The Politics of Export Restrictions

A Panel Data Analysis of African Commodity Processing Industries

Nicolai Schulz[1]

Abstract

This paper 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 forwards the hypothesis that governments fear restricting the export of commodities produced by a larger share of the population, as their producers tend to possess significant potential to endanger the political survival of rulers. Importantly, the paper argues that large producer groups can unleash this potential because export bans have an extremely severe and visible imp act on them and that equally affected (yet wealthier and better-organized) traders have the incentives and means to inform producers about the government's responsibility and organize their protest against it. Yet, while the same holds for high export taxes, it does not for low export taxes. Low export taxes are less severe and visible in their impact, and traders are less agitated given that it is easier for them to pass on price distortions to producers. Producer mobilization is thus less likely and imposing low export taxes even on larger groups poses no significant risk to policy-makers. To test the argument against competing explanations, 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 and find 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. Overall, these findings provide new insights into the critical role politics plays in industrial policy-making in Africa and shows that African mass producer groups can overcome usual Olsonian collective action problems to oppose policies adverse to their interests in certain circumstances.

[1] *PhD Candidate*, Department of International Development, London School of Economics and Political Science, 64 Aldwych, London, WC2B 4DS, d.n.schulz@lse.ac.uk; and *Research Associate*, Global Development Institute, University of Manchester, Arthur Lewis Building, Oxford Road, Manchester, M13 9PL.

I. Introduction

In recent years, industrial commodity processing 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 (UN-ECA 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. Consequently, processing is 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 the African countries of origin.

Governments across the developing world, above all in Africa, have increasingly reverted to export bans and other export restrictions on un- 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 capitalist to invest in country of origin processing.

Intriguingly, however, developing country governments tend to employ export bans very differently across commodities. The analysis of an original dataset – the Export Prohibition and Taxation in Africa (EPTA) panel dataset – shows that among commodities that 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 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 paper is to understand why governments restrict certain economically ‘bannable’ commodity exports more frequently than others.

This paper advances the argument that due to a perceived or actual increased risk to their political survival, African policy-makers are less likely to prohibit the export of commodities providing significant income to large shares of the population. Export bans on raw commodities tend to harm raw producers and traders as they effectively and visible redistribute substantial parts of their income to processors. This severity and visibility of an export ban's impact and the potential for synergetic defense coalitions between producers and (wealthy and more organized) traders it creates significantly raises the risk that producers become aware of the policy and mobilize against it. 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 mass 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 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 & Bandyopadhyay, 2000; Grossman & Helpman, 1994; Hillman, 1982; Peltzman, 1976), but in the analysis of policy outcomes in the developing world. Particularly Robert Bates' (1981) argument that the mass of African peasants were disadvantaged by their governments to satisfy the interests of the minority of processors and urban consumers, has shaped the perception of African peasants being generally unable to mobilize for their interest and pose a threat to their governments (at least in the era of state-controlled marketing boards and monopsonies).

To test this argument against competing explanations, the study employs 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). Country-commodity specific export ban and labor share data have been collected specifically for this

study. 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. Furthermore, by showing that the reverse is true for low – and hence less visible and hurtful – export taxes, it provides evidence that the severity and attributability of a policy's impact is of particular importance.

Overall, this paper makes four 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 & Chang, 2009; Mazzucato, 2013; Rodrik, 2009; Stiglitz & Lin, 2013). Much of this literature, however, neglects the important role domestic politics play in how and when industrial policies are implemented. This paper builds on and enriches a growing literature that brings back politics into the study of industrial policy (Altenburg & Lütkenhorst, 2015; Behuria, 2015; Doner, Ritchie, & Slater, 2005; Gray, 2018; Kelsall, 2013; Khan, 2013; Tyce, 2019; Whitfield, Therkildsen, Buur, & KjÆr, 2015). In contrast to much of this literature, however, it moves beyond small-N comparisons and emphasizing context-specificity by demonstrating that generating and testing parsimonious theories with broad external validity remains possible in this research field. Moreover, the paper 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 & Mcloughlin, 2015; Harding, 2015; Harding & Stasavage, 2014). Third, 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). Finally, 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 massively under-researched topic: export restrictions.

The paper proceeds as follows. The subsequent section provides further detail on the observed export ban patterns in Africa and explains how economic feasibility conditions shape the study's scope of analysis. Section three advances the paper's core argument in explaining the

uncovered variation. Section four then provides a detailed description of the research design to test this argument and section five presents the results. The paper is concluded with a final review of the study's main findings and outlook for future research in section six.

II. Export Ban Patterns and Commodity 'Bannability'

In the last two decades, export prohibitions on raw materials have taken a central position in African trade and industrial policy. To quantify this trend, this paper relies on an original dataset on export taxes and bans in 36 sub-Saharan African WTO member states[2] going back as far as 1988 and as recent as 2017, depending on the country. Looking at the year with the most complete data available, 2011, we find that out of the 28,758 country-commodity exports at the HS-six-digit-level[3] 1,156 (5.51%) were restricted by taxes or bans. Out of these, 587 commodities have been banned. Demonstrating the recency of this trend, 92% of these export bans were introduced after 1992, and 82% alone since 2000. Once introduced, such restrictions are rarely withdrawn.

African governments, however, do not restrict the export of commodities evenly. Aggregating all the dataset's commodity exports at the highest possible level (the HS-two-digit or chapter-level), Table 1 summarizes the pattern in 2011, the year with most observations. Specifically, it indicates which percentage of African governments producing commodities of a certain chapter also ban at least one product in that chapter. Overall, commodities can be divided into three broader categories: those frequently, rarely, and never banned. Among those products

[2] 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.

[3] The Harmonized System (HS) is an internationally standardized system of names and numbers to classify traded products maintained by the World Customs Organization. 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 1006.30: "Semi-milled or wholly milled rice, whether or not polished or glazed"). The study aims to find data on the six-digit sub-heading product level (abbreviated HS6-level).

frequently banned at export, we find commodities such as wood, raw hides and skins, base metals and articles thereof (which in almost all cases relates to metal waste and scrap exports), as well as precious stones and metals. Among the commodities which are rarely or never banned we mostly find agricultural commodities, such as coffee, tea, cotton, fruits, nuts, cocoa, or tobacco, but also extractive commodities such as metal ores and mineral fuels.

Table 1: HS-Chapter-Level Pattern of Commodity Export Bans in Africa in 2011

Frequently Banned	**Rarely Banned**	**Never Banned**
1. **Wood** (56%)	8. *Edible Fruit* and **Nuts** (6%)	17. *Salt; Sulphur; Earth & Stones;* Etc. (0%)
2. *Cereals* (24%)	9. *Live Animals* (3%)	18. *Live Trees; Bulbs & Root; Cut Flowers* (0%)
3. ***Base Metals and Articles Thereof*** *(19%)*	10. *Coffee*, **Tea**, and ***Spices*** (3%)	19. *Lac; Gums, Resins & Other Vegetable Saps* (0%)
4. *Seafood* (14%)	11. *Sugars* (3%)	20. **Cocoa** (0%)
5. *Pearls,* ***Precious Stones & Metals****,* (11%)	12. *Dairy, Eggs, Honey* (3%)	21. **Tobacco** (0%)
6. **Raw Hides and Skins** (9%)	13. **Cotton** (1%)	22. *Mineral Fuel/Oils* (0%)
7. ***Oil Seed, Oleagi Fruits*** (8%)	14. *Edible Vegetables, Roots and Tubers* (3%)	
	15. *Natural Rubber* (3%)	
	16. ***Ores,*** *Slag & Ash.* (1%)	

Note: *Italics are used to identify chapters where the employment of export bans makes little economic sense and bold font for those where it does. Chapters with both bold and italic font are those where there is variation in this regard across commodities belonging to the same chapter.*

From a techno-economic viewpoint, a large part of this pattern is to be expected. Indeed, most African raw commodities are affected by one or more of five factors that severely limit the economic feasibility of processing at origin or the economic rationale of employing export prohibitions to do so. First, some commodities 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 flavor (Talbot, 2002). Similar dynamics persist in several metal commodities, such as iron ore or aluminum, given much greater efficiencies in transporting the ores raw and processing them close to the manufacturing stage (Östensson & Löf, 2017).

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 particular processing promotion policy. This is true for numerous soft commodities such as rubber, sisal, palm oil, or fish as well as hard commodities such as copper ore (Radetzki, 2008).

Third, for certain commodities the processing requirements are simply too far removed from current capacities in many African countries to economically justify active trade interventions. This is particularly true for most metals, where capital and energy supply are notoriously scarce and volatile, production often too limited to reach economies of scale, and margins too slim and erratic to justify the substantial risk of failure (Cordes, Östensson, & Toledano, 2016; UNECA, 2013). Re-smelting of metal wastes and scraps, smelting of chromite, labor-intensive timber processing and lapidary industries constitute few of the important exceptions to these dynamics in the hard-commodity sector (Morris, Kaplinsky, & Kaplan, 2012; Östensson & Löf, 2017).

Fourth, 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.). 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. 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.

Finally, governments will be less inclined to impose export bans on commodities whose production chain it closely controls. Remember that export prohibitions 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 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 Nigeria where the government via the NNPC owns the majority shares and controls the business decisions of both extraction and refining industries). Similarly, export prohibitions were

effectively redundant during the governmental reign of agricultural other commodity chains through marketing boards prior to SAPs.

Importantly, however, while economic factors could explain why many of the commodities (in *italics*) in Table 1 are never restricted – at least not for processing promotion reasons[4] – a large part of the uncovered variation remains unexplained. Specifically, it is not economically obvious why commodities such as raw wood, raw hides, metal waste, or unprocessed precious stones would be banned so much more than commodities such as raw cashew nuts or cocoa beans. The degree to which processing promotion via export prohibitions makes sense for these commodities (highlighted in bold in Table 1) should be broadly comparable and as such these stark differences remain puzzling. The aim of this paper then is to resolve this puzzle, answering the question of why African governments restrict some processable commodity exports more than others.

III. The Politics of Export Bans and Taxes

Where economic models struggle to deliver explanations, political economy approaches must be considered. Fundamentally, 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. 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.

[4] 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 staple food items from the analysis. Yet, the higher taxation of food staples (relative to other agricultural crops) is in line with the papers argument: staple crop consumers are usually larger than producers, and because they also live in urban areas, more organized and threatening to the government).

Identifying the Winners and Losers of Export Bans

In the case of export prohibitions of raw commodities, four economic interest groups appear relevant in the domestic political economy: producers, independent middlemen, exporters, and processors. Figure 1 below, illustrates in simplified terms how these actors relate to each other in typical post-SAP African commodity value chains. Nowadays, 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 raw rather than processed and domestic processors either run under capacity or fail to emerge.

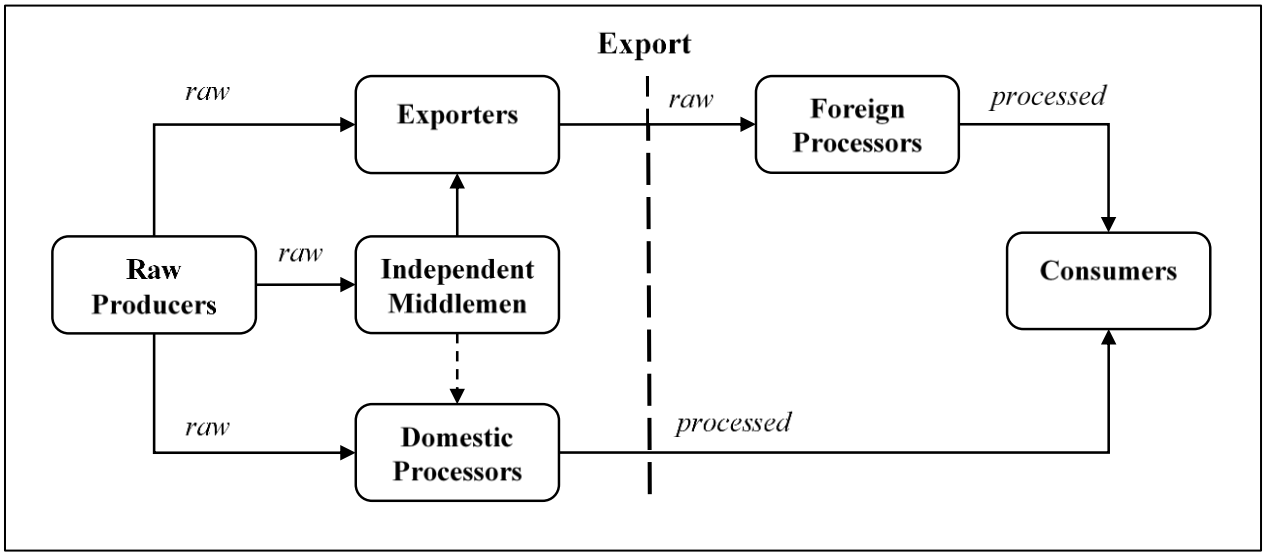

Figure *1:* A Simplified Model of a Typical Raw Commodity Trade Chain in Post-Structural Adjustment Africa

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).

Based on this discussion, political economy approaches would likely agree on a core logic: African governments will impose export bans or other export restrictive measures 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, however, is *when* and *which* interest groups are powerful.

Are Export Bans Olsonian?

Olson's (1965) theory that that larger groups are less powerful than small groups because they struggle to engage in collective action has been foundational in the Social Sciences. According to him, the 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 disciplining of deviators is easier. The incentives and capacity for group action therefore diminish as group size increases. Applying this framework to African agricultural trade and marketing, Bates (1981) found this argument to explain why the masses of small-holder farmers were often disadvantaged vis-à-vis the minority of processors and/or urban consumers.

Importantly, however, it appears that Olson's framework cannot explain the patterns of export bans in Africa described in Table 1. 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?

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

In this paper, 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 defense coalitions. More specifically, I argue that severe export restrictions like export bans or high export taxes can stir up masses because they tend to be clearly visible and attributable to the government, extremely costly to producers as well as traders, and that these two groups can coalesce to overcome their respective collective action problems. Vice versa, I contend that less severe export restrictions (such as low export taxes) and other price distortive tools (such as marketing boards) are and were more likely to be imposed on larger producer groups because they have lower and/or less visible negative impacts and were often implemented in times where only one economic interest group (producers) was negatively affected.

The importance of these three policy characteristics has been recognized in a wider literature on policy-making and implementation. Studies on public service provision as well as rent-seeking have shown that when policy outcomes are more visible and attributable to government action, citizens are more likely to hold politicians accountable for them (Batley & Mcloughlin, 2015; Harding, 2015; Harding & Stasavage, 2014; Keefer & Khemani, 2003; Mani & Mukand, 2007; Persson & Tabellini, 2000). Scholars researching the reaction and protest to 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 losers will mobilize against it. Importantly, this association functions via two channels. Directly in the sense that when the stakes for the losers are higher, they have a greater incentive to fight against it. Indirectly in that more severe policies are more visible, and as such losers are more likely to realize they have been negatively

affected. Lastly, these and other studies – e.g. on West African poultry producers' lobbying attempts against import competition (Johnson, 2011), the likelihood of ethnic conflict (Esteban & Ray, 2008), European lobbying coalitions (Junk, 2019) or the provision of public pharmacies in the Dominican Republic (Schrank, 2019) – have found that where cross-group coalitions can form around a policy, lobbying becomes particularly effective. The core reason for this is that the groups' respective and distinct strengths can compensate for their respective weaknesses, that is, their cooperation is synergetic. Concluding, policies are particularly likely to foster resistance when their impact is highly visible, severe, and likely to affect different groups that can form synergetic defense coalitions. And as these studies also show, when the resistance is exerted by a significant share of the population, it is particularly dangerous and worth avoiding for politicians.

As summarized in Table 2 below, export measures aimed at distorting producer crises – whether for promoting processing or collecting revenue – differ significantly in these three regards, and thus in how risky it is to impose them on large producer groups. Critically, export bans check all boxes: they are very severe, highly visible, and affect different groups. In the absence of marketing boards, producers nowadays have a better indication of what actual market prices are. Export bans then very abruptly and harshly reduce these prices to an extent that most if not all producers become aware of its impact within a short period of time. Moreover, as discussed above, export bans affect not only producers but also traders very negatively. Likely to lose most of their business in the commodity, traders have a strong initiative to help inform producers who is responsible for the ban, potentially even amplify its impact to rile producers up even more, and eventually mobilize their numerical power. Building a synergetic defense coalition, traders with their excellent networks and deeper pockets can help coordinate producers and help cover their high organizational costs, whereas large producer groups add the necessary numerical power to the cause against export bans, (which traders are lacking).

These dynamics are clearly brought to light in the comparative case studies of the cashew nut export bans in Ghana and Kenya. On March 14, 2016, the Ghanaian government had introduced a ban on raw cashew nuts to promote the domestic cashew processing industry. Within one day, farmgate prices had collapsed by over 40%. Counting an estimated 100,000 households, cashew farmers had built such pressure on the government through heavy protests that three days after

the ban's implementation ruling party MPs introduced a motion against the policy in parliament, and a further two days thereafter the Ministry of Trade and Industry had withdrawn it. Traders had played a crucial in the process. First, they had pulled out of buying cashews from farmers the day of the ban, knowing this would accelerate the ban's price distortion, and thus, visibility. Moreover, they started a campaign to inform farmers about the ban by gathering farmer representatives and distributing the information via the radio. Finally, they actively financed the organization of farmer protests. Similar dynamics had persisted in Kenya when the government in 2009 had banned the export of raw cashew nuts. Producer prices dropped rapidly by up to 50% and traders informed and organized farmers' protests. Critically, however, the ban was never withdrawn and remains in place to this day. The crucial difference to the Ghanaian case is that only around 10,000 households in the more populous Kenya had been farming cashew. Consequently, their protests simply did not pose any significant threat to the survival of either local or national politicians. While numerous Members of Parliament and even the government party general secretary in Ghana spoke out against the ban, in Kenya not one single politician had done so.

Depending on their level, export taxes can be very similar or different from export bans. Expectedly, high export taxes are very similar. The severity of their impact makes them more visible and increases the stakes for the losers. And when taxes are very high, traders also struggle to pass through the distortion to producers, thus remain incentivized to strongly oppose them. A point in case is the heavy and successful resistance of a defense coalition of few wealthy large-scale owners and exporters and a larger group of small-holders in Argentina against the extremely 'objectionable' raise of the soy export tax to 44% (Fairfield, 2011).

This differs for low export taxes. Their price distortions are less severe, thus have lower stakes and visibility. Traders also have a relatively easy time to pass them through to producers and as such have less of an incentive to venture into the costly and difficult business of mobilizing producer masses. Governments, therefore, face a relatively low risk when imposing low taxes on producers irrespective of their group size. If at all, we should see governments to be more likely to impose low export taxes on larger groups, given that the special conditions under which the large group size collective action problem 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 neighbor's experience how politically dangerous severe export restrictions were. Their decision to go for a less obtrusive measure paid off. Neither producers nor traders protested noticeably against the policy and the tax' revenue could be used to finance additional processing promotion and other activities.

Table 2. The Visibility, Role of Traders, Mobilization Risk and Implementation Likelihood Price Distortion Mechanisms

Price Distortion Mechanism	***Export Bans & High Export Taxes***	***Medium Export Taxes***	***Low Export Taxes***	***Marketing Boards***
Severity	High	Medium	Low	High
Visibility	High	Medium	Low	Low
Role of Traders	Agitated → Mobilizing	Moderately Agitated → Potentially Mobilizing	Barely agitated	No Traders
Risk of Mass Mobilization	High	Moderate	Low	Low
Implementation on Mass-Produced Commodities	Unlikely	Moderately Likely	Likely	Likely

Source: Own illustration.

Medium-level export taxes fall in a gray area between low and high taxes. Whether they are visible and severe or whether traders can pass through the tax to produces likely depends on the specific country-commodity context. Thus, on average, governments are arguably more likely to impose medium taxes on large groups than export bans or high taxes, but less likely than low export taxes.

Finally, marketing boards show that governments can distort producer prices massively without being noticed. 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; Helleiner, 1977; Hopkins, 1973). 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 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. Moreover, traders that could have informed and mobilized producers were absent given that marketing was handled exclusively by the boards. Thus, marketing boards were very efficient at 'maintaining an illusion of rising [or at least stable] prices' (Boone, 2003, p. 226) whereas in fact both farmers' real incomes and their share of the actual export price often declined sharply. Succumbing to this illusion, producers saw no reason to oppose the boards or the government, true to the motto: What the eye does not see, the heart does not grieve over. And as demonstrated by Bates (1981), African governments could distort producer prices even, or especially, of large groups without facing significant political risk.

To conclude, in contrast to price distortions through marketing boards and lower export taxes, export bans and high export taxes particularly starkly and visibly affect the incomes of both producers and traders. Traders and producers are likely to build informal or formal coalitions where traders inform, coordinate, and finance the mobilization of producers, who are expected to bring the numbers to the table. Where a large share of the population earns a significant income from producing a commodity, policy-makers are likely to fear the resulting mass opposition to a ban, and as such, will probably not implement it in the first place or withdraw it when this opposition materializes. Where producers are few, policy-makers have little to fear, and in their desire to promote processing will be more likely to implement export bans on the commodities produced by such smaller groups. In line with this argument and the above discussion, the core hypothesis of this paper 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

share of its income from producing it. Low export taxes, however, are if at all more likely to be implemented on larger producer groups.

IV. Research Design

To analyze and test the above-derived hypotheses against competing explanations, the study employs a quantitative research design described here 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.

Units of Analysis

The core unit of analysis is the country-commodity-year. As detailed in Section Two, 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. Data was collected for 12 bannable commodities that represent all chapters identified in Table 1: cashew, cocoa, cotton, chromite, diamonds, metal waste and scraps, precious and semi-precious stones, raw hides and skins, sesame, tea, timber, and tobacco. 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 3,200.

Data and Operationalization

Dependent Variables: Export Prohibitions and Export Taxes

Collecting data on export prohibitions 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. Given that no ready-made export restriction dataset covering Africa is available, an original Export Prohibition and Taxation in Africa (EPTA) panel dataset was constructed for this study. I collected data on export taxes and bans for 36 sub-Saharan African WTO member states covered by the WTO Trade Policy Reviews (TPRs), with the earliest date of coverage 1988 and the latest 2017. The TPRs provide the largest volume of information on export restrictions (WTO, 2018). They are compiled by WTO country experts, which spend several months in a country summarizing all trade relevant policies, including export bans and taxes. Given that member countries are not compelled to notify the WTO when they implement an export ban, 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 restriction 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.

In the next stage, all collected data has been harmonized in several steps to the HS1988 6-digit level, resulting in a database covering 1,480,853 country-year-products (also including non-commodities). These were then reduced and aggregated to the twelve potentially bannable commodities studied explicitly in this paper. For example, the commodity “raw timber” is the compound of the HS-six-digit-level categories raw coniferous logs, raw non-coniferous logs, raw tropical logs, as well as some other sub-products.

The key dependent variable of the study is whether a government has *introduced* an export ban in a given year.[5] 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 & Rød, 2006; Schulz, 2015; Thomson, 2018).[6] 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 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 the hypothesis that higher export taxes behave similar to export bans, while 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

[5] 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).

[6] 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'.

presence or absence (compare the Appendix for an overview of the frequency of each variable across commodities and the dataset in full).

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[7] (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 rigor of the study and the substantial implications that can be drawn from it.

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-year-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 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, it is arguably the best solution in this context of limited data availability.

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.[8] Together with production output numbers for these

[7] Note that cases where bans were clearly not imposed for processing promotion reasons, these were excluded. 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.

[8] Key sources for country-commodity-specific labor 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.

country-commodity-years, for each a ratio of the labor 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[9] produced 178,546 tons of cashews. Thus, one ton of cashew is produced by 1.93 farm operators on average in Tanzania in 2014. 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 Online Appendix 5 for all 86 country-commodity-years that I could find labor data on.

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.[10] 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.[11]

Finally, these calculated country-commodity labor 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

[10] Commodity output data was primarily sourced from the FAO (2018), the British Geological Survey (2017), and the UN Comstrade database DESA/UNSD (2019). Both output and imputed labor 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).

[11] 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 Online Appendix 6.

no difference to the results which operationalization is used. For a summary of population shares by commodity please see the Appendix below.

Control Variables

Further, a total of 12 control variables are included in all subsequent analyses. First, to test whether the assumed relation between export ban propensity and population share is independent of regime type, I include Marshall et al.'s (2017) Polity2 scores, running from -10 (autocratic) to 10 (democratic). Depending on the model, the Polity2 variable is included by itself, or in interaction with the population share variable. In the latter, the variable is tested both as a continuous variable as well as a dummy, with cut-off points at scores of 5 and 6 respectively.

Second, economist might hypothesize that governments are more likely to restrict exports of commodities with low export shares (where short- to mid-term losses in foreign exchange and revenue would not be as severe) and high global market power (where a restriction could lead to a price increase rather than price fall for domestic producers). Accordingly, using export value data from the Economic Complexity Observatory (Simoes & Hidalgo, 2011) and trade volume and weight data (observed by importers) from the UN Comtrade database (2019), I create both country-commodity-year-specific export share and market power variables. African governments in a fear of 'killing the goose that lays the golden eggs' might avoid banning the export of commodities where factors invested intro producing a commodity are more mobile. I include a simple categorical variable, partly building on McMillan's (2001) 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'.

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. Similarly, the level

of economic development of a country might affect governments' ability and motivation to promote processing. Accounting for this, 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 share of total GDP.

Table 3: Summary Statistics for All Variables Included in the Main Regression Analyses

VARIABLES	N	Mean	SD	Min	Max
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
Conflict	7,697	0.167	0.373	0	1

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, three variables are also included as controls in each regression. 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 = center; 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'.

To accommodate findings that commodities predominantly produced in the ruling ethnicity's home region might be more (Kasara, 2007) or less restricted (R. Bates & Block, 2009) I build an ethnic affiliation variable. 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". To measure which ethnicity dominates the executive, I rely on the geo-referenced Ethnic Power Relationship (Vogt et al., 2014; Wucherpfennig, Weidmann, Girardin, Cederman, & Wimmer, 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. Mapped and geo-coded information on where commodities were predominantly produced in a country was taken from different sources (Eros & Candelario-Quintana, 2006; HarvestChoice, 2016; Rabany, Rullier, & Ricau, 2015; Taylor et al., 2009; van Velthuizen, 2007).

Finally, violent conflict might both affect the share of the population producing a commodity and the likelihood of a government imposing export restrictions. Using the UCDP/PRIO Armed Conflict Dataset (Gleditsch, Wallensteen, Eriksson, Sollenberg, & Strand, 2002), I code a conflict dummy lagged by one year which is '1' in country-years facing at least 25 battle-related deaths in a state-based conflict, and '0' otherwise.[12] Concluding, Table 3 presents summary statistics for all variables included in the analysis.

[12] The findings are robust to various specifications of conflict, including focusing only on the number of protests and riots in a year using ACLED conflict data Raleigh, Linke, Hegre, and Karlsen (2010). Results can be replicated using the Do-File found in the Online Appendix under 'Online Appendix 8'.

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 structure of the data, I run different types of logit 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 by one year (as well as two and five years in the robustness checks to counteract potential reversed causality); z_{cit-1} are country-commodity-year specific control variables (where adequate lagged by one year); z_{ct} are country-year specific control variables; and e_{cit} is country-commodity-year-specific error term.

Second, for my main models I run a more complex within-between random effects model, building on the work of Allison (2009), Rabe-Hesketh and Skrondal (2011, p. 153), and Bell, Fairbrother, and Jones (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 using this approach rather than more classical fixed effects models. 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) 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 (N. Beck & Katz, 2001). 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: 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 the 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 the outcome is now the ordinal export tax & ban variable (with the 'no tax' category serving as excluded base category).

V. Empirical Analysis

Based on the research design and data described in the previous section, this section presents the results of the large-N analysis. Whereas the first part presents the main regression results, the robustness thereof is tested with a range of additional checks in the second part.

Main Regression Results

First, to analyze whether there is a bivariate relationship between a commodity's population share and the propensity of facing an export ban, Model 1 in Table 4 includes only these two variables. And indeed, as hypothesized, 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 12 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 percentage points. This result contrasts strongly with the complete lack of significance of all but two of the control variables. Apart from the industry share of GDP, 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 paper's theoretical 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. 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)			-1.65**	
			(0.78)	
Population Share (Within)			-0.05	
			(0.82)	
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		1.04***	1.03***	2.60
		(0.27)	(0.32)	(2.15)
Industry (% of GDP)		0.04***		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		-0.31		
		(0.31)		
Executive Match		-0.59		0.62
		(0.94)		(1.18)
Polity2		-0.06		-0.14
		(0.04)		(0.15)
Conflict		-0.33		0.27
		(0.35)		(0.62)
Constant	-6.51***	-7.61***	-8.42***	-12.75*
	(1.17)	(1.45)	(1.85)	(6.66)
CountID:			-0.85	
sd(_cons)			(0.71)	
ComID:			-13.89	
sd(_cons)			(929073)	
lnsig2u				-1.43
sigma_u				(6.48)
Observations	3170	2169	2169	1337
Pseudo R^2	0.072	0.170		

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 control variables in Model 3 can be found in Model 18 in Online Appendix 3.

Figure 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% of the population.

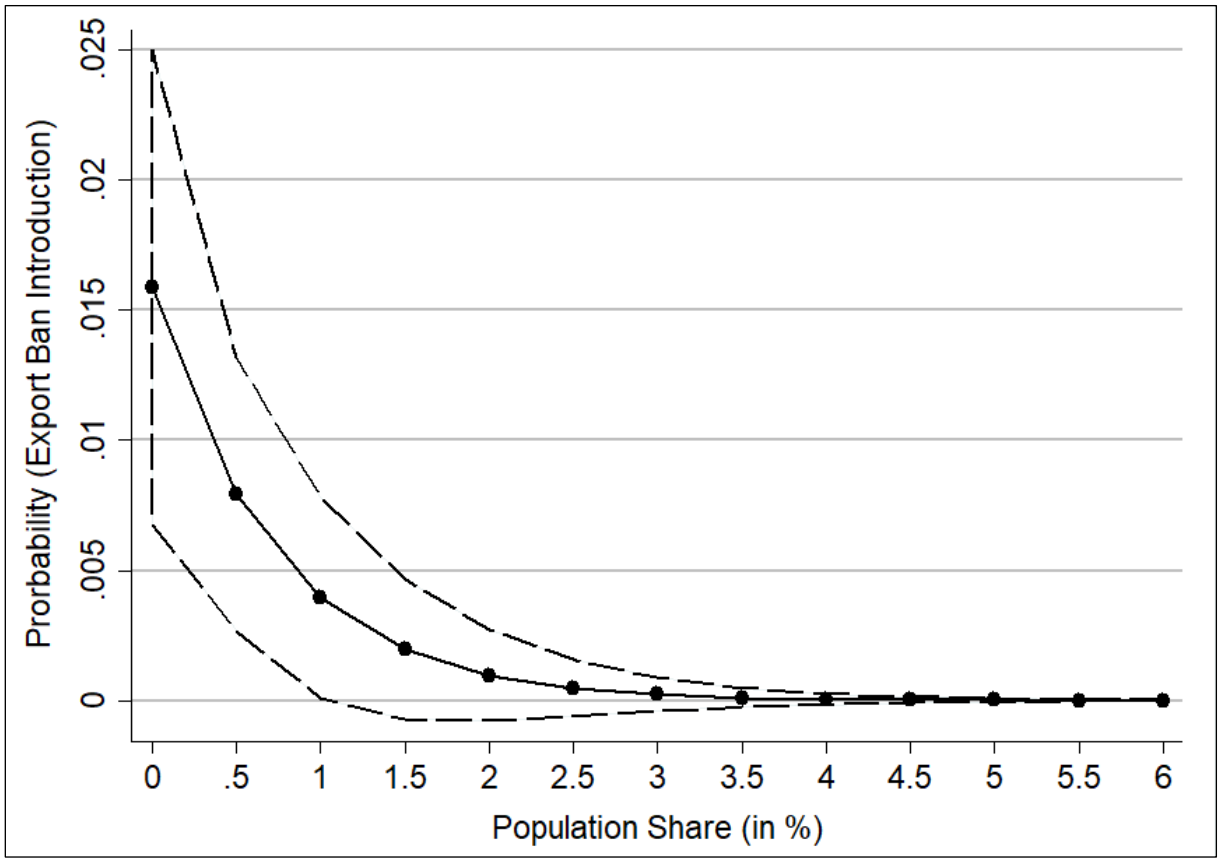

Figure 2. Predictive Margins of Population Shares on Export Bans, 1988-2017

Source: Own illustration.

Table 5. 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*	-3.43***
	(0.10)	(0.16)	(1.26)	(1.26)
Export Share	0.00	0.02	0.05*	-0.12
	(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	0.04	-0.01
	(0.03)	(0.03)	(0.03)	(0.03)
Factor Mobility	-0.09	0.15	0.89*	2.11***
	(0.28)	(0.44)	(0.49)	(0.50)
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)	-0.08**	-0.03	-0.06	-0.04
	(0.04)	(0.05)	(0.05)	(0.03)
Ideology	-1.09**	0.99**	-0.53	-0.19
	(0.48)	(0.43)	(0.54)	(0.51)
Executive Match	0.49	0.53	-0.35	-0.80
	(0.53)	(0.73)	(0.94)	(0.66)
Polity2	-0.03	0.05	-0.04	0.01
	(0.05)	(0.07)	(0.08)	(0.04)
Conflict	0.94*	0.85	-2.71**	0.76*
	(0.48)	(0.63)	(1.12)	(0.39)
Constant	-0.31	-5.62***	-1.48	-5.04***
	(1.14)	(0.97)	(1.02)	(1.55)
Observations	2244			
Pseudo R^2	0.190			

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.

The most adequate model, the multilevel within-between RE model, provides strong evidence in favor of the papers core hypothesis 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 less than twenty years that the data covers for most variables. Accordingly, and in line with the cross-commodity patterns outlined in Table 1, 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 80.8 percentage points lower for a commodity that is produced by a one percent larger share of the population than that of another commodity.

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 and significant at the 10%-level of significance.

Thus far, the empirical findings strongly support the core argument of the paper: African governments are less likely to impose export bans on commodities produced by a larger share of their populations. The second part of the paper's core hypothesis is that export bans and higher export taxes are imposed less on larger producer populations than low export taxes, because they are much more visible and attributable in their impact and more damaging to traders. More specifically, I hypothesized in Section Three 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 5 provides tentative evidence for this hypothesis. Holding all other variables constant, significant at the 10%-level of significance, a one

percentage point 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 percentage points. 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 export taxes, however, are significantly less likely to be imposed on large producer groups. This provides tentative evidence that high export taxes indeed behave similar to export bans: they are too visible, severe, and thus risky to be imposed on large producer groups.

Robustness Checks

The findings thus far are strongly consistent with the core hypothesis of the paper. 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, Online Appendices 1 to 4 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 Online Appendix 1 and 2) 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 Online Appendix 3 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. Although the author is not aware of any such cases, reversed causality might remain a concern if producers had perceived the risk of a ban even longer than five years before its actual implementation, and as a consequence divested from it (leading to a lower population share variable). Unfortunately, it is difficult to control for this possibility.

The possibility also remains that the findings in Table 4 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 23 in Online Appendix 4 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. 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 Online Appendix 4, Models 24 and 25.

Section Two forwarded the argument 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 Online Appendix 7) of all country-commodity-years in which either situation was a case, and excluded them from the regression in Model 22, presented in Online Appendix 3. Critically, the negative association between the population share and export introduction propensity remains robust at the 5%-level of significance.

Section Two 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 Online Appendix 3, 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 check in Model 26 in Online Appendix 4, whether the assumed relation between export bans and population shares is different in small countries. The logic is that in small countries only a few groups have enough capital to invest in processing – traders being one of

them. If traders are interested in processing, they might be less opposed to a ban and less likely to help mobilize producers. If true, the assumed negative association between export ban introductions and population shares should be lower in small countries than larger ones.[13] Interacting the population share variable with a dummy that is coded '1' if the country has less than five million inhabitants and '0' if more, we find support for this hypothesis. Significant at the 1%-level, in large countries a one percentage point increase leads to an 81 percentage point *decrease* in the odds of an export ban introduction, whereas the same increase in small countries leads to a 7.2 percentage point *increas*e in the odds of an export ban introduction. Thus, it could indeed be that in smaller countries traders are more likely to be processors and hence less likely to push against a ban and mobilize producers, providing further empirical support for the argument that traders play an important role in mobilizing producers.

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

[13] I want to thank the anonymous reviewer who suggested this argument.

VI. Conclusion

This paper set out to answer the question why African governments introduce export bans on some bannable commodities but not others. It advanced the hypothesis that governments fear imposing export bans (and high export taxes) 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 percentage points. The same holds true for high export taxes, however to a lesser degree. 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.

Concluding, the paper's 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 of the policy affecting them. Four suggestions and implications for future research can be drawn from these findings. First, further efforts must be made to understand how and when the character of policies affects whether and how they are implemented. Recent arguments made in relation to the importance of policy attributability, severity, and cross-group defense coalitions could and should equally be tested in other policy areas and geographical contexts. Second, opposing classical hypotheses

associated with the study of urban biased policies in the developing world, this paper provides evidence that large peasant populations appear to constitute a relevant threat to governments under certain circumstances, even in autocracies. Future research should invest more time in understanding these circumstances and to what extent they apply to contexts outside of commodity production. Relating more specifically to the further study of export restriction policy, future research will have to test the study's arguments external validity in other parts of the world, but also embrace more granular approaches. Arguably, 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.

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Appendix

Summary Statistics by Commodity

		Categorical Export Restriction Variable					
	Export Ban Introd.	***1. No Tax or Ban Present***	***2. Low Export Tax Present***	***3. Medium 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 & Scrap	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.

Online Appendix

Online Appendix 1: Exclusion of Commodities I

	(6) **No Cashew**	(7) **No Chromite**	(8) **No Cocoa**	(9) **No Cotton**	(10) **No Diamonds**	(11) **No Hides & Skins**
Population	-1.65**	-2.11**	-1.77**	-1.85**	-1.46*	-1.60**
Share (Between)	(0.81)	(0.94)	(0.83)	(0.88)	(0.75)	(0.80)
Population	-0.09	0.16	-0.11	-0.08	0.00	0.02
Share (Within)	(0.85)	(0.79)	(0.87)	(0.88)	(0.86)	(0.78)
Ethnicity	-1.31	-1.26	-1.30	-1.14	-0.74	-1.11
(Between)	(1.13)	(1.12)	(1.11)	(1.12)	(1.16)	(1.15)
Ethnicity	-2.02	-2.01	-2.63	-3.28*	-2.46	-2.52
(Within)	(2.05)	(1.80)	(1.87)	(1.94)	(1.80)	(1.83)
Factor Mobility	1.26***	1.15***	1.03***	1.10***	1.13***	1.12***
	(0.37)	(0.33)	(0.37)	(0.32)	(0.32)	(0.39)
Polity2	-0.07	-0.04	-0.06	-0.06	-0.07	-0.04
(Between)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)
Polity2 (Within)	-0.05	-0.07	-0.06	0.00	-0.07	-0.06
	(0.07)	(0.07)	(0.07)	(0.08)	(0.07)	(0.07)
Proc.-Raw Exp.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Ratio (Between)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Proc.-Raw Exp.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Ratio (Within)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Export Share	-0.12	-0.27*	-0.11	-0.10	-0.11	-0.13
(Between)	(0.13)	(0.16)	(0.12)	(0.12)	(0.13)	(0.14)
Export Share	0.14	0.13	0.13	0.14	0.14	0.17*
(Within)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Market Power	0.04	0.24**	0.03	0.03	0.03	0.03
(Between)	(0.05)	(0.10)	(0.05)	(0.06)	(0.05)	(0.06)
Market Power	-0.11	-0.10	-0.10	-0.12	-0.10	-0.11
(Within)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.11)
Tariff	0.01	0.05	0.00	0.02	0.01	0.01
Escalation	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)
(Between)						
Tariff	0.01	0.01	0.02	0.03	0.02	0.03
Escalation	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)
(Within)						
Industry (% of	0.03	0.02	0.03	0.03	0.03	0.03
GDP)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
(Between)						
Industry (% of	0.07*	0.08*	0.08*	0.08*	0.09*	0.09**
GDP) (Within)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)

GDP p.c.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
(Between)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
GDP p.c.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
(Within)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ODA (% of	0.06	0.05	0.05	0.05	0.06	0.05
GNI) (Between)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ODA (% of	0.02	0.01	0.02	0.02	0.02	0.04
GNI) (Within)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Ideology	-0.76*	-0.55	-0.68	-0.69	-0.57	-0.76*
(Between)	(0.45)	(0.46)	(0.45)	(0.45)	(0.49)	(0.46)
Ideology	0.87	0.84	0.90	0.96	1.11	1.13
(Within)	(0.83)	(0.84)	(0.82)	(0.84)	(0.88)	(0.87)
Conflict	-0.01	0.11	0.02	0.10	-0.10	-0.38
(Between)	(0.77)	(0.82)	(0.78)	(0.79)	(0.88)	(0.78)
Conflict	-0.65	-0.75	-0.67	-0.90	-0.66	-0.72
(Within)	(0.60)	(0.60)	(0.60)	(0.62)	(0.59)	(0.65)
Constant	-8.51***	-8.40***	-8.23***	-8.29***	-8.92***	-8.67***
	(1.86)	(1.87)	(1.86)	(1.84)	(1.94)	(1.92)
CountID:	-1.16	-0.91	-1.11	-1.07	-0.59	-13.20
sd(_cons)	(1.21)	(0.83)	(1.14)	(1.08)	(0.52)	(752663)
ComID:	-12.59	-17.89	-16.68	-13.16	-9.60	-15.50
sd(_cons)	(274582)	(67272525)	(12793491)	(376381)	(29197)	(3159513)
Observations	2015	2131	2040	1887	2091	1879

* p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions. Model (3) in Table 4 serves as basis for all models.

Online Appendix 2: 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	-2.07**	-1.67**	-1.54*	-1.62**	-1.75**	-2.00*
(Between)	(0.98)	(0.79)	(0.78)	(0.76)	(0.84)	(1.14)
Population Share	-0.69	-0.16	0.04	-0.05	0.01	0.54
(Within)	(1.42)	(0.85)	(1.00)	(0.81)	(0.83)	(0.86)
Ethnicity	-1.80	-0.84	-1.21	-1.30	-1.63	-6.53
(Between)	(1.23)	(1.16)	(1.11)	(1.12)	(1.12)	(13.92)
Ethnicity	-3.35*	-2.48	-2.72	-2.60	-2.02	-5.17
(Within)	(2.04)	(2.04)	(1.84)	(1.87)	(1.77)	(14.06)
Factor Mobility	0.97***	1.14***	1.04***	0.88***	0.99***	0.71**
	(0.35)	(0.34)	(0.31)	(0.33)	(0.32)	(0.36)
Polity2	-0.01	-0.07	-0.05	-0.05	-0.03	-0.07
(Between)	(0.08)	(0.07)	(0.06)	(0.06)	(0.06)	(0.08)
Polity2 (Within)	-0.06	-0.07	-0.04	-0.07	-0.06	-0.10
	(0.09)	(0.08)	(0.07)	(0.07)	(0.07)	(0.09)
Proc.-Raw Exp.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Ratio (Between)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Proc.-Raw Exp.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Ratio (Within)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Export Share	-0.04	-0.18	-0.14	-0.12	-0.10	-0.49
(Between)	(0.12)	(0.14)	(0.13)	(0.13)	(0.12)	(0.30)
Export Share	0.13	0.16*	0.13	0.14	0.11	0.12
(Within)	(0.11)	(0.09)	(0.09)	(0.09)	(0.09)	(0.20)
Market Power	0.06	0.03	0.04	0.04	0.03	0.05
(Between)	(0.07)	(0.05)	(0.05)	(0.05)	(0.05)	(0.14)
Market Power	-0.06	-0.08	-0.09	-0.10	-0.09	-0.29
(Within)	(0.12)	(0.10)	(0.09)	(0.10)	(0.10)	(0.27)
Tariff Escalation	0.02	0.02	-0.03	-0.01	0.08	-0.01
(Between)	(0.07)	(0.06)	(0.07)	(0.06)	(0.10)	(0.07)
Tariff Escalation	0.01	0.02	0.01	0.03	0.02	0.03
(Within)	(0.05)	(0.04)	(0.05)	(0.04)	(0.06)	(0.03)
Industry (% of	0.05	0.04	0.03	0.04	0.04	0.03
GDP) (Between)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.04)
Industry (% of	0.11*	0.06	0.07	0.07	0.07*	-0.00
GDP) (Within)	(0.06)	(0.05)	(0.04)	(0.04)	(0.04)	(0.06)
GDP p.c.	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00*
(Between)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
GDP p.c.	-0.00**	-0.00	-0.00	-0.00	-0.00	0.00
(Within)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ODA (% of GNI)	0.10**	0.08*	0.04	0.06	0.04	-0.02
(Between)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.06)

ODA (% of GNI)	0.02	0.01	0.02	0.02	0.02	-0.03
(Within)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.07)
Ideology	-1.10**	-0.78	-0.68	-0.66	-0.77*	-0.21
(Between)	(0.55)	(0.51)	(0.43)	(0.46)	(0.44)	(0.63)
Ideology	1.24	1.11	0.94	0.95	0.93	0.69
(Within)	(1.19)	(0.92)	(0.80)	(0.84)	(0.77)	(1.03)
Conflict	-0.98	0.14	0.01	-0.00	-0.13	0.47
(Between)	(1.02)	(0.91)	(0.74)	(0.82)	(0.69)	(1.09)
Conflict (Within)	0.20	-0.52	-0.67	-0.65	-0.61	-1.26
	(0.72)	(0.60)	(0.60)	(0.59)	(0.61)	(0.78)
Constant	-7.32***	-8.68***	-8.08***	-8.24***	-9.74***	-7.51***
	(2.12)	(1.98)	(1.84)	(1.86)	(2.18)	(2.47)
CountID:	-0.66	-0.52	-1.45	-0.83	-8.50	-0.52
sd(_cons)	(0.72)	(0.49)	(2.06)	(0.68)	(11018)	(0.60)
ComID:	-13.00	-13.20	-13.13	-13.12	-15.53	-13.12
sd(_cons)	(648040)	(626751)	(326427)	(408201)	(4117564)	(461668)
Observations	1856	2078	2004	1996	1914	1968

* p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions. Model (3) in Table 4 serves as basis for all models.

Online Appendix 3: Full Model 2, Additional Lags, State Control Exclusion and Low Production Exclusion

	(18) **Full Model 2**	(19) **Lag 2 Years**	(20) **Lag 5 Years**	(21) **Excl. State Controlled**	(22) **Excl. Low Production**
Population Share (Between)	-1.65**			-1.54**	-1.61*
	(0.78)			(0.76)	(0.84)
Population Share (Within)	-0.05			-0.15	-0.08
	(0.82)			(0.86)	(1.01)
Population Share2 (Between)		-1.74**			
		(0.78)			
Population Share2 (Within)		0.50			
		(0.74)			
Population Share5 (Between)			-1.31**		
			(0.60)		
Population Share5 (Within)			-1.82**		
			(0.76)		
Ethnicity (Between)	-1.32	-1.30	-1.38	-1.41	-7.16
	(1.12)	(1.11)	(1.14)	(1.12)	(13.47)
Ethnicity (Within)	-2.57	-2.61	-2.40	-2.35	-5.06
	(1.86)	(1.86)	(1.88)	(1.84)	(13.88)
Factor Mobility	1.03***	1.04***	1.12***	1.06***	1.00***
	(0.32)	(0.32)	(0.32)	(0.32)	(0.36)
Polity2 (Between)	-0.05	-0.05	-0.06	-0.04	-0.10
	(0.06)	(0.06)	(0.07)	(0.06)	(0.08)
Polity2 (Within)	-0.06	-0.07	-0.07	-0.07	-0.03
	(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	-0.15	-0.12	-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)	(0.06)	(0.05)	(0.06)
Market Power (Within)	-0.10	-0.10	-0.11	-0.10	-0.11
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Tariff Escalation (Between)	0.00	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	0.03	0.03	0.04
	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)

Industry (% of GDP)	0.04	0.04	0.03	0.04	0.03
(Between)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Industry (% of GDP)	0.07*	0.08*	0.08	0.08*	0.09
(Within)	(0.04)	(0.05)	(0.05)	(0.04)	(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)
GDP p.c. (Within)	-0.00	-0.00	-0.00	-0.00	-0.00
	(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 (Between)	-0.70	-0.75	-0.69	-0.74	-0.90
	(0.46)	(0.46)	(0.48)	(0.46)	(0.55)
Ideology (Within)	0.97	1.04	0.93	1.02	0.95
	(0.84)	(0.84)	(0.87)	(0.84)	(1.00)
Conflict (Between)	-0.04	-0.07	0.06	-0.06	0.09
	(0.82)	(0.81)	(0.88)	(0.83)	(1.09)
Conflict (Within)	-0.65	-0.68	-0.62	-0.68	-0.45
	(0.59)	(0.60)	(0.59)	(0.59)	(0.68)
Constant	-8.42***	-8.3***	-8.50***	-8.36***	-8.10***
	(1.85)	(1.83)	(1.87)	(1.86)	(2.35)
CountID:	-0.85	-0.85	-0.61	-0.78	-0.42
sd(_cons)	(0.71)	(0.71)	(0.52)	(0.65)	(0.66)
ComID:	-13.89	-10.60	-12.88	-10.21	-14.51
sd(_cons)	(929073)	(38067)	(444438)	(24818)	(2282991)
Observations	2169	2156	2107	2092	1763

* p < 0.10, ** p < 0.05, *** p < 0.01. Polynomials are included in all regressions. Model (3) in Table 4 serves as basis for all models.

Online Appendix 4: The Democracy and Small Country Interactions

	(23) **Polity2(6) Interaction**	(24) **Polity2(5) Interaction**	(25) **Polity2(Cont.) Interaction**	(26) **Small Count. Interaction**
Population Share	-1.46***	-1.41***	-1.55***	-1.78***
	(0.53)	(0.52)	(0.55)	(0.68)
polity2dum6	-0.19			
	(0.44)			
polity2dum6 *	0.16			
Population Share	(1.17)			
polity2dum5		-0.62		
		(0.43)		
polity2dum5 *		-0.04		
Population Share		(1.25)		
Polity2			-0.07	
			(0.05)	
Polity2 * Population			0.07	
Share			(0.13)	
smallcountry5				-2.65***
				(0.81)
smallcountry *				1.85***
Population Share				(0.67)
Export Share	0.02	0.01	0.01	0.05
	(0.03)	(0.03)	(0.03)	(0.04)
Processed-Raw	-0.00	-0.00	-0.00	0.00*
Export Ratio	(0.00)	(0.00)	(0.00)	(0.00)
Market Power	-0.00	-0.00	-0.00	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Factor Mobility	1.04***	1.07***	1.04***	0.94***
	(0.27)	(0.28)	(0.27)	(0.27)
Industry (% of GDP)	0.04***	0.04***	0.04***	0.07***
	(0.01)	(0.01)	(0.01)	(0.02)
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	0.03
	(0.02)	(0.02)	(0.02)	(0.03)
ODA (% of GNI)	0.01	0.03	0.02	0.03
	(0.03)	(0.03)	(0.03)	(0.03)
Ideology	-0.29	-0.28	-0.31	-0.38
	(0.32)	(0.29)	(0.31)	(0.31)
Executive Match	-0.60	-0.57	-0.60	-0.76
	(0.90)	(0.96)	(0.94)	(0.86)
Conflict	-0.22	-0.35	-0.32	-0.09
	(0.37)	(0.36)	(0.35)	(0.37)
Constant	-7.75***	-7.75***	-7.64***	-9.41***
	(1.54)	(1.46)	(1.46)	(1.73)
Observations	2169	2169	2169	1914
Pseudo R^2	0.165	0.172	0.171	0.190

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. Based on Model (2) in Table 3.

Online Appendix 5: Overview of Commodity-Based Population Share Imputation Factors

Crop	Country	Year	Number of Raw Producers (,000)	Definition Used for Producers	Production (,000)	Production Unit	Country-Year Imputation Factor	Final Commodity 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		The United Republic of Tanzania (2012b)
Chromite	Zimbabwe	2011	3	Employment in Chrome Mining	599	tons	0.0048	**0.002**	Republic of Zimbabwe (2016)
	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		Minerals Council South Africa (2018)
		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		IDE-JETRO (2019)
Cocoa	Ghana	2008	800	Farms	729	tons	1.0974	**1.455**	ACET (2016)
	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**	The United Republic of Tanzania (2016)
	Tanzania (Shinyanga)	2008	233	Households	304		0.7660		The United Republic of

									Tanzania (2012a)
	Benin	2004	325	Farms	426		0.7625		Alston, Sumner, and Brunke (2007)
	Burkina Faso		200		535		0.3736		
	Chad		350		233		1.5021		
	Mali		200		590		0.3391		
	Côte d'Ivoire	2015	120	Farms (producteurs sur des exploitations de type familiales d'environ 3 hectares en moyenne)	378		0.3172		Conseil Coton y Anacarde (2015)
	Burkina Faso	2017	350	Farms	900		0.3887		UNPCB (2019)
	Uganda	1991	72	Holdings	27		2.7003		The Republic of Uganda (1993)
	Zambia	1990	46	Farm Holders	52		0.8781		Republic of Zambia (1994)
Diamond (ASM)	Central African Republic	2012	80	Artisanal and Small-Scale Miners involved in Diamond mining	366	carats	0.2186	**0.130**	USAID (2013)
	Democratic Republic of the Congo	2007	700		28452		0.0246		Long (2007)

	Ghana	1995	60		623		0.0964		World Bank (1995)
	Sierra Leone	2005	120		669		0.1794		Levin and Gberie (Diamond Industry Annual Review; 2006)
Diamond (LSM)	South Africa	2013	14	Average number of people in service	8168	carats	0.0017	**0.002**	Chamber of Mines of South Africa (2014)
	Namibia	2007	3	Employees of NAMDEB	2266		0.0013		NAMDEB (2008)
	Botswana	2004	7	Employees of Debswana (which accounts for 100% of Botswana Diamond Production)	24658		0.0003		DEBSWANA; DEBSWANA (2016, 2019)
	Lesotho	2012	2	Workers employed in Diamond mining sector	479		0.0042		CBL Economic Review (2012)
Diamond (Mixed)	Zimbabwe	2009	25	Both illegal and formal workers in the Marange Diamond fields	964	carats	0.0259	**0.015**	Rapaport (2009)

	Angola	2007	110	Both employees at large-scale mine sites (around 10,000) and another ca. 100,000 Artisanal)	9702		0.0113		Diamond Industry Annual Review (2007)
	Tanzania	2017	2	Employees at Williamson Mine and Artisanal miners	253		0.0079		Interviews with Tanzania Mining Commission (2017)
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**	Tutwa Consulting Group (2017)
Raw Hides and Skins	Tanzania	2013	3	Raw Hides and Skins Collectors[14]	79	tons	0.0318	**0.032**	Interviews with over 50 Leather Sector Stakeholders

[14] Raw hides and skins constitute less than 1% of the value of cattle, goats or sheep, which is why livestock keepers do not get any separated income from it, hence, have no share in it. The only actors negatively affected by an export restriction on Raw Hides and Skins are the hide collectors and traders. The number of 2,500 is a careful estimate provided by the Tanzanian Hides and Skins Collectors Association.

(Semi-) Precious Stones	Tanzania	2010	20	Employees in LSM and ASM	43000	USD export value	0.465	**0.465**	Interviews with Tanzania Mining Commission (2017)
Sesame	Tanzania Mainland	2015	760	Farm Operator	149	tons	5.0999	**3.965**	The United Republic of Tanzania (2016)
	Ethiopia	2015	867	Holders	289		3.0036		The Federal Democratic Republic of Ethiopia (2015)
	Uganda	2008	322	Households	85		3.7919		Republic of Uganda (2010)
Tea	Tanzania Mainland	2015	9	Farm Operator	92	tons	0.0993	**1.259**	The United Republic of Tanzania (2016)

	Uganda	2010	62	Farmers (and plantation employees)	50		1.2400		Erza, Lakuma, and Guloba (2014)
	Rwanda	2008	23	Households	9		2.4129		Republic of Rwanda (2010)
	Burundi	2018	60	Farmers (and plantation employees)	53		1.1385		Carr (2018)
	Kenya	2016	660	Farmers (and plantation employees)	470		1.4043		FMO (2019); Monroy L., Mulinge W., Witwer M. (2013); Finlays (2019)
Tobacco	Tanzania Mainland	2015	75	Farm Operator	77	tons	0.9757	**1.878**	The United Republic of Tanzania (2016)
	Malawi	1995	157	Growers	129		1.2133		Jacobs, Gale, Capehart, Zhang, and Jha (2000)
	Zambia	2000	57	Tobacco Growing Household	10		5.9478		ILO (2014)

	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**	FAO (2014)
	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

Online Appendix 6: 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 labor 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.

Online Appendix 7: 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; IDE-JETRO, 2019; Rabenasolo, 2019; USGS, 2015)
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 percent 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, Croppenstedt, & Aggrey-Fynn, 2007; Kolavalli & Vigneri, 2011; Kolavalli, Vigneri, Maamah, & Poku, 2012)
	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.	Pre-1992, state-controlled. 1992-1995 partly privatized; from 1996: mostly state controlled	(Bermúdez-Lugo, 2018; Coakley, 1995a)

		After 1995, PMMC again became the only legal buyer of Ghanaian diamonds.		
	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 & 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 cotton and the monopoly on ginning it to lint. The sector was privatized and liberalized in 1994.	Until 1993
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	1971-2010	(FAO, 2016)

	processing factory (PROTHEM) opened in the country, breaking OTB's de facto monopoly.		
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 economic liberalization policies of the new regime of President Frederick Chiluba and has been under different ownerships since.	1969-1995	(CAADP, 2013; UNCTAD, 2011)
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)