The London School of Economics and Political Science

Power of the Masses

Group Size, Attribution, and the Politics of Export Bans in Africa

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A thesis submitted to the Department of International Development of the London School of Economics for the degree of Doctor of Philosophy, London, November 2019

Declaration

I certify that the thesis I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

I declare that my thesis consists of 97,373 words.

Abstract

This thesis sets out to answer the question why African governments aiming to industrialize their economies introduce export bans on some processable commodities and not on others. It makes the argument that policy-makers avoid imposing export bans on commodities produced by a large share of the population because bans create a context in which politically dangerous producer mobilization is very likely. Export bans severely reduce producer prices. Since these are imposed at the border, beyond producers' usual field of vision, producers normally struggle to see the origin of these price distortions. Equally negatively affected by bans, raw commodity traders, however, have the knowledge, motivation, and capacity to inform producers about the ban and organize their protest against it, therefore making mass mobilization likely. Traders and producers react to high export taxes in similar ways, but protests do not tend to arise in reaction to low export taxes. In the latter case, traders are usually able to pass price distortions on to producers. They, therefore, have a lesser incentive to engage in the costly endeavour of setting up cross-group defence coalitions. Seeing how producer mobilization is less likely in reaction to the imposition of low export taxes, imposition, even on large groups, poses no significant risk to policy-makers. To test my argument against competing explanations, I employ a mixed-method design. First, I conduct a large-N analysis based on an original dataset covering all export bans and taxes employed in 36 African states in the last three decades. Holding a range of competing political and economic variables constant, the analysis finds robust support for the core hypothesis: the larger the share of the population producing a commodity, the less likely governments will impose export bans on them. As expected, this also holds for high but not for low export taxes. Second, based on eight months of fieldwork, my comparative analyses of six country-commodities in Ghana, Kenya, and Tanzania further substantiate these results and mechanisms. Overall, these findings provide new insights into the critical role politics play in industrial policy-making in Africa and show that African mass producer groups can overcome collective action problems to oppose policies adverse to their interests in certain circumstances.

Acknowledgements

My first thanks must go to my supervisors Catherine Boone and Ken Shadlen. Their dedication and precision consistently pushed me to dig deeper, think further, and write sharper. I am truly grateful to them for going above and beyond by commenting rapidly and constructively on uncountable stages and versions of the thesis. Their work was and remains an inspiration for my thesis and future projects.

I am grateful to the numerous other people who provided me with helpful feedback and advice throughout my time at LSE, particularly Elliott Green, Kate Meagher, James Putzel, Diana Weinhold, Joachim Wehner, Kai Spiekermann, Ryan Jablonski, David Keen, and Robert Wade. I also want to thank Tim Forsyth for giving me the opportunity to teach with him as well as Susan Hoult, Nina Craven, and the PhD Academy for their fantastic job at guiding us through the PhD.

I would also like to thank the participants at workshops and conferences that commented on my drafts, and the reviewers and editors that provided feedback on those parts of the thesis that are in the process of publication. Particular appreciation is due to Andy Harris, Martha Johnson, Henry Thomson, Nicolas van de Walle, Jan Pierskalla, Jacob Hensing, and participants at the European WGAPE meeting, the DSA Annual Meetings, the APCG Online Colloquium, the ASA-UK Biennial Meeting and the APSA Annual Meeting.

I am indebted to my brilliant colleagues in Manchester at the Effective States and Inclusive Development Research Centre, above all Tim Kelsall, Sam Hickey, Julia Brunt, and Kunal Sen. Their belief in my work has allowed me to pursue my longstanding academic dream to measure many previously unmeasured political economy variables across much of the Global South in parallel to writing this thesis.

I am very grateful for each person that I met during my fieldwork in Ghana, Kenya, Tanzania and beyond, who took the time to talk to me. By sharing their views, they shaped my way of thinking and set the basis for this thesis. I am indebted to the many people that have hosted me throughout these eight months, shared contacts with me, and made my fieldwork a beautiful experience that I will cherish for the rest of my life. In Ghana, particular appreciation is due to Abdul-Gafaru Abdulai, Maike and Silas Ewunto, the staff at the African Cashew Initiative and the African

Cashew Alliance, my friends Priscilla Addison, Manuel Sampson, Alexander Afram, as well as Maxwell Amponsah and my other wonderful flatmates at the Africa House. In Tanzania, I want to express a special thanks to Emmanuel S. Kigadye, Thabit Jacob, Michaela Collard, the staff at the ESRF, Hazel Gray, Dan Paget and the Fathers and fellow lodgers at the Passionist's Fathers Guest House. Lastly, in Kenya, I am particularly indebted to the Mbates, Mara Köberle, Matt Tyce, Julia and Diego Hakspiel, Geoffrey Lugano, George Ndungu'u, Nasirudin Elias as well as members and staff at the British Institute in East Africa.

This research project and the resulting thesis were a special time of my life and I would like to thank my friends who were part of this journey and the people I met on the way. Particularly the community of PhD students at LSE has been a constant source of solidarity and inspiration. I owe special thanks to Max Gallien, Jan Stuckatz, Carolin Dieterle, Allison Benson, Musa Kpaka, McDonald Lewanika, and Florian Weigand, who had to endure numerous conversations on my dissertation, helped me through more than one crisis, and were incredibly hospital in hosting me in between fieldwork stints. It was also a pleasure to learn from and walk the PhD journey with Guoer, Konstantinos, Michael and Kara as well as Benjamin, Portia, Camille, Yuezhou, Maria, Eduardo, Claudia, Hosna, Isaac, and Liz in other cohorts. Lastly, the fellows in the department have always been a great source of inspiration and advice for me, particularly Eyob Gebremariam, Florian Schäfer, and, most importantly, Pritish Behuria, a friend and advisor inside and outside of academia.

I dedicate this thesis to those who have suffered me the longest – my family. I cannot thank my parents enough for their unconditional love, unwavering faith in me, always standing by my side, and never losing interest in my stories. I am particularly grateful to my brother, Johannes, who has been my role model in academia and beyond. His testing of and guidance through the sometimes rough and uncertain waters of academe have made my PhD journey so much more enjoyable. And I could not agree more with him when he says that the last four years have felt as if we were walking this path together. My greatest debt of gratitude is owed to my partner in life, Alexandra. Thank you for your love, your friendship, your kindness, for tolerating my terrible working hours (and the many bad jokes), supporting my long travels, and always being there when I needed you. I could not have written this thesis without you.

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List of Abbreviations

ACA	African Cashew Alliance
ACET	African Centre for Economic Transformation
ACi	African Cashew initiative
AFA	Agriculture and Food Authority
AFFA	Agriculture, Fisheries and Food Authority Act
AGOA	African Growth and Opportunity Act
ASM	Artisanal and Small-Scale Mining
ATP	African Timber Products Limited
BMGF	Bill and Melinda Gates Foundation
BMZ	Bundesministerium für Entwicklungszusammenarbeit (Germany)
BUSAC	The Business Sector Advocacy Challenge Fund
CCM	Chama Cha Mapinduzi
CNRTF	Cashew Nut Revival Task Force (Kenya)
CDP	Cashew Development Project
CEO	Chief Executive Officer
CIA	Central Intelligence Agency
CIAG	Cashew Industry Association of Ghana
CRIG	Cocoa Research Institute of Ghana
DANIDA	Danish International Development Agency
DESA	United Nations Department for Economic and Social Affairs
DIT	Dar es Salaam Institute of Technology
DPI	Database of Political Institutions
DRC	Democratic Republic of the Congo
EAC	East African Community

EBS	Equity Building Society
EPA	Economic Partnership Agreement
EPR	Ethnic Power Relationship Dataset
EPTA	Export Prohibition and Taxation in Africa Dataset
EQN	Equatorial Nut Processors
ERP	Economic Recovery Programme
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FE	Fixed Effects
FOB	Free on Board
FOCIGC	Fugian Overseas Chinese Industrial Group Corporation
FPIB	Forest Products Inspection Bureau
GAP	Good Agricultural Practices
GASDA	Greater Accra Scrap Dealers Association
GATT	General Agreement on Tariffs and Trade
GBP	Great British Pound
GDP	Gross Domestic Product
GHC	Ghanaian Cedi
GIHOC	Ghana Industrial Holding Corporation
GMO	Genetically Modified Organism
GNI	Gross National Income
GSP	Generalized System of Preferences
GTA	Ghana Timber Association
GTMO	Ghana Timber Millers Organisation
GWA	Gliksten West African Limited

HS	Harmonized System
IC	Independent Collectors
ICDC	Industrial and Commercial Development Corporation
IDB	Industrial Development Bank
IDMS	Institution Development & Management Services
IFC	International Finance Corporation
IFI	International Financial Institutions
IIED	International Institute for Environment and Development
IMF	International Monetary Fund
INC	International Nut Council
IO	International Organization
IPE	International Political Economy
IT	Information Technology
ITC	International Trade Centre
JN	Jungle Nut
KARI	Kenyan Agriculture Research Institute
KCL	Kenya Cashew Nut Limited
KDCU	Kilifi District Cooperative Union
KECADA	Kenyan Cashew Nut Development Authority
KNC	Kenya Nuts Company
KOR	Kernel Outturn Ratio
KSH	Kenyan Shilling
LAT	Leather Association of Tanzania
LDF	Livestock Development Fund
LK	Livestock Keepers

LSM	Large-Scale Mining
MD	Managing Director
MDSD	Most-Different-Systems-Design
MGAK	Macadamia Growers Association of Kenya
MML	Millennium Management Limited
MoA	Ministry of Agriculture of Kenya
MoFA	Ministry of Food and Agriculture of Ghana
MoIT	Ministry of Industry and Trade of Tanzania
MoLF	Ministry of Livestock and Fisheries
MoTI	Ministry of Trade and Industry of Ghana
MP	Member of Parliament
NA	Not Available
NAFCO	National Buffer Stock Company
NARCO	National Ranching Company
NCPB	National Cereals and Produce Board
NDC	National Democratic Congress
NEDP	National Export Development Programme
NGO	Non-Governmental Organization
NIS	Nut In-Shell
NNPC	Nigerian National Petroleum Corporation
NOCD	Nuts and Oil Crops Directorate (Kenya)
NPP	New Patriotic Party
NUTAK	Nuts Traders Association of Kenya
NUTPAK	Nut Processor Association of Kenya
ODA	Official Development Assistance

OECD	Organisation for Economic Co-Operation and Development
PL	Plantations
PMD	Powdery Mildew Disease
PNDC	Provisional National Defence Council
PNP	People's National Party of Ghana
PRPC	Parastatal Reform Programme Committee
PSA	Political Settlement Analysis
QCA	Qualitative Comparative Analysis
RCN	Raw Cashew Nut
RE	Random Effects
RHS	Raw Hides and Skins
REWB	Within-Between Random Effects Model
RTAs	Regional Trade Agreements
SAP	Structural Adjustment Programme
SD	Standard Deviation
SED	Socialist Unity Party of Germany
SIC	Standard Industrial Classification
SITC	Standard International Trade Classification
SH	Small-Holders
SK	Slaughter Houses
SKR	Sound Kernel Recovery Rate
SMAG	Steel Manufacturers Association of Ghana
SSNIT	Ghanaian Social Security and National Insurance Trust
SY	Scrap Yard
TEDB	Timber Export Development Board

TF	Tea Farms
TIMBOD	Ghana Timber Marketing Board
TPR	Trade Policy Review
TRA	Tanzania Revenue Authority
TSDEA	Tema Scrap Dealer and Exporter Association
TSH	Tanzanian Shilling
TTA	Tanzania Tanneries Association
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
UNSD	United Nations Statistics Division
US	United States of America
USA	United States of America
USAID	United States Agency for International Development
USGS	United States Geological Survey
WDI	World Development Indicator
WTO	World Trade Organization

Chapter 1. Introduction

In recent years, industrial commodity processing[1] has increasingly been identified by academics and policy-makers alike as one of the most promising routes to reviving economic transformation on the African continent. Correspondingly, virtually all African governments have put commodity processing promotion at the forefront of their national development plans and numerous continental policy initiatives have emerged to support them (UNECA 2013). Resource-based industrialization, however, faces bottlenecks in Africa, such as poor energy and road infrastructure, difficult political environments, and a lack of adequate technical, financial, and human capital. Processing is therefore often more competitive outside of Africa, foreign processors can outcompete domestic processors in buying domestic raw produce, and both foreign and domestic investors shy away from processing in African countries of origin.

Governments across the developing world, above all in Africa, have increasingly reverted to export bans on unprocessed or semi-processed commodities to solve these problems. Export prohibitions increase the domestically available supply of raw materials, eventually leading to a fall in domestic prices. While domestic raw producers (e.g. farmers, loggers, and miners), middlemen, and exporters are likely to lose income, processing in the country of origin becomes more competitive vis-à-vis raw exportation and foreign processing, hereby incentivizing domestic and foreign capitalists to invest in country of origin processing. Notably, export restrictions are particularly popular industrial policy tools among African governments because – in contrast to other measures like subsidies, loan schemes, or building training institutes – they do not require significant bureaucratic capacity or funding (both scarce resources on the continent).

Intriguingly, however, developing country governments tend to employ export bans very differently across commodities. My analysis of an original dataset – the Export Prohibition and Taxation in Africa (EPTA) panel dataset – as well as previous

[1] Industrial commodity processing can span both primary and secondary processing stages. It differs from primary farm-level-based processing in that it occurs in factories and employs machinery. In the following, industrial commodity processing is abbreviated processing.

research on export restrictions[2] more broadly (Estrades *et al.* 2017; OECD 2014: 24; Solleder 2013: 47) show that among commodities which could sensibly be banned, some tend to be much more restricted at export than others. On average, African governments do not tend to prohibit exports of unprocessed agricultural crops, such as tea, cashew, cocoa, cotton or sesame, as well as unrefined gold. In contrast, they do tend to frequently impose export bans on commodities such as timber logs, raw hides and skins, metal wastes and scraps, as well as precious stones and chromite in some instances. The central aim of this thesis is to understand why governments restrict certain economically 'bannable' commodity exports more frequently than others.

I argue that group size of producers is fundamental to explaining the observed pattern. Specifically, it contends that due to a perceived or actual increased risk to their political survival, policy-makers are less likely to prohibit the export of commodities the larger the share of the population that gains significant income from producing them. Export bans on raw commodities tend to harm raw producers (and traders) as they effectively redistribute parts of their income to processors. For product sectors that employ a large share of the population (such as most agricultural product-sectors but also gold mining), politicians striving for political survival will avoid imposing export bans for fear of producers' retaliation. In contrast, product sectors in which only a small part of the population earns a significant part of their income – typically logging, certain gemstone mining sectors, metal waste and scrap collection, chromite mining, as well as raw hide and skin production – do not have this political weight and are therefore more likely to experience export bans.

Though this association might appear intuitive, it contradicts some of the most influential and widely-accepted scholarship on public policy and collective action. In 'The Logic of Collective Action', Olson (1965) argued that smaller groups were more likely to engage in collective action than larger groups (such as peasants) as

[2] Export restrictions are trade policy instruments applied by exporting countries, with the aim of controlling or banning exports of certain products (Estrades *et al.* 2017: 3). The key export restrictions are export taxes, export quotas, reference or minimum prices on exports, non-automatic export licenses, and export bans. The analytical focus of this thesis lies on export taxes and prohibitions, the most relevant form of export restrictions.

they have higher per capita stakes and lower costs of transaction and mobilization. This model has not only found ample application and confirmation in the study of industrialized economies (Destler 1995; Gawande and Bandyopadhyay 2000; Grossman and Helpman 1994; Hillman 1982; Peltzman 1976), but also in the analysis of policy outcomes in the developing world. The perception of African peasants as incapable of mobilizing for their interests and posing a threat to their governments was shaped, in particular, by Robert Bates's (1981) argument that the mass of African peasants was disadvantaged by their governments to satisfy the interests of smaller urban and large-scale farmers' groups.

I argue that the fact that export bans severely harm *both* producers *and* traders is critical in understanding how mass producer groups can overcome their collective action problems. Implemented at the port or border and not at the farm or mine gate, export measures like export bans are not directly visible to producers. This makes it difficult for producers to attribute any resulting price distortions to government action and to hold governments accountable. Traders, however, directly observe the implementation of export bans. Since export bans are extremely damaging to their business, they have the incentive to employ their comprehensive networks and financial resources to inform producers on and organize them against bans. Given the common sharp price reductions resulting from export bans, these mobilization attempts are likely to be successful among producers who stand to lose a significant share of their incomes. Facing the high risk of creating a dangerously large and agitated group that knows who to blame, policy-makers are very likely, therefore, to abstain from introducing export bans on commodities produced by a large share of the population. While this logic should hold for high export taxes as well (which often serve as de facto bans), I argue that it differs for low export taxes. Traders can usually pass through price distortions resulting from low export taxes to producers and therefore have a lesser incentive to engage in the costly endeavour of setting up cross-group defence coalitions between themselves and producers. Producer mobilization is thus less likely and imposing low export taxes even on large groups poses a low risk to policy-makers.

To test these arguments against competing explanations, the study employs a mixed-method strategy. First, it runs different multi-level logit regression models on a panel dataset of over 3,000 country-commodity-year observations

(representing 12 ‘bannable’ commodities in 36 African countries from 1988 to 2017). Primarily using WTO Trade Policy Reviews and agricultural census data, country-commodity-specific export ban, tax, and labour share data have been collected for this study. Holding a range of competing variables constant, its findings provide strong and robust evidence for the hypothesis that larger shares of the population gaining income from producing a commodity reduces the odds that governments will impose an export ban (as well as high export taxes) on that commodity. Critically, these results are robust to several alternative model specifications, including running the models with simultaneous fixed effects for commodities, countries and years, as well as excluding state-controlled, low-volume, and each commodity in turn. Furthermore, by showing in a multinomial logit regression that the reverse association holds for low – and hence less hurtful and visible – export taxes, it provides evidence that the severity and attributability of a policy’s impact is of importance.

Second, the study presents two qualitative case comparisons of six commodity sectors in Ghana, Kenya, and Tanzania. Based on eight months of fieldwork and over 250 interviews with key actors in these six and eleven further commodity value chains, the core goal of these two comparisons is to examine the explanatory power of competing explanations, mechanisms, and condition variables that could not be operationalized in the large-N. In this regard, the first comparative analysis of the Ghanaian raw cashew export ban withdrawal and the maintained Kenyan export ban on raw cashew and macadamia nuts is particularly useful. The ban on raw cashew exports in Ghana is one of the very rare cases where a government introduced a ban on a commodity and withdrew it (almost instantly). This allows to trace which events and actions by relevant players in the sector led to the withdrawal of the ban, and thus to demonstrate the risk of implementing a ban on a large group of producers, and why most governments avoid doing so in the first place. Overall, the comparative analysis of these three nut sectors provides strong support for the theoretical argument. In each case, exporters and middlemen were critical in informing farmers about the bans and successfully mobilizing them against them. However, only in Ghana, where nut growers were many (around 100,000), did politicians perceive this mobilization as highly threatening and felt it necessary, therefore, to withdraw the ban immediately. In Kenya, where cashew and

macadamia nut farmers were few (about 10,000 respectively), the nut bans remain till this day, despite farmers' initial trader-organized protest.

The second comparative analysis takes a closer look at the three most commonly banned processable commodities in Africa: raw timber logs, metal waste and scraps, as well as raw hides and skins. More specifically, I study the explanatory power of the thesis argument in relation to the 1995 raw log and the 2013 ferrous waste and scrap export bans in Ghana as well as the 2012 de facto export ban on raw hides and skins in Tanzania. Given that these commodities strongly shape the empirical pattern motivating the thesis and to a significant extent the findings derived in the large-N regression analysis, it is critical to study whether the thesis argument does indeed hold here as well or whether alternative factors can explain their difference to other (especially agricultural) commodities. Fruitfully, being rather different on confounding variables yet similar on the outcome and key explanatory variable, the three commodity cases lend themselves rather neatly to a most different systems design comparison. This allows me to preclude certain alternative explanatory factors as necessary causes of export bans.

The three cases provide further support to the theoretical argument of the thesis. In Ghanaian timber, the government implemented an export ban on all raw logs (except for teak) in 1995 to promote and protect the domestic processing industry. As in the case of the Ghanaian and Kenyan nut export bans, domestic log prices for most species dropped by around 50% within one year of the ban. Dedicated logging industries were furious about the ban and many of them closed shop (helping larger foreign-owned integrated timber processors to consolidate the market). Given their small size (less than 5,000 loggers, i.e. less than 0.03% of the population) and organizational weakness, they failed to organize any meaningful protest or pose any significant threat to the government, however. Importantly, since most timber exporters in Ghana were accustomed to trading both raw logs and semi-processed timber, the ban was less of a shock to them and presented no strong motivation to lobby against the ban or try to lead a defence coalition against it. Similarly, following strong lobbying from the steel industry, the Ghanaian government decided to legally ban all exports of ferrous waste and scrap in 2013. Producer prices dropped significantly, and scrap collectors organized by scrap traders (also known as dealers) intensively lobbied and protested the ban – again to no avail. As

in timber, the number of collectors was too low (likely around 15,000 collectors in the whole country) to be of significant political concern to policy-makers. Finally, the context in raw hides and skins is similar, yet different at the same time. Although there are several million livestock keepers in Tanzania, only a minuscule share of the population earns a significant income from raw hides and skin production and trade. The reason is that, because the actual value of a raw hide or skin constitutes only around 1% of the value of a whole cow, goat, or sheep, African livestock keepers de facto do not receive any income from the commodity (i.e. they are part of the production but not value chain). The only actors gaining a significant share of their income from working with raw hides and skins – apart from tanners of course – are hides and skins collectors and traders, which in Tanzania represent less than 2,500 people (or 0.005% of the population). As such, when the Tanzanian government in 2012 decided to impose a 90% export tax (intended as a de facto ban) on raw hides and skins, the only people agitated were hide collectors and traders. Knowing they did not have the numerical clout to sway the government to lift the policy, traders have mainly attempted to circumvent it by smuggling a significant share of the national raw hide production to Kenya and overseas.

Overall, this thesis makes five key theoretical and empirical contributions. In recent years, significant advances have been made in improving our understanding of how industrial policy has shaped and is actively shaping development across the globe (Lin and Chang 2009; Mazzucato 2013; Rodrik 2009; Stiglitz and Lin 2013). Much of this literature, however, neglects the important role domestic politics play in how and when industrial policies are implemented. This thesis builds on and enriches a growing literature that brings back politics into the study of industrial policy (Altenburg and Lütkenhorst 2015; Behuria 2015; Doner *et al.* 2005; Gray 2018; Kelsall 2013; Khan 2013; Tyce 2019; Whitfield *et al.* 2015). In contrast to much of this literature, however, it moves beyond small-N comparisons and (often useful) emphasis on context-specificity by demonstrating that generating and testing parsimonious theories with broad external validity remains possible in this research field. Second, the thesis contributes to recent research emphasizing that the severity and attributability of a policy can shape both the collective action capacity of those affected and thus the policy's attractiveness to politicians (Batley and Mcloughlin 2015; Harding 2015; Harding and Stasavage 2014). Moreover, it adds to a growing

literature demonstrating that rural mass interests can, under certain circumstances, become a credible threat to both democratic and authoritarian governments (Boone 2003; Kjaer 2015; Pierskalla 2016; Thomson 2018). Specifically, it shows that the building of synergetic defence coalitions along the value chain with traders can help producers overcome their informational and organizational weaknesses, a finding that resonates with the importance attributed to cross-group coalitions in other recent studies (Esteban and Ray 2008; Fairfield 2011; Johnson 2011; Junk 2019; Schrank 2019). Fourth, with the creation of the EPTA dataset, the most comprehensive export prohibition and taxation dataset to date, it helps clear the road for future research into the politics and economics of industrial and trade policy in Africa, and particularly into an increasingly important, albeit greatly under-researched topic: export restrictions. And finally, it conducts novel and detailed political economy analyses of value chain and industrial policy dynamics in a range of highly under-researched yet important African commodity sectors.

The thesis generates tentative policy implications for governments, industry associations and donors keen on promoting processing. It suggests that where many raw producers would be negatively affected through a ban, these actors should consider policies which are less damaging economically and less risky politically. Concretely, moderate export taxes (e.g. below 10 or 20%) could be one such alternative. They are not only less severe and visible but also generate revenues that can be used to support both producers and processors. If export bans are introduced nevertheless, they should be accompanied by measures that reduce the impact on producers (such as fair minimum prices). The lack of doing so has led to extreme economic and political outcomes in the Kenyan and Ghanaian cashew sectors, among others.

The thesis proceeds as follows. **Chapter 2** provides further detail on the observed export ban patterns in Africa and explains how economic feasibility conditions shape the study's scope of analysis. **Chapter 3** first specifies the theoretical argument of the thesis and then pits it against potential competing explanations for the observed cross-commodity export ban patterns. Representing the first part of the empirical analysis, **Chapter 4** presents the large-N research design and its core findings. Subsequently, **Chapter 5** describes the case selection of the two qualitative case study comparisons, and the key methodological choices made. In

Chapter 6, the analysis and findings of the Joint Method comparison of the Ghanaian cashew and Kenyan cashew and macadamia sectors are discussed, before **Chapter 7** presents the second comparative analysis, comparing the Tanzanian leather with the Ghanaian timber and metal waste industries. The thesis is concluded in **Chapter 8** with a final review of the study's main findings, contributions, and policy implications, as well as an outlook on future research.

Chapter 2. Literature Review, Export Ban Patterns, and Commodity 'Bannability'

Before venturing into debates on why certain commodities are banned more than others in Chapter 3, this chapter discusses in four parts why this question matters in the first place. In Section 2.1, I review the scholarship on export bans and export restrictions more broadly. I conclude that significant work has been done on the effects of export restrictions on diverse economic outputs, but less time has been invested in mapping and explaining patterns of export restrictions, particularly export bans in Africa. I argue that this is due primarily to a lack of data, a gap that I close with the Export Prohibition and Taxation in Africa (EPTA) dataset, presented in Section 2.2. Using the dataset, Section 2.3 illustrates key trends and patterns in the imposition of export bans across African commodities in the last three decades. In the final section, I present five economic factors that can explain a large part of the variation, specifically why many commodities do not tend to be banned. In doing so, I identify 14 commodities which can be considered bannable and form the core units of interests for the remainder of the thesis. Critically, significant variation in their propensity to being banned at export remains among these 14 commodities, motivating the eventual narrower research question of the thesis: *why are African governments more likely to ban the export of some 'bannable' commodities more than others?*

2.1. A Short Review of the Literature on Export Restrictions

While limited, the study of export restrictions has grown steadily in the last decade. Much of this scholarship was motivated by the surge of export taxes and bans on agricultural food products during global food prices hikes in the late 2000s as well as high-profile disputes between China and OECD member states before the WTO in recent years. Many of these studies have tried to understand in particular how export restrictions on commodities have affected their international trade volumes

and prices and how international trade agreements could limit them (Anania 2013; Beckman *et al.* 2019; Estrades *et al.* 2017; Fliess *et al.* 2012; Karapinar 2010; Korinek and Bartos 2012; Liapis 2013; Mitra and Josling 2009). More related to the topic of this thesis, a second scholarship has focused the economic effectiveness and efficiency as well as the social impact of export taxes and bans to promote commodity processing industries. Despite exceptions (Bouët *et al.* 2014; Ramdoo and Bilal 2014), overall, findings are rather sobering. Studies on the use of export taxes and bans on such varied commodities as raw cotton in Pakistan (Piermartini 2004), timber logs in Indonesia (Lindsay 1989; Resosudarmo and Yusuf 2006) and Gabon (Morris *et al.* 2012; Terheggen 2011a), unprocessed oilseeds in Malawi (Aragie *et al.* 2016), uncut gemstone in Madagascar (Kyngdon-McKay *et al.* 2016), and different unprocessed minerals in Southern Africa (Fliess *et al.* 2017) have found that overall these measures tend to be welfare-reducing both in the short- and long-term.

Critically, little work has been conducted on uncovering and explaining patterns of export restrictions. This is largely because collecting data on export bans and taxes is difficult and requires considerable effort. In contrast to import tariffs, governments do not have to notify the WTO of new export restrictions. Although governments have information on export restrictions, they often do not make them public. Nevertheless, three important efforts have been undertaken to collect data on export restrictions. Since 2010, OECD researchers (Fliess *et al.* 2012; OECD 2014) have been collecting data on export restrictions for the top five producers of most industrial raw materials (i.e. metals, minerals, and wood). In their analyses of the data, they found that the use of export restrictions was on the rise, that industrial policy concerns were a particularly common motivation behind this, and that metal waste and scraps and wood products were especially prone to facing severe export restrictions like export bans. Relatedly, in her thesis covering 20 developing countries across the globe, Solleder (2013) finds that developing country governments tend to employ export restrictions very differently across commodities. Whereas typical cash crops (such as coffee, tea, or edible nuts) are rarely heavily taxed, severe restrictions on food staples, timber, metal waste and scrap, as well as raw hides and skins are much more common. Moreover, Solleder (2013: 54) in a more superficial survey of export taxation usage around the globe

finds that African countries are the most extensive employees of export taxes in the world (91% of African countries employing them), with 76% and 71% Asian and Latin American countries respectively employing export taxes. Similarly, in their global coverage of all major export restrictions on raw agricultural commodities implemented in between 2004 and 2015, Estrades *et al.* (2017) also find that whereas cash crops are generally rarely heavily restricted, food staples are banned relatively frequently in times of global food crises.

Although the three described data collection efforts have added significantly to the knowledge on the cross-commodity patterns of export restrictions, they have significant limitations. Most importantly, none of the three research projects has attempted to explain why governments tend to impose export restrictions more on some commodities than others. Rather than seeing export restrictions as an outcome variable, it is used to explain other outcomes, like global commodity prices, while mostly ignoring the potential role played by domestic and international politics. This is unfortunate. As I argue in this thesis, particularly the impositions of export bans are an outcome that provides a novel and relevant lens to analysing the politics of industrial policy-making in developing countries.

Second, all three studies have significant data constraints. Whereas Solleder finds Africa to be the most export restrictive continent, her core dataset only covers four African countries and focusses exclusively on export taxes. Similarly, the OECD dataset only covers export restrictions on 12 African countries and limits itself to industrial raw materials. Finally, while Estrades *et al.* (2017) have a global country coverage across export restriction types, they focus only on agricultural commodities, thereby severely limiting the potential scope of analysis. Thus, in order to study the economics and politics of export restrictions in Africa, a more comprehensive dataset is required.

Four major conclusions can be drawn from the discussion of the literature. Most economists are sceptical about the use of export restrictions and export bans in particular. Nevertheless, governments across the Global South (and particularly in Africa) appear to increasingly use them in their pursuit of industrialization. Importantly, however, governments restrict the export of some raw commodities more than others. Yet, little research has been invested in explaining such patterns,

partially due to the lack of adequate datasets. The following section thus introduces a dataset that allows addressing these gaps.

2.2. Introducing the Export Prohibition and Taxation in Africa Dataset

Considering the identified gaps in the literature and given that no ready-made export restriction dataset covering Africa exists, I constructed the Export Prohibition and Taxation in Africa (EPTA) panel dataset for this study. It includes data on export taxes and prohibitions for 36 sub-Saharan African WTO member states[3] covered by the WTO Trade Policy Reviews (TPRs), with the earliest date of coverage 1988 (for some countries) and the latest 2017. The TPRs provide the largest volume of information on export measures (WTO 2018). They are compiled by WTO country experts, who spend several months in a country summarizing all trade relevant policies, including export bans. Given that member countries are not compelled to notify the WTO when they implement an export restriction, these in-depth reviews constitute the most detailed and reliable source on this trade policy instrument. Global Trade Alert (2016) has been a further common source for export restriction datasets and constitutes the second most used source for the database. Finally, I cross-checked the data, particularly the exact year a measure was introduced, against information collected from government websites and legal databanks, newspaper articles (if verifiable by official sources), and direct inquiries with relevant government agencies.

Government export prohibitions and the reporting thereof often do not follow common international trade statistic standards. Rather than indicating the exact trade product code(s), governments and TPRs will be more general and indicate,

[3] The 36 countries are: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo Dem. Rep., Congo, Rep., Cote d'Ivoire, Djibouti, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South, Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe.

for example, the ban of ‘all round logs’, ‘metal waste and scraps’, or ‘unprocessed cashew nuts’ (which in the following I refer to ‘as named in the document’). However, most relevant trade data in the world – such as that on a product’s trade value, volume, or the import tariffs it faces elsewhere – is nowadays captured via the so-called ‘Harmonized System’ (HS), which is the internationally standardized system of names and numbers to classify traded products maintained by the World Customs Organization. According to the HS, goods can be classified and disaggregated into sections (e.g. ‘vegetable products’), chapters (e.g. chapter 10: ‘Cereals’), headings (e.g. heading 10.06: ‘Rice’), and sub-headings (e.g. sub-heading 100630: ‘Semi-milled or wholly milled rice, whether or not polished or glazed’). To be able to relate the EPTA dataset to other trade databases and variables, all banned and taxed products mentioned in the original sources were translated to their six-digit sub-heading product level equivalents.[4] For example, ‘unprocessed cashew nuts’ translate very directly to code ‘080131: Nuts, edible; cashew nuts, fresh or dried, in shell’. For other products, translations might be more complex. There are, for example, ten different six-digit level codes relevant to the description of ‘round logs’:

440310	Wood in the rough..., treated with paint, stain
440320	Untreated coniferous wood in the rough...
440331	Dark Red Meranti, Light Red Meranti and Meranti (excl. treated)
440332	White Lauan, White Meranti, White Seraya (excl. treated)
440333	Keruing, Ramin, Kapur, Teak, Jongkong, Merbau (excl. treated)
440334	Okoume, Obeche, Sapeli, Sipo, Acajou d'Afrique (excl. treated)
440335	Tiama, Mansonia, Ilomba, Dibetou, Limba and Azo (excl. treated)
440391	Oak (Quercus spp.) wood in the rough, (excl. treated)
440392	Beech (Fagus spp.) wood in the rough, (excl. treated)
440399	Wood, nes in the rough..., (excl. treated)

In such cases, only those products which were actually exported (i.e. showed up as such in trade databases prior to the ban) were marked as banned in the dataset. For

[4] Doing so the HS0 or HS1988 version of the system was used. Since 1988, there have been six updated versions of the classification. The HS1988 version – rather than the newest HS2017 – was used because it is much easier to convert the new classifications back into older ones, but very difficult (if not often impossible) to convert old classifications into new ones. Accordingly, most trade data are available in one go until 1988 with the HS0/1988 version, but only until 2017 for the newest version, or 2007 for the HS4/2007 version. To make the most out of the TPR data that can go back to 1988, it made most sense to use the original HS0 version. Only one exception was made to this rule in the dataset: cashew. Because the HS0 version does not disaggregate between in-shell and shelled cashew nuts, the HS1/1996 version was used which does.

example, Gabon never exported oak logs (code 440391) because it never produced oak trees[5]. Claiming it also banned the export of oak logs when it banned the export of 'all round logs' would not make much sense, and as such, only those log types it did actually export are listed in the dataset.

2.3. Export Bans in Africa: Trends and Patterns

With the help of the EPTA dataset and these classifications the phenomenon of export bans in Africa can be described in more detail. First, we shall track how many commodities were banned according to the TPRs and other sources in 36 African countries in the last three decades, and when these bans were first implemented. We can do this in at least two ways. One, we can look at the number HS six-digit-level product categories which saw the imposition of a ban in a certain year and country. This way is somewhat problematic as an indicator of quantity. As outlined above, whereas some commonly understood commodities like 'raw cashews' correspond to only one HS product code, others like 'unprocessed timber logs' correspond to ten. As such, if ten countries decided to ban unprocessed cashews in the same year, on an HS-six-digit-level-based measure this would show up no different than if one country had banned the export of all raw logs (if they exported all raw log types). Therefore, certain product bans would appear as massively overrepresented in aggregated statistics. Though to a lesser extent, the same problem persists when going up to the HS-four-digit-level. Whereas all round log six-digit-level products belong to the same HS-four-digit level, 'metal waste and scraps', for example, the 32 potential metal waste and scrap HS-six-digit level products belong to 21 different HS-four-digit 'headings'. An alternative is to go up to the HS-two-digit chapter-level (which still suffers partly from this rather arbitrary weighting). Easier and arguably closer to the original understanding and intentions of the policy-makers implementing the ban is to simply go by the name or

[5] Note that it does produce Oldfieldia africana, also known as the African oak, which however is different from the 'Quercus' species referred to in the product code.

commodity used in their decrees or in the data source (e.g. TPR, Global Trade Alert, etc.).

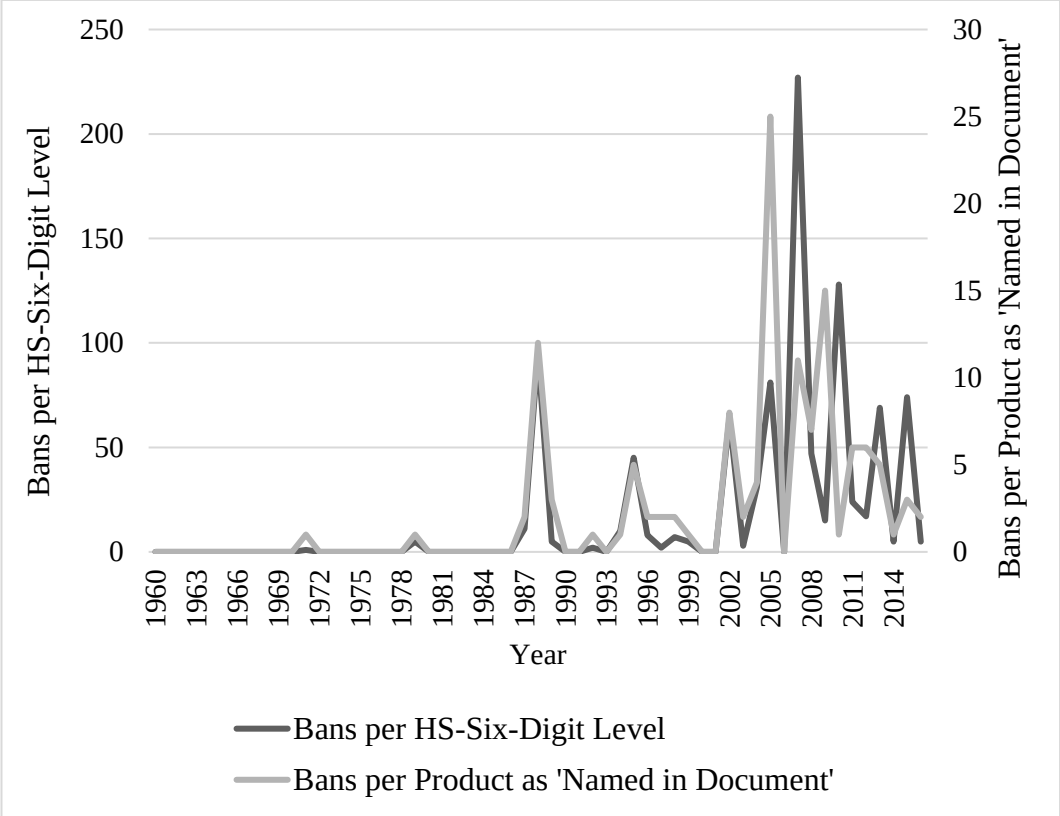

Figure 2.1. Total Annual Introduction of Export Bans in 36 African WTO Member States by HS-Six-Digit Level and by 'Name in Document', 1960-2017
Source: Own illustration based on EPTA dataset

Figure 2.1 attempts to chart these two variables over time. Specifically, it looks at all the HS-six-digit-level products and products as named in the primary sources that were affected by export bans in the time of the TPR (i.e. post-1988) and indicates in which years they were introduced. In line with the previous discussion, we see that many more HS-six-digit-level products are banned than products named in the primary sources. This is also reflected in a few different peaks, such as in 2007 where the Guinean government introduced a rare blanket ban on food staple exports, fishery products, as well as timber (which all together translate into hundreds of HS-six-digit level products, but only a handful of 'names in the

document') in an effort to combat the starting food crisis in the late 2000s. A full list of all implemented bans by country, year of introduction, processing stage, and commodity type can be found in Appendix 2.1. In Appendix 2.2. Figure 2.1 is recreated, however, this time disaggregating the introductions by commodity group.

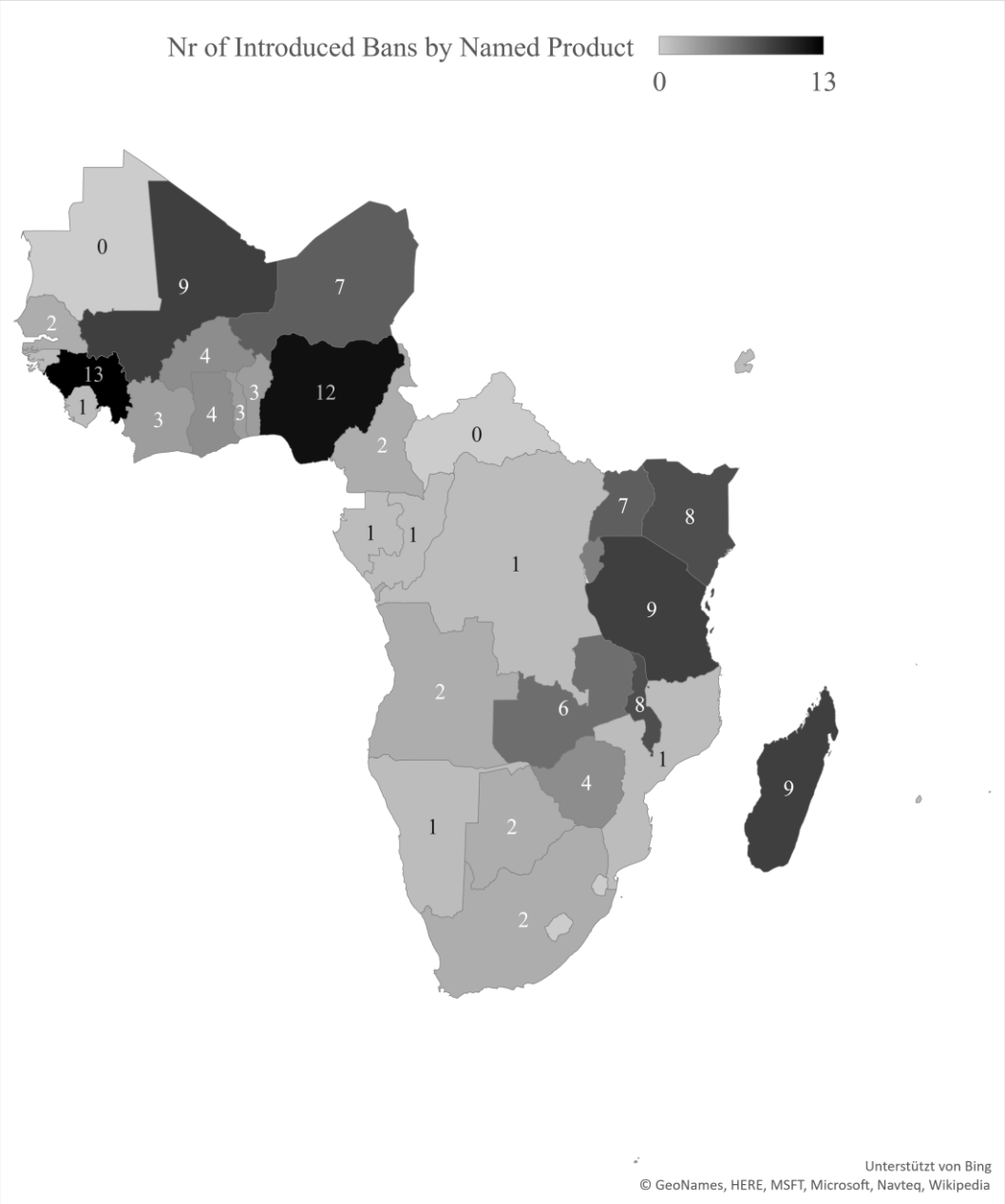

Figure 2.2. Bans Introduced by Country and Named Product, 1960-2017

Source: Own illustration based on EPTA dataset

In general, however, the patterns of the two measures are strikingly similar. Barely any of the bans captured by the dataset were implemented prior to the first SAPs in the 1980s. In fact, out of the 986 HS-six-digit level products that have experienced a ban in the last 30 years, 869 (88%) faced the introduction of a ban post-1990 and 789 (80%) post-2000. Looking at products as named in the original documents, these number translate to a total of 129, of which 110 (85%) were introduced post-1990 and 95 (74%) post-2000. Overall, this pattern is broadly consistent with the argument that bans were often implemented in a post-marketing board and state monopsony period where few means are available besides bans and high taxes to divert raw production to domestic processors (or consumers). Peaks in the charts tend to reflect years in which countries (or regional unions) decided to implement bans on a range of commodities (e.g. Nigeria in 1988; the ECA in 2005, or Mali in 2015 [also illustrated in Figure 2.2]) or periods of continent-wide food price crisis during which many countries implement short bans on food staples, such as during the 2007-2009 global food price crisis. Importantly, bans on non-food staples are very rarely withdrawn.

Having established since *when* export bans have been mostly employed, we can determine *what* they actually ban. Figure 2.3 below illustrates the number of ban introductions on products named in the original documents summarized by sector, i.e. the HS's highest level of aggregation. On a more superficial level, we find that products belonging to the wood, vegetable, and metal sectors are banned most frequently, each with over 30 named products banned at export. Animal, hides and skins, as well as stone and glass exports, are also commonly though less frequently banned. There are a few instances of export bans on machines and electronics, food products, minerals, as well as one each on products belonging to the rubber and fuel sectors. In contrast, no bans were imposed on exports of chemicals, textiles, footwear, or transportation products (e.g. cars, bicycles, etc.).

To understand exactly what products are banned, these sectoral boxes need to be further unpacked. Appendix 2.1 details all country-product bans, sorted by sector. The three most commonly banned sectors are wood, vegetables, and metals. With 46 bans, wood products are the most commonly banned products in the dataset. Over half of these (26 bans) exclusively concern "raw" or "unprocessed" timber logs. Three countries (Cote d'Ivoire, Madagascar, and Nigeria) have banned semi-

processed timber in addition to log exports. In eight cases bans have affected the export of some or all wood species independent of their degree of processing. And bans on charcoal exports accounted for 10 of the 46 bans.

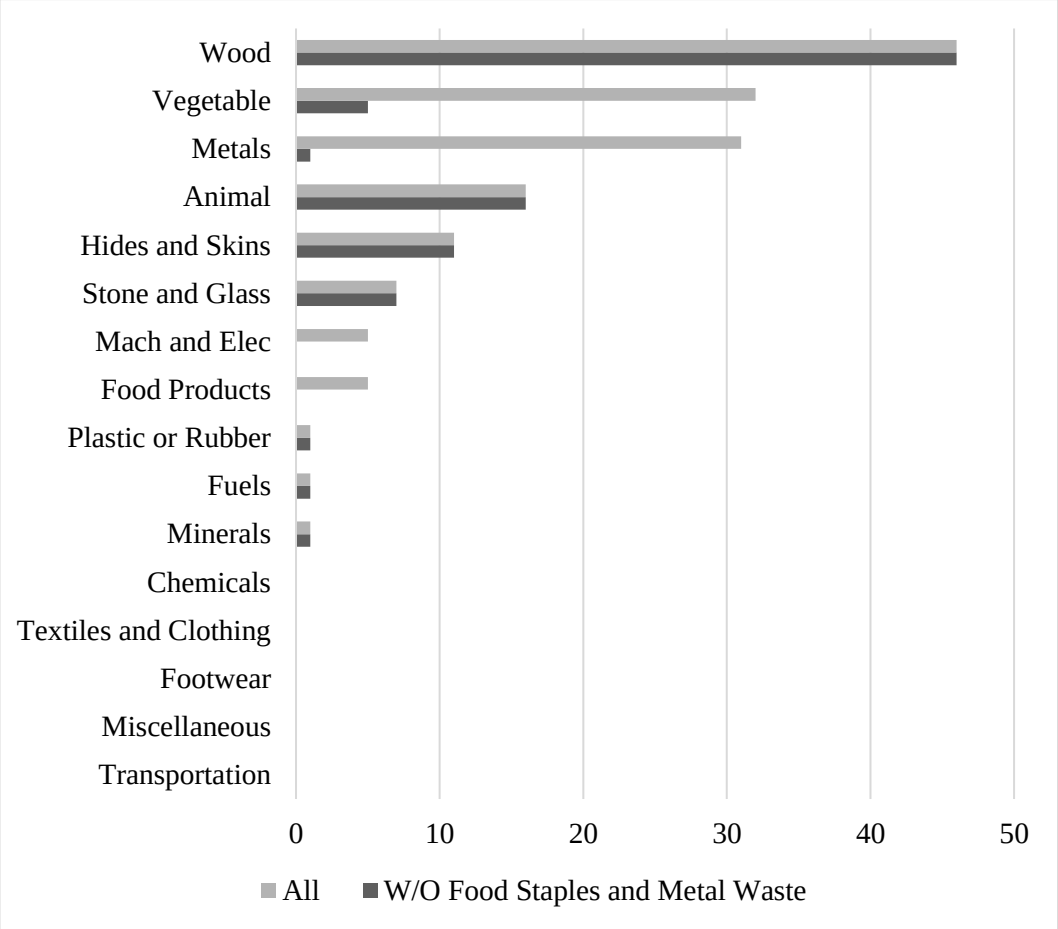

Figure 2.3. Number of Export Bans by HS-Sector-Level, 1960-2017
Source: Own illustration based on EPTA dataset

Importantly, processing promotion is not always the rationale for bans on wood products. Bans on charcoal, for example, tend to be implemented to secure domestic supply (with the majority of African producers relying on wood charcoal for cooking) or to reduce illegal logging. In general, environmental concerns can be an important factor in explaining bans. In those instances where governments ban all wood products irrespective of their degrees of processing this is arguably always to conserve forests. Accordingly, as with the recent wave of rosewood export bans

across Africa[6], such interventions are usually accompanied by complete timber harvesting and transportation bans. The primary rationale for export bans exclusively on unprocessed logs tends to be different. Although environmental concerns can be a partial motivator (but also often serve as a pretext to justify/cloud industrial objectives),[7] interviewed forestry experts[8], as well as scholarship and reports on timber export bans, agree that the primary reason for bans on raw logs is to promote domestic processing industries (Amoah *et al.* 2009; EIA 2018; Kishor *et al.* 2004; Resosudarmo and Yusuf 2006; Schaap and Canby 2018; Treue 2001). The explicit use of log export bans as an industrial policy tool has been and remains very common not only in Africa but throughout the northern and southern hemisphere.[9] In line with the aim of this thesis to understand bans imposed for processing promotional reasons, the remainder of this study (i.e. Chapter 3 to Chapter 8) focusses only on those wood product bans that were exclusively targeted at the lower end of the value chain, thus the 26 raw log export bans as well as the three export bans that have also banned roughly sawn logs[10]. Thus, bans on charcoal

[6] Rosewood (which describes a range of different species of tropical wood) is particularly popular in China, having led to its massive overlogging and African governments wanting to protect it.

[7] Some argue that an export ban can at least in theory make it more difficult for illegal loggers to "cut-and-run" with raw logs stolen from a country's forests, because logs must be transported to a domestic mill, where nearby roads and checkpoints can be more closely monitored (Schaap and Canby 2018: 5). Numerous empirical studies, however, have found that raw log exports bans often have the opposite effect, leading to more illegal logging and forest deterioration, deriving from increased demand from more inefficient and poorly-controlled local sawmills (Barbier and Rauscher 1994; Deacon 1995; Dean 1995; Dudley 2004; Kishor *et al.* 2004; Resosudarmo and Yusuf 2006).

[8] Interview with senior trade and policy Analyst at Forest Trends, 16.05.2019, per email; interview with senior trade and legality expert at the World Resource Institute's Forest Legality Initiative, 16.05.2019, per email. Respectively, the interviewees stated 'I would share the hypothesis that the driving force behind the majority of log export bans are for the promotion of domestic value-added process, rather than true environmental protection' and '(…) log export bans are mainly established to promote domestic timber processing industries, not to achieve environmental objectives such as combatting illegal logging'. This shows that raw log export bans are indeed imposed primarily for purposes of promoting timber industries and justifies including such bans in further analysis of this dissertation focused on processing promotion.

[9] Lists of timber export bans throughout the globe have been compiled by Forest Trends (2019) and World Resource Institute (Noguerón *et al.)*.

[10] Côte d'Ivoire, Madagascar, and Nigeria (as detailed in Appendix 2.1) have all banned both the export of raw and sawn logs. At the same time, they explicitly allow the export of further processed goods such as veneers or plywood, stating processing promotion as key motivation for the ban.

or bans imposed on wood products independent of their degree of processing are excluded from the large-N analysis that appears in Chapter 4.[11]

In contrast to most wood products, vegetable products are rarely banned for the purpose of promoting processing. Out of 34 vegetable products banned, 29 concern food staples, specifically cereals, rice, and tubers. Food staples are usually (and often explicitly) banned to protect domestic food supply and oppose domestic food price inflation (this is obviously also true for the five bans covered under the 'Food products' category in Figure 1.3).[12] One indication that processing promotion is not the aim of food product bans is the fact that rather than explicitly saying only 'unprocessed' or 'raw' rice, maize, wheat, etc. should be prohibited from export, they more generally address all kinds of 'cereal products' or 'maize products', or as in Guinea in 2007 'any export and re-export of farm produce which are part of the people's staple food' (APA News). Given the focus on processing promotion, these commodities are thus excluded from the analysis in subsequent chapters. As described in Chapter 3.1.2, however, the theoretical argument can also explain politically why bans on food staple exports are so frequent in times of international food crisis. In contrast, the remaining five vegetable product bans – on 'Raw Macadamia Nuts' and 'Raw cashew nuts' (Kenya, 2009), 'raffia and bamboo in its raw state' (Mali, 2015) and 'Seed Cotton' (Niger, 1998) – have been explicitly introduced to promote processing.[13] Thus importantly, as Figure 1.3 indicates, particularly African cash crops, such as nuts, coffee, cocoa, or tea are barely ever banned.

The third most commonly banned product group are metals. Crucially, however, this label hides that these bans exclusively target one specific sub-group of metals: metal waste and scrap. Essentially, all 31 metal products banned concern specific

[11] Relatedly a ban on copper waste and scrap exports in Mauritius is also not included. Mauritius has no industrial capacity to process copper scrap. The measure was introduced to curb the theft of copper (which is much more likely than that of the more commonly banned ferrous scrap, because it is much more valuable per kilogram).

[12] Note again that bans are rarely withdrawn once implemented. Bans on food staples imposed in times of food crisis – and withdrawn once they are over – are rather exceptional in this regard (and further demonstrate that they were not implemented to promote processing).

[13] Having lasted less than a month (a week, to be precise), the ban on raw cashew nuts in Ghana is not included in the dataset.

metal waste and scraps (particularly ferrous or copper) or metal waste and scraps in general. In stark contrast, with the exception of on-and-off bans on chromium ore in Zimbabwe between 1996 to 2015, no country covered in the EPTA dataset has imposed a ban on more classical mineral products, such as iron, copper, or aluminum ores, gold products, or any other kind of metal products. Importantly, the five bans indicated in the machines and electronics sectoral category all concern used automobile batteries, which are also considered a domestically recyclable metal waste product. Although in some cases governments also name the protection of public infrastructure against theft as a reason to ban the export of metal wastes and scraps, arguably the core rationale behind these bans are the protection of local metal smelting industries. This is both supported by my study of the TPRs and the Ghanaian metal waste ban case study, but is also in line with Fliess *et al.*'s (2012: 11) analysis of a global OECD survey on export restrictions, finding that the rational governments banning metal waste cite most frequently is safeguarding domestic supply and protecting the local (smelting) industry.

The sixteen animal products that have been banned can be clustered in three groups. First, six of these concern fresh unprocessed fish, specifically Nile Perch and Tilapia (found in Lake Victoria) which have been banned by the five East African Community countries Kenya, Tanzania, Uganda, Rwanda and Burundi under the EAC Customs Management Act (2005). Importantly, no other fish is concerned by the ban in those countries. Furthermore, no other African country has ever banned the export of fish, with the exception of Guinea, which in its 2007 temporary blanket ban on food products also banned the export of all fish products. This ban in itself constitutes the second general group under the animal sector, with Guinea also having prohibited all cattle, pig, and dairy produce exports to quash the food price crisis. Finally, there are five bans on live cattle, donkeys,[14] and goats. These are not banned to promote processing of any sort but to prevent cattle rustling (hereby protecting the mass of livestock keepers) and secure livestock populations, especially in times of food crises, and are therefore excluded from further analysis

[14] According to the BBC (07.10.2017), Uganda, Tanzania, Botswana, Niger, Burkina Faso, Mali, and Senegal have banned donkey exports to China in the last years. This is the result of high demand from China for African donkeys, where the donkey skins are boiled, producing a brown gelatine, which is the essential ingredient in Chinese 'ejiao' products, popular health foods and traditional medicines.

in subsequent chapters. This stands in contrast to the prohibition of raw hides and skins. Apart from the five ECA member states[15], Botswana, Burkina Faso, Nigeria and Zambia have banned the export of raw hides and skins with the explicit aim to promote their respective leather industries.

The final product sector among the relatively frequently banned sectors are stones and glass. In total, six countries have prohibited exports belonging to this sector. Angola and Mali have allegedly banned the export of rough diamonds to promote downstream industries in 2011 and 1989 (when Mali also allegedly banned the export of natural gold[16]), although I could find no supporting evidence that these have actually been implemented and enforced at all. Zimbabwe had also banned the export of all diamonds (irrespective of the degree of processing) in between 2010 and 2011, however, not to promote processing, but as a counter-reaction to one of the state mines losing its Kimberly certification due to alleged atrocities committed there by the army (Dzirutwe 2010). This ban is thus not included in the large-N analysis. In contrast, Botswana, South Africa, and Tanzania have imposed bans on all or some unprocessed semi- and precious stones to promote the development of national cutting industries and are thus included in the further analysis.

Finally, the rubber and fuel sectors display one ban each. In 1988, directly at the beginning of its Structural Adjustment Program, Nigeria prohibited the export of 'unprocessed rubber latex and rubber lumps' (alongside 11 other commodities). As discussed shortly in the next section, this is somewhat surprising given that trade in unprocessed latex and rubber lumps is almost inexistent, as primary processing of rubber into intermediate products (like latex concentrate, block rubber, smoked sheets, or crepe rubber) almost always happens near origin, a process that according

[15] These have actually introduced an 80% export tax, which is intended to serve as a de facto export ban (Interview with Leather Promotion Officer (MoIT), Per Telephone, 11.07.2017).

[16] Gold producing countries (or rather, gold miners) usually do not export 'natural gold', that is gold dust, but independent of state policy usually process it to gold bars with a purity of around 70-90%. The next step in the value chain requires the refining of such gold. In 2013 the Malian Minister of Mining has indeed indicated he wants to impose a ban on unrefined gold, which has not yet realized (Africa Intelligence 17.12.2013). The theoretical framework of this thesis would imply that the fact that around one million small-scale gold miners in Mali would likely be negatively affected by that policy plays a role in this non-implementation, although this would require more in-depth case study research and testing. Similarly, it appears that the Zimbabwean government never realized its plan to impose a ban on unrefined gold. Again, several hundred thousand Zimbabweans work in gold mining (Bulawayo 24 News 20.12.2013).

to rubber experts interviewed[17] does not need to be protected (i.e. banned). The ban of the fuel product corresponds to a prohibition to export subsidized petroleum products in Guinea in the late 2000s. Hence, this ban was not on crude oil produced in Guinea (i.e. for processing purposes), but on refined oil to secure domestic supply for consumers. As detailed below, given the close control governments have on crude oil production, banning their exports would be a superfluous measure.

Concluding, a range of stylized facts can be derived from this discussion. Essentially all products banned are commodities and the vast majority of them target raw materials specifically, which usually have the explicit goal to promote processing. Putting food staples and animal products aside (which are banned for purposes other than processing, the focus of this thesis), unprocessed timber and metal waste and scraps are the most banned commodities. Though less frequently, a sizable number of countries also ban the export of raw hides and skins as well as unprocessed stones to promote their processing. Other than that, export bans are rare. With only a handful of exceptions, African cash crop exports are not prohibited. Similarly, it seems crude oil or natural metal exports are never banned, with the rare exception of unprocessed chrome ban in Zimbabwe. In the following section, I will try to unpack basic economic factors that promise to explain a large part of this variation.

2.4. Export Bans and Economic Feasibility: Narrowing the Scope

Why do African governments ban certain commodities more than others? Are there factors which would make the utilization of bans on certain commodities nonsensical? To study this, I created a list of all commodities (or commodity groups) exported from Africa, and excluded all classical food staples[18],

[17] Interview with a senior executive of the rubber division at Olam International, 06.07.2018, per email; Interview with senior Liberian rubber consultant, 05.07.2018, per telephone; Interview with researcher and expert of the Thai rubber value chain, 06.07.2018, per telephone.

[18] To ensure that this analysis on the relationship between export bans and commodity processing is not tarnished by food security considerations, I follow Solleder (2013: 89) in omitting all domestic

commodities which are already in their final consumable stage (e.g. cloves), and commodities that did not reach a minimum annual export value of US$ 100 million[19] in my 36 sample countries in 2011 (the year with most observations in the EPTA dataset). From this, we derive a list of 36 raw commodities that could be processed and might be relevant enough for governments to consider banning to promote processing.

In a second step, based on an extensive literature review and eight months of fieldwork (described in Chapter 5), I determine to what extent banning these commodities to promote processing would be economically sensible. Or to put it differently, how 'bannable' each commodity is. I conclude that 22 out of the 36 commodities should be considered 'unbannable' in the context of this study, and that five factors explain why. The list of commodities and the degree to which they are affected by these factors is summarized in Table 2.1 (for those determined unbannable) and Table 2.2 (for those considered bannable) below. Importantly, these 22 commodities are excluded from the theoretical discussions and empirical analysis pursued in subsequent chapters of the thesis.[20]

staple food items from the analysis. That being said, as detailed in Chapter 3.1.2 food staples' higher propensity to be banned (relative to other agricultural crops) also observed by other studies (Anderson 2013; Bouët et al. 2014) is in line with the thesis argument, despite food staple producers being many.

[19] The rationale is two-fold. First, commodities which account for less than this value are unlikely to be major commodities in the African countries under study. Policy-makers are therefore unlikely to believe they are interesting bases for processing promotion. Second, for practical reasons. Collecting data on the variables studied in this section takes a lot of time per commodity. Doing so for one hundred or more commodities would be infeasible (and of little use) in the range of this study, thus, the decision to set a threshold for commodities studied in this section.

[20] The alternative of keeping all 22 commodities throughout the remainder of thesis, I argue, would not be theoretically necessary, practically feasible, and methodologically sensible. As discussed in much detail below, there is strong economic reasoning as to why governments do not impose export bans on these 22 commodities. Including them would therefore threaten to significantly bias the analysis. What is more, empirically, there would be no benefit to adding them to the large-N analysis in Chapter 4. In theory, they could be along with all five factors identified and discussed below as dummy variables. These new commodities, however, would simply be dropped by the statistical software (i.e. Stata) from the regression, since they would have a 0% likelihood for a ban and be a '1' on the dummy, thus predicting 'failure' (i.e. 'no ban') perfectly. Yet practically, including the 22 commodities would come at a high cost. Provided it can be found, collecting data on all major variables for takes around one to two weeks per commodity (which is likely the reason why the two key political economy of commodity taxation studies to date [Kasara 2007; McMillan 2001] have only focused on five and seven commodities respectively, whereas this study looks at over 12). Thus, for 22 extra commodities we are talking at least 22 weeks of work, which I argue is excessive for commodities which have little to no theoretical or empirical reason to be accounted for more thoroughly.

Taking a closer look at these five factors we first find that some raw commodities are highly unlikely to be banned because they need to be processed close to consumption. A classic example is coffee. Whereas green beans can be stored for several years, roasted coffee rapidly goes stale and loses its flavour. As a consequence, almost all of global coffee trade occurs in its unroasted form, and only about 0.24% in roasted form (Hetzel 2016; International Trade Centre 2011; Roemer 1979; Talbot 2002; UNECA 2013: 101). Iron ore is another example. Many steel-using manufacturing industries (such as the car industry) need to heat the steel during or close to manufacturing. As such, it is economically much more efficient to smelt and process the iron ore to steel close to the factory, rather than having to go through the costly process of re-melting it (Östensson and Löf 2017: 10).[21] Animals produced for meat consumption also tend to be traded alive within Africa and butchered near consumption. Given the lack of adequate cooling systems and markets for cut meat, it is much more economical and sanitary to trade live animals rather than processed meat within Africa. Thus, in all three cases, a ban on the raw material would massively disrupt the trade and production viability of that commodity. Somewhat differently, African uranium ore can only be enriched in consumer markets, though not for economic reasons, but to comply with the Nuclear Proliferation Treaty. Clearly, all this might change with technological innovations in the future. However, in the period under study, these characteristics have been highly consistent.

Second and in direct contrast to the preceding point, some commodities can only be exported once processed or are much cheaper to transport once processed, hence do not demand a processing promotion policy. This is true for numerous soft commodities such as rubber, sisal, palm kernels, or fish (Cordes *et al.* 2016: 21; Radetzki 2008; Talbot 2002; UNECA 2013). It is also true for natural gas, which needs to be liquified prior to transport, or in some instances copper. Given the high capital cost (see also factor five below) of processing copper and the tremendous copper smelting overcapacities created in China (since the early 2000s), creating and running copper smelters and refineries is very difficult economically in Africa.

[21] Interview with metal processing consultant, 13.02.2018, per telephone; Interview with former London Metal Exchange Policy Executive, 30.04.2019, per telephone; Interview with metal processing and trading policy consultant, 09.05.2019, per telephone.

However, given that transport cost in landlocked countries or regions like Zambia or eastern DRC is extremely high, and that processing copper ore can massively reduce its weight and thus its transport cost, refining in these two countries is actually more economical than exporting raw ore, which is why – to the extent that the energy provision allows – all copper is refined domestically (Östensson and Löf 2017).[22] As such, in all these cases it again would not make much sense to impose a ban on the raw commodity, simply because it is not required.

A third relevant factor is that many commodities can be consumed in their raw state and often have higher profit margins in this form compared to being processed. Most horticultural products such as fruits and vegetables fall into this category. Pineapple processors in Ghana, for example, largely process those pineapples which in their raw state do not meet the requirements of the foreign consumers (because they are too small, patchy, etc.).[23] Therefore, while a farmer sells pineapples appropriate for raw export for around 0.25 $/kg, those suitable for processing will only fetch 0.16 $/kg. The same is true for groundnuts. The profit margin for unprocessed peanuts that can be used in the confectionery industry is significantly higher than that for peanut oil or butter, which is why only rejects from the snack export are used in processing oil (Arnoldus 2019). Restricting the export of the raw commodity under these circumstances would be unreasonable as it implies reducing the revenue and overall value-added in the industry.

Fourth, governments will be less inclined to impose export bans on commodities whose production chain it closely controls. Remember that export bans imposed for processing promotion purposes become relevant when processors struggle to compete against exporters in sourcing raw materials from producers. In situations, however, where the government is the producer or closely controls the production it would make more sense for it to simply oblige itself (or the producer) to supply enough raw materials to processors, rather than indirectly restricting exports. A typical sector where this pattern comes to bear is the petroleum sector (e.g. in

[22] Some copper ore includes arsenic that can only be handled economically in around five specialized copper refineries in the world (Östensson and Löf 2017).

[23] Industrial pineapple processor, Accra (Ghana), 14.05.2017. Senior advisor on fruit processing at Market Oriented Agriculture Programme (GIZ), Accra (Ghana), 18.05.2017.

Nigeria where the government via the NNPC owns the majority shares and controls the business decisions of both extraction and refining industries). In those rare instances – such as in Botswana – where the government (co-)controls all diamond mining, obliging itself (and/or its co-owner, usually De Beers) to cut and polish some of its production domestically is easier (Mbayi 2011). Similarly, export bans were effectively redundant during the governmental reign of agricultural commodity chains through marketing boards prior to SAPs, which is why they were rarely employed on these commodities.

A fifth crucial and more complex factor explaining why African governments are unlikely to ban the export of certain commodities is the capital investment required for setting up certain processing industries. When governments ban the export of a raw commodity – and local processing capacity is not existent or sufficient to supply all local produce – new processing factories need to be built. This could be done by three groups: foreign investors, local private investors, or the state. If a country's production volume (its 'market power') of a commodity is not significant enough, foreign investors (particularly current foreign processors) might simply opt to give up on the country and source their raw supply elsewhere, rather than setting up shop in the country.[24] In that case, the government itself or domestic private investors would have to step into the breach and finance the expansion of the processing industry. Critically, however, the capital expenditure required to set up processing plants varies significantly across commodities, and for many commodities it is simply unlikely that the state or local investors could carry the financial burden. As such, in cases where the capital expenditure required vastly exceeds the apparent domestic financial ability *and* market power is limited, imposing an export ban to promote processing would be extremely risky and unlikely.

[24] As discussed in Chapter 3.2.3.1, a commodity's market power might affect the success of promoting its processing using export bans for most commodities. Generally, the higher the market power of a commodity, the more likely a ban would incentivize companies to set up processing in the country. To account for this more generally, a market power variable is included as control in the large-N analysis.

Table 2.1. An Overview of Major Processable Commodities in Africa Determined as Unbannable

Raw Commodity	Potential Processed Product	% of Producing Countries ('N') Banning in 2011	1. Process. Close to Consumption	2. Process. Prior Transport	3. Partial Value Reduct.	4. Close Control	5. High Capital Intensity
Green coffee beans	Roasted coffee	0% (N: 35)	Yes	No	No	No	No
Felspar	Glass Production, Ceramics.	0% (N: 3)	Yes	No	No	No	No
Iron ore	Pig Iron	0% (N: 26)	Yes	No	No	No	Yes
Uranium	Enriched Uranium	0% (N: 8)	Yes	No	No	No	Yes
Live animals	Processed Meat	0% (N: 22)	Mixed	Mixed	No	No	No
Raw/semi-processed rubber	Processed rubber	3% (N: 30)	No	Yes	No	No	No
Fresh fish	Semi/-processed fish	14% (N: 36)	No	Yes	No	No	No
Natural gas	Liquified natural gas	3% (N: 31)	No	Yes	No	Mixed	Mixed
Coal	Coke	0% (N: 23)	No	No	Yes	Mixed	Mixed
Fresh fruits	Cut fruits, juice	0% (N: 36)	No	No	Yes	No	No
Groundnuts	Peanut Oil / Butter	0% (N: 29)	No	No	Yes	No	No
Crude oil	Refined oil	4% (N: 25)	No	No	No	Yes	Yes
Bauxite	Alumina	0% (N: 14)	No	No	No	No	Yes
Lead ore	Refined lead	0% (N: 11)	No	No	No	No	Yes
Manganese ore	Ferro-manganese, silicomanganese	0% (N: 18)	No	No	No	No	Yes
Phosphate ore	Phosphoric acid / fertilizer	0% (N: 19)	No	No	No	No	Yes
Nickel ore	Pure nickel or ferronickel	0% (N: 7)	No	No	No	No	Yes
Tin ore	Refined tin	0% (N: 9)	No	No	No	No	Yes
Titanium ores	Titanium pigment	0% (N: 8)	No	No	No	No	Yes
Zinc ores	Zinc oxide and refined zinc (ingots)	0% (N: 11)	No	No	No	No	Yes
Cobalt ores	Refined cobalt	0% (N: 16)	No	Mixed	No	No	Yes
Copper ores	Refined copper	0% (N: 11)	No	Mixed	No	No	Yes

Table 2.2. An Overview of Major Processable Commodities in Africa Determined as Bannable

Raw Commodity	Potential Processed Product	% of Producing Countries ('N') Banning in 2011	1. Process. Close to Consumption	2. Process. Prior Transport	3. Partial Value Reduc-tion	4. Close Control	5. High Capital Intensity
Raw Hides and Skins	Wet-Blue or Final Leather	9% (N: 33)	No	No	No	No	No
Base Metal Waste and Scrap	Base Metal Product	33% (N: 36)	No	No	No	No	No
Unpolished clrd. gemstones	Polished coloured gemstones	8% (N: 25)	No	No	No	No	No
Unrefined gold	Refined gold	0% (N: 25)	No	No	No	No	No
Unpolished diamonds	Polished diamonds	11% (N: 18)	No	No	No	Mixed	No
Unrefined Chromite	Ferro-Chrome or Pure Chrome	9% (N: 11)	No	No	No	No	No
Raw cotton	Cotton yarn	0% (N: 28)	No	No	No	No	Mixed
Raw cashew nuts	Shelled cashew nuts	5% (N: 19)	No	No	No	No	No
Tea in Bulk	Packed Tea	0% (N: 35)	No	No	No	No	No
Raw macadamia	Shelled macadamia	20% (N: 5)	No	No	No	No	No
Sesamum seeds	Sesame oil	0% (N: 23)	No	No	No	No	No
Unmanufactured tobacco	Cigars, cigarillos, cigarettes, etc.	0% (N: 24)	No	No	No	No	No
Cocoa beans	Cocoa paste, liquid, butter	0% (N: 21)	No	No	No	No	Mixed
Wood in the rough	Semi/-Processed Wood	52% (N: 33)	No	No	No	No	No

Note: Both in Table 2.1 and Table 2.2 'Producing Countries' refers to every country that in 2011 has exported at least US$ 1 worth of a commodity or banned its exports (in which case it might export US$ 0 of a commodity, although it produces it). Sources are listed in the text above or in Appendix 2.3 and Appendix 3.1.

Table 2.3. The Cost of Setting Up Commodity Processing Industries

Commodity	Country	Capital Expenditure Required (in million US$)	Market Power	Capex / Annual Budget
		Mining		
Bauxite	Guinea (1)	12,488	5.5%	781.0%
Copper Concentrate	DRC (1)	3,787	4.4%	117.0%
Manganese Ore	Gabon (2)	2,737	12.8%	87.7%
Metal Waste and Scrap	Nigeria (1)	780	0.7%	5.6%
Nickel Ore	Madagascar (2)	2,730	2.0%	211.3%
Coloured Gemstones	Tanzania (2)	91	1.1%	1.2%
Unpolished diamonds	Botswana (1)	131	20.5%	2.3%
	DRC (3)	29	4.5%	0.9%
Unrefined Chromite	Zimbabwe (2)	88	1.8%	2.4%
Unrefined Gold	Ghana (2)	36	2.5%	0.4%
	Tanzania (3)	20	1.4%	0.3%
		Agricultural/Non-Mining		
Cocoa beans	Côte d'Ivoire (1)	1,302	37.5%	18.3%
	Ghana (2)	623	17.9%	6.7%
	Nigeria (3)	219	6.3%	1.6%
In-Shell Macadamia	Kenya (2)	8	15.1%	0.1%
Raw Cashews	Côte d'Ivoire (1)	284	17.9%	4.0%
	Tanzania (2)	66	4.1%	0.8%
Raw cotton	Burkina Faso (1)	478	1.1%	18.1%
	Côte d'Ivoire (3)	228	0.5%	3.2%
Raw Hides and Skins	Tanzania (2)	108	0.8%	1.4%
Sesamum seed	Tanzania (1)	224	14.6%	2.8%
Tea in Bulk	Kenya (1)	9	7.2%	0.1%
Unmanufactured Tobacco	Zimbabwe (1)	73	2.8%	2.0%
Unprocessed Roundwood	Nigeria (2)	687	0.5%	4.9%
	DRC (3)	316	0.2%	9.8%

Source: Own research based on different sources detailed in Appendix 2.3.
Notes: The number in parentheses behind the country names indicates the country's rank in that commodity's production among the 36 countries. A more detailed list including these and more figures for the top three producers for each commodity can be found in Appendix 2.3.

The Indonesian 2014 export ban on unprocessed metals provides a good illustration of this logic (Amir 2013; Grey 2017; IGF 2018; USGS 2015a, 2015b; Warburton 2017). Motivated to add more value domestically to its rich mineral resources prior to export, already in 2009, the Indonesian government had made the very rare[25] announcement that it would ban all unprocessed mineral exports starting 2014, giving local mining companies and foreign smelters five years to set up smelters and refineries in Indonesia. Unphased by the fact that companies had not taken this announcement seriously and did not invest in adding mineral processing capacity, the government went ahead to impose a full ban on most key metals – including bauxite and nickel – in January 2014. Foreign investors, however, reacted to this ban very differently across commodities. In nickel, where Indonesia is not only the largest producer in the world (ca. 17% of world production) but also produces particularly sought-after high-quality ore, the ban seemed to work. Especially Chinese smelters (where the ore was exported too) could not find good alternative sources, and to secure the metal, invested billions of US$ in new smelters in Indonesia. This was very different from bauxite. Though Indonesia did produce a sizeable 11% of world bauxite prior to the ban, Chinese smelters found alternative sources in Malaysia, Australia, and Guinea, and simply stopped their sourcing operations in Indonesia. Domestic investors were not able to fill the financing gap, and bauxite production during the ban in Indonesia practically came to a standstill, implying a loss of billions of US$. Given these issues, the Indonesian government decided to lift the ban in 2017, replacing it with a differential tax system. Thus, a large and diversified economy, with a large annual budget of over US$ 130 billion, and a significant market power in bauxite production, did not prove able to induce mining companies and foreign processors to invest in domestic processing, could not fill the financial gap itself, and eventually gave up its policy in the face of severe economic losses.

Studying this dynamic in the African context clarifies why banning unprocessed metals is rarely economically feasible. For 18 different commodities and some of its largest African producing countries, Table 2.3 summarizes the capital

[25] To the best of my knowledge, only four countries have imposed bans on unprocessed mineral exports: China on rare earths and other metals in the 2000s, Indonesia in 2014, Zimbabwe on unprocessed chrome in 2007 and 2011, and Tanzania on unprocessed mineral sands in 2017.

expenditure required to set up processing industries that could process the total annual production of that commodity. Furthermore, it sets this value in relation to the states' annual budget (in 2017) as well as the market power they hold in a commodity. A more detailed table with all underlying figures, all three most important producing countries, and references for data sources can be found in Appendix 2.3. Looking at this table, we find stark variation regarding the capital cost involved in processing, and the ability of domestic investors to finance it, should foreign investors bail. Critically, on average, particularly base metal processing is extremely expensive. Take the case of bauxite processing in Guinea. If Guinea wanted to refine its total annual bauxite production into alumina, nearly US$ 12.5 billion would need to be invested. This corresponds to nearly *eight times* the country's total annual budget. At the same time, Guinea produces only 5.5% of the world's bauxite, half of what Indonesia produced prior to the ban. It appears unrealistic to assume that a country with considerably lower market power, no financial means to fill the investment gap, and dependent on bauxite mining to finance one-third of its annual revenue would dare to ban the export of bauxite ore. Importantly, all of this does not yet even incorporate the fact that the processing of most metals is extremely energy-intensive, requires massive economies of scales, operates on particularly slim and erratic profit margins, is highly damaging to the environment, and creates very little employment (Östensson and Löf 2017: 5; UNECA 2013: 102–103). In sum, the risks of imposing a ban on many unprocessed mineral exports strongly outweigh the benefits.

Although very similar patterns hold for most mineral commodities (see the figures for copper, manganese or nickel in Table 2.3), there are notable exceptions. First, setting up lapidaries to cut and polish gemstones like diamonds, sapphires, rubies, or tanzanite is relatively cheap, given the labour-intensive character of processing. Second, re-smelting metal wastes and scraps is much less expensive both in capital investment and running costs than smelting the same metal ores, which is arguably part of the reason why we see many countries using export bans on metal scraps to promote processing. And third, among the classical metallic minerals, chrome and gold are exceptional in the sense that setting up smelters and refineries is relatively affordable. It would only cost about US$ 36 million to set up a refining industry that could process all of Ghana's considerable annual gold production. Smelting all

of Zimbabwe's chromite into ferrochrome, would also only require a capital investment of US$ 88 million – still, significantly cheaper than the over US$ 12 billion that Guinea would have to invest to create enough capacity to refine its annual bauxite production. Accordingly, it is notable that chromite is the only African metal ore that has faced an export ban (and interestingly unrefined gold – often produced by significant shares of the population – has not).

Importantly, given their similarity on these five critical economic factors, one might expect the likelihood of African governments to impose bans to be comparable across these fourteen 'bannable' commodities. This is, however, not the case. As discussed in the previous section and also summarized in Table 2.2, timber logs and metal waste and scraps are much more likely to be banned than most agricultural cash crops. In 2011, none of the countries producing cocoa, tobacco, sesame, or tea had imposed a ban on these commodities. Similarly, raw cashew nuts and cotton had only been banned in one producing country respectively. The same is true for macadamia nuts, although given that there are only five macadamia producing countries in the sample, this translates to sizable ban propensity of 20% in Table 2.2. In contrast, the 8% ban propensity for raw hides and skins in 2011 is arguably a bit too low, with the five East African Community member states imposing de facto bans on raw hides and skin exports in 2015 (increasing the per cent of banning countries to 28%). Finally, whereas unpolished and uncut diamond and gemstone exports have occasionally been banned, unrefined gold exports have never been banned (both Mali and Zimbabwe have considered doing so in recent years, yet have not seen it through, potentially having to do with the significant size of gold mining employment in both countries). Given this remaining variation, the research question raised at the beginning of this section can be refined: *Across and within African countries, why have governments in the last three decades been more likely to impose bans on some 'bannable' commodities than on others?*

Another important economic factor that can impact 'export bannability' needs to be mentioned, however: economies of scale. In contrast to the five factors discussed above, no commodity is spared by this factor. Specifically, to make industrial processing of any commodity economically feasible, there needs to be a minimum domestic supply. If this supply is not given, processing is unprofitable with existing technology, and governments are highly unlikely to believe that banning the export

of that commodity for processing purposes is an attractive policy option. In cocoa, for example, the usual estimate is that a modern factory requires a minimum of 30,000 tons of raw beans input to be profitable (Simpson 2012). In cashew, it is rare to find governments interested in actively promoting processing if annual production stands below 20,000 tons. This does not hold only in rather exceptional cases – like Kenya[26] – where production as well as processing used to be strong historically, and the government tried to protect a declining – but already existing – industry from collapse. Thus, ideally, one would be able to define these production-based feasibility thresholds across commodities, and simply exclude country-commodity-years from any further analysis if production falls below them. Unfortunately, however, doing so consistently and credibly is extremely difficult, requiring in-depth expert knowledge for each commodity and country-historical context. Not only do these thresholds vary across commodities but also for the same commodity across space and time, given technological change and different cost and marketing dynamics in different countries. Moreover, setting thresholds at which data is excluded from the analysis will invite accusations of fraudulent selection on the dependent variable. Therefore, the large-N analysis deals with this in two ways. First, it runs the core models of the analysis without excluding any data on economies of scale grounds, which should if at all bias it against the theoretical argument.[27] Second, it shows that the main findings are robust to excluding the lowest quartile of country-commodity-years in terms of production volume for each commodity.

[26] Kenya in the year of the export ban (2009) produced around 10,000 tons of raw cashew nuts.

[27] The argument is that country-commodity-years with fewer producers as a percentage of the population are more likely to face a ban. However, in African agricultural commodities (and in contrast to most non-agricultural commodities) having few producers usually corresponds to having low production volumes. Thus, agricultural commodities produced by few producers usually lack economies of scale and accordingly reason for governments to impose a ban. Take the example of Tanzanian cocoa. In 2011, around 5,000 Tanzanian farmers produced less than 10,000 tons of raw cocoa beans (FAO 2018a). In line with the core thesis argument, we should expect the Tanzanian government to ban the export of raw cocoa, because this low number of producers is unlikely to pose a serious threat to the government. Of course, however, the production volume produced by these few farmers if far from the minimum 30,000 tons estimated to be required to set up a cocoa processing plant. Therefore, the government would be irrational if it were to impose a ban on raw cocoa, likely killing this infant sector. Therefore, including such 'unfeasible' or 'unbannable' country-commodity-years (with low producer numbers) nevertheless, will lead, if at all, to a significant *underestimation* of the effect of the thesis' commodity population share variable.

Chapter 3. Theoretical Argument and Alternative Explanations

From an economic standpoint, governments should not starkly differ in their imposition of export bans on the highlighted 14 bannable commodity categories. Yet they do, both within and across countries. In its first part, this chapter proposes that politics need to be factored into the equation. Like any policy, export bans create winners and losers, and policy-makers arguably take their opinions and particularly power to disrupt their rule into consideration. In contrast to Olson's classical collective action theory, however, I argue that in the context of export bans *larger* commodity producer groups pose a *greater* threat to governments. Export bans severely reduce producer prices. Since these are imposed at the border beyond producers' usual field of vision, they normally struggle to see the origin of these price distortions. Equally negatively affected by bans, raw commodity traders, however, have the knowledge, motivation, and capacity to inform producers about the ban and organize their protest against it. As such, dangerous mass group mobilization is particularly likely in the context of export bans, which is why policy-makers less likely to impose them on commodities produced by large producer groups, such as agricultural cash crops or gold. In the second part of this chapter, I contrast this thesis against alternative economic, domestic and international political economy explanations.

3.1. The Politics of Survival and the Power of Interest Groups

Where economic models struggle to deliver explanations, political economy approaches must be considered. And indeed, in the last three decades numerous approaches have emerged highlighting how politics can explain patterns of industrial and trade policy as well as of commodity taxation in Africa and beyond. Fundamentally and discussed in more detail below, these approaches all share the tenet that governments' policy decisions are shaped by their desire to stay in office,

and that to do so they must appease (or at least not agitate) powerful interest groups that could endanger their political survival.[28] Accordingly, political economy approaches would argue that commodities are restricted at exports when its losers are politically weak in absolute terms or relative to winners; whereas the opposite is true where commodities are not restricted. Hence, the first step in these approaches would be to understand which groups benefit and lose from export bans.

In the case of export bans of raw commodities, four economic interest groups appear relevant in the domestic political economy: producers, independent middlemen, exporters, and processors. Figure 3.1 illustrates in simplified terms how these actors relate to each other in typical post-SAP African commodity value chains. Importantly, prior to SAPs, marketing of most commodities was controlled by monopsony marketing boards and parastatals, directly buying from producers, and often selling for below-market prices to processors to support them (Abbott 1967; Bates 1981; Gardner 2012; Williams 1985). Accordingly, export bans were often redundant and rare as an industrial policy tool.

Nowadays, there are four main channels through which raw producers and final consumers are typically connected. First, exporters buy the raw product directly from raw producers and export it to foreign processors who then sell the processed commodity to consumers[29]. Second, raw producers can sell directly to domestic processors who then export the processed product to consumers. In the third and fourth channel, raw producers sell their produce to independent middlemen. These middlemen then sell the raw produce to exporters or domestic processors who yet again export it either in raw or processed form. In most African countries (without or prior to export bans) the most common marketing channels are those were exporters buy directly from raw producers or indirectly through middlemen. The reason for this is, as introduced above, that foreign processors tend to operate more profitably, hence, can offer farmers via exporters and independent middlemen more than domestic processors can. The result is that most of the produce will be exported

[28] See Whitfield *et al.* (2015) for an excellent introduction to much of this literature.

[29] Consumers could also include companies that further process a good. For example, domestic and foreign processors could shell cashews (in say Ghana or India), and then sell it to nut roasters and packers in Germany.

raw rather than processed and domestic processors either run under capacity or fail to emerge.

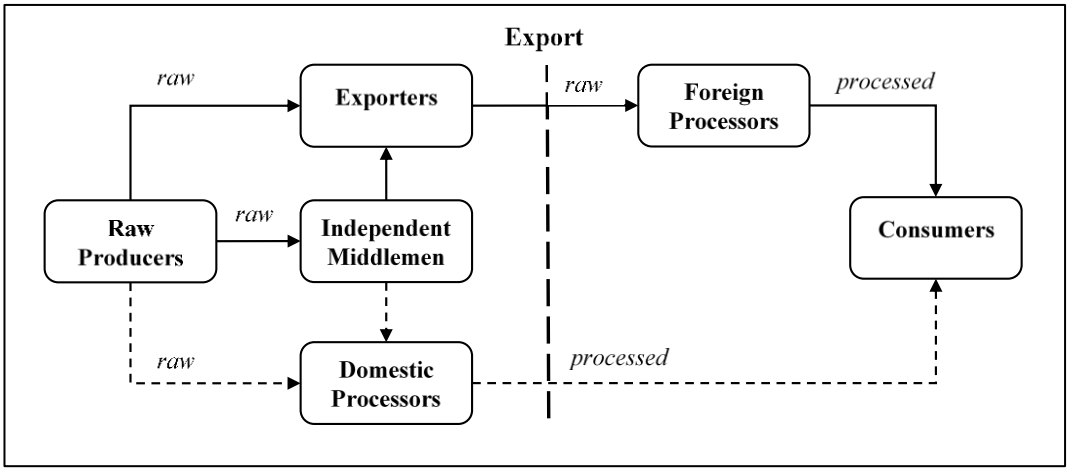

Figure 3.1. A Simplified Model of a Typical Raw Commodity Trade Chain in Post-Structural Adjustment Africa
Source: Own Illustration

It is in this context then that processors are the biggest beneficiaries of an export ban, whereas exporters, middlemen, and producers stand on the losing end. Not only does an export ban completely extinguish the business of exporters; it hereby also eliminates raw producers' and middlemen's best buyers. At the cost of the other interest groups, domestic processors experience a real reversal of fortune. With their dominant competitors – exporters – eliminated, they can often collude among each other and dictate prices to middlemen and producers. As a result, producer prices can easily drop by 50% or lower (as recently witnessed in the Kenyan and Ghanaian cashew sectors where export bans were introduced in 2009 and 2016 respectively, and as discussed in more detail in Chapter 6).

Based on this discussion, political economy approaches would likely agree on a core logic: African governments will impose export bans on commodities when the losers – producers and traders (i.e. exporters and middlemen) – are relatively unthreatening politically; and they will abstain from imposing them when the reverse is true. Where political economy approaches differ fundamentally,

however, is *when* and *which* interest groups are powerful. In the following two sections I will discuss two approaches – the Olsonian and my own – how the relative group size of the winners and losers might shape their respective power. Section 3.2 will further present approaches emphasizing ethnicity or elite-clientelism of sources of power as well as those arguing that democratization can empower larger groups.

Before venturing into the discussion of distinct political economy approaches, however, one critical question needs to be addressed: is the understanding correct that existing processors of the commodity in question are the key constituency interested in an export ban? Or might other actors within the same value chain, neighbouring value chains, or without value chain also be or become interested in an export ban? Specifically, could it be that producers or traders of the commodity in question might be interested in entering processing? Perhaps successful domestic processors of a related commodity might want to venture into processing of this commodity and lobby for an export ban to facilitate their expansion? Or might governments even impose export bans independent of existing processors, with the aim to transform potential supporters into processors, hereby ideally gaining economically and politically?

Overall, the analyses of commodity processing attempts across commodities in Africa conducted for this study suggest that such dynamism is rare. To better demonstrate this, I will discuss above-raised questions in turn. First, could growers push for export bans, as they might be interested to move up into processing? Generally, it is possible for producers to move into processing, yet very rare as this tends to be extremely difficult and often not particularly interesting for producers. It is difficult for many producers because processing requires massive financial capital and especially know-how, something the average farmer, logging enterprise, or miner does not own. As described shortly in the analysis of the macadamia sector in Chapter 6.3, even after the introduction of an export ban the only group of farmers that tried to move into processing failed before it ever cracked a single nut. Essentially, the farmers lacked the capital, the managerial, technical, and tacit knowledge to run a factory, and had no contacts to shelled nut buyers. It is also uninteresting as a business for most growers. Prior to a ban, processing is unprofitable, so most non-processors (particularly farmers) do not see the point in

moving into processing in the first place. You are better off buying land and planting more. One must thus ask: Why would a producer that does not have the capital or capacity to move into processing invest precious time into lobbying for a ban that would certainly hurt her current business? In addition, we must keep in mind that an export ban implies and overall well-fare loss for the sector. Processors that already have their factory are going to win, but whether the net benefit for a farmer that has moved into processing is positive is also questionable. There is thus neither theoretically nor empirically a strong case for producers pushing for processing.

The possibility of horizontal movement between distinct commodity processors is more interesting. Indeed, there are factors that successful processors of one commodity could bring to the other, such as the general knowledge of how to run a factory, dealing with international customers, and potentially having access to financial capital. Crucially, their lack of commodity-specific tacit knowledge and technology, however, will most strongly hinder horizontal movement (Grynberg 2013; Morris *et al.* 2012; Terheggen 2011a; UNECA 2013). Although knowing how to run a factory in general is crucial, the processes and technologies behind processing sisal, palm oil, rubber, cashew, fish, copper ore, wood or hides are completely different. Similarly, knowing how to build a car does not imply you know how to build microchips. Accordingly, one would not expect a car producer to lobby the government massively to create a space for micro-chip production, knowing it will be extremely difficult to become competitive and make strong profits despite government intervention. Rather, car producers would ask for protection/support for what they are already good at: producing cars. What is more, a processor cannot be certain whether the ban will hold or whether producers will circumvent processors through smuggling, making the switch to and lobbying for another industry even less attractive. For similar reasons, governments banning the export of a commodity will find it difficult to offer the created space to outside actors (processors or not) as a credible benefit. The tanzanite gemstone sector is a case in point. In 2010, the Tanzanian government introduced an export ban on unprocessed tanzanite. In the absence of a relevant lapidary industry that could have lobbied for this, it appears the ban was indeed derived from the government's desire to promote domestic value addition. Interestingly, however, eight years after the

introduction of the ban, still no real lapidary industry has emerged, with no actor willing to invest, given the high cost of acquiring adequate skilled labour as well as due to the poor implementation of the ban, with the vast majority of stones smuggled over the Kenyan border.

Concluding, my research suggests that growers or other commodity processors are extremely unlikely to be lobbying for export bans. Neither is it likely that governments will impose bans as a tool to satisfy potential political consumers. The key interest groups in favour of a ban are existing processors as well as African governments who are often honestly interested in industrial development, whether for ideological convictions or for bolstering long-term political survival. The potential losers are producers, middlemen, and exporters. The core question is thus when either side is politically more powerful and how this aligns with the observed cross-commodity pattern on export bans.

3.1.1. Are Export Bans Olsonian?

In 'The Logic of Collective Action' Olson (1965) addressed the question of why some economic interests are more able to impose their preferences on government policy than others. He argued that those interest groups least able to overcome collective action problems were most likely to stand on the losing end of policy-making. Importantly, Olson contended that group size was perhaps the most relevant explanator of collective action capacity. Specifically, he argued that smaller groups were more likely to engage in collective action than larger groups. His rationale for this is twofold. First, the benefits or costs of a policy are shared by fewer people, hence, the stakes are higher per capita. Second, the transaction or organizational costs are lower for small groups because communication, coordination, and the disciplining of deviators and free riders is easier. The incentives and capacity for group action, thus, diminish as group size increases.

Most conceptual frameworks in the study of trade politics – above all Grossman and Helpman's (1994) "Protection for Sale" approach as well as earlier scholarship (Hillman 1992; Peltzman 1976) – have explicitly built their theory on Olson's idea of collective action and the role of group size. Smaller groups, they argue, are most likely to successfully lobby governments to design policies in their favour.

Pioneering the application of collective action theory to policy outcomes in the developing world, Robert Bates (1981) has drawn similar conclusions. In his analysis of African agricultural trade and marketing policy, Bates argued that for the reasons Olson described the minority of urbanites, processors, and large-scale farmers were advantaged at the cost of the mass of small-scale farmers. Specifically, he described how harsh price controls on agricultural outputs administered by monopsony marketing boards and overvalued exchange rates massively squeezed the income of farmers while indirectly subsidizing urban food consumers and processors. Overall, Bates' description of the rural masses in Africa strongly echoes Marx' (1852) description of French peasants during the Napoleonic era resembling a 'sack of potatoes'.

Importantly, however, it appears that Olson's framework and Bates' findings cannot explain the patterns of export bans in Africa described in Table 2.2. If applicable, we should see commodities produced by masses of small-scale producers frequently banned, and those produced by the few rarely. Intriguingly, however, the empirical pattern appears diametrically opposed to these predictions: commodities usually providing income to the few (e.g. timber logs, metal wastes, or raw hides) are frequently banned at exports, whereas those usually providing income to the many (e.g. cash crops or gold) are rarely banned. What then could qualify Olson's classic assumptions and provide a more adequate explanation?

3.1.2. What the Eye Sees, the Heart Grieves Over: Policy Visibility, Severity, Cross-Group Defence Coalitions and Mass Mobilization

I propose that the missing pieces to explaining the above-identified puzzle are found in a policy's visibility, severity, and whether it creates cross-group defence coalitions. Specifically, I argue that because export bans severely and sharply affect both producers and traders, they are very likely to become visible to producers and equip them with the motivation as well as the capacity to mobilize against them. Given the serious risks inherent in mass mobilization, African governments avoid imposing export bans on commodities providing a significant income to a large share of the population, explaining the pattern observed in Table 2.2. Vice versa, I argue that where the price distortive impact of a policy is less severe on producers and traders (such as with low export taxes), mobilization is less likely and so is

governments' tendency to avoid imposing them on large producer groups. Illustrated in Figure 3.2 and summarized in Table 3.1 for key price distortive policies used to promote commodity processing, the theoretical argument is explained in more detail in the following.

Most measures imposed on commodities for processing promotion are not directly visible to producers. Unlike taxes or fees collected at the farm gate, mine site, or forest concession, price distortive policies such as export bans or export taxes are imposed at ports and land borders, usually far beyond producers' field of vision. And though marketing boards pay prices directly to producers, the extent to which this price has been reduced by government surplus extraction usually remains opaque to producers as they rarely know the actual FOB or world market prices for their commodities eventually received by the government. While producers might suffer from low or lower prices because of such policies, it is eventually difficult for them to know whether they are due to government action or, for example, low or reducing world market prices.[30] Fundamentally, this raises the question of whether producers that are unable to attribute price distortions to government action would or could ever mobilize against them. Or to put it differently: What the eye does not see, the heart does not grieve over. Supporting this notion, a growing literature on public service provision in the Global South has shown that when policy outcomes are less visible and attributable to government action, citizens are less likely to hold politicians accountable for them (Batley and Mcloughlin 2015; Harding 2015; Harding and Stasavage 2014; Keefer and Khemani 2003; Mani and Mukand 2007; Persson and Tabellini 2000). Thus, governments face a limited political risk in implementing policies with low visibility and attributability.

I argue, however, that indirect price distortive measures can become visible to producers when they sharply affect both producers and traders. The logic behind this is two-fold. First, as the actors usually *directly* affected by measures such as export taxes or bans, traders are fully aware of them. And when such measures are so severe that they might put their operation into question, they have a strong

[30] Timber presents a notable exception. Rather than selling to middlemen who sell to exporters, independent loggers sell directly to export traders. In the context of an export ban, exporters will have to reject loggers' harvest, hereby likely making it very clear to loggers that a ban is in power.

incentive to inform producers about them. Second, when the price distortion of a measure on producers is particularly severe and rapid, producers are more likely to be sensitive to traders' information campaigns.

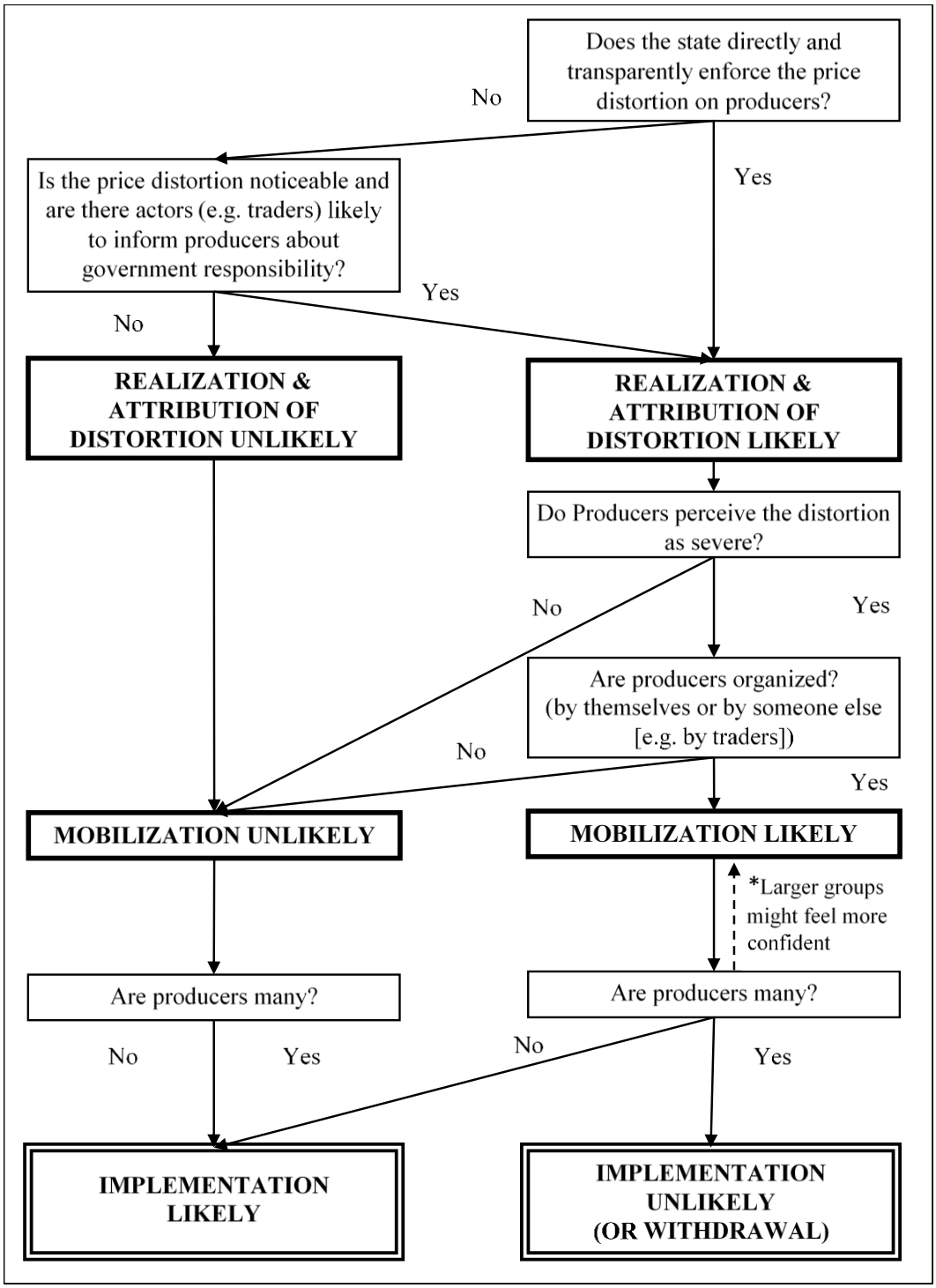

Figure 3.2. Theoretical Argument Illustrated as Path Diagram

Source: Own illustration.

Table 3.1. Different Price Distortive Measures and their Likelihood of Being Imposed on Mass Groups

	Export Ban	**High Export Tax**	**Medium Export Tax**	**Low Export Tax**	**Marketing Boards**	**High Direct Taxes**
Does the state directly and transparently enforce the price distortion on producers?	No	No	No	No	Mostly Not	Yes
Is the price distortion noticeable and are there actors likely to inform producers about government responsibility?	Yes (Sharp price drops likely & traders motivated to agitate)	Yes (Sharp price drops likely & traders motivated to agitate)	Maybe (Medium price drops likely & traders may be motivated to let producers know)	No (Minor price drop & traders can pass through, less motivated to agitate)	No (Usually high distortion, but incremental & no traders that can agitate/inform)	Yes
Realization & attribution of distortion likely?	Yes	Yes	Maybe	No	No	Yes
Do Producers likely perceive the distortion as severe?	Yes	Yes	Maybe	No	Yes, IF they realized it existed.	Yes
Are producers organized? (by themselves or by someone else)	Likely, if not by themselves, then through traders	Likely, if not by themselves, then through traders	Maybe by themselves, maybe by traders	Unlikely, even IF they perceive distortion, traders unlikely to organize.	Perhaps, IF they perceive distortion, 'cooperative-like' structures might help.	Perhaps, unlikely by traders; possibly through other structures.
Mobilization of producers likely?	Yes	Yes	Maybe	No	No	Maybe (depends on organizational capacity)
Implementation on mass group likely?	No	No	Maybe	Yes	Yes	Rather not (depends on organizational capacity)

Importantly, price distortive measures differ significantly in whether they sharply affect both traders and producers. As explained in Section 3.1 above, export bans on raw commodities shut down the business of exporters of these commodities completely, and unlike some taxes, cannot simply be passed on to producers.[31] Exporters are, therefore, extremely agitated by bans. Although they do not export themselves, middlemen too are highly aware of bans (as exporters cannot buy their produce anymore) and negatively affected by them. Whereas middlemen could theoretically cooperate with domestic processors, in practice they face the risk of being pushed out of the marketing chain by processors or at least receiving worse deals, given the reduced number of buyers. Both exporters and middlemen are therefore motivated to mobilize against bans. As detailed in the case study chapters 6 and 7, traders can use their extensive and deep marketing networks to inform producers and their usually greater financial means to launch media campaigns. And since export bans tend to very rapidly and severely reduce producers' prices (e.g. by nearly 50% within one day in the case of Ghanaian cashew nuts in 2016) they are particularly receptive and sensitive to traders' information campaigns and attributing the price drop to government action.

Depending on their level, export taxes differ or resemble export bans. High export taxes (e.g. above 30%) tend to provoke very similar reactions by traders and producers. Their tax level is usually too high for the former to feasibly pass on to latter, and as such, like export bans put traders' business at risk and motivate them to inform producers about the government's action. Producers again are more receptive to such information, given the sharpness of the price drop going in hand with high export taxes.

Low export taxes (e.g. below 10%) differ significantly. Exporters can usually relatively easily pass on the price distortion to producers and as such have limited motivation to engage in the potentially very costly process of informing producers. Producers are therefore unlikely to become aware of the introduction of low export taxes and unlikely to mobilize against them. Therefore, we should expect governments to be less careful in avoiding imposing low export taxes even on

[31] One of the few exceptions to this is the trade in timber, were exporters tend to export both raw logs and lumber. This is explained more detail in Chapter 7.

commodities providing a significant income to larger shares of the population. If at all, we might see governments to be *more* likely to impose low export taxes on such commodities, since the special conditions under which large group size collective action problems can be overcome are not given. In line with Olson's and Bates' original arguments, policy-makers should take advantage of this. Staying with cashew nuts, the Ivorian and Beninese 2017 imposition of low specific export taxes (translating to 7% to 10% of the producer price) are cases in point. Both governments actively sought to promote their cashew processing industries. Yet, both faced even larger cashew farmer populations than in Ghana and knew from their neighbour's experience how politically dangerous imposing export bans or higher export taxes on large producer populations was (as described in detail for the Ghanaian case in Chapter 6.1). Their decision to choose a less obtrusive measure paid off. Neither producers nor traders protested noticeably against the policy. What is more, the tax' revenue could be used to finance additional processing promotion activities like loan schemes and subsidies.

Price distortions by marketing boards are equally difficult for producers to notice and attribute to the government. First, by definition, independent traders are usually forbidden and thus absent in the context of monopsonist marketing boards. Even if producers noticed a significant price drop or distortion, they therefore often lacked the informants telling them that the government was to blame for this. Marketing boards were also extremely skilful at hiding the severity of their price distortions. Usually implemented during colonial times, commodity chains controlled by marketing boards in Africa often saw produces get as little as 30% of the world market price (Boone 1992, 2003; Gardner 2012; Helleiner 1977; Hopkins 1973; Lele and Christiansen 1989; Williams 1985). Critically, however, these massive distortions were hardly noticeable to producers during and after colonial times for several reasons. For one, marketing boards had already inherited the pass-through of low prices to farmers from oligopolistic colonial traders. And thereafter, if at all, marketing boards only very incrementally increased producer prices from this low base, even when global commodity prices increased rapidly, or inflation would have required a higher price adjustment to maintain real prices. Marketing boards were therefore very efficient at 'maintaining an illusion of rising [or at least stable]

prices' (Boone 2003: 226)[32] whereas farmers' real incomes and share of the actual export price often declined sharply. The ability of marketing boards to maintain this illusion, I argue, is a key reasons why African governments could without significant political risk massively distort the prices of commodities produced by rural masses prior to SAPs (Bates 1981); and why following marketing boards' widespread abolition, African governments have struggled to do so in the last three decades (Anderson 2010).

Even if producers realize that they are negatively affected by government policy, whether they will think it is worth mobilizing against it depends on its perceived severity. Scholars researching protest against government policy in such different contexts as Latin American economic crises (Frieden 1991), East Germany's 1953 revolt (Thomson 2018) or industrial upgrading attempts in the Ugandan dairy industry (Kjaer 2015; Whitfield *et al.* 2015) have found that the more severe the impact of a policy, the greater the likelihood that the policy's (potential) losers will mobilize against it. As already described above, in the case of export bans and high export taxes the stakes involved for producers is extremely high, and so is their incentive to mobilize. In contrast, even if producers realized that a low export tax was imposed on them, their incentive to protest it would be significantly lower, given its milder impact.

Lastly, while producers might realize they are negatively affected by policy and want to mobilize against it, whether they can also depend on their organizational capacity. Linking back to Olson (1965) and Bates (1981), particularly large rural mass producer groups have historically been argued to struggle to engage in collective action due to low organizational capabilities and high organizational costs. Importantly, however, a growing scholarship has found that where cross-group coalitions can form around a policy, lobbying becomes particularly effective.[33] The core reason for this is that the groups' respective and distinct

[32] To be precise, Boone in this quote is referring to the Ivorian Caisse de Stabilisation, which set cocoa prices in the country.

[33] In Argentina, the organizationally capable but few agrarian oligarchs organizing protests against the introduction of high taxes on soy exports required the support of the mass of small-scale farmers to become an electoral threat as well as appear sympathetic to the broader public (Fairfield 2011: 450). Similarly, in Uganda traders helped organize hundreds of thousands dairy producers (Kjaer 2015). And in her comparison of Cameroonian, Ghanaian, and Senegalese poultry producers'

strengths can compensate for their respective weaknesses, that is, their cooperation is synergetic. Or to use Marx' metaphor, where enough pressure, heat, and spice is added to a sack of potatoes by an able chef, the sack of potatoes can be turned into a rich mash that can nourish strong protest. In different contexts, the role of a chef can be played by different actors. In Argentina in 2008, for example, the country's wealthy and well-organized agrarian oligarchs organized the mass of small-scale farmers against the introduction of an extremely high tax on soy exports and only then were they able to generate the political pressure to force the government to revert the policy (Fairfield 2011: 450). In the African context where large-scale landowners are rarer than in Latin America, traders become more important. A case in point is Uganda, where traders were crucial in organizing hundreds of thousand relatively unconnected dairy producers against adverse government policy (Kjaer 2015). And as demonstrated in Chapter 6 and Chapter 7 of this thesis, such otherwise unlikely powerful and large synergistic defence coalitions between producers and traders are particularly likely in the context of export bans as well as high export taxes. Traders are highly motivated and able (through their smaller size, wider networks, and deeper pockets) to help organize producers. Equally-motivated producers can bring the numerical power to the table – that traders by themselves are lacking –, which because it increases the threat to the government is likely to make the protest more successful.

To conclude, in this thesis I argue that African governments avoid imposing export bans on commodities produced by a large share of the population because they create a context in which dangerous producer mobilization is very likely. While equally negatively affected traders are motivated and capable to inform and organize producer protest, the severity of bans makes producers more receptive to the idea of protest. Whereas the same logic transpires with high export taxes, low export taxes differ. Traders can usually pass on the low-price distortions to producers and therefore have lesser incentive to engage in the costly endeavour of

lobbying attempts for protection against EU poultry imports, Johnson (2011) shows that these were only successful when they managed to convince the mass of consumers of the (unproven) health threats of imported chicken. Mirroring the idea that the respective strengths and weaknesses of producers and traders complement each other, Esteban and Ray (2008: 2199) argue that ethnic conflict is more common than class conflict in the developing world as ethnic alliances profit from a synergy where within an ethnic group 'the elite contribute financial resources, while the masses contribute conflict labour'.

informing and mobilizing mass producer groups. Governments thus face a low political risk of imposing low export taxes on commodities independent of the share of the population their production provides significant income to. Accordingly, the core hypothesis of the thesis is that:

> H: All else equal, African governments are *less* likely to impose *bans or higher taxes* on the export of commodities the larger the share of the population earning a significant income from producing it. *Low export taxe*s, however, are if at all *more* likely to be implemented on larger producer groups.

Lastly, as promised in the preceding chapter, a word about the frequent bans on food crop exports, and second, a word on the relevance of political settlement research for this thesis.[34] Food crops tend to be the most labour-intensive commodities in Africa. Prima facie this appears to run counter to my theoretical argument since I hypothesize that commodities produced by large shares of the population should rarely be banned. On a closer look, food crops' propensity of being banned is well-explained by my theoretical model. To assess the empirical validity of the model, three related questions should be asked. Does the ban create clear losers? Are these losers many? And if so, are the losers more numerous than the winners? Regarding export bans on food staples in times of food crises, the answer to these questions is less straightforward than one might expect.

Perhaps surprisingly, food staple producers are not necessarily losers of a ban on food staple exports. First, as indicated in Chapter 2.3, export bans on food staples are almost always implemented during national, regional or global food price crises with the aim of keeping food prices affordable. Thus, their aim is not to press producer prices below the level that was acceptable to producers prior to the food crisis. Rather, it is to press them down to the acceptable pre-crisis level or at least towards that direction. One might, therefore, argue that export bans on food staples during food crises do not produce abnormal distortions domestically but rather

[34] For more in-depth studies on the politics of food prices compare Hoffman (2013); Watson (2013); Olper et al. (2013); Resnick et al. (2015); Babu (2013); and Chapoto (2012).

reduce them. Second, and importantly, most food staple producers in Africa are also food consumers. While they might get higher prices for one food crop they sell, they are also likely to pay higher prices for another one they need to buy. As such, it is not clear whether the masses of food crop producers are losers of food staple bans and perceive them as severe and contemptible. In fact, arguably the only clear-cut losers of food staple export bans are food staple traders and speculators, and to a lesser degree the limited number of large-scale food staple farmers in Africa. Thus, export bans on food staples do not create many losers as would those on cash crops for example. It is therefore in line with the theoretical argument that they are banned relatively frequently.

Even if we perceived the mass of food staple producers as losers, however, the theoretical argument would still not necessarily predict a low propensity for an export ban during food crises. As detailed above, governments are more likely to fear losers if they are many. What, however, if the winners are even more? Though in the average African country there might be a couple million commercial maize producers profiting from elevated prices (and thus losing from a ban), there are likely several million more consumers negatively affected by these prices (and thus profiting from a ban). Thus, where there are relatively more winners from a ban – such as with food staples – it becomes secondary to policy-makers, if there are many losers in absolute terms. Ignoring the winners of a ban (and losers of high prices) might be politically much more costly than ignoring its losers.

Importantly, in the case of the 14 commodities studied in the remainder of this thesis, the relative population share ratio of ban losers and winners does not matter much. The reason is that commodity processing usually does not employ many people, usually far less than 10,000 people.[35] Given that the population share of the winners is consistently low, in the context of the commodities under study, it is theoretically and empirically[36] parsimonious to focus exclusively on the population share of the producers.

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[35] The exception is timber, which can have larger numbers of employment in processing. However, given that producer numbers in timber are so low, it is not necessary to proceed to the ratio variable.

[36] It is significantly harder to find and calculate employment numbers for processing industries across countries and commodities. Moreover, adding this measure would necessitate building a

3.2. Alternative Explanations

Having set out the core theoretical argument to explain the empirical puzzle identified in Chapter 2, this section presents and discusses a range of potential alternative explanations. First, staying on the level of domestic politics, it discusses how democratization, ethnicity, and elite-clientelism might shape the observed pattern. Moving up one level to international political economy, the potential explanatory power of international trade agreements, commodity tariff escalation, and governments' economic ideologies is reviewed. Finally, the chapter returns to discussing a range of economic factors that might matter in shaping African governments' trade decisions, in addition to those identified in Chapter 2.4

3.2.1. Further Domestic Political Economy Explanations

As discussed in the previous section, most political economy of trade scholars agree that policy-makers seek to secure their political survival and that in doing so they avoid opposing powerful interest groups. In the following, three additional theories are reviewed on which groups tend to be powerful and how this might affect the imposition of export bans.

3.2.1.1. Regime Type and Mass Empowerment

Despite pioneering Olson's theory in the developing world, Bates and others have argued that the disadvantageous effect of groups size is weakened in electoral democracies (Bates 1981; Bates and Block 2013; Milner and Kubota 2005; Varshney 1998). Specifically, they advance the argument that in autocracies money (e.g. through bribes) and violence potential (e.g. through revolts) are the two only currencies that governments respect, and that rural masses own neither. Democratization, however, they contend, changes this fundamentally. Bates and Block (2013: 374) write: "Where representation is achieved through electoral channels and where rural dwellers constitute a large segment of the voting population, then politicians have an incentive to cater to the interests of farmers. The very factors that render farmers weak lobbyists — that they are numerous and

relatively complex composite indicator of the absolute and relative population share measures, significantly complicating interpretation.

spatially dispersed — render them attractive to those competing for an electoral majority."

Indeed, a range of studies has claimed to find a correlation between democratization and more mass-sensitive policies in Africa. In line with Kasara's (2007) finding that African democracies tax farmers less than autocracies, Bates and Block (2013) find in their analysis that decreases in (negative) agricultural price distortions have been the result of democratization in Africa. Although in a different policy area, Stasavage (2005) finds that democratically elected African governments have spent more on primary education (benefiting the masses) than autocracies, whereas Harding and Stasavage (2014) find a similar pattern regarding the abolition of school fees. In all cases, the authors suggest that this results from democratic governments' need to obtain electoral majorities and hence cater the masses. If true, these arguments translate into a clear hypothesis relating to export bans: democratic governments are less likely (and autocratic governments more likely) to ban the export of commodities the larger the share of the population they are produced by, that is, particularly agricultural commodities.

This thesis agrees with the regime type literature that large group size can be a significant source of power and that commodities produced by larger shares of the population are less likely to be restricted at export. It deviates, however, from the assumption that this occurs primarily in the context of democratic regimes. While elections can be an important channel for rural mass grievances, it is not the only one. Large-scale peasant protests and revolts throughout global and African history have demonstrated that even in highly authoritarian contexts peasants could mobilize and pose a threat to governments. What was common to many or most of these revolts, however, was that they were sparked by severe and highly visible grievances that could be directly attributed to the government (Isaacman 1990). The Maji Maji and Mau Mau peasant rebellions in Tanzania and Kenya, for example, were incited by German and British colonialists' highly visible, severe, and attributable 'agricultural policies' of forced labour, large-scale land dispossessions,

the introduction of high head taxes, and forced or prohibited[37] production of certain crops (Alam 2007; Elkins 2005; Iliffe 1967; Newsinger 1981). Similarly, the violent Agbekoya Parapo Revolt of 1968–1969 in Western Nigeria was initiated by Yoruba cocoa peasants fed up primarily with the Nigerian government's frequent and often brutal raids enforcing a debilitatingly high flat-rate tax, which at least initially led to the government conceding to most of the peasants' demands (Adeniran 1974; Eades 1980). And more recently, the 2013 Tanzanian cashew riots demonstrate how sensitive farmers can be to price shocks and aggressive towards the government when they deem it responsible, even in non-democratic contexts.[38] That being said, this argument will be tested more rigorously in the large-N analysis of this study in Chapter 4.

3.2.1.2. Executive Coethnicity: Blessing or Curse?

Much study of African politics has focused on the importance of ethnic favouritism. Usually based on the theoretical argument that most presidents in Africa are reliant upon their coethnics for political support, a large literature has shown how presidents appear to reward this support by providing their coethnics with preferred access to public and private goods, such as schools, roads, health clinics, subsidized fertilizer, or state employment (Banful 2011; Burgess *et al.* 2015; Franck and Rainer 2012; Francois *et al.* 2015; Kramon and Posner 2016). Bates and Block (2010) have observed similar dynamics in the area of agriculture taxation in sub-Saharan Africa. Using data spanning from 1955 to 2005 from the World Bank's "Agricultural Distortions Dataset" (Anderson and Valenzuela 2011), they find that the government is less likely to intervene in ways that would lower the income generated from cash crops grown in the president's home region. Translating this

[37] Whereas Tanganyikans were forced to produce cotton for export, Kenyans (particularly Kikuyus in central Kenya) were prohibited to grow cash crops like coffee or tea as to reduce the competition for European settlers.

[38] When in April 2013 state-led cooperatives offered only half or less of the pre-agreed farm gate price for raw cashews, peasants started to protest first in their southern Tanzanian villages and then started to riot in the town of Liwale, burning 20 houses (most of which belonged to the ruling party, CCM, and its representatives) until the police intervened heavy-handedly, employing teargas and helicopters (24.04.2013).

to the context of commodity export bans we should hypothesize that commodities mainly produced by the ruler's co-ethnics are *less* likely to be restricted at export.

This narrative, however, is contested. Employing similar indicators (though from a different source [Jaeger 1992] and covering a shorter period, namely 1970 to 1987), Kasara (2007) finds that cash crops produced primarily in the ruling ethnicity's home area face higher tax rates than those produced outside it. This startling finding, she argues, is the result of how rulers in Africa have historically secured support in the countryside. In line with a larger literature on the power of brokers in African politics (Beck 2008; Boone 2003; Koter 2013; Stokes *et al.* 2013), Kasara makes the case that African leaders have used local intermediaries to exert control of peasants. However, intermediaries "at home", she argues, are easier to select and monitor than they are "abroad", reducing the risk of alternative leaders emerging in a leader's home region. As result, leaders face a lower threat to their political survival from coethnics and hence find it easier to tax them (Kasara 2007: 160). The corresponding hypothesis would read that commodities mainly produced by the ruler's co-ethnics are *more* likely to be banned at export.

Ideally, one should also study the relative ethnic affiliation of processors versus that of producers and traders, as it might equally be an important explanator of relative threat or power. For example, one might imagine that governments are more likely to restrict a commodity's export if processors are coethnics and producers and traders are not (or vice versa). Unfortunately, however, data on the ethnic affiliation of processors and traders is not readily available (reflected in the absence of research on this topic) and extremely hard to collect across time and space. Whereas geographical commodity production data is a readily available and valid proxy for producers' settlement (and can be matched with ethnic settlement data), no such data is available for traders and processors. Given the lack of and difficulty to collect cross-country-commodity-specific data on trader and processor ethnic affiliation, the quantitative analysis must limit itself to studying the ethnic affiliation of producers. The hypothesis will, however, be addressed in the qualitative case comparisons in Chapter 6 and Chapter 7.

3.2.1.3. Elite-Clientelism or the Power of the Political Aristocracy

One of the most scathing criticisms of the usefulness of interest group approaches in the African context comes from van de Walle (2001).[39] In his analysis of the politics of partial structural reform implementation in Africa during the last quarter of the 20th century, he argues that much of the academic literature on African political economy has critically overestimated the influence from broader societal pressure groups, including ethnic groups (van de Walle 2001: 20). Although he acknowledges that "there is plenty of evidence of lobbying, strikes, work stoppages, and other forms of interest group participation" in Africa, "These actions are ineffective, however, in persuading governments to change course" (van de Walle 2001: 26). Except for civil servants and their ability to shut down government services, he argues that due to amalgam of geographical features, historical legacies, and active political strategies by the state it is "it is difficult to think of a constituency in Africa that is capable of exerting similar social power in the absence of organization" (van de Walle 2001: 48).

Nevertheless, Van de Walle also argues that African rulers have interests to appease, only that these look different than those discussed before. Citing Callaghy (1984), he argues that a small "political aristocracy" close to the centre of the state apparatus (that may not total more than a couple of hundred people) dominates policy-making (van de Walle 2001: 54). Importantly, these elites are often rather fragmented and to keep them together and hence securing political survival, requires presidents at the top of this aristocracy to allow and even foster their systematic appropriation of public resources (van de Walle 2001: 52).

It is in light of these patron-client relationships that van de Walle as well as others (Bhagwati and Krueger 1973; Bienen 1990) see the creation of trade bans. The underlying assumption is that governments deviate from 'welfare-enhancing free trade' to create the rents required to appease members of the political aristocracy.

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[39] In the last 10 years, van de Walle's and others' work particularly on neo-patrimonialism has received strong critique. (Pitcher *et al.* 2009: 125) for example argue that "Current usages of the terms patrimonial and neopatrimonial in the context of Africa are conceptually problematical and amount to a serious misreading of Weber." Mkandawire (2015: 563) further claims that "the concept of neopatrimonialism has little analytical content and no predictive value with respect to economic policy and performance."

Accordingly, highly distorting trade interventions such as heavy export bans on commodities must be the result of powerful rent-seeking political aristocracies. A plausible channel of rent-seeking in export bans could be the windfall gains earned by a client processor. However, it could also be that traders or farmers – rather than processors – are part of the political aristocracy, and hence, will pressure the government to leave their businesses untouched by export bans. Summarizing, the hypothesis generated from this discussion would state that if processors of a commodity more politically connected than traders and/or producers, the more likely a ban. Vice versa, if producers and traders are more connected, the propensity of a ban should decrease.

A critical question to ask is whether this relative political connectedness aligns with the export patterns uncovered. Are producers and traders of frequently banned commodities less well connected than processors? Is this different in rarely banned commodities? Looking at our fourteen commodities, there seems to be no clear pattern. Whereas timber license holders tend to be well-connected and organized (Terheggen 2011a), this is not necessarily the case for metal scrap collectors. Similarly, whereas many small-holder farmers lack close ties to politicians, tobacco leaf companies or tea plantations often do (Smith and Lee 2018). Whether and how this matters will be analysed in more depth in the case study chapters of this thesis.

3.2.2. International Political Economy Explanations

One level higher, four potential explanations can be derived from the International Political Economy (IPE) literature. The first hypothesis is that international agreements might be responsible for African governments' export ban policy choices. Melamed (2006) for example contends that international trade agreements leave African governments with few policy options. Shadlen (2005) illustrates in more detail how regional-bilateral trade agreements (RTAs) tend to restrict and shape developing country governments' policy space more than do multilateral trade agreements. And indeed, although GATT Art XI prohibits export bans, it neither monitors their usage nor does it require governments to notify the WTO when new export bans are introduced (Espa 2015; Korinek and Bartos 2012; Mendez Parra *et al.* 2016; WTO 2004; Wu 2013). Up until now, only a handful of cases regarding export measures were brought before the GATT/WTO Dispute

Settlement Body (specifically, concerning Canadian Salmon and Japanese Semi-Conductors in 1988, Argentinian bovine hides in 1999, and Chinese rare earths in 2015). No case complaint against any of the numerous bans maintained or introduced by African states was ever raised. What is more, all 36 countries in my sample are part of the WTO and bound to the same rules. Hence empirically speaking, membership in the WTO should not be able to explain variation in the outcome.

Whether, however, this is different for RTAs in the case of export bans in Africa is questionable. By far the most relevant RTAs in Africa are concluded with the EU. Whereas the Cotonou Agreement had no provisions for export bans, all new Economic Partnership Agreements (EPAs) clearly state that on entry into force all export prohibitions affecting trade between the parties shall be eliminated. The potential effect of these agreements on the observed pattern is put in question by two observations, however. First, by the end of 2015 (corresponding relatively well with the data coverage of the EPTA dataset) only in five out of 38 countries in the sample had an EPA entered into force: South Africa in 2000; Madagascar, Mauritius, and Zimbabwe in 2012; and Cameroon in 2014 (in the last quarter of 2016 EPAs entered into force in Côte d'Ivoire, Ghana, Botswana, Lesotho, Mozambique, and Namibia as well). Moreover, adherence to the EPAs appear weak: in opposition to the agreement, all countries upheld their previous export bans. More strikingly, both Mauritius and Mozambique introduced new export bans (on metal waste and timber respectively) after the EPAs came into force. Hence, it appears that – for now at least – international trade agreements have not shaped the observed export ban pattern.

Influence by international interests on African policy-makers might be more direct and less legal. Mkandawire (1999) for example contends the imposition of stringent conditionalities attached to aid and loans constrains African governments' independent policy power. In the context of this analysis, international donors might employ aid as a leverage to dissuade African governments from restricting the export of raw materials which they have interests. Specifically, as part of the SAPs, international donors and lenders had put emphasis on strengthening the agricultural sector (Krueger *et al.* 1988; Mosley and Smith 1989; World Bank 1981). As such, it could be that African governments tend to spare agricultural export crops from

bans because of donor pressure. If true, we should see that particularly donor-dependent government should abstain from restricting agricultural commodities, something that can and will be tested in the empirical chapters of this thesis.

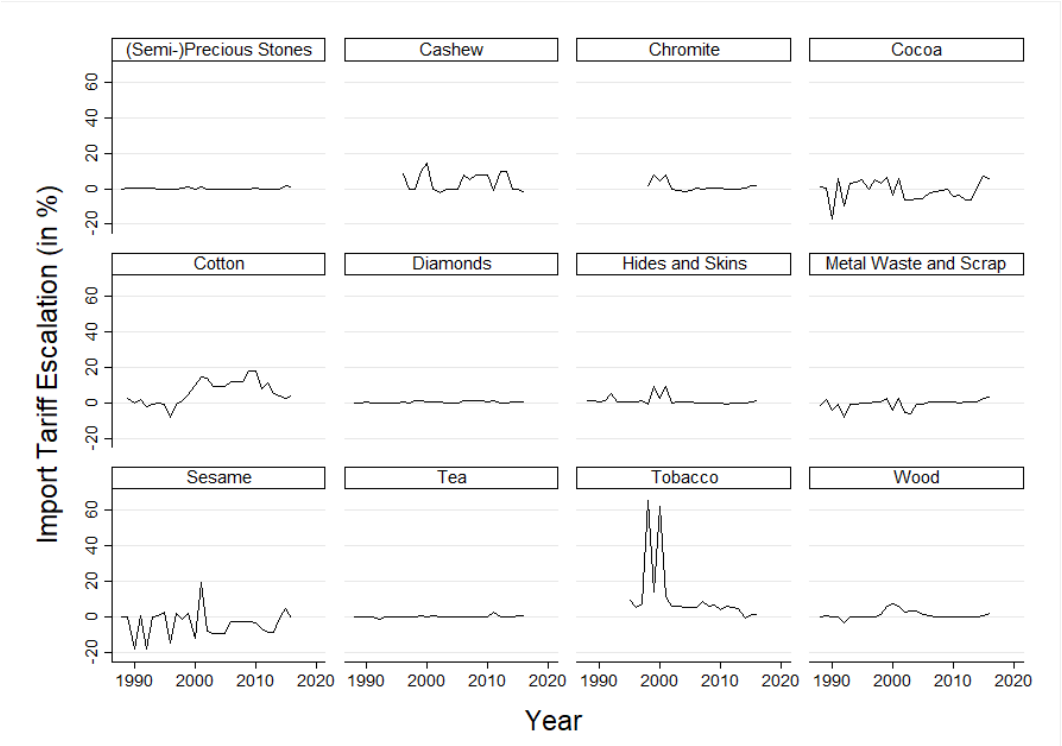

Figure 3.3. Import Tariff Escalation for African commodities in the EU, USA, China and India

Source: Own illustration, based on data from UNCTAD's (2018) Trade Analysis Information System.

Perhaps tariff escalation in consumer markets or current key processing countries can explain why certain raw material exports are restricted more than others (Estrades *et al.* 2017). For example, high tariff escalation (that is, higher import tariffs on processed and finished goods in the consumer countries) could motivate raw producing country governments to explicitly counteract foreign barriers by imposing an export ban "de-escalation" (with processed and finished exports not being banned). To eye-ball this argument, Figure 3.3 illustrates the extent of average tariff escalation in the EU, the USA, China and India on imports of the main commodities studied in this thesis. Following the logic above, we should see

raw commodities frequently restricted (compare Table 2.2 above) – that is, wood, hides, precious stones and diamonds, as well as metal wastes – to be more affected by tariff escalation by these four major importers. If at all, the opposite appears true: tariff escalation on the named products appears to be relatively neutral. In contrast, some rarely heavily restricted commodities like cotton, cashew, or tobacco have experienced greater tariff escalation in the past. Nevertheless, the argument needs to more rigorously tested through regression analysis.

Finally, transgressing the boundary to domestic politics, the ideological orientation of governments tends to impact their position on active and selective industrial and trade policies such as export bans, with the common perception being that more left governments will be more positive towards economic interventionism. However, ideology might also play a role how governments view the necessity to abstain from harming agricultural production. Some scholars of African agriculture have argued that more centrist or right-leaning governments – e.g. those of Kenyatta in Kenya or Houphouët-Boigny in Côte d'Ivoire – have had a more productive laissez-faire attitude to agriculture than more socialist governments – such as Nkrumah in Ghana or Nyerere in Tanzania – heavily taxing agricultural commodities (Bates 1983; Bates and Block 2009; Widner 1993). To the extent such orientations still play a role in post-SAP Africa, it would make sense to analyse whether they at least partially drive the export ban patterns observed.

3.2.3. Additional Economic Considerations

Although economic factors have determined the 14 bannable commodities[40] to be analysed in the remaining chapters of this thesis, there are further economic factors that could explain export ban variation across them. These are potential differences in their importance to the government and the likelihood to suffer from a ban; variation in the structure of their value chains and export circuits; as well as a potential association with levels of industrial and economic development. Each will be discussed in turn.

[40] And 12 in the large-N analysis, as described in Chapter 4.

3.2.3.1. The Fear of Killing the Goose that Lays the Golden Eggs

Taxation on commodities and their trade have historically been one of the most important sources of revenue for African governments (Anderson 2010a; Bates 1981; Cooper 2002).[41] Moreover, maintaining a stable export base is key to earning foreign exchange and to avoiding balance of payment (and thus potential political) crises. One could, therefore, expect African governments to avoid policies that would risk draining or disturbing these important streams.

Export bans could threaten revenue and foreign exchange streams in two ways. First, directly, by banning the export of a raw commodity, any export tax or foreign exchange earned from that raw commodity would be foregone. This needs to be qualified however. Ideally, the loss in foreign exchange should be short-termed. If markets for the higher-valued processed commodity can be found, the ban should increase the total foreign exchange earned from that commodity. Yet the risk remains that processing is not up to the task and cannot export competitively despite the ban, at which point the foreign exchange earned originally from raw commodity exports would be lost (at least temporarily). Similarly, losses in tax revenues from raw exports could be balanced by taxing processed goods. Yet, this again might stand in opposition to the industrial policy goal of making processors export competitive. As such, at least in the short to medium term, export bans do have significant direct risks for crucial revenue streams.

Second and more indirectly, policy-makers might hesitate to impose export bans in a fear that these might kill the goose that lays the golden egg. That is, prohibiting the export of a commodity might reduce profitability of raw production to such an extent that raw producers will reduce or even abort production. Thus, governments might want to safeguard those commodity streams particularly dear to them and particularly prone to be hurt through export bans.

What then are the characteristics that are likely to make a government perceive a commodity as a golden goose and believe that an export ban is likely to kill it? Four factors appear particularly relevant. Arguably the most obvious factor is the export

[41] Mendez Parra *et al.* (2016: 28) however find that export taxes on commodities constitute no or only a very small share of developing country governments' revenues nowadays.

share of a commodity. Commodities which account for a large share of the total export value of a country constitute a critical foreign exchange source and likely of other revenues as well. As such, one could expect governments to be less likely to ban the export of such commodities.

Relatedly, the degree of market power a country holds in a commodity might also play a role. If a country's production of a commodity accounts for a critical share of global production of that commodity, both domestic and foreign investors seeking to secure that share will be willing to invest in domestic processing. As such, in the context of great market power bans promise to promote processing expansion more strongly.[42] The flip side is that the original importers of that raw commodity might resent this policy and commence a trade war, hence, governments might be particularly warry of imposing bans on such commodities.[43] Thus, it is difficult to hypothesize whether market power would increase or decrease a commodity's export ban propensity.

Another relevant factor might be producer profit margins. If profit margins from producing a commodity are very slim, governments might fear these commodities to be too feeble to weather a ban. Yet again, processor might act irrationally and only have their short-term survival or profits in mind. Accordingly, one could hypothesize that governments would be less likely to impose export bans on raw commodities which generate low profit margins for their producers.

Finally, the factor mobility inherent to a commodity could play an important role. Specifically, the easier it is to put the means of producing a commodity (i.e. land, labour, and capital) to a different use, the more likely it is that producers will abandon that commodity if its export is banned. Governments wanting to avoid killing the goose that lays the golden egg might, therefore, be more likely to spare commodities that are produced through highly mobile factors. In fact, this speaks directly to the work of Besley (1997) and McMillan (2001), who theorized and

[42] The Kenyan nut industry is a case in point. The government introduced a ban on both macadamia and cashew nut exports in June 2009. Given the great importance of Kenyan macadamia in the world market – and the irrelevance of Kenyan cashew – macadamia prices followed increasing world market prices, whereas cashew did not (reflected also in diverging production volumes).

[43] This is a possibility tea producers and government officials in Kenya in interviews indicated as a possibility that would make banning bulk tea somewhat less attractive.

found that crops with particularly high sunk costs (such as perennial crops like cocoa), and therefore lower factor mobility, are taxed higher than crops with lower sunk costs and easier ways to opt-out of production.

Given that the variation in export bans runs strongly along agricultural versus non-agricultural commodity lines, one should ask whether these three factors covary across these two commodity types. Figure 3.4 below illustrates the export share and market power of the commodities (whether raw or processed) included in the quantitative analysis conducted in Chapter 4. Specifically, these measures are the averages across the producing countries and the period covered in the large-N sample. We see that overall agricultural crops appear to account for higher export shares in African countries that export at least some amount of this commodity. As such, on first sight, the assumed correlation between high export share and rarely banned appears to hold. On a closer look, one can also find clear exemptions from this correlation. Rarely banned sesame does not appear to account for high export shares on average. Similarly, the most frequently banned commodity, wood, accounts for relatively high export shares. Moreover, if we average export shares by whether a commodity was banned or not banned in 2011, we will find that the two shares are relatively close, at 3% and 2% respectively. The pattern in market power is even more ambiguous. Some agricultural commodities like cocoa, cashew or tea appear to have relatively high market powers, whereas others like sesame, cotton, or tobacco have relatively low market power. This also holds for commodities that are not agricultural crops.[44] Thus, whether these variables matter in explaining export patterns and whether they put into question alternative explanations discussed in this thesis can and must be tested more rigorously using quantitative methods.

[44] Chromite has exceptionally high market power in Africa due to South Africa and Zimbabwe producing and exporting large quantities of global chromite.

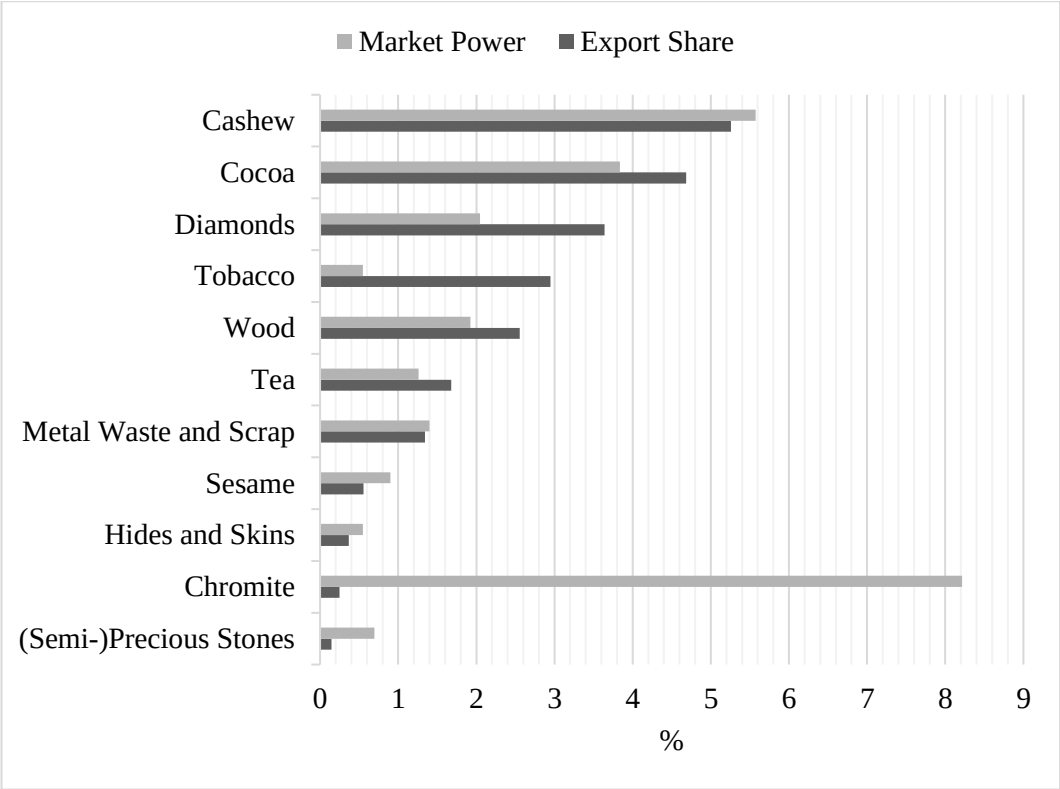

Figure 3.4. Average Export Share and Market Power per Country-Commodity-Year in Data Sample (in %), 1988-2017

Note: The export share is defined as the percentage a country-commodity's exports accounts out of the total value of exports from a country in a year. Market power is the share of the total global volume traded in a commodity that a country accounts for in a year. The values presented in the graphic is derived by averaging all country-commodity-year values for the two measures respectively.

Source: Own Illustration based on export weight and value data from the UN Comtrade database (DESA/UNSD 2019).

If the size of producer profit margins might affect governments' propensity to impose export prohibitions, we must ask whether these correlate across commodity types. Answering this question is extremely difficult however. Calculating profit margins requires knowing both the prices received and costs incurred for producing a unit of a commodity, preferably across countries and time. For Africa, such data is patchy at best, and non-existent at worst. The only relatively comprehensive effort to collect producer price data across commodities, countries, and time stems from the FAO *(2018b)* which created a database of farm gate prices across a range

of commodities. This data, however, is very incomplete for key commodities.[45] However, I could not find credible producer price data for non-agricultural commodities. Yet, even if I did, calculating profit margins would still be extremely challenging given the lack of production cost data by commodity in Africa, whether for agricultural or non-agricultural commodities.[46] This lack of data makes it difficult to assess whether profit margins for uncommonly banned processable goods (like agricultural commodities or gold) are significantly slimmer than for more commonly banned goods such as timber, metal wastes, hides, chromite or certain precious stones. It thus also makes it impossible to test the power of this variable to explain export ban patterns through large-N analysis. This is arguably a significant limitation of the large-N analysis.

There are two further potential methods to address the empirical power of this variable. First, analysing the variable through qualitative comparison in a smaller range of cases. As detailed in Chapter 6, the comparison of raw cashew nut export bans in Ghana and Kenya provides tentative evidence against the explanatory primacy of this variable. Ghanaian cashew farmers at the time of the ban (2016) enjoyed much larger profit margins than Kenyan farmers did when the government imposed a ban in 2009. In fact, due to lacking profitability, Kenyan cashew farmers had been exiting the second for over a decade by the time of the ban. Based on the profit margin hypothesis we would expect two things. First, the Kenyan government, if indeed worried by low profit margins, should have never imposed a ban in the first place – yet it did. Second, if at all it should have been the Kenyan government that would have withdrawn the ban out of realization that their producers would be much more likely to exit cashew farming. Yet, the opposite was the case, with the Ghanaian government withdrawing the ban after one week, and the Kenyan ban remaining in place and strongly implemented one decade after its

[45] Cashew fam gate prices are a case in point. The FAO has only collected data on cashew farm gate prices in the last years from Kenya and Senegal. Given that Kenya has massively distorted farm gate prices as an outcome of a 2009 export ban on raw cashew nuts, the average cashew producer prices in Africa illustrated in Figure 2.2. below, massively misrepresent actual developments.

[46] This assessment is based primarily on discussions with leading rural statisticians at the FAO and FAO consultants who spend several years on building a framework to support agricultural ministries and statistics offices in Africa to generate agricultural production cost estimates in the first place. Compare also (Lys 2010) and (FAO 2014a). Until this point, no comprehensive dataset has been built, given the extreme complexity and difficulty of attaining this data.

imposition. Moreover, as detailed in Chapter 7, producers of more frequently banned (i.e. non-agricultural) commodities do also appear to be sensitive to the price decreases created by bans. In Ghana, for example, many loggers and scrap collectors had to give up their business due to export bans. The same appears true in Zimbabwe, where many smaller scale chromite miners stopped operating as a consequence of the chromite export ban (Parliament of Zimbabwe 2013: 7–8). A further case is the Malagasy gemstone sector, which saw a massive recession and closure of mines after the government had banned unprocessed gemstones in 2008, and only slowly recovered when it withdrew over one year later (Kyngdon-McKay *et al.* 2016: 83). As discussed in Chapter 2.4, similar patterns held in Indonesia's timber and mining industries, where many logging firms and mines closed due to raw commodity bans. This anecdotal evidence warrants some scepticism that there is a strong covariation in between the likelihood of certain industries to collapse under a ban and their propensity to face one.

A second way to at least partially assess the potential power of the margin variable is by analysing the covariation of producer profit margins and state-led commodity price distortions for one group of commodities over time. Given at least some crude availability of data, agricultural commodities lend themselves for this exercise. Specifically, if the hypothesis holds, we should see governments distorting prices of agricultural commodities less, the lower the profit margins of a commodity. Critically, a large qualitative and quantitative scholarship has provided ample evidence that during the first three decades after independence African governments taxed export crops significantly higher than today (Anderson 2010b; Bates 1981; Jaeger 1992; Jaffee and Morton 1995; Krueger *et al.* 1988; McMillan 2001). Looking at cocoa, for example, Kolavalli and Vigneri (2011: 208) find that the 'share of the net f.o.b. price received by cocoa farmers in Ghana has increased to nearly 80 per cent after having fallen below 20 per cent before the economic reforms of the 1980s'. Similarly, whereas Ivorian cocoa farmers received only around 25% of the world market price prior to the implementation of SAPs (Boone 2003: 226), this share has now increased to over 60% (Laven *et al.* 2016). Critically, several of these studies have found that this taxation was often higher than the estimated revenue-maximizing tax rate, that is, the rate that maximizes revenue

while keeping farmers planting.[47] This by itself tells us that historically African governments have often not been impressed by the potential of their policies to push farmers to keep producing and begs the question why this should be different in the last two decades.

Deriving from the margin hypothesis, the fact that African governments distort the prices of agricultural commodities less nowadays should be because their profit margins have declined over time. As indicated above, calculating exact profit margins across commodities and time is extremely difficult given a lack of data on exact cost composition, as well as input and output prices. A tentative approximation can be made however by looking at the relative price developments in Figure 3.5 of farm gate prices for 'bannable' agricultural commodities and those of three critical inputs, food (proxied by wheat), fertilizer, and pesticides. Importantly, whereas farm gate prices for the studied export crops (rows 1 and 2 in Figure 3.5) have increased strongly over time – with the fraudulent exception of cashew[48] – the price of wheat (at the farm gate) as well as fertilizer and input (at import) has grown significantly slower or remained constant. We, therefore, have tentative evidence that over time the income side of African smallholders' business equations has grown faster than the cost side[49], indicating that profit margins have more likely increased than decreased over time. As such, it appears unlikely that a reduction in profit margins has motivated African governments to distort agricultural prices less and hereby also raises some doubt that African governments would now see low profit margins as a crucial inhibitor to banning the export of processable agricultural crops. Concluding, while the difficulty to assess this

[47] See McMillan 2001 for a more comprehensive overview.

[48] Note that the average FAO data seems to be incorrect for cashew. As the data in Chapter 5 details, prices in cashew doubled in the last ten years, reaching the same per kg price (ca. US$ 1.5) as cocoa in Ghana, for example. This is the result of farm gate price data only being available for Kenya in the last two years (and Kenya and Senegal in the last five years. As described in detail in Chapter 5.3.2, because of an export ban, Kenya has by far the lowest prices in Africa (two to three times as low as the African Average), therefore, not holding as good representative for African average producer prices. As such, with normal data we should see a strong upward slope in cashew, crossing an African average US$ 1.3 in 2017. For reasons of data consistency, however, this illustration relies only on the FAO data.

[49] Land and labour are obviously further important inputs for farming. Given that these factors of production are usually held by the farm owners over time in the studies African export crops, one might consider them as relatively constant in this equation.

question more rigorously quantitatively is a clear limitation of this dissertation, the presented anecdotal and descriptive statistical evidence should reduce concerns of strong omitted variable bias.

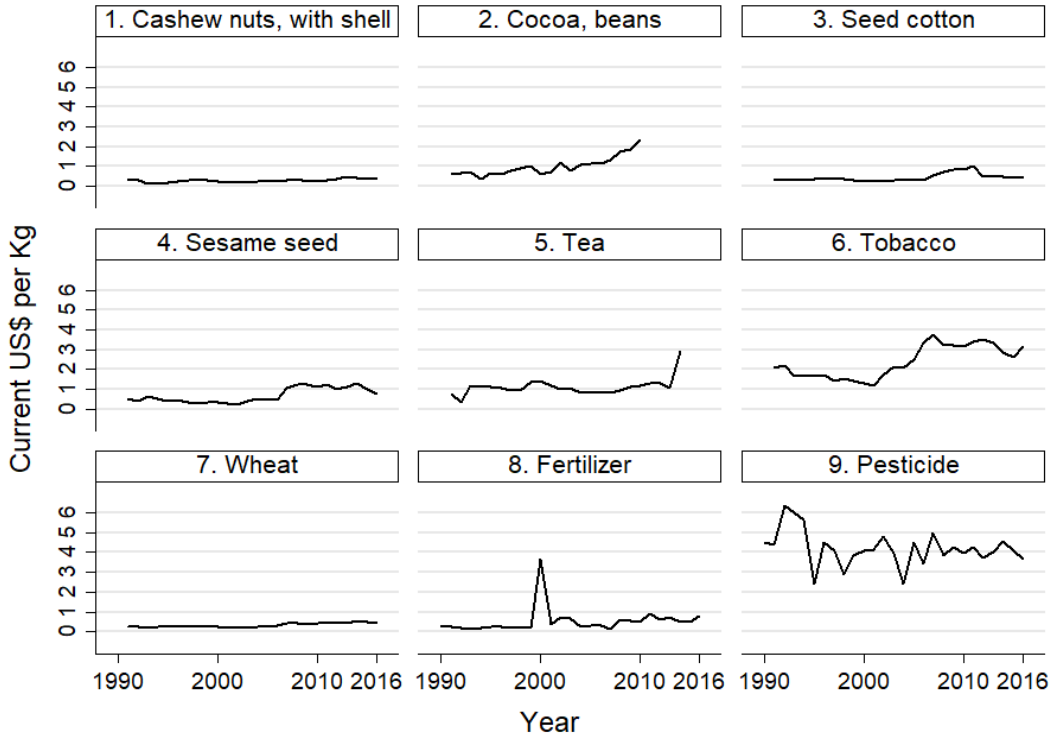

Figure 3.5. Average African Producer Prices Across Export Crops as well as Import Price Data for Fertilizer and Pesticide Imported to Africa, 1990-2016

Source: Own illustration. Country-year-commodity producer price data was derived from FAO (2018b) and aggregated for Africa. Per Kg prices were calculated from import value and weight data from the UN Comtrade database (DESA/UNSD 2019), where 'Fertilizer' refers to the 'Manufactured Fertilizer' as per SITC1[50] code 561 and 'Pesticides' refer to 'Agricultural Pesticides' as per SIC[51] code 2879. Note also for producer prices that: 'Prices in US Dollars are equal to producer prices in local currency times the exchange rate of the selected year. The main exchange rates source used is the IMF. Where official and commercial exchange rates differ significantly, the commercial exchange rate may be applied' (FAO 2018b).

[50] The first revision of the Standard International Trade Classification.

[51] The United States Standard Industrial Classification (SIC).

Finally, looking at the fourth factor, does the production of agricultural goods differ systematically from non-agricultural commodities with regard to factor mobility? In general, assessing the factor mobility of producing certain goods is not straightforward. Is it easier to switch from forestry and logging, mining diamonds and gemstones, or collecting metal wastes and hides to another occupation than it is to switch from farming say cashew or cotton? This partially depends on who controls the means of producing a commodity. Forest or mining pit (license) owners might not find it easy to simply transfer their land to another use or sell it, given that its value has likely decreased. Similarly, they will have invested significant capital in their enterprises, which might be fixed to logging or mining. Their workers might be more mobile however, being able to switch to another job when their employers cannot pay adequate salaries anymore due to the ban. In small-holder agriculture – the typical modus of producing most of the discussed crops in Africa – the three means of production are usually unified within a family. While possible (e.g. through rural-urban migration), it is arguably more difficult for farming families to simply change location or jobs. And while they could shift to other crops, this is often inhibited through high sunk costs invested in the crop (McMillan 2001) or due to the lack of suitable alternative crops. Hence, although complex, if at all, it appears that on average the factors of producing agricultural export crops are less mobile than those of more frequently banned commodities. This stands in direct opposition to the hypothesis generated above that the higher the factor mobility, the lower the incentive for governments to ban them.

Concluding, the explanatory direction and power of these four conditions (commodity export shares and market power, producer profit margins, and factor mobility) is not straight forward. They will thus be tested more rigorously in both the quantitative (apart from the profit margin variable) and qualitative analyses.

3.2.3.2. Differences in Commodity Value Chains

In the introductory chapter I proposed that the 14 commodities identified for further analysis in this thesis should be broadly comparable regarding the degree that imposing an export ban to promote their processing is economically sensible. Nevertheless, these commodities do undoubtedly differ in further regards, which might explain differences in export ban policy-making. One key area is the

character of their respective value chains. Table 3.2 below provides an overview of some of the key and typical value chain characteristics of the commodities studied, ordered by the frequency of being banned. If any of these characteristics does systematically shape governments' decision to impose export bans, we should find that it covaries with the frequency of that commodity being banned. That is, commodities more (or less likely) to be banned should be similar on that characteristic.

Following the value chain, we start assessing the production side of our 14 commodities. And indeed, a relatively clear pattern emerges. Whereas the production of agricultural export crops tends to be dominated by many small-holders, more frequently banned commodities like timber logs, metal scraps, or precious stones tend to be produced by relatively few people and owned by even less. Notably, on the first look, the production of raw hides and skins appears to resemble that of agricultural crops, given that hundreds of thousands of people are involved in the production. In contrast to agricultural crops, however, the production of raw hides and skin provide a significant income to only a very small part of African populations. The reason is that because the actual value of a raw hide or skin constitutes only around 1% of the value of a whole cow, goat, or sheep, African livestock keepers de facto do not receive any income from the commodity (as described in more detail in Chapter 7.3). The only players gaining a significant share of their income from working with raw hides and skins – apart from tanners of course – are hides and skins buyers and traders. In the second-largest livestock producing country in sub-Saharan Africa, Tanzania, however, less than 2,500 people are employed as hide and skin traders, a minuscule share of the over 50 million Tanzanians. Overall, this pattern – relatively frequently banned commodities providing significant incomes to only relatively few people, whereas rarely banned commodities tend to provide significant incomes for many producers – appears strong for the 14 bannable commodities. As indicated in the introduction and further detailed in section four of this chapter, I claim that this is the key variable explaining variation in export bans across those commodities. Crucially, however, I argue that the mechanism behind this association is political and not economic.

Table 3.2. Value Chain Characteristics Across Bannable Commodities

Commod.	*Ban Freq.*	Production			Marketing		Processing			
		Typical Producers (Prod.)	***Production Ownership Concentration***	***Labour-Intensive Production***	***Middlemen?***	***Producers = Exporters?***	***Process. (w/o exp. restr.)***	***Prod. = Proc.?***	***Labour-Intensity of Processing***	***Difficult Downstream Market?***
Metal Scrap	*High*	Independent Collectors (IC) & Scrap Yards (SY)	Low (IC) / Medium (SY)	Medium	Yes (IC) / No (SY)	No	Some	No	Low-Medium	Low
Wood	*High*	License holders (and loggers)	High	No	Some	Yes (Large Firms) / No (Small Firms)	Some	Mixed	Medium	Low
Chromite	*High*	Artisanal Miners (ASM) and/or Large-Scale Miners (LSM)	Low/Medium (ASM) / High (LSM)	No	Yes (ASM) / No (LSM)	No (ASM) / Yes (LSM)	Few	Mixed	Low	Medium
(Semi-) Precious Stones	*Med.*	Artisanal Miners (ASM) and/or Large-Scale Miners (LSM)	Low/Medium (ASM) / High (LSM)	Yes (ASM) / No (LSM)	Yes (ASM) / No (LSM)	No (ASM) / Yes (LSM)	Very rarely	No	High	Medium
Diamonds	*Med.*	Artisanal Miners (ASM) and/or Large-Scale Miners (LSM)	Low/Medium (ASM) / High (LSM)	Yes (ASM) / No (LSM)	Yes (ASM) / No (LSM)	No (ASM) / Yes (LSM)	Very rarely	No	High	Medium
Macadamia	*Low*	Small-Holders	Low	Yes	Yes	No	Few	Rarely	Medium	Low
Hides and Skins	*Med.*	Livestock Keepers (LK) & Slaughter Houses (SH)	Low (LK) / Medium (SH)	Yes	Yes	No	Few	No	Low-Medium	Low
Cashew	*Low*	Small-Holders	Low	Yes	Yes	No	Few	Rarely	High	Low
Cocoa	*Low*	Small-Holders	Low	Yes	Yes	No	Few	No	Low	Medium
Cotton (Lint)	*Low*	Small-Holders (SH) & Ginneries (GN)	Low (SH) / High (GN)	Yes (SH) / No (GN)	Yes (E. Afr.) / Less (W. Afr.)	Mixed (E. Afr.)/ Yes (W. Afr.)	Few	No	Low	Low
Gold	*Low*	Artisanal Miners (ASM) and/or Large-Scale Miners (LSM)	Low/Medium (ASM) / High (LSM)	Yes (ASM) / No (LSM)	Yes (ASM) / No (LSM)	No (ASM) / Yes (LSM)	Very rarely	No	Low	Medium
Sesame	*Low*	Small-Holders	Low	Yes	Yes	No	Few	No	Low	Low
Tea	*Low*	Small-Holders (SH), Plantations (PL), and Tea Factories (TF)	Low (SH) /High (PL&TF)	Yes	Mixed	No	Few	Rarely	Medium	Medium
Tobacco	*Low*	Small-Holders	Low	Yes	Mixed	No	Few	No	Low-Medi.	High

Note: Commodity-specific references in Appendix 3.1.

The next relevant segment of the value chain is marketing. Two interrelated questions appear particularly interesting: on average, do middlemen organize most marketing between producers and exporters or processors? And do producers sometimes export their commodities themselves? We do not find strong (co-) variation among the commodities analysed. Overall, middlemen are common throughout all value chains. Independent of the propensity of being banned at export, some commodities do have sub-chains, however, where middlemen do not play an active role. Generally, this is the case when there are particularly large (often international) producing firms that also export the produce themselves. Examples are large European logging companies, large plantations owned by tea giants like Unilever, or large underground diamond mines run by De Beers, the leading diamond producer and trader in the world. Similarly, where contract farming is dominant (e.g. in certain West African cotton industries or Eastern and Southern African tobacco sectors), there is less need for middlemen. In general, given the lack of relevant covariation, however, marketing structures do not appear to be a critical determinant of the export prohibition pattern under study.

Finally, variations in the character of processing across the value chains might matter. The four key characteristics discussed here are: the existence of processing companies (independent of export restrictions); whether producers also process; the labour-intensity of processing; and whether it is difficult for processors to enter international markets for their goods. Overall, as for marketing, there is no coherent covariation between these characteristics and the propensity to be banned across the commodities analysed. In general, without direct state support, said commodity sectors rarely produce processing companies. Where some processing companies do exist, this can be the result of different reasons. In the 20th century, for example, metal scrap was rarely exported from Africa, given low demand from other continents. As such, metal mills did not face any competition in sourcing scrap and emerged relatively naturally with demand coming from the local market. This changed with the rise of China as a global steel giant constantly looking for scrap to feed its massive production overcapacities. The resulting competition for African scrap puts processors under significant pressure and hence put industry protection on the table. The case of tropical timber is somewhat more complicated. In some African countries, like Ghana, a milling industry emerged even before the

government started to promote it more actively. This is primarily the result of a divided demand structure in Europe. The smaller part of Western wood manufacturers did not possess their own sawmills and as such demanded (semi-)processed timber from Africa. The larger part did have its own sawmills and was thus more interested in raw logs. As such, countries like Ghana saw the existence of both semi-processed timber and raw log exports, and accordingly, and industry with both processors and pure loggers. The increasing demand from China for only raw logs starting in the 1990s, however, put pressure on domestic processors in the competition for sourcing raw logs, motivating many African governments to employ export bans, quotas and high taxes as protective measures. Looking at Table 3.2 there thus appears to be at least a tentative correlation between the existence of processing industries and the likelihood of governments to impose protective bans (which is something I will study in more detail in Chapters 6 and 7). That being said, this does not appear to be a necessary condition for bans, as there are cases where governments impose bans even where processors barely existed in the first place (e.g. the Tanzanian, Malagasy, South African, and Botswanan bans on some or all gemstone exports or the Mozambican and Sierra Leonean bans on raw log exports).

Given that one of the key goals of promoting processing industries is creating employment, one might argue that governments would be more likely to ban the export of commodities that are more labour-intensively processed. Empirically, this does not appear to be a necessary condition, with labour-intensively processed cashew rarely banned, and metal scrap, for example, that requires relatively little labour to process frequently banned. A further factor that likely matters to governments is how difficult it will be for processors to access foreign markets. Yet again, there is no noticeable correlation between this variable and the propensity of a commodity to be banned. Overall, most processing sectors have relatively easy or medium-difficult access to markets, with these manifestations equally spread across ban frequency categories. One exception that has particularly high barriers to entry is tobacco. This is due to the extreme concentration to a handful of buying companies in the world that control all major brands and retail markets. Trying to enter such markets is nearly impossible. Accordingly, the key regressions in Chapter 4 will be run both with and without tobacco. Finally, there is also no

noticeable covariation in the existence of a processor or the degree to which they are also involved in the production.

To conclude, from a bird's eye perspective, neither differences in marketing and processing between the commodities under study appear to systematically covary with and thus potentially explain export ban patterns. In contrast, differences in the number of people earning significant income from (working in) producing commodities appear strongly correlated with the propensity to ban their export: the larger the number, the less likely are export bans.

Chapter 4. Large-N Analysis

To analyse and test the above-derived hypotheses against competing explanations, the study employs a combination of quantitative and qualitative methods. Whereas Chapters 5 through 7 present the qualitative analyses of this thesis, this chapter presents the quantitative analysis. After elaborating on the research design of the analysis in Section 4.1, Section 4.2 highlights its key findings. Section 4.3 concludes with a summarizing discussion thereof.

4.1. Large-N Research Design

The following section details the large-N research design in three steps. First, I present the key units of analysis of the study. Then I discuss the operationalization of the key dependent and independent variables and the respective data sources. And finally, I detail the main model specifications for the regression analysis.

4.1.1. Units of Analysis

The core unit of analysis is the country-commodity-year. As detailed in Chapter 2, the EPTA dataset covers information on export bans and taxes on 36 sub-Saharan African WTO member states, with the earliest year of temporal coverage being 1988 (the earliest date of WTO accession and thus the earliest date for a Trade Policy Review) and 2017 being the latest. Most countries, however, have significantly shorter coverages, given later accession or writings of TPRs. Except for gold and macadamia, data was collected on all other 12[52] bannable commodities in Chapter 2.4. Gold is excluded from the analysis because the HS-code system does not clearly distinguish between refined and unrefined gold making subsequent variable operationalizations impossible. The same is true for macadamia, for which there is only a general macadamia category, rather than one for shelled and one for

[52] Cashews, cocoa, cotton, chromite, diamonds, metal waste and scraps, precious and semi-precious stones, raw hides and skins, sesame, tea, timber, and tobacco

unshelled macadamia nuts. Overall, the final regression dataset covers 7,846 country-commodity-years, in essence, every country-commodity-year that witnessed at least some exports as measured by the UN Comtrade database (2019). This is unless a country restricted the export of a commodity in a certain year, in which case it was included even if no exports were registered (since the restriction might have repressed the exports completely). Given missing observations across explanatory variables as well as certain coding choices, the typical number of observations in the large-N analysis ranges between 1,400 and around 3,000.

4.1.2. Data and Operationalization

4.1.2.1. Dependent Variables: Export Prohibitions and Export Taxes

Using the data from the EPTA dataset described in Chapter 2.2, the key dependent variable of the study is whether a government has *introduced* an export ban in a given year.[53] It is coded dichotomously: 1 for the year an export ban was introduced and 0 for years in which a commodity was not affected by an export prohibition. To deal with the problem of serial dependence in the data, I follow standard practice in quantitative conflict onset research and code all country-commodity-years after the introduction of an export ban as missing as long as they were affected by a ban (Buhaug and Rød 2006; Schulz 2015; Thomson 2018).[54] Similarly, all country-commodity-years for which no clear year of introduction was identified, or which had already been restricted at the outset of the first year of available data were also dropped from the analysis. This does not solve the problem for temporal correlation entirely because periods without a ban (coded as '0') will still be correlated over time. I account for this temporal dependency by using the simple, yet effective cubic approximation method endorsed by Carter and Signorino (2010). First, I generate a control variable measuring the number of years without an export ban since the beginning of the data or a pre-existent export ban. This variable is then included as

[53] Note that if a ban lasted less than a month, that year was not coded as having had an export ban. Such cases are extremely rare however (the Ghanaian one-week cashew ban being the only one that I came across in the composition of the EPTA dataset).

[54] Coding years after the introduction of a ban (and prior to withdrawal) as '1' would falsely be counted by the model as introduction, hereby artificially increasing the statistical weight of variable attributes of this observation. The same would be true if it were coded '0'.

a regressor in all models together with its squared and cubed equivalents (the so-called polynomials).

Second, I generate an ordinal taxation and ban variable to test Hypothesis 2 that lower export taxes are more likely to be imposed on larger population groups. Specifically, this variable is disaggregated into five categories, measuring whether a country commodity year was affected by no export tax or ban, a low export tax (less than 10%), a medium export tax (between 10% and 30%), a high export tax (greater than 30%), *or* an export ban. Importantly to reduce the complexity of the operationalization and estimation strategy, rather than measuring the introduction of these policies (as is the case for the dichotomous export ban introduction variable above), this variable simply measures their presence or absence.

The export ban introduction and categorical export tax and ban variables are kept as distinct in the analysis for two reasons. Conceptually, export bans are much more likely to be imposed for processing promotion reasons[55] (the explicit focus of this study) than export taxes, where revenue-generation is often a core motive. Second, the distinct export ban introduction dummy allows me to calculate significantly more complex and robust models. Overall, the distinct analysis should thus enhance the analytical rigour of the study and the substantial implications that can be drawn from it.

4.1.2.2. Independent Variable: The Commodity Population Share

Operationalizing the proportion of the population that generates a significant share of their income producing a specific commodity requires country-commodity-specific employment numbers. Unfortunately, however, there are no readily available cross-country datasets on producer group sizes, which has to do with the fact that there are rarely detailed and credible assessments of producer group sizes conducted in sub-Saharan Africa (Cordes *et al*. 2016). This study attempts to

[55] Note that cases were excluded where bans were clearly not imposed for processing promotion reasons. This is essentially true for all export bans that cover all wood products independent of processing stage, as well as an explicit ban on copper waste and scrap in Mauritius (which does and cannot economically operate a copper smelter), implemented to stop stealing of public copper wires.

overcome this hurdle by collecting employment data for some country-commodity-years, and from there extrapolate to other country-years belonging to the same commodity. Although not ideal, the imputation factors should serve as relatively good proxies, and given the relatively large variation between labour share numbers between commodities in real life, I am optimistic that re-running the analysis with only slightly different exact measures (if they became available) would not significantly alter findings.

The generation of the population share variable was done in three main steps. First, for each commodity, information on the size of producer groups in as many country-commodity-years as possible (86 in total) was collected.[56] Together with production output numbers for these country-commodity-years, for each a ratio of the labour required to produce one unit of the commodity could be calculated (the country-commodity-year specific imputation factor). For example, the Tanzanian Government's *2014/2015 Annual Agricultural Sample Survey Report* indicates that 345,370 farm operators[57] produced 178,546 tons of cashews. Thus, one ton of cashew is produced by 1.93 farm operators on average in Tanzania. Averaging this with country-commodity-year specific imputation factors from other country-cashew-years creates a commodity-specific imputation factor. The employment and production numbers as well as the resulting country-commodity-year- and commodity-specific imputation factors are detailed in Appendix 4.1 for all 86 country-commodity-years that I managed to find labour data on.

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[56] Key sources for country-commodity-specific labour numbers were rigorous surveys by international organizations, agricultural censuses and sample surveys by national governments, detailed studies conducted by donors or NGOs, or in the case of (semi-) precious stones as well as raw hides and skins own field research in Tanzania in 2017.

[57] In general, agricultural censuses count the number of farm operators or households producing a commodity in a country (except for tea, where many people also work on major plantations, thus both these plantation workers and smallholders are counted). They do not usually depict the number of additional workers (including family) required to create and maintain the farm. In contrast, for commodities like timber, metal scrap, or mining the numbers of total employees are normally provided in reports and studies. I stick with the operationalization of censuses, thus counting the number of farm owners for agricultural crops (except for tea) and the number of employees for the other commodities. Clearly, this implies that the number of people working in producing an agricultural crop will be systematically underestimated. Yet, like the decision to include agricultural country-commodity-years where production volumes were likely too low to allow for feasible processing (see Chapter 2.4), underestimating agricultural employment numbers will tilt the playing field against the thesis argument. Thus, if it passes the quantitative tests nevertheless, the argument should gain further credence. For a more in-depth discussion of the challenges of using households and related units of analyses in development studies see Oya (2015).

In a second step, this commodity-specific imputation factor is multiplied by country-commodity-year specific production data. Hereby estimates for the number of people producing a certain commodity in each country and year are generated.[58] For example, if we know that Benin produced around 100,000 tons of raw cashew nuts in 2010, we can estimate with the help of the cashew-specific imputation factor of 1.94 that there were likely around 194,000 farm operators producing cashew in Benin that year.[59] While not optimal, the imputation factors can be relatively temporally dynamic with some of them based on labour data from different years. That being said, the example of chromite employment-production ratios in South Africa from 2007 to 2017 (in Appendix 4.1), shows that these ratios tend to be relatively stable.

Finally, these calculated country-commodity labour numbers were divided by the size of the working-age (15-65 years) population in each country to generate the commodity population share variable (measured in % and abbreviated as population share). While the working-age population size is perceived as more validly capturing the potentially politically active population in a country, it correlates at 0.98 with the normal population size and it thus makes no difference to the results which operationalization is used.

Concluding the discussion of the core dependent and explanatory variables, Table 4.1 provides summary statistics for both by commodity.

[58] Commodity output data was primarily sourced from the FAO (2018a), the British Geological Survey (2017), and the UN Comstrade database (DESA/UNSD 2019). Both output and imputed labour numbers are cross-checked against all findable estimates (including my own field research on 9 of these 12 commodities in Ghana, Kenya, and Tanzania throughout the year 2017).

[59] Note that the methodology was slightly amended for three of the 12 commodities, diamonds, gemstones, and metal waste and scrap. Specifically, country-diamond imputation factors were differentiated by whether a countries sector is dominate by ASM, LSM, or mix thereof, given their different labor intensities. Given a lack of comparable production data, the imputation factor basis for gemstones was build using a country's gemstone export value. Comparable data on metal waste production is similarly lacking and given that it is often processed domestically for the domestic market, it is difficult to use export shares as proxy. Rather I estimated production numbers as a function of a country's population size and level of economic development. Each method is discussed in more detail in Appendix 4.2.

Table 4.1. Summary Statistics by Commodity

		Categorical Export Restriction Variable					
	Export Ban Introd.	***1. No Tax or Ban Present***	***2. Low Export Tax Present***	***3. Med. Export Tax Present***	***4. High Export Tax Present***	***5. Export Ban Present***	***Pop. Share***
Gemstones	0.011 (0.1)	0.86 (0.35)	0.08 (0.28)	0 (0)	0 (0)	0.06 (0.23)	0.05 (0.13)
Cashew	0.007 (0.08)	0.74 (0.44)	0.11 (0.31)	0.11 (0.32)	0 (0)	0.03 (0.18)	2.72 (6.53)
Chromite	0.017 (0.13)	0.79 (0.41)	0.14 (0.35)	0.01 (0.09)	0 (0)	0.06 (0.25)	0.04 (0.04)
Cocoa	0.003 (0.06)	0.68 (0.47)	0.26 (0.44)	0.06 (0.24)	0 (0)	0 (0.06)	2.19 (4.95)
Cotton	0.005 (0.07)	0.79 (0.41)	0.15 (0.36)	0.02 (0.15)	0.04 (0.2)	0 (0.05)	1.61 (2.23)
Diamonds	0.004 (0.06)	0.53 (0.5)	0.31 (0.46)	0.12 (0.32)	0.02 (0.14)	0.02 (0.14)	1.71 (3.06)
Hides and Skins	0.019 (0.14)	0.74 (0.44)	0.01 (0.1)	0.06 (0.24)	0.09 (0.29)	0.1 (0.3)	0.01 (0.01)
Metal Waste	0.034 (0.18)	0.7 (0.46)	0.01 (0.11)	0.05 (0.21)	0.08 (0.28)	0.15 (0.36)	0.2 (0.27)
Sesame	0.003 (0.05)	0.95 (0.23)	0.05 (0.22)	0 (0)	0 (0)	0 (0.05)	1.28 (2.27)
Tea	0.002 (0.05)	1 (0.05)	0 (0)	0 (0)	0 (0)	0 (0.05)	0.41 (0.58)
Tobacco	0.003 (0.05)	0.94 (0.23)	0.06 (0.23)	0 (0)	0 (0)	0 (0.05)	0.37 (0.79)
Wood	0.059 (0.24)	0.44 (0.5)	0.03 (0.17)	0.03 (0.18)	0.06 (0.23)	0.44 (0.5)	0.15 (0.27)
N (%)		3,496 (76%)	392 (9%)	172 (4%)	144 (3%)	424 (9%)	

Note: All cells in commodity rows include means and standard deviations (in parentheses). The final row describes the number of observations for each category of the categorical export restriction variable described in the previous section.

4.1.2.3. Competing Explanations

Following the order of discussion in Chapter 3, the operationalization of key competing explanations is described. First, the level of democracy is measured by Marshall *et al.*'s (2017) Polity2 scores, running from -10 (autocratic) to 10 (democratic). I also interact two dichotomized Polity2 variables (with cut-off points at scores of 5 and 6 respectively) with the population share variable to test whether larger populations unfold their power primarily in democracies. Measuring political connectedness of processors, producers, or traders is not pursued in the large-N part of this thesis, due to the lack of adequate data across commodities, countries, and time.

To test the importance of ethnic producer affiliation, I add a measure of whether a crop is predominantly produced in the ruling ethnicity's home region. I follow Kasara (2007) in coding a coethnicity dummy, which takes the value of "1" if more than 60% of a country's commodity is produced in the leadership's ethnic home region. When this is not the case, or ethnicity is either not politically salient (i.e. in Tanzania, Lesotho, Swaziland, Burkina Faso, and Madagascar after 2002) or geographically strongly overlapping (i.e. in Rwanda, Burundi, and Mauritius) than the dummy is coded as "0". Fortunately, better and more transparent data to construct this variable are available now than were available at the time of Kasara's study. To measure which ethnicity dominates the executive, I rely on the geo-referenced Ethnic Power Relationship (Vogt *et al.* 2014; Wucherpfennig *et al.* 2011) dataset. Ethnicities identified in the EPR as holding a "senior partner", "dominant" or "monopoly" position in the executive are coded as the dominant ethnicity in a country. A range of sources were used to locate where a commodity is predominantly produced in a country. Geo-coded production data for cocoa, cotton, sesame, tea, tobacco, and livestock were taken from Harvest Choice (2016). Data on the sub-national distribution of cashew production across African countries is derived from Rabany *et al.* (2015). Geo-coded forest occurrence data was obtained from the FAO GeoNetwork (2018a) website and is described in more detail in van Velthuizen (2007). Details on the number and geographic location of diamond and gemstone mining sites and areas in Africa was collected from the U.S. Geological Survey (Eros and Candelario-Quintana 2006; Taylor *et al.* 2009).

International Political Economy scholars, in contrast, would likely stress that commodity-specific tariff escalations, international donor influence or the economic orientation of governments should largely explain the observed variation. To accommodate these hypotheses, I first construct a commodity-specific tariff escalation variable which measures the average relative import tariffs on raw versus (semi-) processed HS-6-level commodities across the four main African trading partners: the EU, the USA, China and India. Data is sourced from UNCTAD's (2018) Trade Analysis Information System. The impact of donors and aid is measured with WDI (2018) data on the ratio of ODA to GNI in a country. African governments' economic orientation is operationalized via the DPI's (2001) "Largest Government Party Orientation" variable (coded: 1 = right; 2 = centre; and 3 = left). Government parties coded by the DPI as '0', (= party's platform does not focus on economic issues, or there are competing wings), which represents most cases in the sample, are also coded as '2'.

Table 4.2. Summary Statistics for Variables Included in the Large-N Analysis

VARIABLES	N	Mean	SD	Min	Max	Exp. Sign
Dependent Variables						
Export Ban Introduction	4,184	0.0141	0.118	0	1	
Ordinal Export Tax & Ban	4,628	1.619	1.264	1	5	
Independent Variables						
Population Share	5,771	0.786	2.483	0.000001	31.84	-
Polity2	7,665	1.639	5.440	-9	10	-
Executive Match	5,527	0.151	0.358	0	1	+/-
Tariff Escalation	7,642	1.136	5.971	-20	100.9	+
ODA (% of GNI)	7,552	10.10	9.594	-0.260	94.95	-
Ideology	6,676	2.196	0.613	1	3	+
Export Share	4,707	2.557	8.532	0	92.98	-
Processed-Raw Export Ratio	4,595	969.7	60,593	0	4105170	+
Market Power	6,646	1.653	5.724	0	86.95	+/-
Factor Mobility	7,846	1.273	0.813	0	2	-
Industry (% of GDP)	7,734	25.06	11.16	4.556	77.41	+/-
GDP p.c.	7,654	1,674	2,175	161.8	11,926	+/-

Using export value data from the Economic Complexity Observatory (Simoes and Hidalgo 2011) and trade volume and weight data (observed by importers) from the UN Comtrade database (DESA/UNSD 2019), I create both country-commodity-year-specific export share and market power variables. As indicated above, both variables are lagged for one year throughout all models. Moreover, it might be that governments tend to promote processing industries more if their economic importance is comparable to that of raw producers. Specifically, I include a lagged ratio of a processed commodity's export share versus its raw export share. Note, however, that this somewhat too simplistic a measure, given that African steel factories (that feed on metal waste and scrap) usually produce for the domestic market and as such in this measure would always appear weak economically, even though they might be sizable. Unfortunately, in lack of a better alternative, this variable will be used nevertheless. To account for different degrees to which the factors invested intro producing a commodity are mobile, I include a simple categorical variable, partly building on McMillan's (2001) much more sophisticated operationalization. The perennial tree crops cashew and cocoa arguably have the lowest factor mobility and are thus coded as '0'. The production of tea, tobacco, raw hides and skins, cotton is assessed as having medium levels of factor mobility and thus coded as '1'. And lastly, switching from the production of metal waste, timber, chromite, sesame, gemstones, and diamonds is arguably *comparatively* feasible and coded as '2'. Finally, to test whether the level of economic development of a country affects governments' ability and motivation to promote processing I include the World Development Indicator's (World Bank 2018) measures for GDP per capita at constant 2010 levels in dollars as well as the industrial value-added as a share of total GDP. Concluding, Table 4.2 presents summary statistics and expected signs for all variables included in the analysis.

4.1.3. Model Specifications

Accounting for the binary structure of the core dependent variable, I estimate my main models using logit regressions. To reflect the multi-level[60] structure of the

[60] Country-commodity-years are nested in country-commodities, which themselves are nested in countries.

data, I run different types of models. First, as base models, I run simple bivariate and multiple binary logit regression models with standard errors clustered at the country-commodity level, respectively taking the form:

$$logit(y_{cit}) = \beta_0 + \beta_1 x_{cit-1} + e_{cit} \qquad (1)$$

$$logit(y_{cit}) = \beta_0 + \beta_1 x_{cit-1} + \beta_2 z_{cit-1} + \beta_3 z_{ct} + e_{cit} \qquad (2)$$

where y_{cit} is the introduction of an export ban on commodity c in country i in year t; x_{cit-1} is the country-commodity-year specific population share lagged[61] by one year; z_{cit-1} are country-commodity-year specific competing explanatory variables (where adequate, lagged by one year); z_{ct} are country-year specific competing variables; and e_{cit} is the country-commodity-year-specific error term.

Second, I run a more complex within-between random effects model (abbreviated REWB), building on the work of Rabe-Hesketh and Skrondal (2011: 153), Allison (2009), and Bell *et al.* (2019). The core idea is to separately estimate independent variables' within-unit (as done by fixed effects) and between-unit effects by simply including the unit-specific means and deviations for all time-varying variables. Four advantages speak for this approach. First, whatever covariation between time-varying variables and potential unobserved time-invariant confounders may exist is now accounted for. Second, this comes without the (methodologically heavily opposed[62]) loss of units of analysis without temporal variation, as would be the case when fixed effects are applied to rare events – such as export bans. Third, it allows us to observe whether within- and between unit effects differ from each other (whereas unit fixed effects would ignore between unit effects). Finally, it provides the ability to include random intercepts for various levels of clustering, hereby accounting for the multi-level structure of the data and resolving problems of unobserved heterogeneity and heteroskedasticity that might come with it. In short:

[61] The commodity population share variable was lagged by one year (as well as two and five years in the robustness checks). This is to counteract a potential problem of reversed causality, because commodity output might drop in the year of an export ban, falsely letting us to believe that a smaller working population share was associated with the introduction of the ban.

[62] See (Beck and Katz 2001) for a longer discussion.

it combines the strengths of fixed- and random-effects models, while at least partially compensating for their respective weaknesses. The model is specified as:

$$logit(y_{cit}) = \beta_0 + \beta_1(x_{cit-1} - \bar{x}_{ci}) + \beta_2\bar{x}_{ci} + \beta_3(z_{it-1} - \bar{z}_i) + \beta_4\bar{z}_{ci} + \beta_5 z_{ci} + \beta_6 z_i + +v_{ci} + u_i + e_{cit} \quad (3)$$

where y_{cit} is the introduction of an export ban on commodity c in country i in year t; x_{cit-1} is a series of time-variant independent variables measured at the country-commodity-year-level; z_{it-1} are time-variant independent variables measured at the country-year-level; z_{ci} and z_i are time-invariant variables measured at the country-commodity and country-level respectively; $\beta 1$ is the within-unit effect for country-commodity variables (thus relying on variation within country-commodities over time) and $\beta 2$ is the between-unit effect (relying on cross-sectional variation across country-commodities); $\beta 3$ and $\beta 4$ perform the same functions, yet for variables measured on the country-level; $\beta 5$ and $\beta 6$ are the between-country-commodity and between-country effects for each time-invariant variable z_{ci} and z_i respectively; and v_{ci} is the random intercept for the country-commodity-level, u_i the random intercept for the country-level, and e_{cit} is country-commodity-year-specific error term.

Furthermore, to show that the findings are also robust to fixed effects specifications, I calculate a model including separate commodity-, country-, and year-fixed effects. The commodity and country fixed effects control for any time-invariant commodity-specific and country-specific characteristics respectively, whereas the year-fixed effects control for any year-specific shock that might have affected all country-commodities equally. The model takes the following form:

$$logit(y_{cit}) = \beta_0 + \beta_1 x_{cit-1} + \beta_2 z_{cit-1} + \beta_3 z_{ct} + \delta_c + \iota_i + \lambda_t + e_{cit} \quad (4)$$

which is identical to model 2, with the addition of commodity fixed effects (δ_c), country fixed effects (ι_i), and year fixed effects (λ_t). It also includes standard errors clustered at the country-commodity level.

Finally, to test that commodities produced by larger shares of the population are more likely to witness lower export taxes, and less likely to witness higher export taxes and bans, I run a multinomial model:

$$logit(y_{cit,k}) = \beta_{0,k} + \beta_1 x_{cit-1,k} + \beta_2 z_{cit-1,k} + \beta_3 z_{ct,k} + e_{cit,k} \quad (5)$$

Which is identical to the multiple binary logit regression in Model 2, except that each regression is run for four of the five categories of the export tax and ban variable (with the exception of the 'no tax' variable, which serves as the base category).

All models in the robustness checks are based either on model 2 or model 3, depending on the complexity of the specifications.

4.2. Results of the Large-N Analysis

Based on the research design and data described in the previous section, this chapter presents the results of the large-N analysis. It proceeds in three steps. The first section shortly provides and discusses some descriptive statistics of the data. The second section presents the main regression results. Thereafter the robustness of the results is tested with a range of additional checks.

4.2.1. Descriptive Results

In addition to the descriptive statistics provided in the previous section, this section will summarize some further key correlations and patterns in the dataset covering the 12 bannable commodities. In doing so, two aggregations of the data are made. First, commodities are divided into 'agricultural crops' and 'other commodities'. Second, I divide commodities into whether they account for a 'low' or 'high' commodity population share. As a cut-off point, I chose the producer population share variable's mean of 0.8%. Thus – on average across all available years for a country-commodity – less than 0.8% of a country's working-age population was actively engaged in producing 'low population share' commodities, and more than 0.8% for 'high population share variables'.

Table 4.3. Summary of Export Ban Introductions by Commodity Type and Population Share (1988-2017)

	Agricultural Commodities	**Other Commodities**	***# of Country-Commod.***
Low Pop. Share	# of Ban Introductions: 7 # of Country-Commod.: 105 % of possible banned: **6.6** # of Banning countries: 3	# of Ban Introductions: 43 # of Country-Commod.: 153 % of possible banned: **28.1** # of Banning countries: 22	*N = 258 (19.4% banned)*
High Pop. Share	# of Ban Introductions: 0 # of Country-Commod.: 35 % of possible banned: **0** # of Banning countries: 0	# of Ban Introductions: 3 # of Country-Commod.: 11 % of possible banned: **27.27** # of Banning countries: 3	*N = 46 (6.5% banned)*
# of Country-Commod.	*N = 140 (5% banned)*	*N = 164 (28% banned)*	*N = 304 (17.4% banned)*

Source: Own illustration based on EPTA dataset and own collection and estimation of country-commodity-year population shares. For a full list of all export bans covered by the data set see Appendix 2.1.

In Table 4.3, we count the number of country-commodities (e.g. tea in Kenya or cocoa in Ghana) that fall into each of the categories as well as the number and percentage of those that experienced an export ban over the last three decades. This produces a range of interesting patterns. First, over 84% of country-commodities in the sample have low population shares. This is partly due to the result of a relatively broad sampling method. In this study of the sub-sample of 12 bannable commodities, every country-commodity that was captured by the UN Comtrade database as having been exported in the study-period was kept in the sample. With the database usually picking up even very small export quantities, many country-commodities some might not deem relevant (because they do not reach the economies of scale to be profitably processed) were captured here nevertheless. For an illustration of the frequency distribution of country-commodities across different degrees of the population share variable for the four categories depicted in Table 4.3, see Appendix 4.3.

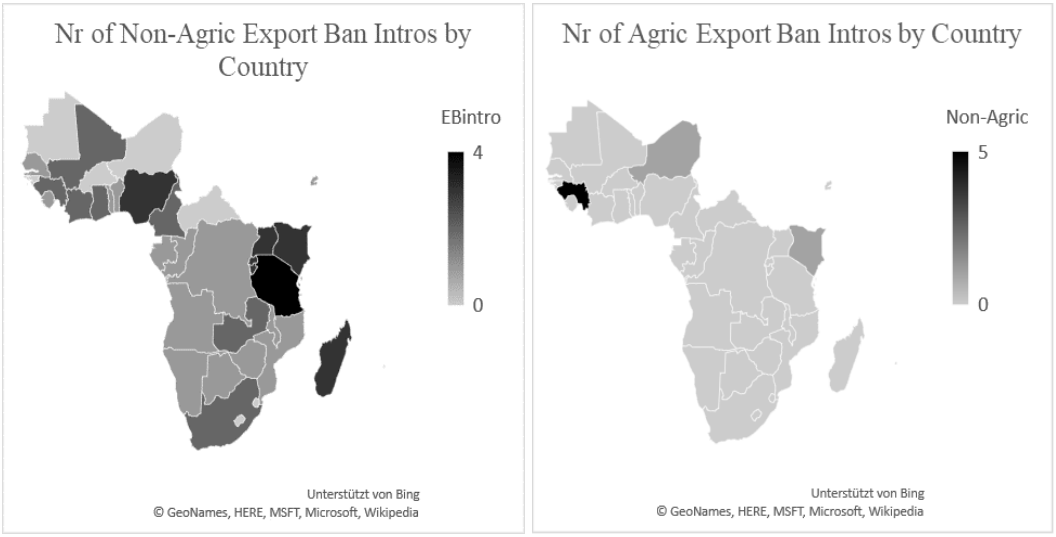

Figure 4.1. Number of Export Bans Introduced by Country and Commodity Type since 1988

Source: Own illustration based on EPTA dataset.

Second, 46 out of the 53 total introduced export bans on the country-commodities under study were imposed on commodities other than agricultural crops. Only seven agricultural crops were thus banned in the last 30 years. As illustrated in Figure 4.1, one of these is the Kenyan cashew ban, another a ban on seed cotton export in Niger, and the remaining five are the consequence of a blanket ban on agricultural exports in Guinea in 2007.[63] This highlights again how rare bans on agricultural crops are.[64]

[63] The findings of the subsequent regression analysis stay robust to excluding Guinea from the analysis. Compare Model 23 in Appendix 4.7, using a multilevel within-between RE model.

[64] Given the theoretical argument, why are there not more cases of bans of processable agricultural crops with low population shares? The answer, in my view, has to do with the covariation of production volume, economic feasibility, and employment in agriculture, and how this differs from other commodities. As detailed in Chapter 2.4, to be economically viable, processing industries require a certain amount of raw supply. Given that raw production is very labour-intensive in the six agricultural commodities under study, usually by default agricultural crops that have crossed the production volume required to even think about promoting an industry (e.g. via a ban) also have a high labour share. Or to put it differently: agricultural commodities that account for a low share of the population are usually too small to allow viable processing. Thus, it does not make sense to impose a ban on them. This is different particularly for the very heavily restricted commodities, like timber, metal waste, or hides, that generally do not employ many people (also compare Table 4.4 or Table 2.2). Whereas 30,000 small holders produce barely enough cocoa to run one single cocoa factory sustainably, less than 5,000 loggers can successfully feed around a dozen sawmills. The political argument of the thesis together with the economic feasibility criteria set out in Chapter 2.4 provide a clear explanation why (1) the vast majority of bans are imposed on commodities produced

Table 4.4. Summary of Export Ban Introductions by Commodity and Population Share (1988-2017)

	Pop. Share	Nr. of Countries that Introduced a Ban	Nr. of Producing Countries	% of Producers that Banned
Cashew	Low	2	17	11.76
Cashew	High	0	5	0
Chromite	Low	1	6	16.66
Chromite	High	0	0	NA
Cocoa	Low	1	13	7.69
Cocoa	High	0	5	0
Cotton	Low	2	20	10
Cotton	High	0	10	0
Diamonds	Low	0	14	0
Diamonds	High	0	7	0
Hides & Skins	Low	7	35	20
Hides & Skins	High	0	0	NA
Metal Waste	Low	12	34	35.29
Metal Waste	High	2	2	100
Sesame	Low	1	14	7.14
Sesame	High	0	6	0
Prec. Stones	Low	3	32	9.37
Prec. Stones	High	0	1	0
Tea	Low	0	17	0
Tea	High	0	5	0
Tobacco	Low	1	24	4.16
Tobacco	High	0	4	0
Wood	Low	19	32	53.12
Wood	High	1	1	100

Note: The threshold between a low and a high population share is set as in *Table 4.2, namely that more or less than 0.78% of the working population produces a country-commodity.*

Source: Own illustration based on EPTA dataset.

Finally, looking at Table 4.3. one might notice that three of the 11 commodities falling into the 'other commodities' and 'high population share' categories are banned, going against the logic of the thesis. Neither of these three cases – bans on metal waste and scrap in Angola and South Africa, and the previously discussed

by a small share of the population and in turn (2) why the vast majority of these bans are imposed on commodities other than agricultural crops.

2010 export ban on raw logs in Gabon – should, however, be considered prototypical high population share commodities. Importantly, the population shares of these commodities do not exceed the 0.8% sample mean and threshold by much, accounting for 0.85%, 1.08%, and 0.95% respectively. This, on average, is four times lower than the average population share (4.2%) of the 35 'high population share' agricultural country-commodities in the sample.

Concluding, this descriptive overview substantiates two patterns and arguments from previous chapters in the thesis: first, agricultural crops are much less likely to be banned than other processable commodities; second, and highly correlated, commodities that account for a low population share are much more likely to be banned at export than those that account for high shares. Table 4.2 further confirms this pattern, however, disaggregated by commodity. The subsequent section will then provide for more rigorous testing of these correlations, controlling for potential confounding variables and operationalizing the population share variable continuously rather than dichotomously.

4.2.2. Regression Results

The first part of the large-N regression analysis is devoted to assessing the power of the core independent variable – the country-commodity-year-specific population share (hereafter population share) – in explaining variation in export ban introduction propensity, holding other variables constant.

First, to analyse whether there is a bivariate relationship between a commodity's population share and the propensity of facing an export ban, Model 1 (Table 4.5) includes only these two variables. And indeed, we find that governments are significantly (at the 1%-level of significance) less likely to impose an export ban on a commodity the higher the share of the population producing it. Holding all eleven control variables constant, Model 2, strongly supports this finding. Specifically, transforming logit coefficients into odds ratios for easier interpretation, we find that a one percentage point increase in the population share variable highly significantly decreases the odds of an export ban introduction by 75.3%. This result contrasts strongly with the complete lack of significance of all

but two of the competing variables (factor mobility[65] and industry as a share of GDP).

Figure 4.2 helps to further illustrate this pattern by graphing the relationship between a commodity's population share and the propensity of witnessing the introduction of an export ban (while holding all other variables constant at their means). Apart from the finding that export bans are introduced relatively rarely, we can see that the propensity of facing an export ban is declining rapidly with an increasing share of the population affected. Whereas the probability of an export ban introduction stands at around 1.6% for commodities produced by groups that constitute a less than 0.1% population, the probability tends to zero after a commodity employs more than 3.5% of the population.

The most rigorous test of the thesis argument, the multilevel within-between RE model, provides strong evidence in its favour but also nuance towards its functioning. Specifically, as depicted in Model 3, whereas the between-unit effect of the population share variable on the likelihood of an export ban introduction is negative (as predicted) and significant at the 5%-level of significance, the within-unit effect (while also negative) is very low and distant from any acceptable level of significance. Arguably, this should be expected. The share of the population producing a certain commodity does not usually change strongly over time, especially not in a span of fewer than twenty years that the data covers for most variables. Accordingly, and in line with the cross-commodity patterns outlined in Chapter 2, we should expect the association between the population share and the two export measures to be driven by between-commodity rather than within-commodity variation. Overall, the population share's power of explaining export ban variation between country-commodities is striking: the odds of the government to introduce an export ban on a commodity are 79.9% lower for a commodity that is produced by a one percentage point larger share of the population than that of another commodity.

[65] Against expectation, higher factor mobility in producing a commodity is associated with a higher risk of a commodity facing an export ban significant at the 1%-level of significance. It could be – in line with the thesis argument – that producers of commodities with lower factor mobility have particularly high stakes in its production (as they are stuck with it), would be especially aggravated by a ban, and thus more likely to oppose it vehemently, which governments fear and will avoid.

Table 4.5. Results of the Main Large-N Analysis

	(1) **Bivariate Binary**	(2) **Multiple Binary**	(3) **Between-Within RE**	(4) **Three-Way FE**
Population Share	-1.25***	-1.40***		-1.31*
	(0.40)	(0.47)		(0.74)
Population Share (Between)			-1.60**	
			(0.77)	
Population Share (Within)			-0.09	
			(0.81)	
Export Share		0.01		0.07
		(0.03)		(0.04)
Processed-Raw Export Ratio		-0.00		0.00
		(0.00)		(0.00)
Market Power		-0.00		-0.09*
		(0.02)		(0.05)
Factor Mobility		1.06***	1.02***	2.61
		(0.27)	(0.31)	(2.16)
Industry (% of GDP)		0.03***		0.13*
		(0.01)		(0.07)
GDP p.c.		-0.00		-0.00
		(0.00)		(0.00)
Tariff Escalation		0.01		0.06**
		(0.02)		(0.03)
ODA (% of GNI)		0.02		0.06
		(0.03)		(0.06)
Ideology		-0.26		-0.13
		(0.30)		(-0.68)
Executive Match		-0.57		0.61
		(0.93)		(1.17)
Polity2		-0.05		-0.15
		(0.04)		(0.15)
Constant	-6.51***	-7.77***	-8.65***	-12.70*
	(1.17)	(1.45)	(1.83)	(6.68)
lnsig2u				-1.35
sigma_u				(5.97)
CountID:			-0.78	
sd(_cons)			(0.63)	
ComID:			-12.33	
sd(_cons)			(191665)	
Observations	3170	2169	2169	1337
Pseudo R^2	0.072	0.169		

Robust standard errors clustered at the country commodity level in parentheses for Models 1, 2, and 4. * p < 0.10, ** p < 0.05, *** p < 0.01. Time Polynomials are included in all regressions. The between and within coefficients for competing explanations in Model 3 can be found in Model 18 in Appendix 4.6.

Table 4.6. Results of the Multinomial Logit Regression Model

	(5) Multinomial Logit Model			
	Low Tax (< 10%)	**Medium Tax (10-30%)**	**High Tax (>30%)**	**Export Ban**
Population Share	**0.18***	**0.08**	**-2.39***	**-3.37*****
	(0.10)	**(0.18)**	**(1.37)**	**(1.22)**
Export Share	-0.00	0.01	0.03	-0.11
	(0.02)	(0.03)	(0.03)	(0.08)
Processed-Raw Export Ratio	-0.01	-0.00	-0.00	0.00
	(0.01)	(0.00)	(0.00)	(0.00)
Market Power	0.05**	0.04	0.03	-0.01
	(0.03)	(0.03)	(0.03)	(0.03)
Factor Mobility	-0.08	0.16	0.96*	2.06***
	(0.28)	(0.44)	(0.50)	(0.49)
Industry (% of GDP)	0.03	0.02	0.00	0.06***
	(0.02)	(0.02)	(0.02)	(0.02)
GDP p.c.	-0.00	-0.00	-0.00***	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Tariff Escalation	-0.00	-0.01	-0.04	0.01
	(0.02)	(0.02)	(0.03)	(0.01)
ODA (% of GNI)	-0.07*	-0.03	-0.08*	-0.03
	(0.04)	(0.05)	(0.05)	(0.03)
Ideology	-1.16**	0.83**	-0.44	-0.27
	(0.48)	(0.42)	(0.59)	(0.49)
Ethnicity	0.44	0.54	-0.37	-0.83
	(0.53)	(0.76)	(0.98)	(0.64)
Polity2	-0.05	0.03	-0.02	-0.00
	(0.05)	(0.07)	(0.08)	(0.05)
Constant	0.03	-5.17***	-1.78*	-4.72***
	(1.19)	(1.03)	(1.01)	(1.55)
Observations	2244			
Pseudo R^2	0.177			

Robust standard errors clustered at the country commodity level in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01. Category 1 'No Export Tax or No Export Ban' serves as the base or reference category.

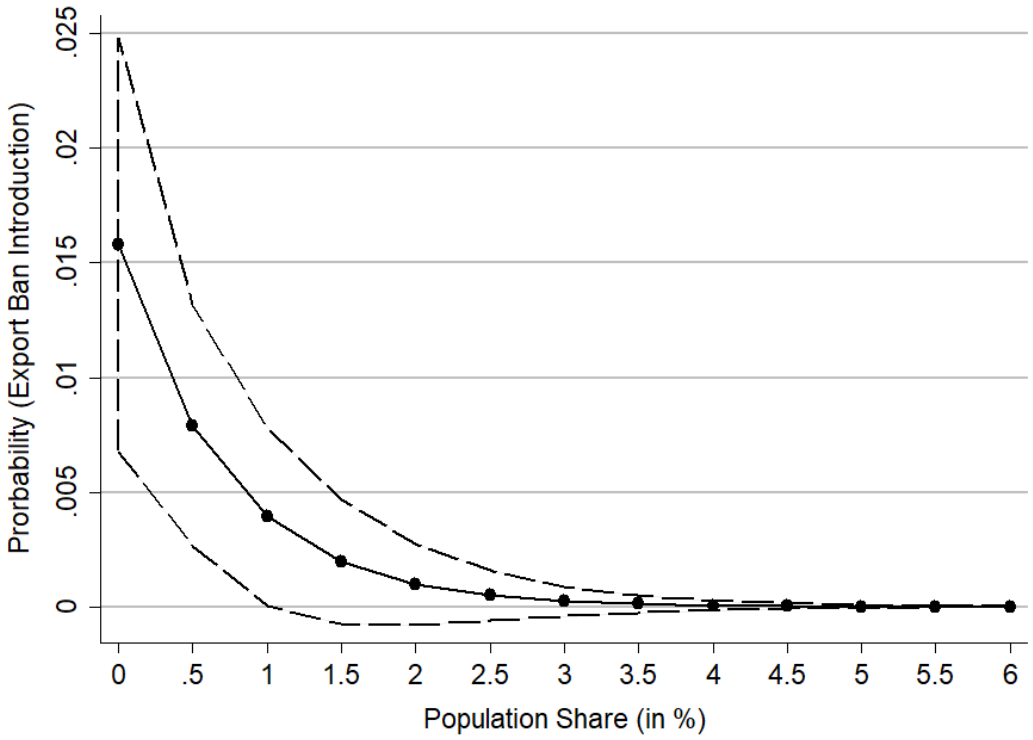

Figure 4.2. Predictive Margins of Population Shares on Export Bans, 1988-2017
Source: Own illustration.

To provide a further test that these findings are not biased by omitted time-invariant country and commodity variables, as well as year-specific shocks, Model 4 recalculates Model 2 with fixed effects for all three levels. Despite being unkind to the number of observations – dropping from 2169 to 1337 – the coefficient remains strong in the expected direction and significant at the 10%-level of significance.

Thus far, the empirical findings strongly support the core argument of the thesis: African governments are less likely to impose export bans on commodities produced by a larger share of their populations. A second hypothesis of the thesis was that export bans were imposed less on larger producer populations than for example low export taxes because they are much more visible and attributable in their impact. More specifically, I hypothesized in Chapter 3 that trade policies more obscure in their impact to producers, like low export taxes, should have a higher propensity to be implemented on commodities the larger their population share. The multinomial logit regression in Model 5 presented in Table 4.6 provides tentative evidence that this is true. Holding all other variables constant, significant at the

10%-level of significance, a 1% increase in the population share producing a commodity multiplies the odds of facing a low export tax rather than no tax or ban at all by 19.5%. As expected, this effect decreases the higher – and thus more visible for producers and less transferable for traders – a tax becomes. Operating in the grey area of visibility, medium taxes of 10% to 30% are still more likely imposed on larger groups, but with a low coefficient lacking statistical significance. High taxes (over 30%), however, are significantly less likely to be imposed on large producer groups. This provides tentative evidence that high export taxes behave similarly to export bans: they are too visible (and thus risky) to be imposed on large potentially threatening producer groups.

4.2.3. Robustness Checks

The findings thus far are consistent with the core hypothesis of the thesis. African governments avoid imposing export bans the larger the group. The reverse appears true for the introduction of low export taxes. To further substantiate this finding, Appendixes 4.4 to 4.7 present a range of robustness checks employed on the basis of the within-between RE model (3). First, to ensure that the results are not driven by individual commodities, Models 6 through 17 (summarized in Appendix 4.4 and 4.5) each exclude one of the twelve commodities in the large-N analysis. Importantly, the main association studied remains significant throughout all models. Second, Models 19 and 20 in Appendix 4.6 lag the population share variable by two and five years respectively, to provide a stronger control on the threat of reversed causality. In both cases, the between-unit effect of the population share variable remains strong and significant at the 5%-level of significance.

The possibility remains that the findings in Table 4.5 are driven not by the character of the policy per se, but by regime type. In line with Bates and Blocks' (2013) argument, it could be that commodities produced by larger groups are banned less only in democracies because of their empowerment through the presence or introduction of the vote. I test this counter-hypothesis in Model 24 in Appendix 4.7 by interacting the population share variable with the Polity2 dummy that distinguishes between non-democracies and democracies, with values of six and higher indicating the latter. If correct, we should see that the interaction effect coefficient is negative and significant when regressed on the introduction of export

bans in Model 23. We do not, however, with the interaction effect distant from any acceptable level of significance.[66]

Chapters 2.4 and 4.2.1 also raised the point that low raw commodity production volumes make processing less feasible due to low economic scales. Accordingly, governments are likely to find banning country-commodities with low production volumes less attractive. In the above-analyses, in principle, every commodity that was exported at all (even if only US$ 1 worth of it) is included in the study. To account for the above argument, in Model 22 in Appendix 4.6. I exclude the lowest quartile of country-commodity-years in terms of production volume for each commodity. Despite the significant loss in observations, the negative association between the population share and export introduction propensity remains significant at the 10%-level of significance.

Finally, I have argued in Chapter 2.4 that export bans are less sensible when the government has strong control of a commodity's production and/or marketing. This is the case when the state produces all of a country's commodity (e.g. via a monopoly parastatal) or operates a monopsonistic marketing board, buying (and/or selling) all of a commodity's production. To account for this, I've created a list (detailed in Appendix 4.8) of all country-commodity-years in which either situation was a case, and excluded them from the regression in Model 21, Appendix 4.6. Critically, the negative association between the population share and export introduction propensity remains robust at the 5%-level of significance.

Overall, these findings provide strong empirical evidence for the assumption that African governments are *less* likely to introduce highly visible export bans (and heavy export taxes) on commodities produced by a larger share of the population; and *more* likely to introduce less attributable low export taxes on commodities produced by a larger share.

[66] This finding is highly robust to replacing the Polity2 dummy with a continuous Polity2 variable or choosing a different cut-off point for the dichotomization (i.e. five rather than six), as presented in Appendix 4.7, Models 25 and 26.

4.3. Large-N Analysis Discussion and Conclusion

This thesis set out to answer the question why African governments introduce export bans on some bannable commodities but not others. It advances the hypothesis that governments fear imposing export bans on commodities produced by a larger share of the population. Importantly, the impact of export bans is extremely attributable, harsh, and affecting plural interests, and therefore carries the threat that even larger population groups overcome their collective action problems to unleash their numerical power. Vice-versa, I argued that low export taxes will be more likely imposed on commodities produced by a larger share of the population, as they are less visible to producers, and hence the conditions to overcome their collective action problems are not in place.

To test this argument, data on country-commodity-specific export prohibitions and employment were collected, allowing for a large-N comparative analysis of over 3,000 country-commodity-years, representing 12 commodities in 36 countries from 1988 to 2017 (depending on the country-commodity). Holding a large vector of control variables constant and employing a range of different estimation strategies, this analysis found strong and robust empirical support for the core hypothesis: a one percentage point increase in the share of the working population gaining significant income from producing a commodity, decreases the odds that the government introduces an export ban on that commodity by over 75%. In contrast, commodities produced by a larger population share are more likely to face a low (and less visible) export tax. Together, these results provide robust evidence for the argument that governments fear agitating producers who have more to lose and that know who to blame.

Moreover, the analysis finds that this association between commodity population shares and export measures is largely independent of the types of regimes they are implemented by. Bates and Block (2013), among others, argued that larger population groups are more likely to be spared from hurtful policies in democracies, as they constitute important voting blocks that governments cannot afford to agitate. In autocracies, by extension, the 'urban biased' policies – including raw commodity export bans – are assumed to persist. Insignificant interaction coefficients between the population share and three different Polity2 variables, however, provide no

support for this assumption – at least not in the context of export bans or low export taxes for the 12 bannable commodities in this analysis.

Concluding, the thesis' large-N findings suggest that large group size can indeed be a source of power for interest groups. Yet, whether it is deployed depends on the character (particularly the attributability and severity) of the policy affecting them, rather than the type of the political regime they function in. The scope of the data and robustness of these findings for my sub-sample provide confidence in the validity of this theoretical argument. Arguably, however, only careful, in-depth, and preferably comparative process-tracing of specific case studies will allow to truly unpack the mechanisms of the associations evidenced in this study, as well as shed more light on the relative role of interest groups, particularly processors and traders. Such an approach also allows covering for gaps in large-N data, such as for the political connectedness of sectoral actors or the relevance of producer profit margins. Accordingly, the next two chapters will test the theoretical argument on six case studies employing two distinct qualitative comparative logics.

Chapter 5. Case Study Research Design

In addition to the quantitative design, two in-depth structured comparisons of six distinct commodity sectors in three countries were conducted, accompanied by the analysis of a range of other sectoral cases in the visited countries. The core function of these two main comparisons is to provide an illustration of the theoretical argument and deeper study of the key underlying mechanisms. Whereas the large-N analysis demonstrates the external validity of the argument and allows to run partial correlations to control the effect of specific omitted variables, a more qualitative comparative approach allows to study and trace assumed mechanisms closely, as well as being able to study the analytical power of omitted variables that could not be operationalized for large-N research (Gerring 2007; Lijphart 1971; Slater and Ziblatt 2013; Tarrow 2010; van Evera 1997). Finally, as detailed below, a range of further commodities were studied during, before, and after fieldwork. Although not presented in this dissertation as detailed structured tests of the thesis argument, these were crucial in defining the economic scope conditions outlined in Chapter 2.4. This chapter proceeds as follows. First, it describes the rationale behind the case selection as well as the results of a preliminary medium-N analysis conducted in that vain. Second, I present the key methodology of the two respective cross-country-commodity comparisons.

5.1. Case Selection and Preliminary Medium-N Analysis

To identify potentially relevant cases, a rough preliminary medium-N comparison of 45 country-commodities that had an export share of at least 0.01% in Côte d'Ivoire, Ghana, Kenya, and Tanzania was conducted. The reasons for choosing Côte d'Ivoire, Ghana, Kenya, and Tanzania were five-fold. First, the four countries together contain all relevant commodity groups identified in initial analyses of the EPTA dataset and summarized in Chapter 2.4. Second, they contained a range of particularly promising cases for conducting paired comparisons, such as the failed cashew ban in Ghana and the successful cashew ban in Kenya. Third, given the Ghana and Côte d'Ivoire's as well as Kenya and Tanzanian's similar geographical structure and commodity spectrum, interesting most-similar system design

comparisons were anticipated. Fourth, the countries' economies are among the most dynamic and diverse on the continent, hence, are particularly relevant for the analysis of economic transformation in Africa. Finally, and most practically, given their dynamism and good coverage, rough labour statistics for preliminary analysis do exist for most product sectors, which is not self-evident in most African countries.

The results of this rather crude medium-N exercise are summarized in Table 5.1. Importantly, it focused exclusively on the correlation between the thesis' core independent variable (the 'commodity producer population share') and dependent variable (export bans), rather than performing a more sophisticated medium-N analysis such as a Qualitative Comparative Analysis (QCA). The reason for this was two-fold. One, data on competing explanations was not yet collected for this range of cases. Second, the idea of this analysis was primarily to be able to eye-ball potential outliers that needed to be explained, and to identify which countries would permit to study interesting cases that might allow rigorous comparative designs. Commodities in the analysis were originally coded as to whether they employ over 0.5% of the total population and if the government had imposed an export ban or at least relatively high export tax (>=20%) on them. "On-the-line" or typical cases (coloured in black) are those where commodities employing more than 0.5% of the population are not restricted or where those employing less than 0.5% of the population are restricted. The reverse cases are coded as "Off-the-line" or deviant cases (coloured in grey). Overall, out of 45 relevant export commodities 39 are on the line and only six off the line.

Based on the medium-N analysis and preliminary desk research on the sectors across the four countries, Ghana, Kenya, and Tanzania were chosen as fieldwork sites for three reasons. First, the three countries covered all six outlier cases. Second, as discussed above, these three cases covered all particularly frequently restricted commodities – timber, metal waste, and hides. Third, the comparison of the Ghanaian failed attempt to introduce an export ban on raw cashew in 2016 with the successfully implemented and maintained ban on cashew and macadamia exports in Kenya appeared to be a particularly suitable candidate for a most-similar systems design comparison.

Table 5.1. Overview of Comparing Employment Size Against Export Ban Imposition Across Export Sectors (last 10 years)

Unprocessed Product	Côte d'Ivoire	Ghana	Kenya	Tanzania
Cashews	Low Tax – High Pop %	No Restr. – High Pop %	Prohibition – Few Prod.	Low Tax – Many Prod
Cocoa beans	Low Tax – High Pop %	Low Tax – High Pop %	Irrelevant	*No Restr. – Few Prod.*
Coffee	Low Tax – High Pop %	Irrelevant	No Ban	No Restr. – High Pop %
Cotton	No Restr. – High Pop %	No Restr. – High Pop %	Irrelevant	No Restr. – High Pop %
Fish	No Restr. – High Pop %	No Restr. – High Pop %	*Prohib* – High Pop %	*Prohib* – High Pop %
Gemstones	Irrelevant	Irrelevant	Irrelevant	Prohibition – Few Prod.
Diamonds	Irrelevant	No Restr. – High Pop %	Irrelevant	No Restr. – Few Prod.
Gold	No Restr. – High Pop %	No Restr. – High Pop %	Irrelevant	No Restr. – High Pop %
Hides and Skins	Irrelevant	Irrelevant	*High Tax – Low Pop %.*	*High Tax – Low Pop %*
Horticulture	No Restr. – High Pop %	No Restr. – High Pop %	No Restr. – High Pop %	No Restr. – High Pop %
Macadamia	Irrelevant	Irrelevant	Prohibition – Low Pop %	Irrelevant
Metal Waste and Scrap	*Prohibition – Low Pop %.*	*Prohibition – Low Pop %*	*Prohibition – Low Pop %*	*Prohibition – Low Pop %*
Oil	*No Restr. – Low Pop %*	*No Restr. – Low Pop %*	Irrelevant	Irrelevant
Fruits: Pineapple & Mango	*No Restr. – Low Pop %*	*No Restr. – Low Pop %*	Irrelevant	Irrelevant
Palm Oil	No Restr. – High Pop %	No Restr. – High Pop %	Irrelevant	Irrelevant
Timber	Prohibition – Low Pop %	Prohibition – Low Pop %	Prohibition – Low Pop %	*Prohibition – Low Pop %*
Tea	Irrelevant	Irrelevant	No Restr. – High Pop %	No Restr. – High Pop %
Tobacco	Irrelevant	Irrelevant	Irrelevant	No Restr. – High Pop %

LEGEND	Fit	*Misfit*	Irrelevant (export share < 0.01%

Consequently, I conducted eight months of fieldwork in these three countries throughout 2017. Specifically, from March to May in Ghana, July and August in Tanzania, and October to December in Kenya. As summarized in Table 5.2 below, out of a total potential analysable 34 country-commodity sectors at least two interviews were conducted on 18 of them and more than 10 interviews in nine of them.

In general, interviewees were the main source of information and chosen from eight groups: producers, traders (middlemen and exporters), processors, donors and NGOs, government officials, consultants, and journalists. In total, over 250 interviews were conducted. Key sectoral actors among these groups were identified and contacted by email prior to arrival in the respective countries. Emails were rarely replied and once in the country potential interviewees were therefore called or offices visited where these were available. Otherwise, snow-balling from different entry points – preferably starting from distinct industry association CEOs – was extremely effective in achieving large, relevant, and balanced[67] sectoral coverage in the more deeply studied cases. Apart from interviews, several hundred newspaper articles – often among the few resources at hand apart from interviews – were evaluated during this study. Particularly helpful were the rare academic papers on country sectors and particularly the occasional donor, consultancy, or NGO reports. Data sources for the respective case comparisons are discussed in more detail below.

In each country stay first all outlier commodity cases were studied until clarity on their deviance was achieved. These specific findings were crucial elements to inform the economic feasibility scope conditions in Chapter 2.4. The analysis of petroleum oil helped me to understand that close state control of a commodity pre-empts the necessity to employ a ban on it. The relatively higher profit margins of good-looking raw pineapples versus them being cut informed the third factor in the feasibility discussion. Cocoa bean production in Tanzania is at an extremely low

[67]Running the risk of sampling from specific networks rather than the larger population, snowballing can be prone to selection bias (Biernacki and Waldorf 1981). Therefore, in each major case study I targeted several and unrelated starting points and referral chains, hereby, reducing the risk of network specific selection bias.

5,000 tons a year, far below running a profitable processing company (at least 30,000 tons utilization). This informed the economies of scale argument.

The case for diamonds illustrates the role of market power in processing success. Tanzania could ban the export of diamonds and set-up a lapidary. This, however, would be extremely expensive and – as we know from the now struggling Botswanan diamond sector case – uncompetitive. Tanzania, in contrast to Botswana, is such a small diamond producer that given its poor cutting quality at much higher prices would simply be ignored on the international market. Here, banning would imply a decades-spanning if not a permanent loss of revenue and foreign exchange, which is the reason the diamond lapidary program was given up in Tanzania initially in the early 1990s (and one reason why the market power variable was included in the large-N analysis).

Table 5.2. List of Commodities in Which Field Research Was Conducted

Country	**Sector**	**Nr. Of Interviews**	**Travel to Sub-National Region (outside Capital)**
Ghana	Cashew	42	Brong-Ahafo
	Cocoa	15	Tema
	Metal Waste & Scrap	9	Tema
	Timber	11	Brong-Ahafo, Kumasi
	Gold	2	
	Oil (Outlier)	2	
	Fruits: Pineapple & Mango (Outlier)	2	
Kenya	Cashew	32	Coast
	Macadamia	26	Central & Eastern Province
	Tea	15	Central Province & Mombasa
Tanzania	Hides and Skins	39	Mwanza & Moshi
	Gemstones/Tanzanite	30	Arusha & Merelani
	Fish (Outlier)	10	Mwanza
	Gold	10	Mwanza
	Cashew	5	
	Diamonds (Outlier)	5	Arusha
	Cocoa beans (Outlier)	2	
Total		257	

Finally, the ban on fish in Tanzania. At the outset this ban appeared puzzling in light of the theoretical argument, as many Tanzanians fished. The field research in Dar es Salaam and Mwanza uncovered however that the ban was placed exclusively on unprocessed Nile perch exports from Lake Victoria. The reason for the ban was to stop Kenyan fishing boats from fishing in Tanzanian waters for the new Nile-perch processing factories on the Kenyan side of the lake and to create a processing industry in Tanzania instead. Importantly, Nile perch fishing at that point in Tanzania was minimal, with less than 5,000 people fishing for a small domestic market – not exports. As such, the ban did not target or negatively affect them. In fact, it is only through the demand of the processing factories created through the ban that the now large[68] Nile perch fishing sector emerged in Tanzania. As such, this case as well is consistent with the theoretical argument of the thesis: governments ban commodities for processing promotion reasons if this does not negatively affect the incomes of large producer groups.

5.2. A Joint Method Comparison of Nut Export Bans in Ghana and Kenya

Presented in Chapter 6, the first major structured comparison conducted is that of Ghanaian cashew and Kenyan cashew and macadamia. This comparison is a particularly good test of my argument for two reasons. First, the Ghanaian cashew ban is one of the few cases where a government introduced a ban on a commodity and withdrew it (almost instantly). This allows for a much clearer and dynamic analysis of export ban policy-making. Had the Ghanaian government never implemented the ban (for the same reasons it eventually withdrew it), it would have been much harder to distil exactly what it was that prevented them from doing so. Explaining non-events is difficult in general. Was it really the potential of mass protest, or perhaps other economic or political factors? One would have to rely

[68] In fact, the sector is now decreasing due to overfishing (particularly due to the use of close-meshed nets that catch fish before they can breed).

wholly on the perceptions of policy-makers and other potential actors. Gladly, in this case we have several visible events that shape the eventual outcome of the withdrawal of the export ban. This gives us a clear indication that economic factors likely did not prevent the government from imposing the ban in the first place. More importantly, it allows me to trace exactly which events and actions by relevant players in the sector led to the withdrawal of the ban, providing a rare opportunity to demonstrate the risk of implementing a ban on a large group of producers, and why most governments avoid doing so.

Second, although the Ghanaian case study is powerful by itself, the Kenyan nut sector ban provides a good comparison for further testing. The cases differ on their independent and dependent variables: Ghanaian cashew producers have a relatively high population share – Kenyan do not; The Ghanaian government withdrew the ban on cashews – the Kenyan did not. Looking at the same commodity, a large range of potential competing explanations and confounders are held constant. However, usually, most paired comparisons are not perfectly similar on all potential competing explanations, thereby reducing the strength of the test and credibility of the findings. For example, given that cashew production in Ghana is higher than in Kenya, the former also has more global market power in that commodity than the latter. Although the difference is not large and theoretically it is ambiguous whether this factor matters, it could, which opens a weak spot for the test. Although process tracing and basic reasoning could potentially compensate for this weakness, Mill's 'Joint Method' provides an additional correlational strategy. Specifically, Mill in such cases recommends that one should add another case that is identical to one of the two cases on the independent and dependent variables yet differs on (the) potential confounder(s). These criteria hold for the Kenyan macadamia sector. Employment is similarly limited as in cashew; the ban was implemented for both cashew and macadamia at the same time. Importantly, however, as one of the three largest macadamia producers in the world, unlike Kenyan cashews, the sector has considerable global market power. Thus, following the logic of a Most-*Different*-Systems-Design (MDSD), the variation in the potential market power confounder across the two Kenyan nut cases cannot explain the non-variation in their dependent variables (the ban) and can therefore logically be precluded as a necessary

condition. Taken together, these three cases thus represent a good small-N method for probing the explanatory power of hypotheses.

Semi-structured interviews, particularly elite-interviews, were the key source of data for this chapter. Overall, over 105 formal semi-structured interviews were conducted, with most of them (100) in the Ghanaian and Kenyan nut sectors. As depicted in Table 3.5 below, interviews were conducted relatively evenly across 12 distinct groups (see Appendix 6.1 for a more detailed list of interviews in the three sectors). Similarly, newspaper articles and often-detailed donor, government, and consultancy reports have been crucial sources for data triangulation.[69]

Third, I further triangulated the interview- and document-based sources with statistics from internationally recognized data banks like the UN Comtrade dataset (2019) or FAOSTAT (2018a). These sources provide relatively fine-grained statistics on trade, production, and prices of raw commodities. If available, they prove to be of high value. Mirror trade data is particularly powerful. African countries often face significant problems with reporting their commodity exports, making domestic and global value chain analyses difficult. Importing countries, however, tend to fare much better in this regard. Accordingly, looking at the global import statistics for Kenyan cashews, for example, allows us to estimate trade patterns (especially of raw versus processed) and production trends despite lacking domestic numbers.[70]

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[69] Among these, reports and statistics from responsible government agencies (like the Nuts and Oil Crops Directorate in Kenya) as well as donor reports (particularly by the GIZ ComCashew project in Ghana) were of importance. Academic journal articles on these sectors are extremely rare and when they do exist, often published in journals of questionable quality (sometimes only consisting of one volume). As such, the often-detailed unpublished reports and surveys of some donors or consultants have been the most important secondary source material employed throughout this chapter. Of similar importance are newspaper articles. While of varying quality, through interviewing several actors on the ground across space and time, they often provide important insights into and snapshots of price and production patterns where government agencies or interviewee's memories fail to do so.

[70] Unfortunately, however, international data bases tend to be patchy for many commodities. For example, trade data on macadamia disaggregated by processing step only exists since 2007 or 2012 (depending on the data source), given its neglect in previous versions of the Harmonized System. Similarly, FAOSTAT lacks price data for more country-commodity-years than it can offer, and production data can be highly inaccurate, which – as researched in the Kenyan cashew case – is often due to inexistent or understaffed government agencies in the reporting countries. Consequently, price, production, and trade data has also been collected through the above-named data sources. Comparing the numbers and their credibility, the most adequate data sources were

Table 3.5: Overview of the Interviews Conducted for the Nut Case Studies

Country	Sector	Type of Interviewee	Nr. of Interviews
Ghana	Cashew	Donor/IO	6
		Farmer	4
		Farmer Association	1
		Government	6
		Politician	2
		Processor	5
		Processor Association	1
		Researcher	4
		Trader Association	1
		Trader/Exporter	5
		Umbrella Association	7
		Total in Cashew Sector in Ghana	**42**
Kenya	Cashew	Consultant	1
		Farmer	3
		Farmer Association	3
		Government	7
		Journalist	1
		Trader/Exporter	1
		Processor	3
		Researcher	1
	Cashew & Macadamia	Government	4
		Processor	7
		Processor Association	1
	Macadamia	Consultant	1
		Farmer	4
		Farmer Association	5
		Government	2
		Trader/Exporter	4
		Politician	4
		Processor	5
		Researcher	1
	Total Across Nut Sectors in Kenya		**58**
Australia	Macadamia	Umbrella Association	1
Malawi	Macadamia	Consultant	2
		Farmer Association	1
South Africa	Macadamia	Processor	1
Total Across Australia, Malawi, & South Africa			**5**
Total Across Nut Sectors and Countries			**105**

selected for presentation in this chapter. All are referenced, and as for price and production data in the Kenyan nut sectors, detailed comprehensively in the Appendix.

5.3. A Most-Different-Systems Comparison of Export Bans on Timber, Metal Waste, and Raw Hides in Ghana and Tanzania

Presented in Chapter 7, the motivation for the second comparison differs from the preceding one. Whereas the nut comparison tries to explain why three very *similar country-commodity* cases had such *different outcomes* in regard to the maintenance or withdrawal of export bans; this comparison tries to explain why three very *different commodities* – raw logs, metal wastes, and raw hides and skins (RHS) – face the *common outcome* of being banned relatively frequently by African governments. In fact, they represent the three most commonly banned commodities in the EPTA dataset. Given that these commodities strongly shape the empirical pattern motivating the thesis and to a significant extent the findings derived in the large-N regression analysis, it is critical to study whether the thesis argument does indeed hold here as well or whether alternative factors can explain their difference to other (especially agricultural) commodities. For that purpose, I studied the explanatory power of the thesis argument in relation to the 1995 raw log and the 2013 ferrous waste and scrap export bans in Ghana as well as the 2012 de facto export ban (a 90% export tax) on raw hides and skins in Tanzania.

As for the nut comparison, semi-structured interviews were the key source of data for this chapter (summarized in Table 5.3 and detailed in Appendixes 7.7 to 7.9). Importantly, out of the 59 interviews, 25 were part of a structured survey with livestock keepers in Northern Tanzania. The survey's aim was to understand to what extent livestock keepers in Tanzania (and sub-Saharan Africa more broadly) receive money for the production of hides (and thus to what extent they are even aware of and affected by severe export restrictions on raw hides and skins. The 25 livestock keepers were interviewed in five wards in northern Tanzania. I sampled the wards by relatively randomly choosing villages on Google Maps that were located within 30 to 60 minutes from my accommodation in Mwanza, Arusha, and Moshi (also mapped in Figure 7.10 in Chapter 7.3). I picked two wards near Arusha and Moshi each, and one near Mwanza (where I had stayed shorter). Together with a local translator I drove to the respective wards and contacted every person with livestock until I had conducted five interviews. All five wards taken together, only seven people approached in this way were not available for an interview. The

interviews were usually conducted in Swahili and lasted around 20 minutes on average. A copy of the interview guide in English can be found in Appendix 7.6. The list of all interviews and the names of the wards can be found in Appendix 7.9.

Table 5.3. Overview of Interviews Conducted for the Timber, Metal Waste, and Raw Hides and Skins Case Studies

Country	Sector	Type of Interviewee	Nr of Interviews
Ghana	Timber	Researcher	2
		Consultant	1
		Government	1
		Processor	3
		Trader/Exporter	2
		Logger Association	1
		Miller Association	1
		Total in Ghana Timber Sector	**11**
	Metal Waste	Government	2
		Dealer Association	2
		Processor	3
		Producer	2
		Total in Ghana Metal Waste Sector	**9**
Tanzania	Raw Hides and Skins	Government	3
		Leather Manufacturer	2
		Leather Training School and Tannery	1
		Livestock Keeper	25
		Raw Hide Trader Association	2
		Tanner	3
		Tanner & Manufacturer Association	3
		Total in Tanzania Raw Hides and Skins Sector	**39**
Total Across Sectors and Countries			**59**

Chapter 6. Export Bans in a Nutshell: A Comparison of Cashew and Macadamia Nut Export Bans in Ghana and Kenya

On 15 March 2016, the Ghanaian Minister of Industry and Trade imposed a temporary export ban on raw cashew nuts (RCN) with the proclaimed aim of supporting the processing industry. After only five days characterized by heavy protest in the core cashew growing region as well as by his own party colleagues in parliament, the Minister withdrew his ban. Seven years earlier, on the other side of the continent, the Kenyan Minister of Agriculture shared a similar idea: he prohibited all raw cashew and macadamia nut exports to protect the struggling domestic nut processing industry. Despite these similarities, the two cases differ in one fundamental aspect: the ban in Kenya remains in good order. This raises the question: Why did the Minister of Trade and Industry withdraw the ban in Ghana after only five days, whereas the Kenyan ban pertained so long? If political pressure was crucial in the Ghanaian case, what was its basis and why did it not emerge or succeed in Kenya?

This chapter utilizes the in-depth comparative analysis of this puzzling divergence to test the explanatory power of the theoretical framework and the validity of hypothesized mechanisms. It traces the processes that led to the implementation of the two bans as well as the dynamics around the divergent outcomes in the three cases. Intriguingly, the actual implementation and withdrawal of the ban in Ghana provides a rare opportunity to study not only why a ban was never implemented, but to trace the more tangible actions that led to a ban being withdrawn.

Overall, this comparative analysis based on six months of fieldwork and over 100 interviews conducted in Ghana and Kenya finds strong support for the thesis argument. Throughout all three cases, traders informed and organized farmers against the ban, which were very receptive to these campaigns given the severity of the ban. Importantly, however, only in Ghana did this collective action translate into a serious threat to politicians and policy-makers, leading them to withdraw the ban. I show that the crucial difference between the three cases is the relative number of people that were affected by the ban. Whereas the actual and potential agitation

of 100,000 cashew farmers in Ghana created a significant electoral threat to ruling party politicians during an election year, the less than 10,000 farmers in the respective Kenyan nut sectors failed to generate any tangible concern for politicians, which thus have consistently ignored their concerns.

As discussed in Chapter 5.2, a further significant advantage of the comparative analysis of these three cases is that together they correspond near-ideally to a 'Mill's Joint Method' design. Combining elements from a most-similar systems design and a most-different systems design, this comparison provides a useful test of the argument, as it can preclude the explanatory power of most competing variables by construction. Table 5.1 provides an overview of the cases and the design below. First, we see that the condition variables hold through all cases as expected: export bans caused high price depression, traders informed producers this should be attributed to the government and helped organize them to protest against it. Second, only where the share of the population gaining a significant share of their income was high (i.e. in Ghana) did producers succeed in having the ban withdrawn. Throughout the rest of the table we can see that competing variables are either very similar between Ghanaian cashew and one or both Kenyan nut cases, thus not being able to explain the variation in outcome; or they vary between the Kenyan nut cases, thus not being able to explain the same outcome in those two cases. In the following, we will give a short overview of the explanatory power of the key competing variables, before moving on to the in-depth analysis of the cases and the core mechanisms.

Let us begin with the potential explanatory power of the economic variables discussed in Chapter 3.2. First, we assumed that governments might spare commodities from export bans (or withdraw them) the higher their export share as well as market power and the lower their profit margins and factor mobility, in a fear that these characteristics would increase the risk of killing the goose that lays the golden eggs. None of these factors appear to hold much explanatory power.

Table 6.1. Overview of the Joint Method Design and Competing Explanations

Variables			Ghana	Kenya	
			Cashew (2016)	**Cashew (2009)**	**Macadamia (2009)**
Dependent Variable		***Ban Withdrawal***	✓	–	–
Independent Variable		***High Comm. Pop. Share***	✓	–	–
Condition Variables		***Producer Mobilization***	✓	✓	*(✓)*
		High Attributability	✓	✓	*(✓)*
		High Price Depression	✓	✓	*(✓)*
		Trader Facilitation	✓	✓	✓
Competing Explanations	**Economic**[71]	***High Export Share***	–	–	–
		High Market Power	**(-)**	–	✓
		High Profit Margins	*(✓)*	–	*(✓)*
		High Factor Mobility	–	–	–
		High Development	*(–)*	*(–)*	*(–)*
	IPE	***Trade Agreement***	***WTO/No EPA***	***WTO/No EPA***	***WTO/No EPA***
		High Donor Influence	✓	✓	✓
		High Tariff Escalation	*(✓)*	*(✓)*	–
		Left Gov. Econ. Ideology	*(–)*	–	–
	Politics	***Co-Ethnic Pres. Region***	–	–	✓
		High Relative Political Connection of Processors	*(✓)*	*(✓)*	✓
		Democratic	✓	✓	✓

[71] The nine differences in commodity value chain characteristics discussed in Chapter 2.1.2 should also be incorporated here. I have not done so here because given that the three commodities are identical or at least extremely similar, so are their value chain characteristics.

First, all commodities constituted for very low export shares in their respective countries prior to the ban. Although production of cashew in Ghana is significantly larger than that in Kenya, its export share is only at 2%, given the high export values of oil and gold in Ghana. In step with these production differences, Ghana obviously has higher market power in cashew than Kenya (4% vs 0.5%). However, it is neither large, and more importantly, Kenyan macadamia at nearly 20% had a much larger market power than Kenyan cashew, thus, precluding it as an explanation for a ban. Factor mobility is also constant across these three commodities, all being tree crops and all having producers relatively fixed to producing them. Finally, the pattern of profit margins across the three cases strongly opposes the assumption that governments are less likely to introduce (or maintain) a ban on commodity the lower the profit margins. A relatively large Kenyan cashew farmer's net profit from growing cashews stood at only US$ 150 prior to the ban, over six times less than the US$ 950 earned by the average cashew farmer in Ghana from cashew prior to the 2016 ban imposition.[72] Consequently, if the assumption were true that governments were more likely to spare producers from hurtful export restrictions on their produce the tighter their profit margins, we should have seen Kenya – not Ghana – reversing its decision to implement the ban. In fact, the season after the ban, producer prices dropped to levels close to US$ 0.2 per kg, at which profits would have evaporated completely. And indeed, as described in more detail in section 6.2, many Kenyan cashew farmers have therefore abandoned their trees,

[72] For this exercise, let us compare two cashew farmers in Ghana and Kenya with 100 trees each. Let us further assume that their average yields are at around 10kg per tree, which according to different reports, appears as a solid average across time and space in these two countries (IDMS 2009; Kilifi County 2016; Muigai 2017; Kenyan Ministry of Agriculture 2009; ACi 2010, 2013; ACi *et al.* 2015). The same is true for production cost. Based on said reports and interviews with farmers, it is fair to say that the average annual production cost per tree in the last decade in the two countries stood at around US$ 2. As such, the total annual production cost for a farmer with 100 trees in either country is around US$ 200. There was a significant difference on per kg farm gate price between the two countries during the respective periods prior the ban however. In Kenya, the average price stood at around US$ 0.35 in the 2008/9 season (FAO 2018b); in Ghana at US$ 1.15 in the weeks prior to the ban. Assuming 1,000 kg of total production in both cases, the average annual gross income from cashew was US$ 350 in Kenya in 2008 and US$ 1,150 in Ghana in 2016. Subtracting the production cost, the net income of a relatively large cashew farmer for Kenyan relations was only US$ 150 prior to the ban, over six times less than the US$ 950 earned by the average farmer in Ghana prior to the temporal ban. Note also that living costs at the (touristy) Coast in Kenya are by no means cheaper than in the (rural) Ghanaian Brong-Ahafo region, if at all the reverse is true. This is partly, although not proportionally, reflected in the cost of land: according to interviewees in Brong-Ahafo, one acre of farm land there costs around US$ 125 – and around US$ 1,000 at the Kenyan Coast according to interviewees there.

cutting them or leaving them to waste away. Nevertheless, the export ban on RCN in Kenya remains in place – as do low prices and production. In contrast, in Ghana, margins were as good as never before, confirming what ministerial policy-makers said. And even a permanent drop to US$ 0.63 (as in the days after the ban) would have still implied nearly three times the net income of Kenyan farmers prior to the ban. Considering this comparison, it becomes difficult to see the explanatory power of a margins-based argument.

The second set of explanations are generated from the IPE literature. First, with both countries being part of the WTO and neither having signed an EPA with the EU at the time of their ban introductions, trade agreements cannot have played a differential role (which was confirmed by interviews with numerous government officials in both countries). Second, it is unlikely that donors influence can explain why Ghana withdrew its ban. First, on a more general comparative level, Kenya and Ghana in 2009 and 2015 respectively had almost identical (and not extremely high) shares of ODA in their GNIs (4.82% and 4.85%). This, therefore, does not fit to the variation on the (non-)maintenance of the ban. Second, and more important, the key donor-funded projects in the sector – ComCashew/ACi (GIZ) and the ACA (USAID), which both actively push for cashew processing promotion across Africa – were generally in favour of the temporal export ban, and disappointed by its quick demise.[73] Similarly, tariff escalation does not seem to have played any role in the two country's processing-related considerations. Apart from not having been mentioned by any interviewee as a decisive factor, it is also important that key target markets for Kenyan and Ghanaian kernels do not escalate tariffs. The EU has for long eliminated tariffs for African nut imports (whether in-shell or shelled). The US, it appears had a minimal specific 5 cents per kilogram duty on kernel imports (equivalent to only 0.3% tax), which was however eligible for duty free tax preference under AGOA (USAID 2012: 5), and appears to be abolished now *(Department of Agriculture, Forestry and Fisheries (Republic of South Africa) 2016: 32)*. Finally, and yet again highly implausibly, the Ghanaian withdrawal of the ban might be the result of an ideological change of mind. As discussed in Chapter 3.2.2, more left-leaning countries – more open to statist intervention in the

[73] Officer at ComCashew (GIZ), Accra, 23.03.2017; Senior Manager of ComCashew (GIZ), Accra, 22.05.2017; Senior Technical Officer of African Cashew Alliance, Accra, 11.04.2017.

economy – are more likely to implement severe export restrictions. Vice versa, less left-leaning countries might be more prone to withdraw them. This, however, does not fit the observed pattern. The economically relatively conservative Kibaki- and later Kenyatta-led governments maintained the ban, whereas the social-democratic and Nkrumahist NDC-led government in Ghana withdrew it. Moreover, the very same government successfully implemented and maintained full export bans before (e.g. on timber and metal waste and scrap exports implemented in the early 1990s and in 2013 in Ghana).

There are three final political economy explanations which the joint method design at least partially helps to preclude. First, as both countries are relatively stable African democracies, this variable cannot explain variation in the two cases (although democracy in these cases can be a relevant intermittent variable as I will show in later sections). Similarly, the variation in outcomes does not fit the similarity that both Ghanaian and Kenyan cashew farmers were and are not co-ethnics of the president. What is more, macadamia farmers have been for the last 17 years, yet are equally banned as the non-co-ethnic coastal cashew farmers, hereby precluding, that this variable is a necessary condition to explain export ban patterns.

Finally, the discussion of a more elite-clientelist understanding of politics in Chapter 3.2.1.3 generated the hypothesis that governments would be more (less) likely to introduce a ban the more (less) connected processors are to them relative to traders and producers. Applied to the cases at hand, we might assume that (a) the ban in Ghana was withdrawn because producers and traders were more politically connected to government officials than processors, and (b) that the bans in Kenya were maintained because processors were more politically connected to the government than producers and traders. There is some truth to this in the Kenyan cases. Several cashew and macadamia processors are among the richest Kenyans (e.g. Pius Ngugi and Peter Munga) and hold close personal relations with the current and former presidents (Kenyatta and Kibaki, both Kikuyus, as are Munga and Ngugi). As described in sections 6.2 and 6.3, these processors have used their personal connections to both lobby for the ban and defend against attempts to withdraw it. Although especially Chinese macadamia in-shell traders have likely tried to influence politicians via informal means (as detailed in Section 6.3.4)

overall it is true that neither traders or producers in the Kenyan nut sectors were as well-connected to government officials as processors. As such, it is certainly fair to say that this can be a relevant variable. I argue, however, that it is not the most important one. It is critical to note that lobbying attempts by fairly-well connected raw cashew nut exporters in Ghana failed to thwart the ban in the first place. As such, it is unlikely that political connectedness of traders suddenly explained why the government withdrew the ban in the country. Following the same logic, it is difficult to understand why a possible relative weakness of processors in Ghana would explain the withdrawal of the ban, although they had originally out-lobbied traders and producers (when successfully lobbying for the imposition of a ban). Most importantly, through process-tracing, I show that the ban was withdrawn in Ghana not due to the massive lobbying from traders or for a lack of processors trying to protect it, but through the mobilization of producers by traders, which consequently posed a threat to the electoral and thus political survival of the ruling party.

This chapter proceeds in four parts. First, section 6.1 discusses the introduction and rapid withdrawal of the export ban on cashew in Ghana. Section 6.2 then compares this to the maintenance of the 2009 export ban on raw cashew in Kenya, whereas section 6.3 does the same for Kenyan macadamia. All case studies follow a similar structure. They first provide a short historical introduction into the origins of production and processing, before discussing why the desire for a ban emerged. After describing how the ban was implemented, detailed analysis and test of the theoretical framework against the political processes following the ban is conducted. Section 6.4 concludes with a summary of the findings and potential policy implications.

6.1. Contentious Cashews and the Withdrawal of the 2016 Export Ban in Ghana

The cultivation of cashew in Ghana began in the early 1960s, around 400 years later than in Kenya. Motivated by the creation of a further potential cash crop next to cocoa which had the co-benefit of preventing desertification, the Nkrumah government sporadically introduced cashews seeds in the Greater Accra and Central regions, later spreading to the centre-north of the country, particularly to the Brong-Ahafo region (see Figure 6.1 below). Low producer prices, underdeveloped market structures, inadequate extension services, and the absence of a clear sectoral policy plan, however, had made failed to make the crop attractive to most farmers. By the 1970s and 1980s, the few farmers that had planted it became disillusioned by the crop and cut down their trees to make way for cocoa and other food crops or simply abandoned them, leaving them to be destroyed by bushfires or fuel collectors (Agbley 2016: 27). In contrast to the thriving cashew production and processing sector in East Africa (particularly Mozambique, Tanzania, and Kenya), low volumes in Ghana foreclosed any public or private attempts of setting up a cashew processing industry.

The desire of the PNDC-Rawlings government to diversify the export base of the economy led to a renewed interest in cashew in the late 1980s. The coincidence of three trends – the massive increase in global demand for cashew nut as snack food; the establishment and liberalization of commodity markets in Ghana through the PNDC's Economic Recovery Programme (ERP); as well as the recurrent losses of cocoa plantations in the Brong-Ahafo region to bush fires – increasingly motivated farmers in the region to re-invest their labour, time, and money into the rehabilitation or expansion of their low-maintenance and more drought-resistant cashew plantations (ACi *et al.* 2015: 10; Parliament of Ghana 17.03.2016). Moreover, it is noteworthy that cashews are sold in the "hungry season" when no other crops are available, hereby being a particularly important and attractive income stream. As a result, Ghana recorded its first export of 15 tons in 1991, quickly expanding to 3,000 tons in 1995 and 5,000 tons at the turn of the millennium.

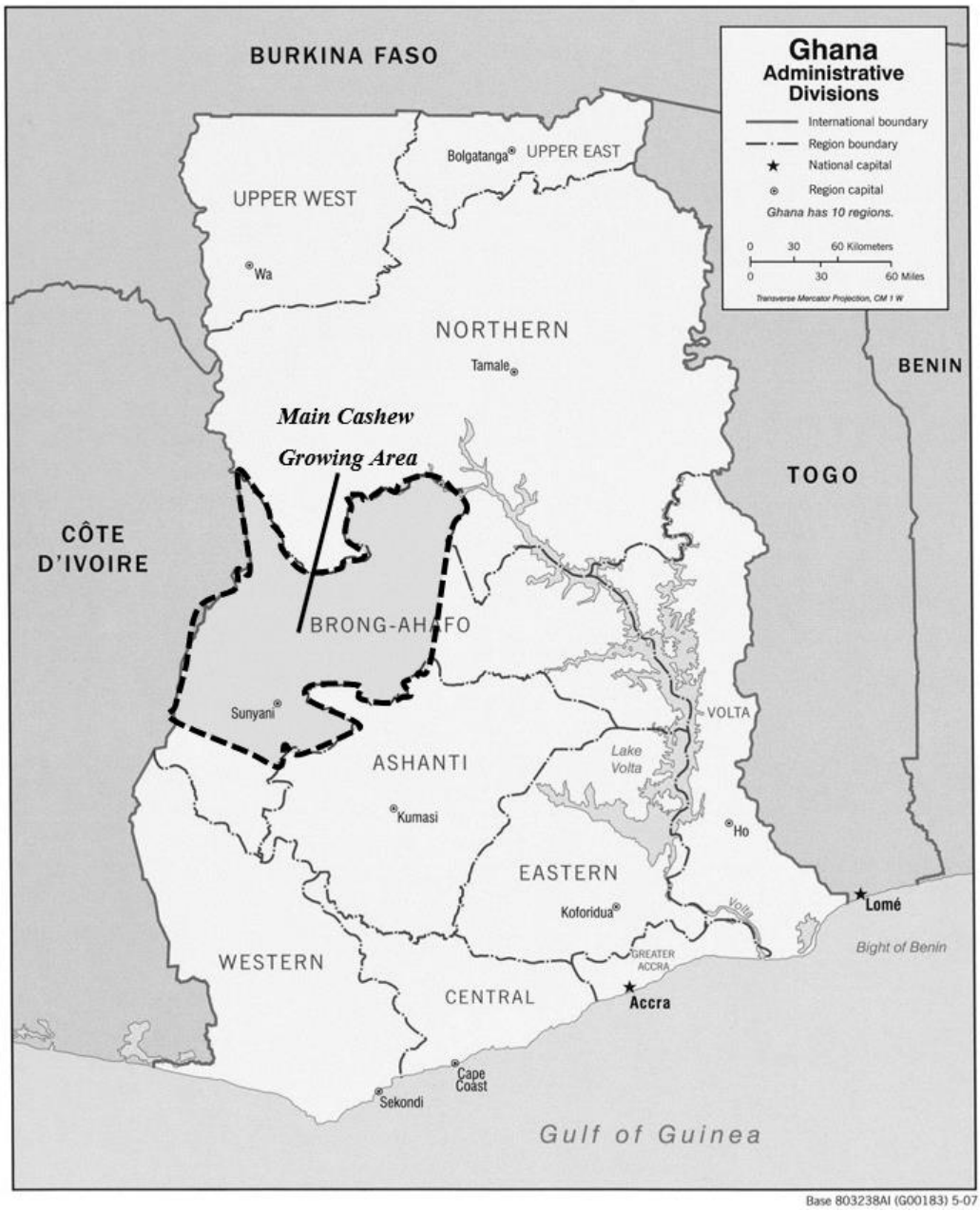

Figure 6.1. Map of Ghana and the Main Cashew Area in Brong-Ahafo Region
Source: Own Illustration based on Map from Central Intelligence Agency (2019)

This relatively rapid expansion of cashew cultivation encouraged the Ministry of Food and Agriculture (MoFA) to initiate and implement the six-year *Cashew Development Project* (CDP) in 2002, supported with a credit of US$ 13.32 million by the African Development Bank (Ministry of Food and Agriculture of Ghana 2010: 23). Overall, during the time of the project, the area under cultivation

increased from 18,000 ha to 70,000 ha and RCN production increased from 5,000 tons to an estimated 27,000 tons (Ministry of Food and Agriculture of Ghana 2013).

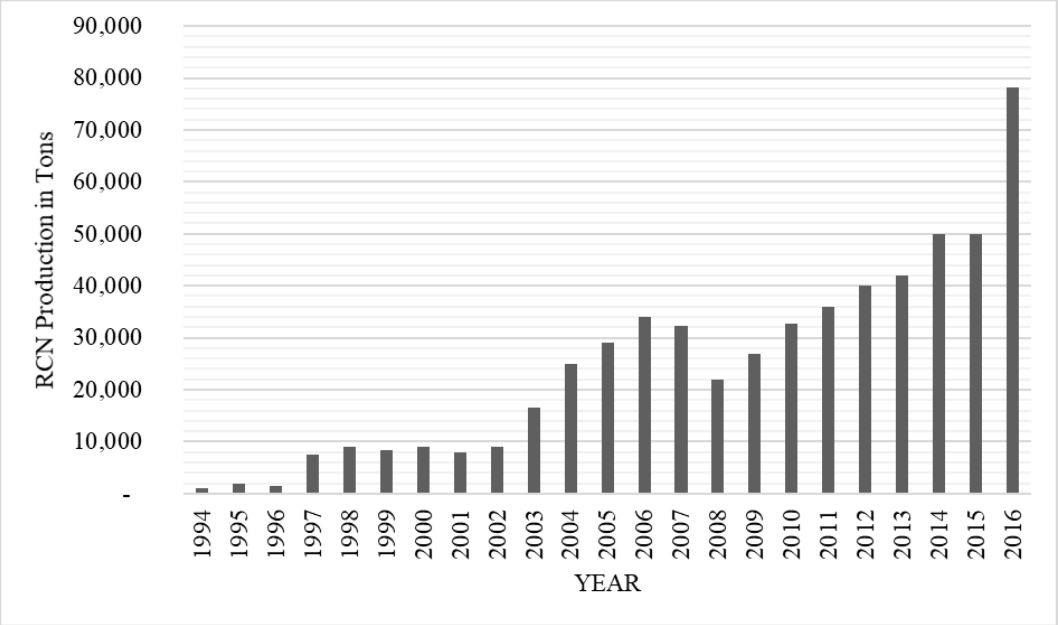

Figure 6.2. Ghana Total RCN Production, 1994-2016
Source: Own Illustration based on FAO (2018a).

As illustrated in Figure 6.2, cashew production continued growing beyond the end of the CDP. Apart from soaring global cashew prices, particularly the GIZ-led *African Cashew initiative* (ACi, now ComCashew) played a significant role in promoting the sector thereafter. The initiative represents a multi-million effort to boost cashew production and processing in Ghana, Benin, Côte d'Ivoire, Burkina Faso and Mozambique. Launched in 2009, the ACi trained over 40,000 farmers in Ghana and extended regular technical and business advice to five cashew processing plants in the Brong-Ahafo region, among many other activities (ACi 2013: 2). In parallel, the USAID-funded *African Cashew Alliance* (ACA) – the

African cashew industry's umbrella organization also based in Accra[74] – has closely advised the government and leading actors across the Ghanaian cashew value chain.

Table 6.2. List of Cashew Processors in Ghana and their Status in 2015

Nr.	Company Name	Installed Capacity (tons per year in RCN)	Utilized Capacity in 2015	Location	Ownership	Status May 2015
1	USIBRAS Ghana Limited	35000		Prampram, Greater Accra	Brazilian	Yet to start
2	Rajkumar Implex Ltd	15000		Techiman, Brong-Ahafo	Indian	Closed
3	Mim Cashew and Agricultural Products Limited	7000	5000	Mim, Brong-Ahafo	Danish/ Norwegian	Operating
4	Chinese Factory	3000		Sampa, Brong-Ahafo	Chinese	Closed
5	Kona Agro Processing Ltd	2000	1300	Awisa, Brong-Ahafo	Ghanaian	Closed
6	Muskaan Ghana Limited	1500		Techiman, Brong-Ahafo	Ghanaian	Closed
7	Cashnut Foods Ltd.	750		Faaman, Brong-Ahafo	Ghanaian	Closed
8	Innovative Organic Cashew	600	200	Brong-Ahafo	Ghanaian	Closed
9	Winker Investment Ltd.	500	250	Afienya, Brong Ahafo	Ghanaian	Closed
10	Kabile Coops Cashew Farmers & Processing	220	165	Kabile, Brong-Ahafo	Ghanaian	Closed
11	Nafana Agro Processing Ltd.	120	81	Sampa, Brong-Ahafo	Ghanaian	Closed
12	Cocoa Research Institute of Ghana (CRIG)	100	50	Bole, Northern Region	Ghanaian	Operating
13	NASAKA Cashew Farmers' Coops	100		Nsawkaw, Brong-Ahafo	Ghanaian	Closed
	Total	65890	7046			

Source: Based on own research as well as Olympio and ComCashew (2015: 22).

[74] The ACA describes itself as 'platform and facilitator for advocacy, information exchange, investment promotion and market linkages in the African cashew sector' (Senior Communications Officer of African Cashew Alliance, Accra, 11.04.2017).

As part of its facilitative role, it hosts the office of the Ghanaian cashew sector umbrella association, the *Cashew Industry Association of Ghana* (CIAG). Spurred by a combination of these donor and government efforts as well as increasing global cashew prices, cashew production had risen to nearly 80,000 tons in 2016, with around 90,000 to 100,000 farmers (mostly small-holders) producing it (Addaquay 2016: 7)

In line with rising volumes, cashew processing in Ghana experienced a steady rise. In 2008, 11 small-scale and one medium-scale processor operated in the country, with a small total installed processing capacity of 2,136 tons of RCN per year, of which they utilized only around 362 tons (17%) in 2009 (ACi 2010; Heinrich 2012: 4). Seven years later, in 2015, installed capacity had exploded to 65,890 tons per year. Two large-scale processors, Raj Kumar (15,000 tons) and USIBRAS (35,000 tons), had set up shop in Techiman (Brong-Ahafo) and Prampram (close to Accra and the Tema port) respectively. Moreover, most local processors had increased their installed capacities, especially processing pioneers and long-term champions of the sector, Mim Cashew Ltd., from 1,000 tons in 2008 to 7,500 tons today (compare Table 6.2 for a list of all processors and their capacities in 2015). While utilized capacity remained low at around 20% in the early 2010s, processors in Ghana appeared optimistic.

This optimism and interest in processing in Ghana was based primarily on two factors. First, Ghana was having a relatively good and stable business environment, in which assets would be secure (USIBRAS' state of the art factory cost around USD 25 million). Second and perhaps more importantly, Ghana is a major trade hub for cashews in West Africa. Whereas the country produced around 42,000 tons a year, it exported an estimated 200,000 tons in 2013 through its ports in Tema and Takoradi (Frimpong 2016).[75] Up to 2013, this stream of goods was becoming larger every year, due primarily to the stellar increase of the crop in Côte d'Ivoire from an estimated 80,000 tons in 2003 to over 500,000 tons in 2013, of which up to 150,000 tons was exported through Ghana (ACi *et al.* 2015: 52). While most of this stream (as well as of the domestic Ghanaian production) was bought by raw exporters in Ghana (mostly right at the border), it was widening to such a rapid and strong extent

[75] This is part of the reason why it is so difficult to estimate the size of the Ghanaian RCN crop.

that these exporters could not keep up with building warehouses and recruiting buyers to buy all the incoming crop.[76] Through this steadily increasing oversupply or remainder of mainly Ivorian crop Ghanaian processors were able to source cashews, making them confident of a sustainable future for their factories in Ghana. Consequently, neither the processors nor the government saw a need to implement any radical protective measures for the industry, such as an export ban. As long as the Ivorian cashew stream was flowing and growing, there was room for processors in Ghana.

6.1.1. Processors' Plight and Farmers' Delight: Soaring RCN Prices, the End of the Ivorian Cashew Stream, and Growing Demands for Processor Protection

The optimism of Ghanaian processor, however, was quickly displaced by dismay in December 2013. As part of a grand restructuring and strengthening of cashew sector governance, the Ivorian government in form of its new regulatory agency (the Conseil du Coton et de l'Anacarde), banned all exports of RCN by road.[77] Hereby, the Ivorian RCN oversupply the Ghanaian processing industry was living from was cut off. Instead, Ghanaian processors had to compete against raw exporters for the limited and expensive (because of its better quality) domestic crop. What is more, the Ivorian road export ban coincided with a massive and ongoing surge of world prices created by an insatiable global demand. Figure 6.3 illustrates the doubling of FOB RCN prices from 2013 to 2017, whereas the 2017 farm gate RCN prices sketched in Figure 6.4 demonstrate that cashew farmers in Ghana are among the best earners in West Africa, particularly compared to their direct

[76] Senior Executive of Major Cashew Processor, Mim, Brong-Ahafo Region, 25.04.2017; Senior Manager for Olam International (Ghana), Accra, 20.05.2017; Medium-Scale Cashew Processor and Senior Official of CIAG, Accra, 19.04.2017

[77] Note though that it did not ban the exports by port. Thus, the goal of this cross-border ban was to stop the frequent smuggling (and thus also loss of tax revenue) rather than promoting processing at large. If that was the goal, a total export ban would have been required. That being said, this was considered in Côte d'Ivoire as well, although actors that also work in the Ivorian cashew sector told me the government abstained from this for the very reason that it feared a potential backlash of such a severe policy from the around one million people in Côte d'Ivoire farming cashews.

neighbours in Côte d'Ivoire and Burkina Faso (which helps to explain ongoing RCN smuggling to Ghana).

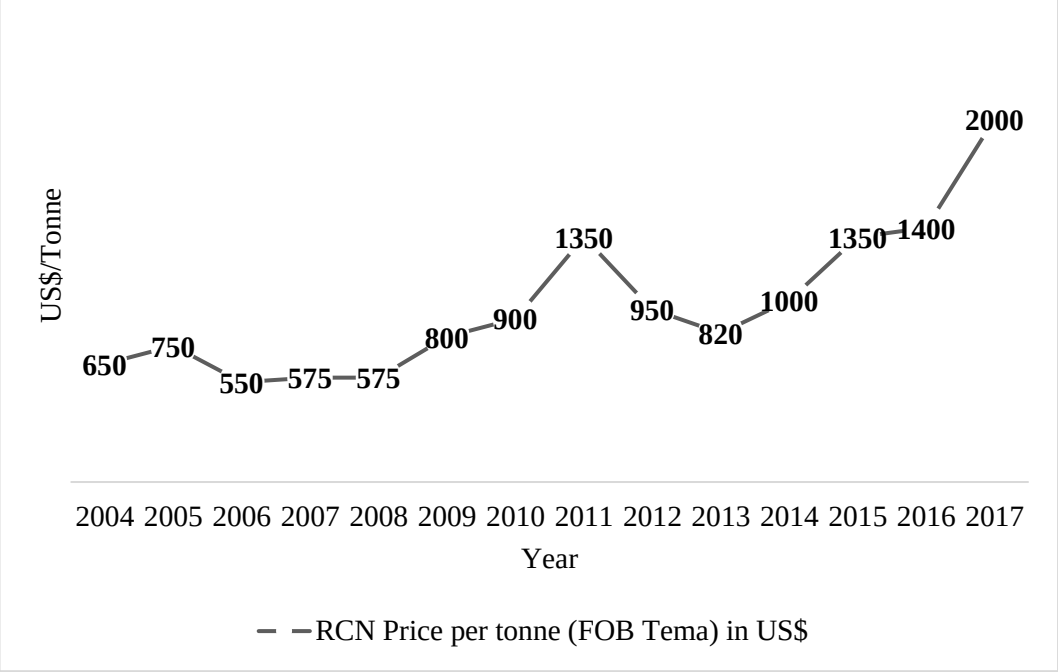

Figure 6.3. RCN Price Per Ton (FOB Tema) in US$

Source: Data is derived from (ACi et al. 2015: 12) and (N'Kalo 2016, 31.05.2017, 17.08.2017, 30.05.2018)

The direct competition with exporters for the limited Ghanaian crop as well as the massive increase of prices blatantly revealed the structural weaknesses of the Ghanaian cashew processing industry. Above all the inability to finance the (increasingly expensive) purchase of stock for one year within only three to four months; higher production costs; no access to by-product markets; and no industrial policy support from the government prior to the ban – domestic processors were eventually outcompeted by exporters in buying RCN. Not only were exporters through their extensive network of middlemen able to offer better prices than processors, they would usually also pre-finance farmers and at certain times even pick up the crop directly from the farm gate rather than from collection centres in

villages and towns.[78] In contrast, pre-financing was not an option for processors. Constrained by the lack of financeable working capital and facing the high risk of "cash and carry" exporters – that is, mostly individual Indian exporters that arrive to Ghana on a tourist visa with the cash to fill up one container with RCN, buying RCN directly at the farm gate at higher prices than most other buyers, given their lack of major overhead costs – simply buying their pre-financed crop from 'contract-breaking' farmers, processors could not bear the cost of pre-financing.[79] As a result of processors' incapacity to access sufficient RCN, only two out of the twelve Brong-Ahafo based factory's (Mim Cashew and the Cocoa Research Institute of Ghana's small factory) were still operating by late 2015 (compare Table 6.2 above).

Given the dire situation of processors, a policy debate raged among key players in the industry on how processors could be supported. When the attempt in March 2015 by a newly set-up "Pricing Committee" (headed by the Crop Directorate of MoFA) failed to set a reference price for RCN trading at GHC 2,70 (US$ 0.75), calls from bureaucrats, processors, and donors for export restrictions emerged.[80] A critical event was the meeting of all major actors of the Ghanaian cashew value chain at a workshop on the development of a Masterplan for cashew production in Ghana in late November 2015, organized by MoFA as well as the Ministry of Trade and Industry (MoTI), and supported by ComCashew and the DANIDA-, USAID, and EU-funded Business Sector Advocacy Challenge (BUSAC) Fund. At the workshop, some processors suggested implementing an export window for RCN from January to March in which exporting RCN would be prohibited, as well as taxes on RCN exports and more rigorous trader licensing (ComCashew 2016: 11; Diplomatic Call Online).

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[78] Manager of Cashew Trader Collection Centre, Techiman (Brong Ahafo Region), 26.04.2017; Collection Centre Manager for Large Trading House, Wenchi, Brong Ahafo Region, 24.04.2017; Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017.

[79] Senior Executive of Major Cashew Processor, Mim, Brong-Ahafo Region, 25.04.2017; Medium-Scale Cashew Processor and Senior Official of CIAG, Accra, 19.04.2017

[80] Senior Official of Ministry of Food and Agriculture, Crop Directorate, Accra, 13.04.2017; Former Deputy Minister of MoTI and NDC MP, Accra, 29.03.2017; Crops Officer at Ministry of Trade and Industry (MoTI), Accra, 06.05.2017

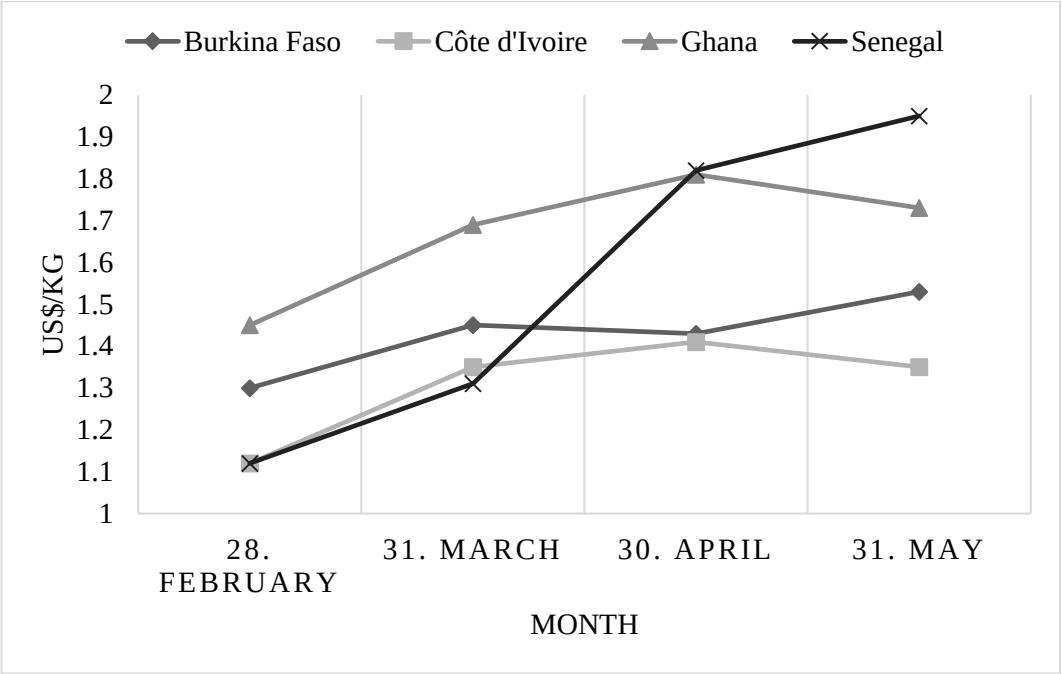

Figure 6.4. Average Farmgate Prices in West Africa 2017

Source: Data for Burkina Faso, Côte d'Ivoire, and Senegal is taken from N'Kalo (31.05.2017). Price data for Ghana is based on ComCashew (2017: 11) triangulated with price data generated from interviews and media articles from March, April, and May 2017.

However, already diverging interests and opinions regarding such export measures were clearly observable. Whereas processors, bureaucrats of MoTI and MoFA, as well as the core donors involved in cashew were in favour of all three proposed measures – which is evidenced by the policy documents they prepared for the event (ACi *et al.* 2015; Olympio and ComCashew 2015) and was unequivocally reaffirmed in interviews[81] – farmers and traders (i.e. both middlemen and exporters) were not[82]. Calls by processors for an outright ban of RCN exports was met by vehement rejection from farmer leaders, such as in August 2015, when the president

[81] Officer at ComCashew (GIZ), Accra, 23.03.2017; Senior Official of Ministry of Food and Agriculture, Crop Directorate, Accra, 13.04.2017; Former Deputy Minister of MoTI and NDC MP, Accra, 29.03.2017; Senior Official for Industrial Development at MoTI, Accra, 06.05.2017; Senior Executive of Major Cashew Processor, Mim, Brong-Ahafo Region, 25.04.2017; Medium-Scale Cashew Processor and Senior Official of CIAG, Accra, 19.04.2017; Senior Technical Officer of African Cashew Alliance, Accra, 11.04.2017.

[82] Mid-Scale Farmer, Wenchi, Brong Ahafo Region, 24.04.2017; Chairman of large cashew farmer cooperative, Brong Ahafo Region, 24.04.2017.

of the National Cashew Farmers Association, Anthony Kwaku Adu, argued that such a restriction would give processors the authority to monopolize bargaining power to their detriment and described the "current keen competition in the purchase of RCN presents a fair opportunity for farmers to make their desired profit" (Frimpong 04.08.2015). Similarly, meetings between farmers and the Minister of Trade and Industry at the time, Dr Ekow Spio-Garbrah, were far from amicable. According to interviewed farmers who were present at a meeting in the cashew stronghold Wenchi (Brong-Ahafo) in early 2016, Spio-Garbrah allegedly accused farmers of being greedy because they were opposing a temporary export ban.[83] Prof. Gyan-Baffour, NPP MP of Wenchi, supported this story and the infuriation of farmers, stating in parliament:

> "I had a chance to be at the meeting where the Hon Minister for Trade and Industry and his officials met with the cashew farmers. The farmers were vehemently against this order [an export window, i.e. a temporary export ban], but the arrogance that came from that Ministry was such that I even got angry when they said that they had to find a way to process local raw materials, therefore they were going to create what they referred to as the export window" (Parliament of Ghana 17.03.2016).

The position of other actors regarding such an export window was less clear. On the one hand, some argue that local processors were not united on this topic.[84] They alleged that Ghanaian processors were not as keen on restrictive export measures as those processors in Ghana with foreign origin, as the later would be able to outmuscle the former financially in the acquisition of RCN (just as exporters have outmuscled both). Domestic processors themselves, however, clearly contradicted this statement, saying that they favoured the temporary export ban and did not see themselves in direct competition with other processors.[85] Simultaneously, the position of the Cashew Industry Association of Ghana (CIAG) was and remains unclear. Some members within the association stated that CIAG clearly lobbied against an export window[86], while others said that they were not fundamentally

[83] Mid-Scale Farmer, Wenchi, Brong Ahafo Region, 24.04.2017;
[84] Senior Executive of CIAG, Per Telephone, 12.04.2017
[85] Medium-Scale Cashew Processor and Senior Official of CIAG, Accra, 19.04.2017
[86] Senior Executive of CIAG, Per Telephone, 12.04.2017

opposed to it and that in certain circumstances it might be acceptable.[87] Part of the reason for these different opinions within CIAG might simply reflect the very different positions in the value chain that different members have.

6.1.2. The 2016 Implementation and Withdrawal of the Export Ban

At the beginning of the 2016 cashew season in February, RCN prices started off even higher than the record 2015 prices, hence, ever-worsening the situation of local processors. As a response and despite the negative feedback from farmers and exporters in previous meetings, on Monday 14 March 2016, MoTI in a surprise move issued a temporary export ban. Specifically, the administrative directive stated that "Any raw cashew nuts that are brought to the ports or borders of Ghana for export between March 31 and May 31, 2016 shall be confiscated to [sic] the state" (Vinokor 2016). Legally, the ministry justified the administrative directive with its oversight responsibilities for trade regulations and controls under the Import and Export Law (Act 503 Section 13) of 1995 as amended in 2000. Substantially, it justified the export window by stating the National Export Development Programme's (NEDP 2016 – 2020) objective of promoting value addition and non-traditional exports and that "the survival of the industry which is processing cashew in Ghana is on the brink of collapse and will only survive on the availability of adequate supply of raw cashew nuts for processing" (Vinokor 2016).

This de facto export ban[88] came as complete surprise to most observers and players in the sector. Whereas the option of an export window had been discussed in

[87] Senior Executive of CIAG, Accra, 12.04.2017

[88] The general rational for introducing an export window is to make RCN more available and cheaper for local processors. The functional logic underpinning an export window, or temporary export ban, is different however from an outright export ban. In contrast to an outright export ban, exporters can still buy and store the RCN and export them once the window has closed. Practically, given the shelf-life of well-dried RCN of over one year this is feasible and in fact has been done at points by producers and exporters during the temporary export bans in Benin and Burkina Faso (ComCashew 2017: 12; Olympio and ComCashew 2015: 6).

However, buying and storing the crop until the end of the window implies significantly greater costs for exporters in three ways. First, physically storing RCN for two months creates additional warehousing costs. Moreover, where an export window was introduced unexpectedly and in or shortly before the season, exporters might not have the chance to create more space, thus, having to sell straight to local processors. Second, the financing and re-financing costs for traders (i.e. middlemen and exporters) are significantly increased. Cashew traders rapidly refinance their RCN buying with each sale. When having to store the RCN, however, cashew traders must look for other costlier options – such as high-interest bank loans – to finance their working capital. Small traders

workshops, according to interviews with political, bureaucratic, and economic actors as well as donors, MoTI had not consulted or informed anybody outside of the ministry before issuing the directive – apparently, even the president was kept in the dark.[89]

Perhaps even more surprisingly, the export ban was withdrawn before it had officially opened. Five days after its implementation, on Saturday 19 March, the Minister of Trade and Industry, Dr Spio-Garbrah (NDC), issued a statement declaring the "temporal withdrawal" of the export window, saying it was ill-timed and "should have been issued at the beginning of the year to enable farmers, agents and traders plan for the management of the impact" (Spio Garbrah 2016). He further added that MoTI would seek broader consultation (particularly with CIAG) in its next steps to support the sector, which should include building a cashew marketing board, establish a credit scheme for cashew farmers, and have the National Buffer Stock Company (NAFCO) purchase RCN so that they could secure enough supply to local processors. By the change of government in December 2016, neither had the decision to implement an export window been reinstated, nor any of the proposed measures been implemented.

Why did Minister Spio-Garbrah withdraw the ban? As described above, in his own statement he indicated the ban was ill-timed and that producers and traders should have been given earlier warning. The sincerity of this statement, however, is

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are expected to be more heavily affected by this than large traders, because of their inability to absorb the increased financing cost, again incentivizing them to sell directly to local processors (Olympio and ComCashew 2015: 14–15). Finally, an export window significantly increases the economic risk for traders. Within the course of the four to five-month lasting cashew season in Ghana, prices change dramatically. The usual trend are relatively low prices at the beginning of the season (January/February in Ghana), which double by late February and then tend to go down by the end of the season (because more supply comes in from other West African countries and with the beginning of the rain season the RCN quality decreases). Hence, if a trader buys RCN in March and can only sell them end of May, the propensity of receiving lower sales than buying prices is high. This risk is even higher given that cashew prices can react very harshly to potential abrupt demand or supply shocks, which could be positive, but generally make cashew trading extremely unforeseeable and risky. It is due to these three factors that the cost for trading can increase significantly for traders, hereby not only decreasing their direct cost competitiveness to local processors, but also incentivizing them to avoid buying in the implementing country directly, which decreases the demand and hence prices for RCN at the farm gate.

[89] Senior Manager of ComCashew (GIZ), Accra, 22.05.2017; Chairman of large cashew farmer cooperative, Brong Ahafo Region, 24.04.2017; Senior Official of Ministry of Food and Agriculture, Crop Directorate, Accra, 13.04.2017; Former Deputy Minister of MoTI and NDC MP, Accra, 29.03.2017; Crops Officer at Ministry of Trade and Industry (MoTI), Accra, 06.05.2017; Brong-Ahafo MP (NDC), Accra, 30.05.2017; Senior Executive of CIAG, Per Telephone, 12.04.2017.

doubtful. Both former and current staff within the MoTI detailed in interviews that they and the Minister saw the degree and timing of the export window as necessary and appropriate.[90] Specifically, they were hoping that the swiftness and covertness of the policy introduction would be particularly powerful in preventing traders from preparing for the ban, thus, increasing the available supply for processors. According to them, senior officials within MoTI and MoFA wanted to uphold the export window if it had not been for political pressure from the top NDC leadership and Brong-Ahafo MPs in parliament. Moreover, in line with Spio-Garbrah's question to cashew farmers in Wenchi prior to the directive why they were so greedy, bureaucrats in MoTI *and* MoFA argued that the potential income loss of cashew farmers should not be taken too seriously, as cashew prices had been increasing massively over the years and were too high in Ghana anyway. Concluding, if not altruism and respect for farmers' and traders' interest, what drove the withdrawal of the ban? In the following, the case material is contrasted and applied to the theoretical argument of this thesis to provide a viable explanation.

6.1.3. The Politics of the Ban Withdrawal – Testing the Theoretical Argument

As outlined in Chapter 3.1.2, the theoretical argument is connected through three core mechanisms. First, because export bans are also highly damaging to traders, they are motivated to inform producers about their existence and origin. Producers, by contrast, are very receptive to these practices given the severity of the ban and will likely be able to attribute it to the government. Second, again with the help of traders and motivated by the high stakes involved, producers will likely mobilize against the ban. Three, when producers are many, this mobilization poses a significant political threat to policy-makers, which is why they will withdraw the ban (if they made the rare mistake to implement it in the first place). In the following, these mechanisms will be tested against the Ghanaian case.

[90] Senior Official of Ministry of Food and Agriculture, Crop Directorate, Accra, 13.04.2017; Former Deputy Minister of MoTI and NDC MP, Accra, 29.03.2017; Crops Officer at Ministry of Trade and Industry (MoTI), Accra, 06.05.2017; Senior Official for Industrial Development at MoTI, Accra, 06.05.2017; Senior Officer for Industrial Development at MoTI, Accra, 06.05.2017.

6.1.3.1. Arsonist Traders, Price Shocks, and Attribution

Throughout the thesis, I have argued that the severity and sharpness of export bans' impact is the heat and pressure required to 'mash' producers together to a cohesive mass, and that traders act as cooks, stirring the mash and adding spice to it. As I will show below, this holds true for the Ghanaian case as well. Traders immediately after the announcement of the ban stopped buying from farmers, knowing this would make the ban's price distortion particularly sharp and visible. They started to inform farmer cooperative leaders, farmers that wanted to sell to them, and ran major radio campaigns in the region putting out the word that the sharp price drop was the result of government intervention. Moreover, traders then helped organize and finance farmer protest, which eventually led to the withdrawal of the ban.

Before delving into the details of traders' actions, it makes sense to unpack who they are. As illustrated in Figure 6.5 below, the term traders summarizes a range of related actors. RCN exporters stand at the upper end of the raw cashew marketing chain. Overall, there are about 60 cashew export companies registered by the Ghana Export Promotion Authority (ACi *et al.* 2015: 56), although around a hand full of foreign and domestic companies dominate the market. The most important are the international commodity trade and processing giants Olam (Indian) and ECOM/Unicom (Spanish), as well as 3F Ghana Ltd. (Indian), West Africa Market Link (Ghanaian[91]), Kingdom Exim (Ghanaian), and Greenland Commodities (Ghanaian).[92] Export companies tend to have collection and bulking centres in the main producing area towns (like Sampa, Techiman, or Wenchi), where containers are filled, transported to Tema port, and shipped off to India or Vietnam (accounting for 47% and 35% of total RCN exports in 2015 respectively). To source cashew nuts, exporters utilize a large network of local traders. On the one hand, exporters operate own buying centres in most major cashew districts. Here, farmers can either

[91] Owned by the president of the Cashew Industry Association of Ghana (CIAG), Winfred Osei Owusu.

[92] Senior Executive of Wenchi Cashew Trader Association, Wenchi, Brong Ahafo Region, 24.04.2017; Manager of Cashew Trader Collection Centre, Techiman (Brong Ahafo Region), 26.04.2017; Collection Centre Manager for Large Trading House, Wenchi, Brong Ahafo Region, 24.04.2017; Senior Manager for Olam International (Ghana), Accra, 20.05.2017; Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017; Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017.

directly deliver their crop, or buying agents from the centres will pick the crop from the farm gate. Much more commonly (around 68% of the crop), producers sell their raw cashew nuts to village buyers, who are mix of local traders, shop keepers, speculators and others that operate small buying centres.[93] These village buyers will then sell the RCN to exporter buying or bulking centres. Overall, it is likely that a couple of thousand Ghanaians work in trading raw cashew nuts. Around one thousand of them are organized in cashew trader associations, like the Techiman Cashew Traders Association or the Wenchi Traders Association (with around 100 members each).[94]

Timed in the middle of the harvesting season, MoTI's export directive would have intentionally, immediately, and negatively affected the operations of exporters and middlemen. While traders could have continued to buy the crop, they would have needed to store it for over two months, until the end of the temporary ban. Doing so, however, was not an option for traders. For one, exporters' warehouses were not designed to store large amounts of crops for a long time (but only until a container was filled) and building them would take too long and cost too much. Secondly, the high profits from the business comes from the quick turn-over of the crops, something the export ban would have inhibited. Obviously, those middlemen not selling to exporters or exporters that were not linked to a foreign processor could have decided to sell to domestic processors. Switching to domestic processors, however, would not only have meant lower profit margins (given processors new oligopolistic market power), but was also uncertain, as processors such as Mim Cashew Ltd had often used their own employees rather than brokers to source the nuts. Similarly, switching to another crop was not a viable option for local trader networks given that cashew is the only major cash crop in the Northern Brong-Ahafo region. Finally, although large trading houses like Olam would probably have grudgingly overcome losing out on the Ghanaian RCN, the risk that this could interfere with RCN export trade from other countries going through Ghana made

[93] Senior Executive of Wenchi Cashew Trader Association, Wenchi, Brong Ahafo Region, 24.04.2017; Collection Centre Manager for Large Trading House, Wenchi, Brong Ahafo Region, 24.04.2017.

[94] Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017; Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017

this unacceptable (as well as the possibility this would turn out to be a successful precedent for other African governments).

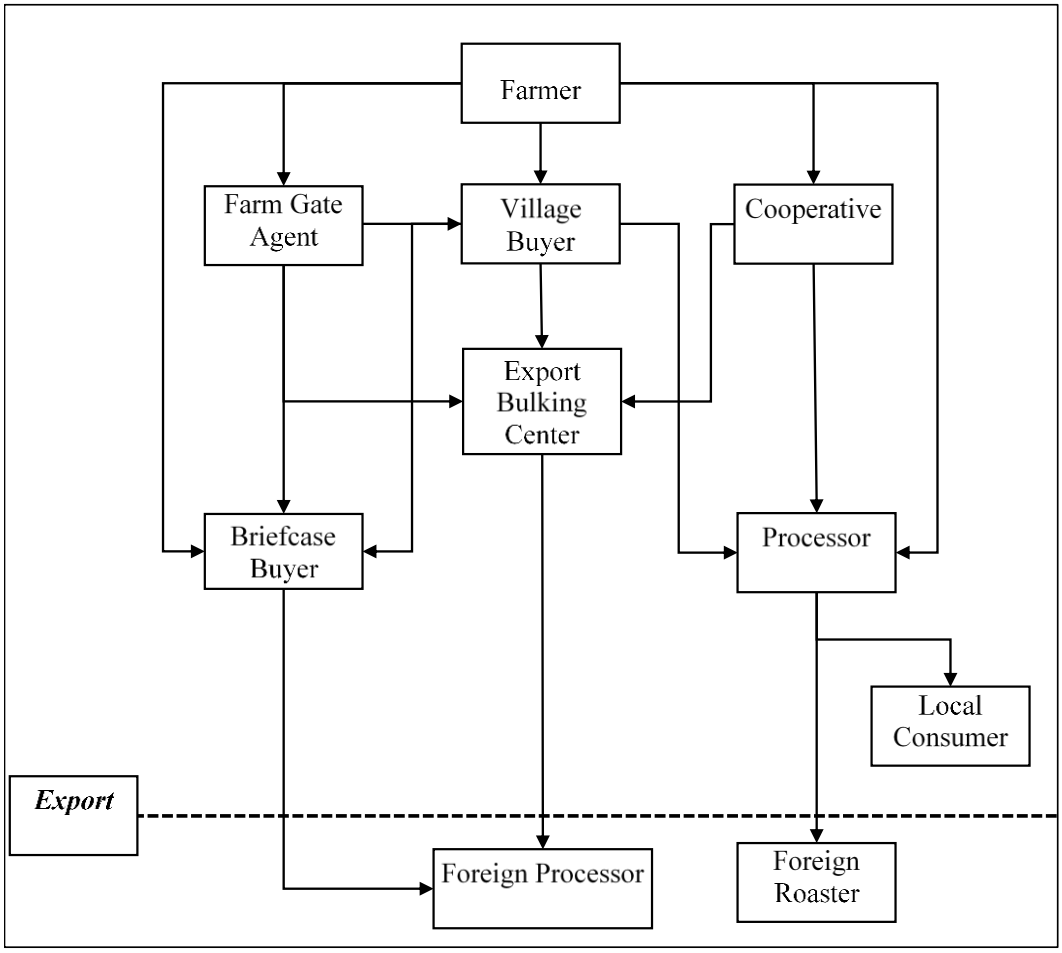

Figure 6.5. The Cashew Value Chain in Ghana, in 2015/2016

Source: Own Illustration.

Given the significant threat the introduction of the export window posed both to exporters and traders, they wasted no time to move against it. According to buying agents interviewed, within the same day of the introduction of the ban, they received the order from their superiors in Accra and Tema to stop buying from farmers immediately.[95] Officially, the ban would have started only two weeks later on 31

[95] Senior Executive of Wenchi Cashew Trader Association, Wenchi, Brong Ahafo Region, 24.04.2017; Collection Centre Manager for Large Trading House, Wenchi, Brong Ahafo Region,

March, hence, in theory they could have continued buying nuts in the field for at least another week. Traders, however, knew that it was crucial to have farmers see and be hurt by the ban for them to clearly attribute it to the government's directive and be mobilizable against it.

Traders' withdrawal from the market was highly effective. With over 95% of farmers normally selling their crop to middlemen and buying agents, farm gate prices dropped harshly, rapidly and clearly visible to farmers. In the week of the ban several newspapers – citing farmers, middlemen, politicians or their own price surveys – reported that prices had fallen by 44% from around GHC 4.5 (US$ 1.15) to GHC 2.5 (US$ 0.63) per kilogram within only two days (Frimpong 2016; Vinokor 2016). This was confirmed during my fieldwork in around two dozen interviews with cashew farmers, traders as well as independent market analyst, and some farmers, middlemen and even cottage processors I interviewed without prior notice of my arrival or my topic (hence, when they could not have prepared for my visit), could show the dip in farm gate prices in their business records.[96] Relatedly, the managing director of Mim Cashew Ltd., Joseph Yeung, was quoted in a newspaper article as saying that "(…) the effect of the directive was very clear to us. We got ten times the intake of raw cashew nuts than before the directive (…)" (Eduku 2016).

Simultaneously, traders started a campaign to inform farmers about the party at fault for the price drop: the NDC-government. First, regional and district-level meetings among buying agents, farmer cooperative society chiefs (where existent, such as Wenchi) and traditional chiefs were immediately organized at the offices of traders, to which journalists were explicitly invited and came.[97] Secondly, traders together with the informed actors at the meeting contacted radio stations (widely listened to in rural areas), which after the day of the imposition of the ban, informed those

24.04.2017; Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017

[96] CEO of Cashew Cottage Processor, Techiman (Brong Ahafo Region), 26.04.2017; Mid-Scale Farmer, Techiman, Brong Ahafo Region, 24.04.2017; Collection Centre Manager for Large Trading House, Wenchi, Brong Ahafo Region, 24.04.2017.

[97] Chairman of large cashew farmer cooperative, Brong Ahafo Region, 24.04.2017; Journalist covering Cashew Sector, Sunyani, Brong-Ahafo Region, 25.04.2017; Senior Executive of Wenchi Cashew Trader Association, Wenchi, Brong Ahafo Region, 24.04.2017.

farmers that had not yet heard from the ban or not been able to make the link between the price fall and MoTI's directive about its origins. Parallel, the agents directly interacting with farmers – i.e. farm gate agents or the trade houses' collection centre managers in Brong-Ahafo market towns like Wenchi, Techiman or Sampa – also let farmers know about the directive when explaining why they would or could not buy anymore produce. As such, the ban and who to blame for it became extremely clear to producers. Interestingly, processors (especially Mim Cashew) tried to counter this strategy with own announcements on the radio that the ban was beneficial and that they would pay up to GHC 4, eventually to no avail however.[98]

6.1.3.2. Mobilization of the Masses

The previous section established that the export ban in Ghana was indeed damaging and highly perceptible to cashew smallholders. Moreover, it showed that traders played a significant role in making sure it did. The next question, however, is whether this realization by farmers that the government had imposed an extremely damaging ban on their crop translated into their active mobilization? Again, the answer is a clear yes.

The withdrawal of the ban on Saturday 19 March had been preceded by severe protests by farmers, brokers, and parliamentarians, heavily covered in the Ghanaian media. Particularly the farmer associations – usually associated in Ghana with poor collective action capacity[99] – became very active and visible the days directly after the ban. Anthony Kwaku Addu, president of the National Cashew Farmer Association as well as Chairman of the Wenchi Cooperative Cashew Farmers and Marketing Union, for example spoke on several radio shows and to several

[98] Senior Executive of Major Cashew Processor, Mim, Brong-Ahafo Region, 25.04.2017; Medium-Scale Cashew Processor and Senior Official of CIAG, Accra, 19.04.2017.

[99] The 80,000 to 100,000 (mostly small-scale) farmers that produce cashew nuts live in around 389 farming communities throughout the country, but mostly Brong-Ahafo region (ACi 2010). Through the CDP, these are further organized into 1,549 production groups, 156 co-operative societies, and 11 more or less functional District Cashew Farmers' Unions. Despite their wide existence, co-operative societies are barely involved in marketing: it is estimated that farmers sell less than 2.5% of their nuts to producer groups, cooperatives, or district unions (ACi et al. 2015: 56). Experts of the sector and especially of the cooperatives state that these do not tend to have high collective action capacity. Members tend to avoid active participation out of the fear of being taken advantage of by the often more educated and traditionally powerful association heads (ACi *et al.* 2015: 25).

newspapers, heavily criticizing the directive and the minister, and announced a demonstration against the ban for Thursday 24 March 2016 in Wenchi as well as marching to the Presidency if these protests were not successful (Boateng 2016). Similarly, Anane Yaw Kwarteng, the Chairman of the Cashew Farmers Association in the Dormaa Central Municipality (a further district in the Brong-Ahafo cashew cultivating area) in an interview on Friday 18 March gave MoTI-Minister Spio-Garbrah a three-day ultimatum to withdraw his "wicked directive before we descend on him" (Boateng 2016). According to MPs interviewed[100] from the region, in the core cashew districts near the Ivorian border (Jaman South, Jaman North, Tain and Banda), farmers protested in large numbers directly in front of NDC offices and homes of NDC MPs the days after the directive had been issued. In other parts of Brong-Ahafo, farmers bombarded their MPs with phone calls. Yaw Afful (NPP), MP from Jaman South, for example, stated in parliament that within one day (Wednesday 16 of March 2016) over fifty farmers and buying agents had called him asking him to do something against the ban (Parliament of Ghana 17.03.2016).

While less visible, buyers and exporters also publicly spoke out against the ban. The acting chairman of the Cashew Buyers Association of Techiman, Mr. Mumuni Issah, for example, told the Ghanaian chronicle that cashew nuts were rotting because of the directive – which seems exaggerated given that dried RCN have a shelf-life of over a year and the export window had not even been issued for a week – and that they would demonstrate against minister Spio-Garbrah if the ban was not lifted (Boateng 2016).

In general, however, traders and their associations took a more facilitative role behind the scenes. Although the heads of the major export houses simultaneously lobbied MoTI, MoFA and the presidency to withdraw the ban, they realized that as their active lobbyism had failed to prevent the ban in the first place, they would have to amplify their leverage. Similar to large-scale farmers in Argentina who used small-scale farmers as the face of their campaign to garner public support (Fairfield 2011), Ghanaian traders knew that mobilizing the numerical power of smallholders was their best chance to get rid of the ban. Consequently, employees of large traders

[100] Brong-Ahafo MP (NPP), Accra, 01.05.2017; Brong-Ahafo MP (NDC), Accra, 30.05.2017.

reported in interviews that they actively coordinated and financed protests of farmers and organized district level meetings with farmer association heads and chiefs, at which MPs and other high officials were called and threatened.[101] It was this financing, hosting, and general organization through traders that allowed farmers to conduct the protest that eventually pressured the government to withdraw the ban.

6.1.3.3. Mass Threat and Policy-Maker Panic

The previous sections have illustrated how with the facilitation of traders the implementation of the ban strongly agitated and mobilized farmers against the governing party and its directive. The final and decisive question is, however, whether it was the fear of mobilized farmers that led the government to withdraw the ban. Yet again, the analysis of the case material allows a strongly positive reply.

Interestingly and surprisingly, MPs, particularly MPs from Brong-Ahafo belonging to the ruling party, were very quick to react against the ban. Only three days after the directive had been issued and two days before it was withdrawn, the then Deputy Majority Chief Whip and MP of the cashew district Banda, Ahmed Ibrahim (NDC), submitted an urgent motion against the ban. He described the directive as "very weak and illegal," arguing and quoting that the Export and Import Act on which the directive was founded could only be made by legislative instrument, hence, the approval of parliament, which had not occurred (Mubarik 2016; Parliament of Ghana 17.03.2016). Other NDC MPs supported Ibrahim in his motion, such as the MP of Tain (a further cashew constituency) and even majority leader, Alban Bagbin, who stated that the "directive by the Hon Minister for Trade and Industry has no legal basis and in fact, even though he is my very good friend, he just acted as Don Quixote."

It is important to notice that it is an extremely rare event that MPs belonging to the ruling party in Ghana (or most countries, for that matter) criticize ministers or

[101] Chairman of large cashew farmer cooperative, Brong Ahafo Region, 24.04.2017; Senior Executive of Wenchi Cashew Trader Association, Wenchi, Brong Ahafo Region, 24.04.2017; Collection Centre Manager for Large Trading House, Wenchi, Brong Ahafo Region, 24.04.2017; Senior Manager of Trade House Cashew Bulking Centre, Techiman (Brong Ahafo Region), 26.04.2017; Senior Executive of CIAG, Accra, 12.04.2017.

policies of their own governments. Most newspaper articles and interview partners (including MPs) could not recollect a moment when this had happened in the past. Usually, if partisans have an issue with a policy, they will discuss this within the party behind closed doors, rather than so publicly and even in parliament as in this case. Given the fact that Minister Spio-Garbrah is a top NDC heavyweight,[102] these heavy attacks against him came as a particular surprise. Moreover, it is extremely rare to see majority and minority MPs to agree on the same motion, as occurred here. Not one single MP spoke in favour of the ban however. All MPs, whether from the NDC or NPP condemned the illegality of the directive as well as the negative economic and social effects it would have on cashew farmers. The only points of dissent between the two groups was how Minister Spio-Garbrah should be put under pressure – the NPP minority leader, Osei Kyei-Mensah-Bonsu, arguing he should be threatened with impeachment, whereas NDC members remained quiet on this point – and the NPP accusing the NDC of going against the directive only for electoral considerations, or as NPP MP Dominic Nitiwul put it:

> "(…) the Majority side have every channel to solve this problem with the Executive arm of Government, without necessarily dragging Hon Members of Parliament into this issue. What is this Statement seeking to achieve? Is it to appease the farmers in the Brong Ahafo Region or it is to fight for the people there because it is an election year?" (Parliament of Ghana 17.03.2016)

Eventually, following the bipartisan attack of MPs on the directive, sources within MoTI and the NDC state that top leaders of the party – among them President Mahama himself, majority leader Alban Bagbin,[103] and NDC general secretary Johnson Aseidu Nkatia – contacted Spio-Garbrah to tell him he should reverse the directive immediately.[104] Little later the Minister folded and withdrew the ban.

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[102] Starting in the 1990s, Spio-Garbrah served for years as Minister in different portfolios, as ambassador to the United States, came second in the NDC leadership election in 2006, and was one of the key contenders for the NDC's presidential candidacy in 2019.

[103] Interestingly, Mahama, Bagbin, and Spio-Garbrah were among the top contenders to become the presidential candidates for NDC in 2020.

[104] Former Deputy Minister of MoTI and NDC MP, Accra, 29.03.2017; Brong-Ahafo MP (NDC), Accra, 30.05.2017.

What led partisan NDC MPs from Brong-Ahafo and party leaders to attack their own minister and his directive? I argue that these politicians feared that the mass of cashew farmers would translate their anger against the ban into votes for the opposition in the December 2016 presidential and parliamentary elections, seriously threatening their political survival. Two aspects are particularly noteworthy in this regard: cashew farmers are many and elections in Ghana are particularly close-fought.

Most sources see the number of cashew farm operators in Ghana between 80,000 and 100,000 around 2016 (Addaquay 2016: 7).[105] Adding spouses, children, potential workers, and traders, it becomes obvious that several hundred thousand potential voters have a strong interest in strong and stable cashew prices. This comes against the backdrop of the previous presidential and parliamentary elections in 2012. Then, NDC presidential candidate and John Mahama had won the election with 50.63%, only 310,286 votes in front of his competitor from the NPP, Nana Akufo-Addo. Keeping in mind Ghanaian voters' tendency to change the government every two terms and the general dissatisfaction with the NDC's second term, the potential loss of several hundred thousand votes from cashew farmer votes was a critical and direct threat to president Mahama's political survival.

What is more, in the Brong-Ahafo region – home to around 90% of Ghanaian cashew farmers (Adombila 2015) – close elections and swing-voting are at their most extreme in Ghana. Within the last five presidential elections, presidential majorities had changed three times in the region, while having the smallest margins in the country (around 4% in 2012). The exact same pattern holds true for the national (first-past-the-post) parliamentary elections, with the NDC having garnered 16 seats and NPP 13 seats in 2012. Moreover, no region has more districts (four exactly, of which three are in the core cashew region) in which most voters voted for a different presidential than parliamentary candidate (a phenomenon Ghanaians term "skirt and blouse districts"). Margins get even closer when looking at the typical cashew districts in the region. In the cashew hub Jaman North, for example, the NPP candidate Stevens Siaka won his seat with only 202 more votes than his opponent. Similarly, in Banda district, the issuer of the motion against the

[105] Senior Official of Ministry of Food and Agriculture, Crop Directorate, Accra, 13.04.2017.

export window, Ahmed Ibrahim (NDC), won his seat with only 695 votes difference. As Table 6.3 indicates, MPs in Brong-Ahafo on average only win their seats with 3,602 votes more than their opponent.

Table 6.3. Vote Margins for Parliamentary Seats in 2012 of Key Cashew Producing Districts in the Brong-Ahafo Region

District	Winning Party	Number of Total Voters	Vote Margin between first and second	% Margin between first and second
Jaman North	NPP	29,638	202	0,68%
Jaman South	NPP	39,500	6712	17%
Techiman South	NDC	75,890	7,772	10,24%
Techiman North	NDC	21,000	4,000	9%
Wenchi	NPP	41,017	2,218	5.41%
Tain	NDC	31,048	4,008	14.07%
Banda	NDC	10.699	695	6.49%
Berekum West	NPP	18,152	3,126	17.18%
Berekum East	NPP	40,074	6,170	15.39%
Sunyani West	NPP	45,164	467	1.03%
Nkoranza North	NPP	20,506	720	3.51%
Nkoranza South	NDC	44,273	5,002	11.28%
Kintampo North	NDC	42,019	5,257	12,51%
Kintampo South	NDC	28,033	4,085	14.58%
Average Values		34,023	3602	10.44%

Source: Based on Data from Peace FM Online (2017).

Contrasting these electoral margins against the cashew producer estimates of the Ghanaian 2010 Population and Housing Census, it is not surprising that MPs were worried that the ban could pit a key constituency against them. In the Jaman North District, for example, out of 16,198 households, 8,288 engaged in cashew farming, hence, over 50% of the population (Ghana Statistical Service 2014a: 68). In other key Brong-Ahafo cashew districts such as Jaman South, Techiman and Wenchi around 20%, 10%, and 10% of households respectively were engaged in cashew farming in 2010, although almost a decade later these numbers have likely increased considerably (Ghana Statistical Service 2014c, 2014b, 2014d).

What is more, Ghanaian cashew farmers are likely to leverage their electoral weight if need be, given that eligible voters in Brong-Ahafo are generally known to vote actively. In the 2012 presidential and parliamentary elections, the region recorded the second-highest voter turnout with 81.07% (Ghana News Agency 2012). Through their quick organization of angry large-scale demonstrations via radio and call bombardments of MPs, cashew farmers and their associations were furthermore able to make credible that they possessed the collective action capacity to turn their numbers into votes against the ruling party at elections.

Overall, these factors combine to an extremely high electoral threat of cashew farmers, and it appears that parliamentarians and leading NDC politicians were very aware of this. A key piece of anecdotal evidence originates from an interview with a participant[106] of a meeting at the Wenchi Cashew Trader Association's office the day after the directive had been issued. The meeting consisted of the main representatives of cashew farmers and traders in Wenchi. Together, on speakerphone, the group called both Banda MP Ahmed Ibrahim as well as Speaker of the House, Alban Bagbin, who would later lead the charge against the directive in parliament. While both sides of the line shared their anger at the ban, Ahmed Ibrahim explicitly emphasized that "I won't lose my seat over this directive!" Moreover, it appears that top NDC leaders were trying to appease cashew farmers after the directive had been issued. President Mahama both during and after the export window had been very accommodating in hosting cashew farmer representatives on short notice in the presidential palace (Essabra-Mensah 2016), and the NDC's general secretary, Johnson Aseidu Nkatia, publicly condemned the export window and the responsible minister during a meeting with chiefs and citizens of the Jaman North district the day following the withdrawal of the ban (Denkye 2016). Overall, the wish to appease voters also explains why NDC MPs did not stick to the usual within party backroom talks to get the issue resolved but used the first chance to publicly oppose the directive and depict themselves as saviours of the cashew smallholder (although, to the best of my knowledge, never before having introduced any motion to support them).

[106] Journalist covering Cashew Sector, Sunyani, Brong-Ahafo Region, 25.04.2017.

Overall, the explanation that the ban was withdrawn primarily to calm mass opposition from farmers and to avoid losing their support was strongly shared by most interviewees. The corroboration by a former NDC MP that was in a leading position in MoTI[107] during the export window is revealing:

> "I am saying it is all about politics. You see, in democratic societies, it doesn't matter who votes. At the end of the day, they count the number of people who vote. No one is less important, you know. What is important is your vote. When you risk losing the vote, you would want to chart a path which will give you political leverage. And that is what informed the decision of the reversal of the directive given by the minister. It was never a decision that was abandoned on economic grounds – it was purely about electoral politics. You know, it became a political issue. Everybody wanted to win the sympathy and the love of the farmers. So, they all joined the band-wagon blaming the minister. (…) The protest came mainly from NDC MPs from Brong-Ahafo, because they knew electorally, if they did not do anything, what was going to happen. So, they wanted to pre-empt a motion the opposition was planning to do and show farmers themselves: "Hey! I am fighting for your interests!" When in fact, it wasn't their real interest, it was only their political interest."

Although the evidence is strong that the NDC withdrew the ban to appease a key electorate, it is less clear whether it succeeded. Overall, its results in the presidential and parliamentary election on 11 December 2016 were damning. Both president Mahama, as well as NDC parliamentarians, had experienced a crushing defeat in the cashew growing districts. Figure 6.6 maps and compares the electoral results of the presidential elections in 2012 and 2016. Dark grey districts are those where John Mahama won a majority, while white districts are those were Nana Akuffo-Addo won most votes. The area highlighted by a dashed-lined circle in the centre of the Brong-Ahafo maps denotes the key cashew cultivating districts. What we can see is that the president's losses in Brong-Ahafo occurred particularly strongly in the

[107] Former Deputy Minister of MoTI and NDC MP, Accra, 29.03.2017

cashew growing area. Specifically, he lost the majority in seven out of 14 cashew districts to Akuffo-Addo.

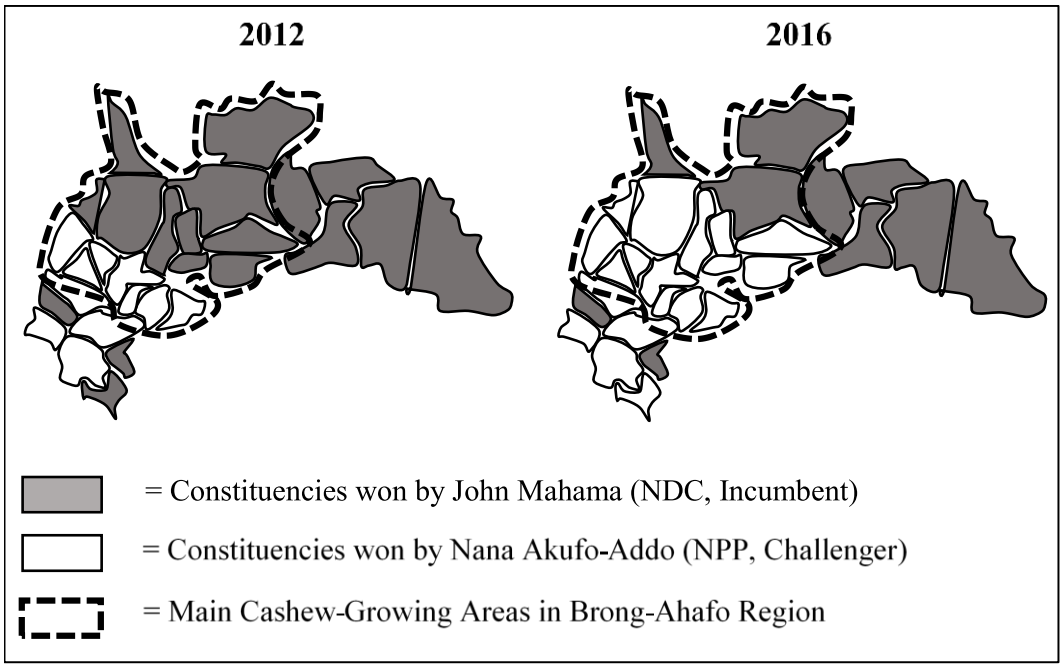

Figure 6.6. Presidential Election Results in Brong Ahafo Region in 2012 and 2016
Source: Own illustration based on data from Peace FM Online (2017)

Figure 6.7 below further illustrates this in more detail. It depicts the vote share of the NDC presidential candidate in all elections since 2004. Importantly, it aggregates the score of all different constituencies into two groups: whether the 2010 Population & Housing Census (Ghana Statistical Service 2014d) named cashew to be one of the two most produced crops and/or stated that at least 5% of farm households in the constituency grew cashew at the time of the census – or not. What we can see is that the NDC had won in both areas in 2012, being 1.7% more successful in non-growing Brong-Ahafo areas. In 2016, the NDC crashed in both areas. Clearly, cashew was not the only topic at play. As indicated, there was a general frustration with the NDC in Ghana and in Brong-Ahafo, where the named Diamond Microfinance scandal had angered voters particularly. However, we do see that the NDC's vote share dropped stronger in the cashew growing areas (by 7.8%) than in the non-cashew growing areas (by 5.4%) in Brong-Ahafo.

Accordingly, although one should not go as far as saying that the failed ban alone had cost the NDC the elections in cashew-growing areas in Brong-Ahafo, there is some statistical evidence to substantiate the claim that it might have played a significant part.

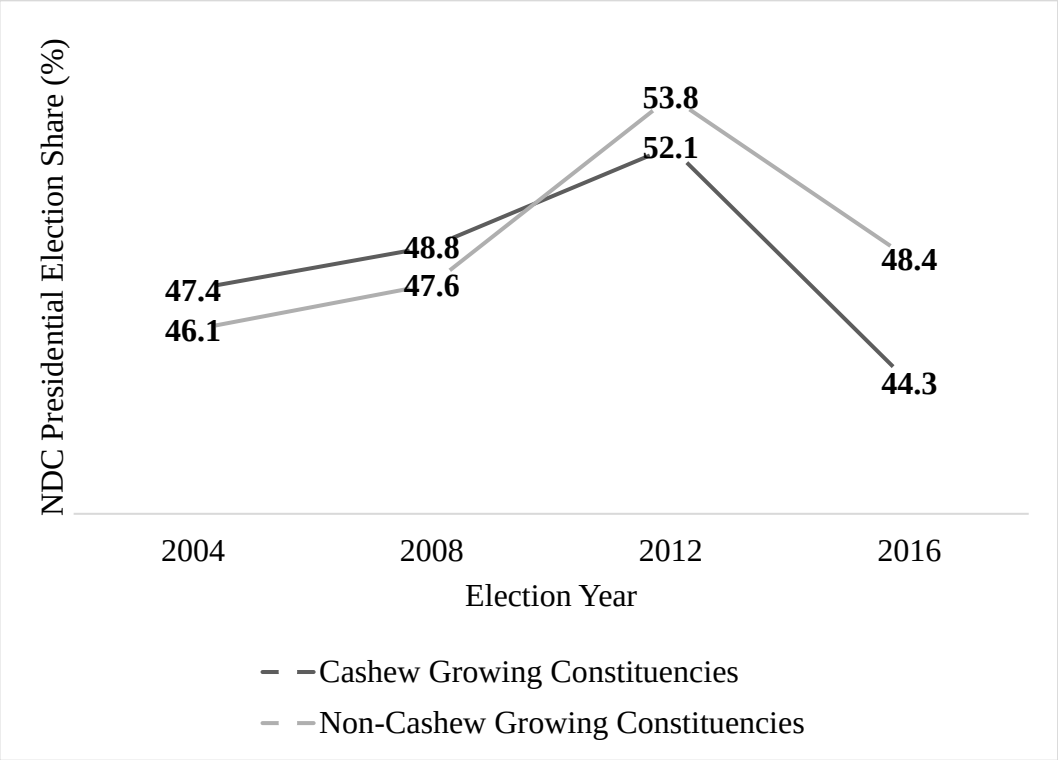

Figure 6.7. Development of NDC Vote Shares Over Time Across Brong-Ahafo Constituencies disaggregated by Cashew Growing and Non-Cashew Growing Constituencies

Source: Peace FM Online (2017)

Similarly, the NDC MPs lost four of their ten districts in the cashew area, with the losses in Tain, Techiman North, and Nkoranza South being among the closest in the country (with the winner and second only separated by 41 votes in Tain). Accordingly, an interviewed NPP MP that won one of these close-fought seats stated that he had seen the directive in two ways: as negative to his potential cashew farming constituents, but also as positive, because he said it helped him win a seat against an incumbent MP that had sat stably in his seat (at least in comparison to

other districts in Brong-Ahafo). Indeed, many of my interview partners confirmed that their decision or that of family, friends, and acquaintances not to vote for the NDC in the 2016 election was strongly fuelled by its attempted imposition of an export ban. An electoral outcome that is particularly noteworthy, however, is Ahmed Ibrahim's defence of his seat. Despite a relatively close winning margin of 635 votes, it appears that Ibrahim's prominent and public resistance against the export window has likely had its intended effect: securing cashew farmers' vote by showing them that he was on their side.

6.1.4. Conclusion of the Ghanaian Cashew Case

The case of the March 2016 Ghanaian cashew ban withdrawal provides perhaps the most illuminating illustration of the thesis' theoretical argument. Doing so it closely traces its core mechanisms. First, traders were central in making the ban and its origin visible to farmers, as well as aggravating its impact. Facilitated and riled up by traders, this attributable damage motivated thousands of small-holders (usually plagued by weak collective action) to mobilize against the ban and stage protests across the cashew region. Regional MPs and national political leaders from the governing party (NDC) became immediately aware of the significant threat to their political survival. Considering tight electoral margins, the risk was high that the critical mass of cashew farmers could shift votes to the opposition, massively diminishing the chances to remain in office after the 2016 presidential and parliamentary elections. Interviewees confirm that it was this pressure from threatened NDC politicians that eventually forced Trade and Industry Minister Spio-Garbrah to withdraw the ban.

6.2. Calm Cashews: The Introduction and Maintenance of the Raw Cashew Export Ban in Kenya

Besides coconut, cashew nut has historically been one of the few major cash crops in the Kenyan coastal region. While some cashew is grown in Tana River, Taita

Taveta, and Tharaka Nithi counties, over 90% of the crop is grown in the three counties of Kwale, Kilifi and Lamu along a 15-kilometre-wide coastal strip spanning from the Tanzanian to the Somali border (see Figure 6.8 below). The vast majority of cashew is farmed by small-holders owning no more than one acre of land on average (Agriculture, Fisheries & Food Authority 2016; IDMS 2009).

Introduced by the Portuguese in the 16th century, active cultivation and processing of cashew emerged in Kenya in the 1930s. Originally pan-roasted and cracked with sticks by coastal farmers, following a visit to India in 1935, British settler William Gilbert Lilywhite introduced a primitive type of drum roaster to Kilifi through which shelling, peeling and grading was done by hand in an open shed (Malhotra 2008: 273). Lilywhite also showed local smallholders how to cultivate cashews, provided them with the seeds, and collected the nuts when ripe. The installation of an improved drum roaster and new drying ovens in 1950 allowed his company to process around 400 tons per year, using converted petrol tin cans to ship the kernels. After Lilywhites passing, processing was taken over by the large shipping baron Mitchell Cotts between 1960 and 1963, and processing capacity was further increased to 800 tons per year (Malhotra 2008: 273).

After independence, the new Kenyatta-Government took control of the cashew sector. In 1964, it nationalized Cotts' factory, placing it under the ownership of the National Cereals and Produce Board (NCPB), joined later by the Industrial and Commercial Development Corporation (ICDC), the Industrial Development Bank (IDB) and the Kilifi District Cooperative Union (KDCU). At the same time, the Ministry of Agriculture (MoA) considerably increased extension services to cashew farmers, provoking a quick expansion of cashew production. Although the factory was able to increase its processing capacity to 1,500 tons annually (employing 385 workers), this was not enough to match the significant increase in production, with nearly 70% of nuts exported raw to India (Malhotra 2008: 273). To process more locally, the government on 11th September 1975 opened *Kenya Cashew Nut Limited* (KCL), a large-sized factory with the capability to process 15,000 tons RCN

annually. Located in Kilifi town, the ownership structure of the company remained similar to its predecessor's.[108]

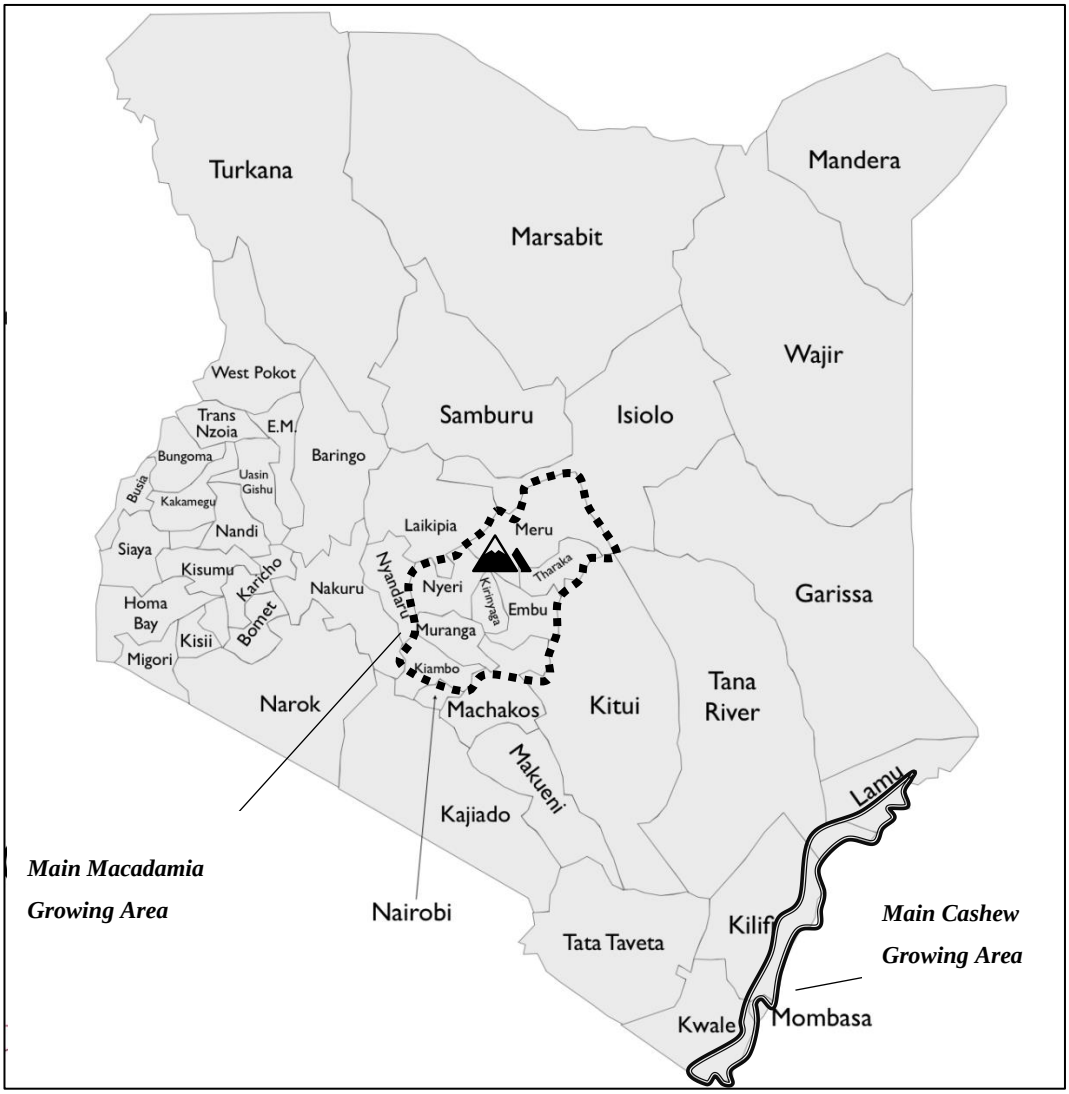

Figure 6.8. Map of Cashew and Macadamia Nut Growing Areas in Kenya
Source: Own illustration based on map from Lewis (2016).

Marketing and regulation of the cashew sector closely resembled that of many other statist African countries during the time. Smallholders were organized by the Ministry of Cooperatives into dozens of cooperatives and cooperative unions across

[108] The NCPB owned 31.42% of the shares, the ICDC 24.38%, the IDB 9.2%, and the KDCU acted as largest shareholder with 35% of the shares (Kenyan Ministry of Agriculture 2009: 12).

the Coast, such as the KDCU or the large Kikuyu Lake Kenyatta Cooperative. Importantly, the NCPB through the cooperatives owned the legal monopoly to purchase the RCN from farmers. Pre-financed by the NCPB, the cooperatives would grade and buy their members' produce, and bulk them for collection among other commodities, mainly maize. The NCPB would then collect the nuts and transport them to their main storage houses, particularly to those in Kilifi and Mombasa (Kenyan Ministry of Agriculture 2009: 12).[109] At this point, the CEO of the KNC factory (the only processor in the country) had the full decision power over what amount of the crop collected by the NCPB could be shipped off raw to India, and what amount was required to run the factory at full capacity.[110] Usually, the CEO would wait to give the RCN export clearance until the beginning of the next season (around October/November), so that he could assess from the extent of flowering whether the new season would provide sufficient supply. Importantly, the KCL only had to pay the NCPB for the RCN supply once it received payment for the processed shipment, the NCPB thus carrying the risk and relieving the KCL from the high liquidity requirements African cashew processors today suffer under.[111] Figure 6.9 below, illustrates the cashew value chain prior to liberalization.

Importantly, not only was the KCL assured of sufficient supply, it received it significantly below world market rates. Given the lack of exact farm gate price, FOB price, and KCL purchase price data from these times, it is difficult to assess exactly how much below world market prices the KCL paid and farmers were paid. A former senior executive of KCL, however, claims that the FOB prices received by the NCPB were up to three times higher than those they charged the KCL.[112] Assuming the NCPB did not directly subsidize the KCL, it is likely that prices to producers were relatively close to those paid by the KCL, and as such, significantly below what they would have likely received under free-market conditions.

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[109] Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior official at Ministry of Agriculture, Nairobi, 04.11.2017.

[110] Former Senior Executive of KCL, Kilifi County, 18.10.2017.

[111] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017.

[112] Former Senior Executive of KCL, Kilifi County, 18.10.2017;

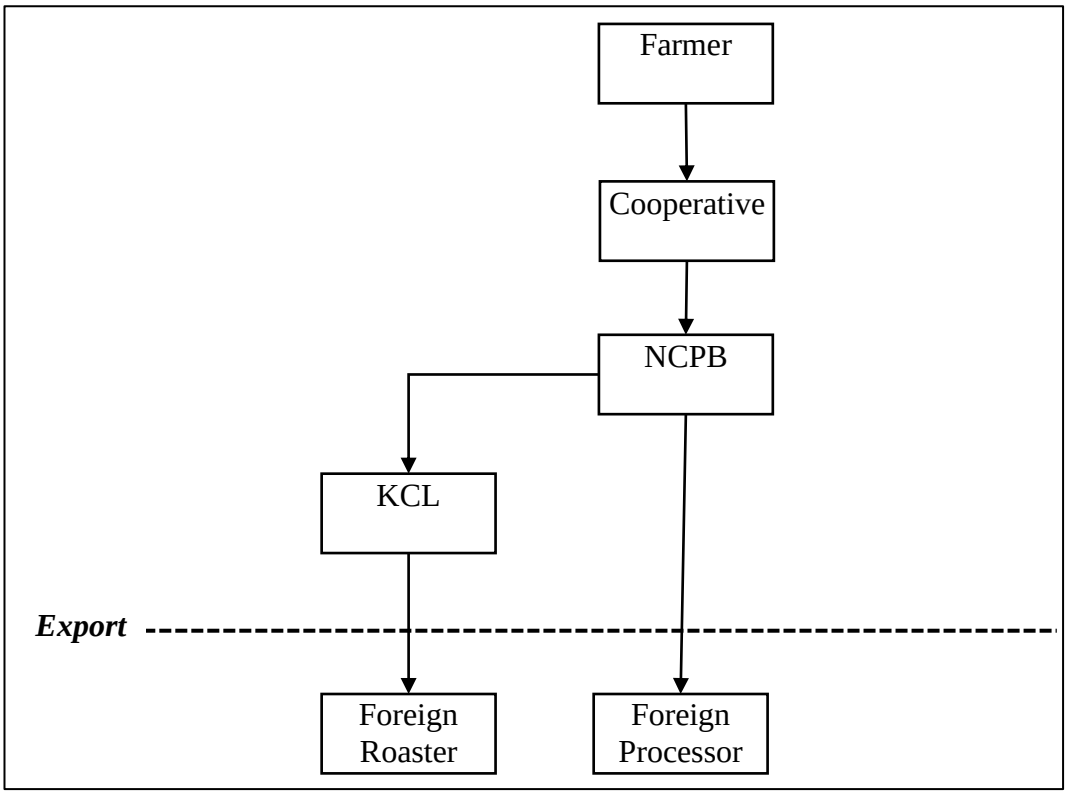

Figure 6.9. The Cashew Value Chain in Kenya Prior to 1992
Source: Own Illustration

In sum, the marketing board structure in Kenya prior to liberalization performed the same functions an export ban should: it secured affordable supply for processors. At the same time, it came at a similar cost as export bans, significantly reducing the prices and thus the income of farmers. Yet, there is not a single account of Kenyan cashew farmers protesting in those times. Quite the opposite, former and current cashew farmers at the Kenyan coast will often refer to this phase as the golden era of cashew. This puzzle is well explained by the thesis' theoretical framework. As discussed in Chapter 3.1.2, the extraction of agricultural surplus through marketing boards differs fundamentally from export bans in being much less transparent to producers. Whereas prior to export bans, producers know what actual market prices are and therefore have a clear contrast to the rapid fall of prices (as seen in Ghana), farmers that have only farmed under a marketing board setting prices, rarely know whether they are receiving significantly less than they ought to under free-market conditions. And even if they felt prices were low, given the absence of informed and informing traders, this was difficult for them to attribute to government action.

Moreover, in contrast to export bans, marketing boards also perform positive functions for producers. Apart from making marketing more structured and predictable, they often provide extension services, inputs such as pesticides, crop financing, and other support. This was true for the Kenyan cashew sector: both the Ministry of Agriculture and the KCL strongly supported farmers in maintaining their trees through numerous extension officers, the Kenyan Agriculture Research Institute (KARI, then named Coast Agricultural Research Station and founded in Mtwapa, in 1957), as well as KCL's own research department with five agriculturalists trained at Eggerton University. [113] As such, whereas export bans appear wholly destructive to farmers, marketing boards and cooperatives have a highly visible positive side, while effectively hiding the disproportionate costs of these benefits to farmers. This, I argue, explains how the Kenyan government (as well as many other African governments) at the time could depress farm gate prices to support cashew processing without having to fear any serious backlash from farmers.

Overall, this period in the history of the Kenyan cashew industry was characterized by successes in both production and processing. RCN production had increased from around 5,000 tons in the mid-1960s to over 36,000 tons (Market Insider 2014) in the late 1970s and 1980s, with a former employee of KCL claiming that production had reached 50,000 tons in 1985.[114] At the time, cashew presented the key income source for Coastal farmers, still credited today by current and former farmers for having been the reason many children in the region could be sent to school.[115] Paralleling the success in cashew cultivation, the KCL steadily increased its profits and importance. The company could run at full capacity throughout the year (except for a yearly one-month-maintenance period in December), allowing the company to employ almost 4,000 people at its peak. As such, the company almost single-handedly fuelled the growth of what is today Kilifi Town, the capital

[113] Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012.

[114] Former Senior Executive of KCL, Kilifi County, 18.10.2017;

[115] Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017. Small-Scale Cashew Farmer, Kilifi County, 23.11.2017; Small-Scale Cashew Farmer, Kilifi County, 23.11.2017.

of Kilifi County (Kilifi County 2016: 4). Exporting kernel primarily to the United States, Europe, Japan and small amounts to the Middle East, KCL was able to increase its net profit six-fold from Ksh 3 million (US$ 408,719) in 1975 to Ksh 26 million (US$ 2.38 million) in 1982, according to newspaper reports (Kithi 2004).

6.2.1. Disease, Cronyism, and Liberalization: The End of the Golden Era

The industry's golden era ended abruptly in the late 1980s. Commonly referred to as a period of 'grand corruption' (Branch 2010; Mwangi 2008: 278), the period was characterized by President Arap Moi allowing his cronies to actively seek rents from parastatals in order to hold his crumbling ruling coalition together. KCL was one of the many parastatals affected. Interviewees argue that by around 1987, close associates of Moi beset the company's as well as the NCPB's management to hand over their profits and partake in export fraud.[116] By 1989, KCL started experiencing severe financial problems and in February 1990 it had to lay off the majority of its employees (Kenyan Ministry of Agriculture 2009: 12).

At the same time, the cashew industry was hit by the harshest ecological crises it had ever witnessed: the powdery mildew disease (PMD). PMD is a fungal disease that attacks the young panicles and flowers of the cashew tree, and untreated can completely eradicate a tree's yield (Kenyan Ministry of Agriculture 2009: 25). Generally, it can be treated relatively effectively and economically by blowing Sulphur powder on affected trees several times during the flowering period, as has been shown successfully in Tanzania (Smith and Cooper 1997). In the context of an imploding governmental support structure, however, farmers who had been used to receiving dedicated support in the form of advice and material by extension officers, the KNC, NCPB, and KARI, were now stranded alone, shell-shocked by the disease, which according to interviews destroyed up to 80% of the crop in some years in the late 1980s. Cashew had turned from miracle to nightmare within only a few years.[117]

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[116] Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017.

[117] Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017.

During its deepest crises, the Kenyan government decided to completely liberalize the cashew sector. As part of the general implementation of SAPs that had started in the 1980s and the privatization of all parastatals that were deemed non-strategic, the Parastatal Reform Programme Committee (PRPC) recommended the government in November 1992 to sell the 65% shares it held via the NCPB, ICDC, and IDB (Kenyan Ministry of Agriculture 2009: 12). At the same time, it lifted the marketing monopoly of the NCPB, which in the same year completely withdrew from marketing cashew, and with it the key functions of financing cooperatives, organizing transport, and reliably supplying KCL with affordable below-market price RCN.

Perceived by many as one of the most damaging legacies of cashew liberalization reforms, was the fraudulent privatization and eventual collapse of the KCL. In compliance with the joint ownership agreement, the PRPC had recommended granting the owner of the remaining 35% of the shares, the Kilifi District Cooperative Union (KDCU), the pre-emptive right to buy the government's 65% share. Partly due to the high cost involved in buying the company and likely partly due to greed,[118] however, the three main directors of the KDCU[119] had decided to strike a deal with some of President Moi's closest business friends.[120] Allegedly covered by close Moi-aide Lawi Kiplagat, the cooperative directors had bought the remaining KCL shares with money from the private investors,[121] and then without the knowledge of their members immediately transferred them to the latter (National Assembly of Kenya 07.12.1999, 11.07.2000, 30.10.2003, 11.04.2007). By 1996, only three years after fraudulently acquiring 65% of the shares, the new

[118] Valued at Ksh 141.2 per share, the 65% share of the government cost Ksh 78 million (US$ 1.34 million). Debts acquired by the KCL in previous years and due to the NCPB, ICDC, the Treasury, and the Italian government amounted to over Ksh 118 million (US$ 2.03 million). Finally, the company owed Ksh 33 million (US$ 0.56 million) in redundancy payments to former employees, an amount never recorded during the transfer of the factory. In total, the KDCU would have had to invest roughly US$ 4 million to finance the acquisition of the company – money it did not possess (Kenyan Ministry of Agriculture 2009: 12).

[119] General Manager D. Runya, Chairman Japheth Kahuku, and the Vice Chairman Gunga.

[120] Joshua Kulei, and four other associates (C. Desai, N. Korir, ELK. Rotich, W.K. Sambu, and the later managing director P.K.Shah).

[121] Specifically, these investors were represented by Kenya Plantations and Products Limited (receiving 51% of the factory shares) and Cashew Development Investment Limited (receiving 15%).

investors had managed to take over most of the remaining shares, management, and eventually to oust the KDCU completely from the ownership of the company.[122]

Soon after, the KCL collapsed. From the beginning of the fraudulent share acquisition in 1993, the factory had been facing heavy financial and operational problems, leading to its temporary shut down on 28 February 1995. Eventually, in 1997, KCL collapsed under its financial and operational burden. Unable to service an outstanding loan of about Ksh 95 million (Kenyan Ministry of Agriculture 2009: 13), Barclays bank put the company under KPMG managed receivership in 2000, and on 8 May 2002 sold all assets, plant and machinery to Millennium Management Limited (MML) for the comparatively small sum of Ksh 58 million (US$ 0.97 million).[123]

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[122] To maintain the appearance that the KDCU was in full ownership, the actual majority shareholders had the KDCU appoint themselves as the management agents of the factory (Kenyan Ministry of Agriculture 2009: 13). Now under the new name of Kilifi Cashew Nut Factory Limited, the owners under the Management of P.K. Shah took complete de facto control of the day to day business of the factory. Despite the KDCU still owning 35% of the shares, they had no representation on its board. Soon after, the private investors than took over total de jure control as well. In 1996, the KDCU received a loan of Ksh 2 million (US$ 35,000) from main owner Kenya Plantations and Products Limited. Allegedly intended to purchase RCN, it had put 197,426 of its KCL shares - equalling 23% of total shares and valued at a much higher Ksh 28.07 million in 1992 – as collateral for the loan. When it failed to pay it back, these shares were transferred to the private investors. At the same time, the KDCU also failed to pay back its loan to the Co-operative bank, which held and thus received the remaining 12% of the shares as collateral (Kenyan Ministry of Agriculture 2009: 13).

[123] The Kenyan-Asian owner of MML, Charanjit Singh Hayer, had no prior experience in the agro-industrial sector, but led the major civil and structural engineering contractor 'Hayer Bishan Singh and Sons Limited', raising initial suspicions that the company only sought the factory grounds to expand their operations to the Coast, rather than for processing cashew. Kenya National Assembly debate records show that both parliamentarians and KDCU members vehemently criticized the auction, arguing that as long as the factory's ownership was uncertain it could not be sold (National Assembly of Kenya 30.10.2003: 3468). Instead, they demanded in parliament and at meetings in Kilifi that the Attorney General should prosecute the persons involved in the fraud and that all shares of the factory should be revered back to the KDCU (Thoya 24.06.2000; Mwaka 23.10.1999). Neither demand was met. In the meantime, the new owner, MML, was accused by the Minister of Cooperative Development and Management of further cannibalizing the company and therefore took over the factory's premises for a short while in October 2003 (National Assembly of Kenya 30.10.2003: 3468). As of 2017 it appears that MML is conducting cashew processing, although some interviewees wondered aloud whether this is for profit or rather to cover other businesses and keep down the occasional protest by Kilifi Town locals to return the factory to the KDCU (Jared 05.07.2015) and interviews with Senior Director of Ministry of Agriculture, Livestock, and Fisheries, Kilifi County, 23.10.2017; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017; Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017.

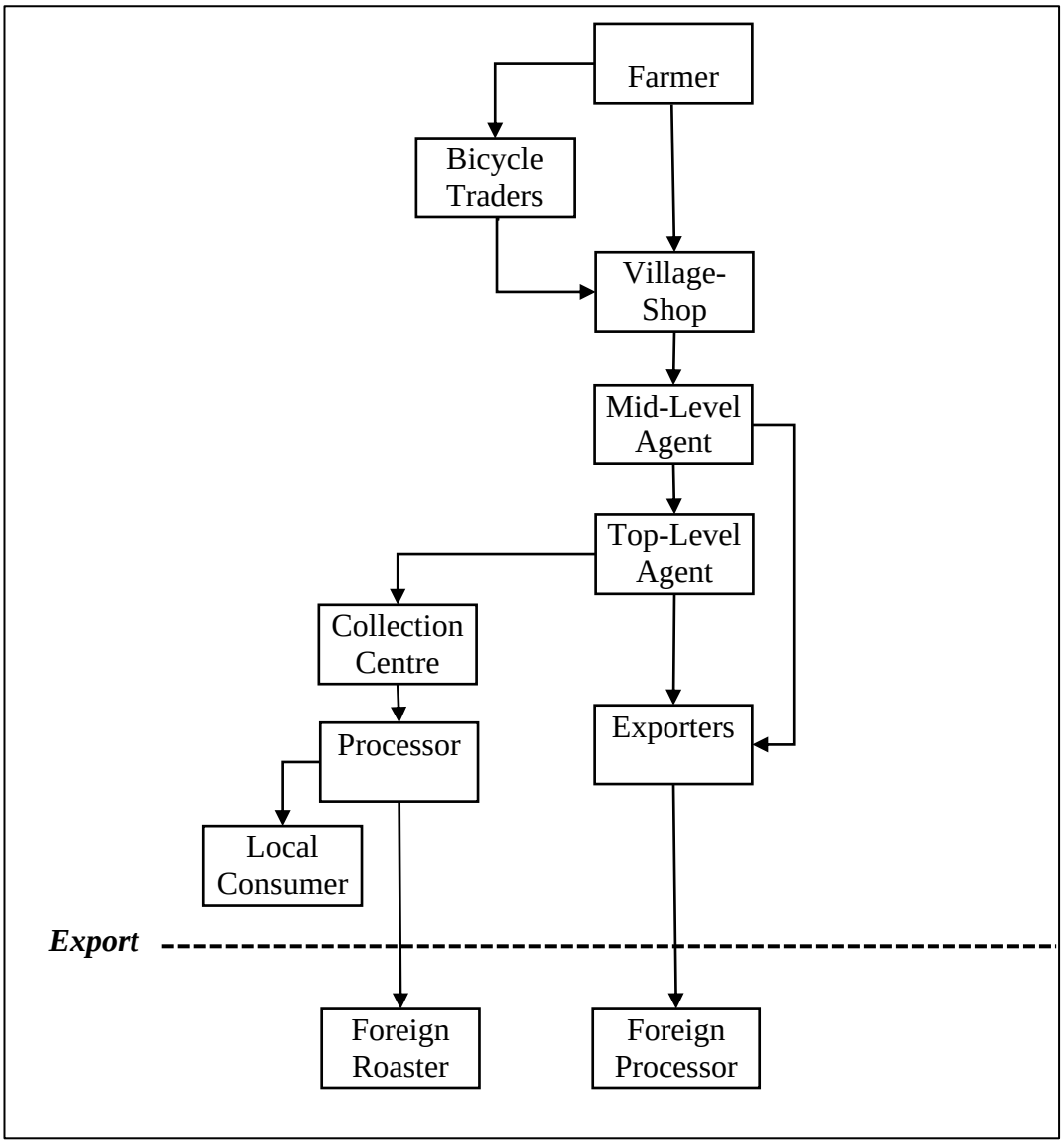

Figure 6.10. The Cashew Value Chain in Kenya After Liberalization.
Source: Own Illustration

The questionable intentions and management of the new KCL ownership – best characterized by its cannibalization of the factory[124] – was undoubtedly important to its eventual demise. Yet, interviewees claim that the inability of the KDCU and

[124] As described by the head of the parliamentary committee that had investigated the case, Kipipiri MP Mwangi Githiomi, the Moi cronies transferred large parts of the company's machinery and equipment to their sister companies in Kenya (Kenya Bixa Limited) and Tanzania (National Assembly of Kenya 07.12.1999: 2829–2830).

KCL to acquire enough raw supply was perhaps even more damaging.[125] Two factors conjointly explain this inability. First, the liberalization of the marketing system exposed the KDCU and KCL to competition it could not equal. As described above, the NCPB carried all financial risk, solved common liquidity and transport problems by pre-financing cooperatives and the KCL and organizing storage and logistics. With the exit of the NCPB from the sectors, cooperatives – particularly the KDCU – had to assume these functions. However, it largely failed to do so. The cooperatives lacked the financial means to pre-finance farmers, bank loans were expensive, slow or not forthcoming, and the KCL now facing its own increased financing cost was not able to actively pre-finance cooperatives. With the Ministry of Cooperative Development and Management also reducing its attention on the cooperatives after liberalization, mismanagement of cooperatives by its directors increased, leading to farmers being paid late or not at all, and attempts at copying NCPB's logistical infrastructure to miscarry (Malhotra 2008).[126]

Weakened by the dismantling of the state marketing system, cooperatives and the KCL failed to compete with the entrants on the now liberalized market. Shortly after liberalization in 1992, particularly Indian and Kenyan Asian traders entered the market to purchase and export RCN, with strong demand from Indian processors. To purchase the nuts from farmers, these exporters relied on local traders (or brokers).[127] Soon after liberalization, brokers and exporters started to dominate marketing (compare Figure 6.10 for an illustration of the typical Value Chain between 1992 and 2009). Able to offer significantly higher and faster payments traders rapidly outcompeted cooperatives and most had dissolved by the

[125] Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017

[126] Senior Director of Ministry of Agriculture, Livestock, and Fisheries, Kilifi County, 23.10.2017; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017; Former Senior Executive of KCL, Kilifi County, 18.10.2017; Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017.

[127] Local cashew traders were mostly former cooperative officials, former tourism sector employees in search of work when the sector crashed after the 1998 US Embassy bombings, former field agents of processors, and traders of other commodities. Information required through interviews with: Senior Cashew Consultant, Nairobi, 06.12.2017; Top-Level Cashew Agent, Per Telephone, 13.12.2017; Senior Officer at the NOCD, Per Telephone, 01.12.2017.

late 1990s.[128] With KCL's collapse in 1997, in-shell exporters and traders (and a hand-full of micro-processors) were the only relevant buyers on the market.

6.2.2. New Processors, Same Problems: The Beginning of Lobbying for an Export Ban

After the closure of KLC in 1997, it took three years for the next larger cashew processing factory to open shop. In 2000, Bobby Thomas, who had been exporting raw cashew nut from Mombasa since 1998, decided to open his own cashew processing factory next to KLC in Kilifi Town. Three years later, the macadamia processing giants from Central province, Kenya Nut Company (KNC, owned by Pius Ngugi) and Equatorial Nuts (owned by Peter Munga), expanded their business into processing cashews. With KLC partially revived under MML and the later entry of another central province macadamia processor, Jungle Nuts (founded by former KNC employee and now MP, Peter Wainaina), the number of active cashew processors in Kenya had expanded to five by the mid-2000s. The entrance of these players in the industry is traced nicely in Figure 6.11 below, detailing the share of processed in total cashew exports (based on import data from importers). From only 5% processed exports in 2000, by 2006 over 40% of exports were shelled. Essentially, processors had profited from stagnating world demand and resulting in lower RCN buying prices in the first half of the 2000s.[129]

[128] Whereas cooperatives would generally pay farmers with some delay, brokers paid directly. As a lead cashew procurer of a major processors as well as a senior manager of Lake Kenyatta Cooperative Society remembers that brokers in the 1990s could offer up to double the price of cooperatives, with prices regularly pushed above the Ksh 70 (US$ 1.20) mark (and according to some even above the Ksh 100 mark), a far cry from the prices after KLC had collapsed the first time in 1990 or those offered by cooperatives even after liberalization (Onsongo 2006; Kihara 03.05.2016; Malhotra 2008). The most detailed survey of the sector to date, the "Cashew Nut Tree Census and Baseline Survey in the Coast Province", in short "the 2008 Tree Census" (IDMS 2009: 26), describes that in 2008 only 9.8% of cashew farmers remained members in farmer organizations. Without the support of the cooperatives, KCL too failed to compete with exporters. As a result, the majority of the crop was exported in-shell even prior to KCL's collapse.

[129] Lower global demand translated in less demand (and thus competition) from Indian processors. Second, lower RCN buying costs imply lower financial costs for Kenyan processors, hence, reducing one of the competitive advantages Indian processors have (i.e. lower interest rates). Thus, world market conditions made Kenyan processors more competitive in a period of decreased competition, allowing them to process a greater share.

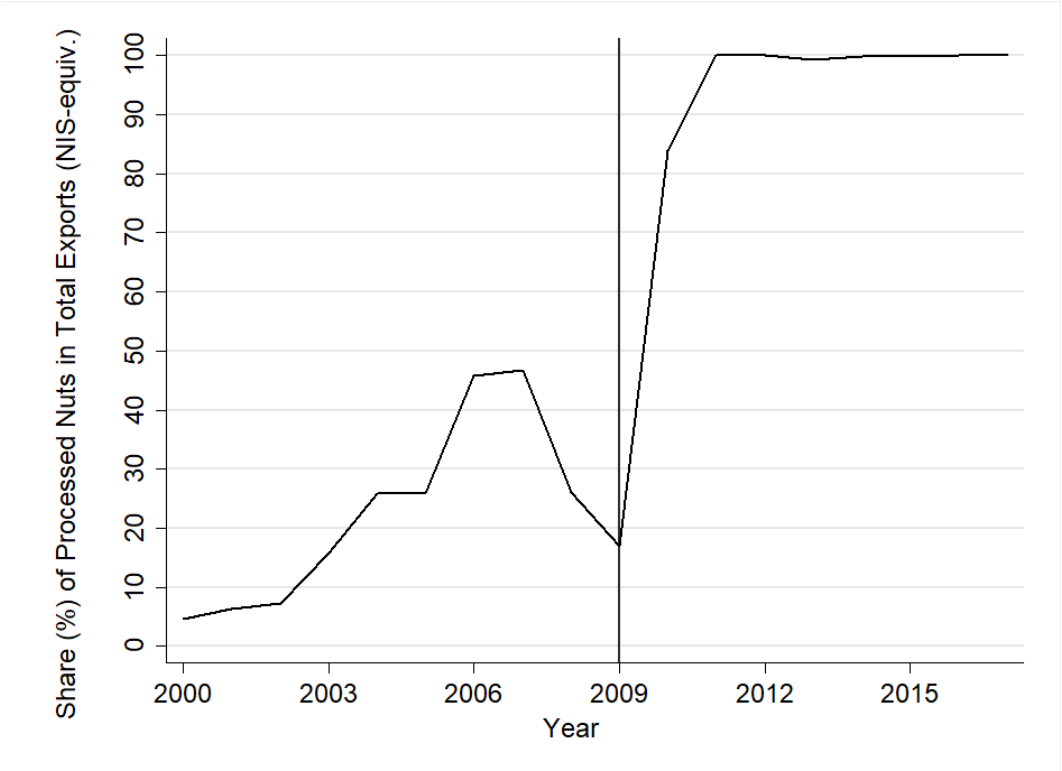

Figure 6.11. Share (%) of Processed Nuts in Total Kenyan Cashew Exports (based on mirror data), 2001-2017

Source: Own Illustration, based on data from the UN Comtrade database (DESA/UNSD 2019). Mirror data is the data provided by Kenya's trade partners. That is here, the nuts-in-shell equivalent processed volume in tons divided by the nuts-in-shell equivalent total volume in tons imported from Kenya as reported by all countries in the world.

In the 2007/8 season, however, Indian raw exporters re-entered the market more aggressively. As Figure 6.11 illustrates, domestic processing lost competitiveness versus raw exports, with the share of processed exports dropping over 20% within one year. Essentially, during the time Kenyan processors could only hope to fetch for their factories what Indian exporters would not buy. Normally, Indian exporters would enter the market only for the main season (from early January to end of March) aiming to quickly fill up containers for ships headed to India. This left domestic processors with the earlier low season to buy nuts from middlemen (mid-October to end of December), representing around 30% of the total crop, as well as

the periods in the main season where no ship to India had harboured in Mombasa.[130] Depending on the risk middlemen would want to take and the finances they owned, these could, however, store nuts in their own warehouse and wait for new Indian exporters to sell it for around double price, rather than sell it to processors. As a consequence, all five major nut processors in Kenya at the time were facing closure, as later explained by Wondernut owner, Bobby Thomas (Kathuri 2014).

It is in this context that Kenyan nut processors actively and successfully started lobbying the government for a raw nut export restriction (Daily Nation 2008; Kathuri 2014).[131] Heavily internally divided (due primarily to competition among them for macadamia supply), the processors, however, managed to pull together in light of a common enemy and created the Nut Processor Association of Kenya (NutPAK) in 2009. Then Minister of Agriculture (and current Deputy President of Kenya), William Ruto, both in August 2008 and April 2009 stated his intention to ban the export of RCN, naming value addition as well as employment protection and creation as core rationale (Oyuke 2009). After a meeting of Ruto with cashew actors at Pwani University in Kilifi on 28 March 2009, the minister ordered a Cashew Nut Revival Task Force (CNRTF) on 9 April 2009 to come up with recommendations on how to revive the cashew industry and submit a report by the end of April, i.e. de facto within less than two weeks (Kenyan Ministry of Agriculture 2009). As summarized in the final Task Force Report (Kenyan Ministry of Agriculture 2009), Ruto appointed four members to the task force: John Safari Mumba, former Managing Director of KCL (1982-1987), former MP for Bahari Constituency, and current Chairman of the Kenyan Cashew Growers Association, as chairman of the task force; as well as Francis Muniu from KARI; Nancy Abisai from the NGO Policy Advocacy Shelter; and Margaret Kavenge Masaku, an Assistant Director in MoA.

As traced in the CNRTF's report, in the last week of April 2009, the task force conducted several meetings with members of the key cashew interest groups along the Coast: farmers, processors, exporters, agricultural officials, politicians, donors,

[130] Lead Cashew Procurer for Big Five Processor, Per Telephone, 08.12.2017; Top-Level Cashew Agent, Per Telephone, 13.12.2017.

[131] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017.

and NGOs. The core positions of the main actors in the cashew value chain were summarized in the same report and confirmed in interviews by former participants.[132] Unsurprisingly, processors that focused only on processing cashews (such as KNC or Equatorial Nut), pushed for an immediate ban of RCN export and suggested the creation of a fixed price system. Processors which did some RCN exporting as means of meeting liquidity requirements (i.e. Wondernut), preferred an export levy over an outright ban of RCN exports. Exporters (arguably underrepresented in meetings, with brokers completely absent according to a former senior official of the Coast Provincial Directorate for Agriculture)[133] argued strongly against a ban, claiming local processing was not viable given high local costs of processing compared to competitors abroad. Former and current agricultural officials working on cashew, however, appeared to be wholly in favour of a ban.[134]

Perhaps the most interesting position was that of farmer representatives. Initially, farmers were sceptical of the idea of an export ban. Interviewees who had attended the meetings reported that several farmers raised the warranted concerns that the ban would ostracize exporters from the market and with them, the significantly better prices they paid.[135] At the same time, farmers emerged from a ten-year period of relatively low[136] and volatile prices, disillusioned with the decline of the sector, which in their minds coincided with the liberalization of the market, identifying the decline of the sector with the onset of liberalization. Correspondingly, according to the three interviewees, many farmers and officials conflated the more stable golden

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[132] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017.

[133] Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017.

[134] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017.

[135] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017.

[136] Indeed, 74.8% of farmers had indicated in the 2008 Tree Census that low prices were their primary issue with the current marketing system. Only 6.3% of farmers identified unpredictable prices as the key concern (IDMS 2009: 29).

era of the industry from 1975 to 1987 with a more restricted state-controlled market. Moreover, the members of the task force actively tried to enforce that perception, making the economically questionable case that an export ban would increase and stabilize farm gate prices. Eventually, most farmers present at the meeting agreed to the idea of an export ban, under the explicit condition that a functioning and fair minimum farm gate price system was implemented by the Government beforehand as had been the case in the earlier period of the state-regulated market (Kenyan Ministry of Agriculture 2009: 22).

Based on these discussions, the task force formulated seven clear recommendations in its report (Kenyan Ministry of Agriculture 2009). First, MoA should establish a cashew nut revitalization desk with immediate effect to co-ordinate the report's recommendations. Second, MoA should with immediate effect establish a regulatory apex body for the development of the cashew nut industry, to be named the Kenyan Cashew Nut Development Authority (KECADA). Third, KECADA should initiate the process of formulating a Cashew Nut Policy independent from other crops. Fourth, immediately following the formation of KECADA, regulation for minimum farm gate price should be put in place. Fifth, the government in conjunction with KECADA should establish funds to support farm input subsidies as well as guarantees for public-private partnerships financing cashew farmers. Sixth, the Ministry of Cooperative should reconstitute and revive former farmers' cooperatives. Finally, and most importantly, only once these other recommendations have been put in place (particularly the minimum price) should the government consider implementing an export ban on RCN. Moreover, this ban should be reviewed regularly regarding its effects.

On 16 June 2009, barely one month after the report had been submitted and to the big surprise of the CNRTF[137], Minister Ruto published[138] "The Agriculture (Prohibition of Exportation of Raw Nuts) Order, 2009", banning the export of raw cashew and macadamia nuts (William Ruto, Minister of Agriculture 17.07.2009).

[137] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017.

[138] Minister Ruto, however, only publicly announced it on 30 July in Nairobi, stating "Why we are imposing the ban is to protect farmers from exploitation by middlemen" (Muiruri 30.07.2009).

In clear contravention of the CNRTF's explicit instructions, the MoA had implemented none of the six recommendations prior to the ban. No revitalization desk or apex body was built, no cashew policy formulation started, no funds established, and most importantly, no minimum price was set. Moreover, his proclamation that the NCPB would resume its original monopoly marketing function in the market was never realized, with NCPB officials telling *The Daily Nation* and *Business Daily* that MoA never allocated the required funds (Kihara and Bocha 2010; Wachira 2009). Participants of the process remember that the progression from launching the task force to publishing the order seemed extremely short and rushed.[139] Given Minister Ruto's clear statements in favour of a ban months prior to setting up the task force, as well as with the knowledge of active lobbying by processors for a ban starting around 2008, several interviewees (who were generally in favour of a ban) have raised the suspicion that he set up the task force to quickly and with a semblance of consensus impose a raw export ban to rescue processors, rather than the sector at large.[140]

Up to this point, the Kenyan cashew ban story strongly resembles the Ghanaian previously discussed. Processors struggled to source enough supply against foreign competitors and started lobbying for a ban. Government officials were generally supportive of the idea and held meetings across the growing area to float it. Exporters reacted with strongly negative feedback and farmers were sceptical. And eventually, a raw nut export ban was surprisingly rapidly introduced, unaccompanied by any measures that could have eased its impact on farmers.

Despite the similarities between the Kenyan and Ghanaian cashew cases, there is a fundamental difference: the ban in Kenya is still in place. Whereas it took farmers and traders less than a week to put so much pressure on the government that it withdrew it, ten years after its introduction the ban in Kenya stands. What explains this significant divergence?

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[139] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017.

[140] Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017; Senior Cashew Cultivation Expert, Kilifi County, 18.10.2017; CEO of Big Five Nut Processor, Nairobi, 07.11.2017.

6.2.3. The Politics of the Kenyan Cashew Ban Maintenance

The Ghanaian cashew case findings support the mechanisms and hypotheses related to this thesis. How does this compare to the Kenyan cashew case? Did traders ensure that producers were informed and organized against the ban? Did producers eventually protest the severity of it? And if so, was it, as the theoretical argument would imply, that the government did not take their opposition seriously since farmers lacked the numbers to pose a political threat? The following two sections will address these questions in detail.

6.2.3.1. Active Traders and Late Attribution

As in Ghana, agitated raw cashew traders in Kenya actively tried to inform farmers about the ban. At the forefront was Samuel Varghase, the chairman of the *Cashewnut Exporters and Processors Association* (the name of the organization is a bit deceptive: it does not represent any processors, but only exporters and leading brokers). Soon after Minister Ruto's official announcement of the ban in July 2009, in an interview at his office in Mombasa, Varghase complained to the *Daily Nation* that the ban would disillusion farmers and lead to massive price drops (Mwajefa 2009). In the same interview, Varghase also had a farmer from Lamu speak, who claimed that he had come to Mombasa to sell Ksh 200,000 (US$ 2,600) worth of raw cashew nut, but no exporter – including Varghase – was willing to buy it. This story is rather unlikely to be true, given that no cashew is produced in July (and such quantities are unlikely to be stored by farmers or bought by exporters at that time of the year). Moreover, in the same interview, Varghase claimed that a ban had been implemented some years prior that had allegedly caused production 'to drop from 10,000 tons to 4,000 tons in the region' and when exporter came back into the market prices increased by 40% and 'production shot to 12,000 tons'. While I could not find a single document or person in three months of fieldwork in Kenya that would corroborate this statement (and many experts that vehemently denied its truth), this interview makes clear that as in Ghana, raw cashew exporters in Kenya actively and rapidly tried to convey the message to farmers that a ban was a serious threat to their livelihoods. Furthermore, senior managers at Lake Kenyatta cooperative in Lamu confirmed that it was Varghase himself that first informed

them of the ban, indicating that traders actively tried to inform farmers through other means than the national media.[141]

Importantly, however, during the first months of the ban, the traders' information campaign failed to gain traction among producers. The key reason for this was its timing respective to the cashew season. In contrast to the imposition of the ban in Ghana, which happened right during the main season, the Kenyan cashew ban was introduced four months prior to the beginning of the season. As such, farmers were not able to experience the effect of the ban immediately and therefore were without a reason to notice or care about it, despite attempts by traders to inform them. Similarly, traders were not able to pull the rug out under the marketing of the nut, as was possible for traders in Ghana. And even after the first smaller season began, it took most farmers some time to even become receptive to traders' information campaigns. As indicated above, it was normal for exporters to enter the market towards the main season, hence around December/January. Accordingly, prices – paid primarily by processors – in the first smaller season were always a bit lower. As such when prices in the low season did not exceed Ksh 20 (US$ 0.26) per kg in October 2009 (with many brokers offering as low as Ksh 10 per kg[142]), this appeared very low to farmers, but not completely inexplicable.

According to *Daily Nation* reports at the time, when prices failed to cross the Ksh 20 per kg mark despite the advancement of the season, more farmers got increasingly wary. This was particularly true for farmers with direct connections to larger and thus more informed and informing traders. Initially, directors of the relatively well-organized Kikuyu Lake-Kenyatta cooperative, with direct marketing connections to Varghase and other exporters, started to smell trouble in mid-November 2009 and listen more closely to Varghase's warnings. Accordingly, in a *Daily Nation* interview, former Lake Kenyatta Cooperative chairman Julius Ndegwa is quoted as saying that producers were only getting Ksh 20 per kilo compared to Ksh 50 to 60 during the previous year, stating that Lamu farmers "want the ban to be lifted to encourage competition so farmers can earn better prices"

[141] Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012.

[142] Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012.

(Beja 2009). Nevertheless, at that point, most less organized and trader-connected farmers remained uninformed according to interviewees.[143]

When at the beginning of the main season in January prices were still not increasing significantly, most farmers started to feel that something was different and became more receptive to trader information. Spurred on by traders, farmers increasingly started to contact the responsible authorities in MoA and the Coast Provincial Directorate of Agriculture, as well as former members of the cashew ban Task Force, particularly chairman John Mumba about whether it was true that the government was to blame for the price drop.[144] As a result – and also because they themselves were shocked by severity of the price drop – the responsible officer in the MoA Horticulture Department, Patrick Onchieku, and the Coast Provincial Director of Agriculture, Phoebe Odhiambo, called in a meeting of the major actors in the value chain to put these issues to discussion. According to a Lake Kenyatta farmer leader, it was through this meeting and the explicit discussion of the ban and prices that many of his peers in other areas of the coast conclusively linked the severe price drop to an intervention of the government.[145]

Although most major cashew farmers had likely become aware by the end of that meeting of the imposition of a ban, a large part of cashew farmers likely had not. This is explained by two factors. First, most cashew farmers (if defined as having at least one tree) in Kenya were barely interested in the crop anymore at that point. In its 2008 'Tree Census', the IDMS (2009) surveyed that in in 2008 68,954 farms in Kenya owned at least one cashew tree. Importantly, however, only 5% (4,054 farmers) of these owned over 100 trees, which is the average number of trees Ghanaian smallholders own (ACi *et al.* 2015). In contrast, 75% of Kenyan "cashew farmers" own fewer than 20 trees (with almost 45% owning fewer than ten trees). Such a farmer, owning fewer than 20 trees prior to the ban in Kenya would have made a maximum profit of less than US$ 30 a year, assuming yields higher than

[143] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012.

[144] Former 2009 Cashew Task Force Member, Kilifi County, 18.10.2017; Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Former Senior Official of Coast Provincial Directorate for Agriculture, Nairobi, 06.11.2017.

[145] Senior Manager of Lake Kenyatta Cooperative Society, Per Telephone (Mpeketoni), 30.11.2012.

such farmers normally make.[146] Accordingly, even farmers that owned one hundred trees did not make a net profit of more than US$ 150 prior to the ban (in contrast, the average Ghanaian cashew farmer received more than six times that profit, US$ 950). The bottom line is that back then, the vast majority of so-called cashew farmers in Kenya could barely be considered as such. Therefore, most of them did not care much for price drops, nor were they organized in cooperatives anymore (only 9.8% of the 69,954 farmers were still members in farmer organizations according to the IDMS survey), whose leaders (possible present at the above-discussed meeting) could have informed them. In line with this, two of the smaller cashew producers I talked to in Kilifi eight years after the ban had still not realized that a ban was introduced.

Concluding, traders again played a crucial role in informing farmers about the ban, but it took many farmers longer than in Ghana to fully realize and care about it given its introduction in the off-season. Moreover, most farmers had such low stakes in cashew given low prices and yields that they simply did not care much what happened to the crop, thus also did not realize it happened. Overall, this case exemplifies well why it is usually not sufficient for traders to want to inform producers, but that it is often necessary for producers to realize that an issue is really occurring.

6.2.3.2. Limited Farmer Mobilization and the Lack of a Political Threat

The previous section established that the export ban in Kenya had indeed become perceptible to active cashew farmers with the help of traders. The next question is whether this realization by some farmers that the government had imposed an extremely damaging ban translated into their active mobilization? And if so, to what extent was this perceived as relevant or even threatening by politicians?

Collective action and protest against the ban did occur. In line with the fact that only a limited number of more serious and thus organized cashew farmers cared (to

[146] Assuming the maximum of 19 trees owned in that category, an optimistic 10kg/tree yield, as well the average price of US$ 0.35 per kg in the 2008/9 season (FAO 2018b), the total revenue from cashew would have stood at US$ 66. Given an estimated production cost of around US$ 2 per tree, we would have to subtract $US 38 to receive the net profit of US$ 28. While such farmers are unlikely to invest as much in in production, the consequence would also be yields closer to 5kg, and as such, on balance, this net profit appears a fair estimation for a farmer owning that few trees.

know) about the ban, the number of people mobilized was limited. Throughout the main season in the first quarter of 2010, it was primarily Lake Kenyatta Cooperative directors[147], particularly chairman David Gikaru, who complained in the media about persistently low prices, the lack of support (unsuccessfully pushing for the NCPB to resume its role), and the lack of information on the ban (Kihara 2010; Kihara and Bocha 2010).

The most significant moment of farmer and trader collective action occurred during the 2010 main season. According to one of the leading cashew brokers at the Coast, local brokers with the support of exporter association chairman Varghase organized three relatively small and short protests in March 2010.[148] Organizers describe the protests as having occurred for half an hour each with around 100 participants on average in the three area capitals Mpeketoni (Lamu), Kilfi Town, and Kwale.[149] Crucially, however, these protests appeared to have had little traction, particularly in convincing local or national politicians that this issue was important. The top-level Kenyan cashew agent[150] that organized the protest described his experience as follows:

> 'Us brokers we knew immediately that the ban had happened. Varghase organized us. And then in 2010, we protested a bit. It was in the media twice. We did it in all three counties. Around 100 people participated in each protest. To be honest, it wasn't very powerful. The notice to make the protest was relatively short. I was the one that mobilized most people, I was the central organizer of the protests. But I couldn't manage to bus many people there. Garsen [Tana River County] MP Mungatana supported us a bit, but

[147] Given their greater organizational capacity and quality of nuts, Lamu Cooperative farmers tended to get higher prices (easily above US$ 0.7, provided Asian buyers were in the market), and higher margins (as well as cashew usually being their key cash crop), hence, also had higher stakes. Accordingly, it is coherent that Lamu farmers were those that voiced their concerns and led farmer protests most actively among all Coastal cashew farmers. Why this might not, however, have been enough to constitute a significant threat to Kenyan politicians will be discussed in the next section.

[148] This was confirmed in interviews with participants, including a journalist covering the story, though these could not remember the exact date of the protests and the journalist's articles were not available anymore.

[149] Top-Level Cashew Agent, Per Telephone, 13.12.2017.

[150] Top-Level Cashew Agent, Per Telephone, 13.12.2017

> he was the only Coast politician. No other politician cared for us. Mungatana promised us to talk to Ruto, but nothing happened. We only protested once for one hour each. The media could take some photos and then it was done. Afterwards, nothing was done. The farmers were too weak. We really tried to contact many politicians, but nobody was really listening. Coming from the Minister, the directive was very powerful.'

The sentiment that Coastal and Nairobi-based politicians did not care about cashew farmers was strong throughout my interviews with actors in the sector. As a senior officer of the Nuts and Oil Crops Directorate[151] (the government body responsible since 2014 to regulate the cashew and macadamia sector) put it:

> 'Politicians at the Coast do not care for the cashew farmers. We made a meeting in 2014 with the MPs of the Coast to coordinate lobbying more funds for the Coast. Not one single MP showed up. They are not for the welfare of the Coastal people, but only their own familiar welfare. Compare it to coffee [one of the largest, most employment-intensive sectors in the country, historically known to be a relevant political constituency]. The coffee farmers are given loans. And if they defer, it doesn't matter, because the politicians will write-off their loans. The MPs of Central Region know how to lobby the different state institutions to support their farmers.

And indeed, in nine years since the introduction of the ban, only two politicians have publicly opposed the ban in the national media. In both cases, these were politicians from Lamu (MP Julius Ndegwa and Women Representative Shakilla Abdalla); and in both cases these statements were made shortly before the 2017 elections (Praxides 2017; Praxides 2017).

Given previous discussions, it should not come as a big surprise that politicians seeking to stay in office are not particularly phased by the concerns of cashew farmers. As described above, significantly less than 10,000 farmers on the coast can be considered seriously interested in the crop. This is not only a minimal number of potential voters in national terms (with over 22 million Kenyans in 2009 having

[151] Senior Officer at the NOCD, Per Telephone, 01.12.2017.

been older than 18 years [World Bank 2018]), but even just concentrating on the Coast, with 1.86 million potential voters in Kilifi, Kwale, and Lamu (Kenya National Bureau of Statistics 2018). Simply eye-balling these numbers already provides a tangible feeling that, in contrast to Ghanaian cashew farmers, serious cashew growers in Kenya could not bring sufficient numbers to the elections or be of any other significant threat. Thus, it is understandable that policy-makers saw no political danger in introducing the ban and no need to withdraw it.

6.2.4. Conclusion of the Kenyan Cashew Case

The Kenyan cashew case strongly resembles the Ghanaian in many aspects. Traders actively sought to inform producers about the ban. Producers only really became receptive to this when the price distortion became clearly noticeable. Once it did, traders helped to organize peasant and trader protest. Critically, however, this protest did not have the same effect in Kenya as it did in Ghana. Overall, it is highly likely that given the minimal share of the population gaining a significant part of its income from cashew, policy-makers perceived no significant political threat from imposing and maintaining the ban. Given that the share of active producers is not increasing in Kenya – in fact, it is decreasing each year – it is unlikely that this will change.

It needs to be noted that the Kenyan cashew case is a special one in the broader context of this thesis. As emphasized in Chapter 2.4 and Chapter 4, when production volumes are low, governments have little incentive to ban the export of a commodity, as the economies of scale for feasible processing or processors who would lobby for a ban are unlikely to exist. Yet, despite having very low production volumes at the time of the ban,[152] the government implemented a ban nevertheless. The reason is that the Kenyan cashew sector is a rare case in the sense that production numbers used to be high, allowing a significant processing industry to emerge, which (even or especially when production numbers were lower) needed protection. This uncommon combination of a processing industry needing protection and few producers explains why Kenya has been the only cashew

[152] Around 10,000 tons. Compare Appendix 6.2 for an illustration of RCN production estimates from 1990 to 2017.

producing country in Africa which was both interested in *and* able to implement a cashew export ban thus far.

The Kenyan cashew case is also interesting regarding its history with a state monopsonist marketing structure. The evidence appears to indicate that the cashew marketing board and parastatal significantly paid producers under market value. Producers, however, were largely unaware of this price distortion, I argue mostly because the actors (e.g. traders) that could have informed them were absent. This provides an initial window of analysis into the secondary thesis argument that this opacity of marketing boards' price distortive mechanism was what allowed African governments to massively distort producer prices during the three decades following independence.

Lastly, it is worth noting that Kenyan cashew farmers do not seem to realize how severe the long-term price effect of the ban has been. Whereas most farmers had realized and noticed the effect of the ban during the first months of its implementation, during my visit in late 2017 none of the farmers I had interviewed (not even the more organized ones) were aware that cashew farm gate prices across the border in Tanzania have grown to be nearly three times higher (US$ 1.4 versus US$ 0.5 at the time of study). This demonstrates how poor farmers' knowledge of world market prices can be – even in times where this knowledge is literally one Google search away. This not only helps to further clarify why the ban's price *shock* itself is a critical factor in explaining when producers become aware of a ban and its relative price effect, but it also further supports the assumption that farmers were very unlikely to be aware of world market prices in times of marketing boards.

6.3. Mixed but Mostly Mild Macadamias: The Introduction and Defence of the Kenyan Export Ban on In-Shell Macadamia Nuts

As in cashew, Europeans played a central role in the early history of Macadamia in Kenya. The first macadamia trees cultivated in Kenya were introduced from Australia in 1944 by European settler Bob Harries at his 500,000-acre Karamaini estate near Thika town, around one-hour drive northeast of Nairobi (Gitonga *et al.* 2009: 49–50). At the time, the nuts produced on the farm had no commercial value and served only ornamental and household consumption purposes (Sato and Waithaka 1998: 1–2). In 1964, Harries founded Bob Harries Ltd. and decided to invest in the wide-spread expansion of the crop. First, further seeds of the two key macadamia types *M. Integrifolia* and *M. Tetraphylla* (as well as hybrids thereof) were introduced from Australia, Hawaii and California, and in 1968 Harries grafted his own first seedlings (Gitonga *et al.* 2009: 49–50). Building large seedling nurseries, he started to propagate and supply macadamia seedlings as a complimentary cash crop to non-African estates and particularly African smallholder farmers mostly in the Central Kenyan coffee-growing zone, particularly Embu, Meru, Kirinyaga and Thika districts (Muthoka *et al.* 2008; Sato and Waithaka 1998: 1–2). By 1974, Harries had already supplied 800,000 (mostly ungrafted) seedlings to farmers in central and eastern provinces (Gitonga *et al.* 2009: 49–50), leading to a steady rise of production.

Struggling to do so himself on a larger scale, Harries initiated a campaign in 1969 to convince the Kenyan Government to commercialize macadamia nut growing and establish processing and marketing (Sato and Waithaka 1998: 1–2). Motivated by this and supported by a positive FAO feasibility study, in 1974 the government (and particularly macadamia researcher Dr Waithaka) facilitated a joint venture[153] of Japanese investors (primarily Yoshiyuki Sato) and Kenyan Pius Ngugi in setting up the Kenya Nuts Company (KNC) in Thika. Whereas Sato had founded and run a

[153] The exact distribution of shares between Ngugi, Sato, and other investors at the time are unknown. As of 2017, according to an interviewed senior executive at KNC Ngugi owns over 90% of the shares, with Sato retired from working as MD since 2007 likely still owning around 5%.

textile factory in Nairobi in the 1960s, Ngugi was a large-scale macadamia and coffee farmer from Thika who was in search of a market for his nuts.

In the decades to come, as Kenya Cashew Limited (KCL), KNC would prove to be the dominant actor in the sector. The company built a modern processing plant (directed by Sato), established its own macadamia plantations (directed by Ngugi), starting with about 400ha, and set up a nursery for the propagation of adapted and grafted cultivars to supply out-growers (Vandenabeele 5: Sec1:22). By 1975, the company commenced to purchase, process and market the nuts from farmers (Sato and Waithaka 1998: 2). Like the NCPB in cashew, KNC had the monopoly purchase right for in-shell nuts and, apart from its own plantation, sourced 90% of its supply farmers, through 140 small-holder coffee cooperative societies as well as 47 additional buying centres (Sato and Waithaka 1998: 2). In contrast to KCL, however, interviewees at the Ministry of Agriculture describe that KNC did not require support from the government to finance the marketing system, largely explained by Ngugi's own significant wealth.[154] Once farmers had delivered their produce at the cooperative collection centre, they would get a receipt with a pre-agreed price per kg. KNC would then collect the nuts when enough quantity had been accumulated and after some days transfer the payments to the cooperative banks, which farmers could collect by producing their receipts. For the service, the cooperatives would receive a 10% commission (Sato and Waithaka 1998: 3). Figure 6.12 below provides a simplified illustration of the macadamia value chain prior to liberalization.

[154] Despite being one of the wealthiest people in Kenya, very little about the origin of his initial wealth is known. What we do know is that his ability to invest in KNC came from the large tracts of land he owned around Thika (probably the most expensive rural land in East Africa). What we do not know, however, is the origin of this landownership. Some interviewees speculate that Ngugi was close to the presidential (Kenyatta) family and as other co-ethnic leaders from the region got transferred large pieces of land. Historically this speculation is plausible and strengthened by the fact that even today Ngugi has close contacts to Uhuru Kenyatta, current president and son of first post-independence president Jomo Kenyatta.

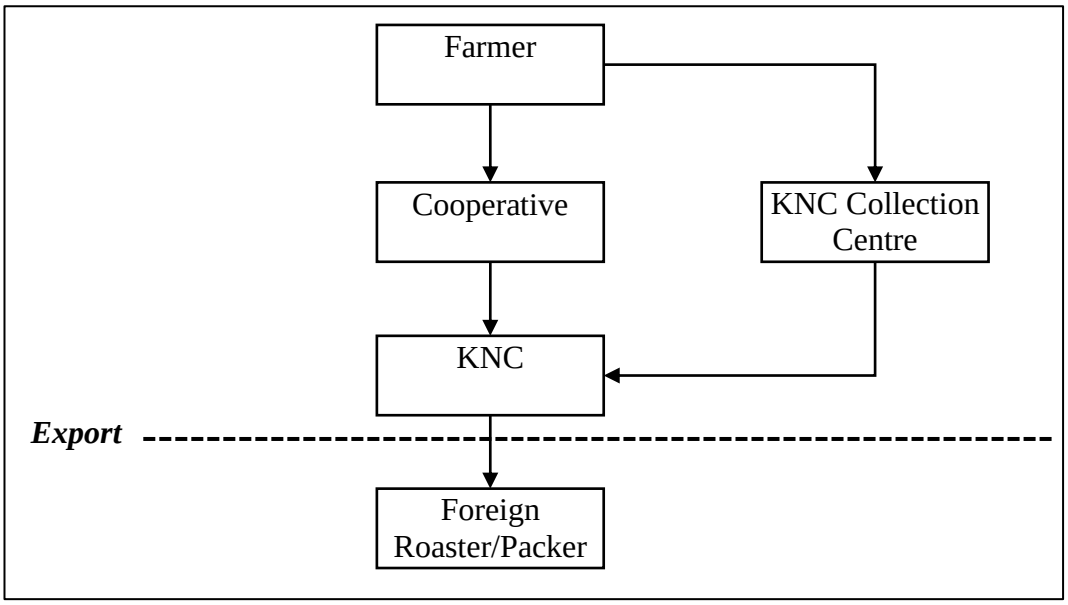

Figure 6.12. Macadamia Value Chain in Kenya Prior to Liberalization
Source: Own Illustration.

In the previous section, I have argued that the marketing board-based system in Kenyan cashew prior to liberalization covered the economic functions of an export ban. It protected the sole processor, KCL, from outside competition for raw nuts and further depressed prices – without farmers realizing. The Kenyan macadamia sector corresponded to this in large parts, but also differed in significant respects. First, and in stark contrast to the global cashew industry, prior to the entry of Chinese in-shell macadamia consumers in the early 2000s, macadamia processors anywhere in the world did not have to fear outside competition. Given global patterns of macadamia processing, production, and consumption in the 20th century, processing had always occurred at origin, in-shell macadamia was factually inexistent, as was the risk for foreign processors to seek domestic in-shell production. [155] Thus, in a narrow sense, KNC's monopoly purchase right did not

[155] There are three main reasons for this. First, commercial farming of macadamia nut and its processing emerged jointly in industrially advanced countries (primarily the USA and Australia). Therefore, large gaps in industrial capacity as seen in the cashew industry were uncommon, and thus the ability of processors in one country to outcompete processors in another for local production highly unlikely. This was further strengthened by the fact that large-scale plantations have dominated the cultivation of macadamia across all major macadamia producers (apart from Kenya). These plantations – or cooperatives thereof – usually create(d) their own processing facilities. Thus, farmers have a share and say in processing, increasing their stakes and trust in domestic processing,

have the exact same function as an export ban as there was no need for protection from foreign processors in the first place. In a broader sense, however, it did perform a comparable function. Rather than from foreign processors the aim of the monopoly purchase right was to protect KNC from potential local processing competitors. As such, KNC received the exact same benefits as the KLC: secured supply at prices it could determine, without farmers being able to know whether and how much they receive under free-market value. And again, although we do not have exact statistics from this time, the likelihood is that KNC too significantly depressed prices paid to farmers. There are two indications of this. First, compared to macadamia farm gate prices in the world, farm gate prices in Kenya were at an extremely low level prior to liberalization in 1992. Whereas farmers in Hawaii and Australia in the late 1980s received around US$ 2 per kg (McGregor 1996: 143; USDA 2015: 3), interviewed farmers and traders indicate that farmers received only one-tenth of this (US$ 0.2) during the same time.[156] Second, following liberalization and the entrance of a new processing competitor (Farm Nut) in 1994, prices tripled from Ksh 5 per kg in 1993 to Ksh 15 in 1994, and Ksh 23 by 1995.[157]

motivating them to sell locally, hence, securing and simplifying domestic sourcing for factories, and making attempts to 'poach' foreign producers futile. Third, the key processing and consuming countries at the time (the United States, Australia, Japan, and Europe) had no interest in importing in-shell. Specifically, these importers perceived the cost of importing in-shell as relatively high, whereas the benefits of processing at home relatively low. Importing in-shell has two major disadvantages. First, transportation costs are three to four times higher, given the weight difference between in-shell and kernel nuts. Second, keeping nuts in-shell makes it more difficult to access their quality and maturity. Consequently, the import of in-shell nuts strongly increases the likelihood of low-quality nuts affected by mould, something importers wanted to avoid as much as possible. On the other hand, the benefits of importing raw nuts was seen as minimal. First, in contrast to China, there was never a mass market for self-cracking the nuts in these countries. Second, the profit margins in the global value chain laid primarily in further processing (i.e. roasting, coating, etc.), packing, and retailing the nuts, all of which happened in the countries of consumption. In contrast, these advanced industrial economies did not have a comparative advantage in performing the relatively labour-intensive, tedious, and low-margin processing step of sorting the cracked macadamia. Indeed, the Japanese government rather supported the construction and functioning of the Kenya Nut Company than setting up their own factories in Japan (after they had also been the leading force in developing macadamia cultivation in Kenya). This is in stark contrast to cashew, where India did have a comparative advantage and interest in growing labour-intensive industries, and hence in importing in-shell nuts. Concluding, even if Kenyan macadamia small-holders would have wanted to export raw nuts, they would not have found the demand. And indeed, after marketing was liberalized in 1992 Kenya continued to exclusively export macadamia kernels – until 2004, when Chinese brokers entered the market.

[156] Top-level Macadamia Agent, Embu Town, 16.11.2017; Small-Scale Macadamia Farmer, Kiambu County, 13.11.2017.

[157] Senior Executive of MGAK, Kiambu County, 13.11.2017; Top-level Macadamia Agent, Embu Town, 16.11.2017.

As in cashew, interviewed farmers indicate they did not realize that KNC was likely depressing their prices, thus none of them thought to protest this.[158] Depressed prices, however, did likely have negative consequences for KNC: despite the distribution of over one million seedlings as well as strong financial and especially technical aid from the Japanese government[159], expansion of macadamia production remained slow. By 1992, only 2,000 macadamia farmers were estimated to produce roughly 2,000 tons of in-shell macadamia on an area of 2,300 hectares (Nuts & Oil Crop Directorate 2016; U.S. International Trade Commission 1992). In comparison, Australia in the same year had managed to grow its production to over 12,000 tons from a similar base in 1970. Consequently, the KNC's US$ 10 million state-of-the-art processing factory with a capacity of processing 10,000 tons mostly operated at below 25% capacity (Sato and Waithaka 1998: 2). Moreover, sound kernel recovery rates (SKRs) ranged from a very low 12% to 17% in 1992, with Australian and South African nuts reaching over 30% (U.S. International Trade Commission 1992: 4-1). Thus, one can speculate that the KNC likely made significant per-unit profit margins given depressed prices paid to farmers, but had they paid higher prices, more farmers would have arguably produced more and better nuts, perhaps leading to higher overall profits.

[158] Small-Scale Macadamia Farmer, Kiambu County, 13.11.2017; Medium-Scale Macadamia Farmer, Embu County, 16.11.2017; Senior Executive of MGAK, Kiambu County, 13.11.2017.

[159] For over twenty years, support by the Japanese government had been crucial in promoting the sector. In 1977, the Kenyan government on KNC's behalf requested the Japanese government for financial support and technical assistance to further develop the industry (Gitonga *et al.* 2009: 50). The request was accepted, and the Japanese International Cooperation Agency (JICA) first built the National Horticultural Research Centre (the centre was led by Mr Waithaka and part of the Kenyan Agricultural Research Institute) and sent Japanese agronomists for further capacity building. Specifically, the agronomists at the centre developed and identified particularly promising new grafted seedling varieties. KNC multiplied these in their nurseries and by the time the Japanese had left in 1997, had distributed over 1.5 million of them at subsidized prices (Sato and Waithaka 1998: 2). Moreover, the centre played the leading role in researching and developing crop protection as well as training farmers, KNC employees and field extension officers. The close relationship between Kenyans and Japanese in production was also shared in consumption: Japan was by far the largest consumer of Kenyan nuts, an KNC Japan's largest supply, accounting for around 44% of the Japanese macadamia market in 1989 (U.S. International Trade Commission 1992: 10). The United States and Germany accounted for much of the remainder of Kenya's exports (U.S. International Trade Commission 1992: 4-1).

6.3.1. Post-Liberalization and Pre-Chinese Entry (1992-2004)

Like cashew, the marketing of macadamia nuts was fully liberalized in 1992. The effects, however, were different to certain extents. First, given that KNC was already a private enterprise, it did not need to be privatized, and the internal decay witnessed with KCL avoided. Second, given that there was no international trade in in-shell nuts during the time, KNC did not face competition from external raw exporters. Nevertheless, liberalization unleashed domestic competition for KNC which would lead to changes in marketing paralleling those in cashew.

In 1994, Peter Munga opened the macadamia processing factory "Farm Nut Co." in Maragua, Muranga district (also in Central Kenya). Munga was a highly successful career bureaucrat (who had occupied a range of top-level positions in the Ministries of Agriculture, Tourism, and Water, as well as the Office of the President) and an even more successful entrepreneur, in 1984 founding the Equity Building Society (EBS) and later Equity Bank (Africa's largest bank in terms of the number of customers), hereby becoming one of the top ten richest persons in Kenya. First buying coffee from farmers, Munga realized that they were also selling macadamia at low prices and decided to venture into marketing and processing the nuts.[160]

Since Farm Nut neither had the logistical infrastructure nor the relationship with cooperatives that KNC had, it had to rely on brokers in large parts. Prior to liberalization, brokers had a very marginal but useful position. In the rare cases where farmers were not within cooperatives or too distant, middlemen could reach them and sell the product at KNC collection centres. However, with Farm Nut's entry into the market and their necessity for middlemen that would source for them, they grew from marginal to dominant. Eventually, as in cashew, brokers would outcompete and hereby lead to the death of cooperatives[161]. Essentially, brokers

[160] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; CEO of Big Five Nut Processor, Nairobi, 07.11.2017.

[161] There is a general question whether this is a case of brokers free-riding or poaching off the investment and services provided by the cooperatives and the related network, that is, a kind of *concurrence déloyale* or asset mining that undermines the sector in the long run. There is likely some truth to this and exactly what KNC accused Farm Nut for years. Specifically, they argued that they had provided seedlings and support to farmers for years. There is some doubt that this claim is fair, however. Most of the support given to farmers prior to liberalization was financed by and

would circumvent the societies, go directly to the farmer, offer him/her a shilling or two more than the cooperative did, while at the same time paying directly in cash and transporting the nuts, hereby, massively reducing farmers' transaction costs of bringing nuts to collection centres and collecting their payments from banks.[162] Over time, with more cooperative members selling to farmers and less volume handled by the cooperatives, their transaction costs increased while at the same time foregoing the commissions that financed their operations. Similarly, with processors having less to buy from cooperatives, sending their own vehicles there for collection became less profitable as well. In contrast, middlemen would deliver the crop straight to the factory gate, also from areas KNC had barely reached before, and at better conditions. By the early 2000s, the last cooperative had become redundant. Middlemen had become the kings of macadamia marketing in large parts of the country, particularly those more distant from the processors (i.e. Embu and Meru).[163] Figure 6.13 provides a simplified illustration of what the macadamia value chain looked like at the time.

The harsh competition between Ngugi's KNC and Munga's Farm Nut Co. had two key implications. As described before, farm gate prices increased significantly. Moreover, hoping to utilize its excess capacity from not being able to source sufficient cashews, KCL entered macadamia processing shortly before its collapse in 1997, leading farm gate prices to pass the Ksh 30 (US$ 0.5) mark (U.S. International Trade Commission 1998: 105). Second, driven by this rapid price increase in macadamia (and the parallel decline of coffee prices), farmers in Central Kenya became more interested in the crop. Consequently, as illustrated in Figure 6.14 below, production multiplied five-fold within six years only, crossing the 10,000 tons threshold in 1998.

partially implemented by the Japanese government. In general, any work the cooperatives, the state, or KNC did was usually paid for by the Japanese or cooperative members themselves through receiving below world-market prices. In that sense, this might not be a real case of asset mining.

[162] Top-level Macadamia Agent, Embu Town, 16.11.2017.

[163] Top-level Macadamia Agent, Embu Town, 16.11.2017.

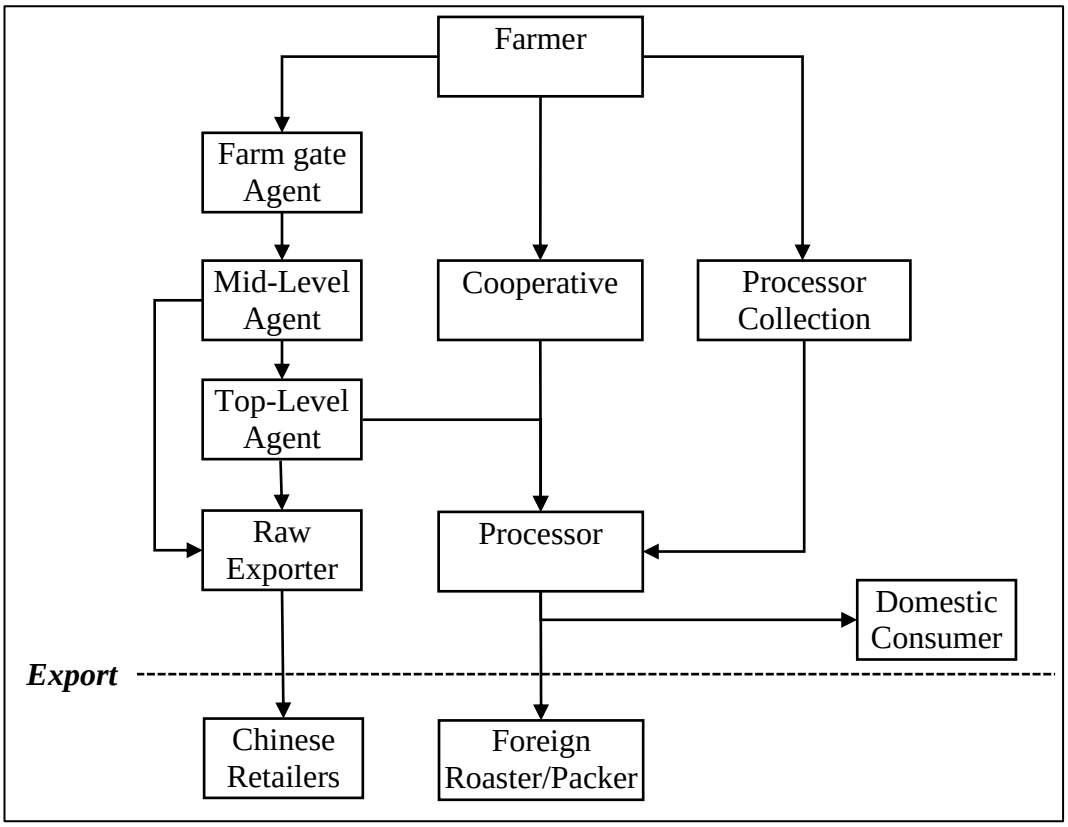

Figure 6.13. The Macadamia Production Chain After Liberalization
Source: Own illustration.

Throughout the decade following liberalization, KNC not only challenged Farm Nuts entry in the market but also legally. Arguing that it had invested more than anyone to promote the production of macadamia in the country and that Farm Nut was not involved in any crop development activities of its own (Sato and Waithaka 1998: 1–2), KNC attempted to stall Farm Nut by dragging it to the courts. When this did indeed inhibit the operations of Farm Nut, owner Munga decided to rename, or rather "re-found", the company under the name Equatorial Nut Processors Ltd, under which it could operate freely.[164] Showing that the power of KNC could be broken, Wondernut and former KNC employee Patrick Wainaina (Jungle Nuts Ltd.) entered the market in 2004 and 2005 respectively, further increasing competition.

[164] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017.

Crucially, however, Kenyan macadamia was still only processed in Kenya, and no need for an export ban had materialized.

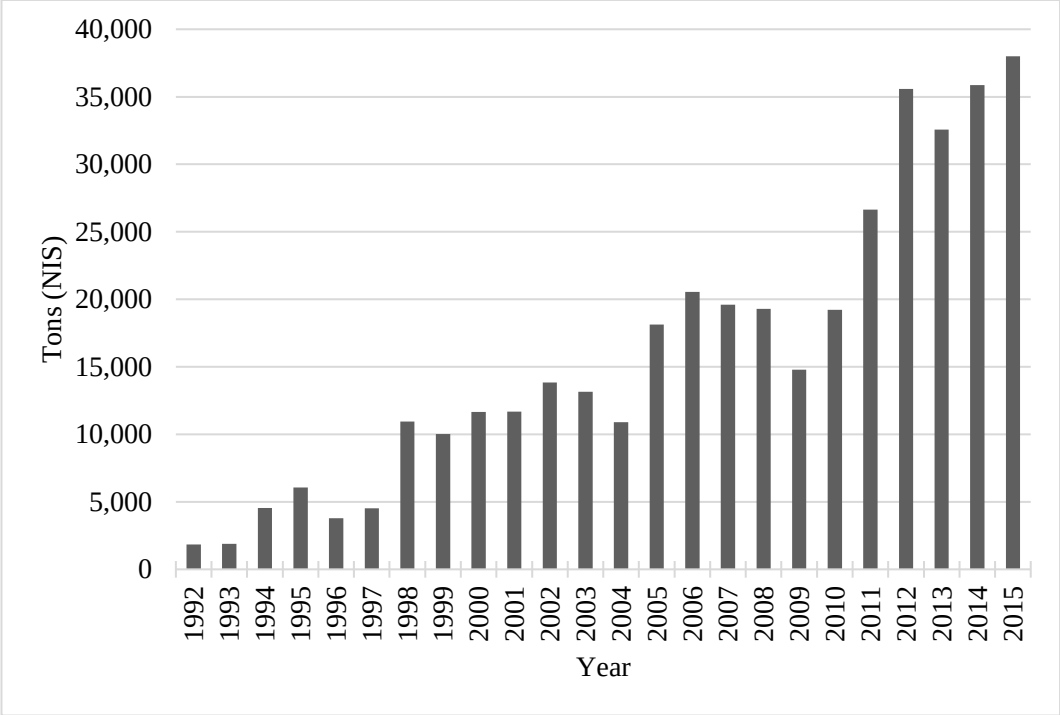

Figure 6.14. Kenyan NIS Macadamia Production 1992-2015
Source: Own Illustration. Production data for Kenya was derived from the Nuts & Oil Crop Directorate (2016).

6.3.2. The 2004 Entry of Chinese In-Shell Exporters

Arguably the largest development in the global and Kenyan macadamia industry has been the entrance of China as a mass consumer of the nut in the early 2000s. The emergence of a growing middle-class in China with an appetite for in-shell nuts[165] (as well as container ships increasingly docking in Mombasa, demanding to

[165] Though culturally a nut-eating country, at first, only the wealthier Hong Kong could afford broader consumption of the expensive nuts. In the later 1990s, the island consumed around 7% of the world production , in fifth position after the United States, Japan, Australia, and the European Union, in that order (U.S. International Trade Commission 1998: 26). However, with the rapid emergence of an upper middle-class in the early 2000s, the demand for macadamia on the mainland surged as well. Importantly, in contrast to most "Western" and Japanese consumers, Chinese prefer buying macadamia nuts in shell (crackable by inserting and twisting a metal key in a pre-sawn slit

be filled for the way back), created a serious competitor for Kenyan processors. The first Chinese in-shell exporter, Mr Yang, started contacting and hiring brokers in 2004 in Embu town.[166] Much to the displeasure of processors and pleasure of farmers, his brokers would roam around the county in vans, using loudspeakers to offer prices above Ksh 40 (US$ 0.48) – twice what processors had offered in the two seasons before (compare Figure 6.18 below). Prior to his cousin's, Mr. Zhang Pei's, arrival around the time of the ban, Mr Yang was apparently the key – if not only – Chinese macadamia in-shell exporter in Kenya.[167]

One crucial factor to understanding the politics of the export ban in macadamia, is understanding Chinese regional marketing preferences in Kenya. As indicated above, Mr Yang first entered the market in Embu county (and later Meru), rather than the processing hubs of Thika and Muranga. And until this day, Chinese in-shell buyers prefer to work in the counties east and north of Mt. Kenya, rather than those in its South and West (hence, primarily the counties of Kiambu, Muranga, Kirinyaga, and Nyeri). There are three main reasons for this. First, the size of the crop. As illustrated in Figure 6.16 below, almost 40% of production concentrated in the two northeastern counties of Embu and Meru. This is argued by some to be the result of larger plots available in the area for macadamia planting.[168] Secondly, the quality of Embu and Meru nuts are considered particularly good (with most trees belonging to more easily hand-crackable M. Integrifolia varieties) and nuts are relatively large, hence more desirable to Chinese consumers. Third and perhaps most importantly, it is significantly easier for Chinese exporters to enter the northeastern market given strong differences compared to the southwestern macadamia region. The key macadamia processors in Kenya are from the Kikuyu ethnicity and their firms mostly located in the Southern-Central Kiambu (Thika) and Muranga counties. Given social and geographical proximity, processors set-up more collection centres in these and adjacent (southwestern) counties, maintained

in the shell) rather than the kernel. Accordingly, almost 60% of macadamia imports in 2010 were in-shell (USAID 2012).

[166] Senior Official of NUTAK, Kiambu County, 13.11.2017.

[167] Other brokers in Embu have argued that Yang and Zhang arrived at the same time, initially worked together, but in 2005 split business. Top-level Broker, Embu Town, 16.11.2017.

[168] Senior Executive at Kenya Nut Company, Per Telephone, 29.11.2017.

close connections to farming communities, and employed significant parts of the population. In contrast, Embu and Meru were the core producing countries most distant from the processors in Thika and Muranga, both geographically and ethnically. No processing plants existed in these areas that could employ people, collection centres were relatively rare, as was contact to field or other direct agents of the processors. In fact, macadamia marketing in no other area was and remains dominated as strongly by brokers as is the case in Embu and Meru. While large volumes and decent quality made the northeastern Mt. Kenya region attractive to the Chinese exporters, it was the weak grip by processors in the area and the ability to rely on brokers – that do not care whether the crop is exported shelled or in-shell, if the pay is good – that allowed them to work there smoothly.[169]

The strong entrance of Chinese exporter Yang had two major consequences for the Kenyan macadamia sector. Fist, farm gate prices increased further and in step production (as illustrated in Figure 6.17 below). However, as illustrated in Figure 6.18 below, prices were significantly higher in the eastern region, that is, where the Chinese exporters operated predominantly. Secondly, as in cashew, processors increasingly struggled to source enough macadamia considering increased competition with Chinese exporters and among themselves. Estimates by the USDA Foreign Agricultural Service indicate that nearly 60% of macadamia had been exported in-shell in 2008, implying that exporters had been able to purchase most of the northeastern crop and were spreading towards the South-West (Onsongo 2009a). In addition, the first half of 2009 had seen a significant drought in Kenya, signifying a smaller crop to be fought over. According to managers in two of the largest processing companies at the time, most processors were on the edge of closing their business, and, like KNC, kept alive mainly through the production of

[169] Officer at Nuts and Oil Crops Directorate, Nairobi, 02.11.2017; Senior Executive at Kenya Nut Company, Per Telephone, 29.11.2017; CEO of Second-Tier Nut Processor, Nairobi, 19.12.2018; Senior Executive of MGAK, Muranga Town, 13.11.2017; Senior Executive of MGAK, Per Telephone, 11.12.2017; Senior Official of NUTAK, Kiambu County, 13.11.2017; Top-level Macadamia Agent, Embu Town, 16.11.2017; Head of Operations of Major Processor, Embu Town, 15.11.2017

their own orchards.[170] It is in this context that from 2008 on, parallel to cashew, the discussion of an export ban on raw nuts became salient.

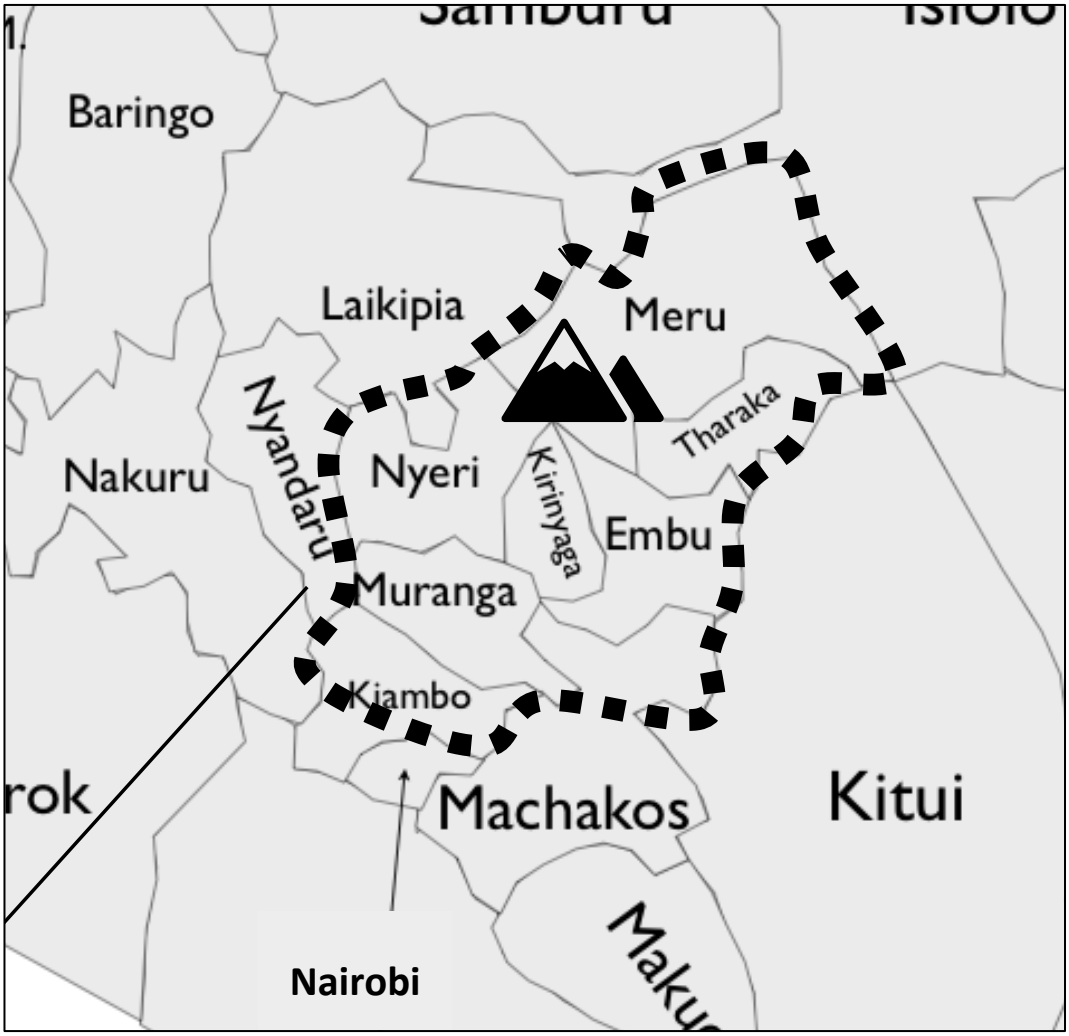

Figure 6.15. The Main Macadamia Growing Region Around Mt Kenya
Source: Own illustration based on map from Lewis (2016).

[170] Senior Executive at Kenya Nut Company, Per Telephone, 29.11.2017; Head of Operations of Major Processor, Embu Town, 15.11.2017.

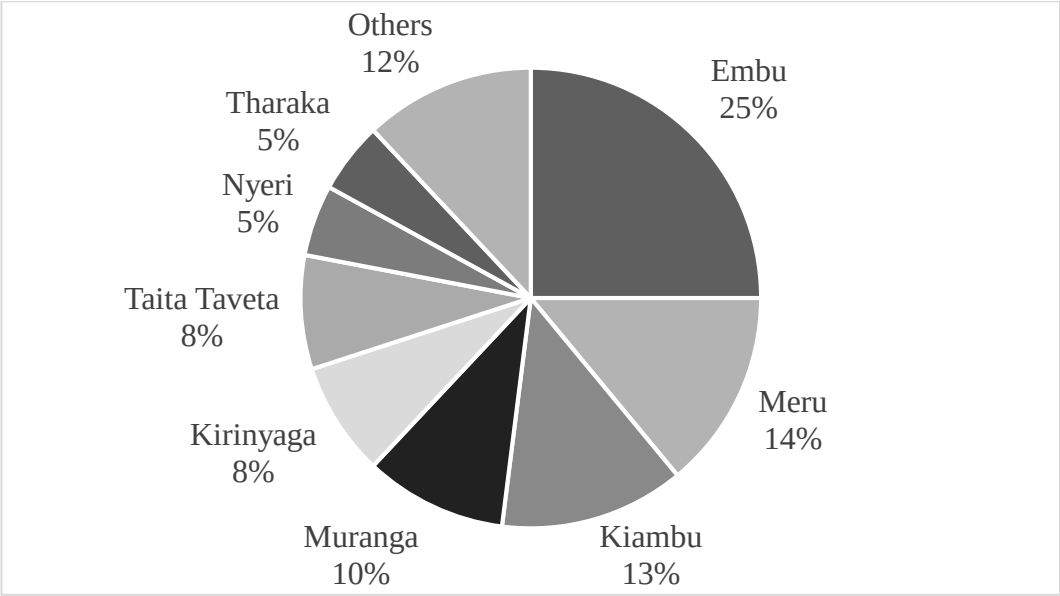

Figure 6.16. The Area Under Macadamia by County in Kenya in 2014

Source: Own Illustration based on data from Agriculture, Fisheries & Food Authority (Kenya) (2014: 18)

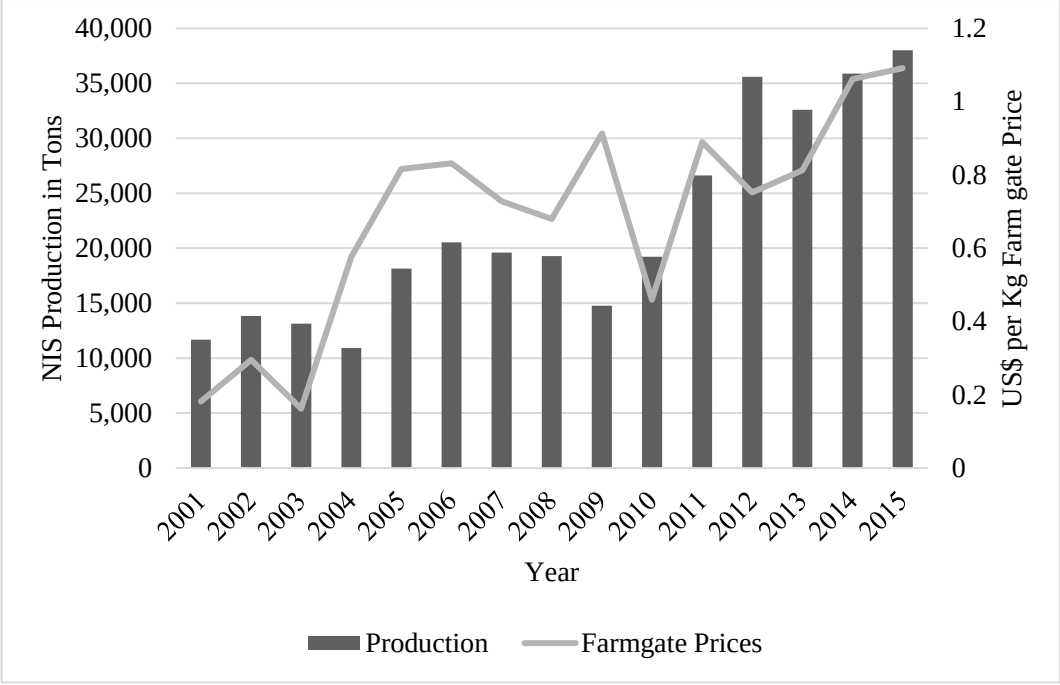

Figure 6.17. Total Production and Farmgate Prices in Kenya 2001-2015

Source: Own Illustration. Production data for Kenya was derived from the Nuts & Oil Crop Directorate (2016). Farmgate price data on Kenya was derived from a collection of data from interviews, government documents, as well as donor and media reports (see Appendix 6.3). Where annual averages were not available, data from early April (the peak of the main season and usually close to the annual average price) was preferred.

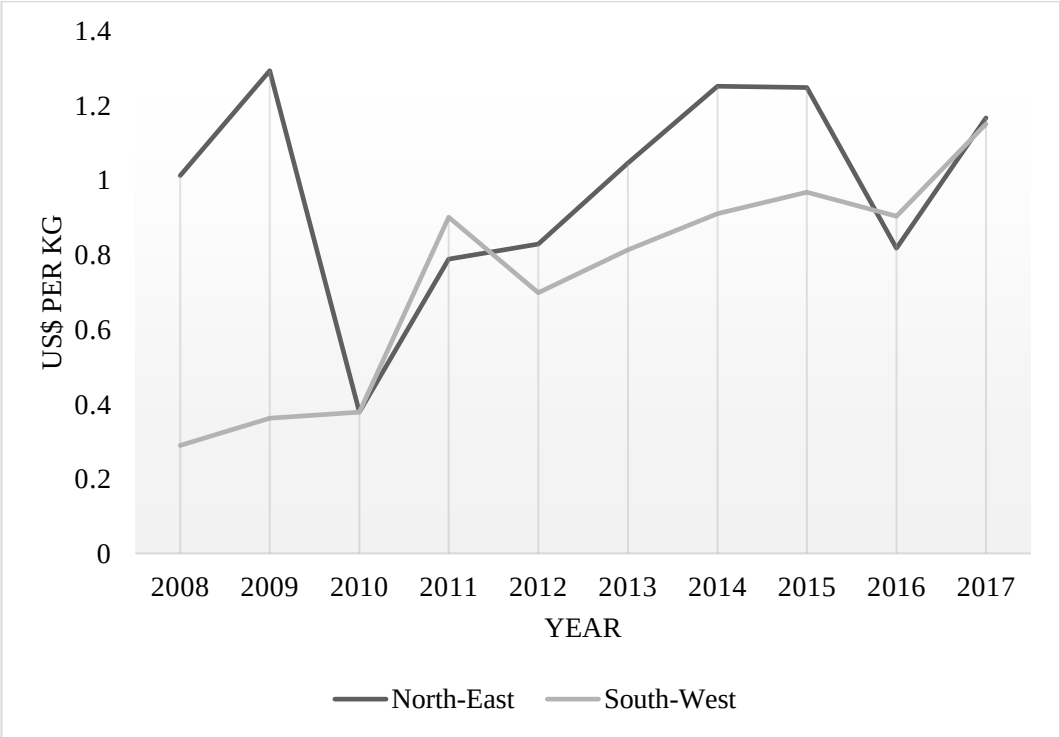

Figure 6.18. US$/Kg Farmgate Prices for Northeastern & Southwestern Mt. Kenya

Source: Own Illustration. Farmgate data on the two regions was derived from a collection of data from interviews, government documents, as well as donor and media reports (see Appendix 6.3). Where annual averages were not available, data from early April (the peak of the main season and usually close to the annual average price) was preferred.

6.3.3. Introduction of the 2009 Export Ban

On the verge of collapse, processors started to actively and aggressively lobby the government for support. An interviewee within the Ministry of Agriculture reports how Munga himself would show up weekly to demand support.[171] An inherent weakness of processors at the time, however, was their internal fragmentation. Until this day, particularly Ngugi and Munga share a deep animosity, going back to the disruption of KNC's marketing system, Munga's massive purging of KNC staff (EQN's long-term managing director and now owner of three own macadamia processing companies, Johnston Muhara, had been a senior technical engineer for

[171] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; CEO of Big Five Nut Processor, Nairobi, 07.11.2017

KNC before joining EQN), as well as the competition for sought-after contracts, especially with Kenyan and British Airways. Given the heightened severity of the threat affecting both macadamia and cashew processing, processors agreed to look past their differences in favour of jointly lobbying the government for a ban.

As described in the previous section on cashew, Agricultural Minister Ruto directed the ban on the export of both raw cashew and macadamia nuts on 16 June 2009. It is difficult to say whether interests regarding one commodity were more important in lobbying for the ban than the other. Although there was a group within in the Horticultural Crops Development Authority that investigated the effects of the ban and consulted with actors in the macadamia value chain,[172] in contrast to cashew, there was no clear task force or report nor was the idea of a ban ever discussed or justified in the media in relation to macadamia. The formality and transparency of the cashew ban process might imply that this commodity was more important in the overall introduction of the ban. At the same time, however, two aspects attribute more importance to macadamia. First, although Ngugi's KNC and Munga's EQN also processed some cashew, their main-stay was always macadamia. Accordingly, there is little doubt that for them protecting macadamia was crucial and protecting cashew a positive side-effect, something managers from both companies confirmed in interviews.[173] Clearly, for Bobby Thomas, the owner of Wondernut and largest cashew processor at the time, the reverse was true. However – despite (unproven) claims of a close personal connection to Minister Ruto himself – some interviewees judged that Thomas does not have the political clout the two Kikuyu millionaires and alleged close friends of the presidential Kenyatta and Kibaki families hold.[174]

Secondly, it appears that processors were already pushed out in macadamia two months before the official directive of the ban and even before a task force had been created in cashew. As a top-level Embu broker[175] describes, Chinese buyers had

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[172] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Senior Official of NUTAK, Kiambu County, 13.11.2017.

[173] CEO of Big Five Nut Processor, Nairobi, 07.11.2017

[174] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017; Top-level Macadamia Agent, Embu Town, 16.11.2017.

[175] Top-level Macadamia Agent, Embu Town, 16.11.2017.

already entered the market in January 2009[176] offering around Ksh 80 (US$ 1.04) per kg. In March 2009, processors were opening their marketing also with a starting price of around Ksh 80 per kg. Chinese buyers, by the time, had however already raised prices to over Ksh 100, hereby again outcompeting processors. According to the same Embu broker, then in the last week of March, the two main Chinese buyers (Yang and Zhang) were summoned to the Ministry of Agriculture.[177] He also claims that according to the Chinese, they were told by the Ministry they had three days to clear their stores and business with agents and would then be prohibited to further buy in the market. And indeed, after three days in the market they had closed their shops and left. The legal basis of the government's intervention is unclear, although the broker alleges that threats of deportation were made. Interviewed officials responsible for the sector either claimed they did not remember the exact timing the ban was factually introduced or did not react to subsequent inquiries.[178] This episode has two major implications. First, that the government was very responsive to processors' concerns an wanted to help them as quickly as possible, even before a formal ban could be introduced. Second, the covertness of the process could indicate that the government wanted to avoid that farmers noticed or linked the Chinese expulsion to the government's action, in line with the argument that policy attribution is a key concern to policy-makers.

Concluding, as Kenyan cashew, up to this point, the Kenyan macadamia strongly resembles that of the Ghanaian ban on raw cashew exports. Processors were in danger of collapse due to strong foreign competition and lobbied for an export ban. The government supported it and extremely rapidly (and in this case even pre-emptively) introduced, unaccompanied by any measures that could have eased its impact on farmers. Yet again, as with Kenyan cashew, the Kenyan macadamia ban differs fundamentally from the Ghanaian cashew ban in the sense that it is still in place nine years after its introduction.

[176] Which should normally be avoided as it increases the risk of collecting immature nuts.

[177] Top-level Macadamia Agent, Embu Town, 16.11.2017.

[178] Senior official at Ministry of Agriculture, Nairobi, 04.11.2017;

6.3.4. The Politics of the Kenyan Macadamia Ban Maintenance

Both in the Ghanaian and Kenyan cashew sectors the export ban drastically reduced farm gate prices and with the help of traders, this mobilized farmers against it. Whereas the sheer size and significance of the Ghanaian cashew farmer constituency posed a strong threat to the political survival of the ruling party and was therefore central to the withdrawal of the ban, the small number of cashew farmers in Kenya that cared about the ban was unable to pose a significant threat to policy-makers, who therefore saw no need to withdraw the ban. In this section, I argue that the Kenyan macadamia ban experience corresponds closely to that of Kenyan cashew. Interestingly, yet in line with my argument, the effect of the ban and the respective mobilization of farmers occurred only in the eastern macadamia growing areas where Chinese raw exporters had operated mostly. As in Kenyan cashew, however, the number of farmers was too limited to pose a political threat to policy-makers.

6.3.4.1. All Quiet on the Western Front: Regional Patterns of Visibility and Mobilization

As described in previous sections, Chinese exporters employing domestic brokers mainly operated in Macadamia growing areas east of Mt Kenya, and barely in the areas southwest of it. Their ability and willingness to pay higher prices than domestic processors translated into significantly higher average farm gate prices in the eastern growing areas like Embu and Meru compared to those in southwestern counties like Kiambu, Muranga, Nyeri or Kirinyaga.

Given this distinct regional price pattern created by foreign buyers, the removal of the very same from the market thus also impacted the two regions very differently. Expectedly, in the southwestern areas where Chinese buyers had not operated and thus not increased farm gate prices, the ban barely had an impact. As illustrated in Figure 6.18 above, prices in the year prior and after the ban remained relatively equal, hovering around the US$ 0.3 mark. As such, when the ban was implemented and, in the years, thereafter, southwestern farmers did not notice it. In my research, I could find no media article that quoted farmers from this area saying anything about the ban. Similarly, and except for members of the Macadamia Grower

Association (MGAK) directorate, the farmers I talked to about the ban in Kiambu and Muranga counties had never heard of the ban or noticed any price drop during its implementation.[179]

In stark contrast, the ban caused a strong price shock in the eastern Mt Kenya growing areas. In Embu, for example, brokers and current processors report that in April, after Chinese buyers had left, prices dropped from around Ksh 100-130 to around Ksh 40-60 – at a time in the season when prices should normally be increasing.[180] Only in November 2009, prices shortly increased to Ksh 80 when a broker with a pick-up truck – likely working for a Chinese buyer (by then smuggler) – came to Embu from Nairobi with a significant amount of cash to buy raw nuts. According to a high-level broker that has been working in the industry for over 20 years, prices in Meru even dropped to Ksh 30 in 2009.[181]

Whereas brokers in the southwest had no connection to Chinese buyers and hence no incentive to mobilize against the ban, this was different in the northeast. According to a high-level Embu broker, brokers from the region attempted to set up a large-scale protest in April 2009 in Mutunduri (near Embu town) against the ejection of Chinese.[182] In that vein, brokers tried to win over the support and attendance of farmers by informing them about the expulsion of Chinese exporters and the effect it was having on prices. Despite the price drop, producers were not very responsive and only a couple dozen farmers joined the April protest in Embu.

There are several reasons why farmer mobilization was not as effective as brokers had initially hoped. First, as discussed above, the ban was informally implemented several months before its formal announcement, making it more difficult for

[179] Small-Scale Macadamia Farmer, Kiambu County, 13.11.2017; Small-Scale Macadamia Farmer, Kiambu County, 13.11.2017; Senior Executive of MGAK, Muranga Town, 13.11.2017; Senior Executive of MGAK, Kiambu County, 13.11.2017.

[180] Top-level Macadamia Agent, Embu Town, 16.11.2017; Head of Operations of Major Processor, Embu Town, 15.11.2017.

[181] Top-level Macadamia Agent, Embu Town, 16.11.2017.

[182] Top-level Macadamia Agent, Embu Town, 16.11.2017.

farmers to pin it to government action initially and perhaps seeing this as a serious long-term measure.

Second, processors tried to actively create a counter-narrative that blamed the brokers (and thus the Chinese) for the price drop, hid any mentioning of a ban, and framed themselves as saviours. According to an executive of the Macadamia Grower Association of Kenya from the eastern region,[183] when farmers in the area during the 2009 main season demanded to know from processors why prices had declined so much they were told this was the result of high share of immature nuts and that if they started selling to processors directly – rather than via brokers – good prices would return. While in hindsight factually wrong, at the time it was difficult for farmers to challenge this narrative.[184]

Third, it was arguably not easy for brokers to find good points of application for their mobilization attempts. At the time of the introduction of the ban there was no formal association of macadamia farmers. Only in the summer of 2009 did MoA initiate the creation of the weak and largely nonfunctional Macadamia Grower Association of Kenya (MGAK).[185]

A final factor that adds to explaining why brokers were not as successful with their initial protests was a lack of cohesiveness and commitment in their own ranks, fuelled by uncertainty. According to a high-level Embu broker that co-organized the protest, many brokers (including himself) were unsure whether the Chinese would return given their abrupt departure and doubtful that they would be able to

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[183] Senior Executive of MGAK, Per Telephone, 08.12.2017.

[184] Key interviewees – including processors – confirm that nut immaturity was not a particular issue during that season and rate this explanation as clearly pretextual and made with the intention to confuse farmers. At the time, however, this was a relatively successful strategy, as in the 1999 season (before the Chinese had entered the market) vast immaturity of nuts had been the cause of major payment defaults by processors and subsequent price drops. As such, during the pre-formal implementation of the ban, it was difficult for producers to untangle the real reason for the price drop.

[185] Up to this date, the association has no office, no constitution, and no actual budget. It is essentially made up of only twelve active members, that is, the board of directors, each representing a macadamia growing county, which were handpicked by MoA based on their achievements in a prior good agricultural practice program. Crucially, since its inception in 2009, no annual general meeting has been held and the few workshops or measures conducted by it have been either funded by personal means, MoA, or the processor association (NUTPAK). Its capacity to promote collective action among farmers is thus very limited and was completely in-existent at the time of the ban.

organize farmers and pose a credible threat against the government and well-connected processors. [186] Accordingly, some brokers had already started to make new arrangements with processors prior to the protests, further reducing their commitment to the cause.

As in the Kenyan cashew case, however, by the beginning of the 2010 main season, the ban had become visible to many farmers. This was due to continued trader information, low prices, and the formalization of the ban. In March 2010, for example, Meru farmers were actively complaining to the media that their crop "goes for Sh20 per kilogram of unshelled nuts down at Sh100 per kilo a year ago, before the ban" (Ithula *et al.* 2010).[187] And although not covered in the anglophone media, farmers, brokers and processors confirmed that at the start of the 2010 harvesting season more farmers started protesting alongside brokers near Embu Town against low prices and the ban.[188]

6.3.4.2. The Congruent Lack of a Political Threat and Political Support

Critically, not a single politician was willing to join the protests in 2009 or 2010. As in the Kenyan cashew case, the high-level brokers that co-organized the events told me that they had contacted several local MPs, but to no avail.[189] And yet again, as in the case of coastal cashew farmers, politicians' disinterest does not come as a surprise. Overall, only roughly 8,600 farmers[190] east of Mt Kenya were seriously

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[186] Top-level Macadamia Agent, Embu Town, 16.11.2017.

[187] In the same news story, the purchasing manager of EQN confirmed that they would not offer more than Ksh 45 to farmers at collection centres, obviously translating to much less where centres were sparse and brokers required (Ithula *et al.* 16.03.2010).

[188] Senior Official of NutPAK, Nairobi, 09.11.2017; Head of Operations of Major Processor, Embu Town, 15.11.2017.

[189] Top-level Macadamia Agent, Embu Town, 16.11.2017; Senior Official of NUTAK, Kiambu County, 13.11.2017.

[190] This number is calculated from a ranger of figures and numbers. First, based on historical accounts of national production volumes and the number of farmers, and corroborated by yield statistics in the area and own interviews with farmers in Embu county (U.S. International Trade Commission 1992: 4-1); (Nuts & Oil Crop Directorate 2016), we know that the average farmer produces around one tonne of in-shell macadamia per year. Accordingly, knowing that in 2008 around 19,290 tons of in-shell macadamia was produced in Kenya, and that around 45% of this was produced east of Mt Kenya, we can derive that there must have been around 8,680 farmers in the area.

invested in macadamia cultivation at the time of the ban – less than one-tenth of the mobilizable cashew farming population in Ghana during the ban. This is not only a minimal number of potential voters in national terms but even in regard to the nearly 1.2 million potential voters in Embu and Meru alone (Kenya National Bureau of Statistics 2018). Simply eye-balling these numbers provides a tangible feeling that, in contrast to Ghanaian cashew farmers, serious macadamia growers in Kenya could not bring significant numbers to elections or be of any other significant threat. Thus, it is understandable that policy-makers saw no political danger in introducing the ban and no need to withdraw it.

Disappointed by the failure of farmer protests to gain political traction, Chinese exporters also attempted to fight the ban using backroom politics – eventually losing out to processors. Interviewed brokers, processors, and officials in MoA indicate that the Chinese had actively[191] – and initially successfully – lobbied new Agricultural Minister Sally Kosgei to lift the ban on raw nut exports for three months on 28 May 2010, around one year after the introduction of the ban. The official rationale for the lift was "to facilitate the mop-up of the excess raw nuts with farmers" (Minister of Agriculture 31.05.2010). At this point processors did not oppose this lifting, arguably because of its temporal limitation and timing (both cashew and macadamia main seasons had ended by the time), and because MoA public relations officer clearly stated that "the government will not extend the window and the ban on export of raw nuts will remain in force", indicating it was happy with the size of processing capacity of processors (Kihara 2010).

Despite promises not to, on 15 December 2010 Minister Kosgei yet again decided to lift the ban (Gazette notice No. 16229) quoting the same rationale, namely to 'mop up' excess raw nuts, this time however for a period of over six months until 30 June 2011. This time, the big five processors organized under NutPAK acted directly and applied to the High Court in Nairobi to suspend the government's notice to lift the ban and instead order the government to actively enforce it and

[191] To be more specific, whereas processors and some government officials believe Minister Kosgei's decision to lift the ban a second time was the result of bribes offered to her by exporters. While those allegations are difficult to prove, it is worth noting that Minister Kosgei is one of the few Kenyan's showing up in the Panama Paper Offshore Scandal website (Offshore Leaks Database 2018).

arrest anyone who breached it, arguing there were no excess raw nuts at farms (Kenyan High Court 05.07.2013). And indeed, already on 21 December 2010, the High Court surprisingly[192] ruled in favour of the processors' pleas, hereby prohibiting the government to suspend the ban. Simultaneously, NutPAK played its political contacts, moving the chairman of the Parliamentary Committee on Agriculture, MP John Mututho, to investigate Minister Kosgei's action, as well as several MPs from macadamia growing areas to claim they would introduce a motion in Parliament seeking a full legal ban approved by parliament on the exportation of unprocessed nuts (in contrast to the less binding Ministerial directive the ban was to that point) (Gaitho 2011). This shows clearly that at the time of the ban MPs were protecting the interests of processors rather than that of farmers and brokers.

The events around a surprising motion tabled in parliament in 2016 further illustrates this lack of interest from MPs. On 29 August 2016, Maragua (in Muranga County, southwest of Mt Kenya) MP Peter Kamange Mwangi out of the blue introduced a motion against the ban in parliament, arguing it was hurting farmers. This was the first time a Kenyan politician ever opposed the ban and as such on first sight appears to be proof that politicians did and could care about farmers' interest. And indeed, Mwangi even brought six farmers with him to parliament to support the motion. Critically, however, the reaction of Kenyan parliamentarians was very different from that of their Ghanaian peers. As a *Daily Nation* report summarizes: 'Parliament threw out the petition to have the ban on the sale and export of raw macadamias lifted. The House's agriculture committee rejected the petition on the grounds that it is not in the interests of the industry' (Wanzala 2016). This rejection is one of the clearest pieces of evidence that most MPs (despite sitting in the *agricultural* committee) did not care much for the concerns of farmers. Moreover,

[192] The legal basis for Justice Gacheche's ruling was highly dubious. As representatives of MoA stated at later points (Kenyan High Court 05.07.2013), Minister Ruto's original directive in no aspect mentioned that the ban was permanent, and the legal mandate inherent in her role as Minister of Agriculture should have undoubtedly allowed Minister Kosgei to lift the ban. Interviewed brokers suggest that Justice Gacheche has been bribed by processors to reach her judgement. Again, while such claims are extremely difficult to prove, it is notable that in August 2012 she was the first High Court justice in Kenya's history to have been determined unfit to continue serving on the bench, after the Judges and Magistrates Vetting Board had found her to have "inappropriately" used her judicial powers (Kiplangat 03.08.2012; International Justice Monitor 2012).

having interviewed the key parties involved in the politics around the motion, it appears relatively clear, however, that it was driven by a single powerful top-level broker from Thika and now the Chairman of the Nut Trader Association of Kenya (NUTAK), Johnson Kihara, rather than the constituency of the MP, where only a minority of the population actually cultivates macadamia.[193] The timing of Kihara's effort had to do with a crackdown on Chinese smugglers shortly before and himself being one of the first and main brokers to work with Chinese exporters.[194]

6.3.4.3. Increasing Protest and Political Support

Interestingly, however, more serious protests against the ban and the suppression of Chinese buyers have become more common in the northeastern Mt Kenya region in recent years. This derives on the one hand from the rapid gain in the relevance of macadamia throughout the central region, with production (and thus the number of producers) having more than doubled since the introduction of the ban. And on the other, from the continued activity and suppression of Chinese buyers in northeastern Kenya. First, without any political support, in May 2014, farmers organized by brokers in Meru and Embu protested a move to restrict marketing to certain buyers (processors). According to a Kenya News Agency interview, farmers complained "the move was meant to keep China out of the trade and reduce competition from the local companies who previously offered very low prices for the produce. (…) since the entrance of China into the trade, the price per kilo of macadamia has shot up from shs.50 to the current shs.120" (Mwangi 2014).

Then, on 23 February 2017, following hints from NutPAK informants, seven Chinese macadamia buyers were arrested in Meru for allegedly doing business in the country without the required licenses and documents (Githinji 2017). After several days in jail and a subsequent severe price drop with Chinese out of the

[193]It appears that Kamange's opposition to the ban and processors did not pay off. Processors, especially Muranga country native, Peter Munga, apparently supported an opponent of Kamange in the Jubilee Party primaries, according to sources within EQN, with the intend to neutralize Kamange. Although Munga's candidate did not win the primaries, neither did Kamange. This section is based on interviews with: Senior Executive of MGAK, Muranga Town, 13.11.2017; Senior Official of NUTAK, Kiambu County, 13.11.2017; Former Central Kenyan MP, Jubilee Party, Kiambu County, 13.11.2017.

[194] Top-level Macadamia Agent, Embu Town, 16.11.2017.

market, mainly brokers but also farmers started to protest heavily in Embu and Meru against the ban on 1 March 2017. Timed during the gubernatorial party primaries for the 2017 election, gubernatorial candidate for Embu, Senator Lenny Kivuti used the chance and joined the protests in Mutunduri (Embu North sub-county) accusing his opponent and current governor, Martin Wambora, of colluding with the domestic processor Privam nuts and saying it was wrong for the police to "harass the foreigners because the latter were offering a better price to the farmers", and promising he would see to them released (Githinji 2017).[195]

Protest against the ban directly linked to the demand that Chinese buyers should be allowed to buy freely intensified throughout 2018. In late January 2018 (prior to the legal opening of the harvesting season on 20 February), the government (in form of the Nuts and Oil Crop Directorate) had yet again arrested and deported eleven Chinese macadamia buyers in Meru, buying at a stellar price of Ksh 170 (US$ 1.7) per kg (Marete 2018; Wanzala 2018). This time supported by several Meru MPs, farmers and brokers started protesting for their release in front of the governor's office in early May. This protest was interesting in three regards. First, it shows that eastern MPs are becoming increasingly sensitive to macadamia brokers' and farmers' concerns, which I argue has to do with their increasing number. Second, at these protests some farmers started to explicitly demand the repeal of section 43 of the AFFA Act[196], which prohibits the export of raw nuts, and – in contrast to

[195] Observers and participants of the protests at the time, however, perceive Senator Kivuti's support as relatively insincere. They believe that Kivuti – who comes from the lower Mbeere part of Embu, which does not grow macadamia – happened to be in the area at the time and in the highly contested gubernatorial party primaries saw a chance to poach some votes from the incumbent.

[196] In 2013, the Kenyan parliament passed Agriculture, Fisheries and Food Authority Act (The Republic of Kenya 2013a). Two aspects of this law were of particular importance. First, the act merged all former 24 independent state corporations and boards associated with agriculture into one consolidated entity, the Agriculture and Food Authority (AFA), which should eliminate overlaps in regulatory, research, licensing, processing and marketing functions and serve as an adjustment to devolution and the requirements by the new constitution for a leaner government ((Kilifi County 2016: 13). Crops were merged into a range of different directorates within AFA. Since 2014, cashew (as macadamia) falls under AFA's Nuts and Oil Crops Directorate. The directorate was essentially a merger of the Coconut Development Board and sections of the Horticultural Crops Development Authority working on nuts and split geographically in the two organizations' seats in Mombasa and Nairobi. The second important change of the AFFA Act was writing down the export ban on nuts in a parliamentary law. Specifically, article 43 of the act states that "A person shall not export raw cashew nuts, raw pyrethrum, raw bixa or raw macadamia except with written authority of the Cabinet Secretary issued with the approval of the National Assembly" (The Republic of Kenya

coastal cashew farmers – showed their ability to inform themselves (or be informed by traders) about global market prices, stating that: "Australian and South African producers get a basic price of Aus$5 per kilogram, which translates to about Sh413.50.(…) The Chinese buyers were our saviours, not villains" (Muchui 2018). Relatedly, farmers demonstrated their growing taste for politics, blaming Jungle Nut CEO and freshly elected Thika MP, Patrick Wainaina, for allegedly plotting the arrest (Kirimi 2018; Muthethia 2018).

These increased protests were again driven by traders. In 2018, Johnson Kihara – the Thika broker behind the 2016 motion against the ban – together with other brokers founded the macadamia trader association NUTAK and intensified his opposition to the ban. Initially, NUTAK followed a two-pronged strategy: first, it moved before the Nairobi High Court, hoping it would lift the ban; and second, it petitioned the Parliamentary Committee for Agriculture to do the same. However, according to reports in the *Daily Nation*, both attempts were futile, and only four out of 29 members of the Agricultural Committee voted in their favour, to which Kihara commented that "lawmakers had been compromised by cartels" (Thairu 2018). On the back of these failures, NUTAK leaders Kihara and Muguu then met on 9 August 2018 with former Prime Minister and opposition leader Raila Odinga, who according to the two promised he would discuss the matter with President Uhuru Kenyatta. At the same time, NUTAK organized a range of further farmer protests in Embu and Meru (Kamau 2018), rants against the ban in the Meru County Assembly (Dibondo 2018), as well as the Embu High Court's (rather dubious) temporary order to prohibit the Attorney General and MoA to interfere with the unshelled macadamia exports of one Embu macadamia trader (Muhindi 2018). Withstanding the pressure, however, former initiator of the ban, current Deputy President, and a likely favourite for becoming the next Kenyan President, William Ruto, stated on 29 October 2018 in Embu that the government would not give up on protecting the ban and hereby create processing jobs, adding that he would deal firmly with brokers, and deport any Chinese macadamia buyer found in the market

2013b). As such, in contrast to the previous ministerial directive, the ban can only be lifted with the approval of the National Assembly, thus seriously lifting the bar for that to happen.

(Muchiri 2018). It remains to be seen whether the opponents of the ban can break this resolve.

To conclude, protests and farmer support of individual MPs have been picking up in step with the strong increase of macadamia production and growers in recent years. Overall, however, the number of producers has not nearly reached the mass level of cashew producers in Ghana, or even bigger, tea growers in Kenya. As such, it is in line with the argument that most MPs, as well as the government, do not currently see a need to withdraw the ban. Should the rise of macadamia production continue at the current pace, and with it the number of people producing it, I would not be surprised if by the 2027 presidential and parliamentary elections the ban on macadamia fell.

6.3.5. Conclusion of the Kenyan Macadamia Case

The introduction and maintenance of the ban on Kenyan macadamia strongly resemble that of the domestic sister crop, cashew. Although confined in the eastern Mt Kenya region, where Chinese exporters had operated and spiked prices, the ban massively dropped farm gate prices. Given attempts by the government and processors to obscure the introduction of the ban, it took macadamia farmers nearly a year to realize it had been implemented despite traders' information campaigns. Once they did, however, farmers organized by brokers protested the ban. Yet, as at the coast, politicians remained largely unphased by this and did not care to support their protest. In fact, in several instances, MPs and members of the government actively opposed attempts to remove it. Overall, the number of macadamia farmers significantly hurt by the ban is too small to pose a serious political threat to policy-makers and legislators. Given rapidly increasing numbers of farmers starting to farm macadamia seriously, however, in a few years they might have reached a critical mass large enough to put policy-makers under significant pressure.

6.4. Chapter Conclusion

This chapter set out to study the question what motivated the Ghanaian government to withdraw its ban on raw cashew nut exports within less than a week of its announcement, and why this motivation did not apply to the Kenyan government which has maintained a ban on raw cashew and macadamia nut exports for over nine years. Based on the theoretical framework of this thesis, it proposed three general hypotheses. First, because export bans are also highly damaging to traders, they would be motivated to inform producers about their existence and origin. Producers, by contrast, would be receptive to this information campaign and perceive the ban, if the ban's price distortion itself was particularly visible. Second, again with the help of traders and motivated by the high stakes involved, producers would likely mobilize against the ban. Three, only when producers are many – and this mobilization posed a significant political threat to policy-makers – would the government withdraw the ban.

All three hypothesized mechanisms hold in the studied cases. Whereas the quick and coordinated withdrawal of in-shell traders, the implementation of the ban in the middle of the season, as well as an organized information campaign by traders allowed for an almost immediate realization of Ghanaian farmers what had hit them, it took farmers in Kenya longer to comprehend the ban. Whereas in Kenyan cashew this was the result of the ban being imposed several months before the beginning of the main season, in macadamia the attempts by the government and processors to obscure the existence of the ban was more relevant. Eventually, with the help of traders and significant price drops of up to 50%, farmers in all three cases apprehended the introduction of the ban. Although the awareness of the ban and the active mobilization through traders motivated farmers to protest the ban in all three cases, the protests conducted by Ghanaian cashew farmers were undoubtedly the most potent, reflecting their large group size. In line with this potency of Ghanaian cashew farmers, ruling party MPs for the fear of their political survival within three days of the ban introduced a motion against their own Minister and his directive. Another two days later, having succumbed to the pressure of MPs and leading party officials, the Minister had withdrawn the ban. In contrast in Kenya, local MPs and other politicians could not be motivated to attend rallies against the ban, and even voted against farmers' and brokers' motions to withdraw the ban in parliament.

Being produced by less than ten thousand farmers respectively, politicians perceived them as no significant threat to their political survival, and hence saw no reason to withdraw the ban. Yet, growing farmer numbers and renewed trader-organized protests in the Kenyan macadamia areas might put the ban under stress in the coming decade.

The comparison of the three cases also presents interesting policy implications. Reiterating the cashew case conclusion, export bans can not only be extremely damaging politically and economically in the short-term, but they can also close the space for less extreme industrial policies in the longer term. Once producers are sensitized to potential adverse policy-making they might also perceive less obvious policy measures like export taxes. Secondly, if governments want to introduce a ban nevertheless, they should make sure it is accompanied by a range of measures. For example, governments should specify minimum farm gate prices and institutions to monitor their adherence to ensure that farmer prices do not drop to economically and politically unsustainable levels.

Chapter 7. Different Commodities, Same Policy: Why Rough Wood, Metal Wastes, and Raw Hides are Prone to Banning

The motivation for this final empirical thesis chapter differs from the preceding one. Chapter 6 tried to explain why three very *similar country-commodity* cases had such *different outcomes* regarding the maintenance or withdrawal of export bans. In this chapter, however, we try to explain why three very *different commodities* – raw logs, metal wastes, and raw hides and skins (RHS) – face the *common outcome* of being banned relatively frequently by African governments. In fact, they represent the three most commonly banned commodities in the EPTA dataset. Given that these commodities strongly shape the empirical pattern motivating the thesis and to a significant extent the findings derived in the large-N regression analysis, it is critical to study whether the thesis argument does indeed hold here as well or whether alternative factors can explain their difference to other (especially agricultural) commodities. For that purpose, I studied the explanatory power of the thesis argument in relation to the 1995 raw log and the 2013 ferrous waste and scrap export bans in Ghana as well as the 2012 de facto export ban (a 90% export tax) on raw hides and skins (RHS) in Tanzania.

Fundamentally, each case demonstrates the assumed association between group size and ban implementation (and maintenance). Governments imposed the bans to protect the local processing industries, and in each case the losers from that policy were so few that the governments had no reason to abstain from introducing it or even withdraw it. What is more, in all three cases the bans considerably hurt those that earned a significant share of their income from producing or dealing with the unprocessed commodity, and in each case these policy-losers knew clearly to attribute it to their governments' decisions. Interestingly, although policy-losers in the three country-commodity cases attempted to lobby against the respective policy bans, only in the case of Ghanaian ferrous waste did they also stage notable protests, organized by traders. Both in Ghanaian timber and Tanzanian RHS, independent loggers and RHS traders did not feel that they had the numerical power to stage significant protests and as such decided it most effective to concentrate on lobbying

and (in the case of Tanzanian RHS) allegedly seek informal arrangements with some government officials to circumvent the ban by smuggling it out of the country. Critically, since livestock keepers are not among the losers of an export ban (since they do not receive any income from hides and skins), they were and could not be mobilized by traders. Finally, one further noteworthy exception is that in the case of Ghanaian timber, traders did not support independent loggers to lobby against the ban. The reason for this is very straightforward, namely that international timber brokers are used to trading both unprocessed and processed wood, and had no issue with shifting to trading only processed wood. This contrasts with nearly all of the other 14 commodities studied in more detail in this thesis, yet shows that traders need not always want to form defence coalitions with producers. This lack of support from traders, might be an additional reason as to why politically and organizationally weak independent loggers abstained from organizing protest.

One of the advantages of comparing relatively different country-commodities with similar attributes on the key independent and dependent variables is that it allows precluding certain alternative explanatory factors as necessary causes of export bans. Illustrated more systematically below in Table 7.1, four alternative explanations appear to vary across the three cases, thus being inconsistent with the similarity on the outcome variable. These are, high export shares, high donor influence, economic ideology, and the relative political connectedness of the winners and losers of the ban.

Regarding the export share, timber accounted for over 6% of Ghanaian exports the year prior to the ban, whereas Ghanaian metal waste and Tanzanian RHS accounted for only 0.67% and 0.16% respectively. And while, donors were generally powerful in Ghana in 1995 and specifically with regard to timber (with heavy involvement of the IFIs and British ODA and both actually hoping to prevent the government from implementing a ban), by 2013 ODA had become less important in Ghana (accounting for only 4.5% of GNI) and donors played no notable role in the steel industry or in regards to the export ban. Similar, donors played no major role in the policy processes surrounding the 2012 imposition of the 90% export tax on RHS in Tanzania.

Table 7.1. Overview of the Most Different Systems Design Including Most Commonly Banned Commodities

Variables			Ghana		Tanzania
			Timber (1994/5)	**Metal W&S (2013)**	**Raw Hides and Skins (2012)**
Dependent Variable		***Ban Withdrawal***	–	–	–
Independent Variable		***High Comm. Pop. Share***	–	–	–
Condition Variables		***Producer Mobilization***	*(-)*	*(✓)*	–
		High Attributability	✓	✓	*(✓)*
		High Price Depression	✓	✓	*(✓)*
		Trader Facilitation	–	✓	✓
Competing Explanations	**Economic**[197]	***High Export Share***	✓	–	–
		High Market Power	–	–	–
		High Profit Margins	*(–)*	*(–)*	–
		High Factor Mobility	✓	✓	*(✓)*
		High Developm.	*(–)*	*(–)*	*(–)*
	IPE	***Trade Agreement***	***WTO/No EPA***	***WTO/No EPA***	***WTO/No EPA***
		High Donor Influence	✓	–	*(✓)*
		High Tariff Escalation	–	*(✓)*	–
		Left Gov. Econ. Ideology	*(–)*	–	*(✓)*
	Politics	***Primarily Produced in President's Ethnic Region***	–	–	–
		High Relative Political Connection of Processors	✓	✓	*(-)*
		Democratic	*(✓)*	✓	*(✓)*

[197] The nine differences in commodity value chain characteristics discussed in 3.2.3.2 could also be incorporated here. I have not done so because of space constraints.

In terms of government ideology, we assumed that more left-leaning governments would be more likely to impose export bans. Neither the 1995 or 2013 Ghanaian governments that imposed bans on logs and ferrous waste can be considered particularly left-leaning however (although the NDC used to have a more economic leftist policy stance prior to its rigorous implementation of SAPs). Similarly, Tanzania's ruling party CCM has a long socialist history, however, by the time of the de facto ban in 2012 under President Kikwete, CCM had been practising a more centrist economic approach (although perhaps slightly more on the left of Ghana's NDC government).

Looking at the relative political connectedness of export bans' winners (processors) and losers (producers and traders) we find some variation across the three commodities. Whereas Ghanaian timber and steel millers were significantly better connected than independent loggers and scrap collectors and dealers, in Tanzania there is evidence that RHS traders had substantial political connections into responsible government authorities, on par with tanners. As such, processors having better political connections than raw commodity traders and producers is not a necessary condition for a ban, but it is likely to increase the probability of processors receiving the government's support. Similarly, the mere existence of processors that can lobby and might need protection is likely to increase the likelihood of a ban. Although, as discussed in Chapter 3, there are cases where governments have implemented bans without the existence of a notable processing industry (e.g. in Tanzanite in 2010), in the six country-commodity cases studied in-depth in this thesis processors were always critical to pushing the agenda of protection via export bans.

On the face of it, there also appears to be some variation in tariff escalation across the three commodities. On average, the EU, the United States, China and India imposed (in the years of the bans) 1.43% higher import taxes on semi-processed logs versus unprocessed logs, only 0.05% higher import tariffs on semi-processed hides and skins versus RHS, and nearly 3% higher import tariffs on intermediate steel goods versus ferrous waste and scraps. Overall, none of these three tariff escalations is remotely high, thus, not contributing to the hypotheses that governments impose export bans as a reaction to tariff escalation in potential importing countries. Moreover, the 3% import tariff for intermediate steel goods is

relatively insignificant, given that African steel industries usually produce for the domestic rather than export market, and hence any degree of tariff escalation is not likely to phase them.

Simultaneously, there are several alternative explanations which are relatively constant across the three cases. As such, on the first look, they could be potential explanators. Some of them, however, appear to have opposing correlations to what one might expect. In Chapter 3 we hypothesized that a commodity having high factor mobility should likely induce the government not to impose a ban on it, given that this increases the likelihood of killing (or rather, chasing off) the goose that lays the golden eggs. All three relatively frequently banned commodities, however, have relatively high factor mobilities in comparison with the agricultural commodities studied. Similarly, all three country-commodities had low levels of global market power. Hence, the hypothesis that governments would be less daring to ban a commodity if it does not have high market power (and thus foreign investors would be more likely to flock into processing) does not seem to apply here.

As indicated in Chapter 3, getting good data on producer profit margins is difficult. This is especially true when pre-ban profit margins lie back as far as 1994 (as in Ghanaian timber) or producers (or traders) are unwilling to share any data on profits (such as RHS traders in Tanzania). What can be said, however, is that across the three commodities[198] many producers and traders closed shop due to the bans (or shifted to smuggling the commodity to avoid its impact). Showing that producers and traders are affected by the bans to the point that they cannot continue to conduct business provides some evidence against the hypothesis that profit margins in those commodities are so high that governments do not avoid banning them as much for the fear of them exiting business.

Other alternative variables also do not appear to generate substantial explanatory traction. As discussed above, being a developing country cannot explain the

[198] Arguably less so in Ghanaian ferrous scrap collection, because collectors also collect and trade non-ferrous scraps, allowing many of them to make a living despite significant drops in part of their income. This, however, is less a reflection of the profit margins made with collecting that commodity and more with income alternatives in this case.

variation we see across commodities regarding export ban propensity within the same country. The same holds for the democracy and trade agreement variables. Finally, it is true that none of the three commodities is primarily (>60%) produced in the president's co-ethnic region. One could take this as support for Bates and Block's (2009) argument that presidents are less likely to distort prices of commodities produced by their own coethnics. Though it should be noted that ethnicity does not play a significant role in Tanzanian politics (thus all commodities are not primarily produced in the president's region), yet not all commodities are banned. Similarly, Ghanaian cashew was also not produced primarily (or even to a significant extent) in the president's home region, yet nevertheless, he decided to withdraw the ban. As such, the case comparisons conducted in this thesis do not provide any significant comparative or anecdotal evidence to support this potential association between ethnicity and export bans. Whether, however, this is true for commodity price distortions more broadly speaking is not addressed in this thesis and deserves further research.

This chapter proceeds in four parts. First, section 7.1 discusses the introduction on the comprehensive export ban on logs of all species (except for teak) in Ghana in 1995. Section 7.2. discusses the imposition of the 2013 export ban on ferrous waste and scrap in Ghana. The Tanzanian government's introduction of several high export taxes on RHS in the 21st century, culminating in the imposition of a 90% export tax in 2012 is discussed in Section 7.3. The case studies follow the same structure as those in Chapter 6. They first provide a short historical introduction into the origins of production and processing, before discussing why the desire for a ban emerged. After describing how the ban was implemented, analysis and test of the theoretical framework against the political processes following the ban is conducted. Section 7.4. concludes with a comparative overview of the key case study findings.

7.1. Transforming Timber: The Political Economy of the 1995 Ghanaian Rough Log Export Ban

Nearly all productive forests, and with them the Ghanaian timber industry, is concentrated in the so-called high forest zone. Located in the south-west of the country, it covers almost one-third (85,000 km²) of Ghana's total land area and spans five of its most populous regions: Ashanti, Eastern, Central, Western, and Brong-Ahafo (compare Figure 7.1). The majority of today's productive forests are located in 216 so-called forest reserves covering around 20% of the high forest zone, primarily established in 1927 century by the British colonialists to protect around 25% of the then-existing forest (Birikorang 2001; Treue 2001). In contrast, areas outside of the reserves (so-called 'off-reserves') were officially intended and encouraged by the 1948 Forest Policy to be converted to other uses such as agricultural development (particularly cocoa farming) and gold mining. Accordingly, the vast majority of Ghana's early 20th-century forest stand has now been deforested.[199]

The history and development of Ghana's timber industry leading to the 1995 rough log ban can be divided into four distinct periods. First, the pre-independence era saw the genesis of the sector under colonial rule in the late 19th century as well as the rapid expansion of a foreign-dominated timber processing industry in Ghana from the 1930s on and particularly after World War II. Thereafter, the first decade of independence under Nkrumah saw a further expansion of the processing industry. Fourth, Nkrumah's ousting was followed by nearly two decades of stark crisis throughout the Ghanaian timber (and national) economy. And finally, the recovery of the Ghanaian timber sector (including processing) under the IFI-promoted 1983 Economic Recovery Programme. Before discussing the immediate events leading to the 1995 export ban and the politics surrounding it, the next sections will summarize the sectors industry along these four periods.

[199] It is estimated that during the period of 1955-72 alone about one-third of the forests in Ghana have disappeared (Treue 1999: 45).

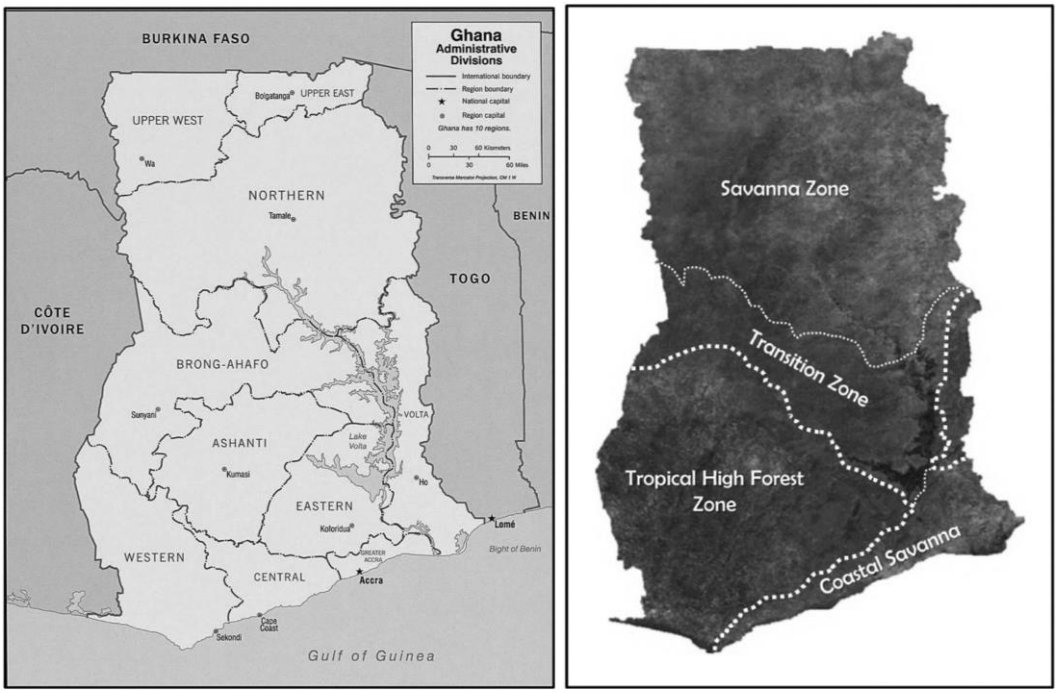

Figure 7.1. Administrative and Vegetation Zone Maps of Ghana
Source: Landkarten und Stadtplan Index (2019) and Owusu (2012: 25).

7.1.1. 1891-1957: The Colonial Timber Economy in Ghana

The genesis of Ghana's formal timber industry is generally dated to 1891, when the first consignment of 3,000 m³ of mahogany was exported (Oduro *et al.* 2011: 20). Thereafter, the industry rapidly expanded. Dominated by foreign-owned logging companies, primarily extracting mahogany (Khaya and Entandrophragma spp) and exporting to the European market, timber exports increased to over 35,000 m³ by 1898 and to 90,000 m³ by 1913 (Hansen and Lund 2017). Reflecting its priority on agriculture over forest productivity at the time, however, the colonial government in 1909 established the Forestry Department and Forest Policy with the main goal of ensuring that this expansion would not interfere with the viability of agriculture, particularly the cultivation of cocoa (Oduro *et al.* 2011: 16–18).

Until the 1930s, exports were almost exclusively in log form and processing of timber occurred mostly in very basic saw-pits for the domestic market. Thereafter, however, import demand for semi-processed tropical timber in Europe increased and with it the space for more advanced sawmills in Ghana. It is critical to note that

throughout modern history there have been two distinct types of demand from Western importers for tropical timber[200]. Critically, however, manufacturers in the West differ(ed) in whether they own their own sawmills or not (or whether they owned sawmills with the capacity to cut large diameter tropical logs). When they did – which was arguably true for most buyers in Europe – they would be more interested in importing rough logs and saw them themselves. When they did not, they would be keen to import already semi-processed timber, such as sawn lumber, veneer or plywood (compare Figure 7.2 below for a flow diagram of key timber products).[201] With growing demand from the latter, foreigners (particularly British) started to set up larger-scale sawmills in Ghana (particularly in Western Ghana and at the port city of Takoradi) in the 1930s. By 1939, Owusu (2012) describes that 15 sawmills produced and exported a total of around 140,000 feet of mill sawn timber.[202]

Due to increased resource needs, the necessity to save foreign currency, and the lack of domestic labour during World War II, the British significantly boosted their demand for timber processed in Ghana.[203] This led to the direct establishment of new processing mills but also the creation of new export markets for the previously rather little-known West African woods (compare Figure 7.3). With the European post-war reconstruction demanding ever-increasing amounts of timber, this market

[200] Tropical timber usually refers to a range of hardwoods grown in the tropics, which given their high durability, workability, and attractive grain and colour patterns were used particularly to build high-quality cabinets, flooring, furniture or music instruments.

[201] Ghana Timber Scholar 1, Per Telephone, 11.06.2019.

[202] Specifically, Owusu (2012) describes that there was a wide variety in technological development between these 15 companies, and that two British-owned companies dominated, specifically Messrs. Thompson, Moir, and Galloway and the West African Mahogany Company.

[203] This was caused by three main factors. For one, the war effort required unpreceded amounts of resources, leading the UK government to demand from its colonial governments in Western Africa to step up the export of timber and rubber in particular (Oduro *et al.* 2011: 21). This military requirement for timber is evidenced by the fact that an estimated half of all exported Ghanaian timber went directly to the British and American Armed forces (Owusu 2012). Second, while the UK could likely have sourced its increased hardwood requirements from the USA during the war, its lack of foreign currency made it much more attractive to source hardwood from its own colonies. Finally, given the lack of labour and processing capital in the UK during the war, the UK government was keen to receive lumber rather than rough logs from the colonies. Much of this increased demand needed to be covered by low-technology saw-pit mills, which between 1944-1945 produced as much as 1 million ft^3 of lumber for the colonial government. At the same time, the Forestry Department actively encouraged the setting up of more large-scale sawmills and had established its own sawmill in Kumasi (Wood Supply Ghana Limited) from rather derelict machinery.

grew rapidly (Oduro *et al.* 2011: 21). Originally dominated by local pit-sawyers, by the mid-1950s most of the Ghanaian timber industry was controlled by large European and (Ghanaian-)Levantine companies that operated both in logging and in processing timber (Oduro *et al.* 2011: 22). Importantly, this expansion into processing was not confined to lumber production but a handful of European companies created capacities in veneer and plywood production as well as in one case for furniture part exports.[204]

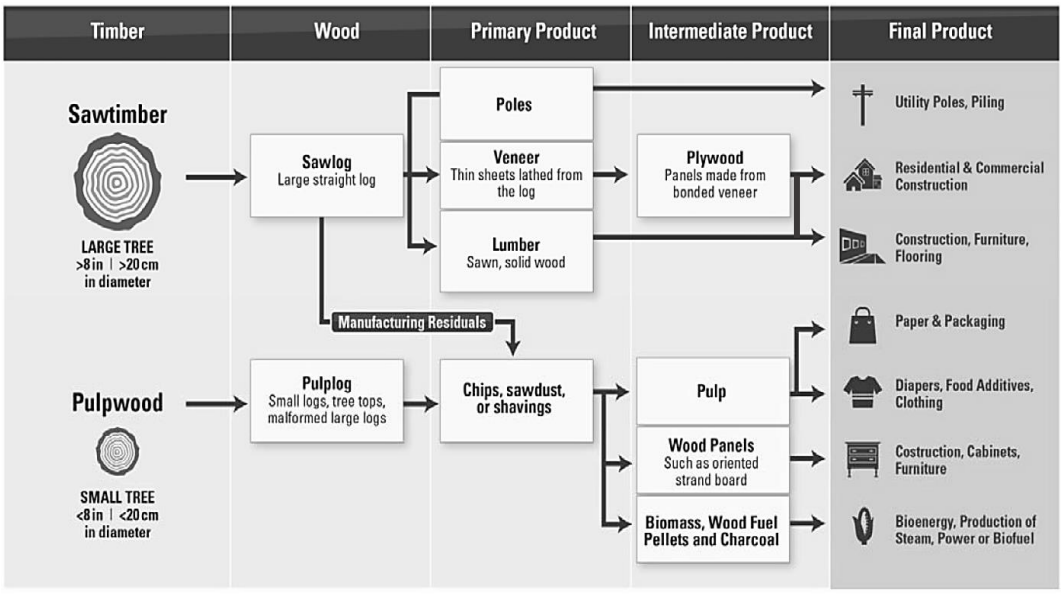

Figure 7.2. Flow Diagram of Key Timber Products
Source: Timberland Investment Resources (2014: 3)

Ghanaians usually lacked the financial capital to enter into the capital- and technology-intensive industry and thus were mostly confined to the logging industry, exporting the logs or selling to the European millers (Owusu 2012). Those Ghanaian owned sawmills that did exist were mostly squeezed out of the business

[204] One example was the British firm F. Hills and Sons Limited, which according to Owusu (2012) between '1948 and 1950, (…) imported used American equipment, and installed a complete system comprising a sawmill, a "capital" slicer, a peeling and complete plywood line, and a flooring and flush door manufacturing facility, at Takoradi.' Another more famous companies at the time were Mim Timber Company, African Timber Products Limited (ATP), and Gliksten West African Limited (GWA).

by the mid-1950s given their lack of access to the kind of technology and capital that the foreign-owned companies could command (Oduro *et al.* 2011: 21–22). That being said, Owusu (2012) describes that the technology employed by European and Levantine companies was often second-hand equipment bought from different sources in the West. This had the consequence that the machinery required more repairs and that at the same time it was difficult to build a homogenous and efficient market for spare parts given the diverse makes and specifications of the equipment. Nevertheless, at least during the 1950s and 1960s, the companies remained profitable.

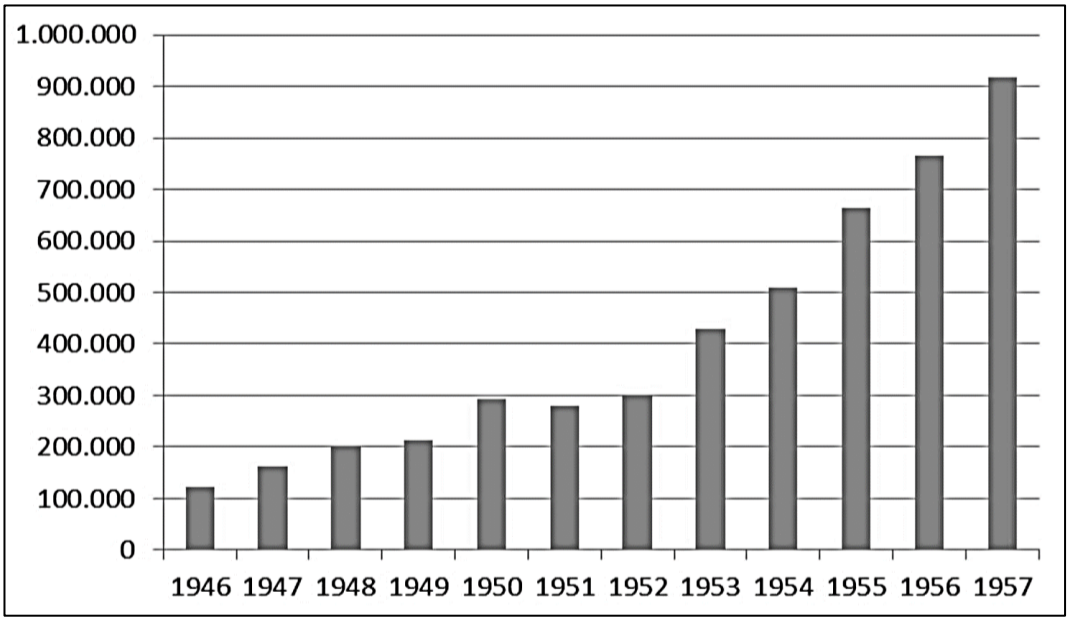

Figure 7.3. Timber export m³ from Gold Coast Colony and Ashanti 1946---1957 (combined logs and sawn timber)

Source: Hansen and Lund (2017)

7.1.2. 1957-1966: The Nkrumah Post-Independence Years

When Ghana attained independence in 1957, the country already had a sizable timber logging and processing industry – much earlier than other leading centres of tropical timber like Indonesia or Malaysia. The industry had also become one of the most relevant, in 1965 accounting for 6.2% of the country's GDP (Repetto and

Gillis 1988: 316–319). Importantly, however, both logging and processing was almost completely in the hands of foreigners. According to Oduro *et al.* (2011: 24), at Independence, 96% of all timber concessions in the country were held by expatriate companies. Moreover, log exports at the time were highly concentrated, with four large foreign corporations and one domestic firm together accounting for about 80% of log exports (Repetto and Gillis 1988: 313). And in general, although a respectable processing industry had been established, most timber was still exported as rough logs (ca. 77% of the total timber export volume in 1960), even by those companies with processing units (Huq 1989).

Faced with this context and driven by his own political ideologies and interests, independence leader and prime minister Kwame Nkrumah had four overarching and to some extent competing goals for the timber sector: decreasing the dominance of foreign companies and increasing the share of processed timber exports, while making sure that his existing and potential political opponents – traditional Ashanti chiefs and domestic capitalists – were not strengthened (Boone 2003; Owusu 2012). To do so, Nkrumah implemented a range of legislations. Regarding forest land he implemented two landmark pieces of legislation in which he withdrew the stool lands and their income from the stools and that gave him the power to limit and redistribute land owned by expatriates.[205] And in the context of processing, his

[205] As indicated above, the two main profiteers of the pre-independence concession system were foreigners that could acquire huge swathes of forest at relatively low royalties; and traditional 'Stools' possessing their own forests who receive these royalties, which to them were still an important source of income (Owusu 2012). In line with its goals to reduce both foreign and traditional leaders' influence in the sector, in 1962 the Nkrumah government implemented two landmark pieces of legislation. First, the promulgation of the Administration of Lands Act of 1962 (Act 123) vested the stool lands in the office of the President (created and assumed by Nkrumah in 1960), making Nkrumah (and all his successors) the trustee of all such lands. As such, the president (or the Forestry Department in his stead) received the right to manage all forestry concessions, starving local communities – and Stools in particular – of an important income source. Moreover, the act allowed a reformulation of the limits relating the duration and size of a concession. Specifically, a timber concession was not to exceed 30 years in duration and a single grant was not to exceed 40 square miles, and an aggregate of grants of timber rights was limited to 240 square miles (Owusu 2012). This combined with the Concessions Act of 1962 (Act 124) – which empowered the Head of State to cancel concessions if they were deemed to be "prejudicial to public safety or interests" – allowed the government to significantly redistribute concessions and thus reduce the overall and average concessions owned by expatriates (Owusu 2012). Martin (1991: 135) describes that out of around 100 concessions granted in Ghana from 1961-1971, only two went to foreign companies. Moreover, the average size of concessions decreased from 686 km² to 41 km² during the same period, showing the effectiveness of the legislations. Although it needs to be said that in many cases the new and redistributed concessions effectively went to existing and new

preferred policy was to create state-owned timber processing enterprises, such as the Kumasi Furniture and Joinery Company opened in 1960. However, Nkrumah had soon realized the technological, capital, and managerial problems[206] the state-owned companies faced and decided that the goal of promoting industrialization was greater than the desire to reduce foreign influence. As such, his government eventually encouraged the entry of foreign entrepreneurs (preferably but not only in joint ventures with the state, such as Mim or Saoud Timbers Limited) by granting them tax concessions (Owusu 2012). Ghanaian-owned companies thus remained mostly confined to smaller and less-capital intensive processing operations.

7.1.3. 1966-1982: The Post-Nkrumah Crisis Period

In 1966, Nkrumah was deposed by a military coup staged in his absence. What followed were 16 years of economic and political volatility and crisis, with over six presidents, five successful coup d'états, and a severe economic downturn. As illustrated in Figure 7.4 below, this crisis was felt in the timber industry. From 1973 to 1982 the volume of total exports fell from over 1,2 million m^3 to around 100,000 m^3, its value from US$ 130 million to just US$ 15 million, and the industry's share in exports from around 18% to 2% (Clark 1994; Oduro *et al.* 2011: 24). During the same year, the capacity utilization of the country's 164 sawmills stood at only 25% (Huq 1989: 105). The timber industry was close to collapse.

foreign companies that would use Ghanaians as a front, which also gave rise to corruption in the sector, with Forest Department officers paid bribes to look to the other way (Owusu 2012).

[206] Summarized by Owusu (2012) as follows: 'On the whole, most of the state-owned operations tended to be overequipped and operated below capacity. Problems with administration and financial management were compounded by difficulties in production management maintenance and working capital for spare parts. Many machines tended to be cannibalized to provide spare parts for other operating machines. The government was not effective in managing most of these companies and some managers lost or stole millions of dollars through loans and price fixing (Barker et al., 1991, p. 9). The joint state-foreign and wholly foreign-owned companies, on the other hand, tended to be more technically sophisticated, capital-intensive enterprises which also possessed expert management'.

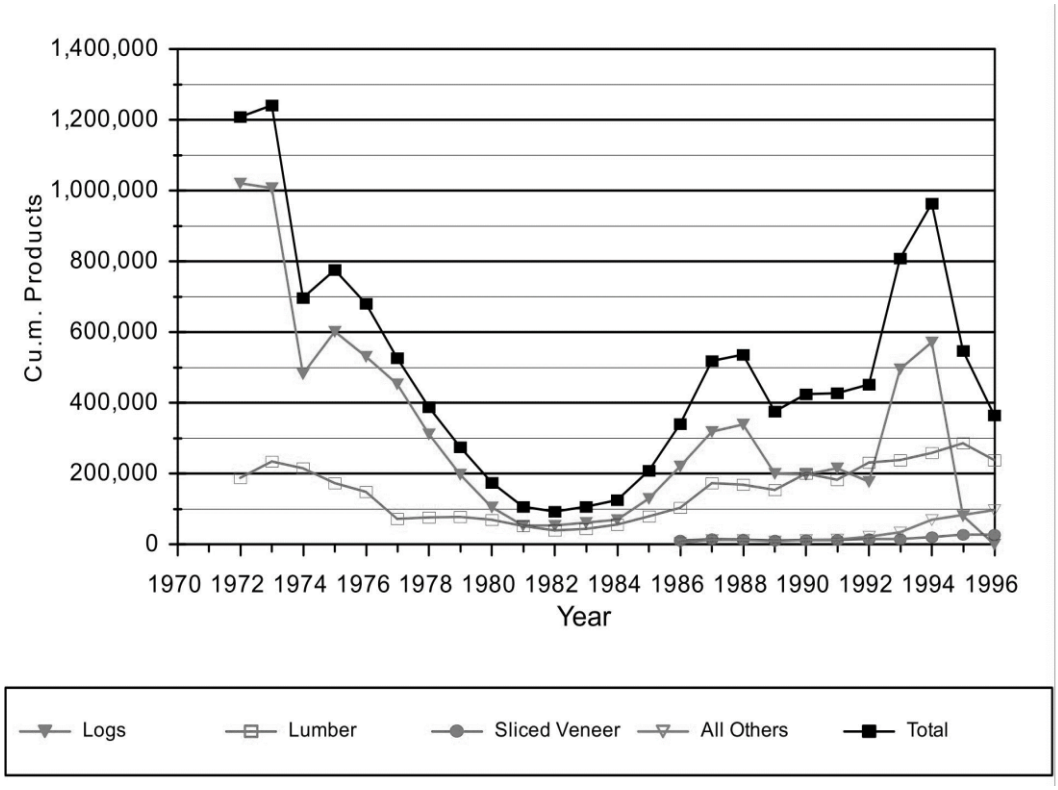

Figure 7.4. Total Wood Exports by Volume of Product Groups, 1972-96
Source: Treue (1999: 47)

Three factors are commonly named in the literature as the causes for the Ghanaian timber industry's severe crisis. In general, the period from 1972 to 1981 – specifically under the rule of Colonel I.K. Acheampong (January, 1972 to July, 1978) and the People's National Party, under Hilla Limann (September, 1979 to December, 1981) – was said to have been characterized by 'complete mismanagement' (Huq 1989: 16). Economically, particularly the high currency overvaluation, poor infrastructure, and the companies' consequent inability to source adequate spare parts resulted in an explosion of transport costs for the Ghanaian timber industry.[207] Second, the general public sector mismanagement of

[207] Apart from general macro-economic imbalance, part of this mismanagement was a severe overvaluation of the Ghanaian Cedi. This overvaluation made Ghanaian goods significantly more expensive for international buyers and as such was part of decreasing the competitiveness of the Ghanaian export industry, including the timber sector. At the same time, infrastructure like roads, railroads, and ports also suffered severely from mismanagement and lacking investment in the economy. Given the weight and volume of timber logs, the timber industry is highly reliant on a functional transport infrastructure. However, the infrastructure at the time was anything but functional. Rather, Oduro *et al.* (2011: 24) summarize the environment then as follows: 'Aging sawmills gradually came to a standstill, trucks fell idle, road and rail facilities to the ports fell into

the country at the time was also felt directly into the Ghanaian timber sector. Specifically, set up to regulate the marketing and export of all timber products, the Ghana Timber Marketing Board (TIMBOD) was perceived by actors in the sector at the time largely as a bothersome industry-inhibiting and rent-seeking agency (Owusu 2012: 67–69).[208] Third, the post-Nkrumah governments had taken their policy of indigenization and nationalization the timber industry to an arguably unhealthy extreme. High indigenous staffing quotas and requests to surrender 55% of equity shares put foreign firms under serious operational stress and by 1981 most of them had left the country and with them their experience and international competitiveness.[209]

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despair, while those companies that managed to reach the port in Takoradi found the loading facilities had collapsed too.'

[208] Prior to export, the contracts of nearly 94% of all timber exports had to be approved as corresponding to a minimum price level TIMBOD set in relation to trends on the world market (Owusu 2012: 67–69). This process, however, was extremely cumbersome and destructive for a couple of reasons. First, exporting companies and TIMBOD had to go through a process of thirty-two steps until the timber could be exported (Owusu 2001: 71). Consequently, it usually took TIMBOD three to four weeks to approve a contract. Prospective buyers who urgently needed timber turned elsewhere for their supplies, leading to a massive loss of business for domestic companies. Secondly, the board set minimum prices based on prices in the previous quarter. Thus, when prices decreased regarding the previous quarter, local companies were bound to unrealistically high minimum prices and could not compete on the world market. And when prices were rising, exporters could ship their wood at artificially low prices and keep their excess profits overseas, thus causing the government to lose foreign revenue. And more generally, the board rarely checked the quality, species, and quantity of the logs, thus – often with the support of a bribe – exporters could easily have their contracts approved with prices far below the official minimum.

[209] Regarding indigenization – or 'Ghanaianization' as the National Liberation Council that had toppled Nkrumah termed it – the entry of Ghanaians into both logging and wood processing was strongly encouraged and facilitated. Large-scale European companies like Mim lost part of their timber rights to small-scale enterprises favoured by the government (Martin 1991: 137). In the late 1960s and 1970s, the government actively granted more forest concessions and loans (sometimes at negative real interest rates) for capital equipment purchases to numerous Ghanaian logging contractors (Repetto and Gillis 1988: 313–314). Moreover, to increase the share of Ghanaian employees in industry, the 1970 Ghana Business Promotion Act (Act 334) established quotas limiting the number of non-Ghanaians who could be employed in certain industries and occupations, among them many positions within wood-processing enterprises. These policies were clearly successful in increasing the number of Ghanaian operators in the timber industry. From a nearly completely foreign-owned industry at the advent of independence, by 1981 more than the majority of accumulated investment in the Ghanaian forest sector was owned by locals (Repetto and Gillis 1988: 314). On the flipside, economically most of these new local-owned companies struggled to survive given the extremely high costs of operations and technological demands (without sufficient foreign experts remaining in the country to assist them) and the dwindling profits (Martin 1991).

The success of post-Nkrumah governments' nationalization strategies was equally questionable. In October 1973, the Archeampong government directed all foreign natural resource firms to surrender 55 % of their equity to the government. Consequently, many companies left soon thereafter. Two to three years later, the four remaining multinational timber firms sold their entire shares to the government and left Ghana's timber industry for good. As described by Owusu (2012: 46) – quoting

Although they were largely responsible for the hardship the timber processing industry was facing, Ghanaian governments in the 1970s actively tried to promote processing using species-specific log export bans. Given the context that in the early 1970s rough logs still constituted around 78% of all timber exports (Huq 1989; Owusu 2012: 47–48), the government in 1972 initiated a move to ban the export of 14 major species[210]. However, it was not until January 1979 under the rule of Lieutenant General Akuffo that the ban came effectively into force (Huq 1989). As detailed by Asamoah Adam *et al.* (2006: 285), Repetto and Gillis (1988: 338), Huq (1989), and Birikorang (2001: 38), the core aims of the ban were to promote domestic processing, generate jobs, and secure the log supply of species in regular demand by domestic processing plants. Simultaneously, the government abolished all export taxes on sawn timber. Overall, Repetto and Gillis (1988: 338) perceived these industrial policy measures as largely 'meaningless given the deep overvaluation of the cedi' and noted that by 1984 the share of logs in total wood exports had remained about the same as in 1970. Apart from the overvaluation, it needs to be noted that while the banned species were indeed among the most important, the fact that the ban was not imposed on all species made it relatively easy, according to one interviewee, to export the banned species with or without the support of timber and port officials.[211] And as such it is difficult to assess for the 1979 ban whether protest by loggers against the policy was absent because they were weak or because the ban was not implemented well and they were not really negatively affected. In contrast, we have more information on the outright 1995 raw log export ban discussed in detail below.

Gyimah-Boadi (1991: 195) – the takeovers were not planned well, lacked any feasibility studies and soon the companies were 'plagued by shortages of critical staff, overstaffing, inadequate capitalization, undue political interference, mismanagement, corruption and inefficiency. (…) Government ownership of the major firms therefore tended to seriously undermine the industry'. By 1981, all four former major multinationals ran at a significant loss (Repetto and Gillis 1988: 313–314).

[210] In total, Ghanaian forests host 730 tree species, of which 680 attain a diameter of 5cm or more at breast height, the absolute minimum to be processable (Treue 1999: 33). Out of these, only around 66 species had been exploited on a commercial scale by 1973, and 12 species accounted for 80% of stems felled (Asamoah Adam *et al.* 2006: 287).

[211] Ghana Timber Scholar 1, Per Telephone, 11.06.2019; Ghana Timber Consultant, Accra, 12.05.2017.

7.1.4. 1983-1994: The Economic Recovery Programme and the Revitalization of the Ghanaian Timber Industry

Following a period of severe recession, the timber industry witnessed its revival starting in 1983. Unhappy with the economic progress of the Nkrumahist PNP government, the leader of the successful 1979 coup d'état – flight lieutenant Jerry Rawlings – again putsched away the government on 31 December 1981, putting himself and his Provisional National Defence Council in power. Faced with this severe crisis, Rawlings – as many African leaders at the time – was forced to accept economic assistance from the international community and IFIs, on the condition that an SAP was implemented.[212]

A central part of the so-called government-launched and IFI-guided 1983 to 1988 Economic Recovery Program (ERP) was the revitalization of the timber industry. The overriding purpose of the ERP was to reduce Ghana's debts and to improve its trading position in the global economy. A key strategy to do so was to promote economic sectors that could quickly increase the production of exportable goods (which was part of the ERPs Export Rehabilitation Programme). Seen as 'a goose that could quickly lay golden eggs' (Owusu 2012: 99), the timber sector became the beneficiary of the second-highest capital infusion in the context of the ERP.[213] And in contrast to other instances like the much-discussed case of Mozambican cashew processing (Aksoy and Yagci 2012; Cramer 1999; McMillan *et al.* 2003; Pitcher 2002), the IFIs explicitly saw a purpose in promoting processing and

[212] At first, however, Rawlings pursued economic interventionist, urban biased, and anti-free trade policies like his predecessors. Rather than solving the economy's woes, it appeared these policies only worsened them (as did the simultaneous severe drought and forced return of a million young men from Nigeria). By 1983, annual inflation had spiraled to 123%, the national debt had reached US$1.5 billion and external reserves could barely cover a few days' imports (Oduro et al. 2011: 24–25).

[213] The sector received a total US$ 157 million in World Bank loans (Owusu 2001: 59–60). Particular crucial was a US$ 52 million loan scheme implemented in 1985 and 1986.

actively supported it (World Bank 1987: 22).[214] In parallel, the government engaged in a range of further activities to restructure the sector.[215]

Overall, the ERP was highly successful in reviving the timber sector. As the curve in Figure 7.4 above indicates, the timber industry responded very quickly to the ERP's incentives. From 1982 to 1988, the annual recorded timber harvest increased from approximately 400,000 m³ to 1.2 million m³, whereas export increased from around 100,000 m³ to 530,000 m³ during the same time (Treue 1999: 47–49). Relatedly, the number of log exporters grew from 90 to around 300 by the end of the 1990s (Oduro *et al.* 2011: 24–25). Processing also saw a major boost. Whereas capacity utilization stood at only 20% in 1982, by 1988 this had increased to a respectable 70% (Owusu 2001: 63). And as illustrated in Figure 7.4, in 1990, around as much timber was exported in processed as in rough log form. After almost two decades of near-collapse, by the end of the 1980s, the timber industry had returned to the heights reached during the early post-independence days.

7.1.5. The 1994/5 Export Ban on All Rough Timber Logs

Between 1979 and 1988 the export of raw logs of 19 major timber species had already be banned, in each case processing promotion having served as the core

[214] Looking at the distribution of credits by project type (Owusu 2012: 101), we see that the IFIs were particularly keen on financing access to new logging equipment to integrated mills and non-integrated concessionaires (53% of all loans), but also in providing credits for sawmills to invest in rebuilding and improving their sawmills (30%).

[215] First, the government privatized many of the former state-owned companies that had always struggled to be economical (Owusu 2012: 100). Second, it disbanded TIMBOD in 1986 and replaced it with the Timber Export Development Board (TEDB), and the Forest Products Inspection Bureau (FPIB), which were to perform TIMBOD's functions more efficiently separately. Third, showing it was willing to use the stick if need be, in 1987 the PNDC started a massive investigation of, and crack-down on the industry for 'irregular activities' such as smuggling, tax evasion, non-payment of timber royalties and fraudulent invoicing, leading to the indictment of a number of firms by the National Investigations Committee (Owusu 2001: 53). However, the government also used carrots to promote export-oriented processing. As part of the 1985 Ghana Investment Code of 1985, sawmillers would be granted tax rebates based on volumes exported, and could retain 20–35 per cent of the export earnings in an external account at the Ghana Commercial Bank in London, that could be used to purchase spare parts, equipment and other materials, as well as for debt servicing and payment of profits, dividends and expatriate staff (Owusu 2001: 61–62). Relatedly, processing firms were granted full exemption for import duties on necessary inputs required for the enterprises. Finally, in January 1988 a further five species were added to the list of banned rough logs to further promote processing (Asamoah Adam et al. 2006: 285). The dip in log exports and slight increase in processed timber exports following the ban illustrated in Figure 7.4 above, might be an indication for the effectiveness of the ban.

motivation. In 1994, however, the government gazetted the directive that it would implement a ban on all rough timber logs (except for teak logs), starting in 1995. In the following sections I will analyse what events led to this policy and provide a short overview of the general economic and organizational context of the timber sector at the time.

7.1.5.1. Structure of the Ghanaian Timber Sector Before the 1995 Log Export Ban

Both before and after the 1995 export ban, the Ghanaian timber industry can be separated into two major spheres: the domestic and export market. The domestic market[216] is dominated by illegal loggers.[217] Since illegal loggers do not pay any tax or concession royalties, they can provide timber at much cheaper rates to the domestic market than formal processors could, explaining formal processors' almost exclusive focus on the export market.

The formal export-oriented timber industry – the focus of this study and illustrated in Figure 7.5 – was characterized by five key players. First, up to 350 mostly Ghanaian-owned firms usually with less than 10 employees were dedicated entirely to logging (Birikorang 2001: 29).[218] Although employing less than 5,000 people in total, these independent logging companies and small-scale concession holders likely accounted for 50-70% of all timber harvest at the time (Mayers *et al.* 1996: 19).[219]

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[216] Accounting for 75% and 24% respectively of the domestic market, the furniture and construction industries are the biggest sources of local demand for wood (Sutton and Kpentey 2012: 293)..

[217] Around 53% of this demand is supplied locally by the informal sector, followed by imports (34%) and the formal milling sector, accounting for only 13% (Sutton and Kpentey 2012: 293). The dominant informal sector is characterized by illegal chainsawmiller operations, which have overtaken the domestic market since the crisis of the timber sector in and the widespread introduction of chainsaws in the 1980s. These consist mostly of small groups of Ghanaian villagers in the High Forest Zone, that using chainsaws illegally log and both mill trees directly at the logging site (Hansen and Treue 2008; Illegal Logging Portal 2006). Chain-sawn timber is then transported and sold to urban wood markets – most prominently the Kumasi or Anloga Wood Market -, from where the lumber is sold on to the construction and informal manufacturing firms.

[218] In 1994 there were only 260 active concession holders left in total (Mayers *et al.* 1996: 19), thus making it unlikely that there were still 350 independent loggers plus a sizable number of integrated processors left in the year before the ban.

[219] Birikorang (2001: 34) states that in 1999 only 1,089 people were employed by 70 independent logging firms. Given his (perhaps somewhat too high) estimation that the independent logging sector

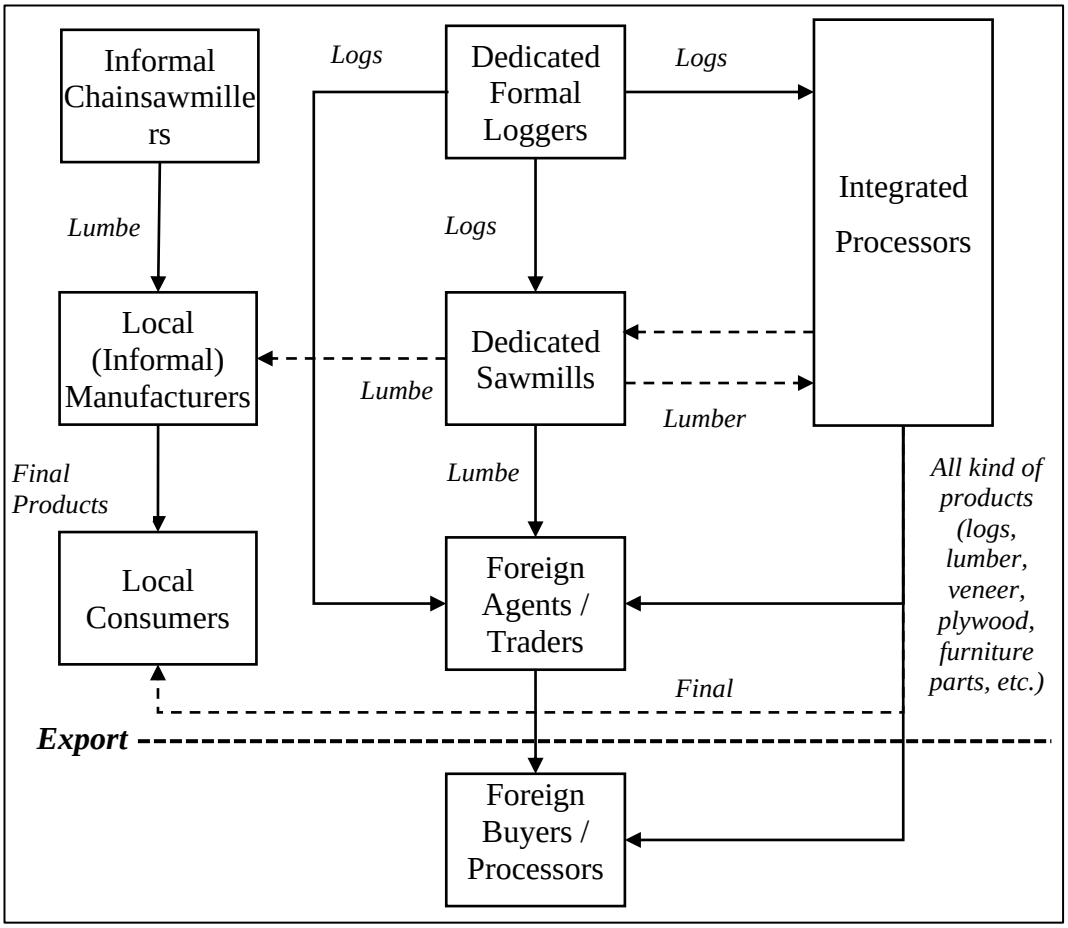

Figure 7.5. The Ghanaian Timber Product Chain Prior to the 1995 Log Export Ban
Source: Own Illustration

Second, around 110 sawmills, nine plywood mills, and 15 veneer mills were active in processing logs (Mayers *et al.* 1996: 19). Importantly, these were split into dedicated processors and integrated processors, which also harvested logs on their own usually large concessions. Whereas dedicated processors were usually Ghanaian and focussed on smaller-scale sawmilling, integrated loggers were mainly foreign-owned, large-scale, and often also ventured into more complex processing steps, such as veneer, plywood, flooring, mouldings, and/or furniture part production. In terms of processing volumes, large-scale integrated players

counted around 350 firms prior to the ban, we can estimate that there were likely no more than 5,000 people employed by independent logging companies.

clearly dominated. According to Birikorang (2001: 16), the ten largest lumber exporters accounted for nearly half (46%) of all lumber exports in 1992. In terms of employment, processing was significantly larger than independent loggers. Overall, up to 50,000 people likely worked in processing prior to the ban.[220] As such, it is critical to state that there were ten times more people in Ghana that would benefit from a ban (i.e. all people that in one way or the other work for processing companies) than those that would lose out from it (i.e. those working in dedicated logging firms).

Lastly, wood export agents. These were often young Europeans send by large Western timber trading houses to buy and export timber coming from the High Forest Zone at the two key ports (Takoradi and Tema).[221] Although some larger logging and processing firms would be able to export directly to foreign customers or in certain cases their parent companies in Europe (Owusu 2012: 43), [222] Asumadu (2004: 24) estimates that even post-ban nearly 95% of timber exporting firms in Ghana relied on foreign agents and brokers to arrange their exports. What is critical to note, however, is that these traders are apt to trading in logs, lumber, and other wood products simultaneously, and can easily change both customers and suppliers (Asumadu 2004: 24). This contrasts to traders in most other African commodities, where commodity exporters mainly export the raw commodity, and processors tend to have an exclusive hold on processed exports. Thus, in the case of timber, traders would not be particularly shocked by a log export ban, as they still have enough market for lumber and other processed timber products. Critically, independent loggers were thus the only real losers of an export ban.

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[220] With the firm numbers for integrated and independent processors not having changed as starkly over time, we can assume that the export-oriented processing industry in total employed around as many people as in 1999, namely 47,797 people (Birikorang 2001: 34). These numbers compare nicely to figures produced by other sources from other decades, like from the (FAO 2014b: 97; World Bank 1987: 5; Owusu 2001: 69; Repetto and Gillis 1988: 318).

[221] Ghana Timber Scholar 1, Per Telephone, 11.06.2019.

[222] The Naja David Group of Companies for example, which contributes nearly 20% of Ghana's total export trade, operates its own plywood sales and distribution outlet in Kumasi and is affiliated directly to timber companies in Australia, the UK, and Germany (Sutton and Kpentey 2012: 297).

7.1.5.2. The 1990s Log Export Boom and the Case for the 1995 Log Export Ban

As indicated above, in 1994 the now democratically elected Rawlings government decreed that all exports of raw logs (except for teak)[223] would be suspended in 1995.[224] The reason for this particular date lies in a log export boom that occurred between 1993 and 1994. As illustrated in Figure 7.4, between 1992 and 1994, the export volume of raw logs tripled from around 200,000 m³ to nearly 600,000 m³, whereas the export value more than doubled from US$ 35.7 million to US$ 75.6 million. As further depicted in Figure 7.6, this increased demand came wholly from Southern and Eastern Asia, and particularly South Korea. Whereas in 1992 Ghanaian logs were almost exclusively exported to Europe, by 1994 Asian countries' demand had exploded, importing 85% of Ghana's logs, with South Korea alone accounting for 40% of them.

The increased demand from Asia was primarily the result of industrial policy decisions across the globe. In 1992, the two major Malaysian sub-regions of Sabah and Sarawak respectively banned and imposed quotas on their exports of raw logs to promote processing (Tachibana 2019), whereas Malaysia peninsula had already banned all log exports in 1985. Being the second-largest tropical timber producer in the world with a world production share of 16% (Morris *et al.* 2012: 74), these bans send shock waves through the Asian log buyer markets, particularly South Korea, Taiwan, China, India and Japan (Sizer and Plouvier 2000: 87). Whereas South Korea imported US$ 288 million worth of tropical logs from Malaysia in 1992, this value dropped to US$ 122 million in 1994. To satisfy their processing needs, Asian buyers looked towards Africa.

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[223] The reason why teak was excluded from the ban is because the diameters of teak trees are very small, falling far below the minimum diameter requirements of Ghanaian processors. More specifically, the sawing technology adopted for larger diameter logs (such as tropical timbers) are unsuitable for small diameter logs (like teak) and would result in uneconomical lumber recovery (Ayarkwa and Addae-Mensah 1999) Given processors unwillingness or inability to engage with new technologies, the government decided not to ban the export of teak logs (Boadu 20.04.2018; Asumadu 2004: 10).

[224] Formally, the ban or rather suspension was temporary, however, never contained an end date and persists until this day (3 July 2019).

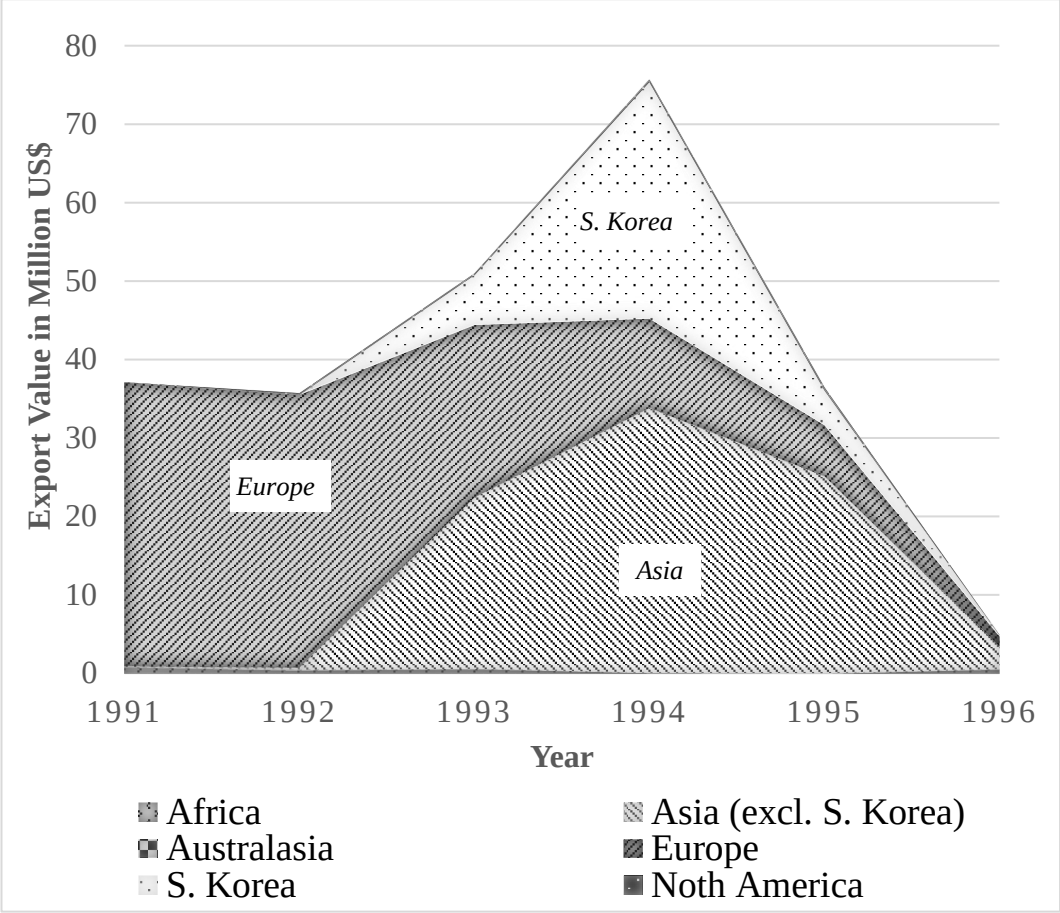

Figure 7.6. The Development of Ghanaian Raw Log Exports by Destination, 1991-1996

Source: Own Illustration based on data from Simoes and Hidalgo (2011).

Faced with this increased demand for raw logs, the government in 1994 decided that a ban on all unprocessed log exports would be enforced the next year.[225] Donors, especially the World Bank (who had previously opposed the implementation of further export bans), only grudgingly accepted it given the context of the log export boom.[226] While naming environmental next to industrial concerns in their decision, most analysts of the ban and the industry agree that the

[225] As the suspension was an administrative action, there is no law that could be referred to.

[226] In fact, in light of the Ghanaian governments' decision to ban the log export of an additional five species in January 1988 against its explicit concerns, the World Bank in November 1988 conditioned the release of the second tranche of its US$ 64 million Forest Resource Management Project on the government's promise not to institute any further log export bans until the completion of a study on the matter (World Bank 1988: 4) These studies however only confirmed donors in their scepticism, arguing that their processing promotional effect was negligible, and that the industry already had overcapacities. For a more detailed discussion see Treue (2001, 1999: 147–151).

government's interest in the ban was primarily a mixture of strong lobbying by processors as well as its own goals of generating as well as protecting employment and industry.[227]

And indeed, in contrast to independent loggers, processors[228] are considered by sector insiders as having a strong influence on government policy (Birikorang 2001: 20; Mayers *et al.* 1996: 23; Owusu 2012: 181; Treue 1999: 151–152).[229] This, they argue, is the result of their greater organizational capacity, financial clout, and importance in employment generation.[230]

Yet, that processors would lobby for a ban was not as obvious as perhaps in other processing contexts. This is due to the fact that most processors in Ghana were both loggers and processors and thus both log and lumber exporters. As described by Treue (1999: 221) and Birikorang (2001: 28) many processors contributed to and profited from the log export boom throwing 'all their resources into harvest and export of logs' and happily engaging with the situation where they could earn quick profits and clear old debts. Thus, one might wonder why they would want to put an end to this and lobby for a ban in the first place. Treue (1999: 221), as well as processors and other sector experts interviewed,[231] argue that the key point is that

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[227] To quote a 1996 IIED report (Mayers *et al.* 1996: 16): 'It is likely that the major pressure for the bans comes not from environmental considerations but from the sawmilling lobby and from those with macro-economic objectives.'

[228] Sometimes rreferred to as the 'timber men'.

[229] Ghana Timber Scholar 1, Per Telephone, 11.06.2019; Ghana Timber Consultant, Accra, 12.05.2017; Senior Official at the Ghana Forestry Commission, Accra, 11.05.2017; Senior Executive of Ghana Timber Association, Per Telephone, 15.05.2017; Senior Executive of Ghana Timber Millers Organisation, Per Telephone, 10.05.2017.

[230] First, since 1981, when processors exited the Ghana Timber Association (GTA, which is now only made up of independent loggers) to form their own Ghana Timber Millers Organisation (GTMO), they have been well-organized and represented by a capable and well-staffed secretariat. Second, Treue (1999: 151-152) as well as Mayers *et al.* (1996: 16) argue that the importance the sector has for the economy as a whole and formal employment creation (creating some 50,000 jobs), gave processors significant clout and favour with the government, which ensured that forest fees remained low and that they could even engage unpunished in illegal actions like subletting logging concessions from other holders. Last but not least, many scholars of the sector allege that due their economic muscle, particularly larger integrated processors could bribe officials up to the highest levels to work in their favour (Birikorang 2001: 39; Treue 1999: 167; Owusu 2012: 181)..

[231] Ghana Timber Scholar 1, Per Telephone, 11.06.2019; Senior Official at the Ghana Forestry Commission, Accra, 11.05.2017; Managing Director of Leading Integrated Processor, Kumasi, 23.04.2017; Senior Executive of Ghana Timber Millers Organisation, Per Telephone, 10.05.2017.

the mid- to long-term benefits of a ban trump the short-term benefits (and costs) of the log boom. Processors were wary that a too rapid harvest (especially by independent loggers) would prove unsustainable and could eventually lead to premature depletion of their own supply. More importantly, however, they anticipated a ban would allow them to force independent loggers into selling them logs at cheaper prices and eventually squeeze them out of the market completely (both of which eventually came true). Given these strong interests, Treue (1999: 221) hypothesizes that processors not only lobbied the government but also intentionally fuelled the log export boom to push both the government and donors to agree to a complete log export ban.

Characterizing the export ban solely as the result of strong processor lobbying would be incorrect, however. First, sector analysts agree that policy-makers were sincerely interested in promoting processing and employment in the sector, and also genuinely worried the log export boom might put this into doubt (Amoah *et al.* 2009: 168; Mayers *et al.* 1996: 16).[232] Secondly, the Rawlings government has shown prior and post-ban that it could and would implement policies at odds with processors' interests.[233] Thus, it appears likely that the 1995 raw log export ban was in the joined interest of processors and policy-makers, who used the extreme situation of the 1993/4 log export boom to convince donors of its necessity.

7.1.6. The Politics of the Ghanaian Log Ban Maintenance

In contrast to the export ban on raw cashew nuts, the ban on timber logs was never withdrawn in Ghana. In the following sections, I will argue that this was the result of independent loggers' political weakness. Independent loggers were clearly aware and negatively affected by the ban. Because loggers directly sell their logs to export agents (rather than through middlemen as in most other commodities), the fact that these could not buy their logs anymore was enough to become aware of the export

[232] Ghana Timber Scholar 1, Per Telephone, 11.06.2019; Ghana Timber Consultant, Accra, 12.05.2017; Senior Official at the Ghana Forestry Commission, Accra, 11.05.2017.

[233] . Examples are the PNDC's 1987 crack-down of 'irregular activities' in the industry (Owusu 2001: 53), the large increase of stumpage fees in 1999 (Treue 1999: 223), or the 1994 introduction of higher export taxes on lower-value air-dried lumber (which processors produced dominantly at the time) versus higher-value-added kiln-dried lumber (Treue 1999: 222).

ban (even without a greater information campaign by export agents). Despite the attribution of severe price distortions to government action, independent loggers did not actively mobilize against it and the government. This was due on the one hand to their organizational weakness, the fact that traders had no incentive to compensate it, and most importantly, a general feeling of loggers that they were too few to successfully challenge the government.

7.1.6.1. Attribution Despite Indifferent Traders

In the previous chapter, I have argued that traders played a crucial role in producers attributing price distortions to government action. This was different in the context of timber. Timber export agents at no point tried to stir up loggers against the ban or lobby against it in any other way. In fact, interviewed export agents and scholars of the timber trading sector confirmed that traders had actively stayed away from any debates and politics surrounding the policy.[234] Given the description of timber export agents above, this does not come at a surprise. Since they are not dependent on log exports, but also engage in (and can shift relatively easy to) trading processed timber, export agents have little incentive to inform or mobilize independent loggers.

Nevertheless, independent loggers had become aware of the ban relatively immediately after its imposition.[235] Whereas producers in most other commodities are dependent on middlemen (that stand in contact with exporters) to inform that a ban was imposed, timber loggers sell their logs directly to exporters. As such, when they attempted to sell their logs at the port and export agents would not have them, the implementation of a ban was obvious. In addition, given the relatively small number of independent loggers and a closer interaction between timber companies and government agencies (e.g. during the regular processes of paying concessional fees and submitting documents), many loggers had also become aware of the ban directly from government sources.

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[234] Treue, Representative of a Danish international timber trading Company

[235] Senior Executive of Ghana Timber Association, Per Telephone, 15.05.2017.

7.1.6.2. No Mobilization Despite Attribution and Grievance

Despite being fully aware of the ban, independent loggers never staged any noticeable protest. This is not for a lack of motivation. As in the analysed nut sectors, the ban rapidly and severely dropped domestic log prices by between 38% and 46%,[236] arguably as a result of increased marketing power of processors.[237] This had highly damaging consequences for independent loggers. As indicated by a senior official of the Ghana Timber Association, whereas around 20% of loggers had the financial capacity to move into processing following the ban, most had to close shop.[238] This is supported by Treue's (1999: 182) calculations that for many species the stumpage fees independent loggers could pay were negative, that is, their production was unprofitable. And whereas Mayers *et al.* (1996: 18) had found independent loggers to control over 50% of the timber market prior to the ban, Birikorang (2001: 23) observed in 1999 that their contribution to the (formal[239]) national harvest had dropped down to only 4%. This crowding out of independent

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[236] The two most comprehensive studies of these dynamics are Thorsten Treue's PhD thesis (1999)[236] and Gene Birikorang's (2001) 'Ghana Wood Industry & Log Export Ban Study' written for the Forestry Commission and the Ministry of Lands and Forestry. Both notice that domestic log prices significant depressed following the 1995 log export suspension. Whereas Birikorang (2001: 39-40) calculates that in 1999 domestic log prices stood at only around 38% of what they would get on other more liberalized tropical timber markets (with most of the difference flowing in the pockets of processors), Treue (1999: 138) collected data on species-specific domestic and FOB prices for logs in 1993 and 1996. Looking at the 12 species for which data was available in both years and that had not been banned prior to 1995, we can see that between 1993 and 1996 their average domestic log price had fallen by 52.5%, from 101.5 Deutsche Mark to 48.1 Deutsche Mark (compare Appendix 7.1 for the underlying data). Looking at prices across all species for which data was available, we see an overall drop of around 46% (also compare Appendix 7.2). Note however that this figure is likely somewhat overestimated due to a lack of exact export volume data for each species, and thus an inability to weight this average figure by export volume. If we could, particularly frequently traded species (the so-called 'scarlet stars') would be weighted more, and since the price drop here was lower (41.8%), so would the calculated average value be. That being said, we have to keep in mind that the log prices for most scarlet star species were already artificially depressed in 1993, as most of them had already been banned in 1979 or 1988.

[237] Both Treue and Birikorang argue strongly that this price drop is the result of an increased marketing power of processors. Specifically, Treue (1999: 139) writes that 'there are also indications that the bigger integrated wood industries are suppressing the domestic log prices through cartel-like arrangements' and that 'the log export bans must account for a major part of this price distortion and that the bans have greatly strengthened the bargaining power of processing companies over logging companies.' In the same vain, Birikorang (2001: 34) summarizes that 'the low domestic price of logs is one consequence of the log export ban and export suspension imposed in 1995', which further is due to the fact that 'processors generally have market power over independent loggers'.

[238] Senior Executive of Ghana Timber Association, Per Telephone, 15.05.2017.

[239] That is excluding the significant illegal harvest through chainsawmillers.

loggers is further substantiated by the number of independent loggers dropping from 350 firms in 1990 to only 70 in 1999 (Birikorang 2001: 29).[240]

Given these strong and clearly attributable grievances, why did loggers not mobilize against the ban? One factor commonly mentioned is the relative weakness of the GTA. Since most processors left the GTA to found their own organization in 1981, the association lacks funds, staff, and infrastructure (Birikorang 2001: 34).[241] This contrasts' with the millers' well-structured and -funded GTMO. What is more, whereas traders were motivated to organize the equally poorly organized producers in the above-discussed nut sectors in Ghana and Kenya, this was not the case in Ghanaian timber. As such, the inability to overcome organizational weaknesses might have been one reason why independent loggers did not mobilize protest.

An interviewed senior executive of the GTA argued that another factor was more relevant, however.[242] While he admits that the GTA was and remains a weak association, he claims it was capable enough to organize protests. Why they did not, he argues, is because they knew they and their protests would not have been able to create any significant political pressure. In his words, 'it was not difficult to organize the members. But even if we had, we'd still have no leverage. We did not have the numbers. Processors are many more.' Specifically, what he referred to was that whereas independent loggers accounted for only around 5,000 employees at the time, processors accounted for approximately ten times as many. As such, not only was their own number small, it was also much smaller than that of those winning from the ban. Going against such numbers, independent loggers felt that

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[240] Simultaneously, a relatively high factor mobility in timber logging might have reduced the stakes and grievances of independent loggers. Specifically, some interviewees have argued that it was relatively feasible for independent loggers that could not move into processing or continue on reduced margins to take their machines (mainly trucks and tractors) to other uses, such as agriculture or the transport industry, whereas chainsaws could be sold to illegal loggers (or become an illegal logger oneself). As such, in contrast to Ghanaian cashew farmers, the stakes were perhaps not high enough for them to engage in a costly and unpromising battle.

[241] Take, for example, the view of an interviewed senior executive of the GTMO: 'They [the GTA] weren't well organized. They were never well organized. That is why the millers broke up from them in 1981. The millers are much better organized. The millers are able to hire more qualified staff. The loggers could never hire someone like himself – they couldn't pay the salary. Pay better salaries, the loggers could not do that. The law requires hiring professional foresters. But however not even the professional loggers could hire a professional forester. The millers can. They can comply with the laws and the relevant economic conditions.'

[242] Senior Executive of Ghana Timber Association, Per Telephone, 15.05.2017.

that the odds of their protest being successful were far too low to justify the costs. I argue that this dynamic is not only why loggers did not protest, but also why the government knew to implement the ban would not pose any political risk.

A further factor the GTA executive mentioned is that at the time of the ban, the hold of Rawlings' government was still very strong and that the GTA was warry of going against his government, perceiving it as a 'military dictatorship'. This statement needs to be qualified a bit, however. First, by 1995 the country had been formally governed as a democracy for three years (although the 1992 election was largely boycotted), opposition parties could operate freely, an independent supreme court was created, free media allowed, and the 1996 election was considered the first completely free and fair election in the nation. Loggers thus likely would not have faced significant repression had they protested against the ban. What is more, when asked whether loggers have tried to protest against the ban in the two decades following the ban (probably two of the most democratic decades in African history), the association executive replied that they had not because they still felt that they lacked the numerical leverage.

In conclusion, the reason why the government was not afraid to implement or maintain the 1995 export ban is the same why loggers never protested against it: they knew that loggers did not have the numbers or means to pose any threat to them. In contrast, not imposing the ban could imply endangering the processing industry, a prospect more economically and politically threatening to policy-makers.

7.1.7. Conclusion of the Ghana Log Export Ban Case Study

Throughout history, the Ghanaian government actively tried to promote its timber processing industry. Next to generous loan programs and tax cuts, it had banned the export of raw logs from 18 tree species in 1979 and 1988. When planning to ban all raw logs, however, powerful donors (or rather, the lords of the loans) expressed their clear scepticism against log export bans and conditioned the government to refrain from using them. The government and powerful processors used the partly self-created and -enforced mayhem of the 1993/4 log export boom as a pretext to convince donors that a temporary suspension of all raw log exports was required to

safeguard both forest and industry sustainability. The ‘temporary suspension’ remains active until this day – whereas the industry is close to collapse due to excessive harvesting by processors.

I argued that the imposition and maintenance of the ban was primarily the result of weak and few producers as well as the low likelihood that traders would help them. In timber, international brokers are adapted to trading both logs and processed wood, and as such did not much mind the export ban. This shows that traders need not always want to form defence coalitions against bans. If they had, however, loggers would have been a very unformidable ally. Apart from being poorly organized (although probably better than Ghanaian cashew farmers, who barely had a national association to speak of), they were unable to bring numbers to the table. Not only were their numbers extremely small – likely not more than 5,000 people worked for independent logging firms – but they were also ten times smaller than the estimated 50,000 employees of the processing companies working in the country. Despite loggers being aware and strongly aggrieved by the ban, they, therefore, felt that their numbers were too limited to successfully protest against the ban. Not surprisingly then, the government had little cause to be afraid of implementing and maintaining the ban against their will.

7.2. Worthwhile Waste: The Politics of the 2013 Ghanaian Ferrous Waste and Scrap Export Ban

Metal waste and scrap is a commodity unlike the others discussed in this thesis. It does not occur naturally in certain fixed sites like minerals and is not actively grown or cultivated like agricultural crops. Furthermore, processed metal waste and scrap usually serves domestic rather than export markets. Nevertheless, it shares significant similarities to discussed commodities regarding its value and production chain. Though not naturally occurring, the collection of metal wastes in Africa is closely attached to certain areas in a country, primarily urban areas. And while not cultivated, metal waste also has to be actively collected, which is sometimes referred to as 'urban mining' (Grant and Oteng-Ababio 2012, 2016). Furthermore, as in most agricultural commodities in Africa, there are brokers and dealers buying scrap from collectors/producers. And while metal waste and scrap processed domestically by steel mills tends to be sold domestically, whether the scrap itself is sold to domestic or foreign steel mills is very much based on the economic decisions of these dealers. Yet, importantly, as with the other commodities discussed in this thesis, foreign processors often offer better prices for scrap than local processors, leaving the latter starved of supply and creating the demand for metal scrap export bans. This is particularly true for the 2000s, when Asian steel mills have created huge overcapacities and thus strong demand for ferrous scrap, making it extremely tough for steel mills throughout Africa and beyond to compete with them.

Hosting one of the oldest scrap-based steel milling industries in Africa, the Ghanaian government in 2013 reacted to this increased pressure from Asia with a legislative ban on all ferrous waste and scrap exports. Doing so, it is among 16 countries in my sample that have banned the export of metals scraps in one form or the other. Like the previously discussed case studies, this has led to significant price drops for Ghanaian scrap collectors and dealers and resulted in their active opposition to the measure. Yet, as producers in Ghanaian timber and Kenyan nuts, they too failed to pose a numerical threat to the government, helping to explain why the ban has been implemented and maintained with relative ease. Before discussing the politics of this ban in more detail, I will first introduce the history of the sector leading up to the ban.

7.2.1. The Ghanaian Steel Industry in the 20th Century

The first steel mill, Tema Steel Company Ltd., was constructed in the early 1960s as part of President Nkrumah's vision to industrialize the country. Built in what was to be Ghana's new industrial hub (Tema), in his speech during the ground-breaking ceremony in June 1962, he justified the mill's construction by saying that: 'I have always held the very strong opinion that to expedite our industrialisation, Ghana must go in for the basic industries so as to forge the machines and tools for building other industries' (Reuters 1962). Constructed and financed by the British, the GBP 1.65 million mill was to employ at least 300 people, operate on ferrous scrap metal collected in Ghana, and produce up to 30,000 tons of steel per year for the domestic market, starting in 1964 (Fourie 1968; Ghana Office of the Planning Commission 1964: 100; Reuters 1962). Overall, the aim of West Africa's first steel mill was to supply sufficient steel to local steel manufacturers that could substitute foreign imports of simpler steel products (Ghana Office of the Planning Commission 1964: 100).

As discussed in Chapter 2.4 of this thesis, creating a steel milling industry 'from scrap' is relatively economical even where capital and energy supply is low. Making steel 'from scratch' requires pure iron ore in large volumes (which Ghana possesses, but never mined), massive capital investments, and tremendous amounts of electricity (both of which was lacking in Ghana). Re-smelting ferrous scrap, however, requires only scrap and no actual iron ore and requires much less capital and electricity to process,[243] explaining why scrap-based steel mills are a relatively common sight in Africa.

Despite the supposed relative simplicity and viability of running a scrap-based steel mill, by August 1966 (six months after Nkrumah's ouster) the Tema steel mill lay idle, struggling to receive sufficient ferrous scrap (Fourie 1968). Scrap iron is derived mainly from waste produced by households, industry, and public infrastructure. At the time, however, all these sectors had been making relatively

[243] Studies estimate that in producing one ton of steel via recycling scrap rather than making it from scratch, one saves up to 75% of the energy cost, one ton of iron ore, 600 kg of coal and 54 kg of limestone (Emery *et al.* 2000; Broni-Sefah 2012). Furthermore, this cheaper production also comes with environmental benefits, scrap-based milling causing 86% less air pollution, 76% less water pollution, and a 40% reduction in water used.

little use of steel and thus could not produce much scrap. Hence, while the steel mill was cleverly built within the new Tema industrial zone, factories were too new to create much scrap for the mill. Moreover, today's significant private scrap collection sector was if at all in its infancy. In the first years of its existence, thus, little to no steel had been produced from the mill (Fourie 1968).

During the next two decades, the situation of the Tema Steel Mill remained difficult. Incorporated into the state's Ghana Industrial Holding Corporation (GIHOC) in 1968, the mill still struggled to source scrap, as private scrap collection and industrial scrap production remained limited. One year after the first wood log export bans in 1979, the Ministry of Trade and Industry (MoTI) placed an administrative ban on the exportation of all ferrous scrap metals as an 'attempt to protect the local steel industry' (Amoah 2013). Otherwise very little is known about the ban and the exact history of the steel industry at the time. In general, however, it is somewhat surprising that the government sought a ban to help the industry. As illustrated in Figure 7.7 below, exports of ferrous scrap were near inexistent at the time and a fraction[244] of the export volume in 2012 (the year before the legislative export ban of scrap iron). As such, it is difficult to reconstruct why the government at the time thought an export ban would make much of a difference to the industry.

Along with the general recovery of the economy from the mid-1980s, demand for steel and a domestic steel industry also recovered. The first sign of this was the entrance of new major players to the industry. In 1987, the IFC supported Ghana-based Taiwanese popsicle manufacturer Allan Chou to open Wahome Steel Ltd. in Tema. With a production capacity of over 70,000 tons of steel per year, the mill became the largest in the country (Chou 2019). Furthermore, at the eve of democratization in the early 1990s, two further mills entered the Tema steel industry, Western Steel & Forging[245] and Ferro Fabrik, adding 60,000 and 30,000 tons of steel production capacity to the country (OECD 2011: 135; My Joy Online 2016).

[244] The volume of ferrous scrap exports in 2012 was over 2,500 times larger than in that 1980.

[245] The company is today named Western Steel and appears to be operated together with Western Castings Ltd., a firm that has manufactured water pipes and other steel-based products since the early 1970s.

Tema (now GIHOC) Steel, however, was still faring poorly. Instead of producing 30,000 tons of steel per year as originally planned, it had produced only 4,500 tons per year on average throughout the 1980s. And rather than employing over 300 people, it employed only 130 (Dassah 2017). Consequently, and in line with the policy climate at the time, in 1991 the Rawlings government sought private investors to lead the company as a joint venture with the state. These were found in Manubhai Patel and Prasad Motaparti, a Kenyan Asian and an Indian that have built a conglomerate of companies in steel, transport, logistics, IT, trade and particularly cement (WACEM) throughout West Africa, Kenya, DRC, and Madagascar (Le Monde Afrique 2016). Overall, the privatization of the Tema Steel Company can be considered successful. By 1999, the annual steel production had increased to 30,000 tons (Ghana Web 1999; Dassah 2017). In the same year, over 500 people worked in the mill – four times the 1991 number – and pay increasing significantly.

Although the industry appeared to have better prospects than ever before, the new steel mill owners lobbied actively for more government protection. In October 1997, they called on President Rawlings to increase the import duty on iron rods to 30% from 20%, to give 'halt to the dumping of steel products in the country from abroad' (Ghana Web 1997). Steel coils, iron rods, and steel balls for the construction and mining industries are the steel mill's key outputs, yet foreign manufacturers were and are often able to supply them significantly more cheaply. While the fact that the government increased the tariffs to 25% in 1998 showed that it was sensitive to steel millers' well-being, the fact that millers did not ask for any additional measures regarding scrap *exports* shows that prior to the 1990s export competition for unprocessed scrap iron was not an issue to them.

7.2.2. The Ghanaian Steel Industry in the 21st Century and the Road to a Ban

After the turn of the millennium, however, export competition exploded. This was primarily the result of the massive economic boom in Eastern Asia, creating a tremendous demand for steel, and thus Asian steel mills seeking ferrous scrap beyond their borders. Interviewees also indicate that this boom might have to do with the increased amount of manufactured imports from this region, which create empty containers that could be filled relatively cheaply (potentially with ferrous

scrap) for the way back to Asia.[246] Figure 7.7 illustrates nicely how before the 2000s export of ferrous scrap was minimal, rarely crossing the 5,000 tons mark. In 2005, exports, however, reached more than 20,000 tons, and just three years later exceeded 100,000 tons. Figure 7.8 further illustrates that this demand for Ghanaian scrap came almost exclusive from Asia, with India and Vietnam being particularly important buyers. In 2012, the year before the legislative export ban, Vietnam and India alone accounted for over 87% of Ghana's scrap imports, the remainder primarily going to other Southeast Asian countries like Malaysia, Thailand, and Indonesia. Appendix 7.3 traces the destinations of Ghanaian scrap iron over time.

This scrap export boom had two important consequences for the Ghanaian steel industry. On the one hand, it massively boosted the businesses of small-scale scrap collectors and dealers. On the other, is made it significantly harder for steel mills to source enough input.

Starting in the 1990s, informal scrap collectors and dealers have become increasingly important for the industry. Prior to those days, the key sources for steel mills were industrial scrap (i.e. scrap produced by larger manufacturers working with steel) as well as much larger-scale capital scrap (e.g. decommissioned power stations, ships, or old government vehicles). These were, and still are, usually sold directly to the steel mills. Following the economic recovery program of the 1980s and the general rise of wealth in the country (particularly in urban centres), ferrous scrap from household appliances, smaller workshops or the demolition of houses turned into a more relevant source of scrap in the economy (Amoah 2013; Broni-Sefah 2012: 8–9; Nkansah *et al.* 2015). Importantly, this source was first tapped and remains controlled almost exclusively by informal scrap collectors and dealers.

Since this is where most scrap can be found, scrap collectors and dealers operate almost exclusively in Ghana's urban centres. Apart from other industrial centres like Kumasi or Takoradi, the Greater Accra and Tema area hosts the greatest number of scrap collectors and dealers in the country.[247] If one takes e-waste as a

[246] An interviewed steel miller claims that whereas the cost of shipping one ton from India to Ghana is US$ 62, the cost falls to US$ 15 for the return. (General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017).

[247] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017.

proxy – which is usually collected by the same people – it appears sensible to assume that around 50% of Ghana's total annual scrap production occurs in the greater Accra area (Grant and Oteng-Ababio 2012: 14). One particularly important location for the trade is the notorious Agbobloshie dumpsite right next to the city centre of Accra. The area around is mainly inhabited by Northerners who fled ethnic clashes in the 1980s and poor urbanites who had been pushed out of the city centre to make room for new buildings for the 1992 No-Aligned Movement Conference (Amankwaa 2013: 556–557). In the following two decades Agbobloshie became the centre of the Ghanaian recycling industry, and most famously of e-waste, perhaps being one of the most-covered- and -researched e-waste sites on the globe (Amankwaa 2013; Grant and Oteng-Ababio 2012; Prakash and Manhart 2010).

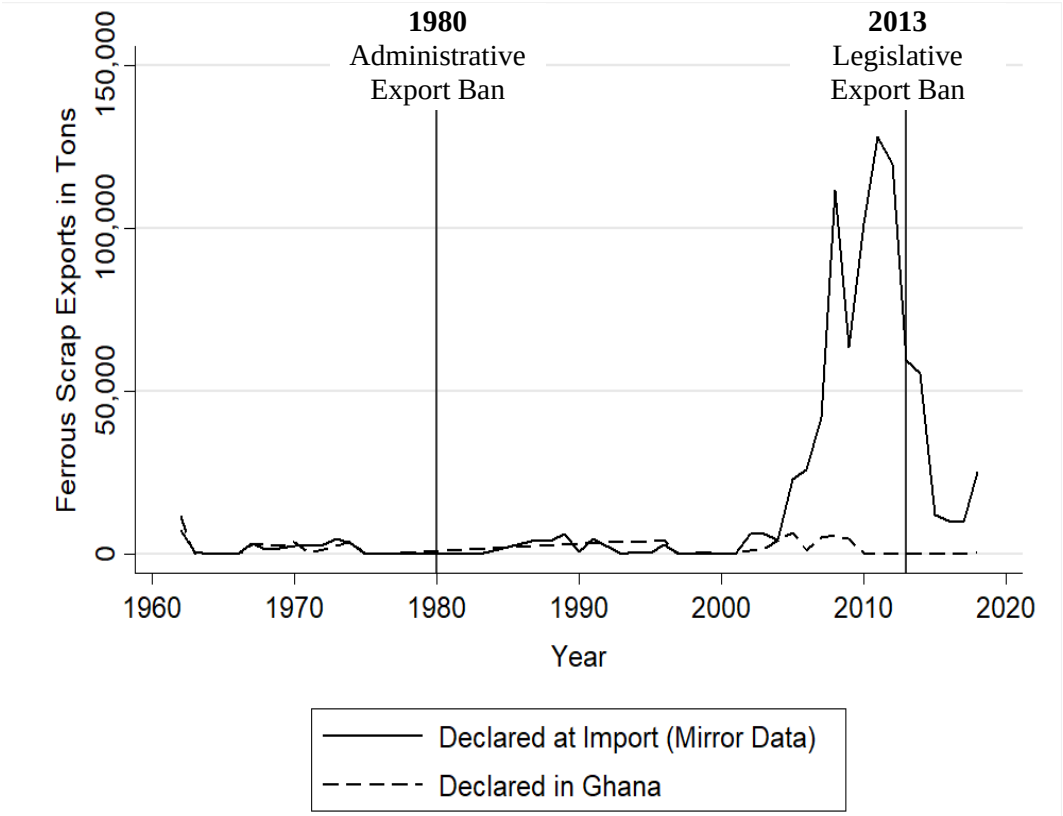

Figure 7.7. The Volume of Ferrous Scrap Exports from Ghana between 1962 and 2018, Based on Data Declared at Export from Ghana and Declared at Import in the Destination Countries

Source: Own illustration based on data from the UN Comtrade database (DESA/UNSD 2019).

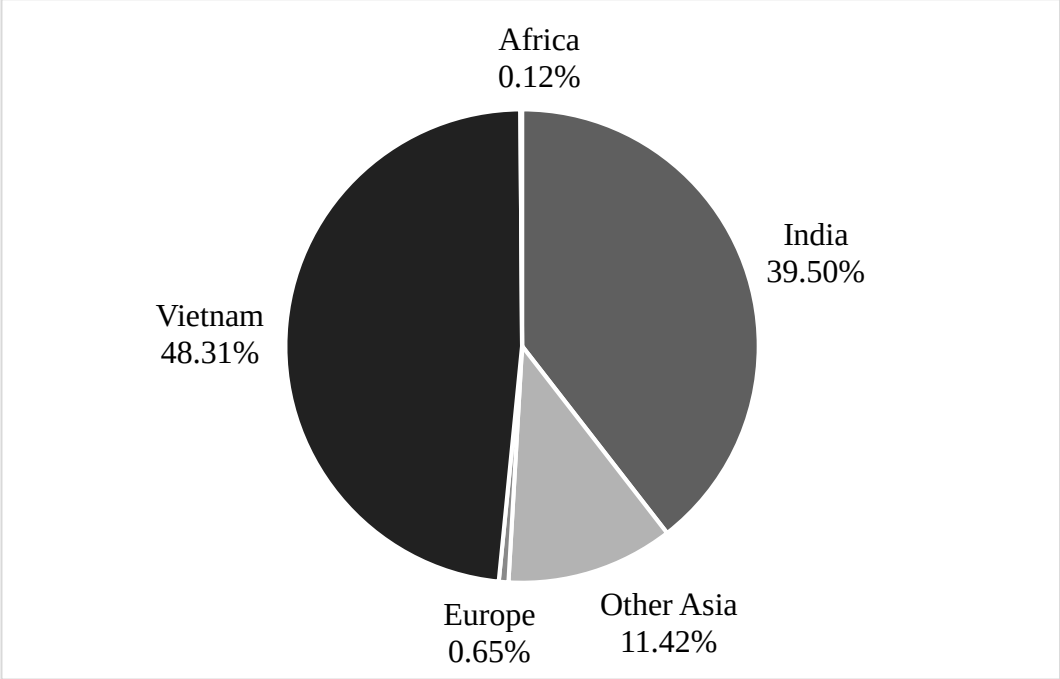

Figure 7.8. Destinations for Ghana's Ferrous Scrap Exports in 2012

Source: Own illustration based on data from the UN Comtrade database (DESA/UNSD 2019).

As shown in several studies and surveys, the great majority of scrap collectors in Ghana are young males with fairly low levels of education that have migrated from the North of the country[248] (Amankwaa 2013: 559; Grant and Oteng-Ababio 2012: 16). Although hard and unsteady work, these young Northern men get involved in the business because the average pay is often considerably above the Ghanaian minimum wage and they simply do not have many better-paying alternatives (Amankwaa 2013: 551; Broni-Sefah 2012: 30–31; Grant and Oteng-Ababio 2012: 12–13; Prakash and Manhart 2010: 11). Unless they are directly employed by scrap dealers – which is often the case[249] – scrap collectors usually rent handcarts and

[248] It is estimated that around two-thirds of scrap collectors, also known as Kaya Bola, are Northerners.

[249] According to Broni-Sefah's survey of Kumasi's scrap metal trade, scrap dealers employed and average of people, with some employing up to 35 (Broni-Sefah 2012: 35). Yeboah and Atoklo (12.10.2018) describe the case Yakubu Andani, a man who has dealt with scrap metals for over 25 years, writing that he 'has 26 employees, owns about 90 load-carriers commonly called 'troks', and five (5) tricycles. In his yard are his workers, who are assigned different roles. Some of them collect scrap with the troks and deposits it at the yard. Others are dismantlers; and some load the goods into trucks for delivery.'

trucks for a small amount from dealers and pull or drive them through the city, hoping to buy or collect from households, mechanic shops, market centres, offices, etc., before heading back to the main scrapyard area (e.g. Agbobloshie), where they will sell their produce to local scrap dealers (Amankwaa 2013: 560–561).[250] These dealers will then sort the scrap into different categories (e.g. ferrous versus non-ferrous) and then sell it to the highest bidder, which could be steel mills, but prior to the 2013 ban was mostly Indian, Vietnamese, and Singaporean export-traders located in Tema close to the port.[251] An illustration of the typical pre-ban value chain can be found in Figure 7.9 below.

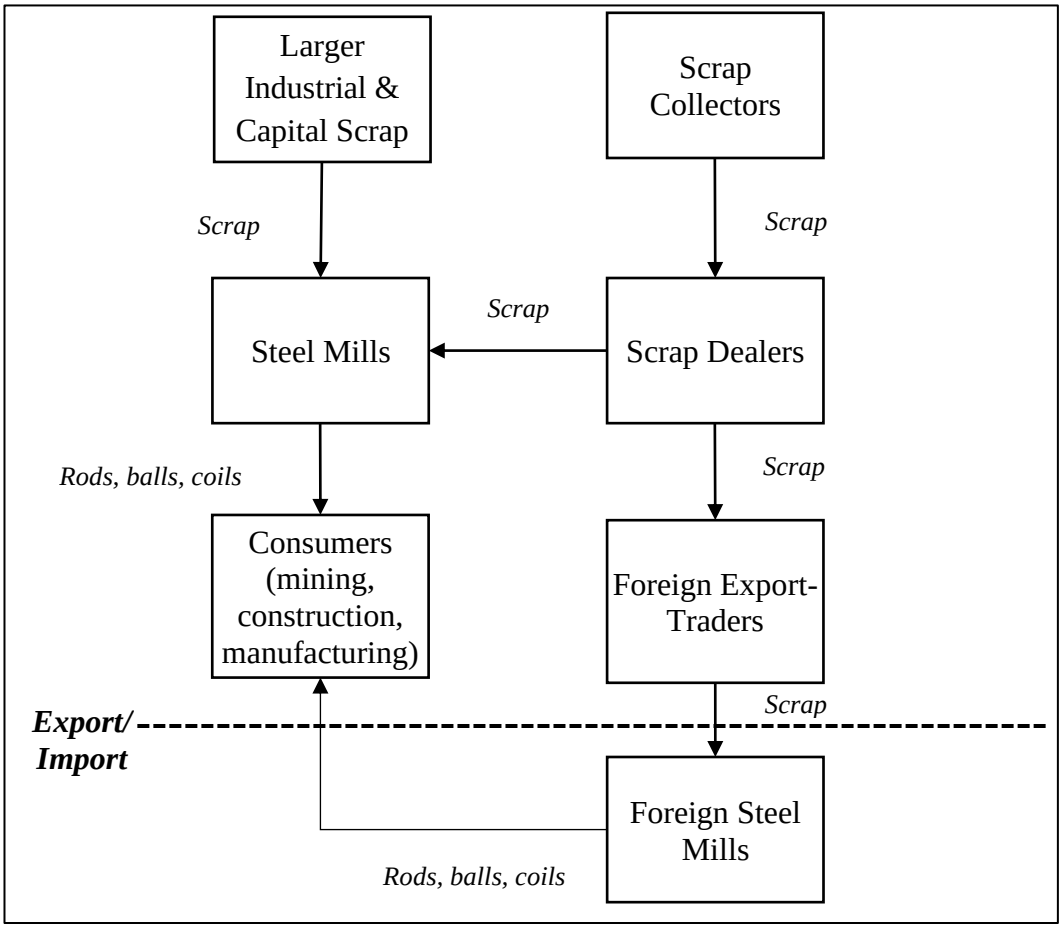

Figure 7.9. The Ghanaian Ferrous Scrap Product Chain Prior to the 2013 Ban
Source: Own Illustration

[250] Scrap Collector 1, Central Accra, 04.05.2017; Scrap Collector 2 in Central Accra, 04.05.2017.

[251] Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

In comparison to other commodity sectors – cashew for example – scrap collectors and dealers are not only economically more closely connected but also socially and politically. A good example is the Greater Accra Scrap Dealers Association (GASDA). Officially registered by Agbobloshie-based scrap dealers in 1997, GASDA is Ghana's largest scrap collector and dealer association, with most of its 1,000 registered and 3,000 'unregistered' members being scrap collectors.[252] The association provides its members with numerous social benefits (such as 'temporary shelter', defence against physical abuse, and micro-finance schemes) but is also the key political voice of the profession (Grant and Oteng-Ababio 2012: 15). Although there is no national scrap dealers and collectors association, only several urban based ones (the Kumasi Scrap Dealer Association and the Tema Scrap Dealer and Exporter Association [TSDEA][253] being the next biggest), the leaders of GASDA usual represent the national sector in talks with the government. Although it is difficult to estimate the total number of Ghanaians operating as dealers and collectors given the informality and fluctuation in the sector, interviewed leaders of GASDA and TSDEA[254] found MoTI's (2017) estimate of 17,000 people to be plausible.[255]

As indicated above, scrap collectors and dealers profited from the scrap export boom. Prior to the boom, local steel mills represented the only real buyers. The four steel mills could (and allegedly would) discuss prices among themselves, leading to relatively depressed prices for collectors and dealers (Bediako 2012).[256] With the influx of Asian traders, however, competition and prices for Ghanaian scrap

[252] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017.

[253] Which fittingly took out the 'Exporter' from their name after the ban.

[254] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

[255] Given estimations that around 4,000-6,000 people work in collecting scrap in the Greater Accra area, and this might account for 50% of the national scrap production, one can estimate around 12,000 people being involved in the sector throughout the country (Amankwaa 2013: 560). Others furthermore estimate that there are between 6,300-9,600 people working in e-waste collection in Ghana (Prakash and Manhart 2010: 11). With e-waste and scrap metal collection usually done by the same people, these numbers provide further support for the estimation that there were not more than 17,000 people involved in scrap metal production before the ban in 2013.

[256] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

increased rapidly, as did collectors' and dealers' incomes. Scrap dealers also describe that local steel mills would not only offer lower prices but would often also want to buy on credit and be very picky in the scrap they bought, usually declining cast iron. Asian traders, in contrast, would pay cash and buy anything, while being much less demanding.[257]

Whereas collectors and dealers profited from the scrap export boom, local steel mills were hit hard by it. Already in 2007, steel millers called on the government to impose a legislative ban on scrap metal exports. During a visit of parliamentarians at his plant, then Managing Director of Wahome Steel, Isaac Yeboah, described how they were 'struggling to compete for supplies because scrap metal exporters are prepared to pay more to attract material from local dealers', specifying that the company was only able to source around 45% of what was needed to operate at full capacity (Recycling International 2007: 14).[258] Importantly, this was before 2008, when exports of ferrous scrap nearly tripled from around 42,000 tons to over 111,000 tons. Thus, the scarcity of scrap worsened significantly over time.

It is critical to state that at least in theory the 1980 administrative export ban was still in place. On 20 May 2002, the Ministry of Trade and Industry (MoTI) had even issued a notice reminding the industry and customs authority of the ban (Ghana News Agency 2013). Practically, however, it was largely ineffective. The main reason for this was that exporters could easily misdeclare the content of containers and that even in the unlikely case that customs officers would find the ferrous scrap (and could not be bribed), the administrative ban provided no serious punishments to offenders. One of the easiest ways to misdeclare ferrous scrap was to declare it as non-ferrous scrap or to just mix it in with non-ferrous scrap (Bediako 2012).[259] Custom officers also noted that they lacked the resources to check containers thoroughly, and when they did, research suggests that a bribe would often be

[257] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

[258] Yeboah also estimated that between 600 to 1,000 tons of ferrous scrap were exported per day, which given mirror data numbers above is likely somewhat exaggerated.

[259] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

sufficient to let the illegal consignments be exported nevertheless (The Enquirer 2013; Grant and Oteng-Ababio 2016: 14).[260] The administrative ban was legally so weak that smugglers would not face any significant fines or criminal prosecution, nor face any confiscation of their consignments (Grant and Oteng-Ababio 2016: 14).[261] To look at the extent of smuggling one only needs to take a second look at Figure 7.7 above. It shows the massive discrepancy between the ferrous scrap exports officially declared as such in Ghanaian ports, and the declared imports of ferrous scraps from Ghana at the ports of arrival (and provides another example for the importance of using 'mirror data').

Aware of these issues, particularly of the misdeclaration of ferrous as non-ferrous scrap, parliament in 2010 passed the Exportation of Non-Ferrous Metal Regulations (L.I. 1969) drafted by MoTI (2010). As described by the Minister of Finance in his annual budget statement to parliament, the legislative instrument was passed 'to ensure that exporters do not misclassify ferrous scrap [needed] for local production' (Duffuor 2011).[262] This was done by massively increasing the requirements for being allowed to export non-ferrous scrap (for example, an export permit would only be granted if the Ghana Standards Board had demonstrably checked the consignment) and by including that a person adding iron or carbon steel scrap to nonferrous scrap would be committing an offence, face conviction to a fine, and have their consignments confiscated by the state.

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[260] A good example for the degree of corruption at the port is the 2013 case of 31 containers of ferrous scrap seized at Tema port, but one year later when they were supposed to be sold to a domestic steel mill had simply vanished (The Enquirer 2013).

[261] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017. Moreover, during the 2013 parliamentary debate leading to the imposition of a legislative export ban, the MP of Madina, Alhaji Sorogho, stated that a further reason for the poor enforcement of the ban was that 'in 2008, after a series of complaints from dealers, the then Government under the New Patriotic Party (NPP) decided to relax the laws and to allow selected scraps to be exported through Ghana. Mr Speaker, scrap from Burkina Faso, a land-locked country had to pass through our ports and by so, doing, it allowed unscrupulous dealers to smuggle a lot of the scraps from Ghana, pass them as if they were coming from Burkina Faso and at the end of the day, what the law intended to achieve, Mr Speaker, could not materialize' (Parliament of Ghana 2013: 2919).

[262] Importantly, non-ferrous scrap exports were not banned because Ghana has no refinery to recycle copper, one of the key non-ferrous scraps. Rather, copper scrap is usually exported to foreign copper plants, mostly in the Middle East via Dubai and Asia via Hong Kong (Prakash and Manhard 2010: 54).

Yet, as shown by the high export figures from 2010 to 2012, this policy too remained largely ineffective. One reason for this was arguably the unchanged weakness of customs authorities. The other was that if exporters added the ferrous scrap to or misdeclared it as commodities other than non-ferrous scrap (e.g. cashews or lumber), the policy and thus its much severer punishments would not hold. In line with this, the chief customs officer responsible for exports out of Tema estimated that in 2010 alone, as many as 5,000 shipping containers of ferrous scrap labelled as shea nuts, cashews, teak wood or other commodities had left the country (McLure 2011).

7.2.3. The 2013 Legislative Export Ban

As a result of the government's inability to enforce the administrative ban, steel millers remained deeply troubled. As depicted in Table 7.2 below, in the year prior to the ban, the country's five steel mills ran at only 36% of their total installed capacity. Intermittent and permanent shutdowns had become normal in the industry (Bediako 2012), with Ferro Fabrik and Western Steel and Forging Ltd. remaining closed for most of 2012. Wahome Steel Ltd., which had been struggling under several different private and state ownerships for over a decade, closed completely and was subsequently partially sold by the State to Chinese investors in the same year (who renamed the factory Sentuo Steel[263]). Relatedly, in their research on the Ghanaian steel industry, Sutton and Kpentey (2012: 335) found that the mills perceived the illegal export of ferrous scrap as the greatest threat to their economic survival at the time.

Faced with the failure of the 2010 regulation and permanent lobbying from steel mills,[264] MoTI started to work more seriously on a legislative export ban on ferrous scrap. During 2011 and 2012, the Ministry had set up several consultative meetings with actors across the sector, and by mid-2012 first reports that a legislative ban

[263] Fugian Overseas Chinese Industrial Group Corporation (FOCIGC) owns 74% of the shares, whereas the Ghanaian Social Security and National Insurance Trust (SSNIT) owns 26%.

[264] General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017. A statement by the steel miller's association in 2019 demanding more protection from import competition also showed that they would threaten the government that their own demise 'could lead to labour unrest' ((Ohene 21.02.2019).

had been drafted circulated in the media (Bediako 2012).[265] Yet until the end of the year, no ban had been passed on to parliament and on 30 January 2013 MoTI only reminded Ghanaians about the existence of the administrative ban.

Table 7.2. Installed and Utilized Capacity of Ghana's Steel Mills in 2012

Name	**Installed Capacity (tons)**	**Actual Production (tons)**
Tema Steel Co. Ltd.	55,000	23,198
Special Steel Ltd.[266]	60,000	34,977
Western Steel and Forging Ltd.	60,000	1,500
Ferro Fabrik Ltd.	30,000	0
Sentuo Steel Ltd. (former Wahome Steel Ltd.)	72,000	42,555
Total	**277,000**	**102,230**

Sources: Ministry of Trade and Industry (Ghana) (2017) and OECD (2011).

This changed only one week later when Northern NDC MP Haruna Iddrisu took up the post as Minister of Trade and Industry. Only a few hours after being sworn-in on 7 February 2013, Minister Iddrisu called in a twenty-minute meeting with the leaders of the Steel Manufacturers Association of Ghana (SMAG), the Greater Accra Scrap Dealers Association (GASDA), and the media, telling them that within the same month he would lay the bill banning the export of ferrous scrap before parliament. The key differences between this legislative ban, the 1980 administrative ban as well as the 2010 non-ferrous scrap regulation was that individuals or companies found smuggling ferrous scrap would be committing an offence, face conviction to a fine (of up to Ghana Cedi five million, or around US$ 2.5 million at the time), and have their consignments confiscated by the state,

[265] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017.

[266] Special Steel joined the industry in 2008 and is run by Indians.

independent of whether the container was declared as non-ferrous scrap or any other content. As such, it filled the legal loopholes left by previous policies.

On 22 February 2013, MoTI laid 'The Ferrous Scrap Metals (Prohibition of Export) Regulations, (L.I.2201) 2013' before parliament. And after the positive review by a parliamentary committee, the law was passed on 26 March 2013 without any notable opposition (Parliament of Ghana 2013). During the hearing of the motion, the chair of the committee, Osei Asamoah, clearly stated the rationale for the ban, saying that 'a ban on the exportation of ferrous scrap metals would ensure that local companies would have the required quantities of the scrap metals for their operations. This would also enhance the profitability of the companies and increase their capacity to create employment and also reduce the foreign exchange expended on the importation of billets as raw materials for steel mills in the country' (Parliament of Ghana 2013). Similarly, Minister Idrissu agreed that the legislative ban was 'a giant step that Government is taking to protect our steel industry and to assure them of the availability of raw materials, so that they stay in production, create employment and also easy access to the things that they would produce.'[267]

An important part of the story, however, is that MoTI had promised parliament it would make sure scrap collectors and dealers would be treated fairly despite the ban. Already in January 2013, the Ministry had put out the statement that it wanted to impose a ban to protect steel mills 'provided that they do not engage in price-fixing activities and are ready to pay the market value for the scrap' (Ghana News Agency 2013). To convince parliament of this, MoTI told the relevant committee that it was consulting with the major 'stakeholders' to come up with fair minimum prices for scrap dealers that would be 'internationally competitive' (Parliament of Ghana 2013: 2918). Furthermore, the implementation of the ban and minimum prices were planned to be overseen by a newly established Scrap Metal Monitoring

[267] Idrissu provided a further nice quote as to why the ban was needed some months later: 'The policy intention is very clear - to support and protect the steel industry in Ghana and to assure them of the availability of raw materials to process scrap into iron rods; to provide employment to Ghanaians, provide reduced iron rods and more at prices cheaper than those imported outside the country. We need to build a strong manufacturing sector in the country and that is why we are taking measures to protect those we have while doing all we can to help the new ones' (Obour 2013). Also, importantly, the ban was *not* imposed because of vandalization of public infrastructure, which Idrissu expressed was a different matter more related to copper scrap dealings. The largest issue in this regard is theft of copper cables, which are much more valuable per kg than steel scrap (Buechel 2019; Parliament of Ghana 2013: 2924).

Committee, consisting of representatives from MoTI, the Ghana Revenue Authority, the Ghana Ports and Harbours Authority and the Standards Authority, as well as the Ghana Association of Industries, SMAG, and GASDA (Parliament of Ghana 2013: 2918).

7.2.4. The Politics of the 2013 Ferrous Scrap Metal Ban

In the four case studies conducted so far in this thesis we have seen that export bans on raw commodities rapidly and severely reduced producer and trader prices. Apart from Ghanaian timber, this has led to producers to realizing the imposition of a ban and mobilizing against it, informed and organized by commodity traders. However, only where producers were many (that is, in the Ghanaian cashew case) did they manage to credibly threaten the government, and thus only there was the ban withdrawn. How does this compare to the 2013 legislative ban on ferrous scrap exports? Did it cause prices to drop? Did producers and dealers realize what had happened and did they mobilize against the ban? And finally, did they fail to get the ban withdrawn, as would be expected by their limited numerical power? The answer to all these questions is a clear yes.

7.2.4.1. Severity, Visibility, and Lobbying Dealers

Although promised by MoTI, neither at the beginning of the ban in late March 2013 or at the time of my research in Ghana in Spring 2017 had a minimum price system been implemented. The idea of the system was and remains that Ghana Standards Board officers should be positioned at the factory gates of every steel mill and monitor the grading of the ferrous scrap brought by dealers into four distinct grades[268], for each of which the Scrap Metal Monitoring Committee would have negotiated acceptable minimum prices at the beginning of every year.[269] Analogous to the case of Kenyan cashews, the government never implemented this system. And like in Kenya, steel mills actively shunned and some say tried to sabotage its

[268] The more general differentiation is between light and more valuable heavy scrap. The imposed system would have categorized these into three grades from A-C, as well as a mixed grade, composed of different grade scraps that could not be separated by dealers.

[269] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017.

introduction knowing they could likely fix lower prices to be paid to dealers without it.[270]

At the same time, the implementation of the ban was enforced as never before (which is also reflected in the significant post-ban drop in exports illustrated in Figure 7.7 above). For around one month after the ban Accra, Tema, and Kumasi dealers joined forces and refused to sell to steel mills and attempted to continue smuggling their scrap via export agents based in Tema.[271] MoTI, however, reacted to this relatively rapidly and strictly, and at the beginning of May 2013 sent police to seal and closely monitor the premises of previously known scrap exporters. According to senior scrap dealers, this effectively shut down Tema exports for them, many dealers losing dozens of containers to police raids.[272] Being a cash-dependent business and many collectors living on what they earn on a day-by-day basis, the inability to make cash from exporting scrap also pulled the plug on dealers' resolve not to sell to steel mills anymore.

The combination of a robust enforcement of the ban and no enforcement of a minimum price system strongly tilted the playing field in favour of still mills. In the weeks and months following the ban, scrap dealers complained strongly inside and outside of the Scrap Monitoring Committee about steel mills 'exploiting' them (Daily Guide 2013). Importantly, they also made sure that every scrap collector selling to them or part of their associations knew that a ban had impacted them. Dealers specifically expressed four grievances. First, a general price drop. One senior representative of the GASDA alleges that prices after the ban dropped by nearly half, from around Ghana Cedi 700 down to around Ghana Cedi 400.[273] Although it is difficult to check these claims against more reliable figures given the informality of the sector, without naming exact numbers, senior managers of two

[270] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

[271] Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017; General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017.

[272] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

[273] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017.

leading steel firms, as well as a senior government official responsible for the sector, confirmed that prices after the ban had dropped drastically.[274] What was more, however, was that steel mills returned to their pre-boom habits of forcing scrap dealers to accept payment on credit. This in itself is not only extremely negative for dealers that need permanent liquidity to pay their collectors, but mills often delayed payment months beyond the agreed date. This led the MoTI to rule that payments should not be done later than 21 days after delivery of the scrap, yet millers rarely abode.[275] Perhaps even graver, at the beginning of the ban, the steel mills were overwhelmed by the supply of scrap, and not having the capital to buy it all, declined much of it at the factory gate (The Herald 2013). And although the companies' capacity to buy scrap increased over the coming months, often they would still not buy certain types of scrap,[276] because they did not have the equipment to process them (Daily Guide 2013).[277] With the profitability of the collector and dealer business brutally hit by the ban, according to sector analysts, many dealers[278] had to lay off their collectors and workers (The Herald 2013; Daily Guide 2013).[279]

7.2.4.2. Limited Political Threat Despite Scrap Producer and Dealer Mobilization

The price-distorting effects of the ban were thus rapidly, clearly and harshly felt by the scrap collector and dealer industry. Analogous to the previous case studies,

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[274] General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017; Senior Manager of one of Ghana's largest steel mills, Tema, 17.05.2017; Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017.

[275] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

[276] According to the President of the Tema Scrap Dealer Association this is true for example for 'steel balls, ductile steel, manganese, among others, which the local steel manufacturers cannot melt' (Daily Guide 2013).

[277] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

[278] Since most dealers and collectors also trade in non-ferrous scraps, the ban did not affect all of their business, yet arguably one of their core pillars.

[279] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017.

dealers and collectors consequently actively and jointly opposed the ban. As indicated above, dealers at first tried to boycott traders and continue smuggling via Tema, which after a month failed as a strategy due to the government's enforcement of the ban. Thereafter, collectors and dealers (with the latter clearly in the driving seat) attempted a mix of demonstrations, media campaigns, formal complaints to MoTI, and eventually smuggling via Togo rather than Tema.

According to senior representatives of GASDA and TSDA as well as steel mill managers interviewed, in the month following the ban but particularly after its increased enforcements, scrap dealers organized several demonstrations of dealers and collectors in Tema and Accra (near Agbobloshie).[280] Usually, however, these demonstrations were quickly dispersed by the police, given their alleged lack of permits. While not covered in the print media, organizers say that the protests were covered via radio and TV (which was difficult for me to verify). One potential reason for the concentration on non-written media is that many collectors are illiterate, tend to listen more to the radio and as such are more reachable and mobilizable in that way. The same, however, could be said for cashew farmers, yet, nevertheless the ban saw massive print-media coverage. Thus, overall, the lack of print-media coverage appears to imply that the demonstrations were not as significant as in cashew for example (despite being at the heart of Accra and Tema, two of the country's largest and best-covered cities).

In parallel to the demonstrations, scrap dealers formally appealed to the government to entirely withdraw or at least relax the ban. At the end of May, two months after the imposition of the ban, the leaders of the Tema Scrap Dealers Association petitioned the government to rethink the ban, arguing that it would worsen the issue of youth unemployment and forwarded the issue that mills were rejecting many kinds of ferrous scrap (The Herald 2013). Similar protests earlier in the months had fallen largely on deaf ears at the MoTI. On 16 May 2013, Minister Idrissu had stated that 'Government has no intention of reviewing the ban on the export of ferrous scrap, and will enforce LI2201 its letter and script religiously' (Kunateh 2013). By

[280] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017; General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017; Senior Manager of one of Ghana's largest steel mills, Tema, 17.05.2017.

the summer, the minister's views had softened. Idrissu, who had promised parliament that scrap collectors would be treated fairly, was concerned that mills allegedly continued to reject significant amounts of scrap. In July 2013, he thus told the media in an interview that 'the monitoring committee chaired by the chief director of the ministry is to do a strong monitoring on the ground and if there is evidence that the product is not needed by the steel companies, the government will consider an option out' (Obour 2013). Later, scrap dealers also alleged that he had promised to lay before parliament an amendment bill to the ban that would allow the export of certain types of ferrous scrap once it resumed in October (Mensah 2013).

Before parliament resumed and was able to amend the bill, steel millers in form of SMAG actively – and it appears successfully – lobbied the government to abort any plans of relaxing the ban. In August, SMAG heavyweights Patel (Tema Steel Co Ltd.), Xu (Sentuo Steel Ltd.), and Kumar (Special Steel Ltd.) had set up a press conference in which they went against these considerations. Specifically, they complained about heavy lobbying from exporters as well as dealers and claimed that acceptance of scrap at factory gates had normalized and that they had ordered equipment that would allow them to melt cast iron and other more difficult to process ferrous scraps (Abubakar 2013). Following the conference and the promises by the steel millers, it appeared Minister Idrissu put to rest his amendment plans. Despite further complaints by scrap dealers via the media in late October and in the monthly Scrap Monitoring Committee meetings that the situation had remained unchanged,[281] that millers were still rejecting large amounts and that collectors were being unemployed by the day, MoTI laid no amendment bill before parliament (Daily Guide 2013; Mensah 2013). Although some scrap dealers allege that corruption played a role in this, most observers appear to think that the Minister had been convinced that relaxing the ban could re-open those loopholes which had rendered previous legislations toothless tigers.[282] As such, it seems that the well-

[281] In 2015, the president of the Forum of National Equity (a rather unknown organization it seems), Prince Bagnaba-Mba, supported dealers and nicely summarized their common standpoint: 'Much as we agree that there is the need to protect local industries, we are of the view that you don't kill an elephant to get maggots' (Graphic Online 05.02.2015).

[282] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017; Senior Executive of the Tema Scrap

being of the steelmaking industry and the approximately 3,000 people formally employed in it were put above that of scrap dealers and collectors.

Having faced defeat in the formal arena, some dealers returned to smuggling. Although some smuggling appeared to still have been possible via Tema port at times (The Herald 2013), in interviews processors and dealers themselves said that they increased smuggling via Togo.[283] This, however, did not provide the outlet Tema port had been prior to the ban, with transport costs significantly higher and the government also trying to enforce its monitoring at the border once it became aware of this new route. As illustrated by the mirror-data export figures in Figure 7.7 above, after 2014 exports have hovered at one-tenth of the level prior to the export ban.

Arguably the most important question is, however, why dealers and collectors failed to build the pressure that Ghanaian cashew farmers and traders had managed to just three years later. One common argument about scrap dealers and collectors is that they have weak collective action capacity. It is argued that they lack a common national association, that the city-based associations struggle to collect membership fees, and that collectors rely on quick profits, making it difficult to hold out in a strike for example.[284] This, however, was true to a large degree for cashew farmers in Ghana. They too lacked a national association worth mentioning, those cooperatives and farmer groups that did exist rarely collected membership fees, and farmers too were highly dependent on selling their crop as quickly as possible.

One thing that really differentiates Ghanaian cashew farmers and scrap collectors, however, is their group size. Whereas an estimated 100,000 Ghanaians make most of their income from cashew, arguably less than 17,000 are involved in collecting scrap, ferrous scrap likely not being the most important source of their income. In line with the argument that smaller groups are less threatening to the government,

Dealer Association, Per Telephone, 18.05.2017; General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017.

[283] Senior Executive of the Tema Scrap Dealer Association, Per Telephone, 18.05.2017; General Manager of one of Ghana's Oldest Steel Mills, Tema, 17.05.2017.

[284] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017; Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017.

a senior executive of the Greater Accra Scrap Dealer Association summarized their inability to be heard by the government as follows:

> The government wasn't scared of us because we didn't have electoral power. We are scattered all over the place and not many. If we were 300,000 and concentrated in Accra and Kumasi (and all NDC men) they would have never implemented the ban on us. But many of our men don't even vote, and when they do, they are all mixed up between NPP and NDC.[285]

Validated by a senior MoTI official, this suggests that given the lack of numerical power of collectors and dealers, the government had no reason to fear their opposition and thus could implement and enforce the ban without much worry.[286] And although it did consider the well-being of collectors at some point, it discarded it in favour of steel millers and industrialization when push came to shove.

7.2.5. Conclusion of the Ghanaian Ferrous Scrap Ban Case Study

To conclude, the case study of the 2013 Ghanaian legislative export ban on ferrous scraps provides further evidence for the thesis argument. As expected, the ban led to a significant, rapid, and visible decline of prices for and income from ferrous scrap for many dealers and collectors. Informed and organized by dealers, scrap collectors and dealers united to oppose the ban through demonstrations, boycotts against selling to local mills, and formal appeals to the government covered by the media. Yet, although it did consider relaxing the ban for a moment, the government consequently enforced and maintained the ban. What is more, it did not enforce measures – such as minimum prices or limits to payment delays by mills to dealers – that would have reduced the impact of the ban on dealers and collectors. As confirmed by actors across the sector, the core reason behind scrap dealers and collectors' failure to replicate the pressure that Ghanaian cashew farmers had built on the government, was that they lacked the numbers. Counting less than 17,000

[285] Senior Executive of the Greater Accra Scrap Dealer Association, Accra, 04.05.2017.

[286] Senior Officer for Industrial Promotion at MoTI, Accra, 03.05.2017.

people collectors posed no electoral or other threat that would have motivated the government to question the legislative ban from the outset or thereafter.

Economically, the ban has arguably helped the steel milling industry considerably. Most existing companies have massively expanded their steel-making capacity (for example Sentuo Steel from 72,000 to 300,000 tons[287] and Ferro Fabrik from 30,000 to 100,000 tons) and three new steel makers have entered the market in recent years (United Steel Company, Rider Steel Ltd., and Fabrimetal Ghana Ltd.). Nevertheless, mills have continued to complain to MoTI that they were not receiving enough protection. Despite the ferrous scrap export ban and a 20% import duty on iron rods, foreign competitors allegedly sell their rods and related products at much cheaper rates on the Ghanaian market. In a May 2016 position paper to the government, the Steel Manufacturers Association complained that due to increasing electricity tariffs (which next to scrap supply is their highest cost) their products would be over 50% more expensive than those of their foreign importing competition (The Finder Online 2016). As a consequence, they called for 'the imposition of 25% special levy on imported finished steel products, in addition to 20% import duty, to protect the local industry' and warned that if these 'remedial measures are not taken immediately, it would lead to total collapse of the steel sector in Ghana' (The Finder Online 2016).

It appears, however, that this and similar later calls by SMAG (Ohene 2019) fell on deaf ears, with the government not imposing any further tariff measures. Looking at the theoretical argument of this thesis, this should not come as entirely surprising. When it comes to import tariffs on iron rods and other intermediate steel products the steel mills are not competing with a limited group of scrap collectors but with actors that are deemed equally important for industrialization (e.g. manufacturers using steel and needing cheap input to compete) but also those accounting for a large share of the population (e.g. construction workers, as well as consumers buying steel manufactured products or houses, and that again, would not be content with a massive price increase). Thus, the political logic of large group size could also be fruitfully applied to this area of contention in the steel value chain. From an

[287] Apparently in 2013, Sentuo had stocked up its capacity to 800,000 tons, wanting to buy much of its input in billet form from Europe and the US (05.06.2015).

economic viewpoint, however, it is rather sobering to see that despite massive protection at the cost of scrap collectors and consumers, steel mills in Ghana still have not achieved to be competitive within the international market. Industry and government need to ask themselves whether and what tools exist that can achieve this.

7.3. Many Producers, Few Losers: The 2012 De Facto Ban on Raw Hides and Skins Exports in Tanzania

The last case study analysed in this thesis is that of the imposition of a 90% export tax on raw hides and skins (RHS) in Tanzania in 2012. Intended as a de facto ban that would protect the domestic tanning industry against foreign processors overbidding them in the pursuit of domestic RHS, this case is interesting because it appears on the first look to be a strong outlier to the thesis argument. Over 1,7 million households in Tanzania keep livestock and as such, one would assume, should be opposed to a policy that would reduce RHS prices, if implemented effectively. On a closer look, however, this assumption proves to be mistaken. As evidenced in several government, donor, and academic reports, as well as interviews and a medium-N survey of 25 livestock keepers in Northern Tanzania, RHS are of no value to livestock keepers. Economically speaking, RHS account for around 1% of the value of a cow, goat, or sheep, yet practically, when selling their animals, producers do not receive any separate payment or valuation for the quality of the animal's skin or hide. Consequently, livestock keepers not only treat the RHS of their animals poorly (leading to significant problems for the domestic leather industry), they also do not care and know about policies affecting the value of raw hides and skins. Or to put it in the wording of the thesis argument: they do not constitute a share of the population that earns a significant income from producing that commodity. And while abattoirs do make money from selling RHS, this accounts for no more than 1% of their income, yet again being the reason why they invest minimal care in protecting the quality of hides.

The only group in the Tanzanian – and for that matter African – leather industry that would truly be hurt and agitated by such a severe export restrictive measure are RHS traders. This group, however, is extremely small. Constituting only around 2,500 people in Tanzania (and likely less in most other countries in Africa, except for Ethiopia and Sudan, the only countries with a comparable livestock population on the continent), they lack any numerical power. Thus, in line with the thesis argument, the government could implement and maintain the 90% export tax without fearing any serious consequences. That being said, traders do have considerable connections into the leading ministries – the Ministry of Livestock and

Fisheries (MoLF) and the Ministry of Industry and Trade (MoIT) – that allowed them to often circumvent the enforcement of the policy (smuggling mostly to Kenya) and some argue prevent that an actual export ban was implemented, which would be harder to circumvent and was called for by tanners.

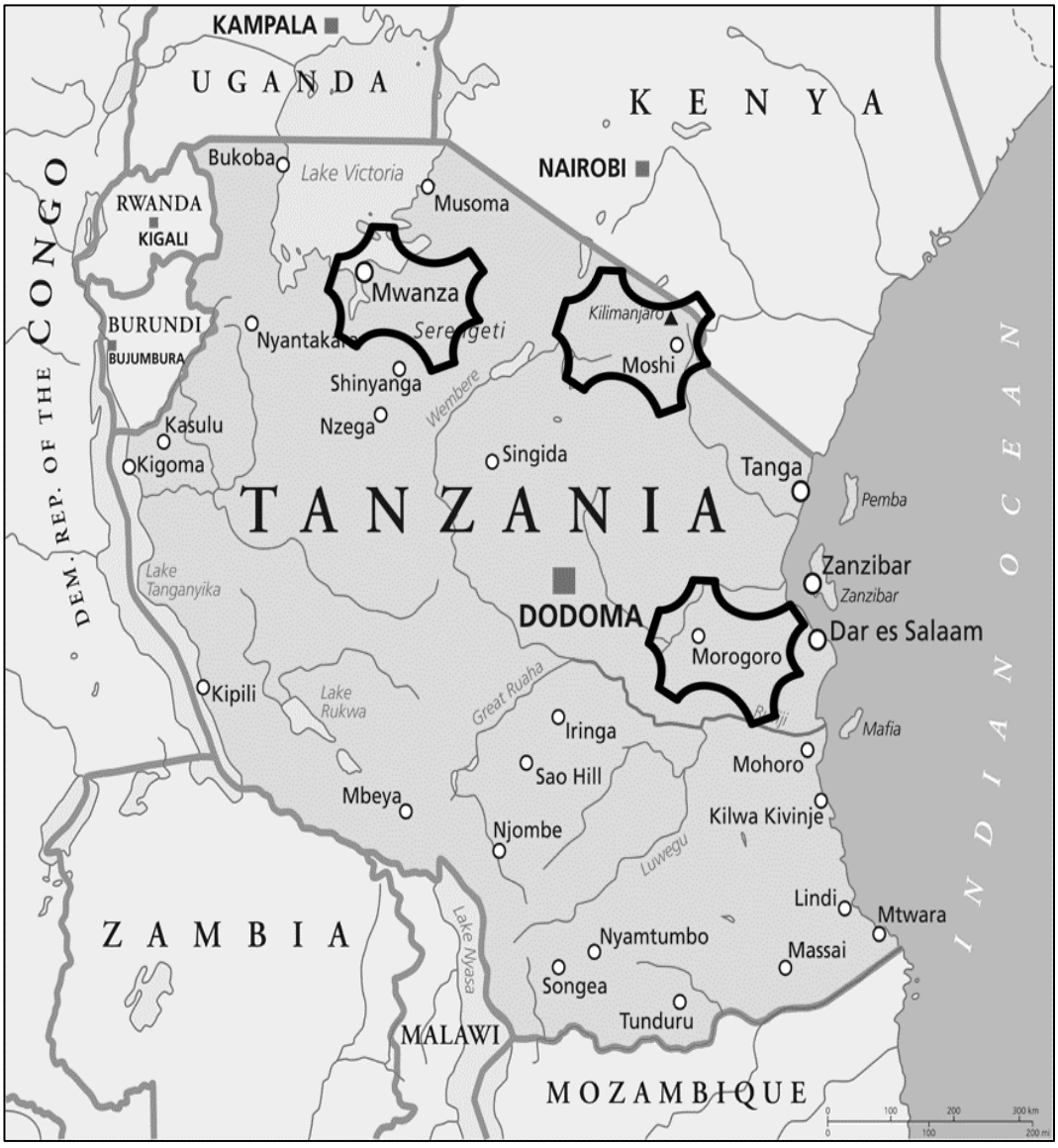

Figure 7.10. Map of Tanzania Highlighting the Three Main Tanning Centres
Source: Own illustration based on a map from Tim Best Direct (2019).

In the following sections, I start by describing the origins of the Tanzanian leather sector and its demise in the late 1980s. Then, I describe how export taxes on RHS

were employed to promote its revival. Before concluding, I take a closer look at the politics surrounding the 2012 imposition of a 90% export tax on RHS.

7.3.1. The Rise and Fall of the Tanzanian Leather Industry in the 20th Century

The cornerstone of Tanzania's modern leather industry was set by the Tanzanian government in the late 1960s and 1970s.[288] In 1967, Tanzania's charismatic father of the nation and long-term president Julius Nyerere had guided the ruling party to the Arusha Declaration, which called for the rapid industrialization of the country. Home to Africa's third-largest livestock population, Nyerere realized that the leather industry boasted tremendous potential to substitute leather goods imports as well as increase manufactured exports in the form of tanned leather (Mhando 2019).

During the 20-year period between the Arusha Declaration and economic liberalization, the Tanzanian state with the strong financial and technical[289] assistance from international donors had invested around US$ 100 million in setting up a domestic and state-run[290] leather tanning and shoe production industry (International Business Publications 2015: 219). In 1968, Tanzania Tanneries was built in a joint venture between the Tanzanian and Swedish government in Moshi, in north-eastern Tanzania (compare Figure 7.10 below). And in 1974, two major tanneries in Morogoro (relatively close to the capital Dar es Salaam) and Mwanza (at Lake Victoria in the Northwest) were built with financial assistance from the Bulgarian government and the World Bank respectively (Ministry of Industry and

[288] The only tannery that had existed prior to independence was Himo Tanneries and Planters Ltd. that was set-up already in 1895 by the Gujarati immigrant Sharif Jiwa close to Moshi, at the foot of the Kilimanjaro (Sutton and Olomi 2012: 131-132).

[289] During the mid-1980s, UNIDO had also supported the Tanzanian government in establishing the Tanzanian Institute of Leather Technology in Mwanza, a training centre for the domestic leather and leather goods industry. Due to the state of collapse of the leather industry in the later 80s, however, the institute had never offered any trainings, was privatized in 1994 and only in 2010 opened as the Mwanza branch of the Dar es Salaam Institute of Technology, preparing students for work in the leather industry ((DIT Mwanza 2019).

[290] Originally run by the state-owned National Development Cooperation, ownership of the companies was transferred to Tanzania Leather Associated Industries, the state-owned holding corporation for all government-owned businesses in the leather and leather products industry (Sutton and Olomi 2012: 137).

Trade and ITC 2015: 43; Shrewsbury 2007: 13; Sutton and Olomi 2012: 131).[291] Combined, the three factories had a sizeable installed annual capacity of producing 2.8 million m² of leather.

During the same time, two large state-run shoe factories were in operation. After the Arusha Declaration, the Tanganyika Bata Shoe Company set up in 1958 was nationalized by the government renamed Tanzania Shoe Company (Bora). And in 1980, financed by a US$ 40 million by the World Bank, the Morogoro Shoe Company was set up next to the Morogoro Tannery. The two companies had a combined installed capacity to produce 7 million pairs of shoes per annum (Sutton and Olomi 2012: 131).

Initially, the leather industry performed reasonably well. In between 1980 and 1985, the three tanneries reached their peak level of output, operating close to full capacity (International Business Publications 2015: 228; Sutton and Olomi 2012: 137). Critical to this early success was strong industry protection by the state. Whereas RHS trade after independence had been controlled by four private companies and their buying agents, in 1973 the Tanzanian government took over the trade of RHS with the creation of an authority called *Tanzania Hides and Skins (Ministry of Livestock Development and Fisheries 2011)*. Similar to the role of the NCPB in the Kenyan pre-liberalization cashew industry, to assure sufficient supply for the emerging tanning industry Tanzania Hides and Skins was given the monopsony right to buy RHS and would only export RHS surpluses.[292] As illustrated in Figure 7.11 below, with the expansion to three factories in the mid-1970s and the creation of Tanzanian Hides and Skins the export of RHS dropped towards zero. Similarly, high tariffs were imposed on manufactured leather imports to protect the domestic leather industry (FAO 1998). And although Tanzania did increase its exports in processed (i.e. finished) and semi-processed (i.e. wet-blue and crust) leather, most of the output produced by the local leather industry was geared towards the domestic market and import substitution (Board of External Trade 2004: 2).

[291] Morogoro Tanneries Ltd. started operations in 1978 and Mwanza Tanneries Ltd. in 1979.

[292] Senior Executive of Leather Association of Tanzania, Dar es Salaam, 11.07.2017.

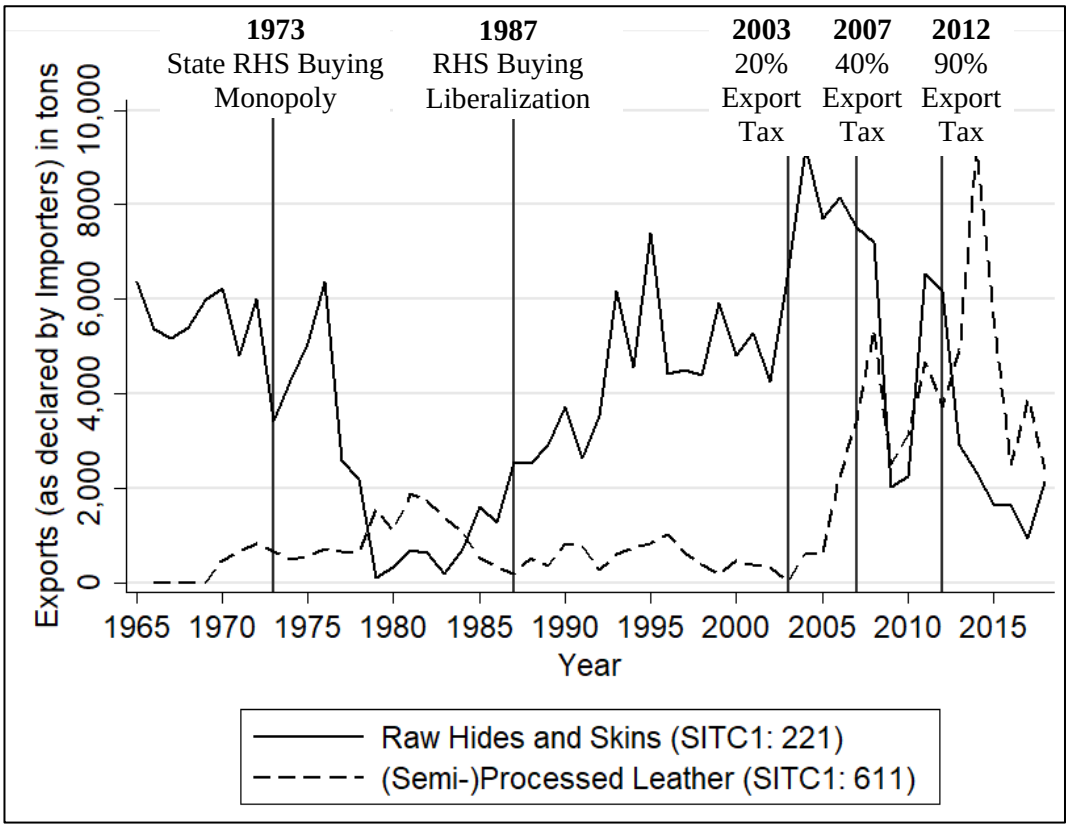

Figure 7.11. Exports of Raw Hides and Skins and (Semi-)Processed Leather from Tanzania as Declared by Importers from 1965-2017

Source: Own illustration based on SITC1 data from the UN Comtrade database (DESA/UNSD 2019). A figure illustrating export numbers as declared by Tanzania – rather than by the exporters – can be found in Appendix 7.4. Moreover, Appendix 7.5 provides an overview of exports of RHS and semi-processed leather by export destination.

Despite its initial success, the Tanzanian leather industry fell into a deep crisis in the second half of the 1980s. This was caused on the one hand by the overall adverse economic conditions at the time, characterized by foreign exchange shortages that hampered the tanneries and shoe factories to import required chemical and machine parts (Sutton and Olomi 2012: 137). Yet, on the other hand, scholars and donors argued that the companies were run inefficiently due to over-ambitious project conception, implementation inexperience, insufficient professional expertise, lack of working capital and overall a greater focus on employment generation and commercial viability and international competitiveness (Board of External Trade 2004: 2; Mhando 2019). Moreover, as part of the SAP that had started in Tanzania

1986, the government partially liberalized the trade of RHS and manufactured leather goods in 1987. This lead to a rapid increase of RHS exports and foreign leather goods imports, making it difficult for tanneries to source RHS competitively and local leather manufacturers to compete against cheaper imports (FAO 1998). As a consequence, by the end of the 1980s, the tanneries were achieving less than 10% capacity utilization and the Morogoro shoe factory even less than 4% (Erixon 2005; International Business Publications 2015: 219).

By the early 1990s, most tanneries had shut down and in 1992 the Tanzanian government guided by the IFIs decided to privatize all leather parastatals and fully liberalize RHS trade (FAO 1998; International Business Publications 2015: 219). While Morogoro Tanneries Ltd. and Mwanza Tanneries Ltd. were sold to the owners of Africa Trade Development, among them Rostam Aziz (one of two Tanzanian billionaires and long-term political heavy-weight in the ruling party CCM), Moshi Tanneries Ltd. was sold to a subsidiary of the Agha Khan Group (International Business Publications 2015: 229; Sutton and Olomi 2012: 137). Yet, despite significant investments by the new owners of these companies in the refurbishment of the tanneries and shoe factories, they failed to regain competitiveness in the liberalized market and most had ceased to operate by the turn of the millennium (International Business Publications 2015: 220; Mhando 2019; Ministry of Industry and Trade 2011; Sutton and Olomi 2012).

7.3.2. The 2003 20% RHS Export Tax and the Renaissance of the Tanzanian Leather Industry in the 21st Century

In the early 2000s, the situation of Tanzanian tanneries was dire. Out of seven existing tanneries only two were operating and that a very low level (International Trade Centre 2005). [293] As a consequence, already in the late 1990s, the tanneries had started to lobby the government for an export tax on RHS (International Business Publications 2015: 221). In 2003, this bore fruit. In line with a larger

[293] Next to the larger tanneries in Morogoro, Moshi, and Mwanza, there were four smaller tanneries in the country. Himo Leather Ltd., the oldest tannery in the country, close to Moshi. JAE(T) on the grounds of what was supposed to be the Tanzania Institute of Leather Technology in Mwanza. As well as Afro Leather Ltd. and Lake Trading Tannery (Kibana) in Dar es Salaam.

UNIDO-sponsored strategy to revive the leather industry, [294] in 2003 the government introduced a 20% export tax on RHS.[295] In addition to disincentivizing exports of RHS, the revenue generated by the tax was transferred into the Livestock Development Fund (LDF) set up 'to improve training, extension and inspection services in the leather sector, and to promote value addition' (Board of External Trade 2004: 4–5; Curtis 2010: 7; Dinh and Monga 2013: 65–66).

As illustrated in Figure 7.11 above, the export tax was successful in increasing the number of semi-processed hides and skin exports. Exports rose from nearly zero in 2003 to over 5,000 tons in 2008, over twice the exports achieved in the golden era of the industry in the early 1980s. One crucial aspect of this success was that the Leather Association of Tanzania (LAT) – i.e. the umbrella association of leather tanneries and manufacturers founded in 1991 – was allowed to monitor the exports of RHS through Dar es Salaam starting in May 2004 (Board of External Trade 2004: 4). Importantly, according to a former senior executive of LAT, it could use part of the LDF's funds to enforce the tax. What this meant is that members of the LAT would pay customs officials at the Dar es Salaam and Tanga ports US$ 50 per every miss- or underdeclared container they could catch and confiscate, hereby aiming to give customs officials an incentive to resist bribes by potential smugglers.[296]

Despite the 20% export tax by 2007 still more than twice as much RHS was exported than processed hides and skins. Given the initial success of the 20% export tax and in line with the new 2007 'Leather Sector Development Strategy', the government decided to increase the export tax to 40% the same year (Curtis 2010; Ministry of Industry and Trade and ITC 2015: 38).

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[294] This strategy was put to paper in 'A Blueprint for the African Leather Industry' by UNIDO (2004) Some of its core initiatives were 'the creation of the Meat Board to improve slaughtering and abattoir facilities; the establishment of common production and training centres for small scale leather footwear and leather goods producers; and the implementation, in partnership with the Common Fund for Commodities (CFC), of a programme to increase the quality of hides and leather through improved extension services, inspection and grading' (Board of External Trade 2004: 4–5).

[295] To quote the Tanzanian Ministry of Industry and Trade and the ITC (2015: 38), the 'levy of 20 % of the free on board value of exports was introduced in 2003 with the aim of increasing the local supply of raw materials so that local tanneries could benefit from their low cost.'

[296] Former Senior Executive of LAT, Mwanza, 02.08.2017.

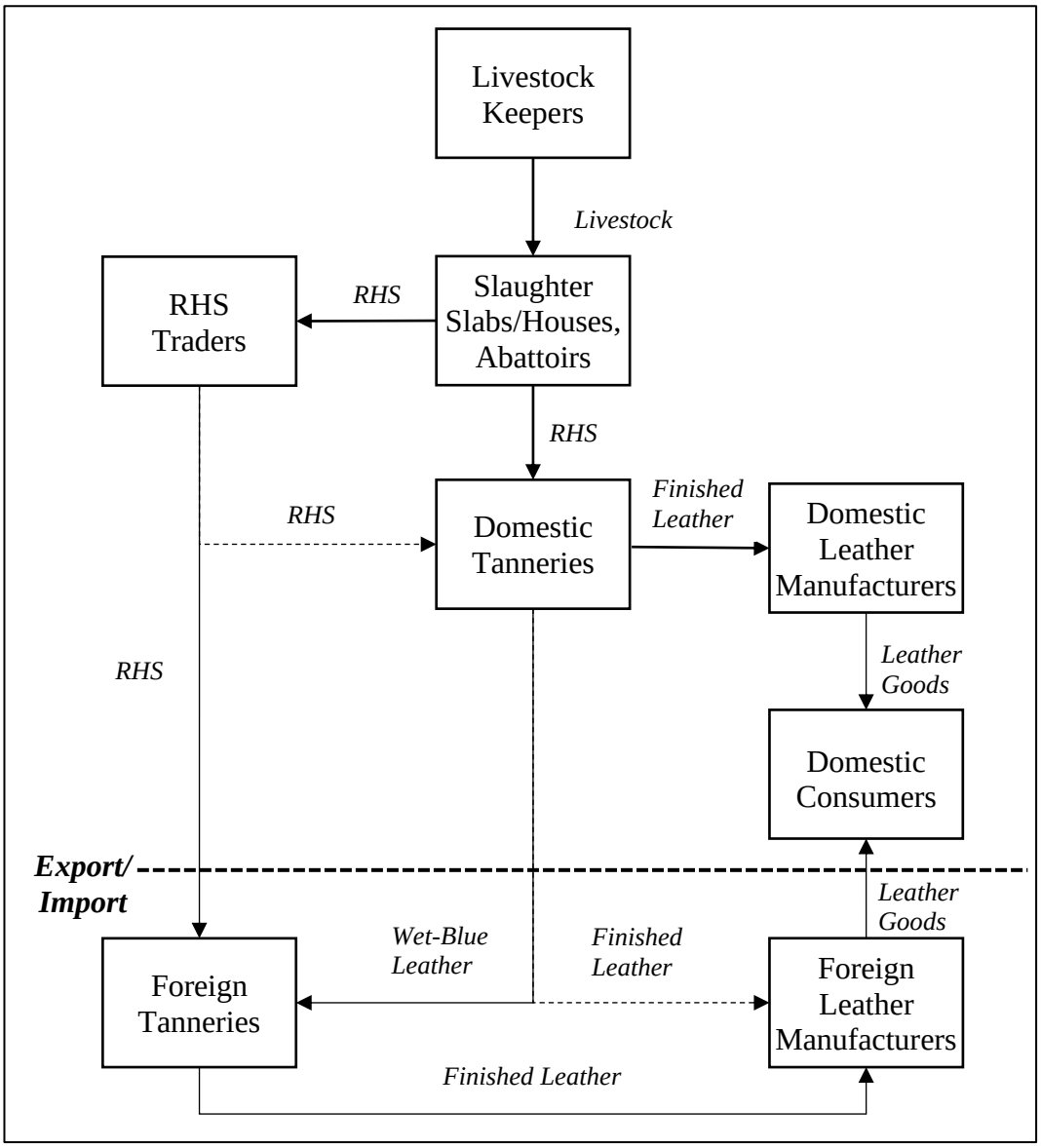

Figure 7.12. The Tanzanian Leather Product Chain since 2000

Source: Own Illustration

Critically, both during the initial imposition of the 20% export tax in 2003 as well as the increase to 40% in 2007 there was never any notable protest against the policies. This is surprising at first, given that there are over 1.7 million households in Tanzania keeping livestock that should stand to lose from such export taxes.[297]

[297] According to the government's 2005 Livestock Sample Survey, the livestock sector provides livelihood support to a total of 1,745,776 households in Tanzania (Ministry of Livestock and Fisheries Development 2011: 3; Ministry of Industry and Trade and ITC 2015: 21) An estimated 95% of cattle production – the core source for RHS – is produced by (agro-)pastoralists and only

In reality, however, RHS prices are of no relevance to nearly all livestock keepers in Tanzania (or elsewhere in Africa for that matter). The clearest statement in this regard comes from the Tanzanian Government's Board for External Trade's 2004 analysis of the sector:

> 'Indeed, from the perspective of the herdsman/farmer and rural butcher, there is currently *no value chain for leather* [emphasis added]. Leather remains part of the value chain for meat, where the value obtained from selling an animal with a good quality hide is exactly the same as one with a poor hide – specifically zero' (Board of External Trade 2004: 3).

This is assessment is supported by others (International Trade Centre 2005; Rolence and Suleiman 2016; UNIDO 2004: 26), my own survey of 25 northern Tanzanian Livestock keepers (all of which replied that they did not receive any value from RHS), and simple economic analysis. Overall, the economic value of a cow's hide represents less than 1% of its total value.[298] Even if livestock keepers were to receive that 1% – which they do not – it would in no way constitute a significant share of their income. As such, the millions of Tanzanian livestock keepers do *not* – as per the definition of my population share variable – constitute a share of the population that earns a significant income from producing a commodity (RHS in this case), and thus, are not affected if its export is restricted. This also helps to explain the extremely poor quality of RHS in Tanzania (and most African countries), with livestock keepers having no incentive to take care of it.[299]

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around 5% is produced by larger ranches, mostly by the National Ranching Company (NARCO), a parastatal (Kilimo Trust 2009: i).

[298] In 2017, the average Tanzanian cow would produce 12 kg worth of hide and a minimum of 100 kg of meat. At a price of Tsh 400 (US$ 0.25) per kg of raw hide, the cow's hide has a total value of Tsh 4,800. At a price of Tsh 6,000 per kg of meat, the cow's meat has a total value of Tsh 600,000 (compare Wilson [2013: 40] for detailed meat prices in Tanzania for 2013). Thus, the hides total value is equal to less than 0.8%.

[299] Since hides and skins are of no value to livestock keepers, they do not invest in their quality. The most dominant problem is the branding of animals. Interviewed tanners estimate that over 80% of all animals are branded, which reduces the value of a hide by 10% to 40%, depending on the position of the branding on the skin (Mwangosi 2014: 48–49). Branding is an essential tool to prevent livestock rustling and not doing so would pose a considerable risk for livestock keepers, especially if there is no value to not doing so. Marking ears of animals with tags, for example, has also failed because rustlers could simply cut them off. Further major issues are that animals are not dipped and their skins are thus damaged by parasites, that they have scars from being whipped, running through thorny bushes, and not having horns being taken or grinded off, as well as culling occurring at old

Although slaughter slabs, slaughterhouses, and abattoirs do receive payment for RHS, it is so insignificant to their total income that like livestock keepers they do not care much about RHS price developments or quality.[300] Given that, again, hides only constitute less than 1% of the value of the slaughtered animals, meat processors (a) can neither be considered as population group that would be affected by an export restriction on RHS and (b) invest little to no care in assuring good RHS quality. As a consequence, 60% of hide defects are attributed to poor flaying during slaughtering (Mhando 2019).[301]

The only group seriously negatively affected by RHS export restrictions are RHS buyers and traders. According to two interviewed senior executives of the Union of Tanzanian Hide and Skin Traders and Developers (UWANGOTA[302]), the association of Tanzanian RHS traders, there are around 80 major RHS traders which each employ 20 to 30 collectors or buyers.[303] Thus, overall, they estimate that there are likely less than 2,500 RHS buyers and traders in Tanzania. Collectors buy RHS from slaughterhouses, slabs, and abattoirs, bring them to the senior traders, where the RHS are salted or dried for preservation and transport. As confirmed by the two interviewed trader association executives and supported by the findings of Mwangosi's (2014: 42) survey of RHS traders in Mwanza, nearly all RHS collected by independent traders is exported, legally and increasingly illegally since the introductions of RHS export taxes. Given that RHS traders and buyers are less than

age (Board of External Trade 2004: 7; Sutton and Olomi 2012: 133; Mwangosi 2014: 49; UNIDO 2004: 24).

[300] Around 85% of Tanzania's processing of cattle and small ruminants is conducted in around 1150 small- and medium-scale community-owned slaughter slabs and slaughter houses, with the remainder conducted in 27 larger scale abattoirs situated in the country's largest cities (Ministry of Industry and Trade and ITC 2015: 22; Kilimo Trust 2009: 24).

[301] (Rolence and Suleiman 2016) estimate that 99% of flaying is done by knife, which is extremely prone to cutting and damaging the skins, especially when done quickly (Mwangosi 2014: 39; Ministry of Industry and Trade and ITC 2015: 43). The alternative of hand or machine-based flaying by pulling the skin off would be much gentler to the skin, yet takes around 10 minutes per animal versus seven minutes required for knife-flaying, which would lead to a massive increase in labour cost unjustifiable given the little value added of better hides to abattoirs (Interview with Senior Executive of Major Tannery, Moshi, 17.08.2017).

[302] UWANGOTA stands for Umoja wa Wazalisha Ngozi Tanzania. UWANGOTA was founded in 2016 in Dar es Salaam, thus after the implementation of the 2012 90% export tax on RHS.

[303] Senior Executive of the Union of Tanzanian Hide and Skin Traders and Developers 1, Dar es Salaam, 14.07.2017; Senior Executive of the Union of Tanzanian Hide and Skin Traders and Developers 2, Dar es Salaam, 14.07.2017.

2,500 people in a country of over 40 million inhabitants, the share of the population that stands to lose from a severe export restriction like a heavy export tax or ban and might resist it is extremely marginal. From the perspective of this thesis' theoretical argument it is therefore plausible that the government would implement heavy export taxes on RHS without much concern about any significant political backlash.

7.3.3. The Tanzanian Leather Sector Crisis and the 2012 De Facto Ban

The rise of the Tanzanian tanning industry induced by the export tax came to an abrupt stop in 2008, caused by two major factors. First, a massive global price drop for tanned hides and skins due to a general global decrease in demand for leather products in the years of the 2008/9 Global Financial crisis (Sutton and Olomi 2012: 138; UNECA 2013: 195). Second, the end of the LDF-financed and LAT-conducted RHS export monitoring scheme. In 2008, the chair position of the LDF's steering committee rotated to the Ministry of Livestock and Fisheries (MoLF). To the surprise and shock of tanners, the new chair decided to stop LAT from monitoring the port and utilizing funds from the LDF for that purpose. According to a former senior executive of LAT, tanners argued the new chair's change of direction to be the result of him being involved with RHS traders or in RHS trade himself.[304] In fact, current tanners and members of LAT argue that evidence for the chair's conflict of interest was eventually identified in 2014 (APLF 2014) and that the chair was subsequently transferred to a minor post in the countryside as punishment for inhibiting the industry's growth in favour of RHS trading.[305] Simultaneously, the leadership of LAT had changed to a president much less actively involved in the steering committee and the work of LAT, and who in this critical time was allegedly not fit to protect tanners. According to tanners, the result of the LAT export monitoring scheme's end was increased smuggling and miss-declaration of RHS

[304] Former Senior Executive of Leather Association of Tanzania, Mwanza, 02.08.2017.

[305] Senior Executive of Leather Association of Tanzania, Dar es Salaam, 11.07.2017.

exports and thus an increased difficulty to source RHS for their factories, a claim confirmed by Sutton and Olomi (2012: 136) in their analysis of the sector.[306]

Table 7.3. List of Tanneries in Tanzania in 2010

Tannery	**Location**	**Installed Capacity in ft² (2010)**	**Utilized Capacity in ft² (2010)**	**Degree of Processing**
East Hides Tanzania Ltd.[307]	Morogoro	29,000,000	19,000,000	Wet Blue
Moshi Leather Industries Ltd.	Moshi	10,000,000	2,450,000	Wet Blue, Crust
Himo Tanners and Planters Ltd.	Himo	4,000,000	4,000,000	Wet Blue, Crust, Finished
Afro Leather Industries Ltd.	Dar es Salaam	3,000,000	1,500,000	Wet Blue
Lake Trading Co. Ltd.	Kibaha	5,160,000	3,096,000	Wet Blue, Crust, Finished
SALEX Tanneries Ltd.[308]	Arusha	4,050,000	3,040,000	Wet Blue
Total		*55,210,000*	*33,086,000*	

Sources: Dinh and Monga 2013: 67; Ministry of Industry and Trade 2011; Ministry of Livestock Development and Fisheries 2011: 76

By 2011, the situation for the countries six tanneries had worsened significantly (see Table 7.3 for an overview of the six tanneries). Increasingly struggling to

[306] Senior Executive of Leather Association of Tanzania, Dar es Salaam, 11.07.2017; Senior Executive of Large-Scale Tannery, Dar es Salaam, 11.07.2017; Owner of Medium-Scale Tanning and Leather Manufacturer, Mwanza, 02.08.2017; Senior Executive of Major Tannery, Himo, 18.08.2017

[307] Formerly known as Morogoro Tanneries Ltd. Now named ACE Leather Ltd., under the same management of Onorato Garavaglia.

[308] Capacity numbers for 2009 from (Ministry of Industry and Trade 2011).

source RHS on the market due its smuggling, capacity utilization decreased from around 60% in 2010 to less than 50% the year after (Trade Mark Southern Africa 2011), and as illustrated in Figure 7.11 exports of processed hides witnessed a significant dip. Consequently, tanners – who had formed the Tanzania Tanneries Association (TTA) after LAT had weakened – started to lobby the government for an intensification of the RHS export restrictions. Under the chairmanship of East Hides Tanzania Ltd.'s (formerly Morogoro Tanneries Ltd.) Italian Managing Director Onorato Garavaglia, TTA had several meetings throughout 2011 with the Government to discuss further support (APLF 2011). More specifically, tanners asked the government to increase the export tax immediately from 40% to 90%, eventually transform it to a complete export ban, and to do more to curb smuggling.

By March 2012, the TTA had changed the goal post. Claiming that tanners were increasingly failing to compete with Asian (mostly Pakistani) RHS exporters/smugglers, TTA and Garavaglia shifted towards demanding an immediate and outright ban on RHS exports without a prior increase of the export tax (The Citizen 2012; Juma 2012). Then Minister of Livestock and Fisheries, David Mathayo David, reacted by setting up a monitoring committee composed of officials from MoLF, MoIT, and the Tanzania Revenue Authority (TRA), set with the task to assess the tanners' complaints and potential policy options.

Rather than imposing a ban, the government, however, decided to go with the TTA's initial demand and in June 2012 increase the export tax on RHS from 40% to 90% (Machira 2013; WTO 2012). The aim of the tax, according to the Minister of Finance in his 2012 budget speech (2012: 66), was 'to promote local processing of hides and skins as well as value addition to our exports'. Asked why they had not directly imposed a ban, interviewed officials at MoIT and MoLF replied that the 90% tax was intended as a de facto ban,[309] with the export tax so high that no exporter should have been able to export RHS with a profit after the tax.[310] Moreover, they indicated that they had planned to impose an export ban but wanted

[309] Which is why it is listed as a ban in Appendix 2.1 and treated as such in binomial models in the large-N analysis in Chapter 4.

[310] Senior Industry Officer in the Ministry of Industry and Trade, Dar es Salaam, 12.07.2017; Leather Promotion Officer (MoIT), Per Telephone, 11.07.2017; Livestock Officer (MoLF), Dar es Salaam, 14.07.2019.

to coordinate this with the other members of the East African Community. These talks, they claim, stalled given disagreement among members over whether an RHS export ban should only affect exports from the EAC (especially Kenya's preferred option, which imported and smuggled many RHS from Tanzania) or also within the EAC (which Tanzania preferred to protect its industry from Kenyan competition).

Interestingly, interviewed leather sector leaders assert that the government had told them that the WTO's rules against export bans was the reason they could impose a ban.[311] If this assertion is true, it would be surprising. In the decade before, under the same set of global trade rules (and lax enforcement thereof in Africa), and by the same government and/or ruling party, Tanzania had imposed bans on several raw commodities to promote their domestic processing: in 2004 on raw logs, in 2005 on metal waste and scrap, and just in 2010 on unprocessed tanzanite (a rare gemstone). Notably, none of the interviewed MoIT and MoLF staff could confirm that WTO rules had played a significant role in their decision-making. Moreover, the interviewed leather sector leaders shared that they had perceived the WTO reasoning as a false pretence. Rather, they felt, the non-imposition of a ban was the result of successful counter-lobbying by RHS traders, who anticipated that an outright export ban would make fraudulent exports of RHS more difficult.[312]

7.3.4. The Politics of the 2012 RHS 90% Export Tax

In the five case studies conducted so far in this thesis we have seen that export bans on raw commodities rapidly, severely, visibly, and with the help of traders attributable to the government reduced producer prices. Apart from timber, this has led to traders organizing producer protest against the bans. However, only where

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[311] Senior Executive of Leather Association of Tanzania, Dar es Salaam, 11.07.2017; Senior Executive of Large-Scale Tannery, Dar es Salaam, 11.07.2017.

[312] There are a number of reasons a ban might be more efficient in curbing exports than a high tax (even if intended to factually cut exports to zero). First, under the tax, many RHS traders would still 'legally' export RHS via the port, yet would massively underdeclare the amount of RHS (aided by overwhelmed or corrupt customs officials), thus, pushing the real tax down to levels allowing to make a profit. With a ban you simply would not be able to export any RHS anymore (RHS exporters would not even get export licenses anymore), thus also not to underclare (although you might still misdeclare it – however, misdeclared goods are easier to detect than underdeclared ones, with character of the good easier to assess than the volume). Second, export bans make it easier to confiscate the smuggled good, whereas tax-avoidance might only bring with its fees (albeit hefty ones).

producers were many (that is, in the Ghanaian cashew case) did they manage to credibly threaten the government, and thus only there was the ban withdrawn. How does this compare to the 2012 90% export tax imposition on RHS in Tanzania? As already detailed in this chapter, RHS differ in significant aspects to previously studied commodities and hence also in relation to the assumed mechanisms. These differences render this final analysis relatively short.

Since there are no prices for producers (livestock keepers) the tax had no effect on them and thus they had no reason to (be) mobilize(d) against it. To further substantiate this claim, I rely on the replies from 25 Northern Tanzanian Livestock keepers that I surveyed throughout August 2017 in five wards in Mwanza, Arusha, and Moshi regions (see Appendix 7.6 for a copy of the survey questionnaire). Critically, all 25 interviewees replied that they did not receive any (dedicated) payment for (the quality of) their animals' hides and skins and actually indicated explicitly that when selling their livestock that the quality of the raw hides and skins makes no difference in the sales value. Moreover, only two out of the 25 interviewees were aware that an export tax on RHS was even in place (one, because his brother in law happened to be a hides collector; the other because he had lived in Holili near the border to Kenya for some time, where smuggling of hides had come up as a debate topic every once in a while). Neither of the two, however, saw the tax as reason for political action (whether via protest or the ballot) because they did not feel affected by it. Combined with the information provided in Section 7.3.2, these survey results provide strong evidence that livestock keepers could not be affected by the tax and explains why they could not be mobilized against it.

As indicated in Section 7.3.2, the only group that would really lose out from an export tax in Tanzania are the less than 2,500 Tanzanians involved in RHS trade and export. Whether RHS traders received lower prices on the domestic market is difficult to assess, because both prior and after the imposition of the 90% tax they had rarely sold their RHS on the domestic market, that is to Tanzanian tanneries (who sourced RHS themselves). What we do know, however, is that more than doubling the export tax to 90% massively reduced the formal export of RHS. As illustrated in Figure 7.11, whereas over 6,000 tons of RHS had been exported in 2011, this had halved to around 3,000 tons in 2013, and further dropping to around 1,000 tons by 2017. This has two reasons. On the one hand, several exporters exited

the Tanzanian RHS market due to the imposition of the higher export tax, leaving a greater share of the RHS pie to local tanners. And indeed, following the two years after the tax increase, Tanzanian tanners experienced their most successful period, with processed hides and skin exports more than doubling from around 4,000 tons in 2012 to around 9,000 tons in 2014 (compare Figure 7.11). On the other hand, many exporters – rather than just under- or misdeclaring RHS exports at Tanzanian ports – switched to smuggling RHS across the border to Kenya,[313] according to interviewed officials and tanners.[314] Given that Kenyan tanners likely do not pay as well as Asian tanneries and that some RHS traders closed shop, it is likely that RHS traders were negatively affected by the tax increase. Given, however, that they could mostly switch to the Kenyan market, the impact on their profit margins is likely considerably smaller than that of producers in the other commodities studied in this thesis.

RHS traders did not publicly protest the ban, neither via the media or on the streets. There are two major reasons for this. One, the ability to smuggle RHS to Kenya buffered the impact of the tax. Second, even if they had been impacted more, traders likely realized that they did not have the numerical power to be a threat to the government. With livestock keepers uninterested, traders would have had to rely on their own, counting less than 2,500 people. Amounting to only 0.005% of the population and spread throughout a country nearly four times the size of the United Kingdom, their protest would not have been anything but a drop in the bucket of Tanzanian politics.

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[313] Kenyan tanners can offer higher prices to Tanzanian RHS traders than Tanzanian tanners for three reasons. First, they are slightly more advanced. Second, Kenyan hides and skins have a better reputation on the international market than Tanzanian giving them a premium on the international market. Consequently, they can buy Tanzanian hides for lower prices, mix them in with Kenyan hides, and receive the premium nevertheless. Thirdly, since June 2015 Tanzania has implemented a 10% export tax on wet-blue hides and skins to encourage local tanners to upgrade to crusted and finished leather. Since Kenyan tanners do not face this tax, they have competitive advantage in exporting wet-blue hides and can thus offer Tanzanian RHS traders higher prices. Importantly, since the RHS are smuggled from Tanzania, they are not registered with Kenyan customs and thus do not show up in Figure 6.X. Thus, although exports of RHS overall from Tanzania might not have reduced massively in recent years, the replacement of Asian importers that register imports to Kenyan importers that to not, makes it appear as if exports of RHS had dropped massively.

[314] Senior Executive of Leather Association of Tanzania, Dar es Salaam, 11.07.2017; Senior Executive of Tanzania Tanners Association, Dar es Salaam, 11.07.2017; Leather Promotion Officer (MoIT), Per Telephone, 11.07.2017; Livestock Officer (MoLF), Dar es Salaam, 14.07.2019; Senior Executive of Major Tannery, Himo, 18.08.2017.

Given this numerical weakness of RHS, the government relatively unconcernedly increased the tax on RHS and saw no pressure to withdraw it.[315] That being said, RHS traders seem relatively well-connected to relevant Ministry officials and border officials, helping them to circumvent the ban. Hence, while the argument appears to gain further traction that primarily large groups can thwart policy legislation, this case study also shows that smaller groups can sometimes effectively undermine policy implementation and hereby defend themselves against negative impacts.

7.3.5. Conclusion of the Tanzanian Raw Hides and Skins Export Tax Case

To conclude, this final case study of the 2012 Tanzanian 90% export tax on RHS provides further evidence for the thesis argument: African governments are relatively likely to impose severe export restrictions on 'bannable' commodities which provide a significant income to only a small share of the population. The claim that RHS production provides a significant income to only a small share of the Tanzanian population appears surprising at first, given that nearly two million Tanzanians earn a significant share of their income from keeping livestock. As evidenced by other studies' findings and my own survey of 25 Northern Tanzanian livestock keepers, they do not, however, earn any income from selling RHS (or for taking care of them). At this stage of the *production* chain, the commodity RHS is not yet valued. The actual *value* chain starts in slaughterhouses and abattoirs. However, given that the sales of RHS on average account for less than 1% of slaughterhouses' and abattoirs' total sales values, neither can this group be considered as one gaining significant income from producing that commodity.

The only group in the Tanzanian leather industry that would truly be hurt and agitated by such a severe export restrictive measure are RHS traders. Counting only around 2,500 people in Tanzania they posed no numerical threat to the government,

[315] It needs to be said, however, that in 2014 the government had shortly reduced the tax back to 60%. According to interviewed government officials, the reason was that they had the feeling the tax increase had not benefited processors sustainably (due to increased smuggling), while significantly reducing the revenue from the export tax. Some tanners suggested that this might have been the result of trader lobbying, although no clear (anecdotal or other) evidence or logic was provided to support this. In 2015, however, the government together with all EAC member states decided to re-increase the tax to 80%.

however, which could thus implement and maintain the 90% export tax without fearing any serious consequences. Yet, traders do have considerable connections into responsible government authorities allowing them to often circumvent the enforcement of the policy. This demonstrates that the politics of policy-making, implementation, and enforcement can be very different things and that smaller groups can in certain cases avoid the fallout of adverse export measures.

7.4. Chapter Conclusion

This chapter set out to take a closer comparative look at the three most commonly banned processable commodities: raw timber logs, metal waste and scraps, and raw hides and skins. Given that these commodities strongly shape the empirical pattern motivating the thesis and to a significant extent the findings derived in the large-N regression analysis, it is critical to study whether the thesis argument does indeed hold here as well or whether alternative factors can explain their difference to other (especially agricultural) commodities. More specifically, I studied the explanatory power of the thesis argument in relation to the 1995 raw log and the 2013 ferrous waste and scrap export bans in Ghana as well as the 2012 de facto export ban on raw hides and skins in Tanzania.

As the previous case studies, these too appear to support the theoretical argument of the thesis. In Ghanaian timber, the government in 1995 implemented an export ban on all raw logs (except for teak) to promote and protect the domestic processing industry. As in the case of the Ghanaian and Kenyan nut export bans, domestic log prices for most species dropped by around 50% within one year of the ban. With export agents not buying their produce anymore, dedicated logging industries were clearly aware of and furious about the ban and many of them closed shop (helping larger foreign-owned integrated timber processors to consolidate the market). Feeling that they lacked the numerical power to seriously threaten the government, independent loggers, however, failed to organise any protest against the ban. Moreover, they were – in stark contrast to all other studied sectors – not supported by traders. Given that timber export agents were accustomed to trading both raw logs and semi-processed timber, the ban was less of a shock to them and thus had no strong motivation to lobby against the ban or try to lead a coalition against it. The ban is still in power today.

Similarly, following strong lobbying from the steel industry, the Ghanaian government in 2013 decided to legally ban all exports of ferrous waste and scrap. Producer and dealer prices dropped significantly, motivating the latter to intensively lobby and organize collector protest against the ban – again to no avail. As in timber, the number of collectors was too low (likely around 15,000 collectors in the whole country) to be of significant political concern to policy-makers.

Finally, while similar, the context in raw hides and skins was different at the same time. Although there are several million livestock keepers in Tanzania, only a minuscule share of the population earns a significant income from raw hides and skin production and trade. The reason is that because the actual value of a raw hide or skin constitutes only around 1% of the value of a whole cow, goat, or sheep, African livestock keepers de facto do not receive any income from the commodity. The only actors gaining a significant share of their income from working with raw hides and skins – apart from tanners of course – are hides and skins collectors and traders, which in Tanzania represent less than 2,500 people (or 0.005% of the population). As such, when the Tanzanian government in 2012 decided to impose a 90% export tax (intended as a de facto ban) on raw hides and skins the only people (that could be) agitated were hide collectors and traders. Knowing they did not have the numerical clout to sway the government to lift the policy, traders have mainly attempted to circumvent it by smuggling a significant share of the national RHS production to Kenya and overseas.

To conclude, as Kenyan cashew and macadamia nuts, 'bannable' commodities that provide a significant income share to only a small percentage of the population are prone to banning at export. Consequently, African governments are unlikely to face the popular backlash faced when banning mass-produced commodities like Ghanaian cashew, and as such will relatively frequently ban them in the quest to promoting domestic processing.

Chapter 8. Conclusion

This thesis set out to study why sub-Saharan African governments restrict certain economically 'bannable' commodity exports more frequently than others. In the last three decades, governments on the continent have increasingly reverted to export bans on raw commodities to promote their domestic processing. Out of 36 sub-Saharan African WTO member states covered in my EPTA dataset, 32 had implemented bans on commodity exports in the time period between 1988 and 2017. And out of a total of 129 commodity export bans, 74% were implemented after 2000, indicating the recency of this policy tool. Interestingly, however, when focusing only on the 14 relatively frequently exported African commodities for which no obvious economic reasons exist why they would or could not be banned to promote their processing industries (that is, they are 'bannable'), we still find significant variation in their propensity to be banned at export. Whereas certain raw commodities are particularly frequently banned (i.e. timber logs, metal waste and scrap, as well as raw hides and skins), others like agricultural export crops (e.g. cashew, cocoa or tea), as well as gold, are barely ever banned.

In this study, I advanced the argument that the group size of producers as well as the extreme rapidity, severity, and attributability of an export ban's producer and trader price distortions are fundamental to explaining the observed empirical puzzle. Like any industrial or trade policy, export bans essentially distribute income from one group to another, in this case from producers and traders to processors. The critical question, however, is whether potential policy losers are likely to realize an adverse policy has been imposed on them and if so, whether they have the power to keep the government from doing so. This is often not the case. Many African farmers, for example, arguably struggled to grasp the extreme degrees to which their farm gate prices were distorted through marketing boards and monopsonies in the first decades after independence. Governments were extremely skilled at maintaining an illusion of stable prices while real prices were decreasing, and independent traders were barred from marketing and therefore could not inform producers about the degree of distortions. Export bans, I argue, are different in that they rapidly and harshly affect both producers and traders. Having the capabilities and interest to inform producers about the ban and mobilize them against it,

producers and traders can build synergetic defence coalitions, balancing their respective strengths and weaknesses. Crucially, however, I argue that whether the high likelihood of producers and traders mobilizing against export bans incentivizes policy-makers to avoid imposing them depends primarily on the numerical power of producers. Specifically, I claim that where producers constitute a large share of the population, their protest would pose a considerable threat to the government. Therefore, I expect policy-makers to avoid targeting mass-produced commodities – such as most cash crops as well as gold. In contrast, I hypothesized that governments will be less worried and more likely to ban the export of commodities that provide a significant income to only a small share of the population – e.g. the commonly banned commodities like timber logs, metal waste, and raw hides and skins.

And lastly, while I expected similar mechanisms to hold for high export taxes, I proposed they would not for low export taxes. Traders can usually pass through the price distortions resulting from low export taxes to producers and therefore have a lesser incentive to engage in the costly endeavour of setting up cross-group defence coalitions between themselves and producers. Producer mobilization is thus less likely and imposing low export taxes even on large groups poses a low risk to policy-makers.

The remainder of this conclusion proceeds as follows. First, I will summarize the key findings from my empirical analysis of the thesis argument. After, I highlight the key scholarly contributions this thesis makes and suggest possible considerations for policy-makers that can be derived from it. I conclude by highlighting areas for further research.

Table 8.1. Comparative Overview of Main Case Study Findings

Variables		**Chapter 6 Comparison**			**Chapter 7 Comparison**		
		Ghana	**Kenya**		**Ghana**		**Tanzania**
		Cashew (2016)	***Cashew (2009)***	***Macadamia (2009)***	***Timber (1995)***	***Metal W&S (2013)***	***Raw Hides and Skins (2012)***
Condition Variables	***1. High Price Depression***	✓	✓	*(✓)*	✓	✓	*(✓)*
	2. Trader Facilitation	✓	✓	✓	–	✓	✓
	3. High Attributability	✓	✓	*(✓)*	✓	✓	*(✓)*
	4. Producer Mobilization	✓	✓	*(✓)*	*(-)*	✓	–
Independent Variable	***5. High Comm. Pop. Share***	✓	–	–	–	–	–
Dependent Variable	***6. Ban Withdrawal***	✓	–	–	–	–	–

Source: Own illustration based on findings in Chapter 6 and 7.

8.1. Summary of Empirical Findings

To test the thesis argument against competing explanations, the study employed a mixed-method strategy. First, data on country-commodity-specific export prohibitions and employment were collected, allowing for a large-N comparative analysis of over 3,000 country-commodity-years, representing 12 commodities in 36 countries from 1988 to 2017 (depending on the country-commodity). Holding a large vector of control variables constant and employing simple binary, multilevel within-between random effect, and three-way fixed effects logit regression models, this analysis found strong and robust empirical support for the core hypothesis. Specifically, a one percentage point increase in the share of the working population gaining significant income from producing a commodity *decreases* the odds that the government introduces an export ban on that commodity by at least 75%. In contrast, an additional multinomial regression analysis of the propensity of facing different degrees of export taxes and export bans shows that an increase in the population share *increases* the odds that the government introduces a low export tax on a commodity. This is in line with the argument that export taxes are not visible to producers and that governments are therefore less warry of imposing them even on larger population groups. Together, these results provide robust evidence for the argument that governments fear agitating producers who have more to lose and that know who to blame. Finally, in contrast to recent findings in the regime type literature, the negative associations between group size and export bans are not larger in democracies. This supports a growing scholarship arguing that mass mobilization – even in the rural countryside – is possible in autocracies.

Second, I conducted six in-depth country-commodity case studies employing two distinct qualitative comparative logics. Chapter 6 compared the 2016 Ghanaian raw cashew export ban withdrawal with the 2009 Kenyan export ban on raw cashew *and* macadamia nuts that persists to this day. Methodologically, this comparison is interesting as it allowed to hold several potential competing explanations constant due to the high similarity of the three country-commodities. Moreover, the Ghanaian cashew ban is one of the very rare cases where a government introduced a ban on a commodity and withdrew it (almost instantly). This allowed to trace which events and actions by relevant players in the sector led to the withdrawal of the ban, and thus to demonstrate the risk of implementing a ban on a large group of

producers, and why most governments avoid doing so in the first place. Given that they strongly shape the empirical pattern motivating the thesis and to a significant extent the findings derived in the large-N regression analysis, Chapter 7 took a closer comparative look at the three most commonly banned processable commodities, namely raw timber logs, metal waste and scraps, and raw hides and skins. It did so in the context of the bans on raw logs and ferrous scrap in Ghana in 1995 and 2013 respectively, as well as in the context of the 90% export tax imposition on raw hides and skins in Tanzania in 2012. In sum, all six studied country-commodities experienced (de facto) export bans, yet only in the Ghanaian cashew case, the government withdrew it.

As illustrated in Table 8.1 above, each case study probed the key mechanisms assumed in the theoretical argument. First, it studied whether export bans indeed severely and rapidly decreased producer (and trader) prices, whether these decreases were attributed to the government's doing, whether producers mobilized against the bans, and whether traders assist them in doing so. Second, each case analysis also studied whether differences in outcomes – that is, whether a government withdrew or maintained a ban (as well as implementing it in the first place) – covaries with the size of the population earning a significant income from producing or trading the respective raw commodities.

Overall, the comparative analysis of these six commodity sectors provides strong support for the theoretical argument. In all six cases, the ban led to a severe and rapid fall of producer prices, usually by around 50%. Except for Ghanaian timber (where traders also export processed timber and therefore are less incentivized to agitate loggers), traders in all other five commodities actively helped inform and collectivize producers against the ban. And again, in each case, the losers of the ban clearly held the government responsible for the severe price distortions and in four out of six cases producers mobilized against its policy. Whereas dedicated timber loggers in Ghana still became aware of the ban since exporters would not buy from them anymore, they eventually decided not to mobilize against the ban because they were so few and felt so powerless that they thought to protest was a lost cause. Since livestock keepers do not lose from restriction of raw hides and skins exports – as they do not make an income from producing them – they also had no rationale to protest against the 2012 de facto ban. In contrast, the real losers of the policy – raw

hides and skins traders – decided that, given their small group size, lobbying and bribing relevant officials to avoid the ban was the more promising strategy. Critically, although each ban saw opposition from producers and/or traders, only in the case of Ghanaian cashew nuts the ban was withdrawn – within one week of its implementation. What distinguishes the Ghanaian cashew case from the other five is that Ghanaian cashew nut growers form a sizeable share of the population, which demonstrated that their numerical power could pose a significant threat to the government's and local politicians' political survival. The withdrawal of the ban was thus an attempt by the government to minimize losses at the subsequent election.

8.2. Scholarly Contributions

The thesis makes significant contributions to the broader political economy of development literature. First, it joins a growing scholarship bringing back politics into the renewed study of industrial policy in the Global South, and particularly the African continent. Importantly, however, while much of this literature is conceptually and empirically very context-specific (with single or dual case studies the norm), this thesis adds a more generalized theory and analysis. Context-specific and in-depth case study work and theorization is indispensable for research on the politics of industrial policy – and cherished in this study. Nevertheless, it remains important to also generate more broadly applicable theories going beyond specific country-sectoral contexts.

The thesis makes three further key theoretical and empirical contributions to political science. First, it enriches recent research emphasizing that the severity and attributability of a policy can shape both the collective action incentive and capacity of those affected and thus the policy's attractiveness to politicians. Second, it adds to a growing literature showing that rural mass interests can under certain circumstances become a credible threat to both democratic and authoritarian governments. Importantly, these circumstances usually entail the implementation

of policies very harsh and visible to the masses. Not only does this further push the first point regarding the relevance of policy attributability and severity. It also raises the question of whether severe price distortions pre-SAPs were possible because they were induced by less visible policy tools such as marketing boards, which are less available to policy-makers today. The thesis makes this argument and provides anecdotal evidence, for example from the Kenyan nut case studies to support it. And finally, the finding that usually competing commodity traders and producers coalesce to overcome their respective weaknesses and collective action problems adds significantly to a growing literature showing the importance of cross-actor coalitions in the politics of successful group mobilization.

Finally, the thesis also contributes to our understanding of the economics of development. Most importantly, the EPTA dataset promises to open doors into more rigorous quantitative research on the economics of export prohibitions and taxes in Africa. This has already allowed creating the first comprehensive overview of the economic feasibility and sensibility of implementing export bans, a starting point for further research along these lines. And lastly, the thesis provides a rich documentation of six attempts by African governments to promote commodity processing industries, furthering our understanding of the opportunities as well as obstacles they face in doing so.

8.3. Policy Implications

The policy implications that can be derived directly from the core thesis findings are limited. Essentially, the main implication for policy-makers and those consulting them would be not to impose bans on raw commodities if they are produced by many, as this poses significant political risks. Obviously, this recommendation is rather redundant. Policy-makers already heed this advice, hence the observed pattern across bannable commodities that motivated this thesis in the first place.

Nevertheless, the dissertation more generally does generate several important economic policy implications. First, export bans can be made more socially sustainable. To assure that domestic processors do not overexploit the power obtained through a ban and pay producers only very low prices, governments need to set up a relevant regulatory framework prior to implementing bans. Apart from supporting producers to set up their own representative associations and building consultative committees with key actors across the value-chain, governments should implement fair minimum producer prices. Negotiated between producer and processor representatives and mediated by state officials in said committees, these prices need to be oriented towards international prices. If they are not, then the Kenyan cashew case shows how processors might keep on paying the same minimum price for a decade, although global prices have more than tripled in the same period (a strategy also successfully implemented by marketing boards). Moreover, governments need to build strong mechanisms to monitor adherence to the minimum price and implement transparent punishments when processors do not. The thesis' case studies also show, however, that were producers are relatively weak (and thus more likely to face export bans in the first place) governments are also less likely to enforce minimum prices.

Second, the thesis raises concerns about the adequacy of export bans as a processing promotion tool. In the six studied country-commodity sectors export bans have clearly led to the increase of processing activities. The question is, however, whether they can do so sustainably. Against their initial promises, governments rarely monitor and adjust bans and other export measures over time. Once locked-in, bans are rarely loosened or scrapped. And while it is important to provide infant industries with a protective space in which they can prosper and become globally competitive, if they are not given the incentive or means to do so, it is questionable they will. Specifically, many of the constraints that hinder competitiveness – such as high-interest loans, inadequate human capital, or marketing difficulties – will not be solved through a ban. They require more targeted industrial policies. African governments tend to avoid these, however, as they require significant funding and state capacity – scarce resources which export bans do not require.

Low to medium export taxes might be a more sensible alternative in many cases. Apart from being more feasible politically, they also have attractive potential

economic effects. On the one hand, they provide processors with some protection, but not so much as to get too complacent. On the other, they generate revenues that can be used for supporting both producers and processors. Cashew processors in Côte d'Ivoire, for example, are paid direct subsidies per shelled volume and granted access to subsidized loans via export tax-generated funds. Furthermore, capable regulatory boards that can organize trainings and help seek foreign markets could be funded. And since raw commodities are the key inputs for processing, producers could also be supported through subsidized inputs, extension services, or improved infrastructure, all funded by the tax revenue. This could potentially create a win-win rather than a zero-sum game for all parties involved. Obviously, however, whether such funds will be adequately used rather than getting lost in unrelated venues is critical to the attractiveness of this approach. While initial evidence from the Ivorian cashew case appears to show that such funds can be productively used, the same does not appear to hold for revenue generated by the 15% export tax imposed on Tanzanian cashews. Arguably, however, it is still significantly less damaging to producers than an outright export ban would be (though also not as beneficial to processors).

8.4. Areas for Further Research

The thesis sets the ground for further research in several areas. Perhaps the most obvious next step would be to expand the EPTA dataset beyond Africa and test the thesis argument across a wider set of cases. Before doing so, it might, however, also be sensible to use the dataset in its current scope to analyse the economic implications of export bans more thoroughly. When and where do they successfully promote domestic processing? How strongly do they affect prices (also in comparison to export taxes) and do such effects vary systematically across commodities? And when do such price distortions push producers to abandon production? The EPTA dataset allows and motivates addressing these and related questions.

Simultaneously, it is also worth looking more into the import side of manufacturing promotion. Import substitution is experiencing a renaissance among African governments and it would be interesting to study how the thesis argument fares in explaining patterns thereof. Preliminary anecdotal thesis evidence indicates that it might. Specifically, the Tanzanian government has been considering imposing more restrictive import tariffs on (primarily Asian) shoe imports to promote the domestic leather manufacturing industry for several years. However, the clear losers of such a policy would be the mass of shoe consumers, which far exceeds the number of its potential winners. Warry of the wrath of consumers, the government has to date refrained from imposing more severe import restrictions. Whether this represents a more general pattern needs to be studied in more depth and breadth.

Moreover, the thesis motivates more research into the politics of rural mobilization and agricultural price distortions. Other than in the context of export bans, under what conditions can African peasants overcome their collective action problems and pose a threat to their governments? While the case studies provide first important evidence, more research needs to be conducted on how well-known the degree of price distortions was among farmers prior and past SAPs, and whether the low visibility thereof through marketing boards was in fact key to explaining why peasants did not revolt against them. This also applies to food staples and export bans more specifically. I have argued in Chapter 3.1.2 that food staples are frequently banned despite having many producers: first, because these producers cannot be considered real losers from export bans, second, because real losers (traders and speculators) are few, third, because even if commercial food staple producers were losers, they are still significantly fewer in numbers than food staple consumers, the winners of such a policy. These arguments deserve more rigorous analysis.

Similarly, the importance of policy attribution and severity requires broader research. Recent analyses of the politics of public service provision – and now this study on industrial and trade policy – have provided strong evidence that these characteristics have a significant impact on policy-making and feedback thereto. In the future, political economist should test whether similar patterns hold in other policy domains and past research should be actively re-assessed considering these variables.

Lastly, future research could help overcome some of this thesis' limitations. Ideally, the quantitative analysis should be replicated with profit margin data as control and more precise labour statistics as a basis for the population share variable, provided these are generated soon. Second, more case study work on export taxes is required. Given the thesis' primary focus on export bans, export taxes were neglected in its qualitative comparative analysis. The short discussion in Chapter 3.1.2 of the Beninese and Ivorian imposition of low export taxes on raw cashew nuts shows that the theoretical argument might have traction there, but this requires deeper analysis. Specifically, the questions need to be studied whether traders really abstain from informing producers because they can pass through price distortions and whether producers really did not mobilize against low export taxes, either because they did not realize its introduction or because they saw it as acceptable.

To conclude, this thesis has contributed to bringing more clarity to the complex politics of industrial policy in the Global South. Using mixed-methods, it demonstrated that even large groups can, under extreme policy severity and through cross-group coalitions, successfully engage in collective action. Hereby, it illustrated that generating relatively parsimonious and generalist theories remains possible and valuable in a literature that in recent years has (often rightly) heralded the context-sensitivity and idiosyncrasy of the politics of industrial and trade policy in the Global South. Furthermore, through its new theoretical arguments and an original dataset on export bans and taxes in Africa, the thesis has paved the road for more rigorously theorized and measured future research on the economics and politics of industrial policy. Considering Africa's and arguably the globe's industrial policy renaissance, the need for such research is great.

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Appendix

Appendix for Chapter 2

Appendix 2.1. List of All Export Bans Imposed Since 1988

Sector	Country	Name in Document	Year of Introduction	Stage of Processing
Animal	Burkina Faso	donkeys, horses, camels and their products	2016	raw, capital
	Burundi	fresh unprocessed fish (Nile Perch and Tilapia)	2009	raw
	Guinea	cattle products	2007	raw, capital
		dairy products	2007	raw, intermediate, consumer
		fish products	2007	raw, intermediate, consumer
		pig products	2007	raw
	Kenya	fresh unprocessed fish (Nile Perch and Tilapia)	2005	raw
	Madagascar	Live Cattle	2002	raw, capital
	Mali	young male bovine animals, five years old and less, and of non-sterile breeding females of the bovine species	1989-1998	capital
	Niger	Live Donkeys and Asses	2016	raw
	Nigeria	raw materials (except for cocoa beans)	1992	raw
	Rwanda	fresh unprocessed fish (Nile Perch and Tilapia)	2009	raw
	Tanzania	fresh unprocessed fish (Nile Perch and Tilapia)	2005	raw
	Uganda	fresh unprocessed fish (Nile Perch and Tilapia)	2005	raw
	Uganda	whole fresh fish	1995-2001	raw
	Zimbabwe	Goats	2010	raw
Food Products	Guinea	Sugar	2005-2011	intermediate, consumer
	Madagascar	Sugar	2011	intermediate, consumer
	Niger	Cattle feed	2005	consumer
	Nigeria	Maize (and derivatives)	1988	raw
	Zambia	Maize corn	2012	raw
Fuels	Guinea	petroleum products	2005-2011	intermediate, consumer
Hides and Skins	Botswana	Calf skins, skins and dry hides and wet salted hides	1939	raw

	Burkina Faso	Raw Sheep and Goat Skin	1995	raw
	Burundi	Raw Hides and Skins	2015	raw
	Kenya	Raw Hides and Skins	2013	raw
	Nigeria	All unfinished leather (raw hides and skins, semi-processed hides and skins)	1988	raw, intermediate
	Rwanda	Raw Hides and Skins	2015	raw
	Tanzania	Raw Hides and Skins	2012	raw
	Uganda	Raw Hides and Skins	2015	raw
	Zambia	Raw Hides and Skins	2002-2009	raw
Mach and Elec	Burundi	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	capital
	Kenya	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	capital
	Rwanda	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	capital
	Tanzania	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	capital
	Uganda	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	capital
Metals	Angola	scrap metal	2013	raw
	Burundi	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	raw
		waste and scrap of ferrous cast iron;	2009	raw
	Cameroon	scrap metal and ferrous and non-ferrous metal waste	2008	raw
	Cote d'Ivoire	Ferrous waste and scrap	2009	raw
	Ghana	Ferrous Waste and Scrap	1988	raw

		Ferrous Waste and Scrap	2013	raw
	Kenya	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	raw
		waste and scrap of ferrous cast iron;	2005	raw
	Madagascar	Scrap of All kinds	2012	raw
	Malawi	Scrap metal	2008	raw
	Mauritius	copper, copper alloys, waste, and scrap	2012	raw
	Nigeria	Scrap metal	1988	raw
		raw materials (except for cocoa beans)	1992	raw
	Rwanda	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	raw
		waste and scrap of ferrous cast iron;	2009	raw
	Senegal	scrap metal and ferrous by-products	2013	raw
	South Africa	Metal Scrap (ferrous and non-ferrous)	2013	raw
	Tanzania	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	raw
		waste and scrap of ferrous cast iron;	2005	raw
	Uganda	used automobile batteries, lead scrap, crude and refined lead and all forms of scrap metals	2010	raw
		waste and scrap of ferrous cast iron;	2005	raw
	Zimbabwe	Scrap metal	2004	raw
Minerals	Zimbabwe	Unprocessed chrome ore (including concentrate)	2007-2009; 2011-2015	raw
Plastic or Rubber	Nigeria	unprocessed rubber latex and rubber lumps	1988	raw
Stone and Glass	Angola	Rough Diamonds / Unworked Diamonds (unclear whether implemented)	2011	raw
	Botswana	unprocessed (uncut) semi-precious stones	2003-2009	raw

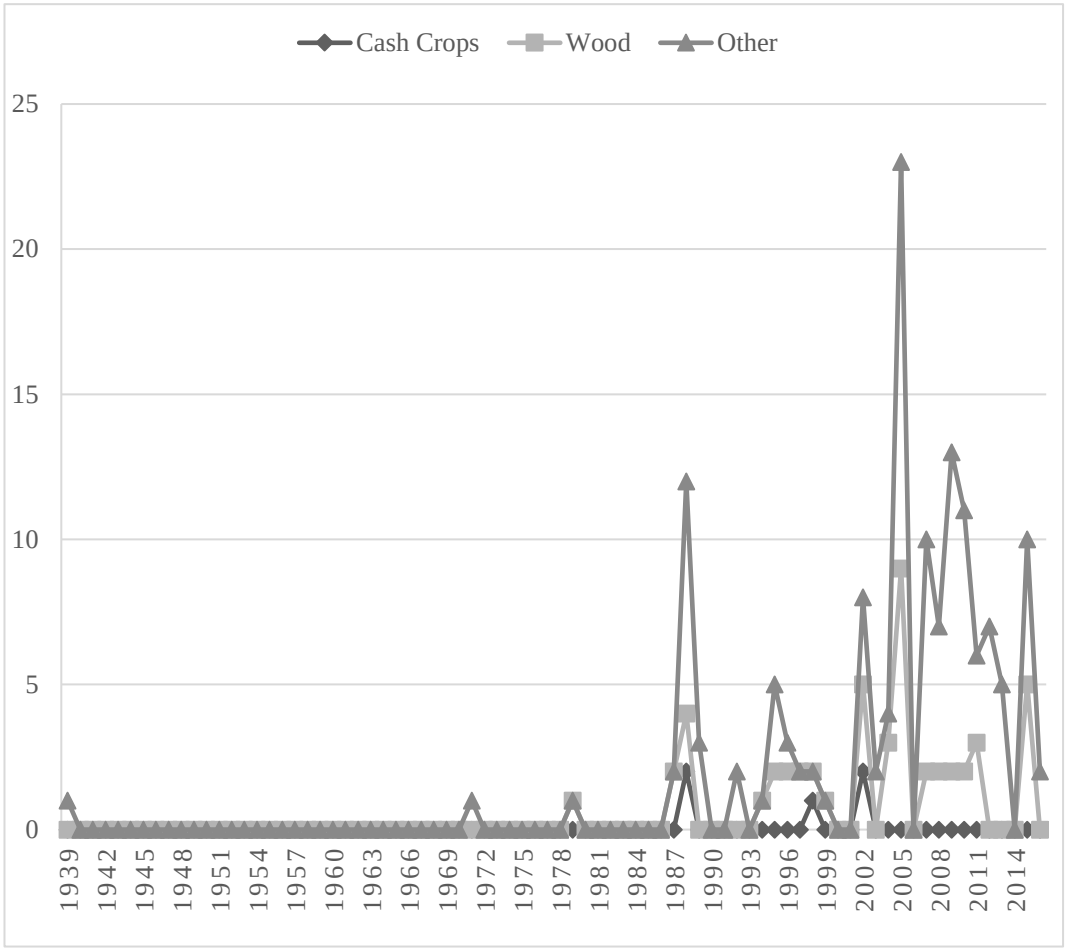
	Madagascar	Unprocessed gemstones	2008	raw
	Mali	Untreated/natural diamonds (unclear whether implemented)	1989-1998	raw
		untreated/natural gold (unclear whether implemented)	1989-1998	raw
	South Africa	crude or unprocessed tiger's-eye (a precious stone)	1971	raw
	Tanzania	Unprocessed Tanzanite over 1 gram	2010	raw
Vegetable	Guinea	Cereals	2007	raw, intermediate, consumer
		citrus fruits	2007	raw
		oil producing plants & oil products	2007	raw, intermediate, consumer
		subsidized rice	2005-2011	raw, consumer
		Tubers	2007	raw
		Wheat	2005-2011	raw
	Kenya	Raw Macadamia Nuts	2009	raw
		Raw cashew nuts	2009	raw
	Madagascar	Rice products	2011	raw, consumer
	Malawi	Maize	2005	raw
		Maize	2008	raw
		Maize	2012	raw
		Maize	2015	raw
		Rice	2012	raw, consumer
		Rice	2015	raw, consumer
	Mali	Bamboo in raw state	2015	raw
		Raffia in raw state	2015	raw
	Niger	Cassava flour	2005	intermediate
		Maize	2005	raw
		Millet	2005	raw
		Seed Cotton	1998	raw
		Sorghum	2005	raw
	Nigeria	Beans (and derivatives)	1988	raw, intermediate
		Cassava tuber (and derivatives)	1988	raw, intermediate
		Maize (and derivatives)	1988	raw, intermediate, consumer
		Palm Kernels	1988	intermediate
		Rice (and derivatives)	1988	raw, consumer
		Yam tubers (and derivatives)	1988	raw
	Tanzania	Maize	2003	raw

		Maize	2008	raw
	Zambia	Maize	1995	raw
		Maize	2002	raw
	Zambia	Maize corn	2012	raw
	Zimbabwe	Maize and wheat seed, GMO-free maize grain, mealie meal, rapoko (grain, meal and malt), sunflower	2010	raw
Wood	Benin	Charcoal	1997	consumer
		teak in the rough	1997	raw
		All unprocessed timber	2005	raw
	Burkina Faso	Charcoal	2004	consumer
		Commercialization and Export of all lumber	2005	raw, intermediate, consumer
	Burundi	wood charcoal	2009	consumer
		Round-wood timber	2009	raw
	Cameroon	Ban on export of more than 20 species of raw logs	1999	raw
	Congo, Dem. Rep.	Raw logs	2002	raw
		Timber (rough/unprocessed)	2002	raw
	Congo, Republic	Rough timber	2000	raw
	Cote d'Ivoire	rough timber, (initially excluding teak, but since 1999 including all types)	1995	raw
		wood square sawn and in boules, except for timber from plantations (for example teak) [export of further processed wood is allowed]	1995	intermediate
		Ban on harvesting, transporting, and trading of Pterocarpus spp. (e.g., padauk, kosso or “bois de vêne")	2013	raw, intermediate, consumer
	Djibouti	All Wood (whether processed or not)	2004	raw, intermediate, consumer
	Gabon	All unprocessed logs	2010	raw
	Ghana	14 species of commonly exported timber logs	1979	raw
		All unprocessed timber logs	1994	

		A ban on felling, harvesting, and exporting of rosewood (independent of the degree of processing)	2014	Raw, intermediate, consumer
	Guinea	Logs	2005-2011	raw
	Guinea-Bissau	A ban on felling, harvesting, and exporting any timber	2015	Raw, intermediate, consumer
	Kenya	Round-wood timber	2005	raw
		wood charcoal	2005	consumer
	Madagascar	semi-processed wood products ['but authorizes exports in finished form']	2007	intermediate
		unprocessed wood products	2007	raw
		Prohibition on logging, transport, and export of rosewood and ebony (independent of the degree of processing)	2010	raw, intermediate, consumer
	Malawi	Raw/round hardwood timber	2008	raw
	Mali	building wood in raw state	2015	raw
		Charcoal	2015	consumer
		fire wood in raw state	2015	raw
		Timber in raw state	2015	raw
	Mozambique	22 "1st class" species are banned from export in log form (2nd to 4th class not banned).	2002	raw
		Expansion of export ban on most species in raw form	2007	raw
		Ban on all species in raw form	2015	raw
		Ban on the harvesting and collection (and therefore export) of timber of Pterocarpus tinctorius (Nkula), Swartzia madagascariensis (Ironwood), and Combretum imberbe (Mondzo)	2018	Raw, intermediate, consumer
	Nigeria	Timber Rough	1988	raw
		Timber Sawn	1988	intermediate
	Rwanda	wood charcoal	2009	consumer
		Round-wood timber	2009	raw

	Senegal	Ban of all rosewood product exports	1998	Raw, intermediate, consumer
	Sierra Leone	raw timber logs	2008	raw
	Tanzania	Round-wood timber	2004	raw
		wood charcoal	2005	consumer
	Togo	Charcoal	2011	consumer
		Timber logs	2011	raw
	Uganda	Charcoal	1987	consumer
		Timber	2003	raw
		Timber	1987	raw
	Zambia	Charcoal	1996	consumer
		timber logs	1996	raw

Appendix 2.2. Total Annual Introduction of New Export Bans in 36 African WTO Member States by Commodity Type and for 'Named' Products Only



Source: Own Illustration based on EPTA dataset.

Appendix 2.3. The Cost of Setting Up Commodity Processing Industries (Full Table)

Commodity	Capital Investment (US$ per Unit of Year. Prod.)	Unit	Country	Annual Production Country ('000)	World Production ('000)	Capital Cost to Process All ('000,000)	Market Power	Annual Budget ('000,000) (CIA 2017)	Capex/ Budget	Sources for Capital Cost
Bauxite	766	tons of bauxite	Guinea	16,303	299,000	12,488.1	5.5%	1,599	781.0%	(The New Humanitarian 2004; MUBADALA 2019; Camara 2018; Husband *et al.* 2009; Indian Ministry of Mines 2009; Vale 2008)
			Sierra Leone	1,344	299,000	1,029.5	0.4%	684	150.5%	
			Ghana	1,026	299,000	785.9	0.3%	9,236	8.5%	
Copper Concentrate	3,713	tons of refined copper	DRC	1,020	23,000	3,787.3	4.4%	3,238	117.0%	(Asmarini 2014; Daly 2018; Southern Copper Corporation 2012)
			Zambia	712	23,000	2,643.7	3.1%	4,895	54.0%	
			South Africa	77	23,000	287.4	0.3%	92,380	0.3%	
Manganese Ore	1,190	tons of refined manganese	South Africa	5,500	18,000	6,545.0	30.6%	92,380	7.1%	(Gulf Manganese Corporation Limited 2015; NEDBANK 2018)
			Gabon	2,300	18,000	2,737.0	12.8%	3,122	87.7%	
			Ghana	850	18,000	1,011.5	4.7%	9,236	11.0%	
Metal Waste and Scrap	195	tons of final metal	Nigeria	4,000	600,000	780.0	0.7%	13,970	5.6%	(KPMG Global Mining Institute 2014; Ghana News Agency 2015; Tang 2016)
			South Africa	3,000	600,000	585.0	0.5%	92,380	0.6%	
			Kenya	1,000	600,000	195.0	0.2%	15,370	1.3%	
Nickel Ore	60,000	tons of pure Nickel	South Africa	57	2,280	3,401.3	2.5%	92,380	3.7%	(Miraza 30.11.2012)
			Madagascar	46	2,280	2,730.0	2.0%	1,292	211.3%	
			Botswana	17	2,280	1,007.3	0.7%	5,609	18.0%	
Coloured Gemstones	1.3	carat of polished stone	Zambia	124,000	6,448,000	161.2	1.9%	4,895	3.3%	(Small and Medium Enterprises Development Authority 2013)
			Tanzania	70,000	6,448,000	91.0	1.1%	7,872	1.2%	
			Mozambique	60,000	6,448,000	78.0	0.9%	2,758	2.8%	
	9		Botswana	14,500	70,900	130.5	20.5%	5,609	2.3%	(Business Report 2004)

Unpolished diamonds		carat of polished stone	South Africa	5,780	70,900	52.0	8.2%	92,380	0.1%	
			DRC	3,200	70,900	28.8	4.5%	3,238	0.9%	
Unrefined Chromite	208	tons of chromite	South Africa	12,000	28,000	2,496.0	42.9%	92,380	2.7%	(Afrochine Smelting P/L 2019)
			Zimbabwe	425	23,700	88.0	1.8%	3,600	2.4%	
			Madagascar	198	28,000	41.0	0.7%	1,292	3.2%	
Unrefined Gold	450,000	tons of refined gold	South Africa	0.14	3.12	65.0	4.6%	92,380	0.1%	(Business World 2017; Ghana News Agency 2017; Curnow 2010)
			Ghana	0.08	3.12	35.6	2.5%	9,236	0.4%	
			Tanzania	0.05	3.12	20.3	1.4%	7,872	0.3%	
Cocoa beans	725	tons of raw beans	Côte d'Ivoire	1,796	4,792	1,302.1	37.5%	7,121	18.3%	(Reuters 2008; Cocks and Aboa 2010; Dodoo 2018; FMO 2019)
			Ghana	859	4,792	622.6	17.9%	9,236	6.7%	
			Nigeria	302	4,792	219.0	6.3%	13,970	1.6%	
In-Shell Macadamia	333	tons in-shell	South Africa	47	158	15.6	29.6%	92,380	0.0%	(Business Daily Africa 2014; Waithera 2019)
			Kenya	24	158	8.0	15.1%	15,370	0.1%	
			Malawi	7	158	2.2	4.1%	1,298	0.2%	
Raw Cashews	400	tons of in-shell nut	Côte d'Ivoire	711	3,971	284.4	17.9%	7,121	4.0%	(Hub Rural 2006)
			Tanzania	164	3,971	65.7	4.1%	7,872	0.8%	
			Benin	152	3,971	60.7	3.8%	1,372	4.4%	
Raw cotton	1,708	tons of cotton lint	Burkina Faso	280	24,773	478.2	1.1%	2,635	18.1%	(Development Studies Associates 2008; UNIDO 2011)
			Mali	252	24,773	430.1	1.0%	3,068	14.0%	
			Côte d'Ivoire	134	24,773	228.0	0.5%	7,121	3.2%	
Raw Hides and Skins	1,682	tons of raw hides & skins	South Africa	89	8,126	150.5	1.1%	92,380	0.2%	(CTGN 2015; La Conceria 2018)
			Tanzania	64	8,126	108.4	0.8%	7,872	1.4%	
			Nigeria	62	8,126	104.3	0.8%	12,110	0.9%	
Sesamum seed	278		Tanzania	806	5,532	224.0	14.6%	7,872	2.8%	(Huynh *et al.* 2017)
			Nigeria	550	5,532	152.9	9.9%	13,970	1.1%	

		tons of sesamum seed	Burkina Faso	164	5,532	45.5	3.0%	2,635	1.7%	
Tea in Bulk	20	tons of bulk tea	Kenya	440	6,101	8.8	7.2%	15,370	0.1%	Price study of tea packing machines on Alibaba Website. Plus Neupane *et al.* (2016)
			Uganda	64	6,101	1.3	1.0%	4,019	0.0%	
			Burundi	54	6,101	1.1	0.9%	608	0.2%	
Unmanufactured Tobacco	400	tons of tobacco	Zimbabwe	182	6,502	72.7	2.8%	3,600	2.0%	(Namutowe 2014)
			Zambia	132	6,502	52.6	2.0%	4,895	1.1%	
			Tanzania	104	6,502	41.8	1.6%	7,872	0.5%	
Unprocessed Roundwood	69	sm^3 of log	South Africa	13,762	1,906,769	942.7	0.7%	92,380	1.0%	(Evans 1992; Timber-Online.net 2018; Forintek Canada Corp. 2007; Mason 2004; Menard *et al.* 2000)
			Nigeria	10,022	1,906,769	686.5	0.5%	13,970	4.9%	
			DRC	4,611	1,906,769	315.9	0.2%	3,238	9.7%	

Appendix for Chapter 3

Appendix 3.1. Main Sources for Tables 3.2 as well as 2.1 and 2.2

Metal Waste – own research in Ghana and Lemnge (2011), OECD (2017), Tutwa Consulting Group (2017);

Wood – own research and Terheggen (Morris *et al.;* 2011b), Morris *et al.* (2012);

Chromite - Parliament of Zimbabwe (2013)

(Semi-)Precious Stones – own research and Kyngdon-McKay *et al.* (2016);

Diamonds – own research in Tanzania and Grynberg (2013), Mbayi (2011), Engwicht (2018);

Hides and Skins – own research and China and Ndaro; Curtis; FAO; World Bank; World Bank and ETG (2015; 2010; 2015; 2011; 2015);

Cashew – own research and ACi *et al.* (2015), Bassett *et al.* (2018), Tessmann and Fuchs (2016); ***Cocoa*** – own research and Fold; Kaplinsky; Kolavalli *et al.;* Talbot (2002; 2004; 2012; 2002);

Cotton – ACET; Bargawi *et al.;* Ebia; Mwinuka, L. & Maro, F.; Ngaruko and Mbilinyi; UNIDO (; 2019; 2018; 2013; 2014; 2011);

Gold – own research and Sollazzo (2018);

Macadamia – own research.

Sesame - Abebe; Adagba; Munyua *et al.;* USAID (2016; 2014; 2013; 2002);

Tea – own research and Talbot (2002);

Tobacco - Goger *et al.;* Hu and Lee; Labonté *et al.* (2014; 2015; 2018).

Appendix for Chapter 4

Appendix 4.1. Overview of Commodity-Based Population Share Imputation Factors

Crop	Country	Year	Number of Raw Producers (,000)	Definition Used for Producers	Production (,000)	Pro-duc-tion Unit	Country-Year Imputation Factor	Final Comm-odity Imputation Factor	Sources (to be added)
Cashew	Tanzania Mainland	2015	345	Farm Operator	179	tons	1.9343	**1.940**	The United Republic of Tanzania (2016)
	Tanzania (Mtwara)	2008	124	Households	63		1.9461		
Chromite	Zimbabwe	2011	3	Employment in Chrome Mining	599	tons	0.0048	**0.002**	
	South Africa	2007	10	Number of Employees in South African Chromite Mines	9647		0.0010		
		2008	12		9683		0.0013		
		2009	11		6865		0.0016		
		2010	14		10871		0.0013		
		2011	17		10721		0.0016		
		2012	20		11310		0.0017		
		2013	18		13645		0.0013		
		2014	19		14038		0.0013		
		2015	18		15684		0.0012		
		2016	15		14705		0.0011		
		2017	17		16587		0.0010		

	Madagascar	2008	0.4	Number of Employees at Kraomita Malagasy (100% of Malagasy production)	113		0.0034		
Cocoa	Ghana	2008	800	Farms	729	tons	1.0974	**1.455**	
	Côte d'Ivoire		800		1382		0.5787		
	Cameroon		400		149		2.6882		
Cotton (Seed Cotton)	Tanzania Mainland	2015	411	Farm Operator	336	tons	1.2212	**0.925**	
	Tanzania (Shirinyaga)	2008	233	Households	304		0.7660		
	Benin	2004	325	Farms	426		0.7625		
	Burkina Faso		200		535		0.3736		
	Chad		350		233		1.5021		
	Mali		200		590		0.3391		
	Côte d'Ivoire	2017	120	Farms (producteurs sur des exploitations de type familiales d'environ 3 hectares en moyenne)	378		0.3172		
	Burkina Faso	2017	350	Farms	900		0.3887		
	Uganda	1991	72	Holdings	27		2.7003		
	Zambia	1990	46	Farm Holders	52		0.8781		
Diamond (ASM)	Central African Republic	2012	80	Artisanal and Small-Scale Miners involved in Diamond mining	366	carats	0.2186	**0.130**	
	Democratic Republic of the Congo	2007	700		28452		0.0246		
	Ghana	1995	60		623		0.0964		
	Sierra Leone	2005	120		669		0.1794		
	South Africa	2013	14	Average number of people in service	8168	carats	0.0017	**0.002**	

Diamond (LSM)	Namibia	2007	3	Employees of NamDeb	2266		0.0013		
	Botswana	2004	7	Employees of Debswana (which accounts for 100% of Botswana Diamond Production)	24658		0.0003		
	Lesotho	2012	2	Workers employed in Diamond mining sector	479		0.0042		
Diamond (Mixed)	Zimbabwe	2009	25	Both illegal and formal workers in the Marange Diamond fields	964	carats	0.0259	**0.015**	
	Angola	2007	110	Both employees at large-scale mine sites (around 10,000) and another ca. 100,000 Artisanal)	9702		0.0113		
	Tanzania	2017	2	Employees at Williamson Mine and Artisanal miners	253		0.0079		
Metal Waste and Scrap	South Africa	2017	275	Metal Waste and Scrap Collectors	294,800,000,000	Population * GDP p.c.	0.000001	**0.000001**	
Raw Hides and Skins	Tanzania	2013	3	Raw Hides and Skins Collectors	79	tons	0.0318	**0.032**	
(Semi-) Precious Stones	Tanzania	2010	20	Employees in LSM and ASM	43000	USD export value	0.465	**0.465**	
Sesame	Tanzania Mainland	2015	760	Farm Operator	149	tons	5.0999	**3.965**	
	Ethiopia	2015	867	Holders	289		3.0036		
	Uganda	2008	322	Households	85		3.7919		
Tea	Tanzania Mainland	2015	9	Farm Operator	92	tons	0.0993	**1.259**	
	Uganda	2010	62	Farmers (and plantation employees)	50		1.2400		

	Rwanda	2008	23	Households	9		2.4129		
	Burundi	2018	60	Farmers (and plantation employees)	53		1.1385		
	Kenya	2016	660	Farmers (and plantation employees)	470		1.4043		
Tobacco	Tanzania Mainland	2015	75	Farm Operator	77	tons	0.9757	**1.878**	
	Malawi	1995	157	Growers	129		1.2133		
	Zambia	2000	57	Tobacco Growing Households	10		5.9478		
	Zimbabwe	2011	57	Tobacco Growers	125		0.4550		
	Malawi	2012	58		73		0.7981		
Wood	Angola	2011	1	Formal Employment in Roundwood Production	1092	m^3	0.0009	**0.007**	
	Benin		2		382		0.0052		
	Botswana		1		105		0.0095		
	Burkina Faso		2		1135		0.0018		
	Burundi		1		730		0.0014		
	Cameroon		11		1396		0.0079		
	Central African Republic		4		520		0.0077		
	Congo		7		1231		0.0057		
	Côte d'Ivoire		21		1178		0.0178		
	Democratic Republic of the Congo		15		4447		0.0034		
	Gabon		14		750		0.0187		
	Ghana		8		1295		0.0062		
	Guinea		9		582		0.0155		
	Guinea-Bissau		1		131		0.0076		
	Kenya		1		660		0.0015		

Madagascar	4		140	0.0285	
Malawi	1		1300	0.0008	
Mali	1		437	0.0023	
Mozambique	19		1334	0.0142	
Niger	1		701	0.0014	
Nigeria	30		5849	0.0051	
Rwanda	2		731	0.0027	
Senegal	13		779	0.0167	
Sierra Leone	1		122	0.0082	
South Africa	63		8648	0.0073	
Swaziland	2		502	0.0040	
Tanzania	3		2079	0.0014	
Togo	1		123	0.0081	
Uganda	3		3166	0.0009	
Zambia	2		1203	0.0017	
Zimbabwe	1		347	0.0029	

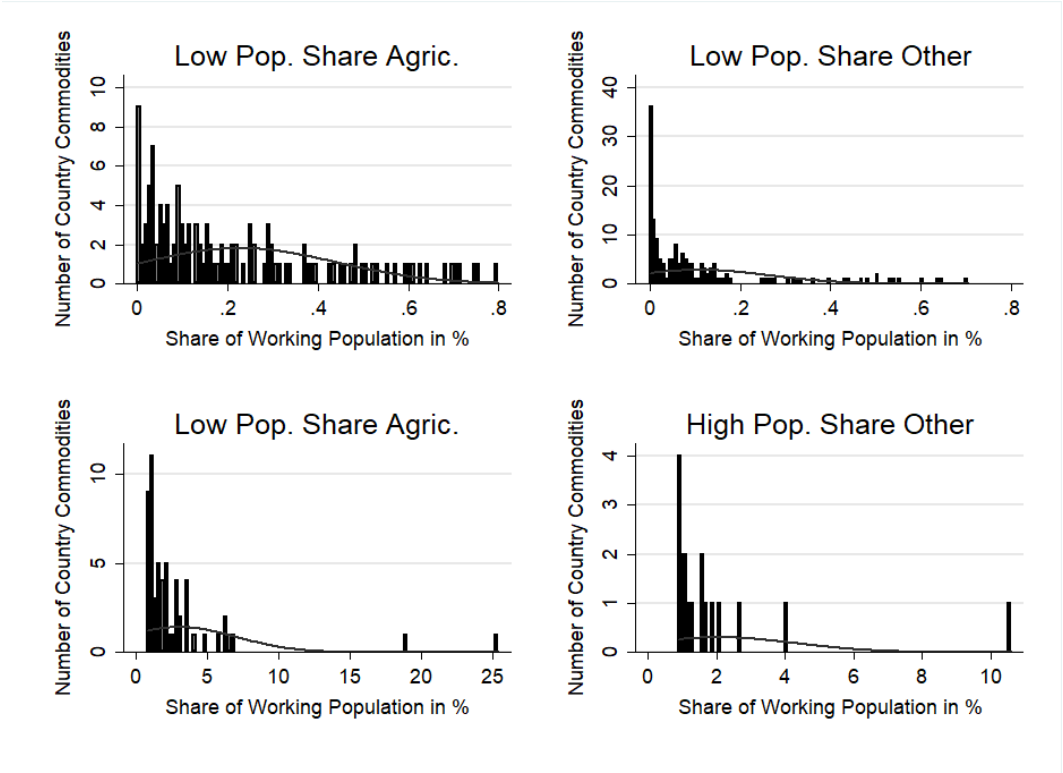
Appendix 4.2. The Description of Imputation Factor Creation for Diamonds, Gemstones, and Metal Wastes and Scraps

The imputation factor methodology was amended for three commodities: diamonds, gemstones, and metal waste and scrap. The employment created by diamond mining fluctuates heavily by country. Alluvial diamond deposits (as found, for example, in Sierra Leone, Ghana or the DRC) employ much more people (artisanal and small-scale miners, or ASM) than kimberlitic deposits (as found in Botswana, Namibia, or South Africa), being mined mostly by large-scale and capital-intensive mining companies (or LSM). Some countries (like Angola and Zimbabwe) have a mix between the two deposit types, hence, employ fewer miners than the former and more than the latter. Consequently, and as detailed in Appendix I, I have created three distinct diamond-imputation factors for ASM-, LSM-, and mixed-diamond-mining countries.

Gemstones (other than diamonds) are a difficult category for two reasons. First, the commodity is much less studied than diamonds and often very ASM-dominated, hence, there is little reliable data on labour shares. Secondly and more critically, it is much harder to compare gemstone production numbers across gemstone types and thus countries. For example, 20 thousand small-scale miners might produce ten tons of a precious gemstone a year, during the same period a three large scale mines in another country, employing only 500 people might produce more than ten-fold the volume in less precious stones (and being of much less value). Given very complex mixes of diverse gemstones in one country, it is near-impossible to produce an adequate imputation factor based on gemstone weight. A better basis for a gemstone imputation factor would be a country's gemstone export value. High-value gemstones tend to employ many people, with high per-unit returns attracting many small-scale miners; whereas the opposite is true for lower-value gemstones. Consequently, it appears reasonable to assume that higher gemstone export values go in hand with higher employment numbers, and lower export values with lower employment numbers.

The creation of the imputation factor for metal waste and scraps was arguably the hardest as no reliable production numbers for metal waste and scrap exist across space and time. And since metal waste and scrap is often domestically processed, it is difficult to take export figures as a proxy for production. However, I make the point that the production of metal waste and scrap can be seen as a function of a country's population size and its economic development. Larger populations produce more metal waste and scrap as do more developed economies. Thus, in this imputation factor calculation production is proxied through a country's population size multiplied by its GDP per capita. Importantly, the estimates generated by this alternative approach appear empirically valid, the pre-calculated number for Ghana closely matching that given by scrap collector and dealer representatives during fieldwork in 2017.

Appendix 4.3. Frequency Distribution of Country-Commodities by Working Share Cut-Off and Commodity Type



Source: Own illustration based on data from EPTA dataset. Note that working population shares in % are the average value for all years of a country-commodity.

Appendix 4.4. Exclusion of Commodities I

	(6) **No Cashew**	(7) **No Chromite**	(8) **No Cocoa**	(9) **No Cotton**	(10) **No Diamonds**	(11) **No Hides & Skins**
Population Share (Between)	-1.60** (0.80)	-2.00** (0.91)	-1.70** (0.81)	-1.76** (0.86)	-1.42* (0.74)	-1.58** (0.79)
Population Share (Within)	-0.12 (0.84)	0.09 (0.77)	-0.15 (0.86)	-0.13 (0.86)	-0.03 (0.84)	-0.03 (0.78)
Ethnicity (Between)	-1.34 (1.12)	-1.29 (1.12)	-1.33 (1.11)	-1.20 (1.12)	-0.74 (1.16)	-1.11 (1.14)
Ethnicity (Within)	-2.02 (2.05)	-2.02 (1.80)	-2.65 (1.87)	-3.30* (1.94)	-2.47 (1.81)	-2.51 (1.87)
Factor Mobility	1.25*** (0.36)	1.12*** (0.32)	1.01*** (0.37)	1.07*** (0.32)	1.12*** (0.32)	1.13*** (0.38)
Polity2 (Between)	-0.07 (0.06)	-0.04 (0.06)	-0.06 (0.06)	-0.06 (0.06)	-0.06 (0.06)	-0.03 (0.06)
Polity2 (Within)	-0.04 (0.07)	-0.06 (0.07)	-0.04 (0.07)	0.02 (0.08)	-0.06 (0.07)	-0.05 (0.07)
Proc.-Raw Exp. Ratio (Between)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Proc.-Raw Exp. Ratio (Within)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Export Share (Between)	-0.13 (0.13)	-0.27* (0.16)	-0.12 (0.12)	-0.11 (0.12)	-0.12 (0.13)	-0.14 (0.14)
Export Share (Within)	0.15* (0.09)	0.13 (0.09)	0.13 (0.09)	0.14 (0.09)	0.14 (0.09)	0.17* (0.09)
Market Power (Between)	0.04 (0.05)	0.24** (0.10)	0.03 (0.05)	0.03 (0.05)	0.03 (0.05)	0.03 (0.05)
Market Power (Within)	-0.10 (0.10)	-0.09 (0.10)	-0.10 (0.09)	-0.11 (0.10)	-0.09 (0.10)	-0.10 (0.10)
Tariff Escalation (Between)	0.01 (0.07)	0.05 (0.07)	0.00 (0.06)	0.02 (0.06)	0.01 (0.06)	0.01 (0.06)
Tariff Escalation (Within)	0.01 (0.05)	0.01 (0.04)	0.02 (0.04)	0.03 (0.03)	0.02 (0.04)	0.03 (0.03)
Industry (% of GDP) (Between)	0.03 (0.03)	0.02 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.02)
Industry (% of GDP) (Within)	0.07 (0.04)	0.08* (0.04)	0.07* (0.04)	0.08* (0.04)	0.08* (0.05)	0.08* (0.04)

GDP p.c. (Between)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
GDP p.c. (Within)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
ODA (% of GNI) (Between)	0.06* (0.04)	0.05 (0.04)	0.06 (0.04)	0.05 (0.04)	0.05 (0.04)	0.04 (0.04)
ODA (% of GNI) (Within)	0.02 (0.04)	0.01 (0.04)	0.02 (0.04)	0.02 (0.04)	0.02 (0.04)	0.04 (0.04)
Ideology (Between)	-0.68 (0.44)	-0.48 (0.44)	-0.61 (0.43)	-0.61 (0.43)	-0.47 (0.48)	-0.63 (0.44)
Ideology (Within)	0.84 (0.83)	0.81 (0.83)	0.88 (0.82)	0.94 (0.83)	1.10 (0.88)	1.02 (0.87)
Constant	-8.70*** (1.83)	-8.56*** (1.85)	-8.42*** (1.83)	-8.46*** (1.81)	-9.20*** (1.93)	-9.03*** (1.93)
CountID: sd(_cons)	-1.07 (1.03)	-0.84 (0.74)	-1.01 (0.96)	-0.99 (0.95)	-0.53 (0.48)	-1.95 (5.66)
ComID: sd(_cons)	-11.68 (111204)	-11.51 (110615)	-10.76 (33927)	-16.27 (8266672)	-13.41 (1130633)	-15.29 (2407843.30)
Observations	2015	2131	2040	1887	2091	1879

* p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions.

Appendix 4.5. Exclusion of Commodities II

	(12) **No Metal Waste**	(13) **No Prec. Stones**	(14) **No Sesame**	(15) **No Tea**	(16) **No Tobacco**	(17) **No Wood**
Population Share (Between)	-2.13** (0.99)	-1.62** (0.78)	-1.01* (0.49)	-1.57** (0.74)	-1.68** (0.83)	-1.94* (1.12)
Population Share (Within)	-0.81 (1.48)	-0.20 (0.85)	0.03 (1.00)	-0.09 (0.80)	-0.02 (0.83)	0.56 (0.84)
Ethnicity (Between)	-1.61 (1.20)	-0.85 (1.16)	-1.23 (1.11)	-1.32 (1.12)	-1.64 (1.12)	-6.68 (14.32)
Ethnicity (Within)	-3.37 (2.07)	-2.51 (2.05)	-2.74 (1.85)	-2.61 (1.88)	-2.04 (1.80)	-5.15 (14.45)
Factor Mobility	1.01*** (0.34)	1.14*** (0.33)	1.02*** (0.31)	0.86*** (0.33)	0.99*** (0.31)	0.65* (0.35)
Polity2 (Between)	0.01 (0.08)	-0.07 (0.07)	-0.05 (0.06)	-0.05 (0.06)	-0.02 (0.06)	-0.08 (0.08)
Polity2 (Within)	-0.07 (0.08)	-0.06 (0.07)	-0.03 (0.07)	-0.06 (0.07)	-0.05 (0.07)	-0.07 (0.09)
Proc.-Raw Exp. Ratio (Between)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Proc.-Raw Exp. Ratio (Within)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Export Share (Between)	-0.04 (0.13)	-0.19 (0.14)	-0.15 (0.13)	-0.13 (0.13)	-0.11 (0.12)	-0.46 (0.28)
Export Share (Within)	0.15 (0.11)	0.17* (0.09)	0.13 (0.09)	0.14 (0.09)	0.12 (0.09)	0.13 (0.19)
Market Power (Between)	0.06 (0.07)	0.03 (0.05)	0.04 (0.05)	0.03 (0.05)	0.03 (0.05)	0.05 (0.14)
Market Power (Within)	-0.05 (0.11)	-0.08 (0.09)	-0.09 (0.09)	-0.10 (0.10)	-0.08 (0.09)	-0.29 (0.27)
Tariff Escalation (Between)	0.01 (0.07)	0.02 (0.06)	-0.03 (0.07)	-0.01 (0.06)	0.08 (0.10)	-0.01 (0.07)
Tariff Escalation (Within)	0.00 (0.05)	0.02 (0.04)	0.01 (0.05)	0.02 (0.04)	0.01 (0.06)	0.04 (0.04)

Industry (% of GDP) (Between)	0.05 (0.03)	0.04 (0.03)	0.03 (0.02)	0.03 (0.03)	0.04 (0.03)	0.03 (0.04)
Industry (% of GDP) (Within)	0.11* (0.06)	0.06 (0.05)	0.07 (0.04)	0.07 (0.04)	0.07 (0.04)	-0.01 (0.06)
GDP p.c. (Between)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00* (0.00)
GDP p.c. (Within)	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
ODA (% of GNI) (Between)	0.09* (0.05)	0.08* (0.04)	0.05 (0.04)	0.06 (0.04)	0.04 (0.04)	-0.01 (0.06)
ODA (% of GNI) (Within)	0.01 (0.04)	0.01 (0.04)	0.02 (0.04)	0.02 (0.04)	0.02 (0.04)	-0.02 (0.06)
Ideology (Between)	-0.97* (0.56)	-0.72 (0.49)	-0.61 (0.42)	-0.58 (0.45)	-0.68 (0.43)	-0.12 (0.60)
Ideology (Within)	1.27 (1.25)	1.09 (0.92)	0.91 (0.79)	0.93 (0.84)	0.89 (0.78)	0.68 (0.99)
Constant	-7.92*** (2.08)	-8.88*** (1.95)	-8.28*** (1.81)	-8.45*** (1.83)	-10.0*** (2.19)	-7.90*** (2.46)
CountID: sd(_cons)	-0.49 (0.57)	-0.48 (0.46)	-1.29 (1.51)	-0.77 (0.62)	-1.72 (3.48)	-0.49 (0.59)
ComID: sd(_cons)	-14.30 (2519758)	-13.69 (1092869)	-16.79 (12866223)	-16.10 (7921126)	-9.62 (10910)	-12.92 (477483)
Observations	1856	2078	2004	1996	1914	1968

* p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions.

Appendix 4.6. Full Model 2, Additional Lags, and State Control Exclusion

	(18) **Full Model 2**	(19) **Lag 2 Years**	(20) **Lag 5 Years**	(21) **Excl. State Controlled**	(22) **Excl. Low Production**
Population Share (Between)	-1.60**			-1.50**	-1.58*
	(0.77)			(0.75)	(0.83)
Population Share (Within)	-0.09			-0.18	-0.08
	(0.81)			(0.85)	(1.01)
Population Share2 (Between)		-1.72**			
		(0.79)			
Population Share2 (Within)		0.56			
		(0.75)			
Population Share5 (Between)			-1.26**		
			(0.59)		
Population Share5 (Within)			-1.80**		
			(0.75)		
Ethnicity (Between)	-1.33	-1.31	-1.42	-1.42	-7.20
	(1.12)	(1.11)	(1.14)	(1.12)	(13.42)
Ethnicity (Within)	-2.58	-2.62	-2.45	-2.36	-5.08
	(1.87)	(1.87)	(1.89)	(1.85)	(13.83)
Factor Mobility	1.02***	1.02***	1.11***	1.04***	1.00***
	(0.31)	(0.31)	(0.32)	(0.31)	(0.36)
Polity2 (Between)	-0.05	-0.05	-0.06	-0.04	-0.11
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)
Polity2 (Within)	-0.05	-0.06	-0.06	-0.05	-0.02
	(0.07)	(0.07)	(0.07)	(0.07)	(0.09)
Proc.-Raw Exp. Ratio (Between)	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Proc.-Raw Exp. Ratio (Within)	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Export Share (Between)	-0.13	-0.12	-0.16	-0.13	-0.16
	(0.13)	(0.13)	(0.13)	(0.13)	(0.14)
Export Share (Within)	0.14	0.13	0.16*	0.14	0.17*
	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)
Market Power (Between)	0.04	0.04	0.03	0.04	0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
Market Power (Within)	-0.09	-0.10	-0.10	-0.09	-0.10
	(0.09)	(0.09)	(0.10)	(0.09)	(0.10)
Tariff Escalation (Between)	0.01	0.00	0.02	0.01	0.00
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)
Tariff Escalation (Within)	0.02	0.03	0.02	0.02	0.04
	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)
Industry (% of GDP) (Between)	0.03	0.04	0.03	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Industry (% of GDP) (Within)	0.07	0.07*	0.07	0.07	0.09
	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)

GDP p.c.	-0.00	-0.00	-0.00	-0.00	-0.00
(Between)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
GDP p.c.	-0.00	-0.00	-0.00	-0.00	-0.00
(Within)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ODA (% of GNI)	0.06	0.06	0.07*	0.06	0.08
(Between)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)
ODA (% of GNI)	0.02	0.02	0.02	0.02	0.02
(Within)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)
Ideology	-0.62	-0.66	-0.63	-0.65	-0.87
(Between)	(0.45)	(0.45)	(0.47)	(0.45)	(0.54)
Ideology (Within)	0.95	1.02	0.92	1.00	0.98
	(0.83)	(0.84)	(0.86)	(0.84)	(0.99)
Constant	-8.65***	-8.53***	-8.67***	-8.60***	-8.19***
	(1.83)	(1.82)	(1.85)	(1.84)	(2.23)
lns1_1_1	-0.78	-0.79	-0.57	-0.72	-0.41
Constant	(0.63)	(0.64)	(0.49)	(0.59)	(0.59)
lns2_1_1	-12.33	-12.85	-13.12	-10.69	-11.87
Constant	(191665)	(341471)	(544489)	(39259)	(151922)
Observations	2169	2156	2107	2092	1763

* p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions.

Appendix 4.7. Guinea Exclusion and Democracy Interaction Effects

	(23) **No Guinea**	(24) **Polity2(6) Interaction**	(25) **Polity2(5) Interaction**	(26) **Polity2(Cont.) Interaction**
Population Share	-1.60**	-1.46***	-1.41***	-1.56***
	(0.65)	(0.54)	(0.52)	(0.56)
Polity2	-0.06			-0.07
	(0.04)			(0.05)
polity2dum6		-0.16		
		(0.44)		
polity2dum6 # Population Share		0.17		
		(1.18)		
polity2dum5			-0.57	
			(0.43)	
polity2dum5 # Population Share			-0.03	
			(1.26)	
Polity2 # Population Share				0.07
				(0.13)
Export Share	0.01	0.02	0.01	0.01
	(0.04)	(0.03)	(0.03)	(0.03)
Processed-Raw Export Ratio	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Market Power	-0.00	-0.00	-0.00	-0.00
	(0.02)	(0.02)	(0.02)	(0.02)
Factor Mobility	1.48***	1.05***	1.09***	1.07***
	(0.34)	(0.27)	(0.28)	(0.27)
Industry (% of GDP)	0.03**	0.04***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)
GDP p.c.	-0.00	-0.00*	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Tariff Escalation	-0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)
ODA (% of GNI)	0.04	0.01	0.02	0.02
	(0.03)	(0.03)	(0.03)	(0.03)
Ideology	-0.21	-0.26	-0.23	-0.26
	(0.35)	(0.31)	(0.29)	(0.30)
Executive Match	-0.44	-0.60	-0.55	-0.58
	(0.99)	(0.90)	(0.95)	(0.93)
Constant	-9.47***	-7.87***	-7.91***	-7.80***
	(1.60)	(1.52)	(1.46)	(1.45)
Observations	2096	2169	2169	2169
Pseudo R^2	0.206	0.165	0.170	0.169

Robust standard errors clustered at the country commodity level in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions.

Appendix 4.8. List of State-Controlled Country-Commodity-Years

Commodity	Country	Board/Parastatal	Duration	Sources
Cashew	Kenya	Until 1992 the National Produce Board had the monopsony of buying in-shell from farmers (and their cooperatives) and the Kilifi Cashew Nut Factory had the monopsony to buy from the NPB.	1975-1992	(IDMS 2009; Kenyan Ministry of Agriculture 2009)
Chromite	Madagascar	Since 1975 the only chromite mining company (Kraomita Malagasy) has been nationalized. Only in 2018 another South African mining company entered the industry (APC) and 70% of Kraomita's shares were sold to the Russian Investor 'Ferrum Mining'.	1975-2018	(Coakley 1995b; Engineer Live 2018; IDE-JETRO 2019; Rabenasolo 2019; USGS 2015c)
Cocoa	Ghana	Since 1979 the state-controlled Ghana Cocoa Board (COCOBOD) has had a monopoly on marketing and exporting Ghanaian cocoa beans. Liberalization of COCOBOD's export monopoly started in 2000/01 and LBCs can now export 30 per cent of their cocoa purchases directly to external buyers. However, a minimum tonnage requirement has meant that only 9 LBCs qualified so far to export, while none of them have actually marketed externally.	Since 1979	(Brooks *et al.* 2007; Kolavalli *et al.* 2012; Kolavalli and Vigneri 2011)
	Cameroon	Office National de Commercialisation des Produits de Base (ONCPB)	1976-1991	
	Sierra Leone	Until 1992 the Sierra Leone Produce Marketing Company (SLPMC) had a monopoly on marketing cocoa.	Until 1992	

Diamond	Ghana	Until late 1991, the Ghanaian government was the sole owner of the only commercial large-scale diamond mine, Ghana Consolidated Diamonds (GCD) in Akwatia. The large number of artisanal and small-scale miners were legally only allowed to sell diamonds to the Precious Minerals Marketing Company Limited (PMMC), a parastatal. In late 1991, 80% of GCD's shares were privatized to Lazare Kaplan International (LKI) of the United States and Inco Ltd. of Canada. When Inco dropped out of the venture in early 1993, LKI continued to market the diamonds, previously sold to the PMMC, while another operating partner was sought. In late 1993, the Ghanaian Parliament approved a joint-venture option agreement between LKI and De Beers Centenary AG of Switzerland. A new company, Birim River Diamond Ltd, was to be formed with LKI and De Beers each having 40% and the Government, 20%. After significant work at the mine, De Beers withdrew from the project in 1995 and the government retook the majority ownership. In between, 1991-1995 most artisanal production was sold to the PMMC, but also to LKI and De Beers. After 1995, PMMC again became the only legal buyer of Ghanaian diamonds.	Pre-1992, state-controlled. 1992-1995 partly privatized; from 1996: mostly state controlled	(Bermúdez-Lugo 2018; Coakley 1995a)
	Zimbabwe	Since 2016 the Zimbabwe Consolidated Diamond Corp (50% government-owned) should take control of the diamond sector. However, significant ASM persists.	From 2016	(Barry 2019)

	Botswana	The Botswanan State owns a 50% share of the only diamond mining and marketing company in Botswana, Debswana, with De Beers holding the other 50% of shares. The government's power is considerable, and as a consequence had pushed through the decision against De Beers' initial resistance that a minimum amount of rough diamonds needed to be cut and polished in Botswana.	1969	(Mbayi 2011; Yager 2019)
Precious Stones	Ghana	The Precious Minerals Marketing Company Limited (PMMC) is legally bound to market all precious and semi-precious stones in Ghana since 1989.	1989-	(PMMC 2019)
Cotton	Burkina Faso	From 1979-1999 the cotton monopsony buying company, SOFITEX, was primarily state-owned. In 1999, the company was partially privatized by giving a combined majority shares to the national cotton farmers union (UNPCB) and French company DAGRIS (former CFDT). In 2003 private ginneries were allowed to enter 15% of the market (in clearly allocated zones).	1979-1999	(Delpeuch and Leblois 2013)
	Mali	Since 1975 the state-owned CMDT has the monopsony in buying cotton from farmers	1975-	
	Côte d'Ivoire	From 1974 until 1998 the state-owned CIDT had the monopsony in buying cotton from farmers. Thereafter, it was split into three entities, two of which were privatized.	1974-1998	

Benin	Until 1994, state-owned SONAPRA had the monopsony in buying cotton. This ended in 1995, when other buyers and ginneries were allowed in the marked	Until 1994
Tanzania	Until 1994, the state-owned Tanzania Cotton Marketing Board had the monopsony for buying cotton. This ended in 1995, with the complete privatization and liberalization of the sector.	Until 1994
Cameroon	Since 1974 the state-owned SODECOTON has the monopsony in buying cotton from farmers	1974-
Zimbabwe	Until 1993 the state-owned Cotton Company had the monopsony for buying cotton. This ended in 1994 with the liberalization of the sector (and the privatization of the parastatal in 1997).	Until 1993
Togo	From 1974 to 1993 the state-owned SOTOCO had the monopsony on buying cotton and monopoly on ginning it to lint. In 1994 the first private ginnery entered the sector (SICOT), with further ginneries entering the sector thereafter. The seed cotton monopsony, however, remained with SOTOCO.	1974-1993
Zambia	From 1976 to 1993 the state-owned LINTCO had the monopsony on buying cotton and the monopoly on ginning it to lint. The sector was privatized and liberalized in 1994.	1976-1993
Malawi	From 1972 (and other boards before that) until 1994 the Agricultural Development and Marketing Corporation had the monopsony on buying	Until 1993

	cotton and the monopoly on ginning it to lint. The sector was privatized and liberalized in 1994.	
Uganda	Until 1993 the state's Lint Board had the monopsony on buying cotton and the monopoly on ginning it to lint. The sector was privatized and liberalized in 1994.	Until 1993
Senegal	From 1974 until 2002 the monopsony cotton buying and monopoly ginner LINTCO was state-owned, and then partially privatized, with the French company DAGRIS gaining majority ownership in 2003.	1974-2002
Guinea	Until 2000 the state had a monopsony on buying and ginning cotton, before the sector was completely privatized.	Until 2000
Madagascar	Until 2003 the monopsony cotton buying and monopoly ginner HASYMA was state-owned, and then privatized, with the French company DAGRIS gaining majority ownership	Until 2003
Central African Republic	Until 1990 the state had a monopsony on buying and ginning cotton, before the sector was then completely privatized.	Until 1990
Kenya	Between 1962 and 1992, the state-owned Cotton Lint and Seed Marketing Board had the monopsony for buying cotton. This ended in 1993, with the complete privatization and liberalization of the sector.	1964-1992

	Niger	Until 1989 the state had a monopsony on buying and ginning cotton before the parastatal was privatized. In 1998, further competition to the former parastatal was introduced	Until 1989	
	Guinea-Bissau	Until 1999 the state had a monopsony on buying and ginning cotton before the parastatal was privatized in 2000. In 2002, further competition to the former parastatal was introduced.	Until 1999	
	Burundi	Since 1947 the Cotton Management Company (COGERCO) has a monopoly on buying and ginning cotton in Burundi. This persists until this day.	Since 1947	(Centre d'Echange d'Informations du Burundi 2014)
Sesame	Uganda	Until 1989 the Produce Marketing Board had a monopoly on marketing Sesame. This was abolished the same year.	Until 1989	(Anderson 2009)
Tea	Burundi	Since 1971 the Office du Thé du Burundi (OTB) had a monopoly on buying and processing tea in Tanzania. This monopoly was formally liberalized in 2007, but only in 2011 the first private tea processing factory (PROTHEM) opened in the country, breaking OTB's de facto monopoly.	1971-2010	(FAO 2016)
	Cameroon	From 1977 until 2002 the state-owned Cameroon Development Cooperation owned all tea estates in the country, giving them a monopoly. In October 2002, the CDC's tea estates were privatized.	1977-2002	(Konings 2012)
	Zambia	From 1969 to 1995 the state-owned Kawambwa Tea Company was the only tea producer and processor in Zambia. It was privatized in 1996 in line with	1969-1995	(CAADP 2013; UNCTAD 2011)

	economic liberalization policies of the new regime of President Frederick Chiluba and has been under different ownerships since.		
Madagascar	Since 1973, the only tea plantation and tea processing factory had been under state-ownership (under the name SOTEMAD – Société Théicole de Madagascar). In 1996, it was privatized and is now called SIDEXAM Sahambavy.	1973-1995	(Lac Hotel 2019)

Appendix for Chapter 6

Appendix 6.1. List of Interviews on Cashew and Macadamia

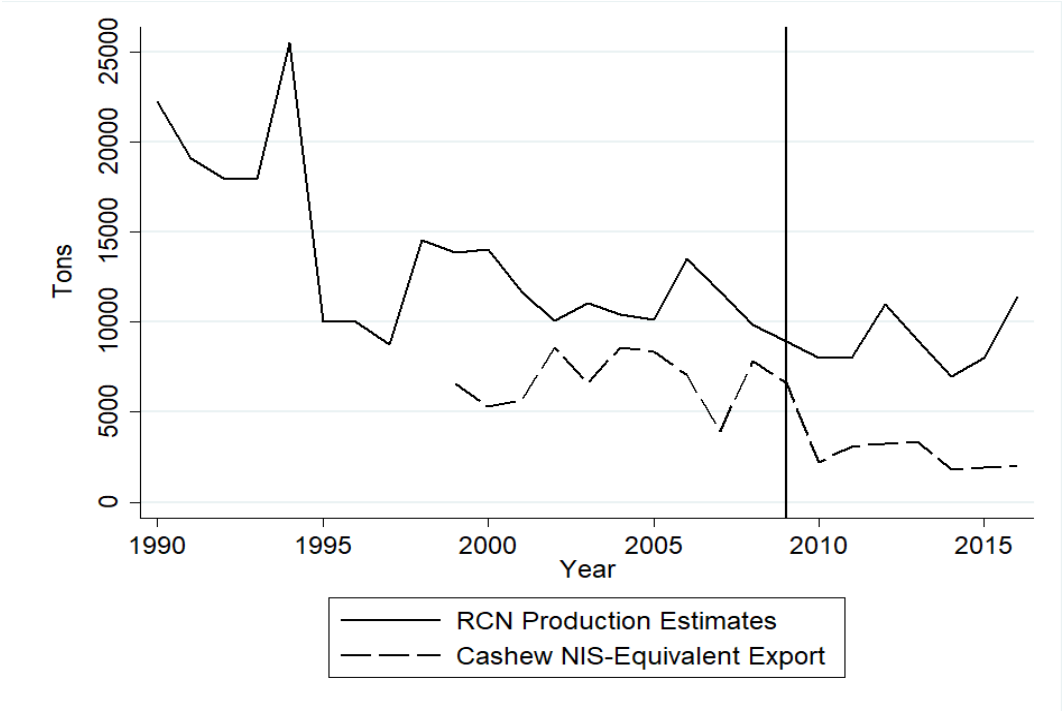
Type of Interviewee	Nr	Anonymized Positions	Place of Interview	Date of Interview
Country: Ghana				
Sector: Cashew				
Donor/IO	1	Project Manager of ComCashew	Per Telephone	02.08.2016
	2	Officer at ComCashew (GIZ)	Accra	23.03.2017
	3	Senior Officer for Sector Organization of ComCashew (GIZ)	Accra	05.04.2017
	4	Senior Manager of ComCashew (GIZ)	Accra	05.04.2017
	5	Senior Officer at ComCashew (GIZ)	Accra	06.04.2017
	6	Senior Manager of ComCashew (GIZ)	Accra	22.05.2017
Farmer	7	Medium-Scale Cashew Farmer	Accra	07.04.2017
	8	Mid-Scale Farmer	Techiman, Brong Ahafo	.04.2017
	9	Mid-Scale Farmer	Wenchi, Brong Ahafo	24.04.2017
	10	Medium-Scale Cashew Farmer	Per Telephone	27.04.2017
Farmer Association	11	Chairman of large cashew farmer cooperative	Brong Ahafo	24.04.2017
Government	12	Senior Executive of Ghana Investment Promotion Council	Accra	19.04.2017
	13	Senior Official of Ministry of Food and Agriculture, Crop Directorate	Accra	13.04.2017
	14	Former Deputy Minister of MoTI and NDC MP	Accra	29.03.2017
	15	Crops Officer at Ministry of Trade and Industry (MoTI)	Accra	06.05.2017
	16	Senior Official for Industrial Development at MoTI	Accra	06.05.2017
	17	Senior Officer for Industrial Development at MoTI	Accra	06.05.2017
Politician	18	Brong-Ahafo MP (NPP)	Accra	01.05.2017
	19	Brong-Ahafo MP (NDC)	Accra	30.05.2017
Processor	20	CEO of Cashew Cottage Processor	Techiman (Brong Ahafo)	26.04.2017
	21	Senior Executive of Major Cashew Processor	Mim, Brong-Ahafo Region	25.04.2017
	22	Chief Sourcing Manager of International Cashew Roaster	Sunyani, Brong-Ahafo Region	26.04.2017
	23	Former CEO of large-scale cashew processor	Per Telephone	19.03.2017
	24	CEO of large-scale cashew processor	Per Telephone	23.05.2017

Processor Association	25	Medium-Scale Cashew Processor and Senior Official of CIAG	Accra	19.04.2017
Researcher	26	Senior Manager of Wenchi-based MoFA Agricultural Research Station	Wenchi, Brong Ahafo	24.04.2017
	27	Senior Research Officer of Wenchi-based MoFA Agricultural Research Station	Wenchi, Brong Ahafo	24.04.2017
	28	Ghana Cashew Researcher	Per Telephone	28.10.2016
	29	Senior Lecturer, University of Ghana Business School	Accra	24.03.2017
Trader Association	30	Senior Executive of Wenchi Cashew Trader Association	Wenchi, Brong Ahafo	24.04.2017
	31	Manager of Cashew Trader Collection Centre	Techiman (Brong Ahafo)	26.04.2017
	32	Collection Centre Manager for Large Trading House	Wenchi, Brong Ahafo	24.04.2017
	33	Senior Manager for Olam International (Ghana)	Accra	20.05.2017
	34	Senior Manager of Trade House Cashew Bulking Centre	Techiman (Brong Ahafo)	26.04.2017
	35	Senior Manager of Trade House Cashew Bulking Centre	Techiman (Brong Ahafo)	26.04.2017
Umbrella Association	36	Former Communications Officer, African Cashew Alliance	Accra	28.03.2017
	37	Former Monitoring and Evaluation Specialist, African Cashew Alliance	Accra	07.04.2017
	38	Senior Technical Officer of African Cashew Alliance	Accra	11.04.2017
	39	Senior Technical Officer of African Cashew Alliance	Accra	11.04.2017
	40	Senior Communications Officer of African Cashew Alliance	Accra	11.04.2017
	41	Senior Executive of CIAG	Per Telephone	12.04.2017
	42	Senior Executive of CIAG	Accra	12.04.2017
Country: Kenya				
Sector: Cashew				
Consultant	43	Senior Cashew Consultant	Nairobi	06.12.2017
Farmer	44	Small-Scale Cashew Farmer	Kilifi County	23.11.2017
	45	Small-Scale Cashew Farmer	Kilifi County	23.11.2017
	46	Small-Scale Cashew Farmer	Kilifi County	23.11.2017
Farmer Association	47	Senior Official of Kenya Cashew Nut Growers Association	Kilifi County	18.10.2017
	48	Senior Manager of Lake Kenyatta Cooperative Society	Per Telephone (Mpeketoni)	30.11.2012
	49	Senior Extension Manager of Lake Kenyatta Cooperative Society	Per Telephone (Mpeketoni)	30.11.2012
Government	50	Former Senior Official of Coast Provincial Directorate for Agriculture	Nairobi	06.11.2017

	51	Former 2009 Cashew Task Force Member	Kilifi County	18.10.2017
	52	Senior Director of Ministry of Agriculture, Livestock, and Fisheries, Kilifi County	Kilifi County	23.10.2017
	53	Senior Officer of Ministry of Agriculture, Livestock, and Fisheries, Kilifi County	Kilifi County	23.10.2017
	54	Senior Officer of Ministry of Agriculture, Livestock, and Fisheries, Kilifi County	Kilifi County	23.10.2017
	55	Senior Officer of Ministry of Agriculture, Livestock, and Fisheries, Kilifi County	Kilifi County	23.10.2017
	56	Senior Officer at the NOCD	Per Telephone	01.12.2017
Journalist	57	Journalist covering Cashew Sector	Kilifi County	19.10.2018
Middlemen	58	Top-Level Cashew Agent	Per Telephone	13.12.2017
Processor	59	Lead Cashew Procurer for Big Five Processor	Per Telephone	08.12.2017
	60	Former Senior Executive of KCL	Kilifi County	18.10.2017
	61	CEO of cottage cashew processor	Kilifi County	23.11.2017
Researcher	62	Senior Cashew Cultivation Expert	Kilifi County	18.10.2017
Sector: Cashew & Macadamia				
Government	63	Senior official at Ministry of Agriculture	Nairobi	04.11.2017
	64	Senior Executive of NOCD (AFA)	Mombasa	18.10.2017
	65	Officer at Nuts and Oil Crops Directorate	Nairobi	02.11.2017
	66	Senior Officer at the NOCD	Per Telephone	01.12.2017
Processor	67	CEO of Big Five Nut Processor	Nairobi	07.11.2017
	68	Head of Sales Top Five Nut Processor	Kiambu County	30.11.2017
	69	Head of Operations Top Five Nut Processor	Kiambu County	30.11.2017
	70	Head of Marketing Top Five Nut Processor	Kiambu County	30.11.2017
	71	Senior Executive at Kenya Nut Company	Per Telephone	29.11.2017
	72	CEO of Second-Tier Nut Processor	Nairobi	19.12.2018
	73	CEO of Big Five Nut Processor	Nairobi	09.11.2017
Processor Association	74	Senior Official of NutPAK	Nairobi	09.11.2017
Sector: Macadamia				
Consultant	75	Consultant of MGAK	Per Telephone	04.12.2017
Farmer	76	Small-Scale Macadamia Farmer	Kiambu County	13.11.2017
	77	Small-Scale Macadamia Farmer	Kiambu County	13.11.2017
	78	Medium-Scale Macadamia Farmer	Embu County	16.11.2017

	79	Medium-Scale Macadamia Farmer	Embu County	16.11.2017
Farmer Association	80	Senior Executive of MGAK	Mombasa	18.10.2017
	81	Senior Executive of MGAK	Muranga Town	13.11.2017
	82	Senior Executive of MGAK	Kiambu County	13.11.2017
	83	Senior Executive of MGAK	Per Telephone	08.12.2017
	84	Senior Executive of MGAK	Per Telephone	11.12.2017
Government	85	County Extension Officer	Embu Town	15.11.2017
	86	Senior Officer at the Embu County, Department of Food and Agriculture	Embu Town	27.11.2017
Middlemen	87	Senior Official of NUTAK	Kiambu County	13.11.2017
	88	Top-level Macadamia Agent	Embu Town	16.11.2017
	89	Top-level Broker	Embu Town	16.11.2017
	90	Top-level Broker	Embu Town	16.11.2017
Politician	91	Member of Municipal County of Embu	Embu County	17.11.2017
	92	Former Central Kenyan MP, Jubilee Party	Kiambu County	13.11.2017
	93	Former Embu County MP	Embu Town	16.11.2017
	94	Senior Politician Embu County	Embu Town	16.11.2017
Processor	95	Managing Director of Second-Tier Macadamia Processor	Nairobi	09.11.2017
	96	Chief of Operations of Second-Tier Macadamia Processor	Nairobi	09.11.2017
	97	Senior Officer Major Processor	Embu Town	15.11.2017
	98	Senior Officer Major Processor	Embu Town	15.11.2017
	99	Head of Operations of Major Processor	Embu Town	15.11.2017
Researcher	100	Senior Macadamia Researcher	Thika (Central Kenya)	07.12.2017
Country: Malawi				
Sector: Macadamia				
Consultant	101	Expert on Malawi Macadamia Industry	Per Telephone	22.10.2018
	102	Former Consultant for the Highland Macadamia Cooperative Union Limited	Per E-Mail	22.10.2018
Farmer Association	103	Manager Ntchisi Macadamia Cooperative Union	Per E-Mail	26.10.2018
Country: South Africa				
Sector: Macadamia				
Processor	104	CEO of major South African Macadamia Processing Company	Per E-Mail	22.10.2018
Country: Australia				
Sector: Macadamia				
Umbrella Association	105	Senior Executive of Australian Macadamia Association	Per E-Mail	31.10.2018

Appendix 6.2. Kenya RCN Production Estimates and Cashew NIS-Equivalent Exports (based on mirror data), 1990-2017



Source: Own Illustration. RCN production estimates are collected from different sources, available on request from the author. Cashew NIS-Equivalent Export data is taken from the UN Comtrade database (DESA/UNSD 2019).

Appendix 6.3. Collection of Farm gate Prices by Region and Source for Macadamia in Kenya

Year	(Muchiri) ALL	(Muriuga *et al.* 2016: 97) West	(Muriuga *et al.* 2016: 97) East	(Maigua *et al.* 2017) ALL	(National Assembly of Kenya 04.05.2016) ALL	(Gitonga 2011) WEST	(Ciuri 2015) ALL	(iMPACT NEWS (Kenya)) WEST	(Mburu 2011) WEST	(Fundi) EAST	(Rungu 2012) ALL	(Onsongo 2009b: 4) All	(Kenya News Agency) EAST/ALL	(Vandenabeele 5: 23) ALL	(Jungle Nuts Limited Different Times) WEST/KIAMBU	Senior Executive of MGAK, Mombasa, 18.10.2017 WEST	(Nuts & Oil Crop Directorate 2016) ALL
1992																	
1993																	
1994																	
1995																	
1996											(Hortfresh Journal)						
1997																	
1998																	
1999																	
2000																	
2001				0.07 USD													
2002				0.23 USD													
2003																	
2004					50												
2005												45					
2006												60					
2007																	

2008						20											
2009																28	
2010														27		30	
2011		70	70			90			80								
2012		68	70								80					50	
2013																	
2014	90									110						80	
2015							110								105	100	110
2016								120					50		65		70
2017																150	
2018																	

Year	Hortfresh ALl(Hortfresh Journal)	(Herbling 2012) All	(Ithula *et al.* 2010) EAST	(Murithi 2016: 33) EAST	(Gebre and Nyambura-Mwaura 2018) ALL	(Daily Nation 13.09.2016) East	County Extension Officer, Embu Town, 15.11.2017 EAST	Embu County Agric Officer 27.11.2017 EAST	Senior Executive of MGAK, Per Telephone, 08.12.2017 EAST	Top-level Macadamia Agent, Embu Town, 16.11.2017 EAST	Senior Executive of MGAK, Kiambu County, 13.11.2017 WEST	Senior Executive of MGAK, Murang a Town, 13.11.2017 WEST	Senior Official of NUTAK, Kiambu County, 13.11.2017 Kiambu	Head of Operations of Major Processor, Embu Town, 15.11.2017 EAST	(Muriog a 31.07.2013) ALL	(Muinde) WEST
1992																
1993																
1994										15						
1995																
1996																
1997																

1998																
1999																
2000																
2001									23							
2002	23								30						22	
2003															12.3	
2004															41.3	
2005	80														60	
2006															60	
2007															49	
2008							50			90					28	
2009			100							100				100	25	
2010			20							40					65	
2011															85	
2012		50														
2013									90							70
2014																
2015				135					110				80			
2016				60		75		80	110	90			90			
2017								120	120	110	90	100	120			
2018					180											

Appendix for Chapter 7

Appendix 7.1. Calculation of Ghanaian Domestic Log Price Development Between 1993 and 1996 for Eight Species Not Banned Prior to 1995

Species Trade Name	1993 Domestic Log Price in DM/m³	1996 Domestic Log Price in DM/m³	1996 Log Price as % of 1993 Price
Albizia	95	38	40.00
Kusia	81	42	51.85
Kyere	149	85	57.05
Kyenkyen	95	42	44.21
Ceiba	81	42	51.85
Alkasa	81	42	51.85
Bonsamdua/ Ayan	81	38	46.91
Guarea	149	56	37.58
Average Price	**101.5**	**48.125**	**47.41**

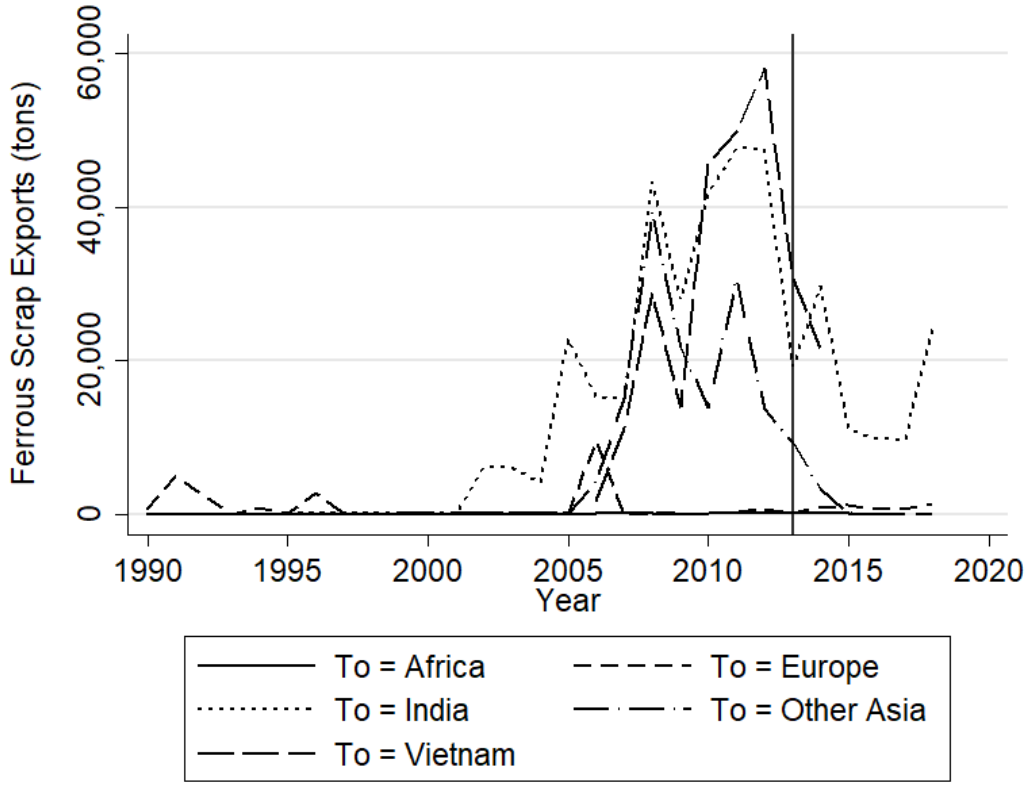
Source: Own calculations based on Treue (1999: 138)

Appendix 7.2. Calculation of Ghanaian Domestic Log Price Development Between 1993 and 1996 Across all Species Types/Grades

Species Grade	1993 Domestic Log Price in DM/m³	1996 Domestic Log Price in DM/m³	1996 Log Price as % of 1993 Price
Scarlet Stars	177	103	58.19
Red Stars	123	50	40.65
Pink Stars	84	54	64.29
Average Price	128	69	53.91

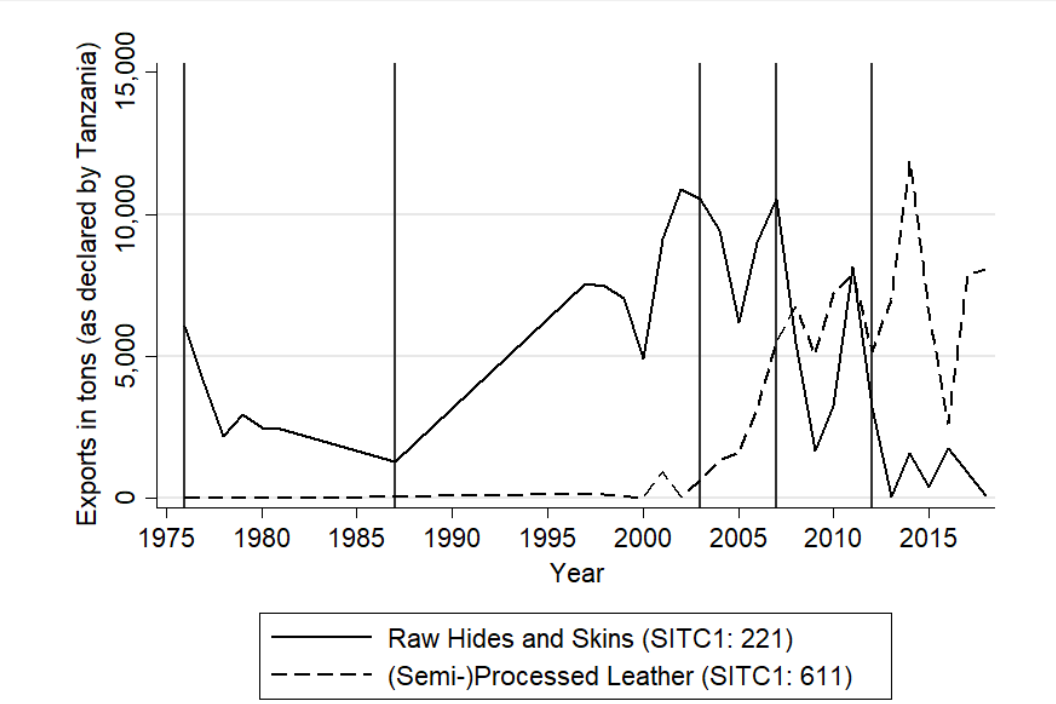
Source: Own calculations based on Treue (1999: 138)

Appendix 7.3. Destinations of Ghana's Ferrous Scrap Exports over Time



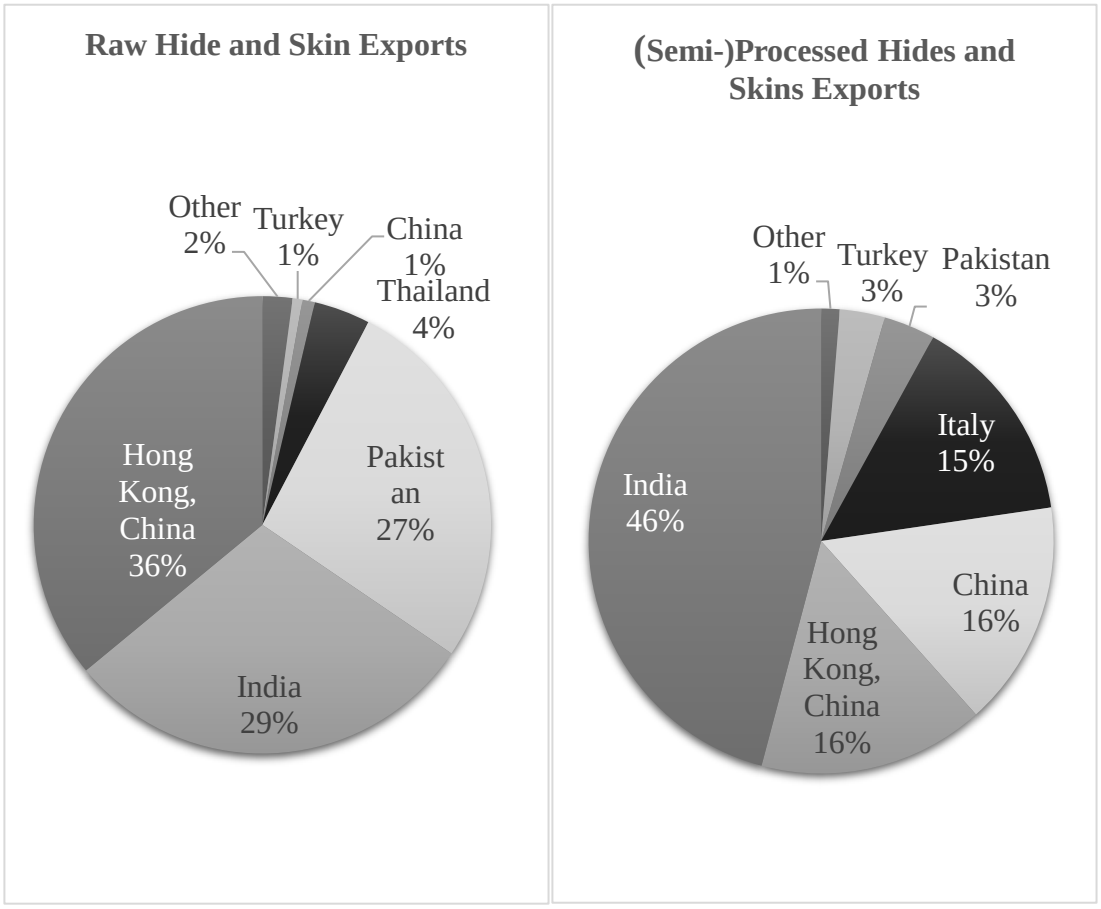
Source: Own Illustration based on mirror data from the UN Comtrade database (DESA/UNSD 2019).

Appendix 7.4. Exports of Raw Hides and Skins and (Semi-)Processed Leather from Tanzania as Declared by Tanzania from 1965-2017



Source: Own illustration based on SITC1 data from the UN Comtrade database (DESA/UNSD 2019).

Appendix 7.5. Destination of Raw Hide and Skin Exports (Left) and (Semi-) Processed Hide and Skin Exports (Right) from Tanzania in 2011



Source: Own illustration based on SITC1 mirror data from the UN Comtrade database (DESA/UNSD 2019).

Appendix 7.6. Questionnaire for Tanzanian Livestock Keepers

Demographic Data **Interview #:** **Date:**

1. Name:
2. Gender:
3. Age:
4. Municipality/District/Region

General Questions

5. How many cows, goats, and sheep do you keep?
    a. Cows:
    b. Goats:
    c. Sheep:

6. On average, for what price do you sell your livestock?
    a. Cows:
    b. Goats:
    c. Sheep:

7. Which number/percentage of your livestock do you sell/kill/"off-take" annually?
    a. Cows:
    b. Goats/sheep:

Questions Regarding Raw Hides and Skins

8. When you sell your livestock, do you:
    a. receive any money for the (quality of the) hides/skins? *(yes/no)*
        i. If yes, which price on average for:
            1. Cows:
            2. Goats/sheep:
    b. Or do you simply sell the animal as a whole, irrespective of the quality of the hide/skin (that is, two cows which are completely similar – except for the quality of their hides – would receive the same price)? *(yes/no)*

9. Are you aware that healthy and unbranded hides and skins are an important requirement for the leather industry? *(yes/no)*

10. Are you aware of good practices to maintain the good quality of raw hides and skins, such as branding only on the legs or the head? *(yes/no)*
    a. If yes, how have you become aware of this? *(open)*
    b. If yes, do you implement such good practices? *(yes/no)*
        i. If not, why not? *(open)*

Questions Regarding Export Tax

11. Have you ever heard of a tax on the export of raw hides and skins? *(yes/no)*

12. Is a high tax on the export of raw hides and skins something that affects you? *(yes/no)*
    a. Why/why not? *(open)*

Continue only if 11 = yes

13. Since when do you know of the export tax? *(year)*

14. How did you come to know of the export tax? *(open)*

15. Do you know how high the export tax is at the moment? *(% number)*

16. Did you complain (e.g. to a local politician or government official) or protest against

17. the implementation or existence of the export tax? *(yes/no & Why not & how*

18. Did the implementation/increase/existence of the export tax alter your voting choice? *(yes/no & why not & how)*

Appendix 7.7. List of Interviews on Ghanaian Timber

Type of Interviewee	Anonymized Positions	Place of Interview	Date of Interview
Researcher	Ghana Timber Scholar 1	Per Telephone	11.06.2019
	Ghana Timber Scholar 2	Per Email	15.06.2019
Consultant	Ghana Timber Consultant	Accra	12.05.2017
Government	Senior Official at the Ghana Forestry Commission	Accra	11.05.2017
Processor	Managing Director of Leading Integrated Processor	Kumasi	23.04.2017
	Managing Director of Leading Integrated Processor	Per Telephone	12.05.2017
	Senior Executive of Large Integrated Processing Mill	Mim, Brong-Ahafo Region	25.04.2017
Trader/Exporter	Director at Danish International Timber Trading Company	Per Telephone	03.05.2017
	Area Manager at Major Global Timber Trading Company	Per Telephone	12.06.2019
Logger Association	Senior Executive of Ghana Timber Association	Per Telephone	15.05.2017
Miller Association	Senior Executive of Ghana Timber Millers Organisation	Per Telephone	10.05.2017

Appendix 7.8. List of Interviews on Ghanaian Metal Waste and Scrap

Type of Interviewee	Anonymized Positions	Place of Interview	Date of Interview
Government	Senior Officer for Industrial Promotion at MoTI	Accra	03.05.2017
	Senior Official for Industrial Development at MoTI	Accra	06.05.2017
Dealer Association	Senior Official of the Greater Accra Scrap Dealer Association	Accra	04.05.2017
	Senior Official of the Tema Scrap Dealer Association	Per Telephone	18.05.2017
Processor	General Manager of one of Ghana's Oldest Steel Mills	Tema	17.05.2017
	Senior Manager of one of Ghana's largest steel mills	Tema	17.05.2017
	Administrative Consultant to one of Ghana's largest steel mills	Tema	17.05.2017
Producer	Scrap Collector 1 in Central Accra	Accra	04.05.2017
	Scrap Collector 2 in Central Accra	Accra	04.05.2017

Appendix 7.9. List of Interviews on Tanzanian Leather Sector

Type of Interviewee	Anonymized Positions	Place of Interview	Date of Interview
Donor	Economic Development Adviser for Dutch Development Agency	Dar es Salaam	01.07.2017
Government	Senior Industry Officer in the Ministry of Industry and Trade	Dar es Salaam	12.07.2017
	Leather Promotion Officer (MoIT)	Per Telephone	11.07.2017
	Livestock Officer (MoLF)	Dar es Salaam	14.07.2019
Leather Manufacturer	Owner of Medium-Scale Leather Manufacturer	Dar es Salaam	04.07.2019
Leather Training School and Tannery	Senior Executive of Dar es Salaam Institute of Technology	Mwanza	02.08.2017
Raw Hide Trader Association	Senior Executive of the Union of Tanzanian Hide and Skin Traders and Developers 1	Dar es Salaam	14.07.2017
	Senior Executive of the Union of Tanzanian Hide and Skin Traders and Developers 2	Dar es Salaam	14.07.2017
Tanner	Senior Executive of Large-Scale Tannery	Dar es Salaam	11.07.2017
	Senior Executive of Major Tannery	Moshi	17.08.2017
	Senior Executive of Major Tannery	Himo	18.08.2017
Leather Manufacturer	Owner of Medium-Scale Leather Manufacturer	Mwanza	02.08.2017
Tanner & Manufacturer Association	Senior Executive of Leather Association of Tanzania	Dar es Salaam	11.07.2017
	Senior Executive of Tanzania Tanners Association	Dar es Salaam	11.07.2017
	Former Senior Executive of Leather Association of Tanzania	Mwanza	02.08.2017
Livestock Keeper	Livestock Keeper 1	Bugogwa Ward (Mwanza Region)	03.08.2017
	Livestock Keeper 2		
	Livestock Keeper 3		
	Livestock Keeper 4		
	Livestock Keeper 5		
	Livestock Keeper 6	Nkoanrua Ward (Arusha Region)	12.08.2017
	Livestock Keeper 7		
	Livestock Keeper 8		
	Livestock Keeper 9		

	Livestock Keeper 10		
	Livestock Keeper 11	Moshono Ward (Arusha Region)	13.08.2017
	Livestock Keeper 12		
	Livestock Keeper 13		
	Livestock Keeper 14		
	Livestock Keeper 15		
	Livestock Keeper 16	Kirua Vunjo Mashariki Ward (Kilimanjaro Region)	18.08.2017
	Livestock Keeper 17		
	Livestock Keeper 18		
	Livestock Keeper 19		
	Livestock Keeper 20		
	Livestock Keeper 21	Machame Kusini Ward (Kilimanjaro Region)	19.08.2017
	Livestock Keeper 22		
	Livestock Keeper 23		
	Livestock Keeper 24		
	Livestock Keeper 25		