worrying picture? First, the thresholds adopted for the analysis in this section do reflect actual income standards among large segments of recent elderly cohorts. As discussed in Chapter 2, the majority of the two elderly populations have very low individual incomes. In 2005/2006, about 80% of elderly persons in Hong Kong and 90% in Singapore had personal incomes that were below 60% of median population work income. Even when the income standard is lowered to 40% of median work income, 70% in Hong Kong and 80% in Singapore fall short. Second, there is some empirical basis for expecting significant dependence on children's transfers. The figures in Table 7.9 indicate that if elderly persons are to achieve individual incomes equivalent to exactly 60% of median wage, their children's transfers will represent up to 78% of individual income in Hong Kong and 93% in Singapore. For a lower income standard of 40%, children's transfers will make up a maximum of 45% of individual income in Hong Kong and 60% in Singapore. By comparison, empirical data show that on average children's transfers make up about 60% of elderly persons' individual income in Hong Kong and two thirds in Singapore (see Chapter 2). The estimates in this section therefore do not appear to be wide off the mark.

A more fundamental challenge is that the children of elderly persons with less education and lower pension entitlements face heavier demands for support than children whose parents are more financially independent. Whether they are able to respond to these demands depends on how far they can improve on their parents' income achievements, which is a question of intergenerational income mobility. Research on income mobility in Hong Kong and Singapore is very limited and cross-national comparison is complicated by differences in methodology, and the age profiles of the children and parents across studies (Blanden, 2009). However a recent study on Singapore estimated an un-scaled income elasticity in the range of 0.14-0.28 compared to 0.09-0.17 in the UK, France, and Germany, or a scaled elasticity of 0.58-1.20 compared to 0.21 in Canada (Ng, 2007), where higher elasticity indicates a tighter link between parents' and children's income. These suggest that income mobility in Singapore may be relatively low by the standards of other advanced economies. If children's incomes are strongly predicted by their parents', then the projected demands for children's support are unlikely to be always met or will imply a considerable economic strain on the children themselves.



*Demands for children's support for consumption smoothing*

Table 7.12 shows the projected gross pension replacement rates for the nine cases and their demands for children's support in order to achieve income replacement of 40-60%. Here, the pattern of demand for children's support is opposite to that for poverty avoidance. Lower earning cases in Singapore, M1, W1, W2, and CP1, require transfers below 20% of the median wage to achieve 60% replacement rate. For 40% replacement, the transfers required for these cases fall below 10% of the median wage. The estimates are similar for Hong Kong. While the burden of support on children is low, these replacement standards conceal the inadequate amounts of income among the lower earning cases, for whom the poverty avoidance function of pensions may be more relevant. On the other hand, the support required for M3 and CP3 to reach 60% replacement appears to be unrealistically high. In Singapore, the required transfers are 116% of the median wage for M3 given average housing withdrawal and 146% for CP3. If the children are co-resident, then the individual incomes required of each of them are more than twice the median wage for these cases. Even for 40% replacement, M3 and CP3 still require transfers of 69-79% and 83-99% of the median wage respectively, and co-resident children's individual incomes must reach about 1.5 times median wage. The demands for support are even higher in Hong Kong. M3 and CP3 need transfers of 144-183% of the median wage in order to achieve 60% income replacement. The incomes required of co-resident children are around 2.8 times median wage. At a lower income replacement standard of 40%, the transfers required for these cases are around 84-104%, and the incomes of co-resident children must reach about 1.7 times the median wage.

**Table 7.12** Projected demands for children's support for consumption smoothing based on projected pension outcomes according to pension rules in 2010 in Hong Kong and Singapore, percentage of median gross wage

(a) Hong Kong

	Gross pension replacement rate (% final gross wage)	Transfers from children living apart (per child)		Income of co-resident children (per child)	
		1 child	2 children	1 child	2 children
Target individual income: 60% individual final wage					
M1	33-39	21-27	10-13	45-52	32-35
M2	26-30	57-63	28-31	103-109	69-72
M3	10-12	287-294	144-147	435-441	274-277
W1	50-74	0-3	0-1	3-9	4-7
W2	34-45	9-15	4-7	23-29	17-20
W3	24-27	66-72	33-36	115-121	76-80
CP1	36-46	17-30	9-15	34-46	24-30
CP2	28-33	65-78	33-39	98-110	63-69
CP3	14-15	353-366	177-183	460-472	275-281
50% individual final wage					
M1	33-39	11-17	5-8	31-38	24-27
M2	26-30	38-44	19-22	76-83	53-56
M3	10-12	228-234	114-117	351-357	223-226
W1	50-74	-	-	0-5	2-5
W2	34-45	3-9	1-4	15-21	12-15
W3	24-27	46-52	23-26	87-93	59-62
CP1	36-46	5-17	2-9	19-31	15-21
CP2	28-33	41-53	20-27	68-81	46-52
CP3	14-15	274-286	137-143	363-375	219-225
40% individual final wage					
M1	33-39	1-7	0-4	17-24	15-18
M2	26-30	19-26	10-13	50-56	37-40
M3	10-12	169-175	84-88	267-273	171-174
W1	50-74	-	-	0-2	0-2
W2	34-45	0-3	0-2	7-13	7-10
W3	24-27	26-32	13-16	59-65	42-45
CP1	36-46	0-5	0-2	3-16	6-13
CP2	28-33	16-29	8-14	38-51	28-35
CP3	14-15	195-207	97-104	266-278	163-169

## (b) Singapore

	Gross pension replacement rate (% final gross wage)	Transfers from children living apart (per child)		Income of co-resident children (per child)	
		1 child	2 children	1 child	2 children
<i>Target individual income: 60% individual final wage</i>					
M1	17-27	21-28	11-14	38-44	25-28
M2	14-22	55-67	27-33	91-103	59-65
M3	7-11	232-251	116-126	349-368	220-229
W1	22-36	4-7	2-3	9-12	6-8
W2	17-28	17-22	8-11	30-36	20-23
W3	14-22	60-73	30-37	99-113	65-71
CP1	18-29	26-35	13-18	37-46	23-28
CP2	15-24	72-89	36-45	98-116	60-69
CP3	8-14	292-325	146-162	377-410	224-241
<i>50% individual final wage</i>					
M1	17-27	15-22	7-11	28-35	19-23
M2	14-22	41-52	20-26	70-82	47-53
M3	7-11	185-204	93-102	283-302	179-188
W1	22-36	3-5	1-3	6-9	5-6
W2	17-28	11-17	6-9	22-28	15-18
W3	14-22	44-57	22-29	77-90	51-58
CP1	18-29	17-27	9-16	27-36	17-22
CP2	15-24	52-69	26-35	74-92	46-55
CP3	8-14	229-262	115-131	300-332	180-196
<i>40% individual final wage</i>					
M1	17-27	8-15	4-8	19-26	14-17
M2	14-22	26-38	13-19	50-62	34-40
M3	7-11	138-157	69-79	216-235	138-148
W1	22-36	1-3	0-2	4-6	3-4
W2	17-28	6-12	3-6	15-21	11-14
W3	14-22	28-41	14-21	54-68	37-44
CP1	18-29	9-18	5-9	17-26	11-16
CP2	15-24	32-50	16-25	50-67	32-41
CP3	8-14	166-199	83-99	223-255	135-151

For Hong Kong, the upper and lower limits of each range of estimates are based on pension outcomes from the Mandatory Provident Fund (MPF) with the Old Age Allowance (OAA), and from the MPF with the Old Age Living Allowance (OALA), the latter combination being more generous. For Singapore, the limits are based on pension outcomes assuming maximum and average withdrawal for housing, the latter scenario resulting in more generous pensions. Case M1: Men with primary education or less (5% nominal wage growth), M2: Men with secondary education (6%), M3: Men with tertiary education (7%), and similarly for women W1-3 (wage growth 3-5%). CP1-3: Couples formed by M1 and W1, M2 and W2, and M3 and W3 respectively. Pension projections assume starting wages based on 2010 wage levels; full careers from 20 to 65; period life expectancies of 80/86 for men/women in Hong Kong and 80/84 in Singapore; inflation at 2.5%; and interest rate of 2% for calculating annuities. Non-co-resident children provide support through transfers, co-resident children through income sharing. Required transfers are the difference between projected pensions and income targets. Required income of co-resident children plus projected pensions equals income targets. Incomes of couples and co-resident families are equalised using the square root scale.

Source: Own calculations

### *Summary*

This section examined the potential demands for children's support based on the projected pension outcomes earlier, assuming no other sources of income, no other persons in the household, and that non-co-resident children support their parents by making transfers while co-resident children provide support through income sharing.

- Figure 7.4 summarises the estimated demands for moderate standards of poverty avoidance and consumption smoothing at 50%; cases with secondary education (M2, W2, and CP2); and the one child scenario. It shows that in Hong Kong, single women require much higher levels of support than men and couples for poverty avoidance. W2 requires transfers of 24-30% median wage compared to just 1-2% for M2 and CP2. A child co-resident with W2 has to achieve an individual income of 45-51% of the median wage, compared to just 6-18% if W2 lives with a spouse M2. But in Singapore, the risks of financial hardship are more widespread due to lower pension rights. For poverty avoidance, even M2 requires transfers of 19-30% of the median wage, while W2 and CP2 require transfers of more than 40% median wage.
- Figure 7.4 also shows that for consumption smoothing, the patterns of demand are more similar for Hong Kong and Singapore, although Singaporean cases still need more support. Because of lower final wages, W2 in both systems require relatively lower levels of support to reach 50% income replacement—transfers of around 3-9% of the median wage in Hong Kong and 11-17% in Singapore. Instead, higher earning M2 requires transfers of up to 44% in Hong Kong and 52% in Singapore.
- Overall the findings in this section indicate that lower earning elderly persons are likely to require substantial family support to reach the poverty avoidance target of 60% median wage. Alternatively, at more realistic levels of transfers of less than a fifth of median wage with two children, elderly persons must accept lower standards of living of 50% of median wage in Hong Kong and 40% in Singapore. Having one fewer child doubles the demands for transfers

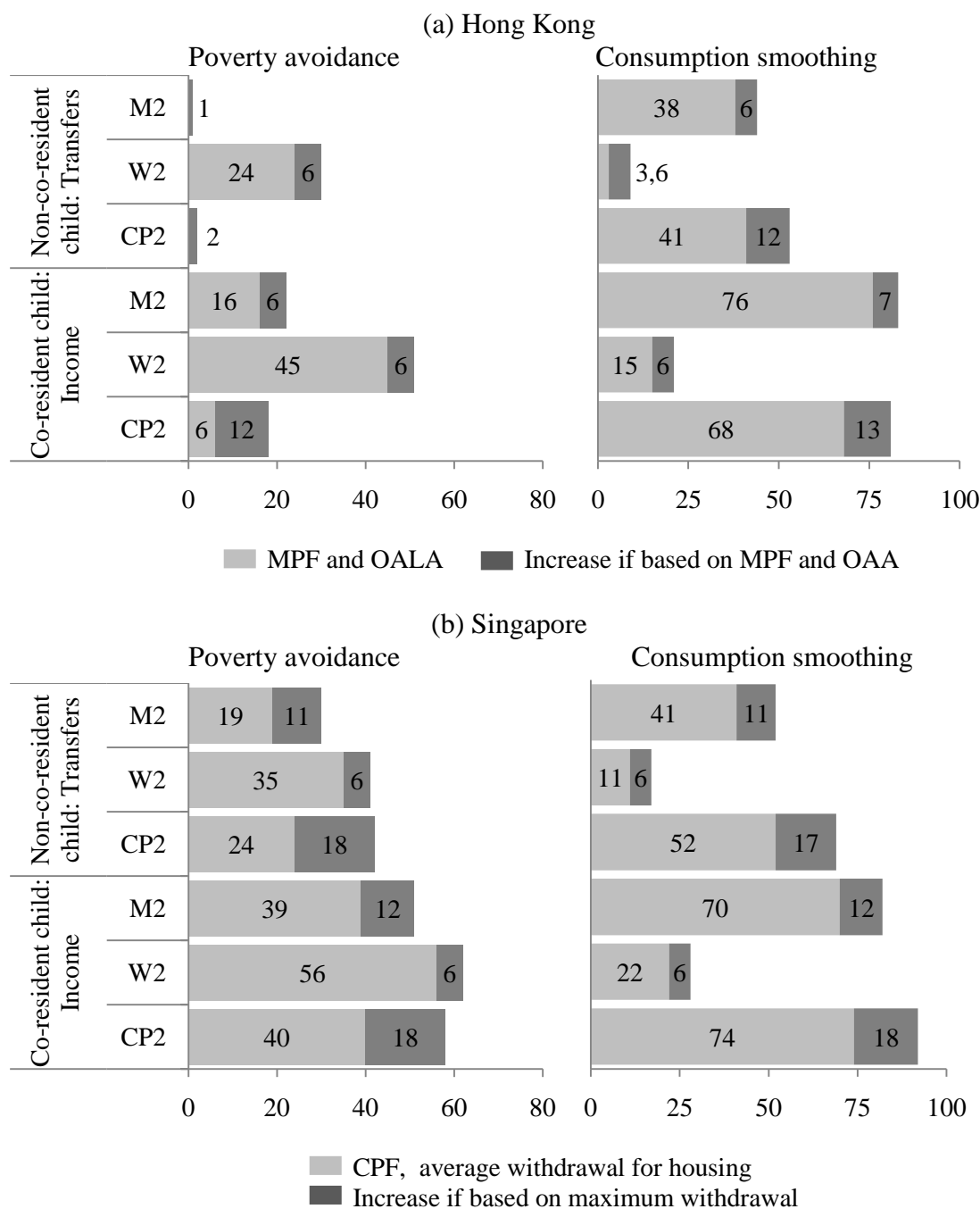
per child, raising these requirements to seemingly impractical levels for many cases. To reach a living standard of 60% median wage with one child, W1 in Hong Kong will require transfers equivalent to almost half of the median wage, while CP1 in Singapore will need transfers of up to 70% median wage.<sup>6</sup>

- Higher earning cases will achieve replacement rates of 60% only with large amounts of transfers and require significant support even for 40% replacement. M3 and CP3 require transfers of 69-79% and 83-99% of the median wage respectively in Singapore, and transfers of 84-88% and 97-104% in Hong Kong, to reach a replacement rate of 40% with two children. The two pension systems therefore appear unlikely to be able to fulfil the objectives either of poverty avoidance for lower educated older persons, or consumption smoothing for higher educated persons, without considerable and in cases implausibly high levels of support from children.

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<sup>6</sup> Chou's (2010) analysis of Hong Kong data indicates that the impact of the availability of children on the amount of transfers to elderly parents shows a ceiling effect—having more than three children does not significantly increase the amount of transfers. However the average fertility in both Hong Kong and Singapore does not reach this threshold. The projections in this section illustrate that within the more realistic range of 1-2 children, having one fewer child could significantly raise the potential burden of support.

**Figure 7.4** Summary of estimated demands for children's support for persons with secondary education according to historical pension rules, Hong Kong and Singapore



MPF: Mandatory Provident Fund, OAA: Old Age Allowance, OALA: Old Age Living Allowance, CPF: Central Provident Fund. Couples (CP2) formed by men (M2) and women (W2) with secondary education. See text for details of pension projections. Poverty avoidance target is 50% median gross wage; consumption smoothing target is 50% individual final wage. All cases assumed to have one child available. Non-co-resident child provides support through transfers, co-resident child through income sharing. Required transfers are the difference between projected pensions and income targets, equivalised for CP2. Required income of co-resident child plus projected pensions, equivalised with a factor of two for M2 and W2 and a factor of three for CP2, equals income targets. Square root scale used for equivalisation. All demands expressed as percentage of median gross wage.

Source: Own calculations

## 7.5 Summary

This chapter projected possible pension outcomes under a range of scenarios for six illustrative cases: three men and three women with primary, secondary, and tertiary education. The potential demands for children's support were then estimated based on the gaps between these pension outcomes and various income standards, under different household configurations and support scenarios.

- Hong Kong offers more generous pensions than Singapore. Among cases with secondary education, men who start their careers in 1990 achieve replacement rates of 23-26% in Hong Kong compared to 12-21% in Singapore, depending on eligibility for the OALA and the amount of CPF housing withdrawals. Relative to the median gross wage, men's pensions are 42-48% in Hong Kong but only 17-30% in Singapore.
- Men and cases with better education achieve higher relative pension levels but poorer replacement rates. Women have better replacement rates but very low pension amounts, about half of men's. The 2010 cohort of women with secondary education receive pensions that are 20-26% of median gross wage in Hong Kong, and 9-15% in Singapore, compared to men's 49-55% in Hong Kong and 20-31% in Singapore.
- The introduction of the MPF and OALA in Hong Kong has boosted pension outcomes for all cohorts between 1990 and 2010, but the younger 2010 cohort also gain 4-7 percentage points in replacement rate and pension level over the 1990 cohort. In Singapore, CPF contribution rate adjustments improve pension outcomes for the younger cohorts by just a few percentage points and only under some withdrawal scenarios. Current system design allowing generous pre-retirement withdrawals remains a major challenge and creates greater uncertainty for retirement income security.
- For the 2010 cohort, an increase of one year in life expectancy causes replacement rates to fall by 2 percentage points in Hong Kong and 1

percentage point in Singapore, and relative pension level to decrease by 1-3 percentage points in Hong Kong and 1 percentage point in Singapore. For women, a reduction of 5 years of work decreases the pension level by 2 percentage points in Hong Kong but improves the replacement rate by 2 percentage points in Singapore. Calculating annuities using a 4% interest rate instead of 2% raises replacement rates by 3-6 percentage points in both systems.

- In Hong Kong, single women require much higher levels of support from children than men and couples do for poverty avoidance. With one non-co-resident child, women with secondary education require transfers equivalent to 24-30% median wage compared to just 1-2% for men and couples to achieve an income of 50% median wage. But in Singapore, the risks of financial hardship are more widespread due to lower pension rights. To achieve the same target of 50%, even men with secondary education require transfers of 19-30% of the median wage, while women and couples with secondary education require transfers of more than 40% median wage.
- In terms of consumption smoothing, higher earning cases will achieve replacement rates of 60% only with large amounts of transfers and require significant support even for 40% replacement. Men and couples with tertiary education require transfers of 69-79% and 83-99% of the median wage respectively in Singapore, and transfers of 84-88% and 97-104% in Hong Kong, to reach a replacement rate of 40%.
- Overall, lower earning elderly persons are likely to require substantial family support in addition to their pension benefits in order to reach the poverty avoidance target of 60% median wage. At more realistic levels of transfers from children, say less than a fifth of the median wage, elderly persons with two children must accept lower standards of living of 50% median wage in Hong Kong and 40% in Singapore. Having one fewer child doubles the demands for transfers per child, raising these



requirements to seemingly impractical levels for many cases. To reach a living standard of 60% median wage with one child, women with primary education or less in Hong Kong require transfers equivalent to almost half of the median wage, while a couple with primary or lower education in Singapore needs transfers of up to 70% median wage.

- The two pension systems therefore appear unlikely to fulfil both the objectives of poverty avoidance for lower educated older persons and consumption smoothing for higher educated persons without considerable and in some cases implausibly high levels of support from children.

It has been argued in Chapter 4 that family support is integral to old-age income security in Hong Kong and Singapore. However such support is weakening and the projections in Chapter 6 suggest further decline in intergenerational co-residence and the emergence of a sizeable proportion of elderly persons who will have access to neither market income nor children's contributions after retirement. The burden therefore appears to fall increasingly on public pension systems. Yet the analysis in this chapter highlights potentially low pension rights, particularly in Singapore, that are still built on assumptions of strong family support. Housing ownership, sometimes suggested as a source of income security for elderly Singaporeans, is not a guarantee of retirement income because of the unequal distribution of housing assets and the problems associated with equity release measures (see Chapter 3). The best chance of shoring up the income security of future elderly cohorts may therefore lie in substantial reforms to the two pension systems to improve their generosity. Part 3 of the study examines the possibility of such reforms and the factors that may constrain them.

## **Part 3**

### **Possibilities**

## 8. The context of public pension policies

So far the discussion in this study has been about the functional prospects of old age income security—whether it has been adequate for recent generations of elderly persons and if it will be so for future cohorts. Overall the analysis points to gaps in income security and pressures to improve public pension provision. Policymaking is fundamentally a political process that involves factors and constraints with a separate dynamic from functional needs. Part 3 of the study therefore turns to the political prospects of income security—whether public pensions can potentially grow to make up for declining family support. Chapter 8 adopts a comparative case study approach to examine the context of public pension policies in Hong Kong and Singapore from the 1950s to the 2000s.<sup>7</sup> The chapter begins with a review of the major theoretical explanations for the development of social security policies in the advanced democracies and East Asia. From these, a theoretical framework combining ideas, developmentalism, and democratisation is developed to interpret pension policymaking in Hong Kong and Singapore. This framework is applied to explain pension adoption in the early phase, followed by pension adaptation in recent decades. The chapter concludes with a reiteration of the factors that matter to the making of pension policies in the two places. While this chapter engages with key theoretical concepts in the literature on social policy change in East Asia, the primary task in the context of this study is to provide a theoretical and historical basis for discussing the potential for further expansion of public pensions, which is taken up in Chapter 9.

### 8.1 Explaining public pension policy in the advanced democracies and East Asia

#### *Explaining public pension policy in the advanced democracies*

In the theoretical literature on social policy in the mature welfare states, a distinction is drawn between functional theories that imply a convergence of welfare policy directions across countries due to international forces such as globalisation or post-industrialism, and political theories that emphasise unique national conditions such as state capacity, organised interests, and institutional legacies that result in persistently divergent policy developments. Theories of welfare policy change also reflect their

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<sup>7</sup> While detailed historical process-tracing is beyond the scope of the study, the analysis refers to primary sources such as press reports, parliamentary and political speeches, and official documents where appropriate.

historical context. Just as burgeoning welfare states in the first half of the twentieth century were associated with industrialisation, the challenge of welfare reform and austerity in more recent times has provided fertile ground for explanations based on institutional constraints. The salience of historical sequence and context is succinctly captured by Pierson (1996) when he argues that the old class-based politics of credit-claiming between the political left and right during the era of welfare expansion has been replaced by a new broad-based politics of blame avoidance where large welfare constituencies matter more than left power for the defence of welfare institutions. Each strand of theory can therefore be thought of as being bisected by a historical axis that differentiates between theories of welfare adoption and of welfare adaptation.

Functional arguments interpret policy as a rational response to the exigencies of wider, usually economic, circumstances. According to the logic of industrialism, for example, modernisation and economic advancement increased the concentration of urban populations and rendered traditional family- and community-based systems of social provision inadequate (Cutright, 1965; Kerr, Dunlop, Harbison, & Myers, 1960; Wilensky, 1975). These traditional systems were therefore gradually replaced by state-organised welfare. By contrast globalisation, defined as an increase in the mobility of capital and finance and the trans-nationalisation of production and trade, has been argued to be a contributor to both welfare expansion and retrenchment. Earlier research suggested that among developed countries that are more exposed to the vagaries of the international economic system, governments have had to develop more advanced systems of social protection for its citizens (Cameron, 1978; Rodrik, 1998). But recently other scholars have argued that globalisation constrains social policy in advanced welfare states in at least three ways: it limits the ability of governments to pursue national economic strategies for growth; it disrupts collective bargaining traditions by weakening the position of organised labour in relation to international capital; and it poses a threat of “social dumping” that compels governments to suppress the social wage (Huber & Stephens, 1998; Mishra, 1999). Pierson (1998) argues that instead of globalisation, the pressures of austerity stem from post-industrialism, involving a slowing of productivity growth related to the shift from manufacturing- to service-based economies, the maturation of existing welfare commitments, and demographic ageing. These arguments apply not just to the development of pension systems but social policy in general. Functional theories face several criticisms: they are apparently deterministic, do not cope well with cross-

national variation among countries experiencing similar universal pressures, and often fail to address the resilience of welfare states after decades of purported crisis. In all of these areas political theories provide more direct answers.

The body of theory dealing specifically with pension development is usually referred to as pension politics. One of the earlier explanations of pension development can be found in Esping-Andersen's (1990) well-known study of welfare regimes. Using data on public pensions as well as other social spending, he shows that working class mobilisation, the influence of Catholicism, and the depth of authoritarian political culture can account for the distinction between the social democratic, conservative, and liberal welfare regimes. Although the study was not primarily concerned with the historical emergence of public pensions in the European democracies, it demonstrates how public pension outlay as a component of national social policy can be explained by political factors including the influence of left power. This approach echoes the power resources perspective which argues that the level of political power wielded by the working class and their political representatives—trade unions and left parties— affect the extent of state involvement in redistributive social policy (Korpi, 1980, 1989).

At around the same time an alternative state-centred reading of social policy emerged, using the history of public pensions in the United States as an example to show that the capacity of national governments to implement policy is a key determinant of the scale of social welfare institutions (Skocpol, 1985). Comparing the adoption of social security policies in Britain and the United States in the early twentieth century, Orloff and Skocpol (1984) show that the United States failed to institutionalise post-Civil War pension arrangements as permanent national policies despite relatively favourable conditions such as supportive unions because the civil service lacked bureaucratic expertise, policy implementation was complicated by patronage politics, and the leading political parties were not competing on the basis of policy programmes like in Britain. This interpretation gave emphasis to the role of the government in policymaking instead of portraying pension policy as the direct outcome of competition among a plurality of interest groups in society.

Once pension systems are in place, a different set of factors affects the path of subsequent policy development. The institutionalist perspective has been influential in explaining the connection between institutions, defined as “formal or informal procedures, routines, norms and conventions embedded in the organizational structure

of the polity” (Hall & Taylor, 1996, p. 938), and policy outcomes. There are two main institutional arguments in the pensions literature. First institutions as the structure of government and policymaking rules may determine the range of available veto points (Tsebelis, 2002), or channels for blocking the passage of policies and laws, and “affect both the degree of pressure an actor can bring to bear on policy and the likely direction of that pressure” (Hall, 1986, p. 19). In a comparative study of Western European countries, Bonoli (2000) argues that constitutional structure and corporatist traditions can affect the style and scale of pension reform. In parliamentary systems with large single-party majorities like Britain that offer few veto points, or opportunities for external parties to influence policy decisions, pension reform has tended to reflect more closely the will of the government, sometimes in the face of stiff political opposition. But in political systems with a separation of powers such as Switzerland or a corporatist culture such as Germany, pension reforms have had to be negotiated in a more consensual manner and often required the government to cede concessions to key opponents.

Secondly institutions in terms of pension system design may mediate external policy pressures and constrain the options available to national governments, favouring incremental rather than radical change and policy stability in the long run. Existing policies may also generate legacy effects or feedback in the form of long-term commitments that redefine the incentives of political actors (Pierson, 1993, 1996). A switch from a pay-as-you-go (PAYG) to a funded pension system, for example, creates a “double payment problem” as it requires current workers to contribute towards the pensions of current retirees and save for their own future retirement, which is unlikely to find public support (Myles & Pierson, 2000). This makes a switch away from PAYG systems politically costly and may explain why European countries with extensive PAYG public pensions have tended to introduce only incremental parametric reforms. Comparing countries that depend primarily on social insurance pension systems funded on a PAYG basis with those that have multipillar systems combining a basic state pension with funded private schemes, Bonoli (2003) shows that while population ageing has spurred social insurance systems to scale back spending on public pensions and introduce new funded schemes, it has not led to major reforms in multipillar systems. In response to labour market changes such as less stable careers and higher participation among women, social insurance systems have introduced contribution credits whereas multipillar systems have expanded the scale of

occupational pensions. Constraints from existing pension system design therefore result in path dependent reforms unique to national settings rather than cross-national convergence on functionally optimal choices. This explanation reflects the influence of Pierson's (2000) work on the new politics of welfare, where the beneficiaries of social policy become powerful political constituents that resist welfare retrenchment. Unlike policy development which offers opportunities for credit claiming, social policy cutbacks depend on politicians balancing electoral survival with policy goals.

### *Explaining public pension policy in East Asia*

In 1986 Midgley observed that "established theories of welfare and industrialisation have been abstracted from the historical experience of the Western countries and no attempt has been made to assess their empirical validity with reference to the newly industrialising countries (NICs) of the Third World" (p.225). Since then the literature on East Asian social policy has grown considerably.<sup>8</sup> But the theoretical fit of European pension analysis to East Asian states like Korea, Taiwan, Hong Kong, and Singapore remains under-examined. While a full discussion of this topic is beyond the scope of this study, reviewing the major issues can help to bring out salient features in the context of East Asian pension policy. To begin with, functional accounts do not travel well because they draw on historical developments in specific settings.

Industrialisation in East Asia, for instance, was not accompanied by a large-scale expansion of social provisions (Chow, 1985b). Instead these countries are still regarded as very lean welfare states by international standards (Jacobs, 2000). Political theories can be equally problematic. In places like Singapore which do not have a strong social democratic tradition and where politics is dominated by a single party, the power resources perspective can be difficult to apply because of its assumptions about the left-right political spectrum and the role of organised labour. While it may be argued that the subjugation of trade unions in these societies has been a factor in the under-development of social policy (Deyo, 1987), left power does not offer the same theoretical leverage when unions in the European sense do not in fact exist. This region of strong semi-authoritarian governments has shown that state capacity may not always translate into expansive public pension policy in the way Skocpol described.

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<sup>8</sup> See for example Fu & Hughes (2009), Low & Aw (2004), Midgley & Tang (2010), Ramesh (2004), Tang (2000), White & Goodman (1998).

Instead it has enabled East Asian governments to realise their inherent policy preferences (Fu, 2003), reflecting either local cultural norms or state ideologies. Finally institutionalist explanations based on the structure of government or pension system design seem to run ahead of developments in both the politics and the pensions of East Asia. Bonoli's conceptual dichotomy of multipillar and social insurance pension systems do not capture for instance Singapore's single-pillar Central Provident Fund (CPF) system. More fundamentally, the logic of electoral punishment at the core of several institutionalist perspectives applies more readily to mature European democracies than East Asian states where social mobilisation and popular demands are managed differently.

Perhaps for the above reasons, the East Asian pensions literature has focused on a different set of political and ideational explanations across two phases of policy development: an initial phase of contained adoption followed by a second period of adaptation when some states ramped up their pension provision while others held the line.<sup>9</sup>

One of the dominant theoretical perspectives is that the introduction of public pensions in East Asia is related to the role of the state. In his account of the politics of pensions in Hong Kong and Singapore, Fu (2003) argues that both governments had high levels of autonomy from popular and political pressure which allowed them to implement policies closely aligned to their inherent policy preferences, which disfavoured extensive social spending. This autonomy resulted from having non-elected governments (up to 1965 in Singapore), weak trade unions, various depoliticisation strategies used by the ruling elite, and politically disengaged immigrant populations. Economic success and improvements to living standards further strengthened the position of the political leadership and promoted social stability. Additionally, in Singapore, political uncertainty from the communist threat and the abrupt attainment of nationhood resulted in the adoption of the CPF model which encouraged identification with national interests and social peace, helped to build a stakeholder society of homeowners, and raised fiscal resources for public infrastructure projects. But Hong Kong was a more transient society, a temporary stop for political refugees thought to be at risk of being forcefully retaken by communist

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<sup>9</sup> This approach of delineating historical phases in East Asian social policy development follows earlier work by authors such as Chow (1994), Tang (1998), Lee (1999) and Lin (2004).



China in the 1950s. Social policy consisted mainly of short-term assistance schemes which were only formalised in the 1970s with rising needs and social unrest. The need for national and political consolidation therefore explains the different pension systems in the two places.

The second political explanation is that where democratisation has taken place, there were greater public demands for pension provision and other social policies in the adjustment phase. Chow (1995) argues that democratisation in Hong Kong in the 1990s led to social welfare groups and political parties pressing for improvements to social security, creating pressure on the government to expand the existing pension system. The introduction of electoral competition in particular spurred public debates about social spending and compelled policymakers to balance more vocal and diverse interests (Fu, 2003). But Hong Kong's brand of democracy was susceptible to business lobbying, which eventually persuaded the government to adopt a system of mandatory savings based on private investment instead of contributory universal pensions (C. K. Chan, 2003). On the other hand, sustained electoral domination meant that Singapore's government was not required to increase state involvement in social protection in exchange for political support. It was only when political support waned in the 1980s that the government introduced a range of ad hoc transfers and subsidies (Ramesh, 2000).

A third approach, an ideational one, emphasises the role of social norms and governing philosophy. In earlier literature, Jones (1993) suggests that the East Asian welfare states are influenced by a shared Confucian lineage or what she calls underlying "tiger qualities", such as a distinctive familial tradition, a social discipline that values the collective above the self, and an avoidance of open dissent. Social policy therefore reflects a kind of cultural destiny. In her words, "welfare states are born, not made" (p. 215). However MacPherson (1993) has argued that historically Hong Kong's failure to introduce a comprehensive system of social security for elderly persons was due to colonial policy that reflected "a convenient conjunction of cultural sensitivity and cost-saving" (p. 52). High levels of family support among the Chinese population provided a useful pretext for social policy decisions. Cultural explanations have since been criticised for mistaking political rhetoric for social reality and for failing to account for policy change and diversity in countries with apparently similar cultural backgrounds (Bonoli & Shinkawa, 2005; C. K. Chan, 1998; K. S. Chang, 1997; Palley, 1992; G. White & Goodman, 1998). Other scholars focus on governing

ideologies that are hostile towards Western-style welfare and encourage self-reliance (Chow, 1985a; Ramesh, 2000; Wilding, 1997). In Ramesh's (1992) analysis of Singapore's CPF and other social security provisions, he argues that "the basic motivation underlying the efforts to limit statutory social security is ideological opposition to the welfare state" (p. 1103). In an early study that directly compares the factors behind pension development in Hong Kong and Singapore, Chow (1985b) argues that the government's economic objectives and scepticism towards welfare states help to explain the underdevelopment of income security policies in both cases. Chan (2003) similarly refers to bureaucratic principles of minimal welfare in Hong Kong. In the adjustment phase, democratisation has been linked with a new and more collectivist popular welfare ideology which expected the government to adopt a more direct role in social welfare (Chow, 1995). This area however remains understudied.

#### *Summary and next steps*

Table 8.1 shows the major explanatory approaches for pension policy development. To summarise, explanations of public pension policy are not the same in the European and East Asian contexts. Among the advanced welfare states of Europe, the adoption of welfare policies has been explained by functional theories such as industrialisation and globalisation that imply an expansion of the state's welfare functions, whereas political perspectives emphasise policy diversity depending on the influence of the state and left political power. In the adaptation phase, welfare retrenchment has been linked with universal factors such as post-industrialism but also national factors such as the configuration of political institutions and existing pension system design. In East Asia, strong state autonomy and restrictions on social mobilisation initially allowed governments to rein in social spending, although the imperative of political consolidation in emerging nations encouraged the introduction of public pension systems in some places. Ideational arguments on the other hand highlight cultural norms of familial provision and governing philosophies that were suspicious towards European-style welfare states. These explanations have however been criticised for being overly deterministic. In the adaptation phase, democratisation in some places resulted in electoral competition over social policy issues and evolving public expectations about the role of the welfare state, which contributed to the growth of formal pension provision.

**Table 8.1** Explaining public pension policy

		<i>Adoption</i>	<i>Adaptation</i>
European welfare states	<i>Functional</i>	Industrialisation	Post-industrialism
		Globalisation	Globalisation
	<i>Political</i>	Power resources	Institutionalism
		State capacity	Path dependency
East Asian welfare states	<i>Political</i>	State autonomy	Democratisation
		Political consolidation	
	<i>Ideational</i>	Culture	Popular welfare ideology
		Governing philosophy	

Source: Own summary

The current literature leaves a number of questions unanswered regarding the development of public pensions in Hong Kong and Singapore. First, the choice of pension model is not adequately explained. Singapore's choice of the CPF model has been explained in terms of its compatibility with the tasks of nation-building. But it can be argued that more solidaristic forms of provision such as social insurance would have been more effective for promoting a sense of social unity or that tax-funded universal pensions would have generated greater popular goodwill towards the government.<sup>10</sup> Second, if the governments' ideologies towards social policy were the deciding factor in the choice of pension models, what were the bases of these ideologies and, more generally, what was the role of ideas in pension development in both the adoption and adaptation phases? Third, if democratisation was a critical factor in the latter phase, why has there been greater policy activity in recent years in Hong Kong where the government is only partially elected, compared to Singapore which has held democratic elections since 1965?

The explanatory task in the rest of this chapter is to account for (i) the origins and stability of the CPF system in Singapore compared to the initial reliance on public assistance and flat-rate allowances in Hong Kong; and (ii) recent decades of policy inactivity in Singapore despite growing concerns about population ageing and retirement income, compared to the policy contestation resulting in the implementation of Hong Kong's MPF in 2000. A summary of the historical milestones in the two pension systems can be found in the appendix at the end of the chapter. To do this, the

<sup>10</sup> For example, in Taiwan several social insurance schemes were initiated to win the political loyalty of the bureaucrats and military personnel who had fled mainland China together with the nationalist government when they lost the civil war to the communists in 1949 (C.-W. Lin, 2004). Since then both Taiwan and Korea have introduced national social insurance schemes.

discussion combines three theoretical perspectives: developmentalism, democratisation, and the role of ideas. While there is a large literature on the East Asian welfare model and the economic thinking behind it, the deeper implications of the developmental state model and its bureaucratic structures for pension policy change in the region have not been explored. The analysis here also adds to previous studies of the role of democratisation and governing philosophies in pension policy development by tracing the impact of particular forms of democracy and distinct ideational processes. The next section sets out the theoretical definitions and framework.

## **8.2 Theoretical framework: Ideas, developmentalism and democratisation**

### *The role of ideas in policy change*

Ideational theories explain policy outputs in terms of cognitive and normative structures. There is a wide range of definitions for “ideas” in the public policy literature, such as causal beliefs (Béland & Cox, 2011); social or cultural constructions (Fraser & Gordon, 1994; Schneider & Ingram, 1993); norms and collective identities (Eckstein, 1988; Finnemore & Sikkink, 1998; Katzenstein, 1996; March & Olsen, 1984), and policy blueprints and paradigms (Berman, 1998; Blyth, 2001; Hall, 1993). The range of these definitions reflects differences in interpreting the level of generality (broad beliefs or policy strategies), visibility (implicit or expressed), location (elites or the public), and function (specify identities or regulate behaviour) of ideas. Campbell (1998) alludes to several of these dimensions when he differentiates between four types of ideas based on whether they reside in the foreground or background, and if they are cognitive or normative: foreground cognition specifies policy programmes; paradigms or policymakers’ assumptions form background cognition; frames or policy communication to the public are foreground norms; and public sentiment or culture are background norms.<sup>11</sup>

It is generally understood that ideas do not act alone on policy processes. Rather, they shape political interests and mediate conflict within institutional constraints (Katzenstein, 1996). Political interests are not stable or exogenous to the

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<sup>11</sup> Ideational approaches have been criticised for being too fluid and arbitrary, and difficult to separate from other factors like the political actors who propagate and enact them (Blyth, 1997; Hall, 1997; Yee, 1996). To some extent, differentiating the types and functions of ideas can help to clarify their role in policymaking.

political system but reflect socialisation and underlying norms (March & Olsen, 1984). Ideational change is also a political process that requires the mobilisation of political actors (Payne, 2001; L. A. White, 2009).

Blyth (2001) argues that the results of institutional change cannot be inferred from structural explanations alone, but require both “material” and “ideal” explanations. By providing a bounded space for policy competition and political conflict, ideas both constrain developments and allow innovation (Surel, 2000; Weir, 1992; L. A. White, 2009). Of these various processes, two are most relevant to understanding the context of public pensions in Hong Kong and Singapore. These will be set against the background of two broad phases in pension policy change—developmentalism and democratisation.

In the first ideational process, *policy paradigms* set modes of thinking and constrain the range of policy solutions. Hall (1993) suggests that ideas can work at three levels. At the first two levels, they relate to the settings and choice of policy instruments. At the third level, as paradigms, they provide “a framework of ideas and standards that specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing” (1993, p. 279). Sabatier (1998) observes a similar “deep core” of axiomatic and philosophical beliefs among decision-makers that affects their “policy core” of general positions and strategies. Blyth (2001) echoes these perspectives when he argues that ideas may serve as blueprints during periods of uncertainty, giving content to interests and suggesting new institutional equilibriums. They may also provide “weapons” in distributional struggles in the form of cognitive and normative critiques of existing and alternative institutions. Since paradigms provide powerful worldviews or logics about the policymaking environment, it follows that they are not easily changed. Blyth (2001) refers to ideas becoming “cognitive locks”, reinforcing existing institutions and creating a sort of intellectual path dependency. Often these paradigms are only challenged and overhauled at critical junctures of crisis and policy failure that open up windows of opportunity for radical change (Collier & Collier, 1991; Hall, 1993; Kingdon, 1984). The likelihood of change is also related to the political setting. Where decision-making is more hierarchical and power more concentrated, policymakers are more prone to cognitive locking and paradigms become harder to shake (Blyth, 2001). Policy paradigms connected to more technical policy domains manned by influential technocrats under political continuity may also

be more resistant to change (Hall, 1993), with public pensions especially in Singapore being a case in point.

The second ideational process is ideas as *discourse*, where the flow of ideas between political actors results in the creation of new policy strategies and in some cases a revision of the basic terms of the policy debate (Hall, 1993). Discourse may involve the exchange of ideas at different levels. Schmidt's (2000, 2008, 2010) model of policy change through discursive institutionalism, for example, distinguishes between coordinative discourse among policy elites to construct policy, and communicative discourse to promote policy decisions to the public. Hay (2001), building on Hall's model of policy paradigms, suggests that policy failure alone is not sufficient to precipitate a paradigm shift. Other conditions are necessary, such as widespread public experience of policy consequences, interpretation of policy failure through a crisis narrative often through the media and other channels of public discourse, and circulation of policy alternatives that are widely perceived as feasible and legitimate. Other theoretical perspectives variously emphasise the transfer of ideas among and by epistemic communities (Haas, 1992), norm entrepreneurs (DiMaggio, 1988), advocacy coalitions (Sabatier, 1998; Sabatier & Jenkins-Smith, 1993), and policy forums (Rein & Schon, 1991). The common thread is the importance of discourse to policy change. Weir (1992) demonstrates this in the context of the United States, arguing that the permeability of bureaucratic decision-making and the fragmented federal governance structure enabled access to interest groups and favoured diverse ideas and policy innovation. Discourse among research organisations, leading academics, business leaders, and a lead policy council promoted a growing consensus and resulted in advances in employment policy.

### *Hong Kong and Singapore as developmental states*

The concept of the developmental state was first proposed by Chalmers Johnson (1982) in his study of the Japanese Ministry of International Trade and Industry (MITI) and its role in national economic development. The developmental state as portrayed by Japan pursued economic development above other national objectives using market-conforming strategies, and orchestrated industrial policy through a small elite bureaucracy fronted by a lead agency with broad-ranging powers. This model was subsequently used to describe the experience of other industrialising societies in East Asia that appeared to emulate the Japanese road map for development, including South

Korea, Taiwan, Singapore, and Hong Kong (Amsden, 1989; Castells, 1992; Deyo, 1987; Öniş, 1991; Wade, 1990). In the context of these countries, Castells (1992) defines the developmental state as one that “establishes as its principle of legitimacy its ability to promote and sustain development” (p. 56). Legitimacy was an important motivation in the 1960s when these societies were either ruled by young regimes (such as Singapore) or were facing uncertain political prospects (such as the British colony in Hong Kong).

Although theoretical specifications of the developmental state are mostly concerned with the planning and implementation of economic policies, it has also been argued that the national strategies of developmental states suited a certain mould of social policy, known as productivism (Holliday, 2000). This involved the suppression of welfare spending and subjugation of social issues to economic priorities. Concerns about income distribution and equality were not on the national policy agenda (Öniş, 1991). There were no comprehensive social security measures such as public pensions and unemployment protection. Organised labour was often repressed to create cheap and disciplined workforces that would attract foreign investment (Castells, 1992; Deyo, 1989, 1992). Instead social stability was maintained by delivering improvements to living standards through increased labour participation especially among women (Chew, 1974). Other forms of social wage such as public housing and subsidised healthcare were also introduced, especially where these were compatible with the aims of national and political consolidation (Vasoo & Lee, 2001). In combination, the economic programme, political strategies, and social policy (or how it was contained) at the time indicated a distinct policy paradigm that specified clear goals regarding national development, ways to achieve them, and how problems might be overcome.

But developmental states were not uniform. While there was a similar push for economic transformation, governments chose different strategies suited to national conditions. In Singapore, the government took the lead in soliciting a huge inflow of foreign investment which generated employment and growth. But Hong Kong, in the colonial fashion of governance with a light touch, depended on a huge network of local businessmen who coordinated trade with Mainland China and the rest of the world. These economic strategies reflected underlying differences in the configuration and capacity of government. It has been argued that Hong Kong and Singapore portray administrative states that intervened in diverse spheres of economic and social life

(Bellows, 1985; H. C. Chan, 1989; Cheung, 2008; L. Y. C. Lim, 1983). They both relied on elite in-groups and discouraged political pluralism (Johnson, 1982; Öniş, 1991). However the extent of bureaucratic intervention was much higher in Singapore, where an elite administration worked closely with elected politicians in tight-knit policy networks that were well-insulated from public pressure. While the Hong Kong government was also highly autonomous, especially as there were no formal mechanisms of electoral accountability, it was traditionally less cohesive and more permeable to business interests. By the 1980s, the administration came under even greater pressure as it adjusted to the loss of the expatriate ranks and impending Chinese rule. These conditions are important to understanding the adoption of different public pension models.

#### *Democracy and democratisation in Hong Kong and Singapore*

Democratisation has had different effects on social policy in East Asian societies. The first is to increase public demands for social welfare. Although the newly industrialised East Asian countries started from comparable political traditions, such as an authoritarian style of policymaking and an inhospitable climate for political opposition and civil society (Onis, 1991), several of these countries began to democratise from the 1980s. Haggard and Kaufman (2008) argue that this enabled popular demands to translate into electoral pressure and spurred the growth of social security systems. This led to a divergence in the level of social protection in the region depending on the pace of political liberalisation. This can be seen in the case of Taiwan. Following the lifting of martial law and the introduction of democratic elections, social policy became a means of electoral competition as politicians vied to offer more attractive welfare measures (C.-W. Lin, 2004; J. Wong, 2004). The growth in public pension coverage and the implementation of the National Health Insurance have been attributed to this opening up of political space. The second countervailing effect is that intense party competition and the rapid circulation of policy issues on the political agenda may sometimes make it harder for democratic governments to effect policy change compared to more autonomous and insulated states (J. Wong, 2010). In Taiwan, a proposed National Pension Plan stalled for many years in the legislative process due to party competition within a system where powers were separated between the president and legislature (C. Lin, 2002).



The third, less recognised, implication is that different forms of democratic practice have different levels of tolerance towards plural policy discourse, which in turn can have an impact on the potential for policy change.<sup>12</sup> Hong Kong and Singapore are examples of two different models. Although democratisation of the scale seen in Taiwan and Korea has not taken place in either society, political liberalisation and the promotion of political parties near the end of colonial rule in Hong Kong gave institutional form and momentum to debates about social policy issues such as poverty and income inequality even though the government was not popularly elected (Chow, 1995; Ma, 2012). There was also political space for other forms of public discourse: charity groups were able to advocate for social policy while academics could engage in policy critiques regarding old-age poverty and pension issues (E. Y. M. Chan, 2012; Chow, 1994). Such discourse provided programmatic ideas that posed direct alternatives to the government's policy proposals. They increased the possibility of policy change but also implied more indeterminate outcomes. But the practice of illiberal democracy in Singapore (Mutalib, 2000; Rodan, 2009a), where the government was popularly elected but other forms of political expression and civil liberties were controlled, discourse on social policy among opposition parties, interest groups, the public, and the research community was far more limited. Sources of alternative policy ideas were therefore less likely to emerge and pension policy more likely to remain stable. This highlights that in places where the full range of democratic rights still cannot be taken for granted, it is important to examine not just formal democratic institutions but also underlying political interactions and ideational flows in order to understand policy change.

### *Summary*

This section reviewed the three theoretical strands that will be used to explain the development of public pension policies in the rest of the chapter. It focused on two ideational processes—ideas as policy paradigms or overarching logics that connect policy goals, problems, and solutions; and ideas as discourse through which policy

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<sup>12</sup> Although Hall (1993) does not explicitly link shifts in policy paradigm with democratic practices, he alludes to this when he specifies the conditions for a fundamental change in Britain's economic policy, such as: "the outside marketplace for economic ideas" (p. 289), "the complex of political parties and interest intermediaries that stand at the intersection between the state and society in democratic polities" (p. 288), and "collective puzzlement and uncertainty...marked by highly sophisticated debate in the media, the political parties, and the City, as well as among policymakers" (p. 289). This link is also studied in the literatures on deliberative democracy and participation.

alternatives compete and solutions emerge. Policy paradigms emphasise stability and constraint, whereas policy discourse generates momentum for change but often with indeterminate outcomes. The other two theoretical strands relate to the two phases in the historical development of public pensions in Hong Kong and Singapore: developmentalism better describes developments between the 1950s and 1980s, while democratisation provides a useful perspective for the period from the 1990s to the 2000s. Developmentalism refers to a powerful set of ideas and strategies regarding economic growth, political control, and social welfare that was influential at the time, or in other words, a policy paradigm. However the execution of this paradigm was different for Hong Kong and Singapore due to differences in administrative culture and capacity. While democratisation took place in Hong Kong in the second phase, levels of political control did not weaken in Singapore. As a result, there was a surge in social policy discourse in Hong Kong that posed direct alternatives to the government's thinking. But in Singapore, tight controls meant there was a lack of policy discourse and ideas that might have motivated reform.

Based on these principles, the rest of this chapter will make the following argument. The policy orthodoxy in the 1950s was to avoid social spending and extensive social security systems. But one of the main reasons the state-managed Central Provident Fund (CPF) was adopted whereas a similar model was swiftly rejected in Hong Kong was that the CPF suited Singapore's more interventionist style of developmentalism and the autonomous, elite administration. The CPF model was incompatible with Hong Kong's administration, which was less cohesive, less trusted by the public, and more porous to lobbying. From the 1980s, concerns about ageing and income security arose in both places. Democratisation in Hong Kong enabled interest groups to press for change and the emergence of public debates over pension models. Intense discourse led to several policy u-turns and eventually the implementation of the Mandatory Provident Fund (MPF). Strict political controls meant that Singapore was not conducive for public discourse and debates about policy alternatives. Despite concerns about the CPF, the second phase was characterised by a lack of ideas—the same repertoire of policy adjustments was repeated without fundamental change.

### 8.3 Developmentalism and pension adoption, 1950s-1980s

#### *Singapore*

Introduction of the Central Provident Fund and the emergence of an interventionist developmental paradigm: Briefly in the 1950s, before Singapore gained independence, the government came close to adopting a social insurance pensions model.<sup>13</sup> In fact throughout the 1950s, the CPF had not always been the clear policy choice. In 1951 formal social protection became available for the first time in Singapore when the public assistance scheme was introduced (Committee on Minimum Standards of Livelihood, 1957). In the same year, the colonial government appointed the Retirement Benefits Commission, also known as the McFadzean Commission, to assess the need for a retirement protection scheme. Although the commission felt that a provident fund would be simpler to administer, it recommended a pension scheme based on a social insurance model in order to address the immediate needs of workers nearing retirement and to ensure a steady flow of income in old age (Retirement Benefits Commission, 1951). This was rejected by the colonial administration, which began planning for the CPF instead in 1953. But as the CPF legislation was being finalised by lawmakers, the government appointed two additional committees to look into social security.

First the Caine Committee on Minimum Standards of Livelihood was asked to assess the population's living standards and poverty level, and to weigh policy options such as minimum wage, unemployment insurance, and pensions. Agreeing with the McFadzean Commission, the Caine Committee concluded that "the Provident Fund basis provides no element of spreading of risks, and no acceptance of a common social obligation to assist the less fortunate members of the community...we feel strongly that only a pension scheme on an insurance basis can achieve the basic purpose of providing for the needs in old age of the poorest sections of the community" (Committee on Minimum Standards of Livelihood, 1957, p. 44). In 1957 the Brocklehurst Committee (1957) led by a International Labour Organization (ILO) representative came to a similar conclusion that "few, if any, workers are in a position to provide out of their current earnings a sufficient amount to maintain themselves in their old age" (p. 33). It too proposed a contributory social insurance scheme that

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<sup>13</sup> This is often overlooked in the literature, as well as the fact that it was the new rulers of self-governing Singapore who chose to abandon the plans to replace the CPF with social insurance. Therefore the view that the CPF is a colonial policy decision is only partly true. Barr (2000) provides a detailed account of this issue.

would initially cover sickness and maternity, and then expand to include old age, invalidity, and survivors' benefits, so as to replace the CPF. The government then appeared to have been persuaded by these recommendations. In his address to the Legislative Assembly in 1958, the Governor Sir William Goode announced that:

The recommendations of the Caine and Brocklehurst Reports have been examined, and the Government proposes to introduce during 1958 social insurance schemes based on contributions by both employers and workers. Such schemes cannot all operate immediately, but provided these policies are steadfastly followed, workers will in a few years be protected from sickness, old age, unemployment and similar handicaps. (*Hansard*, 9 April 1958, col 10)

In 1959 the government convened a Committee of Officials to look into the administrative details for a social insurance scheme and a second round of assistance was sought from the ILO to draft the necessary legislation (Committee of Officials, 1959; International Labour Office, 1959). At that point plans were fully underway to develop an alternative pension scheme that would supersede the CPF.

However in the 1959 general elections, the Labour Front government led by Chief Minister Lim Yew Hock lost to Lee Kuan Yew's People's Action Party (PAP). Up to that point Lim had been personally involved in discussions about the draft social insurance legislation (International Labour Office, 1959). But under the new government, negotiations with trade union leaders for a new unemployment insurance scheme that would lay the foundation for a comprehensive social security system ended unsuccessfully in 1961 (*Hansard*, 15 March 1962). The government claimed that the unions had planned for unemployment insurance to fail so that they could reap political capital from workers' disaffection. But statements by Lee in parliament suggest that the government might not have been fully committed to social insurance<sup>14</sup>:

Nobody in his right mind is in the least bit concerned with social insurance in the immediate present. It is not included in any resolution passed by any union. It is not on the platform of any political Party at this particular juncture....We are not interested in it. The Barisan Sosialis<sup>15</sup> are not interested in it. There are many other more urgent

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<sup>14</sup> Based on interviews with senior party figures, Barr (2000) argues that the PAP had publicly endorsed social insurance in the 1950s only to preserve their alliance with the communists.

<sup>15</sup> The Barisan Sosialis was a splinter party that broke away from the PAP. It is discussed later in this chapter.

problems - merger and Malaysia....Having settled the basic and fundamental conditions, we will proceed with social insurance. (*Hansard*, 15 March 1962, col 146-9)

After 1962 social insurance was not discussed in parliament again and the earlier proposals were quietly forgotten (M. D. Barr, 2000; Low & Aw, 2004). In its place, the government began to assert their policy thinking about social welfare. In this account, the Western welfare state—especially as experienced by several of the PAP leaders while they were students in Britain—was deemed to be economically unsustainable. Instead the individual work ethic was regarded as the key factor to economic success. In an interview, Lee said (M. D. Barr, 2000):

From the late '60s, I have visited Hong Kong almost every year, to study and to understand why Hong Kong people work with so much more drive and vigour than the people in Singapore, and to learn something from them.... Through Hong Kong watching, I concluded that state welfare and subsidies blunted the individual's drive to succeed.... I resolved to reverse course on the welfare policies which my party had inherited or copied from the British Labour Party. (cited in M. D. Barr, 2000, pp. 112-3)

And in another statement about social solidaristic welfare systems:

I was too young, too idealistic to realise that the cost to the government would be heavy; worse, that under such an egalitarian system each individual would be more interested in what he could get out of the common pool than in striving to do better for himself. (cited in M. D. Barr, 2000, pp. 114)

Economic priorities became part of a unifying project for national survival after Singapore gained independence in 1965. The state always occupied a central role in this policy paradigm, planning and directing the country's economic and political activities (M. D. Barr, 2000), while participation in this national project became a form of civic duty and social discipline (Hill & Lian, 1995; S. R. Quah, 1983). On their part, the government was actively involved in promoting this ideology to the public (Christie, 1998).

From the early 1960s, the political strategy that accompanies developmentalism as described by Deyo (1987) was in full force as the government began a much wider campaign to contain leftwing political forces. In the 1940s and 50s, the government

had used Emergency powers to outlaw the Malayan Communist Party and quell labour unrest (Gillis, 2005).<sup>16</sup> But some leftist elements joined the newly formed PAP in 1953 to carry on their political activities. This suited the PAP because their English-educated senior cadre were not able to mobilise the support of the Chinese workers and student groups as effectively as the Chinese-speaking leftists (Tilman, 1989). But by the late 1950s, there was an internal struggle for party leadership during which the moderates would have lost control of the party if not for the arrest of political opponents. The leftist faction then broke off to form the Barisan Socialis but was unable to regain political influence (H. C. Chan, 1989). The result of this period of history was that firstly, the PAP began to distance itself from its socialist roots and instead stressed its moderate credentials and neoliberal stance towards social policy; secondly, in a polity which deeply distrusts left-wing politics, another party built on working class support and social democratic ideals has not emerged since.

As leftwing politicians were ousted from mainstream politics, pro-communist unionists split from the national trade union movement (H. C. Chan, 1989; Vasil, 1989). Several police operations mounted under internal security laws later threw the leftwing labour movement into disarray and their central organisation was deregistered in 1963 (H. C. Chan, 1989; Gillis, 2005). The role of independent organised labour in political life began to wane and in its place, the government-led National Trades Union Congress (NTUC) was established. The NTUC has been headed by a succession of senior party members since its establishment in 1961 and regularly exchanges personnel with the PAP (Pang, Tan, & Cheng, 1989; Vasil, 1989).<sup>17</sup> The cooption of the labour movement has been justified as a tripartite model of industrial relations that promotes cooperation instead of competition between the government, employers, and workers.<sup>18</sup> From the 1970s, the NTUC's traditional focus on wages and work conditions was gradually redirected towards the provision of retail, insurance, and

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<sup>16</sup> As an alternative to the militant Malayan Communist Party, the British administration supported the formation of the Singapore Labour Party (later the Labour Front) and the Singapore Trade Union Congress in the 1950s, with a vision to replicate the British model of Labour politics (Gillis, 2005). But internal disagreements saw the party's influence wane and its successor Workers' Party did not emerge as a significant political force until recent years. Likewise Conservative politics did not survive into the 1960s as organisations like the Straits Chinese British Association tended to identify with the British and became irrelevant and unpopular as the campaign for nationhood gathered momentum.

<sup>17</sup> From the 1980s, these have included a Deputy Prime Minister who was later President of Singapore, and two cabinet ministers.

<sup>18</sup> This is most clearly seen in their joint endorsement, under the National Wage Council, of a series of wage adjustments to complement the various phases of industrialisation from the 1970s onwards (Pang, et al., 1989).

transport services through various cooperatives. Constraints on union activities were also introduced through various laws related to strike action, wage setting, and employee management.<sup>19</sup> These developments meant that by the 1970s, left power resources as a potential source of political pressure for more comprehensive social security had been largely dismantled.

Liberalisation of the Central Provident Fund, developmental objectives, and bureaucratic capacity: In 1968 the CPF rules were changed to allow its use for non-retirement purposes for the first time (Low & Aw, 2004). Under the Public Housing Scheme, up to the entire sum of Ordinary Account savings could be withdrawn to purchase a flat from the public housing authority. This marked a major shift in policy and the start of a period of liberalisation of the CPF to various forms of pre-retirement withdrawal including private housing (in 1981), health (1984, 1990), education (1989), financial investment (1978, 1986), and insurance (1982, 1989). By far the most important of these schemes were those related to housing. The impact of linking the CPF to housing on retirement savings has been discussed in Chapter 3. The policy also served a range of political functions. It boosted demand and contributed to the success of the public housing programme. Ethnic quotas were used in housing allocations to encourage interaction among ethnic communities and prevent the development of ethnic enclaves. By dominating the housing market, controlling supply, and influencing prices, the government was able to manage the steady appreciation of asset values and meet the aspirations of an increasingly affluent population to “upgrade” to larger properties (Vasoo & Lee, 2001). All of these contributed to political consolidation and social stability in the young nation. Lee Kuan Yew has said that he believed home ownership gave citizens a stake in the country and would dissuade them from voting against the government (K. Y. Lee, 2000).

Singapore’s public administration at the time was well-suited to the tasks of managing large schemes such as the CPF and the related public housing programme. The bureaucracy was disciplined, technocratic, autonomous, and pervasive. Managed along meritocratic principles, the Singapore civil service had evolved during the 1960s and 1970s into an elite technocracy, “a class of scholar-bureaucrats and scholar-

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<sup>19</sup> The Criminal Law (Temporary Provisions) (Amendment) Bill of 1967 makes strikes and lockouts illegal in sectors that provide essential services. The Employment Bill of 1968 links wages more directly to efficiency and productivity. The Industrial Relations (Amendment) Bill of 1968 states that matters such as recruitment, promotion, and dismissal would not be subject to collective bargaining but would be the sole decision of employers.

officers—imbued with a sense of their superior ability and endowed with the energy, resources, and political backing to expand operations into every sector of society in the name of the national interest” (Chan, 1989, p. 81). Recruitment through an extensive scholarship system and the successful control of corruption also contributed to credibility and legitimacy such that, as a senior politician observed in 1970, the civil service could afford to be “more interested in being right than in being popular” (cited in Bellows, 1985, p. 61). At the top levels, civil servants often shared a similar outlook and background with senior politicians and some were eventually drafted into politics (Bellows, 1985; B. H. Lee, 1989). The close integration of the executive and the bureaucracy helped in the implementation of political decisions and protected civil servants from public pressure (H. C. Chan, 1989). This was a public bureaucracy that was used to exercising a pervasive influence on national economic life. A large number of statutory boards led by top civil servants, like the public housing authority, carried out policies in specific domains with deep mandates and freedom from the usual procedural constraints. In this sense the CPF model, which availed policymakers of an enormous amount of funds for public infrastructural projects in the initial years and foreign investment subsequently, was suited to Singapore’s system of governance (M. D. Barr, 2000; Hu, 1986).<sup>20</sup>

Central to the policy paradigm of the developmental state is the prioritisation of economic growth above other social objectives. This was most apparent in the decisions to use CPF contribution rates as a wage adjustment tool when a major economic recession set in towards the end of the 1980s. In initial discussions among senior ministers, there was disagreement over the lowering of contribution rates. But by late 1985, the political leadership closed ranks and Lee Kuan Yew publicly endorsed a rate cut (Sherwell, 1985, 1986). In accordance with the recommendations of a government committee, the employer’s CPF contribution rate was reduced from 25% to 10% of monthly wage, rates were graduated by age to make older workers cheaper to employ, and contributions to the Special Account reserved for retirement were temporarily suspended. These changes accompanied a slew of initiatives to restructure the economy including wage reforms, tax reductions, and a divestment of state enterprises (Economic Committee, 1986; Public Sector Divestment Committee,

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<sup>20</sup> The precise deployment of CPF funds is a matter of contention as the details are not fully disclosed by the government. Goh Keng Swee, Singapore’s first finance minister, had argued the importance of the CPF for capital accumulation to boost economic development in the initial years (M. D. Barr, 2000).



1987). Just as contribution rates were gradually being restored, the Asian financial crisis in 1997 and the economic recession in 2001 triggered cuts again. The Committee on Singapore's Competitiveness appointed in 1997 to review national economic policy recommended that the employer contribution rate be halved to 10% to reduce wage costs. Similarly the Economic Review Committee formed in the aftermath of the 2001 recession recommended that the restoration of employer contribution rates be delayed until economic conditions improved, even though it noted the adverse impact of using CPF as a counter-cyclical cost-cutting instrument on retirement saving (Economic Review Committee, 2003). This was followed by a closed-door caucus among the party leadership at which it was decided that the contribution rate would be cut from 16% to 13% (L. Lim, 2003). The long-term target contribution rate was also revised downwards from 40% of monthly wage as set in 1987 to 30-36%.

The centralised nature of decision-making within the government was a major factor in the implementation of these reforms. During the CPF rate cuts, committees led by ministers were first appointed to study the issue and make recommendations. Policy decisions were then taken following discussions among senior politicians. This mode of decision-making is compatible with a high concentration of power at the top of the party and the executive (H. C. Chan, 1989). Tilman (1989) argued that within the PAP, leadership was personality-driven and power was initially monopolised by a core team of fewer than a dozen men, from which even senior cadres and Cabinet colleagues were excluded. Each successive generation of leaders was then chosen and nurtured by the previous, rather than democratically elected from within party ranks. The historical experience of factionalism further meant that tolerance of dissent among party members was low (H. C. Chan, 1989). This monocentric organisational structure was equally adopted within the government as the same circle of party leaders also held key Cabinet positions. The result was that disputes over contentious decisions such as CPF contribution rate cuts were resolved internally among senior members of government, while bypassing public debate and open contestation of the sort associated with the pension politics of European states. That the government was able to push through these potentially unpopular decisions is also evidence that the trade

unions and opposition parties were at that point no longer effective sources of resistance.<sup>21</sup>

### *Hong Kong*

Limited social security under a free-market developmental paradigm: In stark contrast to the mounting of large-scale social programmes like the CPF and public housing in Singapore, Hong Kong's early social policy history is often associated with a different type of developmental policy paradigm. On the supposedly adverse effects of generous welfare, policy assumptions in Hong Kong and Singapore were similar. Both governments believed it would corrode individual work ethic and hurt economic growth (Wilding, 1997). Phillip Haddon-Cave, who was Financial Secretary during the 1970s, advocated what he referred to as "positive non-interventionism". This ideology stressed self-reliance and individual responsibility, where hard work and success would be rewarded but only the most needy would be protected by residual welfare services. Redistribution was not an aim of social policy. But while Singapore's developmental policy paradigm was built on an activist state that was heavily involved in economic management for national survival, Hong Kong's approach to developmentalism emphasised a small government and free enterprise. Successive British officials spoke of the need to restrict public expenditure, charge for services where possible, keep taxes low, and promote private enterprise. As former Financial Secretary Hamish Macleod explained:

We have a clear philosophy, consistently applied, which is based on a commitment to market forces, free enterprise and free trade. We believe in creating an environment with minimum regulation and interference plus maximum government support in terms both of infrastructure and protection of the needy, leaving business free to flourish. (cited in Wilding, 1997, pp. 264-5)

Developments in social security between the end of the Second World War and the 1970s followed this free-market developmental blueprint closely. In the years after the war, the colonial administration's welfare effort focused mainly on providing public relief in the form of rations and cash (Chow, 1978). One of the justifications for not formalising a system of social protection was that many service recipients were

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<sup>21</sup> The cuts had been criticised by some analysts and, at one point, even the NTUC (see Leow, 1998). But these eventually gave way to trade union endorsements that were widely reported in the press.

part of an influx of migrants who had left the Mainland due to civil war and political unrest, and might leave Hong Kong once the political situation stabilised (Wilding, 1997). It was felt that the needs of this group could be sufficiently met through public assistance and support from voluntary organisations. When the communists took power in China in 1949, it became clear that many of these migrants would settle down in Hong Kong. Although the young demography of the population meant that old-age pensions were not yet a pressing policy concern, the government undertook several studies of social security options in the 1960s. The reports that emerged from these studies highlighted the limits of public relief as a form of social protection but were cautious in recommending more comprehensive schemes, citing cost and the erosion of Chinese familial traditions as concerns (Hong Kong Legislative Council, 1965). Two reports released in 1967 proposed a contributory scheme covering old age and other needs, but the recommendations were not accepted by the government on financial grounds (Chow, 1978). While these studies drew attention to poverty among some segments of the population and placed social security issues on the policy agenda, the overall trend at the end of the 1960s was one of non-policy.

Several public riots in the late 1960s had already alerted the colonial government to the population's social needs (Chow, 1978, 1985a). But it continued to avoid implementing a comprehensive social security system, opting instead to act incrementally. In 1971 public assistance was formalised into a scheme that provided cash assistance to individuals and households whose income fell below minimum subsistence levels as measured by a standard basket of goods. Able-bodied persons aged between 15 and 55 were ineligible. Although this scheme was not primarily concerned with old-age income security, older persons quickly became the largest group of recipients. From 1971 to 1976 persons aged 55 and above consistently made up above half of all beneficiaries, followed by persons with ill health, workers with low earnings, and single parents. Then in 1973 the Disability and Infirmity Allowance Scheme was introduced to provide flat-rate cash assistance to persons with disabilities and all elderly persons aged 75 and above with no means tests. Although this was in effect a universal scheme for old age, the age requirement limited coverage to a very small proportion of the population considering life expectancies at the time. These two schemes, precursors to the current Comprehensive Social Security Assistance (CSSA) scheme and Social Security Assistance Scheme (SSAS), became the main pillars of

social security for the elderly population and were gradually expanded over the following three decades.

Rejection of central provident fund and a waning bureaucracy: While there were no further developments to pension policy until the 1990s, the possibility of a central provident fund for Hong Kong was vigorously debated in the Legislative Council in 1986-87 (*Hong Kong Legislative Council*, 13 May 1987). The debates exposed a sharp division among legislators over the ideal pension model and strongly-held beliefs among politicians and the government about the importance of free market principles to Hong Kong's economic prospects. While some council members supported the scheme because of inadequacies in the existing social security system and the strain of demographic ageing on family support, there was strong opposition on the grounds that mandating employer contributions to a central provident fund would discourage business investment, hurt small businesses, reduce voluntary savings and investment, and contradict Hong Kong's respect for individual choice, self-reliance, and the free market. Many members preferred that enterprises set up private provident funds and urged the government to study the issue in greater depth. A minority of council members argued that old-age income security was not a pressing need as family support was still strong. A 1986 government review of the implications of setting up a central provident fund in Hong Kong summed up why they were opposed to this approach (*Hong Kong Legislative Council*, 13 May 1987):

- The CPF would not significantly benefit persons most in need such as those with low earnings or irregular employment and would therefore not lower the demands on existing non-contributory social security schemes
- It would be detrimental to economic activity and business confidence because of higher labour costs and lower take-home pay
- It would have a major impact on financial markets and create resources for public borrowing which the government did not need

Instead the government identified an alternative approach: it would gradually expand existing social security schemes and employee protection measures, and promote private provident funds and other forms of individual saving and investment. Just as a social insurance system became a non-option in Singapore by the 1960s, the

idea of a central provident fund never found wide support from policymakers and politicians again after the 1980s, even though it was occasionally raised in the legislative council.<sup>22</sup>

It is revealing that one of the reasons the Hong Kong government rejected the central provident fund model—that it would amass excessive financial resources for the public sector—was in fact a motivation behind Singapore’s adoption of the CPF. The nation-building project in Singapore at the time is an important but incomplete explanation. Asher (1985, 1995) has argued that from the late 1960s, Singapore no longer needed to raise resources for public infrastructural projects as it was running annual surpluses. Neither is a massive public housing programme funded from the CPF the only option for promoting social stability, which might equally have been achieved by introducing universal or defined benefit old-age pensions that are arguably more compatible with ideals of social solidarity than enforced individual savings. A critical factor is the differences in governance models. The civil service in Hong Kong and Singapore in the 1980s shared a number of similarities. They were both generally regarded as efficient, professional, and relatively insulated from popular demands (Wilding, 1997; Scott, 1984; Lui, 1989). Organisationally the two had comparable features like the Administrative Service as a result of the colonial legacy. But there were important differences.

First, in the 1980s, the senior levels of Hong Kong’s bureaucracy was dominated by a small expatriate elite while local personnel filled the lower ranks despite concerted efforts to “localise” the public sector workforce (Burns & Scott, 1984; Scott, 1988). This imbalance, as well as ethnic and linguistic differences, accentuated a sense of inaccessibility and mistrust between the administration and the Chinese population (Scott, 1984). Second, while the interventionist bureaucracy in Singapore could tap on a “reservoir of legitimacy” from its track record of economic performance and selective social programmes by the 1980s, the free market model in Hong Kong meant that the administration could not claim responsibility for economic progress in the same way. Third, the integration of the executive and the bureaucracy in Singapore was thought to lend political authority to policy implementation. But in Hong Kong the civil service lacked basic institutional accountability through elected

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<sup>22</sup> Motions to debate the CPF were raised in the Legislative Council in 1991 and 1993 (Hong Kong Legislative Council, 2005).

politicians (Terry, 1988). The relationship between civil servants and the executive had also been marred by public sector wage disputes and work stoppages in the late 1970s which were met with heavy-handed responses by the colonial administration (Arn, 1984). Fourth, bureaucratic priorities in Hong Kong were closely allied with business interests, which had been hostile towards proposals for contributory social insurance and increases in welfare spending generally (Wilding, 1997). Fifth, as the reversion to Chinese rule drew closer, Hong Kong's bureaucracy became increasingly beleaguered and disjointed as it faced a loss of expertise due to the departure of the expatriate leadership, greater public demands set off by democratisation, and the growing political sensitivities of a Chinese government-in-waiting (Terry, 1988). One critic described Hong Kong as "facing a near paralysis of the policy-making machinery in the face of environmental turbulence" (Mushkat, 1984, p. 114). In contrast to Singapore's public sector, Hong Kong's administration just before the 1990s was on the whole not as influential, autonomous, or self-assured. There were direct implications for pension policy development. Just as the centrally-managed CPF suited the interventionist developmental state in Singapore, the administrative demands of the CPF model were incompatible with Hong Kong's free market developmental state with a less cohesive bureaucracy.

### *Summary*

The 1950s were a period of flux as Singapore vacillated between the CPF and social insurance pension models and Hong Kong tried to meet the social needs of a large inflow of political refugees through public relief. Both governments were motivated by developmental paradigms that prioritised the competitiveness of their labour force and rapid economic growth, and were wary of the fiscal burden of a generous welfare state. Singapore's interventionist developmental state favoured the CPF because of the resources it raised for the public sector, and had an administrative capacity and orientation which matched the operational demands of a large state-managed provident fund scheme and the public housing programme it supported. The CPF scheme became a tool of economic policy when recessions hit in the 1980s, as the highly autonomous and centralised government swiftly pushed through a series of contribution rate cuts that would ensure wage competitiveness at the expense of retirement saving. The free-market developmental state in Hong Kong, however, stuck to a strategy of incrementalism. It gradually extended existing allowance schemes despite several

commissioned reports urging a more comprehensive social security system. When the central provident fund model was brought up by legislators in the late 1980s, the bureaucracy was not geared to manage a scheme of that scale, having traditionally been led by an elite expatriate core who were shortly due to leave. It had also been affected by the political uncertainty related to the handover to China. At the end of this period, while both Hong Kong and Singapore were pursuing the growth model of the developmental state, their old-age pension systems reflected important variations in policy paradigm and governance structures.

#### **8.4 Democratisation and pension adaptation, 1990s-2000s**

##### *Hong Kong*

Democratisation and introduction of the Mandatory Provident Fund: The 1990s were dominated by debates over three public pension models in Hong Kong: (i) a mandatory private saving scheme called the Retirement Protection scheme; (ii) a social insurance scheme called the Old-age Pension Scheme; and (iii) the Mandatory Provident Fund, a privately run individual accounts system that was eventually adopted. These began when the Working Group on Retirement Protection led by the Education and Manpower Branch, comprising civil servants and actuarial professionals, released a consultation paper in 1992 that ruled out three options: (i) the central provident fund model because of its possible adverse economic impact; (ii) universal pensions as “it suffers from the disadvantage of paying out to those who do not need the money, or may not have contributed to the system”; and (iii) sole reliance on voluntary private retirement schemes that would not cover the majority of the population (Education and Manpower Branch, 1992, p. 6). Instead the group argued for the separation of “social security or social services” provided by the government to tackle old-age poverty, from “financial provision for old age” which should be the primary responsibility of individuals and their employers. For the latter they proposed that the government establish a decentralised Retirement Protection Scheme (RPS) with mandatory contributions from employees and possibly employers towards private retirement schemes, with basic regulation and no public funding. This proposal was not adopted due to a lack of public support and concerns about the exposure of retirement savings to market risks (Hong Kong Legislative Council, 2005).

A year later the government proposed an alternative PAYG Old-age Pension Scheme (OPS) and commenced public consultation in 1994 (Education and Manpower

Branch, 1994). The scheme would provide a basic level of income security that would be appropriate to an affluent society like Hong Kong. The government argued that the OPS, unlike the central provident fund and RPS models, would also serve workers nearing retirement, persons outside the workforce, and current retirees, and would be less vulnerable to inflation and market risks. The OPS was to be funded by equal contributions by employers and employee totalling 3% of monthly income. It would pay a flat-rate inflation-linked benefit to all persons aged 65 years old and above that was about 30% of the median wage in 1994. The existing SSAS was to be replaced and its budget used to help finance the new scheme. The proposal sparked intense public debate, with the public consultation drawing almost 7000 returns (Hong Kong Legislative Council, 2005). The OPS was eagerly promoted by the government and supported by social workers, but economists and the Chinese authorities were worried about the potential fiscal burden. Public opinion was generally favourable although many preferred a multi-pillar system that combined universal pensions with private retirement schemes. The turning point in the debate was when 78 academics, mostly economists, published an open letter in the newspapers criticising the OPS proposal (F. T. Lui, 1998). They argued that social assistance to poor elderly persons should be enhanced and continue to be funded from general taxation. But the government should also establish a central provident fund parallel to existing private enterprise-level retirement schemes and make it compulsory for workers to participate in either system. This was an unusually direct and coordinated attempt to influence public policy by the academic community. Their proposal received extensive media coverage and triggered a shift in public opinion. Shortly after, in November 1994, legislators moved a motion to criticise the OPS and the government soon announced that the scheme would be abandoned due to a lack of consensus (Hong Kong Legislative Council, 2005).

In an unexpected turn of events the government swiftly released plans for yet another alternative in 1995, this time a mandatory private savings scheme called the Mandatory Provident Fund (MPF) similar to the RPS proposed several years before (Hong Kong Legislative Council, 2005). After strong lobbying by the government among legislators and academics, the MPF proposal was passed by the Legislative Council and the legislative framework was drawn up not long before Hong Kong's handover to China in 1997, concluding a contentious and protracted policy process.

This meandering course of pension policymaking throughout the 1990s, characterised by unpredictable policy proposals and counter-proposals, reflects how



Hong Kong's partially democratic politics accommodated contention. A string of reforms initiated by the British government in a bid to foster democratic practices before 1997 had created party competition and some popularly elected seats in the legislature, laying the foundations for the current political system (W.-M. Lam, 2012a). The territory is led by a Chief Executive with wide-ranging legislative and administrative powers, who is selected by a 1200-strong Election Committee and appointed by China (Table 8.2). The Chief Executive in turn appoints an Executive Council that assists in policymaking. Laws are enacted by the Legislative Council which consists of members elected by designated social and economic sectors (i.e. the Functional Constituencies) or through popular vote (i.e. the Geographical Constituencies). From the 1990s, the main political cleavage within Hong Kong politics has been defined by democratisation and electoral reform, with social rights and welfare policy development traditionally aligned with pro-democracy parties, and business interests supporting the pro-establishment parties. While institutionally, the configuration of seats and other rules in the legislature may appear to favour the pro-establishment faction<sup>23</sup>, this system of partial electoral democracy ironically ensures a level of formal political representation by groups that advocate improvements to social policy, particularly among the Functional Constituencies. The presence of a relatively free media has also created opportunities for legislators and other interest groups to influence public opinion, as seen in the scuppering of the OPS proposal.<sup>24</sup> Pension policy debates both within the legislature and in the public domain have therefore often been vigorous and competitive.

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<sup>23</sup> For example, under Article 74 of the Basic Law that is equivalent to a constitution for Hong Kong, private members' bills must not pertain to public expenditure and the structure or operation of the government. Bills relating to government policies require the consent of the Chief Executive. Additionally, private members' bills may only be passed when a majority vote is achieved both among the seats representing the Functional Constituencies and the Geographical Constituencies, compared to government bills which only require a simple majority in the Council as a whole. It has also been argued that pro-establishment parties, being guided from the top by Chinese representatives, are better able to avoid the coordination problems faced by fragmented pro-democracy parties during elections (Cheng, 2005).

<sup>24</sup> Like most institutions in Hong Kong, the mainstream media is traditionally divided between those that advocate further democratisation and others that are pro-China (Keller, 1992). The labour movement, which has traditionally not played a significant role in social policy debates, is also split between a leftist pro-China union that ironically allies with the corporate lobby and a more centrist union that supports democracy and promotes workers' interests (M. K. Chan, 1992; Levin & Chiu, 1994).

**Table 8.2** Political system in Hong Kong, 2012

<i>Institution</i>	<i>Mandate</i>	<i>Constitution</i>
Chief Executive	Wide-ranging legislative, budgetary, veto, and administrative powers, including appointment of officials and dissolution of Legislative Council, some requiring Council approval	Nominated and elected by Election Committee made up of 1200 members nominated or elected by designated social, corporate, and government sectors Formally appointed by Central People's Government, China
Executive Council (28 members)	To assist the Chief Executive in policy-making by recommending decisions on policy initiatives from the bureaux	Appointed by the Chief Executive, comprising 15 official members (Principal Officials) and 13 non-official members who may be Legislative Council members or public figures
Legislative Council (70 members)	To enact laws (but limited powers to introduce legislation), approve the government's budget, and to debate government policies	35 members elected by Functional Constituencies representing social and economic sectors (29) and the District Councils (6) 35 members elected by Geographical Constituencies through popular vote
District Councils (507 members)	To manage local community amenities	Popularly elected (412), appointed by the Chief Executive (68), and the Chairpersons of Rural Committees (27)
Principal Officials (15 persons)	To head the 15 government departments and bureaux	Nominated by Chief Executive and appointed by the Central People's Government

Source: Li (2012), Lui (2012), Lam (2012)

Policy discourse and pension reform pressures: Pressure from legislators on public pension provision, particularly for universal pensions, did not cease with the introduction of the MPF. Concerns about the MPF were raised in the Legislative Council in 2005, including the exclusion of persons outside the workforce; the failure to protect current retirees; potentially low benefits for older workers; and risks to investment returns (Hong Kong Legislative Council, 2005). Legislators also urged the government to study alternative policy models. In response, the government's Central

Policy Unit embarked on a series of studies between 2007 and 2010 on financial planning among retirees, private saving, the fiscal sustainability of existing pension provisions, transfers between elderly parents and adult children, and the norms and practices of intergenerational family support (Legislative Council, 2011a, 2011b).<sup>25</sup> In 2011 a Subcommittee on Retirement Protection was set up by the Legislative Council's Panel on Welfare Services, which had been an advocate of a universal pension system and was headed by a legislator elected from the social welfare Functional Constituency (Legislative Council, 2012). The subcommittee was asked to look into retirement income security with an explicit focus on the suitability and implementation of an alternative pension scheme that would cover all elderly persons in Hong Kong. In their report, they delivered a grim assessment of the existing public pension system, which is worth quoting at length (Legislative Council, 2012):

Members note with concern that many needy elders rely on the monthly OAA of \$1,090 for a living, and they choose not to apply for CSSA because of its labelling effect.... Members remain of the view that OAA and CSSA are not retirement protection schemes. The former is designed on the assumption that older people will be looked after by the families and is a supplementary source of income, whereas the CSSA Scheme is a safety net for the needy. (pp. 4-5)

Members take a strong view that the MPF system cannot benefit the current cohort of older persons, and does not cover people not participating in the workforce, such as housewives. Further, casual workers who do not meet the continuous employment criteria are not required to make MPF contributions [sic]. For low income earners, the benefits of MPF are limited even in the longer term having regard to the fluctuation of the financial market and the high MPF management fees. (p. 5)

Having regard to the decreasing family size of the baby boomers, who were born in 1950s and 1960s with no, one or two children, and the declining willingness of the younger generation to support elderly parents, members share the view of some academics on the unreliability of family as a major source of financial support for their elderly parents. (p. 7)

The key recommendation of the subcommittee was for the government to immediately establish a task force to study the policy options and implementation

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<sup>25</sup> At the time of writing, findings from these studies have not been published in full.

details, and to draw up a timetable for public consultation. In the course of their deliberations the subcommittee canvassed widely for policy proposals and heard around 60 deputations from political parties, trade unions, think tanks, and other civil society organisations, as well as individual academics. Five of these presented detailed proposals for a new retirement protection scheme:

- The Professional Commons proposed a universal old age pension scheme that would pay HK\$3000 a month to every elderly person 65 years old and above with no means test. The scheme would be funded by a contribution of 2.5% of monthly salary each by employers and employees (additional to MPF contributions) and periodic capital injections by the government. Public funding can be reclaimed from the budget for the existing social assistance schemes.
- The Alliance for Universal Pensions proposed a universal old age pension scheme similar to the Professional Commons' except that half of current employer and employee contributions to the MPF would be diverted to the pension scheme and that company profit tax should be increased to raise revenue for the scheme.
- The Civic Party (a political party) proposed a universal old age pension similar to that of the Alliance for Universal Pensions with a slightly different distribution of contributions between the MPF and the universal pension scheme, and with periodic injections of public funding without increasing taxes.
- The Democratic Alliance for the Betterment and Progress of Hong Kong (DAB, a pro-China political party) proposed a three-tier non-contributory pension scheme consisting of a universal first tier (the current SSAS) and two additional means-tested flat-rate tiers, with the third tier offering a higher benefit based on a stricter asset limit. The scheme would require an increase in public funding compared to the current social assistance setup.

- The Hong Kong Social Security Society proposed a universal old age pension that would pay a flat-rate benefit pegged at 20% of average monthly wage without means tests. The scheme would be funded by contributions from employees (2% of salary), employers (6%) and the government (4%), and would replace existing social assistance schemes. In addition they proposed that the MPF should guarantee a minimum level of return and become a voluntary scheme.

By the end of the 2000s, the Hong Kong government had however largely resisted calls for change and the three-pillar system based on the CSSA, SSAS, and MPF remained intact. A significant achievement from those years was the advancement of public debate on the range of available policy options and the trade-offs implied by different pension models, which also kept old-age income security prominently on the government's agenda. Such debate was possible because a fragmented polity and the assurance of basic freedoms meant that the government's policy paradigm was more vulnerable to challenge, there was greater room for policy discourse, and sources of policy ideas were more distributed. Compared to Singapore, the relationship between Hong Kong's political leadership and bureaucracy was more fractious or, in Scott's (2000) words, highly disarticulated. The introduction of political appointees who were directly answerable to the Chief Executive into senior departmental positions in 2002 and 2008 were seen to be attempts at increasing control and eroding the neutrality of the civil service (Li, 2012). In recent years the Health and Welfare Bureau has openly criticised the current pension system and the MPF (Hong Kong Legislative Council, 2005; Legislative Council Secretariat, 2012). The lack of cohesiveness is partly related to the structure of government. Unlike Singapore, where continuous rule by a single party has given it the opportunity to deepen ties with the bureaucracy and assert a coherent policy paradigm across successive generations of leaders, Hong Kong's system of government concentrates power in Chief Executives who have limited tenure, do not represent distinctive party platforms, suffer from low political legitimacy and accountability, and have increasingly become the target of public censure (Ho & Lee, 2013; Kwong & Yew, 2012; Li, 2012). Moreover, the continued protection of basic freedoms in Hong Kong in the first decade of Chinese rule allowed the media, civil society, and academia to participate in policy debates, promoting a diverse and sophisticated policy discourse in the public domain that

further increases the pressure on policymakers.<sup>26</sup> So while the threat of electoral punishment, a key factor in European pension politics, did not apply in Hong Kong, “consensus” in the sense of broad public endorsement was frequently cited throughout the period as a justification for policy positions on both sides.<sup>27</sup>

### *Singapore*

#### Rising concerns about ageing but parametric reforms to the Central Provident Fund:

From the 1990s, concerns about the adequacy of CPF savings in old age began to emerge in Singapore, following decades of liberalisation that had opened up retirement savings to a range of other purposes. Criticisms about coverage of nonworking persons, income replacement levels, and the dilution of the CPF’s retirement objectives appeared in local press commentaries and studies by international bodies such as the World Bank and the International Monetary Fund (Asher, 1999; Cardarelli, Gobat, et al., 2000; Henson & Chung, 1994; Long, 1999; E. Yap, 1996). Additional pressure came from wage stagnation among older and low-skilled workers in the 2000s which prevented the raising of contribution rates for persons nearing retirement. The government’s own interest in the issue was signalled by a succession of national committees appointed to look into CPF and ageing issues from the late 1990s.<sup>28</sup> An international advisory panel of pension and actuarial consultants was convened in 2006 to develop proposals for improving the returns to CPF savings (S. Chia, 2006). Several of these committees concluded that CPF savings would not be sufficient for retirement for the majority of the elderly population and recommended changes such as higher interest rates, a larger proportion of monthly contributions for the Special Account

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<sup>26</sup> In 2006, more than three quarters of journalists in Hong Kong regarded the role of mass media as “monitoring the government” and to “reflect public opinion” (J. M. Chan & Lee, 2012). See Sing & Tang (2012) and Lam (2012b) on political activism; and Chan (2012) on civil society. However the political climate in Hong Kong is rapidly changing and has appeared more ambivalent in recent years. See discussion in next chapter.

<sup>27</sup> The Subcommittee on Retirement Protection (2012) argued for reforms on the grounds of “general consensus of the community for the introduction of a universal retirement protection scheme in the light of the inefficacy of the existing three-pillar retirement model” (pp. 17-18). The government’s response has been that achieving consensus on a new universal pension scheme would be difficult (D. Tsang, 2011, October).

<sup>28</sup> 1996: Cost Review Committee. 1999: Inter-Ministerial Committee on Health Care for the Elderly; Inter-Ministerial Committee on the Ageing Population. 2002: Economic Review Committee, Subcommittee on Policies Related to Taxation, the CPF System, Wages and Land. 2006: Committee on Ageing Issues. 2007: Tripartite Committee on Employability of Older Workers. 2008: National Longevity Insurance Committee.

reserved for retirement, higher Minimum Sums to be set aside for retirement at 55 years old, and a later age to start payouts.

Relative to the challenges, actual reforms were very limited. There was a gradual shift in policy thinking to place greater weight on preserving retirement income. For instance, in the wake of the 2008 global financial crisis, the government rejected the option of cutting contribution rates and chose instead to provide direct cash grants to employers to subsidise wage bills (*Hansard*, 22 January 2009). The strategy of using CPF contribution rate cuts to suppress wage costs during economic recessions, favoured throughout the 1980s and 1990s, had been criticised by a government-appointed committee several years before (Economic Review Committee, 2003). But for the most part, the CPF changes in the 2000s were minor parametric adjustments rather than systemic changes: a higher Minimum Sum and later payout were announced in 2003; interest rates were raised and the mode of payout was switched from phased payments over 20 years to compulsory life annuity in 2007; and public housing policy was gradually relaxed to facilitate the liquidation of housing assets among retirees (see discussion on housing in Chapter 3). Some of these reforms do not make clear functional sense, often suggestive of ideational “locks” or fixed modes of thinking (Blyth, 2001). Raising the Minimum Sum, for example, prevents excessive withdrawal of savings at 55 years old. But this only applies to accounts that exceed the Minimum Sum, not the majority of persons whose savings fall below this level and are more at risk of old-age poverty. It also does not address withdrawal for housing that accounts for more than half of all pre-retirement withdrawals and occurs at much younger ages. Annuitisation of CPF savings prolongs the income stream but does not boost the overall value of retirement savings. Recent estimates suggest that an annuity based on the Minimum Sum would translate into very low monthly benefits (see Chapter 3). Policymakers in the 2000s showed growing concern about the CPF but also a lack of ideas about what could be done.

Restriction of policy discourse and the lack of ideas: Compared to Hong Kong, one of the most striking aspects of recent pension policy activity in Singapore is that apart from a brief mention of voluntary pension plans in 2003 (Tay, 2004), none of the committee reports touched on alternative pension models such as universal pensions or contributory social insurance, nor did they assess the implications of major structural reform of the pension system. This points to more fundamental issues with the range and quality of policy discourse, which can be an important source of policy change.

For decades, parliamentary debates about old-age income security have revolved around the same repertoire of adjustments to CPF features with no reference to pension systems that operate in other economically advanced countries regionally and internationally. The scope of policy commentaries in the press is equally narrow.<sup>29</sup> The underdevelopment of ideas for pension reform reveals the impact of Singapore's model of illiberal democracy<sup>30</sup>, particularly the constraints on those institutions that in Hong Kong's case were a rich source of policy proposals in recent years—opposition parties, civil society, and academia.

As described earlier, historical tussles between the PAP and the communists had already resulted in the defeat of leftwing politics and heightened vigilance within the government towards all forms of political opposition. Opposition parties continued to face a number of hurdles in Singapore's political system even in the 2000s. Historically the application of defamation laws and restrictions on public speaking resulting in bankruptcy, imprisonment, and disqualification from standing for elections among opposition politicians is well-documented in the literature (H. C. Chan, 1989; Gomez, 2006). Rodan (1997b) has argued that the Group Representative Constituency (GRC) system, which requires voters to choose slates of candidates for clusters of constituencies instead of voting within individual electoral wards, has been used to absorb constituencies where PAP support was weaker and to raise the bar of entry for opposition parties. Many opposition parties lacked the resources and candidates to contest these multi-seat constituencies. When they did enter parliament, Rodan observed that opposition politicians found themselves “subjected to a level of scrutiny never applied to those actually wielding power in Singapore” (p. 177), referring to a case where an MP was found in contempt of parliament and heavily fined for an error in a document criticising high health care costs. The cost of political participation meant that opposition representation in parliament has been very low. The PAP has won every election since 1965 and had not lost more than four seats in a parliament of about 80 members up to the end of the 2000s (Singapore Elections Department, 2013), an extremely low proportion even by comparison to the presence of pro-democracy

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<sup>29</sup> An interesting indication of the disengagement with international policy debate about old-age pensions is that the term “pensions” has all but fallen out of use in Singapore's public and policy discourse, and is used nowadays almost exclusively to refer to private and former civil service retirement schemes. Instead locals simply refer to retirement income policy as “CPF”.

<sup>30</sup> The political system in Singapore has been variously described as illiberal, authoritarian, undemocratic, and hybrid (Diamond, 2002; Mutalib, 2000; Rodan, 2009a).



parties in Hong Kong's partially elected legislature. This had several consequences for social policy discourse. Parliamentary debates were often dominated by ruling party members. But more than just numerical balance, the state of politics meant that the opposition had been preoccupied with fundamental issues such as civil liberties and political freedoms, and their electoral platforms lacked a strong policy orientation (Rodan, 1997b).

Civil society including interest groups, professional associations, and religious organisations, faced overt restrictions on political engagement and freedom of expression (J. S. T. Quah & Quah, 1989; Rodan, 1997b). The Societies Act prohibits non-governmental organisations' involvement in politics unless they are registered as political organisations, while the Maintenance of Religious Harmony Act of 1990 dictates a separation between religion and politics that prevents religious bodies from participating in policy discourse. The extent to which the government was prepared to enforce restrictive laws was seen in 1987, when a group of Catholic social activists were arrested and several detained without trial for years under the Internal Security Act, based on allegations that they were part of a Marxist conspiracy to overthrow the government (M. D. Barr, 2010). Barr argues that it was the ability of these activists to mobilise public support through quasi-religious networks and their adversarial stance on social justice issues that attracted what amounted to political persecution.<sup>31</sup> As the activists were championing social causes such as the rights of foreign workers and were directly involved in operating social services, the episode had a strong deterrent effect on other socially-concerned civil society groups. The arrests also marked the beginning of a separation between politics and religion in Singapore, which can be seen in the political abstinence of the Catholic church and other religious groups in later years. In their place, a range of official channels for managed political participation were introduced, such as grassroots organisations that allow citizens to

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<sup>31</sup> Several of the detainees later alleged that they had given confessions under coercion. A few senior Cabinet members also revealed that they had not been fully satisfied of the veracity of the allegations (M. D. Barr, 2010).

participate in social activities and solve municipal problems<sup>32</sup> and a Feedback Unit which collects public suggestions and responses to policy developments.<sup>33</sup>

Two other factors helped to push pension policy discourse in Hong Kong in the 2000s—participation from academics with policy expertise and a relatively free media. Both of these were limited in Singapore. Although there was some critical academic research on the CPF and other social policies<sup>34</sup>, the growth of social science research in the policy fields was hampered by limited disclosure of official data, while some local academics have been criticised for failing to interrogate official rhetoric with greater objectivity and rigour (Asher, 1991, 2002b; H. C. Chan, 1976; Christie, 1998; J. S. T. Quah & Quah, 1989; Williams, 1996). In an extreme case, a visiting researcher at the National University of Singapore became the subject of police investigation in 1994 after he published an article in the foreign press questioning the independence of Asian judiciaries and was subsequently found guilty of contempt of court (Lingle, 1996). In place of independent think tanks, the government established an Institute of Policy Studies in 1988 to undertake research on local policy issues (Rodan, 1992). Press and media freedom were also strictly controlled, on the grounds that the sensationalisation of issues such as ethnicity might lead to social unrest (J. S. T. Quah, 1987). Strict licensing rules place the national press under government control<sup>35</sup>, limiting independent coverage of critical policy dialogue that might in turn have focused public opinion and interest (T. L. Tan, 1990). Whereas interest groups and academics were sources of policy innovation in Hong Kong's pension debates, in

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<sup>32</sup> Initially set up to mobilise the rural population to fight communism, these grassroots organisations were retained and substantially expanded by the PAP government to promote policy initiatives and assess ground sentiment (H. C. Chan, 1989). Each grassroots organisation represents a small geographical unit and is supervised by the local MP. The system as a whole is managed by a statutory board, the People's Association, which is chaired by the Prime Minister.

<sup>33</sup> Rodan (1997a) argues that in the late 1990s, Hong Kong and Singapore represented two models of civil society development in the region: growing space for independent political activity associated with democratisation in Hong Kong, and increasing use of co-option tactics in Singapore to manage diverse social forces.

<sup>34</sup> Mukul Asher has been a particularly outspoken advocate of CPF reforms (see Chapter 3). His proposals include improving the transparency of the government's investment of CPF savings in line with international best practices; improving the rate of return to members; allocating a higher proportion of contributions to retirement; establishing an independent regulatory authority and separate asset management company; considering the introduction of social insurance; and raising the benefit level of public assistance (Asher, 1991, 1995, 2000, 2002a, 2002b, 2004; Asher & Nandy, 2011; Asher & Rajan, 2002). Others have also written critiques of public housing and social security policies (Chua, 1997; Ramesh, 2000).

<sup>35</sup> The Newspaper and Printing Presses Act stipulates that printing presses can only be operated under license by the government. The only press corporation in Singapore is also usually chaired by a senior party figure.

Singapore legal constraints prevented the emergence of a civil society fertile to diverse social policy ideas while the diversion of discourse through state-managed political arenas curbed policy debates that could have contributed to policy change.<sup>36</sup> Unlike in open, plural democracies, political groups in Singapore could not mobilise to promote policy reform or provide focal points for popular concerns, such as on behalf of socially disadvantaged groups (Rodan, 1997a).

### *Summary*

Between the 1990s and 2000s, pension policy developments in Hong Kong and Singapore were almost a reverse image of what happened in previous decades. Hong Kong experienced a period of almost frenzied policy debate as various pension models were proposed and dropped, before the MPF was eventually adopted. This took place against a backdrop of democratisation introduced by the colonial administration in the run-up to 1997. A more permeable government, party competition, and the rise of interest groups within a legal environment that allowed relatively free media spurred intense policy discourse that continued even after the MPF was introduced. While policy outcomes often seemed indeterminate, these conditions held out a possibility of change. On the other hand, in Singapore, most of these prerequisites for discourse and policy innovation were absent due to political developments in earlier times. Notably, opposition parties, interest groups, and academics all faced various legal constraints from engagement in policy discourse and advocacy, or competition from equivalent entities set up by the government. In a country with formal electoral competition, there was a surprising lack of policy competition. Despite concerns within the government about old-age income security, the only reforms to the CPF were minor parametric adjustments.

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<sup>36</sup> This counter-factual argument finds support in glimpses of social policy change when there had been small political openings. A scheme started in 1990 provides for up to nine Nominated Members of Parliament (NMPs) within each term of parliament who are selected from major sectors such as business, labour, professions, academia, and social and community services (Rodan, 2009b). Even though NMPs are selected by a committee appointed by the rest of parliament, they have raised a wide range of social issues over the years and the only law they have proposed to have been passed in parliament is the Maintenance of Parents Act which gives elderly persons the legal right to seek financial support from their children. In the 1990s a particularly policy-oriented opposition party, the Singapore Democratic Party, published a paper criticising the rising costs of housing, education, and public transport. As the report resonated with public concerns about the costs of living and income inequalities, the government convened a Cost Review Committee to study the matter and later issued a report to dispute the claims (Rodan, 1997b).

## 8.5 Summary

This chapter began with a review of the major theoretical explanations for social policy change in the advanced democracies and in East Asia. The discussion showed how different factors matter for different regions. For the mature welfare states, functional and political factors such as globalisation, post-industrialism, left power resources, and path dependency have been used to explain social policy development and subsequent reform and retrenchment. But for East Asian societies, political factors such as state autonomy and ideational factors like governing philosophy have emerged as explanations for the adoption of modest pension policy schemes initially, while democratisation is a key factor for the rapid expansion of pension systems in the adjustment phase. Three theoretical strands stand out in the literature and are particularly helpful for understanding pension policy development in Hong Kong and Singapore: ideas as policy paradigm and discourse; developmentalism in its interventionist and free-market variations; and democratisation and its effects on policy discourse.

The historical analysis divided policy developments into two periods, 1950s-1980s and 1990s-2000s. The main arguments are summarised in Table 8.3. Following a period of flux in the 1950s, the policy orthodoxy in both places during the first phase was to avoid social spending and extensive social security systems. After ousting the political left and rejecting social insurance, the Singapore government built up a pension system based on the CPF that was suited to its interventionist style of developmentalism and a cohesive and autonomous bureaucracy. The developmental motivation became even clearer during economic recessions in the 1980s as the government pushed through a series of employer contribution rate cuts to suppress labour costs. Meanwhile in Hong Kong, the government tried to meet social needs through a system of public relief instead of developing a formal social security system. Later years saw incremental expansion of these policies as the government kept to its paradigm of free-market developmentalism, and the rejection of the central provident fund model which was incompatible with its smaller and more permeable bureaucracy. At the end of this period, while both Hong Kong and Singapore were pursuing the growth model of the developmental state, their old-age pension systems reflected important variations in policy paradigm and governance structures.

**Table 8.3** The context of public pension policies in Singapore and Hong Kong, 1950s-2000s

	Singapore	Hong Kong
<i>1950s-1980s: Developmentalism</i>		
Policy context	Interventionist developmental state: centralised cohesive government, autonomous bureaucracy  Policy paradigm: national survival through economic growth	Free-market developmental state: small permeable government, beleaguered bureaucracy  Policy paradigm: self-reliance and “positive non-interventionism”
Policy developments	Rejection of social insurance, introduction of CPF, liberalisation of pre-retirement withdrawals, contribution rate cuts to suppress wage costs	Post-war public relief and voluntary welfare, expansion of public assistance, introduction of CSSA and SSAS, rejection of central provident fund
<i>1990s-2000s: Democratisation</i>		
Policy context	Illiberal electoral democracy: one-party rule, absence of political left  Policy discourse: cognitive locks on policy thinking, restrictions on civil society	Partial democratisation with civil liberties: fragmented system of government, contentious politics  Policy discourse: diverse policy ideas, active civil society
Policy developments	Growing concerns with ageing and retirement income, limited parametric adjustments to the CPF	Debates on different pension models, adoption of MPF, sustained pressure for pension reforms

CPF: Central Provident Fund. CSSA: Comprehensive Social Security Assistance Scheme. SSAS: Social Security Allowance Scheme. MPF: Mandatory Provident Fund.  
Source: Own analysis

In the second period, concerns about ageing and income security arose in both places. Democratisation in Hong Kong enabled interest groups to press for change and there was an emergence of competitive policy discourse over pension models. This resulted in several policy u-turns before the Mandatory Provident Fund (MPF) was finally introduced. But in Singapore, strict political controls were not conducive for policy discourse. Despite concerns about the CPF, the 1990s-2000s was notable for a lack of ideas, with the government applying a narrow range of minor policy adjustments without tackling fundamental challenges brought on by demographic pressures. Hong Kong’s model of partial democracy with civil liberties turned out to be more facilitative of policy discourse than Singapore’s model of illiberal electoral democracy. Such policy discourse was often indeterminate of policy outcomes, but

implied the availability of policy alternatives that could challenge the status quo and therefore a potential for change.

The premise of this chapter is that there are two dimensions to the prospects for old-age income security: the functional—whether policy and informal arrangements can meet the needs of the elderly populations; and the political—whether policies can evolve in areas where they fall short. Part 2 of the study has shown that there is a likely and considerable risk of financial hardship among future elderly populations in both places, largely due to the inadequacy of the public pension systems. The analysis in this chapter helps to explain the foundations and development of these pension systems, and how they have accommodated or resisted change in the face of functional policy challenges. The main theoretical levers in the discussion—developmental policy principles and democratic pressures for policy change—provide a systematic way for thinking about whether public pensions can grow further to make up for declining family support, which is discussed in Chapter 9.

## Appendix 8.1 History of public pensions in Hong Kong and Singapore

**Table 8A.1** Public pension development in Hong Kong

Year	Major policy developments
1965	White Paper on Aims and Policy for Social Welfare in Hong Kong Report on the Feasibility of a Survey into Social Welfare Provision and Allied Topics in Hong Kong
1967	Inter-departmental Working Party Report on Social Security
1970	Report on the Administration of the Extended Public Assistance Scheme in Hong Kong
1971	<b>Public Assistance Scheme</b> expanded to guarantee a minimum subsistence level for persons who are not able-bodied (later the Comprehensive Social Security Assistance Scheme, CSSA)
1973	<b>Disability and Infirmity Allowance Scheme</b> for the elderly infirm and disabled (later the Old-Age Allowance and Social Security Allowance Scheme, OAA and SSAS) White Paper on Social Welfare Development in Hong Kong
1977	Able-bodied persons allowed on the Public Assistance Scheme if unemployed for more than a month Green Paper: A Programme of Social Security Development
1987	Legislative Council debate on the central provident fund model
1992	Consultation exercise titled "A Community-wide Retirement Protection System", on a mandatory and privately managed scheme
1994	Consultation exercise "Taking the worry out of growing old", on a proposed Old-age Pension Scheme (OPS) that would offer universal pensions
1995	OPS dropped, decision on a new <b>Mandatory Provident Fund</b> (MPF) announced
1998	MPF legislation passed
2000	Start of the MPF scheme
2012	Report from the Panel on Welfare Services, Subcommittee on Retirement Protection
2013	New <b>Old Age Living Allowance</b> (OALA) to replace the OAA, offering higher benefits from 65 to 69, and either the existing rate of universal allowance or a higher rate of means-tested allowance from 70 onwards

Source: Chow (1978, 1985a), Hong Kong Legislative Council (2005), Legislative Council (2012), Social Welfare Department (2013)

**Table 8A.2** Public pension development in Singapore

Year	Major developments
1952	Report from the McFadzean Committee
1955	<b>Central Provident Fund</b> (CPF) established by legislation
1957	Reports from the Caine Committee and Brocklehurst Committee
1968	<b>Public Housing Scheme</b> introduced
1977	Special Account for withdrawals at 55 years old
1978	First <b>investment scheme</b> , for public transport companies
1981	Residential properties Scheme for private housing
1982	Home protection insurance to help members and their families with outstanding mortgage payments in cases of disability and death
1984	<b>Medisave</b> introduced for hospitalisation expenses and approved outpatient charges
1986	Investment rules liberalised to allow investment in non-residential properties, shares, stocks, unit trusts, and gold. First round of employer contribution rate cut, 25% to 10%
1987	<b>Minimum Sum Scheme</b> and Retirement Account introduced to reserve a portion of savings for retirement and to allow top-ups by spouses and children  Long-term contribution rate of 40% (borne equally by employer and employee) announced, and lower rates for workers 55 years old and above
1989	<b>Education Scheme</b> allowing repayable loans for children's local tertiary education  <b>Dependents' Protection Scheme</b> to cover surviving family members when breadwinner dies or is permanently disabled
1990	<b>Medishield</b> introduced, medical insurance for major illnesses
1993	Employer contribution rate cut for 55-60 age group
1994	Medishield Plus introduced
1999	Employer contribution rate cut, 20% to 10%
2001	Eldershield introduced to help with medical expenses incurred due to severe disabilities
2003	Phase-out of CPF 50% withdrawal rule announced Employer contribution rate cut, 16% to 13%
2005	Medishield made compulsory, Medishield Plus privatised Contribution rate cuts for 50-55 age group
2006	Contribution rate cuts for 50-55 age group
2007	Phased payout over 20 years to be replaced by <b>CPF Life</b> , a compulsory annuity  Minimum Sum Draw-down Age to be delayed from 2012  Nominal interest rate increased by one percentage point for first \$60,000 of savings

Source: Low & Aw (2004), CPF Board (2013a)



## 9. Reforming public pensions: Potential and constraints

The public pension systems in Hong Kong and Singapore are both in need of change. As discussed in Chapter 8, public pension policies in Hong Kong and Singapore are framed by a policy paradigm associated with the developmental states of East Asia that is geared towards achieving economic growth through low social spending and cheap wages. This paradigm sets the intellectual perimeters for the growth of public pension systems. But it is balanced, in the case of Hong Kong, by diverse and competitive policy discourse that first emerged during a period of rapid democratisation and has served as impetus for pension policy innovation. Political stability under a strict regime in Singapore has prevented such discourse, so a limitation to the expansion of public pensions has been the lack of proposed alternatives to the current system. However these conditions do not remain static. In recent years, political developments have signalled different sources of potential and constraint for the reform of public pension systems. This chapter surveys three streams of recent evidence: (i) problem, in terms of public opinion and demand for change; (ii) policies, or the prioritisation of reforms by policymakers, and (iii) politics, focusing on social mobilisation and public participation. The analysis also makes use of the two factors flagged in the previous chapter—the developmental policy paradigm and democratic policy discourse. The discussion concludes by summarising the evidence and assessing the general policy directions.

### 9.1 The three sources of reform potential and constraints

One useful way of thinking about the potential for pension reforms is in terms of the main dimensions through which policies come to fruition. Borrowing from Kingdon's (1984) work on the setting of policy agendas, this perspective is concerned with three independent streams or processes that influence the direction of policy<sup>37</sup>:

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<sup>37</sup> Kingdon was concerned specifically with the setting of policy agendas and alternatives, not the delivery of policy change as a whole. There are other differences between his framework and the one here: Kingdon's "policies" dimension is based on the availability and transfer of ideas, while his "politics" stream takes into account broader aspects such as changes in national mood and bureaucratic personnel. The framework here is an adaptation for the task of this study. The chapter does not aim to engage with the theoretical debate on policymaking processes or "test" the framework proposed here against others in the literature.

- The “problem” stream is about the development of the policy problem. A worsening of the problem or an increase in its visibility may predict policy action. The analysis here focuses on public opinion and demand for change as an indicator of the potential for pension reform.
- The “policies” stream looks at whether policymakers respond by placing the problem on the policy agenda. Policy prioritisation may be indicated by the issue’s prominence in official communications or, even more directly, small steps towards change.
- The “politics” stream asks how much force the policy problem gathers through the mobilisation of interest groups and other forms of political participation that can exert pressure on policymakers to take action.

In contrast to linear models of the policymaking process based on a series of stages, this perspective regards the three streams as independent but interconnected. Not all visible and urgent policy problems find agency in lobby groups and the general public, while policy prioritisation may happen even in the absence of direct political pressure. But these streams can also merge—pressing policy problems that carry political weight and command policymakers’ attention have the clearest potential to translate into policy change. Approaching the question of pension reform potential through the three streams also takes account of the three main types of political participants in policy developments—the public, policymakers, and interest groups.

## **9.2 “Problem”: Public opinion and demand for pension reforms**

### *Hong Kong*

Public opinion regarding retirement and the Mandatory Provident Fund: A 2010 telephone survey of adults aged 18 and above jointly conducted by a university and a lobby group for universal pensions found that despite the introduction of the Mandatory Provident Fund (MPF) in 2000, a large segment of the population in Hong Kong still felt unsettled regarding income prospects in old age and would like to see the introduction of a more comprehensive pension scheme (Alliance for Universal

Pensions & Hong Kong Polytechnic University, 2010). There is also an income gradient in the likelihood of supporting the MPF.

- Close to half said that they were worried about retirement finances, and 85% felt that old age income security was a pressing policy issue that the government should address immediately. Older persons and those with lower incomes were more likely to be worried.
- Even among persons with MPF contributions, two thirds said that the MPF did not reduce their anxiety about retirement. As many as 40% agreed that the scheme should be abolished while 53% disagreed. Support for the MPF was weaker among persons with lower incomes.
- Almost 80% supported the introduction of a universal old-age pension scheme that would extend coverage to non-MPF members, but 14% were opposed to the idea. Of the supporters, 90% felt that the government should contribute towards scheme, while 83% felt that the government should provide a starting grant. Among persons who opposed universal pensions, 40% said they did not understand the scheme (with more among respondents who were older and had less education); a third were concerned about higher contributions or taxes (especially those with more education); and a fifth felt that individuals should be responsible for their own retirement.

Another survey series was recently commissioned by HSBC Bank and conducted by a local university to look into public perceptions of the MPF (Public Opinion Programme, 2008, 2010).<sup>38</sup> Several important findings indicate low public confidence in the adequacy of the MPF. In 2008, the respondents estimated their MPF savings to cover their basic expenses for around 8 years from the point of retirement. In 2010, the average estimate was 7 years. Compared to a period life expectancy of 20 years at age 65, these figures suggest that MPF participants do not on the whole expect their savings to be sufficient to sustain them throughout old age. Three quarters of the respondents felt that the current contribution rate of 10% was too low, preferring on

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<sup>38</sup> This survey is part of the Hong Kong Public Opinion Programme, an independent research programme based at Hong Kong University which conducts opinion polls on a wide range of political and social topics. The survey on public perceptions of the MPF is carried out once every two years. The 2008 survey covered a random sample of 505 MPF participants aged 18 to 65. In 2010, the survey sample was around 1000.

average a contribution rate of 22%—not far from the Central Provident Fund (CPF) contribution rate after discounting withdrawals for housing.

An optimistic reading of these data is that the surveys included older respondents (up to 65 years old) who would have had a very short period of participation in the MPF. For most of them, the MPF will not realistically be a significant source of income after retirement. But the surveys also revealed a problem of uneven coverage that may not necessarily resolve itself over time. The telephone survey found that MPF participation rates were lower for women, casual workers, and persons with lower education. Both the telephone survey and HSBC polls also found that around 40% of the respondents had no retirement savings or investments other than the MPF, and that persons with better education and higher income were also more likely to have alternative forms of saving. These underlying inequalities suggest that even when the current pension system built around the MPF achieves maturity, public anxiety towards retirement and the wish for change may not go away.

Public opinion regarding social policy: Individual concerns about retirement and the MPF must however be read against the background of general attitudes towards social needs and social welfare. Between the 1990s and 2000s, findings from a repeated survey of social attitudes in Hong Kong suggest that public concern increased regarding ageing and income inequality (S. K. Lau, Lee, Wan, & Wong, 1995, 1997, 1999, 2003, 2005; S. W. Leung, Wan, & Wong, 2008). The proportion of persons who thought that ageing was a serious social problem grew from 50% in 1993 to 60% in 2006, while the proportion who were concerned about income inequality increased from 54% to 77% before falling slightly to 71% (Table 9.1). These gains were mainly at the expense of persons who were undecided on these issues, as there remained a core of around 10-14% and 4-8% who felt the two issues were not serious problems throughout the period. But views regarding the role of social policy in addressing income inequality were surprisingly stable: around three quarters agreed that “it is the government’s responsibility to reduce the rich-poor gap” in 1993 and 2006 despite a slight dip to 63% in 1999. In fact the proportion who disagreed increased quite noticeably from 11% to 28% over the period. At the same time, the proportion of people who were satisfied with the state of social welfare increased from 29% to 39% between 1995 and 1999, and then remained at that level up to 2004. This was accompanied by a corresponding fall of almost 10 percentage points in the proportion who were dissatisfied.

**Table 9.1** Attitudes towards social policy in Hong Kong, 1990s to 2000s, percentage

		Serious	Not serious
Whether ageing is a serious social problem	1993	50	11
	1997	52	13
	1999	53	14
	2001	50	12
	2004	54	12
	2006	60	10
Whether income inequality is a serious social problem	1995	54	8
	1997	66	7
	1999	64	8
	2001	77	4
	2004	71	6
	2006	71	5
		Agree	Disagree
It is the government's responsibility to reduce the rich-poor gap	1993	75	11
	1999	63	-
	2001	67	20
	2006	72	28
		Satisfied	Dissatisfied
Satisfaction with the state of social welfare	1995	29	32
	1999	39	22
	2001	37	24
	2004	39	23

Note: Not all the results were reported for every year of the survey.

Source: Indicators of social development survey (S. K. Lau, et al., 1995, 1997, 1999; S. K. Lau, Lee, Wan, & Wong, 2001; S. K. Lau, et al., 2003, 2005; S. W. Leung, et al., 2008)

So while there was greater awareness about retirement income issues and demand for additional pension provision over time, especially when questions posed are framed at the individual level, society-wide attitudes towards social policy as a whole still appear to reflect an underlying ethos of individual responsibility and free-market competition that has been promoted by successive colonial governments and the local administration from 1997 (see Chapter 8). In 1993, for example, 80% of respondents agreed with the statement that social welfare should be limited to those who cannot be self-reliant, and 62% agreed that universal welfare will reduce the incentive to work and care for the family. The proportion of people unwilling to pay more taxes to finance welfare expenditure also increased from 35% in 1993 to 40% in 2001.

### *Singapore*

Public opinion regarding retirement and the CPF: There has been consistent evidence that Singaporeans feel uncertain about how far the CPF can protect their financial security in old age. In a 2010 survey of 500 randomly selected adults, 7 in 10 respondents said that they believed their CPF savings would provide only “some” or “a little” of the retirement income they need (Citibank Singapore, 2011). About half expected to continue working after retirement age and to require additional retirement income from private investments and insurance. An earlier round of this survey in 2008 found that just 38% of Singaporeans felt confident in their retirement savings, compared to 59% in Hong Kong and 65% in Korea (Citibank, 2008). In the multi-country “Future of Retirement” survey carried out by HSBC Bank in 2012 with adults aged 25 and above, Singaporeans estimated their retirement to last for 17 years but their savings to run out in 9 years, compared to 17 and 11 years respectively in Hong Kong (HSBC, 2013a, 2013b). In Singapore, 62% of the respondents were worried about financial hardship and 60% about affording quality health care during retirement—higher than the equivalent statistics for Hong Kong which are 50% and 45% respectively.

Public attitudes towards the CPF can also be gathered from the National Survey of Senior Citizens (Ministry of Community Development, 1995, 2005) and the Sample Household Survey of the public housing population (Housing and Development Board, 2010). In 1995, 28% of elderly respondents aged 65 years and above reported that they had CPF savings. Of these individuals, 70% felt that their savings were inadequate for retirement. Ten years later, still only 31% of those aged 65-74 and 21% of those 75 years old and above reported having CPF savings. Among them, only 4% of those aged 65-74 and 2% of the 75+ age group felt that the CPF was their most important source of financial support. The most recent Sample Household Survey asked elderly residents aged 65 years and above to list potential financial sources to meet their old-age needs. Only 30% cited CPF savings, whereas 68% mentioned their children. On the whole, these findings indicate that in the last decade or so, the CPF has remained a minor source of income for elderly persons and most retirees do not regard the system as an adequate form of income protection.

The demand for change depends at least partly on perceptions of alternatives. But unlike for Hong Kong, very little information is available on what Singaporeans

thought about other public pension models.<sup>39</sup> In the only known survey regarding this topic in 1995, researchers asked a small purposive sample of respondents whether they would prefer the social security system in the United States over the CPF (R. Chen, Wong, & Chiang, 1997). Half of the participants said that they would not, compared to 35% who said they would. This of itself may not be a remarkable statistic. But while the authors did not enclose within their report the description of the American Social Security system given to the respondents, other text in the report referred to it as “an unfair insurance programme because beneficiaries cannot be assured on getting full value for their tax dollars” (p. 4). If a similar bias had been introduced into the programme description offered to respondents, than the support rate of 35% would indicate a surprisingly high level of openness towards a system different from the CPF.

Public opinion regarding social policy: The multi-country AsiaBarometer Survey has provided useful data for comparing East Asian countries on a consistent basis in recent years (AsiaBarometer, 2013). Both Singapore and Hong Kong were included in the 2006 wave of the survey. The results on the whole suggest a complex picture. When prompted with a strong statement that “equality and a stagnant economy are preferable to inequality with economic development”, almost two thirds of Singaporeans and 41% of Hong Kongers agreed, compared to 14% in Taiwan and 22% in China (Table 9.2). This would appear to suggest that social equality is a deeply held social value in both societies, particularly Singapore. Yet Singaporeans were less enthusiastic about promoting equality in society through policy intervention compared to other societies, with just 58% agreeing with this policy objective compared to 70% or more in Hong Kong, China, and Taiwan. However, on the whole, the majority of persons in these East Asian societies agreed that income equality should be eagerly promoted.

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<sup>39</sup> Alternative pension models based on universal or social insurance principles are not generally discussed in policy debates and the press in Singapore. See Chapter 8 regarding policy discourse.

**Table 9.2** Attitudes towards inequality in East Asian societies, 2006

Percentage who agreed that	Singapore	Hong Kong	China	Taiwan	Korea
Equality and a stagnant economy are preferable to inequality with economic development	64	41	22	14	39
Income equality should be eagerly promoted	58	70	79	77	55

Source: Own analysis of data from the 2006 wave of the AsiaBarometer Survey, obtained from AsiaBarometer (2013)

When it came to the assessment of current social policy, the results for Singapore are particularly striking (Table 9.3). Two thirds or more of the respondents expressed satisfaction with diverse aspects of social policy, ranging from the general standard of living to specific policy domains such as health, housing, and education. The best ratings were received for housing (87%) and health (84%), and the lowest for the “social welfare system” on the whole. The results for equivalent items for Hong Kong were poorer, with satisfaction levels generally in the 30s except for health (60% satisfied) and housing (55%). When compared to the rest of East Asia, the results for Hong Kong are quite similar, especially the prominent peaks for health and housing which some have argued are cornerstones of productivist welfare regimes that emphasise social capital and social wage ahead of social security and high wages (Holliday, 2000). Singapore is therefore the anomaly within the region. The results must be interpreted against a context of generally high levels of satisfaction in Singapore across diverse life domains such as family and community life (Tambyah, Tan, & Kau, 2010).

**Table 9.3** Satisfaction with current social policy in East Asian societies, 2006

Percentage satisfied with	Singapore	Hong Kong	China	Taiwan	Korea
Standard of living	76	38	32	44	33
Household income	65	33	25	38	28
Social welfare system	62	31	14	20	18
Health	84	60	57	59	57
Housing	87	55	49	58	52
Education	73	36	33	42	36

Source: Own analysis of data from the 2006 wave of the AsiaBarometer Survey, obtained from AsiaBarometer (2013)



But within the Singaporean context, it is important to note that satisfaction with household income and the social welfare system as a whole were lower than for other policy domains. In fact these two items drew the lowest satisfaction ratings in a list of 16 life domains (Tambyah, et al., 2010). It would therefore be wrong to conclude that there is no public interest in social welfare issues or demand for change. In fact, when asked about their views of government spending, almost three quarters of Singaporeans said they would prefer higher spending on old-age pensions and unemployment benefits, similar to levels in China and much higher than in Hong Kong, Taiwan, and Korea (Table 9.4). The demand for higher pension spending is remarkably consistent across the sexes, age groups, educational levels, and income groups. It is also much higher than for other policy areas such as defence, policing, public transport, environment, and culture. When read in combination, the widespread concerns with retirement income at the individual level, the preference for higher public pension spending, and the positive satisfaction ratings for the social welfare system as a whole may reflect limited awareness of policy alternatives and low expectations of state intervention, themselves an indirect consequence of the lack of policy discourse in the public domain, as discussed in Chapter 8. This ambivalence is aptly captured by the HSBC “Future of Retirement” survey (Leeson & Harper, 2008). It found that more respondents in Hong Kong and Singapore were worried about financial hardship in old age compared to places such as Korea, Taiwan, and the industrialised European countries. But only 10-20% of respondents in the two populations felt that retirement needs should be financed through public spending, compared to around 30-40% in China, France, and the United Kingdom, and more than 50% in Denmark and Sweden.

**Table 9.4** Demands for specific social policies in East Asian Societies, 2006

Percentage who would prefer higher government spending on	Singapore	Hong Kong	China	Taiwan	Korea
Old-age pensions	74	50	77	50	69
Unemployment benefits	70	39	74	47	54

Source: Own analysis of data from the 2006 wave of the AsiaBarometer Survey, obtained from AsiaBarometer (2013)

### *Summary*

- Public opinion about pension policy and expectations of social policy can be a source of either reform potential or constraint. In recent years, there has been disquiet about the adequacy of the MPF for retirement needs. The majority of adults in a public survey regarded old-age income security as a pressing issue and, on average, they did not expect their MPF savings to last beyond seven years. Also, 40% felt that the scheme should be dropped entirely and 80% supported the introduction of a new universal old-age pension scheme. These point to public demands being an important source of reform potential for the pension system.
- But despite growing concern about population ageing and income inequality, there has been no sea change in perceptions about the role of government in promoting social welfare. Around three quarters of persons in Hong Kong believed the government was responsible for addressing inequality, but the proportion who disagreed in fact increased from 11% to 28% between 1993 and 2006. The proportion who were satisfied with the state of social welfare also increased from 29% to 39% between 1995 and 2004.
- In Singapore, survey data consistently indicate that most people do not expect the CPF to provide enough for retirement. In separate studies in 1995 and 2010, around 70% said that they believed their CPF savings would not be sufficient. In 2012, 62% of adults aged 25 and above were worried about financial hardship during retirement compared to 50% in Hong Kong. The extent of public pressure for pension reforms also depends on support for alternatives. Here, very limited evidence suggests that at least a segment of the population is open to pension models other than the CPF.
- Comparing the two populations in 2006, Singaporeans were more likely to identify with equality as a social objective, but less likely to support it as a policy objective. Singaporeans were also on the whole more satisfied with the state of social policy domains such as the standard of living, housing, and health, when compared to other East Asian societies. But even in Singapore,

there was strong public support for higher social spending particularly for old-age pensions. Almost three quarters of survey respondents preferred higher or much higher pension spending.

### **9.3 “Policies”: Prioritisation of reforms by policymakers**

#### *Hong Kong*

Prioritisation by policymakers is a particularly important indicator of the potential for pension reforms considering that traditionally, governments in Hong Kong and Singapore have had more autonomy to implement their preferences than they do in more open polities (Fu, 2003). In Hong Kong’s political system, policy statements by the Chief Executive are an especially important bellwether of future policy directions due to the concentration of political power in this office (see Chapter 8). The current Chief Executive, Leung Chun-ying, has acknowledged public concerns about retirement protection and pledged to make long-term plans for an ageing population in his election manifesto. But his most recent Policy Address, which sets out major policy plans at the start of every year, has dampened optimism about the introduction of universal pensions in the near future (C. Y. Leung, 2013, January):

The Government will reinforce and enhance the existing three pillars, namely, private savings and family support, the social security system, and the Mandatory Provident Fund (MPF) System... We are also aware of views in favour of the introduction of universal retirement protection. But there are concerns that universal retirement protection would impose a very heavy burden on the public coffers over time, and would be impractical without tax hikes. The other option based on tripartite contribution from employers, employees and the Government is equally controversial, involving issues such as affordability and sustainability. (p. 35)

The Finance Secretary’s recent budget address strikes a similar tone (J. C. Tsang, 2013, February):

In the past few months, there have been considerable discussions on retirement protection... I hope that the community will explore the issue in a rational, pragmatic and prudent manner and with due regard to the sustainability of public finances and the possible financial pressure on our future generations. (p. 46)

On the one hand, these statements reveal how little the developmental paradigm which de-prioritised social spending has changed since the colonial period. The present administration has been accused of attempting to buy time and stall reform by creating bureaucratic activity, and using rhetoric to reinforce its model of social policy. For instance, the Central Policy Unit (CPU) which reports directly to the Chief Executive has delayed releasing findings from a series of studies completed in 2010 that were supposed to inform decisions on universal pensions (Panel on Welfare Services, 2012). Chan, Lee and Ho (1999) have also argued that Hong Kong's legislature falls under the government's "hegemony of rationality" in welfare policymaking, which uses a combination of obfuscation (e.g. is family support really under threat? Can any pension system really solve all the problems?) and economic assumptions (e.g. extensive social security will slow down economic growth and weaken Hong Kong's spirit of enterprise) to avoid genuine policy debate.

But there are also recent signs that while the government's position on universal pensions has not shifted, reforming retirement protection has been a serious priority. For instance, the Commission on Poverty<sup>40</sup> was reconvened in November 2012 with a Social Security and Retirement Protection Task Force to study the pension problem and policy options, while an academic was commissioned to conduct a year-long study into retirement protection in March 2013 (Legislative Council Secretariat, 2013; RTHK, 2013). There are also ongoing reforms to give employees greater choice in the management of their MPF savings. In January 2013, the government announced that it would proceed with plans to introduce a new means-tested Old Age Living Allowance (Social Welfare Department, 2013). For persons aged 60 to 64 who would have qualified for the means-tested allowance under the previous Social Security Allowance Scheme (SSAS), this new allowance will provide a higher rate of benefit. Persons aged 65 and above who pass the means test will receive a higher benefit under the new allowance while those who fail the test will continue to receive the universal benefit from the SSAS. This scheme had been shelved in 2008 due to strong public reactions against the use of means testing at all for old age allowances. Even though the government's decision to push through the scheme has provoked public criticism

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<sup>40</sup> During the previous term of this commission in 2005-2007 it did not make concrete recommendations regarding universal pensions, citing as a reason an ongoing study of existing policies. Instead it proposed relaxing means test criteria for elderly applicants to the CSSA Scheme (Commission on Poverty, 2006).

(Tam & Ho, 2012), the scheme is nevertheless an expansion of the existing allowance system. Overall, while senior politicians and the Chinese administration do not appear to favour the introduction of a universal pension scheme, recent concessions signal policy prioritisation and reflect the impact of sustained political pressure on the pension system.

### *Singapore*

In Singapore, ageing and income security have been prominent policy concerns from the 1990s, but the government has not seriously considered alternatives to the CPF. Pensions have been a priority, but pension reform has not. Policy statements in recent years continue to reiterate the principles of developmentalism and show how policymakers approach social welfare within this policy paradigm. When the Prime Minister announced his annual policy agenda at the National Day Rally Speech in 2011, he said (H. L. Lee, 2011, August):

We will progressively improve our social safety nets, update our basic schemes whether it is the CPF, whether it is the Medisave schemes and so on... But while we do all these things, we have to be very careful that we do not become a welfare state. Take the example of Greece, you know it is in trouble but why is it in trouble? It is a small country, population is about twice ours, the GDP is about twice ours and its former prime minister Papandreou—a generation ago he built a generous welfare system, protecting the Greeks from competition, giving them jobs in the government, welfare benefits, pension benefits, but it was not affordable. And so the country has gone broke and has been set back for many decades... Our competition is not getting less worldwide; it is getting more competitive than ever. We cannot afford to think that we do not have to try hard because the state is there and if something happens, we can always fall back on the government.

In the budget statement of the same year, the Finance Minister repeated this cautionary message about the dangers of welfare spending (Shanmugaratnam, 2011, February):

[We] must avoid the mistakes of the developed countries which have built up unsustainable systems of entitlements—in healthcare, unemployment insurance and pensions. These have not only meant high taxes today, but huge debts and unfunded government liabilities which can no longer be postponed. Worse, the over-generous social entitlements have progressively reduced the work ethic over time. Some

of these developed countries are now undertaking painful reforms to gradually recover their economic dynamism.

In this policy paradigm, social needs must primarily be met through individual industry and family resources, an approach that is believed to be more compatible with national competitiveness. As explained in the National Day Rally Speech of 2012 (H. L. Lee, 2012, August):

First, inclusiveness does not just mean more good things from the state or falling from heaven. All benefits have to be paid for... In many countries the politicians champion social spending but they pretend it does not cost the taxpayers anything.... As our social spending increases significantly, sooner or later our taxes must go up.... The second message is that social safety nets have to be coupled with self reliance and resilience.... The state will help you where it can but it cannot replace what you and your family can do for yourself and each other. To survive we have to be resilient, tough as individuals, close as families, cohesive as a society, strong as a nation. We have to be prepared to compete and to hold our own.

The priority in recent years has instead been on boosting employment and wages for older workers and low earners, and improving returns from the CPF. In 2007, the Workfare Income Supplement was introduced to provide a bi-annual grant to workers aged 35 and above with monthly work income of below S\$1500, roughly 70% of the median work income of all workers (CPF Board, 2013b). The grant is split between cash and contributions to the workers' CPF accounts.<sup>41</sup> Re-employment legislation also started in 2012, which requires employers to offer their workers annual contract extensions between the ages of 62 and 65 (Ministry of Manpower, 2013). Recent changes to improve returns from the CPF, as discussed in Chapters 3 and 8, include higher interest rates, later eligibility age, the compulsory annuitisation of savings upon retirement instead of a lump-sum payout, and other housing policies to facilitate the monetisation of housing assets. All these indicate that fundamental changes to the existing pension system built around the CPF are not yet on the policy agenda.

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<sup>41</sup> The Workfare Income Supplement is interesting in that by paying grants into CPF accounts, the scheme operates like a social insurance scheme that offers credits for low earners which translate into pension benefits upon retirement. It illustrates how, even in Singapore, professed policy principles are not always consistently upheld in practice.

### *Summary*

- Judging from recent policy statements, the governments in Hong Kong and Singapore have not changed their basic positions on public pensions. Both have continued to reiterate a preference for reinforcing the existing pension systems and their convictions towards a developmental model of social policy with these features: avoidance of new fiscal demands that may imply higher taxes; ensuring economic agility and competitiveness; protecting the individual work ethic and economic dynamism; and reliance on the self rather than the state.
- Within this overarching policy paradigm, the Hong Kong government has not been completely able to dismiss proposals for a new universal pension scheme. It has commissioned committees and studies to look into alternative pension models and has also increased the generosity of the existing old-age allowance scheme, although the new scheme involves means testing. The potential for change therefore arises from the government having to prioritise the consideration of reform, if not reform per se.
- But in Singapore the official position on old-age pensions remains staunchly “anti-welfare”, blending a developmental line of economic reasoning with rhetoric that is highly critical of European welfare states. A major constraint on pension reform is that the government has so far not been prepared to seriously consider alternative approaches to retirement income. Instead it prioritises the protection of CPF returns under the current system.

## **9.4 “Politics”: Social mobilisation and public participation**

### *Hong Kong*

Whether public demands translate into policy action may depend on how effectively these demands are asserted through channels of social mobilisation and public participation. This “politics” stream is an important source of pension reform potential in Hong Kong due to an active civil society, policy engagement by academia, and a relatively free media (see Chapter 8). One additional aspect that has not been discussed so far is popular mobilisation over social issues. Annual demonstrations on 4 June and 1 July provide focal points for expressing public dissent over a wide range of issues,

including democracy, civil liberties, and social concerns (Shae & Wong, 2007).<sup>42</sup>

There have also been other protests focused on specific policy issues such as universal old-age pensions (C. K. Chan, 2003). Social mobilisation on such scale requires leadership from influential policy-oriented pressure groups. The Alliance for Universal Pensions, for example, has regularly organised marches in support of pension reforms (Tam & Ho, 2012). In a system that does not have an elected government, broad-based political participation has been an important tactic for influencing social policy. In 2012, a series of student-initiated demonstrations and sit-ins outside the government's headquarters attracted large numbers of participants and forced policymakers to back down on a proposed national education curriculum that would allegedly promote identification with China's political system (S. Lau & Nip, 2012). Recent protests have become more brazen in censuring the Chief Executive's leadership and calling for his removal from office. As a sign of the government's growing concern, the Chief Executive has repeatedly called for "social stability" in recent policy addresses (C. Y. Leung, 2013, January; D. Tsang, 2011, October).

However there are important and less visible constraints on the policy leverage of popular dissent. First, the business community continues to be a major influence on policymaking, as it had been during the colonial era (Goodstadt, 2009; Lo, 1996). They are represented in the Functional Constituencies and are guaranteed the support of pro-China political parties in legislative debates. They also share a common policy outlook with senior economic bureaucrats and have direct access to the Chinese leadership (C. K. Chan, 2003). In matters of pension reform, they are strong opponents of tax-funded and social insurance systems. Second, heightened civil activism in recent years may not imply better prospects for an expansion of the pension system. Goodstadt (2012) has argued that there may be a trade-off on the popular political agenda between democracy and equality. Public attention in recent times has been increasingly occupied by political issues such as the implementation of universal suffrage<sup>43</sup>, Chinese interference in Hong Kong's administration, and the impact of

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<sup>42</sup> The 4 June protests mark the 1989 Tiananmen incident in Beijing, while the 1 July protests were first organised by pro-democracy groups to mark the handover to China in 1997 (Shae & Wong, 2007). Participation in the 1 July protests gained real momentum in 2003 when large numbers took to the streets to oppose proposed anti-subversion legislation arising from Article 23 of Hong Kong's Basic Law. The proposal was subsequently shelved by the government.

<sup>43</sup> Hong Kong's Basic Law commits the government to implementing universal suffrage but does not specify a schedule or other details.



population growth on public services and costs of living, at the expense of narrower social policy issues like pension reform and poverty.

If social mobilisation is a source of potential for pension reform, then the most worrying development is a possible reversal of democratic rights in Hong Kong's wider political environment. It has been argued that increasing civil activism may be a response to stricter controls by the government, perceived threats to civil liberty, and disillusionment with party politics, rather than a sign of growing political freedom (Fong, 2012, November; Shae & Wong, 2007). Fong identifies three areas where government intervention has been increasingly heavy-handed: police tactics against demonstrators as seen in higher arrest numbers; alleged manipulation of electoral procedures; and control of media freedom. The issue of journalistic freedom has been particularly contentious. In 2012, Hong Kong's ranking on the Reporters without Borders' (2010, 2012) annual survey of press freedom around the world fell from 34th to 54th (while Singapore ranked 136th and 135th in those years). Other international observers have also noted rising self-censorship among Hong Kong news organisations due to the co-option of media owners into various Chinese organs of state, police tactics against journalists, reporting restrictions at public events, and instances of interference with editorial content (Freedom House, 2012). In a recent survey of journalists in Hong Kong, 87% felt that press freedom had deteriorated since the start of the present term of government, compared to 58% in the last round of the survey in 2007 (Hong Kong Journalists Association, 2012). The main reasons cited were government restrictions on access to information, obstruction of new coverage, and interference from the Chinese government. More than a third of the respondents said that they had practised self-censorship in the past year, such as by softening news that might cast an unfavourable light on the Chinese or Hong Kong governments. Fong (2012, November) has argued that if current trends continue, Hong Kong may transform into a society with universal suffrage but limited civil liberties or, in other words, an illiberal democracy in the image of Singapore.

### *Singapore*

Restrictions on civil activism in Singapore are a constraint on the prospects for pension reform. Some of these restrictions and their effects on policy discourse in the past have been discussed in Chapter 8. Furthermore, social mobilisation as in Hong Kong is not

possible as strict laws prohibit public protests<sup>44</sup> and there are no pressure groups campaigning for pension reforms. While legislators advocating pension reforms in Hong Kong can draw on the ideas and energy of interest groups and individual academics, the political opposition in Singapore find themselves isolated from these potential social bases due to restrictions on the political activities of interest groups.<sup>45</sup> As Rodan (1997a) argues, “growing concerns over the last decade about widening material inequalities may have translated into greater electoral support for the PAP’s formal political opponents, but these parties cannot draw on, or connect with, independent social organisations with complementary reform agendas” (p. 172). Controls on social mobilisation therefore also weaken opportunities for reform through parliamentary channels (Rodan, 1997b).

However recently, there have been signs of gradual political liberalisation and accommodation of an emerging social policy discourse.<sup>46</sup> Some of the most influential critiques have been from former senior civil servants and have been carried in the national press. In 2012 the Institute of Policy Studies, a government-sponsored think-tank, organised a public conference on social inequality. One of the papers to emerge from the conference was highly critical of existing social policy principles and strategies, arguing that:<sup>47</sup>

Addressing the interconnected challenges of poverty, stagnant wages, rising inequality, lower social mobility, and reduced well-being in this new environment will require not just policy tweaks, but a broader, more holistic rethinking of Singapore’s economic and social policies.... In some areas, long-standing policies reflect certain policy beliefs that may not be robustly or sufficiently questioned.... policy biases could hamper efforts to deal with rising income inequality, while the government’s reluctance to contemplate a more redistributive system of taxes and transfers could undermine public support for growth-oriented

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<sup>44</sup> The Public Order Act disallows public protest and demonstrations while the Penal Code criminalises specific aspects of protest activities.

<sup>45</sup> The Societies Act prohibits non-governmental organisations from involvement in political activities.

<sup>46</sup> It must be qualified that predicting political liberalisation in a country where the government has enjoyed such longevity is always a risky endeavour. In the past, other analysts have predicted political pluralisation in vain (see for example J. S. T. Quah & Quah, 1989; Williams, 1996). After a poor performance in the 1984 elections, some had expected to see the government initiate political reform. But in 1986 a leading opposition MP was imprisoned for a charge that was later reversed by the Privy Council of the UK, and in 1987 a group of social activists were detained for an alleged Marxist conspiracy (M. D. Barr, 2010; H. C. Chan, 1989). By 1989, a researcher observed that “the electorate will eventually appreciate that the configuration of the political system has not substantially changed, and will not change” (H. C. Chan, 1989, p. 86).

<sup>47</sup> Several of the authors were formerly senior civil servants.

policies such as being open to immigration, globalisation and economic restructuring. (Bhaskaran et al., 2013, p. 127, 144)

Observing that Singapore has sufficient fiscal resources, including regular budget surpluses and huge reserves, the authors also called for the government to consider raising social spending and to “find a better balance between individual savings, social insurance, and direct subsidies” (Bhaskaran, et al., 2013, p. 160), through ways such as: providing protection from unemployment and income instability through social insurance to reduce disruption to saving for retirement; examining the allocation of CPF savings to housing and retirement and increasing options for monetising housing value; and introducing a basic means-tested retirement grant for persons aged 70 and above, to be phased out as retirement saving improves for future cohorts.

Recent social policy debate may reflect two underlying trends. The first is that the declining popularity of the ruling People’s Action Party (PAP) may have prompted political leaders to relax social controls. From a historical perspective, the PAP’s vote share at general elections has been falling steadily for some time. In the first five elections between 1968 and 1984, their average share of the votes was 70% (own calculation, based on Singapore Elections Department, 2013). This fell to 64% for the next five elections from 1988 to 2006. In the most recent elections, they received 59% of votes, the lowest since independence, and several senior candidates lost their seats. Although this translated into just six out of 87 parliamentary seats for the opposition, it was their highest numerical representation in the history of Singapore’s parliament. The second is that the volume of public criticism has increased, especially around issues related to social inequality.<sup>48</sup> Fundamental to Singapore’s developmental economic strategy is shared growth, or widespread improvements to living standards resulting from better job opportunities and real wage growth. Between 1965 and the late 1970s, income inequality fell with economic development (P. S. J. Chen, 1974; Pang, 1975; Rao & Ramakrishnan, 1980). But from the 1980 onwards, income inequality began to rise slowly and the Gini coefficient peaked at 0.48 in 2007 (Rao, 1990). In the 2000s low-skilled workers became increasingly at risk of receiving low wages or retrenchment, a problem made worse by a surge in the size of the low-skilled workforce due to immigration policy (Rodan, 2006). Over the past decade, work

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<sup>48</sup> See for example press commentaries by D. Chan (2013), R. Chan (2013), and Chang (2013).

income at the lower end of the distribution has been stagnant (Ministry of Manpower & Department of Statistics, 2011). These have reinforced perceptions of economic mismanagement and contributed to public dissatisfaction.<sup>49</sup>

Drawing again from the 2006 wave of the AsiaBarometer Survey, a comparison with other East Asian societies reveals that satisfaction with the extent of civil liberties in Singapore is low (Table 9.5). Only a third were satisfied with the extent of “rights to criticise the government”, while 56% were satisfied with the extent of free speech—lower than in China. Satisfaction with these civil liberties was the highest in Hong Kong at more than 70%, just ahead of Taiwan and Korea. But while these figures may suggest impetus to demand greater freedoms, it is easy to overstate the prospect of political change in Singapore. The level of trust in public institutions in Singapore is in fact the highest in the region, with only China coming close (Table 9.6). Between 84% and 90% of respondents said they trusted the parliament and the government to act in the best interests of society, compared to just 46% to 59% in Hong Kong, and 8% to 21% in Korea. In this country, explicit political controls operate parallel to and often mask strong popular support for the government and implicit public consent to much of its policy paradigm for the economy and society. The current political leadership draws its legitimacy and mandate from a number of sources: a smooth political transition to independence and nationhood, a strong economic track record, essentially free elections, and a bureaucracy that operates on meritocratic principles and with low corruption (Castells, 1992; Chua, 1993; Öniş, 1991; J. S. T. Quah, 2010). In combination, these factors strongly favour regime stability.

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<sup>49</sup> In 2013 the largest public demonstration in decades was held at the only designated “free speech area” in the country, Hong Lim Park, after the release of a Population White Paper that outlined the government’s plans to further increase immigration (BBC, 2013).

**Table 9.5** Satisfaction with civil liberties in East Asian societies, 2006

Percentage who are satisfied with the extent of	Singapore	Hong Kong	China	Taiwan	Korea
Rights to gather and demonstrate	47	76	42	60	62
Freedom of speech	56	77	67	74	65
Rights to criticise the government	32	70	36	66	64

Source: Own analysis of data from the 2006 wave of the AsiaBarometer Survey, obtained from AsiaBarometer (2013)

**Table 9.6** Trust in public institutions in East Asian societies, 2006

Percentage who trust these institutions to operate in the best interests of society	Singapore	Hong Kong	China	Taiwan	Korea
Parliament	84	46	71	22	8
Central government	90	59	86	35	21
Trade unions	67	39	52	51	27
The media	67	21	41	31	35

Source: Own analysis of data from the 2006 wave of the AsiaBarometer Survey, obtained from AsiaBarometer (2013)

### *Summary*

- Social mobilisation and public participation can contribute to the potential of pension reform by channelling public demands for change into the political arena. The restriction of social mobilisation conversely reduces such potential for change. In Hong Kong, public demonstrations provide focal points for expressing public dissent. Pension lobby groups have also taken part in or led their own protests to call for the introduction of universal pensions. Large-scale social mobilisation has been known to reverse government decisions about social policy, most recently on the introduction of a new national education curriculum in 2012.
- But several other factors mediate the impact of political participation on pension reform. First, business interests are a forceful lobby against social insurance or tax-funded pension schemes. Their influential position within Hong Kong's political system is a strong counterbalance to popular demands. Second, narrower policy issues such as old-age pensions have to compete for

public interest and support with more prominent political issues such as universal suffrage which have dominated the attention of civil activists in recent times. Third, social mobilisation may itself be under threat due to stricter government controls, such as on media freedom. There is some evidence that journalists are facing more restrictions on reporting and have become more likely to practice self-censorship.

- On the other hand, in Singapore, public demonstrations are prohibited by law and there are no pension lobby groups calling for changes to the CPF system. Opposition politicians in parliament therefore also lack social bases from which to draw ideas and support when arguing for reforms. There are some signs that controls on political participation are being relaxed, particularly in the emergence of critiques of social policy principles and strategies, including criticism of the CPF. This trend may be a reflection of waning support for the ruling party which turned in its worst electoral performance at the 2011 general elections, and public disaffection over a widening income gap.
- It is possible to argue that in terms of the “politics” stream of pension reform, as controls on social mobilisation are tightened in Hong Kong and gradually relaxed in Singapore, the outlook for reform in the two systems may converge towards the middle over time. But in reality, the prospects for pension reform in Hong Kong depend on wider developments especially in the democracy movement, as social policy has traditionally travelled on the democratic ticket. In this regard, recent trends towards contentious and polarised politics make the path ahead increasingly ambivalent. Equally, in Singapore, it may be easy to overestimate the momentum of change. Strict controls of civil liberties conceal a deep trust in public institutions and the current government.

## 9.5 Summary

The table below summarises the discussion in this chapter:

**Table 9.7** Potential for pension reforms in Hong Kong and Singapore

	Hong Kong	Singapore
Public opinion and demand	<ul style="list-style-type: none"> <li>• High</li> </ul> <p>Low confidence in MPF, clear support for additional universal pension scheme</p>	<ul style="list-style-type: none"> <li>• Moderate</li> </ul> <p>Low confidence in the adequacy of CPF, some support for higher pension spending</p>
Prioritisation by policymakers	<ul style="list-style-type: none"> <li>• Moderate</li> </ul> <p>No shift in policy paradigm, but ongoing studies and recent reforms to allowance scheme</p>	<ul style="list-style-type: none"> <li>• Low</li> </ul> <p>No shift in policy paradigm, no discussion of alternatives, only adjustments to the CPF</p>
Mobilisation and participation	<ul style="list-style-type: none"> <li>• High, but decreasing</li> </ul> <p>Regular public protests and pension lobby groups, but stricter controls on political freedom recently</p>	<ul style="list-style-type: none"> <li>• Low, but increasing</li> </ul> <p>Public protests disallowed, no pension lobby groups, but growing public disaffection and more space for policy critiques</p>

Source: Own analysis

- To review the three streams of problem, policies, and politics for Hong Kong, the clearest indication of potential for pension reform lies in public opinion and demand. Public opinion data from recent years show that the majority of people are worried about their retirement income and do not believe the MPF will be sufficient for their needs. There is also clear support for the introduction of a new universal old-age pension scheme that will cover all elderly persons, not just workers. These views are set against a background of broader beliefs that the government is responsible for addressing income inequality.
- Prioritisation of pension reform by policymakers, however, does not always match up to public expectations. A clear constraint is the government's convictions towards a developmental policy paradigm that prefers to promote individual responsibility rather than incur new fiscal demands. But the government has taken steps to demonstrate that it is concerned about old-age income security and is considering possible alternatives. There are ongoing

studies into alternative pension models and have been recent reforms to the old-age allowance scheme.

- The politics stream is the most volatile and ambivalent. Strong traditions of social mobilisation and lobbying by pension groups, including large-scale demonstrations that have been known to reverse government decisions about social policy, indicate potential for change. But these calls for pension reforms are opposed by influential business interests with links to the government, and have to compete with other more pressing political issues to do with democracy and Hong Kong's political future. Moreover the political trend in recent times has been towards stricter controls, most clearly of press freedom.
- In Singapore, the overall prospects for major changes to the pension system are poorer. In the problem stream, there is evidence that most people do not believe the CPF will be sufficient for retirement. The majority also support higher social spending for old-age pensions. But the magnitude of these demands must be interpreted against a context of very high levels of satisfaction with most aspects of social policy by regional standards. It is also unclear how far Singaporeans will support a different pension model, or even understand the available alternatives.
- Systemic reforms to public pensions do not appear to be a priority to policymakers so far. The government continues to promulgate a developmental model of social policy based on economic dynamism and self-reliance, and recent policy statements have been rich with rhetoric on the risks of European welfare models. Reform efforts have focused on shoring up the existing approach towards retirement income—promoting work, supplementing low wages, and improving returns to CPF savings.
- Finally a weak tradition of social mobilisation and public participation is a major constraint on pension reform, as public demands lack a conduit to the political arena. Public demonstrations are illegal and there are no pressure groups lobbying for pension reforms. While the space for social policy debates



has opened up recently, reflecting an underlying shift in political mood among the population, it is easy to overestimate the momentum for change in Singapore and this trend should be interpreted cautiously

On the whole, in Hong Kong, there are reasonable opportunities for the pension system to undergo substantial change, but policymakers' fundamental principles about social policy and the uncertain outlook for the democracy movement represent constraints on pension reform prospects. The tension between ideational potential on the ground and institutional constraints imposed from within the formal political system makes policy outcomes difficult to predict. But in Singapore, the overall potential for significant change to Singapore's pension system appears low. The system is powerfully constrained by a lack of serious debate about the alternatives, policymakers' unwillingness to consider them, and the inability to translate any such discourse into political pressure. The major constraints are intellectual ones but with deep institutional roots.

This chapter concludes Part 3's discussion of the possibility of pension policy reform in Hong Kong and Singapore, and brings to a close the study's major empirical analyses of the prospects for old-age income security in the two places. The next chapter, the Conclusion, draws together the main findings of the study and presents the key policy messages.

## 10. Conclusion

### 10.1 Aims and approach

This study set out to answer the question, *what are the prospects for old-age income security in Hong Kong and Singapore?* It is concerned with the role of family support in providing for the needs of elderly persons 65 years old and above, the impact of demographic pressure on these arrangements, and the potential for public pension systems to fill the gap. The emphasis on prospects means that the study aimed to examine the dynamics of this interaction between demography, policy, and family, both in the recent past and into the future. The study has been organised around these three pairs of research questions:

- What is the current state of old-age income security in Hong Kong and Singapore? How important are public pensions and family support to income security?
- How is the level of family support expected to change for future cohorts of elderly persons? What are the possible public pension outcomes?
- What factors affect pension policy development in the two societies? What are the pressures for and constraints on reforms to improve the generosity of public pensions?

The study was divided into three parts according to these research questions. Part 1 analysed elderly persons' income levels and sources; existing public pension systems; and children's support through co-residence and transfers. The analysis is based mainly on new analysis of four nationally representative datasets—the Hong Kong Population By-census 1996 and 2006 and the Singapore National Survey of Senior Citizens 1995 and 2005—as well as additional survey microdata on specific topics such as the value of children's transfers and asset ownership in Hong Kong. Prior to this study, these data had not been jointly used to study the income situations of elderly persons in depth, across a period of 10 years, or from a comparative perspective. Part 2 turned towards possible developments in old-age income security in

the future. It constructed an original macrosimulation model to estimate future trends in the living arrangements of elderly persons, and their level of access to market income and children's contributions. Possible pension outcomes were then projected using illustrative cases with historically accurate rules and a range of assumptions that were varied for sensitivity analysis. Part 3 of the study adopted a comparative case study design to examine the possible factors influencing pension policy development in the context of Hong Kong and Singapore, and discussed how they might promote or restrict pension reforms in future.

The main contributions of the study are empirical. In fact nearly all of the empirical material presented here on Hong Kong and Singapore is based on original analysis or modelling. There have been particularly striking findings regarding: the size of the income gap between elderly persons and the working-age population; the prevalence of low incomes even among elderly persons in the workforce; the persistent lack of access to income sources other than adult children especially among elderly women; the size of children's transfers relative to average elderly incomes; the inequality of asset ownership among elderly persons; the extent to which decreasing fertility outstrips any mortality gains among adult children in determining the number of surviving children; the connection between intergenerational co-residence and elderly parents' financial dependence; and the potentially dramatic effects of income sharing within intergenerational households especially for elderly women and others with low incomes. The original projections further suggest a possible and remarkable increase in elderly persons living apart from children and a growing likelihood of having access to neither market income nor children's contributions for future elderly cohorts. They also show that pensions may remain relatively low despite recent reforms, implying in some cases seemingly implausible demands on children unless other income sources become available.

At the same time, there have been methodological adaptations and theoretical discoveries:

- First, the use of equivalised household incomes to analyse the income effects of co-residence had not previously been adopted in the literature on these two populations. Instead, in official reports, household incomes are still generally presented on a per capita basis that does not take into account the scale economies of shared living.

- Second, while macrosimulation is commonly used to project household composition and living arrangements, this study demonstrates its usefulness for projecting access to different income sources and examining the sensitivity of these trends to different assumptions about the pace of change.
- Third, the analysis of illustrative cases is built around a comparison of successive cohorts of entrants to the pension systems using historically accurate rules in every year, as opposed to assuming static pension rules as is more commonly done, such as in the OECD's multi-country studies. It also extends the analysis of pension outcomes to consider implicit demands for children's support.
- Fourth, the study connects questions of why policy needs to change with why it has not and whether it may, and applies the approach to the specific case of pensions in two societies where policy has been slow to expand in the face of growing risks to old-age income security. This involves combining two disciplinary perspectives—social policy's concerns with substantive social needs and policy effects, and public policy's interest in policy causes and processes.
- In the process, the study also contributes to theoretical understanding of how different types of developmentalism and constraints on democracy can affect social policy development; as well as how ideas as policy paradigm promote policy continuity, while ideas as policy discourse can drive social policy reforms.

The rest of this chapter reviews the findings of the study in relation to the research questions above and discusses the policy implications.

## **10.2 What is the current state of old-age income security?**

The issue of income security in old age is made more salient by the current demographic structure of the two populations and projections that expect further

population ageing. Period life expectancy at 65 in Hong Kong and Singapore are already among the highest in the world and may reach around 22 years by 2030, compared to 20 in the United Kingdom (UK). As fertility rates fall, the old-age dependency ratio is also projected to exceed the European average of 30% by 2025. This exerts a dual pressure on old-age income security—it implies an increase in the length of retirement unless individuals are prepared to postpone retirement, at the same time as support for older persons declines.

Yet up to now, the available information, mainly from official reports, has provided only a partial picture of older people's income situations in these societies: in general, they have lower earnings than younger workers, lower gross incomes relative to population work incomes, and lower household incomes compared to households with no elderly persons. The original analysis of national survey datasets in this study led to several important findings regarding the prevalence of low incomes among elderly persons, their income sources, and the impact of work participation on income security.

Firstly, there has been no dramatic or automatic increase in work among elderly persons despite longer life expectancies and government efforts to delay retirement. For the birth cohorts between 1930 and 1970, men's labour force participation has remained almost unchanged in Hong Kong and Singapore. While women's work participation has risen, the increase has mostly been at younger ages. The increase has also slowed down between recent cohorts in Singapore and tapers off by about 50 years old in Hong Kong. By 60 years old, work participation among men is around three times as high as women's, about 50-60% compared to 10-20%. On a cross-sectional basis, overall elderly work participation has changed by no more than two percentage points between the 1990s and 2000s. In 2005/2006, it was 8% in Hong Kong and 14% in Singapore, compared to 12% in the OECD countries.

Even though the ratio of median earnings between elderly workers and the entire working population improved from 0.54 to 0.65 during 1996-2006 in Hong Kong, elderly persons' individual incomes on the whole remain extremely low relative to population work incomes in both places. As many as 78% of elderly persons in Hong Kong and 88% in Singapore had individual incomes below 0.6 times of the median population work income in 2005/2006. More strikingly, even among elderly persons who were in work, 9% in Hong Kong and 27% in Singapore had individual incomes below 0.4 times the median work income. This proportion had doubled in

Singapore compared to a decade before. Any increase in work participation and earnings therefore cannot be assumed to result in better income security for the elderly population.

Work income does not usually form a major component of elderly persons' income package. Instead, children and public income sources were more common. Here there are differences between Hong Kong and Singapore. The most common source of income in Singapore was children's contributions, available to 75% of elderly persons in 2005. But in Hong Kong, 69% of elderly persons reported income from the Social Security Allowance Scheme (SSAS) in 2008, compared to 41% who received income from children living apart and 33% from co-resident children. Other observations about Singapore are of concern. Between 1995 and 2005, income receipts from children fell by nine percentage points. Yet elderly women continued to depend almost singularly on these contributions—less than 7% had access to work income, private or public pensions, or public assistance schemes.

### **10.3 How important are public pensions and family support to old-age income security?**

#### *Public pensions and housing*

While the features of the public pension systems in Hong Kong and Singapore<sup>50</sup> have been widely reviewed, information on their workings and impact has hitherto been very scarce. From the national survey datasets, the main finding is that between 1995 and 2005, the proportion of elderly persons citing the Central Provident Fund (CPF) as an income source in Singapore increased from 3% to 12%. Public pension rights have become more common but is not yet a predominant source of retirement income. Moreover data from official reports suggest that pension payouts from the Central Provident Fund (CPF) for coming cohorts of retirees will be very low. During 1996-2011, the average balance in individuals' CPF accounts at age 51-55 was around three years of the population median work income for men and two years for women—

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<sup>50</sup> Hong Kong's public pension system has three pillars: (i) the Comprehensive Social Security Assistance (CSSA) Scheme, a means-tested social assistance scheme based on prescribed standards of living for different types of household; (ii) the SSAS which provides flat-rate means-tested assistance between 65 and 69 and a universal old-age allowance from 70 (or at a higher rate with means testing under a new supplementary Old-Age Living Allowance [OALA] Scheme); and (iii) the Mandatory Provident Fund (MPF), a defined contribution, privately managed, provident fund scheme. In Singapore the Central Provident Fund (CPF), a defined contribution, publicly operated scheme, is the main pillar of old-age income security. See Chapter 3 for details.

compared to period life expectancy at 55 of 27-31 years. According to official estimates, the stipulated minimum amount of retirement savings under the CPF will translate into benefits of just 33-44% of the population median work income for persons who reached 55 in 2009. But average savings among persons aged 51-55 were only 70% of the stipulated amount that year, suggesting that actual pensions for many elderly persons may be even lower. In the only major study to make comparable theoretical projections of pension outcomes in Hong Kong and Singapore, the OECD estimates that the combined benefits from the MPF and SSAS in Hong Kong are equivalent to about 30% of lifetime average earnings, whereas CPF benefits reach just 13%. But these are based on a very conservative assumption of maximum pre-retirement withdrawals for housing under the CPF. Most other studies arrive at benefits of around a third of final earnings. Pre-retirement withdrawals are a major factor behind the low benefit levels. Between 2001 and 2010, 53% of all annual CPF withdrawals were for housing while just 20% were for retirement, although the latter share has been rising.

Given the amount of retirement saving usually diverted to housing under Singapore's CPF, asset ownership and the liquidation of housing value become important to old-age income security. An analysis of asset data in this study found that housing ownership was much higher in Singapore. About 75% of elderly persons owned housing in 2005 compared to just 23% in Hong Kong in 2000. But asset ownership in both places was highly unequal. The distribution of assets is largely overlooked in the social policy literature on housing in East Asia, which usually regards Singapore as an example of the successful integration of social security with national economic development. Among elderly persons with no income in Singapore, 31% owned housing. But among individuals with incomes more than 2.5 times the median population work income, there was 100% housing ownership. Likewise in Hong Kong, elderly persons with higher individual incomes were more likely to own assets of greater total value. This suggests that assets are unlikely to reverse unfavourable income positions.

Moreover policy measures to encourage the liquidation of housing assets have had mixed results in Singapore. A survey of public housing residents in 2008 found that just 12% of elderly persons were subletting their properties for income, while 8% had traded down and 2% had participated in a reverse mortgage scheme operated by the government. It may be that in Singapore, as documented for other countries,

elderly persons may prefer to keep their homes as precautionary saving or for bequest. Therefore it cannot be assumed that individual CPF savings channelled into housing will eventually be converted back into retirement income as a matter of course.

### *Family support*

In contrast to the low levels of access and benefits from public pensions, this study found clear evidence from analysis of the national survey datasets that children's support through co-residence and transfers are critical sources of old-age income security. In terms of intergenerational co-residence, more than half of the elderly persons in Hong Kong and two thirds in Singapore lived with their children in 2005/2006. But there had been a downward trend in co-residence between the 1990s and 2000s of about ten percentage points. In Singapore, the proportion of elderly men aged 70-79 not living with their children doubled from 19% to 37% over 10 years. Change of this pace and scale casts a different light on arguments about intrinsic cultural preferences for intergenerational co-residence in East Asian societies. In fact, during this period, even what are believed to be gender roles prescribing a greater responsibility for sons to support their parents underwent change. In 2005/2006, among elderly persons who were co-resident with children in both places, about 60% lived with their sons only, or with sons and their spouses. But during 1996-2006 in Hong Kong, the proportion living with single daughters only rose from 15% to 24%, overtaking the 23% living with sons and their spouses.

Co-residence is especially important to poorer elderly persons, helping to boost their living standards relative to the rest of the elderly population as well as working-age persons. In Hong Kong, elderly persons living with their children had lower individual incomes than those who were not co-resident, while in Singapore, elderly persons living with their children only (without the spouse) had the lowest incomes. For low-income persons, living with the children may help them to secure in-kind support such as rent-free housing, food, care, and other necessities. The possible income effects of shared living can also be approximated by measuring incomes on an equivalised household rather than individual basis. Taking this approach, the downward age gradient for incomes becomes less steep and the income gap between elderly men and women disappears. In 1996, younger persons in Hong Kong had individual incomes that were 12.5 times that of elderly persons but equivalised household incomes that were less than 1.5 times as high. In 2006, elderly persons



living with neither the spouse nor the children had a median individual income of HK\$3100 and a median equivalised household income of HK\$3500. Elderly persons who co-resided with their children only, on the other hand, had a median individual income of just HK\$700 but a median household income of HK\$10300.

Regardless of living arrangement, transfers from children was also an important source of income. Again, the analysis suggests that transfers may provide income protection to those who are least financially independent. In both Hong Kong and Singapore, elderly persons who lived with their children were also more likely to report children's contributions, and less likely to have access to other types of income, such as from work and private pensions. On average, these transfers were a sizeable proportion of elderly incomes. In 1995 children's transfers were equivalent to more than 75% of individual income for three quarters of elderly persons in Singapore, with women and low-income persons receiving larger contributions. Previously unpublished data also show that transfers from children were equivalent to almost two thirds of the average individual income of elderly persons living in public housing in 2008. In Hong Kong the equivalent of about 33% of elderly persons' average income in 2008 came from non-co-resident children, while a further 25% came from co-resident children, with women and persons outside the workforce receiving more.

Given children's central role in elderly income security, any decline in the availability of children may have serious implications. Research in the UK has highlighted that mortality gains can offset decreasing fertility. For instance, current cohorts of mothers now approaching retirement age are more likely to have at least one surviving child when they reach 80 due to improving mortality among their children. But an analysis of aggregate demographic indicators in this study suggests this is not the case in Hong Kong, and possibly Singapore which faces similar demographic pressures. For women born between 1944 and 1974 in Hong Kong, falling fertility is the key determinant of the number of surviving children they have whereas the effect of children's improving mortality is relatively marginal. This is due to the continuous and steep fall in fertility, which is quite unlike the trend in the UK. On average mothers born in 1944 may have 3.40 children by age 65 and 3.20 by 85, compared to 1.18 and 1.16 children by these ages for mothers born in 1974. The number of surviving children is therefore likely to follow a downward trend for elderly persons retiring in the next two to three decades, implying a decline in a key source of income security.

#### **10.4 How might family support and public pension outcomes change for future cohorts?**

##### *Future family support*

The key observation of the decade between the mid-1990s and mid-2000s is that family support had been critical to old-age income security whereas public pensions had a relatively minor role. But things were also changing: co-residence fell in both places; transfers became less common in Singapore; the availability of children in Hong Kong is expected to fall further; there were signs of improved access to the CPF in Singapore; and Hong Kong had introduced the Mandatory Provident Fund (MPF) in 2000. The next questions to ask are therefore about the future: how living arrangements and income sources may change; what pension entitlements people can expect; and the demands for children's financial support that these imply.

The analysis of future living arrangements and income sources in the two populations has not been attempted before in the literature. To answer these questions, the study first constructed a macrosimulation model, adopting as a base population projections by the United Nations up to 2030 and projections of labour force participation by the International Labour Organization (ILO). On top of these population profiles, the model incorporated an extrapolation of living arrangement patterns from the national survey datasets and a logistic regression model to estimate levels of access to different combinations of income sources. The analysis considered two scenarios: first, that living arrangements continue to change at the rate that it did between 1995/1996 and 2005/2006; and second, that living arrangements change at half that rate. Under both assumptions, projections from the model indicate a fall in co-residence in the two populations, and an increase in the likelihood that elderly persons will have no co-resident children as well as no access to either children's transfers or market income. The trends for Singapore are more worrying.

In Hong Kong, co-residence with children is projected to fall from 59% to 48-53% between 2006 and 2030, depending on the assumed underlying rate of change in living arrangements. Whereas in 2006 the most common living arrangement was with both the spouse and children, in 2030 living with the spouse only will become the most common. At the same time, the number of elderly persons living alone is expected to at least double from 154,000 to 306,000-348,000 as the total elderly population grows. The trends for Singapore are sharper and more worrying, but also contain more

uncertainty. Although Singapore starts with a higher level of co-residence at 72%, this is expected to fall more rapidly to 47-58% by 2030, around the same levels as in Hong Kong. Over this period, the most common living arrangement switches from living with the child only to living with the spouse only or with both, depending on the assumed underlying rate of change in living arrangements. The most striking trend is a surge in the number of elderly persons living alone, from 45,000 to 246,000-296,000, or an increase of up to 6.6 times.

Projections based on the assumption of a constant relationship between income sources and other personal characteristics suggest that the patterns of access to market income and children's contributions may remain largely stable in Hong Kong. While the proportion of elderly persons receiving financial support from children may fall from 62% to 61%, access to market income improves from 9% to 12%. At the same time, the likelihood of having access to neither type of income decreases slightly from 31% to 30%. For Singapore, again, larger changes are expected. There may be a similar compensatory dynamic as in Hong Kong, as the proportion of elderly persons with children's contributions decreases from 75% to around 70% while access to market income including the CPF increases from 26% to 30%. But the proportion of persons with access to neither type of income may also increase slightly from 14% to 15-16%. In absolute numbers, the size of this vulnerable group may increase from 49,000 in 2005 to 208,000-222,000 in 2030.

To further isolate groups at risk of income insecurity, the projections of living arrangements and income sources were combined. This revealed a possible upward trend in the proportion of elderly persons with no access to market income and children's financial contributions, and who are also not co-resident with their children. Between 2010 and 2030 the likelihood of this outcome grows from 17% to 18-20% in Hong Kong depending on the rate of change in living arrangements, and from 6% to 9-11% in Singapore.

#### *Future pension outcomes*

If, as the projections suggest, there is a decrease in children's co-residence and transfers, and better access to market income sources including contributory public pensions, then potential pension outcomes in the two systems may become increasingly important for determining the income security of future elderly persons. A number of studies have modelled possible pension outcomes. But the only major study

to compare Hong Kong and Singapore (by the OECD) adopts a very conservative assumption that the maximum permitted pre-retirement withdrawal is made from the CPF. Other single country studies have different model assumptions that make direct comparison difficult, while most studies use static pension rules that do not reflect the impact of entry timing. This study began with a set of six illustrative cases—three men and three women with wages pegged to those of workers with primary, secondary, and post-secondary education in 2010. The analysis then incorporated historically accurate pension rules with different starting points and examined two policy scenarios per system while keeping other assumptions consistent between Hong Kong and Singapore.

Focusing on the middle cases, men and women with secondary education, Hong Kong offers more generous pensions than Singapore but women are disadvantaged in both systems. Depending on eligibility for the new and more generous Old Age Living Allowance (OALA), pensions in Hong Kong may reach 49-55% relative to the median wage for men but just 20-26% for women. Due to lower wages, replacement rates—pensions relative to final wage—are higher for women, at 34-45% compared to 26-30% for men. In Singapore, expected pension outcomes are highly sensitive to assumptions about pre-retirement withdrawals for housing. This study considered two scenarios: maximum withdrawal leaving only the Special Account that is legally protected for retirement; and average withdrawal based on historical trends in housing withdrawals relative to total saving. Between these two scenarios, pension replacement rates range from 14-22% for men to 17-28% for women, while pension levels relative to the median wage are 20-31% for men and just 9-15% for women. These estimates are comparable to those from previous studies but reflect the latest pension rules and are calculated on a similar and transparent basis for Hong Kong and Singapore.

The incorporation of historically accurate rules with different starting points allows the tracking of possible pension outcomes for successive cohorts of workers. In general, younger cohorts fare better in both systems, due to the expansion of Hong Kong's pension system through the introduction of the MPF and OALA, and contribution rate adjustments to the CPF in recent years. Compared to the cohort starting their career in 1990, the 2010 cohort gained about 4-6 percentage points in terms of pension replacement in Hong Kong, and 1-2 percentage points in Singapore. But more detailed analysis of pension outcomes for every starting year between 1990

and 2010 shows that parametric adjustments to the CPF have not had a consistently positive effect on pension replacement rates. Any gains from later career timing are very small compared to the differences between the withdrawal scenarios. In other words, the major challenge remains the depletion of CPF savings for non-retirement purposes such as housing. In Hong Kong, although the pension system also favours later entrants, deeper structural reforms have significantly boosted pension replacement rates for all cohorts. For instance, for women with secondary education starting their career in 1990, the introduction of the MPF pushed their replacement rate up from 7% to 28%, while the latest OALA further increases the replacement rate to 39%.

Other parameters such as life expectancy, career length, and interest rate for calculating annuities also affect pension outcomes but are less critical than pension system design. An increase in life expectancy lowers pension payouts because the annuity stream generated from the final balance in individual CPF and MPF accounts must last longer. A one year increase in life expectancy decreases the pension replacement rate by up to 2 percentage points for both men and women in Hong Kong, and by 1 percentage point in Singapore. Earlier retirement was modelled for women as they generally have shorter careers than men in the two populations. Five fewer working years correspond with a 2 percentage point reduction in pensions relative to median wage but does not change the pension replacement rate in Hong Kong. In Singapore, this reduces pensions by 1 percentage point relative to median wage, but improves replacement rates by up to 2 percentage points. The assumed interest rate for calculating annuities can make a difference. Using a 4% interest rate instead of the 2% in the OECD study improves the replacement rate by 2 to 7 percentage points in both systems.

The projected pension outcomes were then compared against different income benchmarks—40-60% of the median wage to assess poverty avoidance and of individual final wage to measure consumption smoothing—to estimate the demands for children's support based on the implied income gaps. Two forms of support were considered: the amount of transfers from non-co-resident children in order for elderly persons to reach the various income standards, and the amount of individual income co-resident children must achieve in order for equivalised household income including parents' pensions to reach the designated benchmarks. The analysis covered one child and two children scenarios (either both co-resident or both living apart).

Elderly women require much higher levels of support than men and couples for poverty avoidance in Hong Kong. To reach the income standard of 50% median wage, single women with secondary education and one child require transfers of 24-30% median wage compared to just 1-2% for men and couples. A co-resident child has to achieve an individual income of 45-51% of the median wage, compared to just 6-18% if these women lived with their spouse. But in Singapore, the risks of financial hardship are more widespread due to lower pension rights. For poverty avoidance, even men with secondary education require transfers of 19-30% of the median wage, while women and couples require transfers of more than 40% median wage. With two children and if transfers are of more realistic levels of no more than a fifth of the median wage, then elderly persons must accept lower living standards at 0.5 times the median wage in Hong Kong and 0.4 times in Singapore. Having one fewer child doubles the demands for transfers per child, raising these requirements to seemingly impractical levels for some cases. For example, to reach a living standard of 60% median wage with one child, W1 in Hong Kong will require transfers equivalent to almost half of median wage, while CP1 in Singapore will need transfers of up to 70% median wage.

On the other hand, from a consumption smoothing perspective, higher earning cases will require significant support from children just to reach a replacement rate of 40%. Men with tertiary education need transfers per child equivalent to 84-88% of the median wage in Hong Kong and 69-79% in Singapore. Because of lower final wages, women with secondary education in both systems require relatively lower levels of support. To reach 50% income replacement, they need transfers of around 3-9% of the median wage in Hong Kong and 11-17% in Singapore.

Assuming there are no other incomes sources apart from pensions and children, the two pension systems appear likely to fall short of the objectives of both poverty avoidance for lower educated cases and consumption smoothing for higher educated persons. Notwithstanding the simplifying assumptions about family configuration and children's support, these projections serve to illustrate the implications of the current pension systems in terms of the possible financial strain either on elderly persons who are not able to access children's support or on the children themselves.

### 10.5 Can the public pension systems change?

The findings of the empirical and modelling work carry one consistent message: while family support has been important to the financial security of elderly persons in Hong Kong and Singapore, such support has been weakening under demographic pressure and may continue to do so in the coming decades, especially in Singapore where the pace of change is likely to be faster and the needs greater. At the same time, the existing public pension systems may not be sufficiently comprehensive or generous to compensate for the decline in children's support, again particularly in Singapore where a system centred on the CPF may offer very low benefits. An alternative source of income is assets, but these are unequally distributed and correlated with incomes. While housing ownership is relatively high in Singapore, the liquidation of housing assets is not straightforward and policy measures to encourage this process have been unpopular. The prospects for old-age income security may therefore depend increasingly on the chances for an expansion of public pensions.

The current pension systems are evidence that reforms do not always happen because they need to. Unlike the mature European welfare states where pension adoption has been linked to left political power and state capacity, while the path of pension retrenchment has been explained with post-industrialism and institutional forces, modest pension development in Hong Kong and Singapore has historically been framed by a unique political context. Taking a different approach from the literature that regards East Asian states as portraying a common model of social policy, the analysis in this study emphasised the effects of *different types* of state developmentalism—defined as the pursuit of economic development as national priority while curbing social spending and demands; *different forms* of political liberalisation and democracy; and the *different roles* of ideas as stable policy paradigms or competitive policy discourse leading to change. The interaction of these factors over two phases, the 1950s to the 1980s, and the 1990s to 2000s, resulted in distinct pension systems in Hong Kong and Singapore.

Following a period of flux in the 1950s, a strong policy orthodoxy emerged within both governments to avoid social spending and extensive social security systems. After ousting the political left and rejecting social insurance, the Singapore government built up a system based on the CPF that was suited to its interventionist style of developmentalism led by a cohesive and autonomous bureaucracy. The developmental motivation was most apparent during the economic downturns of the

1980s when the government enacted a series of cuts to employers' CPF contributions to suppress labour cost. In Hong Kong, the government initially tried to meet social needs through a system of public relief rather than formal social security. Later years saw a gradual expansion of these policies as the government kept to its paradigm of free-market developmentalism, and the rejection of a central provident fund which would have been incompatible with its smaller bureaucratic capacity. At the end of the 1980s, while both Hong Kong and Singapore were pursuing the growth model of the developmental state, their old-age pension systems reflected important variations in policy paradigm and governance structures.

During the 1990s, concerns about retirement income security grew in both places. Democratisation set off by the departing colonial administration in Hong Kong enabled interest groups to press for change and allowed the emergence of competitive policy discourse over pension models. This resulted in several policy u-turns before the MPF was eventually adopted. But in Singapore, strict political controls were less conducive for policy discourse. So despite concerns about the CPF, the 1990s-2000s was notable for a lack of ideas, with the government applying a narrow repertoire of minor policy adjustments without tackling fundamental challenges brought on by demographic changes. Hong Kong's model of partial democracy with civil liberties turned out to be more facilitative of policy discourse than Singapore's model of illiberal electoral democracy. Such policy discourse was often indeterminate of policy outcomes, but implied the availability of policy alternatives that could challenge the status quo.

These historical factors provide a basis for assessing the possibility of further pension reforms. Three "streams" are important to consider: public demands (or "problem"), policy prioritisation (or "policies"), and political participation (or "politics"). For Hong Kong, the clearest indication of reform potential lies in explicit public support for a new universal old-age pension scheme that will cover all elderly persons, not just workers. Public opinion data from recent years show that the majority of people are worried about their retirement income and do not believe the MPF will be sufficient for their needs. In the face of these demands, the government has taken steps to demonstrate that it is concerned about old-age income security and has commissioned studies into alternative pension models, despite its convictions towards a developmental policy paradigm. The politics stream is the most volatile and ambivalent. Strong traditions of social mobilisation and lobbying by pension groups



come up against influential business interests with links to the government, other more pressing issues to do with Hong Kong's political future that may dominate public attention, and signs of stricter political control by the government.

In Singapore, the overall prospects for major changes to the pension system are poorer. In the problem stream, there is evidence that most people support higher social spending for old-age pensions and do not believe that the CPF will be sufficient for retirement. But it is not clear how much Singaporeans understand or will support alternative pension models. So far systemic reforms do not appear to be a policy priority. The government continues to promulgate a developmental model of social policy based on economic dynamism and self-reliance, and recent reform efforts have focused on promoting work, supplementing low wages, and improving returns to CPF savings. Finally a weak tradition of social mobilisation and public participation is a major constraint on pension reform, as public demands lack a conduit to the political arena. While the space for social policy debates has opened up recently and may reflect an underlying shift in political mood among the population, there are no pressure groups lobbying for pension reforms and public trust in the government remains strong.

On the whole, in Hong Kong, there appear to be reasonable opportunities for the pension system to undergo further change, but policymakers' fundamental principles about social policy and the uncertain outlook for the democracy movement represent constraints on pension reform prospects. But in Singapore, where the need for an expansion of public pensions is greater, overall reform potential seems lower. The system is powerfully constrained by a lack of serious debate about the alternatives, policymakers' unwillingness to consider them, and the difficulties with translating any such discourse into political pressure.

## **10.6 Limitations and future research**

This study has several limitations. First, the macrosimulation projections of living arrangements and income sources have huge underlying uncertainties. Moreover current data limitations mean that it has not been possible to model future income sizes but only income sources. The study has attempted to improve the dynamism of the projections by combining different rates of historical extrapolation with regression modelling. But the range of cell variables and predictors was constrained by the small total sample sizes in the national survey datasets. As George et al. (2003) argue,

although all projections are subject to error, their utility lies not just in anticipating future developments but also in guiding policy thinking about the impact of different factors on population trends. It is hoped that the projections in this study have shown the possible impact of demographic change on elderly persons' living arrangements, access to income sources, and overall financial security in Hong Kong and Singapore. Chapter 4 also drew from additional data sources to estimate the relative sizes of different types of income within the average elderly income package, although it was not possible to integrate these data into the macrosimulation model. With better data on elderly persons' income amounts especially on a longitudinal basis, future research can extend the modelling to income composition and consider how income security changes during retirement.

Second, the modelling of pension outcomes in this study was based on a limited set of hypothetical individuals and as such says very little about the distribution of pension outcomes within the elderly populations as compared to what a microsimulation model would have achieved. To maximise the relevance of the analysis, Chapter 7 focused on six base cases in each population selected to represent different parts of the earnings distribution, increased the analysis to 18 cases based on three different entry points into the pension systems spaced 10 years apart, incorporated two policy scenarios per system, and finally examined a range of sensitivities including life expectancy, career length, and interest rate for calculating annuities. There remains some uncertainty especially surrounding the different pre-retirement withdrawal scenarios for the CPF. But the advantage is that as illustrative cases are relatively simple to implement, it has been possible to explicitly analyse the impact of these scenarios and other model assumptions on projection outcomes, which is often not possible with microsimulation.

The understanding of pension policy performance can be significantly enriched in future research by including the other two East Asian countries, Korea and Taiwan, where family support has also been important traditionally but there are defined benefit instead of defined contribution public pensions. In this way, the cluster of East Asian welfare states can provide a useful context for understanding how variations in the intersection of informal arrangements with formal provision can impact on social outcomes in crucial and unexpected ways. They can also help to identify the conditions under which public pensions can grow, just as this study has attempted based on Hong Kong and Singapore.

Beyond the remits of financial security, the findings from this study have possible implications for other aspects of retirement, such as social care and health care. Co-resident adult children not only contribute to income security but may also provide informal care for frail elderly persons. The projected decline in co-residence should therefore raise concerns about access to care within the family for future elderly cohorts. The alternatives are to depend on public social care services or to purchase these on the market. This implicates the level of retirement income. Unless subsidised public care services develop sufficient capacity, elderly persons with lower retirement incomes may be disadvantaged when it comes to purchasing care. Similar arguments may also be applied to health care. Unlike in Hong Kong where the cost of hospital care is mainly covered by universal public subsidies, hospitalisation expenses in Singapore are paid for through a mix of public subsidy, means-tested assistance, public medical insurance for some conditions, CPF savings, and cash. Since the amount of health care savings within individual CPF accounts are proportionate to earnings during working life, elderly persons with poorer pension outcomes may also face greater difficulties with medical expenses. These wider aspects of well-being during retirement and their connections with pension outcomes are important topics for future research.

### **10.7 Policy implications for Hong Kong and Singapore**

The findings from this study challenge two assumptions that regularly surface in policy debates about public pensions in Hong Kong and Singapore. The first assumption, concerning the interaction of demography and policy, says that the problems set off by population ageing—lower family support and longer retirement—will somehow be resolved by social progress, the accompanying changes in population profile, and pension system maturity. In particular, improvements to education and higher work participation among women may be thought of as factors that contribute to better financial independence in old age under wage-driven pension systems like the CPF and MPF. Individual account systems also benefit persons who have a longer record of participation, so younger cohorts of workers will retire with more savings in their MPF accounts than current workers who are nearing retirement. This study's findings indicate that such reasoning may be too optimistic. First, despite noticeable gains in labour force participation over recent decades, women's retirement income situations continue to lag far behind men's. Although more women are joining the workforce at

young ages, they continue to drop out of the workforce at much earlier ages, which may be linked to motherhood and other care responsibilities. Women also receive lower wages than men with equivalent qualifications. The result is more stark in Singapore which lacks a basic pension scheme like the SSAS. Even in 2005, most women were almost exclusively dependent on children for income upon retirement. Second, even taking into account further increases in labour force participation under ILO projections and the effects of any population profile changes between the 1990s and 2000s as captured in the national survey data, the projected access to market income and children's contributions is worrying. The projections showed that, under certain assumptions, it is possible for the proportion of elderly persons with market income and those with neither market income nor children's contributions to increase at the same time. This is the case for both Hong Kong and Singapore. In other words, increased access to income sources such as the CPF can take place parallel to—instead of compensating—an increase in income vulnerability due to declining support from children.

The second assumption relates to the interaction of family and policy. Much has been made of the resilience of “the Asian family” in supporting elderly members. The debate is sometimes obfuscated by a mix of cultural reasoning and political rhetoric, such as the Asian values discourse in the 1990s, that confuse what is desirable with what is. The central message from the empirical analysis in this study is clear. Family support has been a critical component of income protection in old age in both Hong Kong and Singapore. But reliance on this mode of support is also proving to be a source of vulnerability, especially if pension systems remain stuck to old assumptions as family structures change with demographic shifts. Already, intergenerational co-residence is falling quickly and transfers have declined in Singapore. The projections in this study suggest a sharp rise in the sheer numbers of elderly persons living alone and a slight fall in the likelihood of receiving children's contributions by 2030. They also show that the implicit demands for children's support under current pension systems may not be feasible. These trends should suggest strongly that persisting in promoting a family model of old-age income security as a main policy strategy is not a sound option. This is taken to the extreme in Singapore, where a law was enacted in 1995 to allow parents to bring their children to court in order to claim financial support. A more useful approach may be to think about how pension policy may keep pace and remain compatible with social changes, instead of resisting these trends.

The comparison between Hong Kong and Singapore throughout the study has shed new light on the policy prospects for each society and indicated possible ways forward. It also contributes a new perspective on pension policies within East Asia.

One lesson is that conceptions of an East Asian welfare regime can benefit from closer empirical analysis of policy effects. These notions have long been criticised for not sufficiently accounting for variations across country cases. What this study has shown is that there is diversity not just in terms of modes of social policy but also their outcomes. At the outset, there is an assumed affinity between Hong Kong and Singapore within the East Asian regime cluster and, in the specific domain of pensions, apparent similarities in terms of demographic pressures, dependence on family support, and ungenerous pension systems. It is therefore surprising how the findings for Singapore turned out to be less favourable in almost every respect: low incomes were more prevalent both in the 1990s and 2000s; income sources were less diverse especially for women; co-residence with children is expected to fall more quickly from now until 2030; the number of elderly persons living alone may grow more quickly; the possible pension outcomes are much lower; and the chances for pension reform appear to be less optimistic. It is all the more striking that the CPF system achieves poorer outcomes despite very high contribution rates that, while supportive of housing ownership in a way that Hong Kong's pension system is not, constrain the scope for raising taxes to improve pensions or other aspects of retirement.

The uniqueness of the CPF model and sustained economic competitiveness in Singapore may continue to motivate studies that commend the distinctiveness of its social policies and their compatibility with national economic goals, but the empirical analysis in this study shows that policy effects are not self-evident or generalisable across domains. In the case of old-age income security, the policy outcomes depend crucially on specific configurations of family support and pension provision. In Hong Kong family support through co-residence starts off at a lower level but public pensions have grown more quickly, while in Singapore family support begins at a higher level but is falling more quickly and public pensions have been slower to adapt. The result is a greater risk of financial hardship in old age and economic strain on the children in Singapore, even by comparison to Hong Kong's lean pension regime that still relies on family support. This alone should alert policymakers to the need for action.

At the same time, the comparison of policy responses highlights considerable dynamism over time within East Asian pension systems. Hong Kong and Singapore portray two different strategies for responding to policy pressures, with different outcomes and prospects. One way is to work within the parameters of the current system. This has been Singapore's approach. The government has in recent years introduced initiatives to encourage workers to retire later, started an income supplement scheme for older low-wage workers, adjusted CPF contribution and interest rates to give stronger emphasis to retirement saving, tightened some forms of pre-retirement withdrawal, replaced phased payments over a limited period with annuity payout, and promoted the liquidation of housing assets. The projections in this study have shown that these parametric adjustments may gradually raise the pension entitlements of younger cohorts, but the impact is limited as these gains can be easily cancelled out by housing withdrawal. The major structural issues still need to be addressed: within the CPF, large withdrawals for housing; and for the retirement income system as a whole, a lack of protection for persons with poor labour participation histories.

Hong Kong follows an alternative strategy. Substantial new schemes were introduced in 2000 and 2013, with the first targeting adults in the labour force and the second catering for all elderly persons. Projections of pension outcomes suggest that these schemes may boost pension replacement rates by 5 to 13 times for women and men with secondary education, respectively. The case of Hong Kong illustrates that even within a policy environment that favours familial welfare and is wary of any growth in social spending, it is possible to extend public pension provision in ways that strengthen income security in old age. This was achieved only with considerable policy contestation, sustained and broad-based policy discourse, and concerted public pressure. Policy choices can make an important difference to the prospects for old-age income security. Equally the cost of avoiding an open and thorough assessment of the full range of policy alternatives may be to increase the risks of hardship for future elderly generations.

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## Appendix A: Data variables

This appendix lists the key variables in the survey data analyses from Chapter 2 to 4, the source datasets, what the variables refer to, and how they were coded for analysis. Where formal variable definitions are not available, the original wording of the questionnaire items are shown instead within quotation marks.

### *1. Labour force participation (Section 2.4)*

#### Hong Kong Population By-census 1996, 2006

- Variable WHETLF: Whether in labour force, based on the seven days before the census reference date

Cases are coded as In labour force if response is Yes.

#### Singapore National Survey of Senior Citizens 1995

- Question V.1. “Activity/occupational status”

Cases with any of the following responses are coded as In labour force: “Working, self-employed”; “Working, employee/odd job”; “Working, unpaid family worker”; “Not working but looking for work”.

#### Singapore National Survey of Senior Citizens 2005

- Question D.41. “What is your current working status?”
- Question D.51. “If currently not working... are you currently looking for a job?”

Cases are coded as In labour force if response to D.41. is “Working” or response to D.51. is Yes.

### *2. Gross monthly income (Section 2.5)*

#### Hong Kong Population By-census 1996, 2006

- Variable MEARN: Earnings from main employment; amount earned excluding business expenses for self-employed; salary, bonuses, commission, overtime pay, and other allowances earned for employees; February 1996/June 2006
- Variable OTH\_EARN: Earnings from other employment
- Variable OCASH: Other case income; all recurrent cash incomes which are not remuneration for work; February 1996/June 2006

Monthly income is calculated as the sum of the above.

#### Singapore National Survey of Senior Citizens 1995

- Question VI.A.6a. “Total monthly income and allowances from all sources”

#### Singapore National Survey of Senior Citizens 2005

- Question E.58. “Income/allowances from all sources”

### 3. *Income sources (Section 2.6)*

#### Hong Kong General Household Survey Supplementary Enquiry 2000

- Variable Source of monthly personal income

Cases are coded as in receipt of income from these sources if response is Yes to: “Salary”; “Pension”; “Financial support from children”; “Financial support from other relatives”; “Comprehensive Social Security Assistance”; “Old Age Allowance”.

#### Hong Kong Thematic Household Survey 2008

- Question CD.1. “Do you have the following sources of income?”

Cases are coded as in receipt of income from these sources if response is Yes to: “Salary (including income from full-time and part-time job, bonus and allowances)”; “Pension”; “Financial support from children living together”; “Financial support from children living apart”; “Financial support from other relatives (including grandson/granddaughter)”; “Comprehensive Social Security Assistance”; “Old Age Allowance”.

#### Singapore National Survey of Senior Citizens 1995

- Question VI.A.1. “Sources of monetary income in the last 6 months... Respondent’s own sources”

Cases are coded as in receipt of income from these sources if response is Yes to: “Salaries or business income”; “Pension”; “Monthly withdrawal from CPF account”.

- Question VI.A.2. “Number of children providing cash allowance... on a regular basis”

Cases are coded as in receipt of children’s transfers if response is one or more.

- Question VI.A.3. “Cash contribution from related persons”

Cases are coded as in receipt of income from Other kin if response is Yes to any of: “Allowance from spouse”; “Allowance from grandchildren”; “Allowance from brothers/sisters”; “Allowance from other relatives”.

- Question VI.A.4. “Cash contribution from non-relatives... Public assistance”

Cases are coded as in receipt of public assistance if response is Yes.

#### Singapore National Survey of Senior Citizens 2005

- Question E.58. “Total monthly cash resources... From what source(s)?”

Cases are coded as in receipt of income from these sources if response is Yes to: “Income”; “Pension”; “CPF savings”; “Children”; “Public assistance”.

Cases are coded as in receipt of income from Other kin if response is Yes to either “Spouse” or “Other family members”.

### 4. *Assets owned (Section 3.3)*

#### Hong Kong General Household Survey Supplementary Enquiry 2000

- Variable Type of assets owned

Cases are coded as owning these assets if response is Yes to: “Self-occupied properties”; “Non-self-occupied properties (e.g. shops and rented housing units)”; “Cash/savings or fixed deposits”; “Stocks/bonds/investment funds”.



### Singapore National Survey of Senior Citizens 1995

- Question VI.D.1. “Respondent’s own assets”

Cases are coded as owning these assets if response is Yes to: “Own house”; “Savings/fixed deposits”; “Life/endowment insurance”; “Stocks, shares and bonds”; “Partnership in private/family business”.

### Singapore National Survey of Senior Citizens 2005

- Question E.59. “Do you own (or co-own), or have the following?”

Cases are coded as owning these assets if response is Yes to: “The house you are living in”; “Savings/fixed deposits”; “Life/endowment insurance”; “Stocks, shares and bonds”; “Partnership/interest in private/ family business”.

## 5. Asset value

### Hong Kong Thematic Household Survey 2008

- Question CD.16. “Apart from owner-occupied properties, what is the estimated value of your total assets? If the asset is shared with others, please calculate only your own share.”

## 6. Living arrangements and household composition (Section 4.3)

### Hong Kong Population By-census 1996, 2006

- Variable HHN: Household serial number
- Variable PPN: Person serial number
- Variable DJHEAD: Personal serial number of head of household, defined as the person acknowledged by members of the household to be responsible for making major decisions affecting the household
- Variable RELAT: Relationship to head
- Variable SEX: Sex
- Variable SSN: Spouse’s serial number

Cases are coded as Living with spouse only; Living with children only; Living with neither; or Living with both, and cases living with children are coded as living with single or married sons or daughters, based on responses to above items within each household.

### Singapore National Survey of Senior Citizens 1995

- Question II.1. “Whether spouse living in same household”
- Question III.1. “Number of living children (including adopted children)... living in same household”

Cases are coded as Living with spouse only; Living with children only; Living with neither; or Living with both, based on responses to above items.

Singapore National Survey of Senior Citizens 2005

- Question A.6. “Household member... state relationship to elderly”

Cases are coded as Living with spouse only; Living with children only; Living with neither; or Living with both, and cases living with children are coded as living with single or married sons or daughters, based on responses to sub-items “Spouse”; “Child 1, Child 2...”; and “Child 1’s spouse, Child 2’s spouse...”.

*7. Proportion of elderly income from children’s transfers (Section 4.4)*

Singapore National Survey of Senior Citizens 1995

- Question VI.A.6b. “What percentage of this amount comes from your children?”

*8. Proportion of elderly income from different sources and amount of children’s transfers (Section 4.4)*

Hong Kong Thematic Household Survey 2008

- Question CD.4. “How much do you receive on each source of income every month?”

Income sources based on Question CD.1. (see point 3 above)

*9. Household size (Section 4.5)*

Hong Kong Population By-census 1996, 2006

- Variable UHSIZE: Household size

Singapore National Survey of Senior Citizens 1995

- Question IV.1. “Number of persons in household”

Singapore National Survey of Senior Citizens 2005

- Question A.4. “Number of household members”

*10. Number of working household members (Section 4.5)*

Hong Kong Population By-census 1996, 2006

- Variable WORKPP: Number of working household members, defined as persons who performed work for salary or profit during the seven days before the census reference date

Singapore National Survey of Senior Citizens 1995

- Question IV.5. “Number of working persons in household”

Singapore National Survey of Senior Citizens 2005

- Question A.6. “Household member... state relationship to elderly”

Total number of working persons calculated based on number of “Working full-time” and “Working part-time” responses to sub-items “Spouse... Work status”; “Child 1... Work status, Child 2... Work status...”; and “Child 1’s spouse... Work status, Child 2’s spouse... Work status...”.

*11. Household income (Section 4.5)*

Hong Kong Population By-census 1996, 2006

- Variable DJHHINC: Household income; total income including earnings and other cash income of all members of the household in February 1996/June 2006