The Role of Government: 
Promoting FDI Spillover in Mozambique

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Acknowledgement

This report is dedicated to the Mozambican business owners, and many like them across Sub-Saharan Africa, who are the motors of economic progress. Belief in their success motivates this policy analysis and dialogue for policy change.

I am indebted to Jie Bai, my advisor and Assistant Professor of Public Policy at the Harvard Kennedy School. This report is a product of her brilliance and encouragement. I thank her for developing my thinking on the tools of problem diagnosis, and building my assurance of my own role in the development space.

I would also like to thank Michael Walton, my SYPA section leader, for his steadfast support and excellent feedback throughout the process. It has brought me a lot of comfort knowing that I have an ally, coach, and motivator at pivotal moments.

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Additional thank you goes to my professors at HKS whose teaching have influenced this report, including: Dani Rodrik, Asim Khwaja, Gabriel Kreindler, Maciej Kotowski, Ricardo Hausmann, Matt Andrews, Kessely Hong, Dan Levy, Jeffrey Frankel. I thank Francisco Campos at the World Bank in Maputo, and Patricio Goldstein at the Harvard Center for International Development, for providing valuable data access.

Finally, I thank my parents for giving me the development story that I hope for many. I bring their sacrifice into my work and a lifetime dedicated to improving economic opportunity for others.

Photo credit: World Bank Group
Executive Summary

Mozambique sits at an economic crossroad, facing Foreign Direct Investment (FDI) at unprecedented scale and pace. A phenomenon prominent in literature is FDI’s spillover effect onto domestic industries. Through direct and indirect interactions with foreign companies, local firms may see improved productivity outcomes. The context of externality further provides a motivation for the government to intervene to promote greater spillover.

This report provides the first empirical investigation into the existence of FDI spillover in Mozambique. I show using business census and manufacturing panel survey that being a direct supplier to foreign customers improves domestic firms’ performance in terms of productivity per worker and likelihood of using new technology. However, I also show the spillover does not generalize to broader economy (i.e. firms within geographic and sectorial proximity).

The report deconstructs the government’s leading policy proposal, Local Content Bill, to show its inefficiency in promoting direct spillover. I analyze the government’s stated vs. true objective function, and use a mapping technique of stakeholder interests to substantiate the claim that local content is politically captured by the ruling elites for private gains.

Through empirics and interviews, I show that the leading proposal misses the underlying binding constraint in local capabilities. Foreign firms appear willing to hire locally without being required by local content regulation. Instead, they face headwinds in securing adequate competencies locally. Weak domestic capabilities contribute to lack of generalized spillovers.

Therefore, the report turns to analyze policy changes that address the capabilities gap to enable spillover opportunities. I caution against “first best” solutions that lack political supportability. Using a game theoretic model, I unpack the incentive mismatch in a “second best” world; and recommend establishing a third-party “business collective”, with government oversight, as a means to create policy space for the provision of training services.

The report is organized as follows: Chapter 1 presents the policy motivation, followed by the conceptual framework in Chapter 2. Chapter 3 contains empirical analysis of spillover, followed by Chapter 4 in identifying inefficiencies in Local Content Bill as policy. Chapter 5 explores the capabilities gap. Chapter 6 concludes with policy alternatives.
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Chapter 1: Problem Motivation

Chapter Summary

This chapter presents the policy motivation for studying spillover effects of FDI in Mozambique. I describe FDI’s unprecedented scope for impact on the economy, and the associated risks. Very little is known in terms of the existence of spillover in Mozambique, nor the appropriateness of local content as a policy tool for generating more spillover.

In developing countries, FDI has shown promise in bringing spillover into the general economy. There is a rich set of literature on the benefits of foreign direct investment (FDI) to domestic firm productivity (Gorodnichenko, Svejnar et al. 2014, Jordaan, Douw et al. 2020). Cross-country, firm-level empirical data have consistently shown the existence of externalities via knowledge and technology transmission into domestic industries (Newman, Page et al. 2020). Given the influence firm productivity, coupled with an accumulation of know-how, has on growth in developing countries, the role of FDI spillover has taken increasing importance for national development (Abdychev, Jirasavetakul et al. 2015, Hausmann 2016).

FDI is a big policy issue for Mozambique due to its unprecedented scale and pace. Foreign investments in Mozambique’s natural resource sectors (gas, coal, minerals) contribute to half of GDP growth, with expectation to double GDP in next ten years. The investment boom began 2002 with the exportation of minerals. It expanded rapidly after the discovery of liquefied natural gas (LNG) in 2011. LNG planned investments are expected to reach US$ 60 billion over project lifespan – 4 times the size of current GDP (World Bank 2020). At the same time, the resource boom has served as a catalyst to attract significant investment in non-resource sectors (Toews and Vezina 2017).

Figure [1.1]. Government anticipates massive expansion to domestic spending from Natural Gas, erasing debt burden¹.

¹ Left-side: World Bank Private Sector Diagnostics (forthcoming); right-side: IMF 2019 Debt Sustainability Report
No empirical studies exist on the extent of spillover effect on firm outcomes in Mozambique – general sentiment is pessimistic. Expert interviews offer very limited insights into the existence of FDI spillover, citing narrow employment base and a mismatch between foreign investment and domestic skills. There is no dedicated review of spillover evidence for Mozambique to date. The most promising and only empirical work specific to Mozambique suggests than every FDI job in turn supplies 5 more jobs – but stops short of addressing productivity impact, job quality, or transmission channel (Toews and Vezina 2017).

There is a real concern that Mozambique falls into the trap of a Resource Curse, where growth declines despite the inflow of investment revenue. Total Factor Productivity (TFP) growth in Mozambique has declined versus peer countries, as FDI grows and dominates contribution to GDP growth since the onset of resource boom in 2002. Poor history of fiscal management – marred with “hidden debt” crisis, pro-cyclical spending, inflating wage bill – elevates risks of poor outcome from resource rents. Finally, incoming capital may crowd out non-resource tradable sectors (e.g. manufacturing and exporting agriculture) and lead to real appreciation, creating additional headwinds to economic growth. The impact on agriculture trade may be severe given its large employment base (World Bank 2020).

Figure [1.2]. Growth in Mozambique’s Total Factor Productivity (TFP) over Time

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2 Own calculations using World Bank data. Peer countries selected based on similarity in economic composition, geography, culture, and standards in literature. Submitted as group work from DEV-309 (Development Policy Strategy)
For recourse, the government is drafting a new local content (LC) bill to promote spillover. The bill seeks to require foreign firms to give preference to domestic suppliers to provide goods and services. The Ministry of Economy and Finance, supported by the Office of the President, has put local content development as a national priority. A draft local content bill – targeting all sectors – was released in 2019. It is still under discussion within the government, business, and international community.

However, there lacks a clear path forward for the LC bill. The bill has run into challenges from the investor and international community opposing government intervention – citing detrimental impact of regulation on investment promotion, poor accountability, among others (Tordo, Warner et al. 2013). There also lacks technical evidence in support of local content as an appropriate solution, as well as a political and administrative review of the government’s capability to implement such a bill.

This report, therefore, seeks to:

i) Empirically investigate the extent of spillover since the introduction of FDI. The conclusion seeks to understand the magnitude, under what condition and form, spillovers have existed.
ii) Deconstruct the leading policy proposal against the targeted goal of promoting spillover. I will provide a legal review of local content, investigate the gaps between theory and reality. Particular attention is paid to the dynamics between stakeholders – their internal and external interests – and the implication for local content policy.

iii) Offer policy changes to bridge reality gaps while mindful of political economy constraints. Given its visibility on the government agenda, I will focus my analysis on local content policy, and propose paths forward for addressing barriers for achieving desired policy outcome.

This report will be the first case to empirically evaluate the existence of FDI spillover in Mozambique. By applying a technical and political lens to the state of local content policy in Mozambique, the report presents a set of evidence-based policy suggestions that is aggressive in vision and practical in consideration of governance constraints. I hope this research adds to the broader literature on the role of government intervention in private markets for the promotion of economic development.
Chapter 2: Conceptual Framework

Chapter Summary

In this chapter I construct a conceptual framework guiding the transmission of spillovers from FDI. Drawing from literature, I define the definition of spillover, introduce the major channels of spillover, and define the role of government. I also review the economic composition of Mozambique to demonstrate spillover potential in the Mozambican context.

Defining the Target

Literature on FDI spillovers typically measure impact in terms of productivity of local domestic firms. The association may be done via inference of the intensity of FDI presence in a sector or geography, and the linked productivity of domestic firms. Productivity is often measured by TFP, see example in Ethiopia (Abebe, McMillan et al. 2017). However recent research has incorporated product-specific quality measures (Bai, Barwick et al. 2020); additional mixed-methods research explores direct knowledge transfer by identifying specific foreign-domestic linkages (Newman, Page et al. 2020). Research by Ricardo Hausmann measures outcome in terms of know-how accumulation, whereby complexity and diversity of product space serve as appropriate targets to measure firm productivity (Hausmann 2016). More broadly, generalized measures of firm performance also exist, such as firm revenue, average skills-level. Additional targets include job creation, worker-level economic wellbeing (e.g. wages).

General Channels of Spillover

Horizontal spillover arises when domestic firms operating in the same sector as foreign firms improve. Literature attribute inter-firm labor mobility as a driver of knowledge transfer (Poole 2013). Imitation by domestic firms of foreign technology may also domestic technology. In addition, competition crowds out unproductive firms, increasing the efficiency of firms that survive (Newman, Page et al. 2020). However, evidence on the strength of horizontal spillover is mixed – as foreign firms have no incentive to share knowledge to domestic competitors.
**Backwards/upstream spillover has been well-documented in literature, affecting local suppliers.** A few factors may come to play: existence of direct knowledge transfer between foreign firms and domestic input suppliers, economies of scale for domestic suppliers due to increased demand, better incentives to improve quality due to requirements from downstream foreign firms (Smarzynska Javorcik 2004, Keller 2010). In addition, domestic competition among suppliers is reported as reason for technology upgrading (Newman, 2015). The Learning to Compete (L2C) project by UN-WIDER and AfDB found significant vertical spillover effects across 11 countries, highlighting the importance of firm-to-firm interaction for knowledge transfer and introduction of managerial practices.

**Forwards/downstream spillover has been less documented.** A possible channel may be that foreign firms provide increased quality inputs, thereby increasing the quality of downstream producers (Poole 2013). Though not directly a downstream player - in Bangladesh, local garment firms benefited from sharing the same local suppliers as foreign firms, expanding the influence of vertical spillover (Kee 2014).

**Figure [2.1]. Illustrated Channels of Spillover**

![Diagram of spillover channels](image.png)

**The Role of Government**

**Private firms do not fully internalize the benefits of spillover onto others due to the nature of externality.** Assuming firms are primarily motivated by desire to profit maximize, production decisions are made based on private benefits and costs. The added benefits to domestic productivity via industry linkages or competition do not affect foreign firm decisions.
Therefore, government can play an important role in promoting social benefit. The gap between private optimal outcome and social outcome creates an opportunity for governments to incentivize behavior that promotes positive externalities. The action, in theory, corrects a market inefficiency. In the context of FDI, facilitating spillover opportunities would enable domestic industries to capture productivity-enhancing know-how.

Spillover Potential in the Mozambican Context

Mozambique’s domestic industry is nascent – dwarfed in size by foreign investment. The Atlas of Economic Complexity by Ricardo Hausmann and the Enterprise Map of Mozambique by John Sutton provide industry-leading sources on the state of Mozambique’s economic composition. Both paint a non-diversified, largely stationary economy with exports fueled by commodity trade. See Technical Appendix I for the state of Mozambique’s Economic Complexity. Looking at the firm level, almost all of the capital stock in the formal economy is owned by foreign firms (see table below). The informal sector is large but relatively insignificant in terms of capital stock.

Figure [2.2]. Mozambique’s Census of Firms by Origin

However, the resource-led boom creates significant demand for supplier services and goods in the form of backwards linkages. Industry experts predict an unprecedented surge in domestic

---

3 Own analysis of national Firm Census data; CEMPRE 2015-2016
provision of upstream services to support the construction and operation of large-scale gas projects. A useful framework of gauging linkage potential is to consider the sectors that are high value to the economy, have a sizable base and holds transferrable skills. The figure below illustrates a sectoral breakdown of linkage potentials to FDI in Mozambique.

“You will need 10,000 eggs a day. Someone will have to provide the cleaning services, the building maintenance. There is a lot of potential for service providers.” – Local Content Representative, Major Gas Company

Figure [2.3]. Sectorial Potential for Linkages to FDI in the Resource Sector

Downstream linkages appear limited for the gas sector. One study of industries in Lithuania found no significant spillover benefits to downstream users of foreign firms. In Mozambique, local capabilities in downstream development constrain domestic use of natural gas. In the past, foreign investment in the sugar industry created opportunity for the beverage sector (Buur, Mondlane Tembe et al. 2012). However, much work is needed to build up the demand in the downstream (e.g., manufacturing) to take advantage of non-resource foreign inputs.

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4 Adapted from World Bank Private Sector Diagnostics, Mozambique (Forthcoming)
Chapter 3: Testing for Spillover Effects from FDI

Chapter Summary

This chapter empirically analyzes the extent of direct and indirect spillover using historical data on FDI and firm performance. I find statistically significant linkage between direct suppliers and foreign firms in terms of improved productivity and access to technology. The spillover, however, does not extend generally beyond direct suppliers.

Data

The section describes the data sources used for analysis of FDI spillover. It also assesses the coherency across data sources through a cross-validation check of common key variables.

Data Sources

i) The CEMPRE Business Census consists of two cross-sectional datasets. The National Institute of Statistics (INE) conducts a comprehensive review of all formally registered firms in Mozambique. The most recent wave available is 2014/2015 (implemented in 2015 and 2016); and the previous wave covers 2002/2003). However, it is worth noting that the Census may not capture the full extent of formal business activity in Mozambique due to inconsistency in census implementation (Schou and Cardoso 2014). Though comprehensive, the variables are limited to district location, capital stock, revenue, labor size, and share of foreign ownership (2014 only).

ii) The World Bank Enterprise Survey is a standardized set of business survey covering formally registered small, medium, and large firms in Mozambique. The latest and only sample year is 2018, totaling 650 firms. The sample is a stratified random sample. It includes general questions on firm performance, with added manufacturing and services modules that investigate product entrance, technology, skill level of employee, supply relationship to external actors, degree of foreign ownership – among the variables of interest.
iii) The UNU-WIDER IIM Manufacturing Panel data samples businesses operating in the manufacturing sector in Mozambique. The panel sample size among those who have completed both 2012 and 2017 surveys is 520; 216 had stopped operations. Like the Enterprise Survey, the sampling strategy is based on the CEMPRE business census and include variables of interest such as supplier relations to foreign sources, technology, wage bill, foreign ownership in addition to productivity indicators.

iv) The FDiMarkets dataset is a commercial product by Financial Times that tracks investment-level information based on available media reports. The dataset available covers all reported FDI incidents from 2012 to 2019. Unlike the other sources, the information is secondary (non-survey) and not at the firm level. However, investment-specific information such as location, estimated capital, time of investment, sector can effectively describe the FDI landscape.

Data Cleaning & Cross Validation of Key Variables

Figure [3.1]. Descriptive Summary of Main Firm-Level Data Sources

<table>
<thead>
<tr>
<th>Firm-Level Data Sources</th>
<th>CEMPRE Census</th>
<th>WB Enterprise Survey</th>
<th>Manufacturing Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size after cleaning</td>
<td>6,546 (2015/16)</td>
<td>650</td>
<td>520</td>
</tr>
<tr>
<td>Representative</td>
<td>Yes</td>
<td>Only firms &gt;10 employees</td>
<td>Yes for manufacturing sector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Variables</th>
<th>Firm Revenue</th>
<th>Firm Labor Size</th>
<th>Firm Capital Stock</th>
<th>Firm Wage Bill</th>
<th>Dummy to discern whether Direct Supplier to FDI</th>
<th>Dummy to discern Innovation and access to new technology</th>
<th>Employee Education/Skills Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size after cleaning</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Representative</td>
<td>Yes</td>
<td>Only firms &gt;10 employees</td>
<td>Yes for manufacturing sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The datasets come in varies degrees of readiness. The Enterprise Survey has been cleaned upon access. Manufacturing Panel authors have provided open-access cleaning codes on the raw data.

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5 Source: fDi Markets Library, a service from The Financial Times Limited [2020], All Rights Reserved. This summary was produced by Center for International Development at Harvard University using data provided by fDi Markets Library.
However, the Census requires in-depth cleaning to align sector and district codes across years – for example, the national economic activity indicators changed systems between 2003 and 2014. Outliers were capped through top and bottom-coding at the 1st percentile and 99th percentile.

**All three firm-level datasets appear to demonstrate consistency across key variables.** Cross validation of the data sources’ consistency is illustrated using a series of histograms. As shown in **Technical Appendix II**, distribution of the common variables (revenue, labor size, and capital stock, and wage bill) appears comparable across data sources, with similar means. Labor size has the most heterogeneity in distribution – Enterprise Survey has a fuller normal distribution with a larger average size given it is a non-representative sample that selects firms with at least 10 employees. The cross-validation exercise concludes that these data sources can be used independently, or together, to analyze firm behavior without compromising validity.

**FDI Trends**

**Figure [3.2]. Growing FDI shown in Mozambique’s Financial Account, Balance of Payments**

The Financial Account of Mozambique’s Balance of Payments provides a summary view of the extent of FDI over the past 15 years. As shown in graph below, net direct investment has

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6 Self-constructed using IMF, WB, and Banco Mozambique data. Submitted as group work from DEV-309 (Development Policy Strategy)
increased rapidly since the mid-2000s. The early rise can be attributed to the mining boom starting in 2002, lifted by a stream of investor confidence from the 90s marking the end of civil war. FDI amount peaked in 2012 at 40% of GDP, following the announcement of natural gas discovery in the Rovuma Basin. Since then, a series of macro fiscal vulnerabilities (e.g. hidden debt crisis in 2016) have led to capital outflow and a slow decline in overall financial account.

**Sectorial breakdown of FDI shows an equal contribution to resource (oil, gas, coal metals) and non-resource sectors.** While resource investments came first to Mozambique – and particularly jumped around the gas discovery – investments in other non-resource sectors followed as well in the years after (Figure 3.3). These non-resource investments are spread across several industries, primarily the services sector including real estate, transportation, and food (Figure 3.4).

**Figure [3.3]. Capital Investment in Resource and Non-Resource Sectors ($ USD million)**

![Graph showing capital investment in resource and non-resource sectors](image)

**Figure [3.4]. Foreign Capital Investment: Top 10 Sectors 2003 - 2019 ($ USD million)**

![Bar chart showing foreign capital investment in top 10 sectors](image)

**Regional breakdown of FDI supports the trend seen in sectorial distribution.** Resource-heavy regions, particularly in the North, such as Tete, Cabo Delgado and Inhambane attract a significant

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7 FDiMarkets data
8 FDiMarkets data
amount of FDI – leaned heavily towards resource FDI. On the other hand, urban centers such as Maputo and Nampula serve as hub for non-resource FDI (Figure 3.5).

**Figure [3.5]. Reported Foreign Capital Investment 2013 – 2019 ($ USD million)**

Cross-referencing descriptive FDI trends with firm-level census data shows similar breakdown in sectorial distribution. A snapshot of capital stock by foreign owned firms in the 2015/2016 CEMPRE census is computed by taking capital stock multiplied by share of foreign ownership. Sectors were grouped in extractive, service and manufacturing industries based on the Government’s economic classification code.

**Figure [3.6]. Foreign Capital Stock by Sector Type – Comparison of Data Sources**

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9 FDiMarkets data; Excluding Non-Specified
Direct Spillover Analysis

Identifying the Suppliers

Identifying suppliers linked to FDI is needed to measure the extent of direct spillover effects. Both the World Bank Enterprise Survey and IIM Manufacturing Panel enable the construction of a label, “is supplier”, on upstream firms who supply foreign-invested firms in Mozambique. However, both data sets have their limitations: the Enterprise Survey records supplier relationship to the extractive sector only; and Panel Data is restricted to manufacturing firms. Thus, I assume that those who supply to the extractive sector are linked to FDI.

The Enterprise dataset paints a descriptive profile of the direct FDI suppliers. A decomposition of GDP growth in Mozambique over the last 20 years pinpoints services as the biggest growth driver. Therefore, it is unsurprising that firms directly linked to FDI would operate in services (inclusive of other services, retail, tourism, food), followed by manufacturing.

Figure [3.7]. GDP Growth Contribution by Sector

Figure [3.8]. Supplier Decomposition by Sector and Region

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10 Self-Constructed using Banco Mozambique data. Submitted as groupwork from DEV-309 (Development Policy Strategy)
11 Enterprise Survey
In terms of geography, the distribution of direct suppliers largely follows that of FDI concentration. It is strongest in Maputo city, followed by several regions with moderate to strong FDI exposure: Sofala, Nampula, Tete, and Cabo Delgado.

Assessing Direct Spillover Effect – Manufacturing Panel Data

Being a FDI supplier is associated with improved productivity outcomes. Using the Manufacturing survey data, I regress a dummy for is supplier on several outcome variables related to productivity: labor productivity in terms of revenue and value add (sales minus cost of input, production, labor), and whether a firm has introduced new technology in the last year. The results account for industry and region fixed effects. The analysis is first done using 2017 data.

Being an FDI supplier is associated with improved labor productivity and likelihood of introducing new technology. Holding constant sub-industry fixed effects, manufacturing firms that supply to FDI are 76% more productive in terms of revenue/worker, and 46% more productive in terms of value add/worker. They are also 24% more likely to adopt new technology, significant

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12 I find similarly significant and positive spillover effects using the Enterprise Survey. The definition of direct supplier is limited to the Extractive sector, and therefore non-representative. Results are shown in Appendix II.
at the 1% level. The regional FE were not included due to lack of available data. As the survey strategy limits sampling to regions with largest concentration of manufacturing firms, there likely exists less heterogeneity in geographic variation.

**Figure [3.9]. Regression Output on Direct Supplier Effect of Spillover - 2017 Data**

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labor Productivity – Log Revenue/Worker</td>
<td>Labor Productivity – Log Value Add/Worker</td>
<td>Has Introduced New Technology</td>
</tr>
<tr>
<td>Is Supplier to Foreign Investment in Mozambique</td>
<td>0.767***</td>
<td>0.459**</td>
<td>0.242***</td>
</tr>
<tr>
<td></td>
<td>(0.245)</td>
<td>(0.198)</td>
<td>(0.0876)</td>
</tr>
<tr>
<td>Constant</td>
<td>11.92***</td>
<td>11.64***</td>
<td>0.146***</td>
</tr>
<tr>
<td></td>
<td>(0.306)</td>
<td>(0.187)</td>
<td>(0.0392)</td>
</tr>
<tr>
<td>Observations</td>
<td>447</td>
<td>415</td>
<td>525</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.067</td>
<td>0.117</td>
<td>0.068</td>
</tr>
<tr>
<td>Sub-Industry FE</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses

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

**Accounting for Selection Effect**

A potential bias to the results may stem from selection effect, whereby foreign firms pick supplier who are inherently more qualified. As a result, the difference in labor productivity may not be due to the spillover, but rather unobserved differences in firm quality. Being able to add firm fixed effects would allow me to control for time-invariant characteristics and thus selection. Firms in the manufacturing panel have been asked the same questions in both 2012 and 2017.

I merge the two datasets to understand the extent to which a firm switched from being a non-supplier to supplier – an opportunity to control for cross-firm differences. An analysis of firm-level responses shows that almost all firms in 2017 were new suppliers, not having been one in 2012. Conversely, all except 2 firms from 2012 no longer operate as a supplier – either gone missing from the panel or have stopped their supplier relationship. Regressing dummy of whether
a firm is a supplier on firm fixed effects return an R-squared value of 0.47, suggesting the existence of meaningful switches by firms from being a non-supplier to a supplier. In total 51 firms have switched: 18 from “yes” to “no”, 31 the opposite. Having these switches allow me to add firm FE to control for selection.

**Figure [3.10]. Firms who Switched from being a Direct Supplier between 2012 and 2017**

![Figure 3.10](image)

**Figure [3.11]. Regression Output on Direct Supplier Effect of Spillover - Selection Controlled**

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is Supplier to Foreign Investment in Mozambique</td>
<td>0.822***</td>
<td>0.518***</td>
<td>0.194**</td>
</tr>
<tr>
<td></td>
<td>(0.253)</td>
<td>(0.194)</td>
<td>(0.0766)</td>
</tr>
<tr>
<td>Constant</td>
<td>11.73***</td>
<td>11.42***</td>
<td>0.224***</td>
</tr>
<tr>
<td></td>
<td>(0.573)</td>
<td>(0.771)</td>
<td>(0.0457)</td>
</tr>
<tr>
<td>Observations</td>
<td>609</td>
<td>463</td>
<td>1,043</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.104</td>
<td>0.140</td>
<td>0.059</td>
</tr>
<tr>
<td>Sub-Industry FE</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Firm FE</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses

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

---

13 Excludes new entrants
14 Missing values were excluded. Many observations in 2012 panel missed revenue and value production figures.
The results from adding firm fixed effects remain significant. Productivity outcome variables in terms of revenue/worker, value/add worker, and likelihood of introducing new technology are all higher for a firm that supplies to FDI. With the addition of 2012 data and firm FE, the coefficients are slightly higher for labor productivity outcomes: Being a supplier is associated with 82% higher level of revenue/worker, and 52% higher value add/worker. Noted that some noises may be created when merging the datasets: there does not exist an apple-to-apple question on labor force size and value-add to use across both years. In conclusion, direct spillover effects appear to exist strongly among direct suppliers operating in the manufacturing sector.

Importantly, these supplier benefits are not restricted to the extractive industry. Suppliers in the manufacturing industry, as reflected in the data, supply primarily to agriculture, transport, business services, electricity, and then extractives. Therefore, a distinction is made that direct spillover is observed for FDI in both extractive and non-extractive sectors.

Nevertheless, the results must be interpreted with caution to selection effect. Statistically significant results provide support to claim that supplier firms got better via their relationship to foreign firms. However, foreign firms are likely to have picked better-able domestic firms. As a result, the impact FDI spillover may not generalize to the average Mozambican firm.

Indirect Spillover Analysis

Indirect FDI spillover does not presume explicit ties between the domestic and foreign firm. It measures the generalized impact of FDI based on intensity of exposure for a fixed industry and region. I hypothesize that spillovers do not generalize beyond direct suppliers in Mozambique.

Empirical Design

I follow the empirical design of Javorcik 2004 to test the extent of indirect spillover. The data used is the firm Census from 2015/16. Lack of foreign share data prevents the use of 2002/03 Census. Data-cleaning procedure removes missing entries and outliers\textsuperscript{15}. The design is as follows:

\textsuperscript{15}Firms with fewer than 3 employees were dropped (bottom coding). Results do not change if threshold is set at 0, 1, 2 employees per firm.
\[
\ln Y_{ijr} = \alpha + \beta_1 \ln K_{ijr} + \beta_2 \ln L_{ijr} + \beta_3 \ln \text{Exp}_{ijr} + \beta_4 \text{Foreign Share}_{ijr} \\
+ \beta_5 \text{Horizontal}_j + \beta_6 \text{Backward}_j \\
+ \alpha_r + \alpha_r + \alpha_j + \varepsilon_{ijr}
\]

\(\ln Y_{ijr}\) measures the labor productivity in log revenue/worker of firm \(i\) operating in sector \(j\) in region \(r\). Log Capital \((K)\), Labor \((L)\), and Expenditure \((\text{Exp})\) reflect the capital stock, labor force size, and yearly expenditure. \(\text{Foreign Share}\) is a continuous variable that measures share of foreign ownership in a firm. To proxy for spillover, I define two variables: \(\text{Horizontal}\) and \(\text{Backward}\). Forward linkages are excluded due to weak empirical evidence of its effect at large and specific to Mozambique. \(\text{Horizontal}\) represents a sector’s degree of foreign exposure. It is measured as the average labor productivity of firms in sector \(j\), weighted by each firm’s share in sectorial labor productivity. In equation form:

\[
\text{Horizontal}_j = \sum_{\text{for all } i \in [\text{Foreign Share}_i \cdot Y_i]} \frac{\text{Foreign Share}_i \cdot Y_i}{\sum_{\text{for all } i \in [\sum_{\text{for all } i \cdot Y_i]}}}
\]

\(\text{Backwards}\) represents the degree of linkages between domestic and foreign firms. It measures the degree of foreign presence in all sectors that is supplied by firms in sector \(j\). It is defined as:

\[
\text{Backward}_j = \sum_{k \neq j} [\alpha_j \ast \text{Horizontal}_k]
\]

\(\alpha_j\) is the share of sector \(j\)’s output that is supplied to sector \(k\) (i.e. sector with foreign presence).

The relationship between sectors is derived from Mozambique’s Social Accounting Matrix (SAM), at the double-digit sector code level (Cruz, Mafambissa et al. 2018). For each input sector, the SAM maps the distribution of output across other sectors.

\(\text{Results}\)

The results do not suggest existence of indirect spillover from FDI. The coefficients on horizontal and backward linkages are statistically insignificant. Capital, labor, and expenditure all have explanatory effect. Since the outcome variable is in labor units, it would suggest an inverse relationship with the labor force variable. Though insignificant, the coefficient on horizontal linkage is positive and higher for domestic firms. The impact on backward linkages is minimal.
### Figure [3.12]. Regression Output on Indirect Supplier Effect of Spillover

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>All Firms</th>
<th>Domestic Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Capital</td>
<td>0.0345***</td>
<td>0.0423***</td>
</tr>
<tr>
<td></td>
<td>(0.00474)</td>
<td>(0.00578)</td>
</tr>
<tr>
<td>Log Labor</td>
<td>-0.764***</td>
<td>-0.753***</td>
</tr>
<tr>
<td></td>
<td>(0.0142)</td>
<td>(0.0171)</td>
</tr>
<tr>
<td>Log Expenditure</td>
<td>0.617***</td>
<td>0.613***</td>
</tr>
<tr>
<td></td>
<td>(0.0100)</td>
<td>(0.0122)</td>
</tr>
<tr>
<td>Foreign Share</td>
<td>0.000439**</td>
<td>0.00435</td>
</tr>
<tr>
<td></td>
<td>(0.000223)</td>
<td>(0.00436)</td>
</tr>
<tr>
<td>Horizontal</td>
<td>0.0605</td>
<td>0.138</td>
</tr>
<tr>
<td></td>
<td>(0.156)</td>
<td>(0.168)</td>
</tr>
<tr>
<td>Backward</td>
<td>0.00457</td>
<td>-0.00604</td>
</tr>
<tr>
<td></td>
<td>(0.0106)</td>
<td>(0.0148)</td>
</tr>
<tr>
<td>Constant</td>
<td>4.231**</td>
<td>3.277</td>
</tr>
<tr>
<td></td>
<td>(1.938)</td>
<td>(2.090)</td>
</tr>
<tr>
<td>Observations</td>
<td>6,546</td>
<td>4,621</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.634</td>
<td>0.618</td>
</tr>
<tr>
<td>Industry FE</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Region FE</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

**Discussion**

It is difficult to conclude definitively the lack of generalized spillover. The data could be noisy and thus limits the ability to pick up any effect. A more robust analysis could be done had there been panel or repeated cross-sectional data on firm ownership. Quite possibly, the extent of generalized spillover is low. I investigate reasons why in the next chapter.
Chapter 4: Local Content as a Policy Tool to Promote Spillover: Ideal vs. Reality

Chapter Summary

This chapter assesses the gap between local content as a theoretical policy tool and its reality in Mozambique. I review generalized case for local content and investigate its legal application to Mozambique. I hypothesize that rent-seeking drives the policy rationale for local content, and support my claim with a deep-dive into political economy using table-mapping analysis. The chapter concludes with a case study from Mozambique’s early dealings with natural gas.

Understanding Local Content Requirement

Local Content is an umbrella policy term used by resource-rich nations to promote domestic firm development related to FDI. The concept encompasses direct stipulation to vague preference for foreign firms to select domestically-based suppliers – used by an estimated 90% of commodity countries (Tordo, Warner et al. 2013). The earliest local content regime is derived from European experience in the 1970s, where in the UK the discretionary licensing system favored foreign companies committed to local suppliers and in Norway a decree required the use of Norwegian good and services (Pereira, Mathews et al. 2018).

All commodity-exporting Sub-Saharan African nations have some form of Local Content – similar in style with varying stringency. The policies are typically standalone rulings; in some settings such as Mozambique the provisions are embedded within sectorial regulations. The table below reviews key laws pertaining to local content in peer countries.

Figure [4.1]. Local Content Legal Regime for Peer Countries

<table>
<thead>
<tr>
<th>Country/Law</th>
<th>Definition of Local Content</th>
<th>Preference for Local Suppliers</th>
<th>Local Content Tied to Contract Evaluation</th>
<th>Joint Venture Requirement for Market Access</th>
<th>Explicit Quota/Targets</th>
<th>Workforce Targets</th>
<th>Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola Order 127/2003 Goods/Services in Oil Companies with (&gt;50%) share capital owned by Angolan citizens</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Act</th>
<th>Local Content Requirements</th>
<th>Yes/No/Support Facilitating JVs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>Sector; Decree 6/95 Labor and Local Participation Regulations, L.I.2204/2013</td>
<td>Majority (&gt;50%) equity owned by Ghanaians; &gt;80% Ghanaian executive, 100% non-managerial</td>
<td>Yes/No/Yes/Yes/Yes/Yes</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Nigeria Oil and Gas Industry Content Development (NOGIC) Act, 2010</td>
<td>Majority (&gt;50%) equity share owned by Nigerians</td>
<td>Yes; used as a tie breaker</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>Sierra Leone Local Content Agency Act 2016</td>
<td>At least 50% share capital owned by Sierra Leone citizen (do not need majority)</td>
<td>Yes; used as a tie breaker</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Tanzania Sheria Petroleum Act 2015</td>
<td>100% owned by Tanzanian citizens; or JV with Tanzanians owning &gt;15%</td>
<td>No; but can trade with other companies</td>
</tr>
</tbody>
</table>

Despite its popularity, local content’s success has been mixed with no quantitative review of direct impact. Review of experiences in Ghana, Uganda, Zambia, Nigeria and Nigeria reveal a lack of empirical evidence for the impact of local content. Part of the challenge lies in the complexity of local content packages. While the evidence is clear, in principle, on the productivity benefits of direct linkages, there is no evidence to support the components of local content (excluding JV) as effective drivers of positive spillover.

“No country has ever achieved 90 per cent local content in the history of petroleum production. The highest ever achieved is 74 per cent by Norway in 1994” – (Page and Tarp 2020)

Mozambique’s legal framework gives preferences to sectorial, newer laws. The legal structure in Mozambique begins most broadly with a national framework. Exceptions to laws are made in the form of decrees. Sectorial laws provide additional stipulation that are industry specific. Additional decrees further create exceptions on sectorial laws. In general, newer laws have authority over older laws; sectorial laws supersede national laws.
Mozambique does not currently have a coherent local content plan – with pieces spread out in various legislations. All existing local content stipulations have applied to the resource sectors. Within the national framework, the Mega Projects Law set the JV requirement for profit-sharing. Employment Law 23/2007 requires foreign firms with >100 workers to keep at a minimum 5% total workforce as local hires without reference to skills level. Overtime, various decrees put restrictions on the share of foreign workers allowed in a company (foreign or domestic) operating in Mozambique. In 2014, the most direct reference to local content was passed in sectorial laws guiding the Petroleum and Mining industries – including qualitative requirements to provide employment and technical training for Mozambican nationals, giving preference to Mozambican goods with price premium cap. However, new decree in 2014 for the gas projects effectively exempted foreign firms from following employment and foreign hiring laws as mentioned.

**Figure [4.2]. Mozambique’s Generalized Legal Framework for Resource Sector**


**Legal requirements are generic and vague – contracts are largely homogenous as well.** None of the legislation mentioned above has quantitative requirement related to local content. While firms are required to submit an annual workforce plan, there are no specifics on quota. Furthermore, targets for local goods/services are quantified as “available in” Mozambique without additional stipulation for training. These in combination reduces the demand on foreign firms to commit to local content. A review of Mozambique’s national contracts/concessional agreements with foreign resource operators show boilerplate mentions of community development and preference for local services.

“*What we have are very general rules. But in fact, what has been done in 20 years is case by case negotiation between government and operator. The law is generic.*” - Law Partner, Representing Major Gas Company
Specific details are decided on a case-by-case basis in private meetings. In the gas sector, the National Petroleum Institute (INP) holds the decision-making power for awarding concessions. While local content is discussed with prospective bidders, it is not part of the negotiation or selection process. The figure below describes a generalized negotiation process. As gas companies are exempt from following local employment quotas and face no hard targets on local hiring, discussions around local content are held privately.

**Figure [4.4]. Generalized Negotiation Process between Government and Foreign Gas Firms**

| INP Sit with big operators interested in negotiating before tender is launched | Discuss geological potential; receive feasibility studies from operators | Tendering goes public | INP, with private talks, have selected a preferred operator already | Sign MOU (private) | Sign Concessional Agreement (Public) |

Draft bill in discussion would be an aggressive shift towards stronger, more explicit requirement. The bill applies broadly to all sectors of the economy in which foreign firms seek to hire services or purchase goods. The box below considers details.

**BOX: Deep-Dive into Draft Local Content Bill**

**How is local content defined?**

Local Content Services are defined as those provided by Mozambican citizens or legal entities incorporated under Mozambican law that operate in Mozambican territory. The criteria is first strictly based on nationality, instead of territory – a strict measure of eligibility that precludes foreign subsidiaries.

**What is the target?**

There is none. Each sector will set a “dynamic” minimum percentage in next 7-10 years. Local Content Share is calculated as the follows:

\[
\% \text{ Local Content} = \left(1 - \frac{\text{Value of Imported Elements}}{\text{Production Value}}\right) \times 100
\]

**What are the major changes?**

This bill is Mozambique’s first standalone legislation laying explicit conditions around local content. It applies to all sectors instead of natural resource, an unusual move. The definition of local content is also strict as to minimize loophole for hiring South African firms.

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17 Based on primary research interviews
In reality, the policy rationale behind local content is deeply political. Experts caution that diagnosing local content as a technical problem would miss the driving force behind its creation: the use of policy to capture rents, as a means to expand and protect political power. Underlying this thesis is a strong assertion that business and politics are intricately linked – where profits (or rents) enable political elites to satisfy their constituencies for the primary purpose of building political support. In the literature, the approach is named “political survival of ruling elites”, and defended in the Sub-Saharan context of resource-rich countries, including Tanzania, Uganda and Ghana (Buur, Hansen et al. 2014, Whitfield and Buur 2014, Page and Tarp 2020). I apply this framework to Mozambique to argue that, while vested interests in local content is nuanced, the policy nevertheless suffers from political capture – resulting in deep inefficiencies in achieving desired economic benefit.

“It is about “how do we benefit from this. Not “this should benefit the economy.” - Former Advisor, Ministry of Economy and Finance Mozambique

In Mozambique, the dominance of the Frelimo Party has formed a powerful group of business-political elites. Since Independence in 1975, the Frelimo Party has held power consistently to today. During this time – and enduring the Civil War ending in 1992 – Mozambique’s four transitions of power has firmly stayed within the Frelimo Party, putting forth as President: Samora Machel, Joaquium Chissano, Armando Guebuza, and Filipe Nyusi. The persistence of the Frelimo Party’s existence, combined with Mozambique’s modern economic development post-Civil War, has created the condition for politicians to amass economic holdings and fortify existence of political patronage (Cruz, Ferreira et al., Group 2016).
The industry-state dynamic is felt in every part of the business process. There is a strong implicit understanding among political experts that the Frelimo Party oversees all major business deals, and has widespread political influence at the administrative state level to oversee business development. Their influence expands to FDI – as deals with foreign firms appear first brokered within the elites (i.e., secure contracts) instead of competitive public tender.

“Everyone in the business sector is either themselves the Frelimo party or married into the Party...there has not been a single top Frelimo party member who have left the party.”
- Former Advisor, Ministry of Economy and Finance Mozambique

As consequence, the ruling elites largely dictate the economic structure of Mozambique – resulting in a hostile environment for doing business. Political experts stress the role elites play to stymie business growth of potential new entrants in an attempt to neutralize competitive threat. While Mozambique has a large base of small and informal businesses, very few firms transition to being mid-sized. According to experts, the “missing middle” is a result of business elites using political power to ensure no competition arises in their business sector. From the firm’s perspective, the governance barrier appears strong. Enterprise Survey of Mozambican firms (large and small) reveals a high constraint in quality of governance and government capacity relative to peers.
Deep-Dive into Actors at the Table for Local Content

I analyze in this section the major players with a stake in local content. I describe their position on local content, internal and external interests and sources of power, following a negotiations framework by Lax and Sebenius (Lax and Sebenius 2006). By diagnosing each actor’s hidden interests (i.e. internal interests) in contrast to their stated external interests, it becomes clear why inefficiencies hinder the success of local content in achieving economic benefits for the economy.

Figure [4.7]. Analyzing Key Actors with Stake in Local Content

<table>
<thead>
<tr>
<th>Actors</th>
<th>Their Position on Local Content Bill</th>
<th>Their External Interest</th>
<th>Their Internal Interest</th>
<th>Source of Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frelimo Political Elites</td>
<td>CONFLICTED: Want to capture contracts for own business, but weary that bill will open competition (via public tender)</td>
<td>Run businesses; serve in interest of the party</td>
<td>Maintain and expand power over politics and economy</td>
<td>HIGH: Controls domestic political and economic affairs, easily confronts holdout - but highly fractured with no clear winner</td>
</tr>
<tr>
<td>(ex President) / Business Elite / Top 10 &quot;Royal&quot; Families</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18 World Enterprise Survey 2018; Peer list: AGO, BEN, BFA, ETH, GHA, LBR, MLI, MMR, MWI, TZA, YEM, ZAF, ZWE

19 Based on Primary Research. See Appendix for Interview list.
OPTIMISTIC: View bill as symbol for political capital; potential path for consolidating power

President Nyusi

Serve the nation and promote its economic development

EXPAND control over party factions to remain in power

HIGH: Uses presidency to bring in his own people in attempt to amass power

CAUTIOUS: Unsure of country's local capabilities to deliver results

Technocrats

Support the nation's economic development

KEEP their jobs

LOW: Can be replaced

NEUTRAL: Treat the bill as a cost of doing business; try to maintain distance from politics as much as possible

Foreign Multinational Firms

Expand "Corporate Social Responsibility" and image of supporting development

MAXIMIZE Profit

MID: Brings the capital but faces risk of losing business opportunity if aligned with wrong faction

OPPOSED: View the bill as a political grab; against international law

International Institutions (e.g. EU, IFC)

Promote Investment and global stability using loans

Avoid political trap/crisis to maintain global reputation

MID-HIGH: Has the loans that government needs

IN FAVOR: See this as opportunity to gain credibility, improve outcome

Emerging Entrepreneurial Class

Grow their businesses

Make the right political connections to win business opportunities

LOW: Very hard to break the scene without political support

Frelimo Political-Business elites view local content as an opportunity and threat. Despite Frelimo’s ability to sustain strong party unity, there is a significant degree of inner-fractioning among the political-business elites. The elites are largely known to be composed of several “mega” families, including ex-presidents. In addition, there are several “royal” families with political influence. This group is guided by an internal interest to sustain and expand power. Applying this lens to local content emerges a complex picture: while the elites see local content as a way to booster their businesses (and therefore rents), they are weary of legal clauses (such as the one proposed in the bill which requires public tendering) that would invite competition. Local content requirements are only useful to the extent they are applied to the elite’s own business ventures.

“There is a real concern among some parts of the ruling elites to lose their share of the pie. There is competition between them. They are in disagreement. They all have some land, some companies. Everybody needs to be accommodated. But they are fighting... With local content, if you have free competition, then you lose out. That is why they don’t want to work with it.” - Associate Professor, Research University
The lack of dominant faction has contributed to local content’s standstill. Each family within the elite appears adamant in protecting their gains from foreign investment. According to political experts, historical precedents suggest policy decisions generally need the buy-in of most if not all elite members. However, in the case of local content, there is no visibility into the degree of investment opportunity nor a guarantee that all ruling members would benefit.

“You will have new factions with a new president. Nyusi wanted to monopolize the accumulation like Guebuza but it is not happening. There is no dominant faction. The next two years will be about internal fighting. The future of the gas is highly contentious. If we were to think of new factions rising... it will take 2-3 years to get Nyusi out, then another 2 years to build a new network. There is no easy way to get a strong enough coalition to execute policy changes.” - Executive Director, Governance Think Tank

Though in power, President Nyusi has yet to amass critical clout within the ruling elites. The presidency gives Nyusi an advantage to expand his influence – through the appointment of his allies in key political and civil posts. Unlike his precedent Guebuza who strongly asserted himself in attempt to expand his coalition, Nyusi’s trajectory appears to mirror that of former President Cissano who allowed power to accumulation across multiple factions.

The technocrats are monitored by Frelimo and have limited power. Local content’s stated policy objectives align with mission-driven technocrats. However, these individuals operate within highly political environments. In the hidden debt crisis of 2016 where tuna project money was misspent on military equipment and otherwise gone missing, implementors within the Ministry of Economy and Finance had limited visibility into the political intent of the Minister of Economy and Finance, the authorizer. In the current setting, technocrats are also weary of the country’s readiness to absorb FDI spillover.

On the other side, the foreign multi-national firms are cautious to interfere with internal politics. FDI firms generally view local content as a “tax” on business. They see it as a necessary cost to doing business. Because firms are driven by profit-maximization, they treat politics (and interactions with ruling elites) as a necessary means to an end. However, interviews suggest that firms strongly prefer to avoid “picking” sides within factions of a ruling elite. Recent history has demonstrated the perils of making wrong calculations on domestic politics. During the negotiation process for awarding concession contracts to natural gas in Area 1/4 Rovuma Basin, three foreign
firms had entered into political dialogue with certain elite business groups in hopes of winning the government’s favor. Unexpectedly, these groups had somehow lost favor under President Nyusi, resulting in the contracts being given to competitors, Eni and ExxonMobil.

Multinational Institutions generally exert influence due to having funding but appear shunned on gas-related discussions. Experts agree that the Mozambican government has heeded the advice of multinationals, especially IMF and IFC. This has particularly been the case after the hidden debt crisis which led to capital outflow, strong Meticais depreciation, and a freeze in international funding. However, on the topic of resource based FDI, the government has resisted influence from international organizations.

“There has been an erosion of trust since 2016 hidden debt crisis It caused a lot of stop in funding [from the World Bank], and resulted in a lot of attention from international partners. Oil and gas is something the government is hugely banking now. They are spending now with the expectation of future revenue. So they are much more protective of how to manage that. – Founder, Non-Profit Organization

“Institutions like the World Bank and IFC will never be seen as impartial. Frelimo view them as neoliberalists and there is a big group [within Frelimo] that is tired of the situation…. The EU was seen as the more neutral institution but not any longer. They are exposed via Portuguese banks and have their own interests...” - Associate Professor, Research University

Multilateral organizations are not neutral parties – each has an interest of their own that may conflict with local content. Most prominently, the response from the IFC has been negative. This is understandable as IFC’s primary interest is in investment promotion, and would oppose regulatory requirements that impose on the freedom to do business.

The emerging entrepreneurial class outside of the elites would be the primary benefactors of local content, but have no political clout. As discussed, this group is small and not insulated from political influence. To succeed, the businesses must heed to the demands of the ruling elite. Though these businesses are collected represented by the Confederation of Mozambique Business Associations, their lobbying ultimately depends on winning permission from Frelimo.
Collectively, the table-mapping exercise illustrates the tremendous political capture of policymaking. The inefficiencies that arise from these vested interests mean that local content does not have politically supportable policy space for moving forward.

**BOX: Learning from the Past – Sasol Case**

*What was the Sasol Project?*

Sasol, a South African company, launched the first project to produce natural gas in Mozambique in February 2004. The project had three main components: development of natural gas fields in Pande and Temane, construction of processing facility, and construction of a pipeline linking the fields to a hub in South Africa. The gas project is estimated at $2-3 billion (relative to $50-60 billion in potential value of Rovuma Basin), and continue to operate today.

*What was its intended vs. actual purpose for Mozambique?*

From the Mozambican government’s perspective, the development of the gas field provided an opportunity for Mozambique to access electricity (downstream) at a lower cost. However, the sale of gas from the project to dubious companies with connections to Frelimo suggest a hidden interest in capturing rents.

*How did the ruling Frelimo elites enable rent-seeking?*

There appears two major ways.

i. One, a subsidiary of the state-owned gas company ENH listed a 10% state in the Sasol project on the Mozambican stock exchange. The listing is connected to a group of shareholders directly and indirectly connected to Frelimo. No public information is available on the price paid.

ii. Second, the government negotiated a production increase in 2012 in conjunction with an agreement to shift outcome towards domestic use (instead of being sold to South Africa). What follows is a sequence of maneuvering between state-owned enterprises and private businesses controlled by ruling elites to capture rents.

*Information based on informational interviews and paper by (Salimo, Buur et al. 2020).*
Chapter 5: A Binding Constraint to Greater Spillover: Capabilities

Chapter Summary

The last chapter saw that local content is an ineffective way of promoting direct supplier relationship. In this chapter, I examine the domestic condition for hosting FDI spillover. I find that firms would want to hire locally even without being forced by local content requirement. Instead, there lacks sufficient capable local firms. Various evidence suggests that capabilities is a constraint to realizing greater spillover.

The lack of empirical support for generalized spillover may suggest a supply-side weakness in local capabilities. In contrast to the experience of many countries, Mozambique’s domestic industries with linkages to FDI have the potential for seeing direct FDI spillovers (See Chapter 3). However, few firms actually benefit from this effect – which also does not generalize to the broader economy. In this chapter, I test the hypothesis that there exists a strong supply constraint. Foreign companies are looking for domestic suppliers, but fail to find ones that are appropriate.

In addition, limited domestic capabilities directly impact linkage policies for promoting direct spillover. Though evidence show the existence of spillover to domestic suppliers, low degree of capabilities will nevertheless limit the magnitude of policy impact that mistarget the true constraint to local hiring.

Foreign Firms’ Perspective on Hiring Locally

Interviews reveal that foreign firms appear willing and interested to hire locally anyways, absent of the bill. Representative of Anadarko and ExxonMobil during interviews were transparent in their company’s demand for local suppliers, particularly in services. The description of supplier search process appears collaborative with Mozambican authorities, than evasive.

“For each project, the team sees what you can get in the country, what you cannot. You have some aluminum here, stone here... it is a case-by-case negotiation. ENH would come in with what their idea of what local content can do, so you try to make something work” - Lead Lawyer, Major Multinational Oil and Gas Company with Investment in Mozambique
Their willingness reflects a primary interest to maximize profit and secondary interest in advancing corporate social responsibility (CSR). Hiring locally, when available, is typically cheaper than outsourcing services to abroad – both in terms of pay premium and transportation. In addition, foreign firms, particularly in the resource sector, strive to maintain a public image of engaging responsibility with their communities. The impact on environment and community economic development are cited as key concerns of the CSR team.

However, foreign firms – big and small – repeatedly stress the lack of appropriate domestic supply. Definition of “appropriate” encompasses: i) timeliness, ii) quality standards, iii) consistency of production. This impression has been corroborated by members of Mozambican government, specialists at multilateral institutions and academics.

“The government has these provisions, the companies come with their strategy. When you go to the field, what you see is that you don’t have companies who have competences to provide services. Few companies have certificates. If you don’t have standards, you can’t provide services.”  – Former Head of Negotiations, Mozambican National Gas Company

“The big companies, they have time constraint. They are used to work with some companies. They have standards. When you look at the surveys, the pool of companies with good capabilities is very small” – Specialty Lawyer, Oil and Gas Sector

“While working with farmers as suppliers to a local NGO,] the farmers had to first work to invest in their abilities to meet demand of the school lunch programs. They were not ready.” – Founder, Non-Profit Organization

Testing for Skills Gap as Constraint

Survey data offer additional support that capabilities is a constraint for business. Firm opinions from the World Economic Forum Global Competitiveness Index show Mozambique have the lowest ease of finding skilled labor, relative to peer countries.
Empirical evidence shows firms who are not intensive in labor skills have grown faster – indicative of firms bypassing capabilities constraint. By aggregating export data from the Atlas of Economic Complexity (4-digit SITC) into industry levels (NAICS 2 digit), I define a skill intensity level for each industry. I measure growth performance in terms of export growth. Plotting the relationship between export growth and industry reveal a negative trend, implying that industries not intensive in skills have performance better in export growth (1997 - 2018).

Figure [5.2]. Firms less intensive in skills perform better

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20 Own calculations from World Development Indicator Dataset; submitted as group work from DEV-309 (Development Policy Strategy)

21 Submitted as group work from DEV-309 (Development Policy Strategy)
South Africa: A Friendly “Crutch”

Due to geographic proximity, South Africa has historically contributed significantly to Mozambique’s development and every-day economic life. Trade and transportation corridors between Southern Mozambique and South Africa (e.g. Maputo Corridor) have resulted in significant upgrading of public infrastructure. Almost all of Mozambique’s industrial activity occur in close geographic proximity to South Africa. In the North, interviewers emphasize, “there is literally nothing there.”

“South Africa is the backbone of the Mozambican economy. If you want anything of higher value, you get that in South Africa or imported from South Africa. For example, in a peanut butter facility, even the labels on the bags you get are from south Africa.” – Founder, Non-Profit Organization

Mozambique’s economic integration with South Africa appears one-sided with limited economic upside. Stark differences in economic complexity have not resulted in a transfer of capabilities into Mozambique. Rather, south African firms have created Mozambican “shells” that take advantage of domestic opportunities while taking profits to be reinvested back in South Africa. Interviewees characterize the dynamic of domestic and South African firms as two entities operating in separate planes - with Mozambican posing no competition to South African entrants.

“I live in Maputo; I buy meat in south Africa. I buy eggs in South Africa. It’s very difficult to come to a jurisdiction that doesn’t use that much South African products. These guys do not have to go to SA to order the eggs. They are sitting in Pemba. The companies that provide the eggs are registered in Mozambique, but the revenue goes back to SA.” – Former Head of Negotiations, Mozambican National Gas Company

Development projects face a pitfall where benefits accrue to South African firms instead of Mozambicans. Firms that qualify under “linkage” programs to FDI have historically been thinly veiled joint ventures between Mozambican and South African partners. The following case on Mozal, Mozambique’s first big FDI project in the early 2000s illustrates this point.
BOX: Mozal Case

What is the Mozal FDI project?

Mozal was Mozambique’s first megaproject launched in early 2000s for an investment in aluminum smelting, estimated at $2.4 billion USD. It was launched as a joint venture between Mozambican government, private companies from Australia, Japan and South Africa. Mozal had several economic linkage programs since inception in attempt to promote domestic industries.

How did Mozal attempt to promote local capabilities?

Mozal’s primary vehicle for local development was the “Mozlink” program, which aimed to develop the capacity of domestic SMEs such that they become competitive and qualify for supplier bids to Mozal. The program provided training to 45 SMEs, and expanded the number of local suppliers from 40 to 250 from 2002-2007.

A second round of Mozlink began in 2006, and expanded the scope to include other investments (e.g. beverage sector including Coca-Cola and South African breweries). The program focused on supply-chain development of business and technical skills of SMEs. It impacted 75 SMEs and created an estimated $20 million in revenue.

What was the impact on the economy?

The review on Mozal was mixed. While it indeed developed the capabilities of domestic firms, these firms did not create spillover benefits to Mozambican economy. A few reasons why:

- **Few Mozambican firms benefitted:** Instead, majority of businesses were linked to South African companies.
- **The scope of companies under training was limited:** those who were trained in the first round were also the ones trained later.
- **The companies were trained in capabilities specific to Mozal and were not applicable to rest of economy:** These companies were developing specialized skills too niche for the general industry. In addition, their investment in equipment became too “advanced” for rest of economy.

Prepared based on World Bank Private Sector Diagnostic (forthcoming), primary interviews.
Chapter 6: Towards Greater Spillover: Policy Recommendations

Chapter Summary

This chapter considers policies that tie directly to increasing spillovers from FDI. I propose “first best” policy options related to knowledge accumulation and highlight their deficiency in political supportability. Using a game theoretic model, I unpack the incentive mismatch in a “second best” world. Finally, I suggest the introduction of a third-party, a business collective, for providing training services to domestic firms in partnership with government.

“First Best” Solutions

Policy should address the “capabilities gap” among domestic industries for promoting direct spillovers from FDI. Technically correct changes will directly improve the production and business skills of Mozambican businesses so that they are better qualified to provide services to foreign firms. This section is not intended to supply “strategic” bets for Mozambique’s industrial policy; but rather focuses on addressing the capabilities constraint for promoting spillovers. See below for an overview of options.

Figure [6.1]. Policy Options for Addressing Capabilities Gap

<table>
<thead>
<tr>
<th>Policy Option</th>
<th>Technical - Potential Scope</th>
<th>Technical - Targeting Ability</th>
<th>Technical - Effectiveness</th>
<th>Administrative - Compliance/ Monitoring</th>
<th>Political - Risk of Inefficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status Quo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>very high</td>
</tr>
<tr>
<td>Local Content Requirement</td>
<td>GREAT: Expansive coverage across all industries</td>
<td>N/A</td>
<td>BAD: Nothing to address capabilities</td>
<td>BAD: Line ministries lack structure and incentive to comply</td>
<td></td>
</tr>
<tr>
<td>Business-to-Business Matching between Domestic Firms and International Peers</td>
<td>EH: Beneficial mostly to firms near the frontier</td>
<td>GOOD: Online platform can facilitate ID and vetting</td>
<td>GOOD: direct interaction supports knowledge diffusion</td>
<td>OK: If start out small/pilot, with third-party support (e.g. academic)</td>
<td></td>
</tr>
<tr>
<td>Secondment to Foreign Firms</td>
<td>BAD: Great for individuals but unclear link to firm output</td>
<td>SO-SO: Hard to screen for individual potential</td>
<td>GREAT: great learning for individual</td>
<td>OK: If start out small/pilot, with third-party support (e.g. academic)</td>
<td>high</td>
</tr>
<tr>
<td>Foreign Firm Sponsored Training</td>
<td>IT’s THERE: Large FDI base for building opportunities</td>
<td>GOOD: Clear need/criteria mean targeted pool</td>
<td>BAD (for now): overtaken by South Africans; too niche</td>
<td>OK: If start out small/pilot, with third-party support (e.g. academic)</td>
<td>high</td>
</tr>
<tr>
<td>Invest in Vocational Training Pathway in School System</td>
<td>All secondary students</td>
<td>N/A</td>
<td>Vocational training has demonstrated effectiveness</td>
<td>OK once codified into formal school system</td>
<td>manageable</td>
</tr>
</tbody>
</table>
Policy options in this generation target opportunities for direct spillovers. In contrast, policy for the next generation focuses on building up an industry/entrepreneurial class to enable generalized spillovers. Based on interviews, the three policies suggested are:

- **Business-Business Matching between Domestic Firms and International Peers.** The policy proposes a matching system to facilitate partnership between domestic and foreign supplier firms to enter into joint contract with FDI customers. The combination increases the bid’s credibility to winning contracts; the direct interaction between firms presents an opportunity for spillover. This option will likely impact a narrow set of firms as it requires almost-competitive capabilities. It may be difficult to incentivize intentional peers.

- **Secondment to Foreign Firms.** Another avenue for building capabilities is via labor mobility. This policy sends domestic managers/workers to foreign company as a trainee. Upon completion of a pre-determined length, the worker returns to original firm. While in theory secondment can be a great learning experience, it is difficult to screen for individual potential and carries high risk of nepotism. Increasing an individual’s ability – unless specifically at the managerial level – may not easily translate to improved firm performance.

- **Foreign Firm-Sponsored Training.** This policy proposes foreign firms to sponsor training programs that directly improves the technical and managerial skills of suppliers. The firms-in-training would then become eligible for supplier contracts. Historically this proposal has benefitted South African firms more, and may leave domestic firms trained in niche skills. Few foreign firms have the incentive to independently take up training.

It is evident that political inefficiencies are pervasive and must be addressed. Each of the policies is subject to political capture. Members of the elite may attempt to influence the targeting for self-gain. In reference to Dani Rodrik’s work on vested interests, Mozambique appears to operate within the interior of the economic frontier - the elites are resistant for better policy change because moving towards such efficient policy would weaken their ability to bargain/redistribute for themselves. Rodrik calls it a “political replacement” effect (Rodrik 2014).

**Finding “Second Best”**

I propose a formal model to understand the dynamic between three key players: the government, the domestic firm, and foreign multi-national firm. The model set-up considers the reality under which the government will subsidize foreign firms to sponsor training of domestic
Mozambican suppliers. The game, as shown in the policy box, is a dynamic sequential game. The government decides first its action to subsidize training or not. Subsequently, the multinational firm decides to enter/expand its presence in Mozambique. Noted here is the absence of the domestic firm. Based on the stakeholder analysis, domestic firms are passive players – they take the outcome of the government as given, since any objection would not realistically be sustained.

$$
\text{BOX: Stylized Sequential Game between Government and Foreign Firm}
$$

The game theoretic model reveals an equilibrium with no subsidy and continued foreign presence. The sub-game perfect Nash equilibrium exists under the scenario where MNE enters in Mozambique regardless of government action – while the government chooses to not subsidize.

The result implies that policy for improving skills capabilities would not likely materialize without third-party support. Considering the directional impact of parameters affecting the government’s payoffs, it becomes clear that providing subsidies would be a net loss (Appendix IV). While greater training would benefit the economy as a whole, the model considers the elite interests of the government as the decision-maker. Primarily, to subsidize would expand the scope of competition, and therefore limit rent seeking potential. Similarly, foreign firms have an incentive to invest in Mozambique regardless of government action. This largely derives from a profit-maximization calculation – and its reliance on Mozambique for access to select resources.
Implication for Policy

Figure [6.3] Proposed Scheme for Private Provision of Training Services

I propose a scheme that relies on third-party support to supply training on transferable skills to domestic firms. A collective of MNEs would invest in a development center, with actual training contracted to an outside service provider. Theses contractors would then provide training and advisory services on transferable knowledge (e.g. business strategy, quality control, certification) to domestic firms. Some of these firms may be tied to government business elites.

The introduction of a “business collective” can create the necessary space for capabilities development. Central to this proposal is the understanding that multi-national firms (MNEs) benefit when the average capability level of local suppliers improve. Though the cost of developing local capabilities appears too great for one firm to bear (hence the desire for government subsidy), private firms can collectively invest in developing training programs for mutual gain. A joint venture of interested multi-national firms would allow risk to be spread, while reaping complementary benefits. Since a domestic supplier can serve multiple foreign customers, the risk of substitution effect is limited (i.e. jointly upskilling domestic suppliers does not reduce any one MNE’s ability to hire locally). Most importantly, a business collective puts the decision-making power in the hands of the firms – allowing them directly to target capabilities gaps without the need for political space.

Under this scheme, government incentives can be protected – the role of government becomes one of oversight/monitoring. A private initiative removes disturbance to existing political order. In addition, elite fractions may have opportunity to benefit from the scheme via
their business subsidiaries. Services such as business advisory, quality certification and safety training are not depletable – and therefore can be serviced to both domestic elites and entrepreneurial class. Any risk of failure would also not fall unto the shoulder of the government, reducing chance of damage to their political capital. In addition to Action Plan below, Appendix V further expands on the roles of each actor and their incentive management.

Figure [6.4] Policy Action Plan for Mitigating Risks

<table>
<thead>
<tr>
<th>Risk</th>
<th>Potential Causes</th>
<th>Action</th>
<th>Actor</th>
</tr>
</thead>
</table>
| Unilateral MNE decision to stop funding program                      | ▪ Poor return to investment  
▪ Political unrest  
▪ External shock to investment climate | Establish “funding drives” of financial commitment ex ante (similar to World Bank IDA drives) from members of collective to ensure programming support is unaffected by individual MNE firm decision to leave | MNE Collective |
| Targeting of training misses Mozambican firms (i.e. captured by South African firms) | ▪ Loophole in qualification vetting process  
▪ Hard to find local firms | Government clearly defines qualification criteria (e.g. no shell companies); information of selected firms are shared to government & published on website | Government Ministry of Economy |
| Training only benefits politically connected firms                  | ▪ Non-transparent selection process  
▪ Political pressure on MNE | Protect a portion of slots for business elites; but use an open transparent criteria process (e.g. points system) for selection of domestic firms | MNE Collective |
| Lack of gender parity in domestic firm beneficiaries               | ▪ Information / network barrier  
▪ Social constraints  
▪ Discrimination | Engage civil society organizations for disseminating information to female business owners. Actively promote inclusion of female-owned businesses and their capacity building through 1) targeted training modules geared towards females, 2) quota by gender | MNE Collective |

A new pilot “Enterprise Development Center” funded by Area 4 Ventures is an inspiration for the proposed scheme – and a source for replication. Major multinational firms in the natural gas sector jointly invested $3 million in 2020 to develop 4 regional centers for addressing
capabilities shortfalls of domestic suppliers. Actual training was contracted to a third party providing, DAI, and done with the support of the government. A proposed implementation plan below details the stepwise tasks and the corresponding roles for government and private sector.

**Figure [6.5] Implementation Plan**

<table>
<thead>
<tr>
<th>Planning Phase (2021-2022)</th>
<th>MNE Role</th>
<th>Government Role</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Funding Drive &amp; Relationship Building</td>
<td>Local content representatives build internal/external commitment for funds</td>
<td>Finance and line ministries begin dialogue with MNE on shared goals</td>
<td>6 months</td>
</tr>
<tr>
<td>2. Gap Assessment</td>
<td>Conduct scope analysis (interviews, surveys) and prioritize key capabilities needs</td>
<td>Influence identification of skills – ensure they are transferable</td>
<td>3 months</td>
</tr>
<tr>
<td>3. Criteria Formulation</td>
<td>Propose criteria for selection of domestic firms</td>
<td>Provide input on selection criteria</td>
<td>1 month</td>
</tr>
<tr>
<td>4. Identification of Development Center Site</td>
<td>Vet various sites based on economic potential and risk assessment</td>
<td>Provide input on site development</td>
<td>3 months</td>
</tr>
<tr>
<td>5. Selection of Third-Party Contractor</td>
<td>Submit Request for Proposal (RFP) and conduct interviews</td>
<td>Provide representative in interview process</td>
<td>2 months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action &amp; Learning Phase (2022-2024)</th>
<th>MNE Role</th>
<th>Government Role</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm Solicitation &amp; Selection</td>
<td>Use network and public channels to invite participation from domestic firms</td>
<td>Provide directive to local/regional agencies to publicize opportunity</td>
<td>3 months</td>
</tr>
<tr>
<td>2. Service Provision</td>
<td>Work with contractor to vet learning modules and provide training services</td>
<td>Establish communication channel for regulatory inquiries</td>
<td>6-12 months</td>
</tr>
<tr>
<td>3. Monitoring &amp; Evaluation</td>
<td>Present quarterly update to government on progress &amp; hold learning meetings for adaptation</td>
<td>Offer monitoring oversight / permission for continuation</td>
<td>Iterative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scaling Phase (2024 beyond)</th>
<th>MNE Role</th>
<th>Government Role</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identification of scaling model &amp; pre-conditions</td>
<td>Support government in refining model (e.g. replication)</td>
<td>Consult regional officials and line ministries to assess sites for replication</td>
<td>3-6 months</td>
</tr>
<tr>
<td>2. Secure/Identify funding model</td>
<td>Explore private funding models (e.g. collective as business spinoff)</td>
<td>Assess ability to formalize funding into national budget, explore partnership with multilaterals</td>
<td>6 months</td>
</tr>
</tbody>
</table>

---

3. Implement scaling

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transition away from the “hard law” requirement of local content.</td>
<td></td>
</tr>
<tr>
<td>2. Invite partnership among multinational firms to establish a “business collective” to commit ex-ante the creation of development centers as a means to bridge the capabilities gap among domestic firms. Provide monitoring oversight to following action plan mentioned above to ensure transferability/generalizability of skills learned.</td>
<td></td>
</tr>
<tr>
<td>3. Engage in roundtable dialogue across sectors (i.e. beyond extractives) to facilitate the identification of capability bottlenecks to improve the service targeting.</td>
<td></td>
</tr>
<tr>
<td>4. Provide a platform for information sharing among domestic firms to build up a registry of service providers and a foundation for networking.</td>
<td></td>
</tr>
</tbody>
</table>

In combination, these actions can meaningfully address the capabilities constraint for promoting direct spillover among domestic firms. See Appendix VI for Monitoring and Evaluation Plan.
References


Technical Appendix

Appendix I: Mozambique’s Product Space over Time

Mozambique’s Product Space from Atlas of Economic Complexity in 1992 vs 2018
Appendix II: Data Validation

Cross Validation of Key Variables across Data Sources

Share of Capital from Foreign Sources

Firm Revenue

Labor Size

Wage Bill

Excludes micro firms (<10 employee)
### Appendix III: Direct Spillover: Enterprise Survey

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Is Supplier to Foreign Investment in Mozambique</th>
<th>(2) Labor Productivity – Log Revenue/Worker</th>
<th>(3) Labor Productivity – Log Value Add/Worker</th>
<th>(3) Has Introduced New Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.767***</td>
<td>0.459**</td>
<td>0.242***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.245)</td>
<td>(0.198)</td>
<td>(0.0876)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>11.92***</td>
<td>11.64***</td>
<td>0.146***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.306)</td>
<td>(0.187)</td>
<td>(0.0392)</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>447</td>
<td>415</td>
<td>525</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.067</td>
<td>0.117</td>
<td>0.068</td>
<td></td>
</tr>
<tr>
<td>Sub-Industry FE</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
### Appendix IV: Payoff Parameters in Game Theoretic Model

Parameters Affecting Government and Multi-National Firms’ Payoffs

<table>
<thead>
<tr>
<th>Player</th>
<th>Parameters Affecting Payoff</th>
<th>Directional Impact if Subsidize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>Rent Seeking Potential (for politics/own firm)</td>
<td><img src="arrow_red_down" alt="Red Arrow Down" /></td>
</tr>
<tr>
<td>Government</td>
<td>Ability to gain Political Capital / Power</td>
<td><img src="arrow_yellow_sideways" alt="Yellow Arrow Sideways" /></td>
</tr>
<tr>
<td>Government</td>
<td>Public Sentiment</td>
<td><img src="arrow_green_up" alt="Green Arrow Up" /></td>
</tr>
<tr>
<td>Government</td>
<td>Fiscal concern</td>
<td><img src="arrow_red_down" alt="Red Arrow Down" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Player</th>
<th>Parameters Affecting Payoff</th>
<th>Directional Impact if Expand/Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNE</td>
<td>Minimize Production Cost</td>
<td><img src="arrow_green_up" alt="Green Arrow Up" /></td>
</tr>
<tr>
<td>MNE</td>
<td>Access to new markets for revenue growth</td>
<td><img src="arrow_green_up" alt="Green Arrow Up" /></td>
</tr>
<tr>
<td>MNE</td>
<td>Reputation / Corporate Social Responsibility</td>
<td><img src="arrow_green_up" alt="Green Arrow Up" /></td>
</tr>
<tr>
<td>MNE</td>
<td>Building relationship with government</td>
<td><img src="arrow_green_up" alt="Green Arrow Up" /></td>
</tr>
</tbody>
</table>
## Appendix V: Proposed Policy Scheme: Breakdown of Roles & Incentives

<table>
<thead>
<tr>
<th>Player</th>
<th>Role / Function</th>
<th>Incentive to Act</th>
<th>Safeguard against defection</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNEs</td>
<td>Contribute monetarily to establish business collective (e.g. “Development Partners”)</td>
<td>Positive return on investment where savings from promoting higher-quality local suppliers (vs. importing labor/services) outweighs investment cost</td>
<td>Establish ex-ante commitments using “funding drives” to ensure financial buy-in ahead of programming</td>
</tr>
<tr>
<td></td>
<td>Use gap analysis to identify specific areas for improving skills capabilities</td>
<td>Investment cost spread across firms, while expected return does not diminish (e.g. domestic suppliers can be shared)</td>
<td></td>
</tr>
<tr>
<td>Mozambican Government (e.g. business elites)</td>
<td>Provide regulatory oversight and monitoring to ensure service provision matches community need</td>
<td>Can protect opportunity for own businesses</td>
<td>Early conversation with government in formulation phase can improve buy-in</td>
</tr>
<tr>
<td></td>
<td>Promote greater awareness among domestic firm of training opportunity</td>
<td>Win public support</td>
<td>Media campaign and public marketing can increase accountability</td>
</tr>
<tr>
<td>Third Party Contractor</td>
<td>Provide actual training services to local firms</td>
<td>Paid by business collective for service</td>
<td>Need to be vetted by business community in quality of service</td>
</tr>
<tr>
<td></td>
<td>In modified cases, the contractor may independently charge for service provision in a results-based financing scheme</td>
<td></td>
<td>Search for contractor through competitive process with future contract renewal contingent upon results</td>
</tr>
</tbody>
</table>
Appendix VI: Theory of Change and Monitoring & Evaluation Plan

**Theory of change**

**Development Challenge**
- FDI investment has seen limited spillover to local economy, despite the scale/pace & empirical existence

**Underlying Causes**
- Local capabilities preclude FDI firms from making linkages

**Project Interventions**
- Creation of MNE collective to commit ex-ante to third-party provision of training services
- Government provides oversight / monitoring
- Government support knowledge sharing platform for identification of domestic firms

**Intermediate Outcomes**
- Increased capabilities of domestic firms in terms of business management, quality control etc.
- More domestic firms linked as direct supplier

**Long-term Outcomes**
- Direct spillover leads to increased firm TFP/productivity
- Improved aggregate GDP/per capita as measure of economic well-being

**Other factors/assumptions**
- Global financial stability + minimal exchange rate volatility
- Mozambique FDI investments as currently planned
- Political forces stable

**Indicators:**
- USD funding committed
- Selection criteria identified and published
- Type of training services identified after gap analysis
- Number of firms trained (by gender)
- Improvement in business practice
- Number of new certification issued
- Number of direct suppliers linked
- Aggregate TFP
- Magnitude of direct/indirect spillover by sector and region
- GDP
- Trends in FDI
Interview List

- Specialty Lawyer, Focused on Natural Resources Sector in Mozambique
- Law Partner, Representing Multinational Enterprises in Megaproject Negotiation with Government of Mozambique
- Former Head of Negotiations, Mozambican National Gas Company
- Lead Lawyer, Major Multinational Oil and Gas Company with Investment in Mozambique
- Local Content Representative, Major Gas Company
- Private Sector Specialist, International Finance Corporation (IFC)
- Investment Consultant, International Finance Corporation (IFC)
- Economist, World Bank Mozambique
- Founder, Non-Profit Organization
- Professor, Research University
- Former Advisor, Ministry of Economy and Finance Mozambique
- Partner, Major law firm advising FDI investment in Mozambique
- Research Fellow, Oversees Development Institute (ODI)
- Associate Professor, Research University
- Director, Governance Think Tank