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CAMBODIA

THE INVESTMENT CLIMATE ASSESSMENT 2014
CREATING OPPORTUNITIES FOR FIRMS IN CAMBODIA

A TRADE DEVELOPMENT REPORT

The World Bank and
The Asian Development Bank

DANIDA

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TRAC
TRADE RELATED ASSISTANCE CAMBODIA

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CAMBODIA

The Investment Climate Assessment, 2014
Creating Opportunities for Firms in Cambodia

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Abbreviations

ASEAN	Association of South East Asian Nations
AEC	ASEAN Economic Community
CO	Certificate of Origin
EBA	Everything-But-Arms Initiative
FDI	Foreign direct investment
GDP	Gross Domestic Product
ICA	Investment Climate Assessment
IDP	Cambodia's Industrial Development Policy, 2014-2024
LPI	Logistics Performance Index
MEF	Ministry of Economy and Finance
MOC	Ministry of Commerce
NSW	National Single Window
NTM	Non-Tariff Measure
RGC	Royal Government of Cambodia
SEZ	Special Economic Zone
SME	Small- and medium-size enterprise
TFP	Total Factor Productivity

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The findings and interpretations expressed here are those of the authors and do not necessarily reflect the views of the World Bank Group, its Executive Directors, or the countries they represent.

Executive Summary

1. **Over the past decade, Cambodia has more than halved its rate of poverty thanks to economic growth averaging 8 percent per annum, strong export performance and positive changes to the investment climate.** Exports, dominated by garments, footwear and tourism, are projected to reach almost $8 billion in 2014. The garment industry has played an important role in reducing poverty by creating job opportunities for more than 650,000 workers, mostly young women migrating to Phnom Penh from the countryside. The tourism sector has also been a growth driver, attracting foreign direct investment (FDI), contributing to the expansion of the construction sector, and establishing strong backward linkages to poorer communities.

2. **Cambodia is an attractive investment destination as it is strategically located at the center of ASEAN, creating significant opportunities for integration into regional and global value chains.** Cambodia is benefiting from sustained economic growth in the region, with increased opportunities offered by ASEAN economic integration and preferential access to the EU market. Moreover, compared to several regional peers, Cambodia enjoys an abundance of labor at relatively low salaries that has contributed to high and sustained FDI, which at 8.8% of GDP is considerably higher than neighboring Lao PDR, Thailand or Vietnam. The Cambodian economy is diversifying into new product areas and attracting more sophisticated investors through linkages into regional value chains.

3. **With a changing global environment, Cambodia is likely to face increasing challenges maintaining and expanding market access in a dynamic and highly competitive region.** Because of the high concentration of its export base, Cambodia remains vulnerable to external shocks, which could have a pervasive impact on its economy. As an LDC, Cambodia benefits from enhanced market access to some developed markets, notably the EU, which has been critical in the development of its export base, but this window of opportunity for preferential access to developed markets is eroding as free-trade agreements proliferate (negotiations between the EU and Vietnam are at an advanced stage, for example) and Cambodia's LDC status wanes.

4. Cambodia's comparative advantages are increasingly under pressure from regional peers such as Myanmar and Vietnam, which present valid alternatives for investment in labor-intensive manufacturing. Cambodia thus needs to increase further its competitiveness, by improving its connectivity to neighboring countries through better logistics and trade facilitation, and by enhancing the policy space surrounding trade and investment to attract and hold these new investors while building clusters around new industries. By addressing the bottlenecks in the business environment, Cambodia can increase its trade integration and move up the manufacturing value chain.

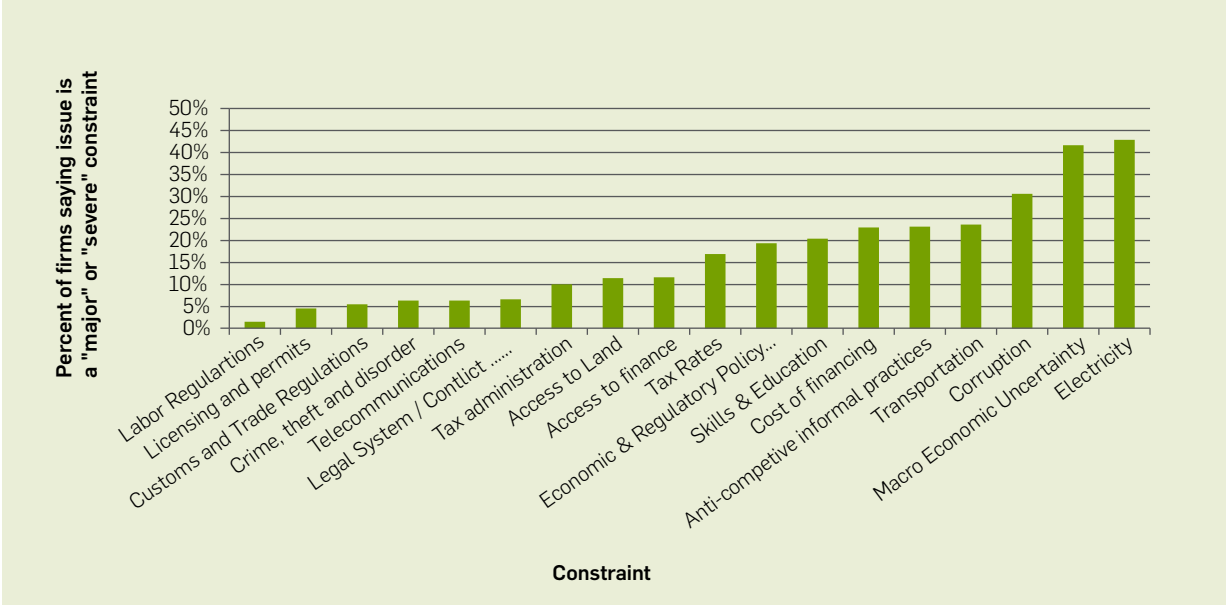
5. **The Royal Government of Cambodia (RGC) recognizes the importance of enhancing the investment environment and has initiated a series of reforms.** The new five-year Rectangular Strategy III continues to prioritize improvements to the business environment that will help diversify and increase value-added in production. Increased capacity within Government has led to a strengthened resolve to

enhance market access for new investors and to create opportunities for Cambodian exporters. The RGC reform program includes the streamlining and automation of government procedures, reforms to the laws relevant to the investment climate, trade policy and the stronger enforcement of rule of law.

6. **Progress has been greatest on trade facilitation, as reflected by the impressive improvement in Cambodia's ranking on the World Bank's Logistics Performance Index (LPI).** Cambodia has drastically improved its logistics performance, jumping 46 places in the LPI ranking to 83 in 2014 from 129 in 2010. Customs clearance times have fallen from 5.9 days in 2010 to only 1.4 days in 2014, while the percentage of consignments selected for inspection has fallen from 29 percent in 2010 to only 17 percent in 2014.

7. **Despite the government's effort at introducing reforms to improve the investment climate, the business environment continues to hamper the competitiveness of firms in Cambodia.** According to the 2012 World Bank Enterprise Survey, the most severe constraints faced by firms include the cost of electricity, corruption and anti-competitive practices, and transport and logistics (Figure 1.1). Moreover, there are specific constraints that affect two important production clusters in the economy: firms in Special Economic Zones (SEZs) and firms in the informal sector. The main constraints faced by firms in SEZs include skills (number one), followed by corruption and electricity. The main constraints faced by firms in the informal sector include transport, electricity, and telecommunications.

Figure 1.1: Major or severe constraints faced by all firms (registered and unregistered) in Cambodia, 2012



Source: World Bank Enterprise Survey, 2012.

Key constraints and priority measures to supporting producers and investors

8. **The relatively high cost of electricity hampers the performance of Cambodian firms.** Electricity is seen as the main constraint on the business environment. Not only is electricity more expensive in Cambodia than in almost every other country in the region, but the supply is intermittent. Manufacturers are forced to rely on electrical generators for a substantial amount of their power needs. This problem is particularly acute in the border regions where the special economic zones (SEZs) are located. The Government can contribute to enhanced competitiveness of firms and attract new investors by decreasing electricity costs, which comprise a major component of firms' overall operating costs. In the medium term, the RGC could address the high cost of electricity with a comprehensive national plan comprising the review of energy sources (including renewable energy) and identify specific regulations that may be contributing to the high cost of energy. In the short term, priority should be given to improve existing agreements with neighboring countries to ensure a steady and reliable provision of electricity to the SEZs located near the border.

9. **Corrupt and anti-competitive practices remain one of the main obstacles to doing business: while the amount of informal fees paid has declined as a proportion of overall sales, the incidence of informal payments has risen.** There are indications that for certain activities such as importing goods, the number of firms paying gifts at the time of the survey had increased although the size of the payment was lower as a proportion of overall sales than in previous ICA surveys. Furthermore, uncompetitive practices, which are closely related to informal payments, are perceived as a major impediment to doing business in Cambodia. Corrupt and informal practices proliferate in opaque environments that require face-to-face contact between investors and government officials.

10. In the medium term, automation of key government processes could eliminate these practices by removing any personal contact between parties and by creating a transparent online portal for information about rules and processes required by firms. Automation has the added advantage of creating a traceable record of transactions between the government and the private sector. In the short term, the e-Commerce Law can be passed by the National Assembly so that firms can transact e-payments for government services. At present, both the Ministry of Economy and Finance (MEF) and Ministry of Commerce (MOC) are implementing automation in the areas of customs and border reform, new company registration and Certificate of Origin (CO) that can serve as models for other ministries. Moreover, completing the draft Competition Law and setting up an independent Competition Agency would go a long way towards ensuring a level playing field for companies in a country where personal connections are still considered important to business profitability.

11. **Continued improvements in trade facilitation such as streamlining and automating export procedures and the implementation of a National Single Window (NSW) solution are needed to reduce the cost of trading across borders.** Despite huge progress in trade facilitation, Cambodia's performance still lags behind regional peers. Compliance with cumbersome and complex procedures is proving to be a serious obstacle to export for small and particularly medium-sized firms. Firms in Cambodia face export costs that are around 40% more than the regional average (Indonesia, Laos PDR, Philippines, Vietnam). If Cambodia could enact measures that reduce its export cost to the regional average, the total number of exporters would double, mainly due to the entry of middle-size firms into export markets (Artuso and Reyes, 2014). The recent reforms made by Customs leave no room for complacency as export procedures are still perceived to be cumbersome and time-consuming,

characterized by manual processes and the involvement of several agencies in the issuance of import-export permits and licenses. By streamlining and automating these procedures, in the framework of the NSW, Cambodia can dramatically improve its trade performance by reducing the cost of doing business.

Special Economic Zones and the informal sector: specific attention to specific needs

12. **First, Special Economic Zones (SEZs) have a higher potential for innovation and technology spillover, and can contribute to an expansion of Cambodia's export base.** Even if they are only employing about 50,000 workers (the average number of employees per SEZ firm is 616), SEZs are contributing significantly to a broader export base, assisting the establishment of foreign investors in sectors that are completely new to the local economy, such as bikes, TV components, and toys. The zones offer several benefits in terms of One Stop Shops and enhanced border clearance procedures. They also provide better services than the rest of the country as measured by quantitative indicators such as cost of electricity (15% cheaper), labor productivity (20% higher) and Customs and border clearances (16% faster).

13. **The SEZs do not yet meet the higher expectations of their investors.** Firms based in the SEZs typically have higher expectations for the investment climate, based on experiences in other countries or on the promise of the SEZs. Similarly, the fact that some typical constraints (for example tax rates and access to utilities) are not an issue for SEZ-based firms may lead to increased concerns over those factors that do remain. Measures to continue to improve the business environment in SEZs include: (i) streamlining the procedures in the one-stop-shops and introduce an automated risk management system for cargo shipment inspections, particularly those related to Camcontrol, in order to reduce delays; (ii) support SEZs' efforts to improve low skill-level of workers through vocational training in order to improve productivity; and (iii) Undertake a needs assessment of the current infrastructure gaps, including in electricity, water supply and transport, and negotiate arrangements with the SEZ operators to identify viable long-term solutions to the problems outlined by SEZ firms.

14. **Second, firms in the informal sector account for a large proportion of production and employment, yet they are typically less productive than firms in the formal sector.** SMEs are a major source of employment (45% of total employment) and they represent a critical part of Cambodia's production base (99% of total firms). However, compared to countries at the same level of GDP, very few medium size firms are actively exporting from Cambodia. The existence of a missing middle is likely to be associated with a costly business environment that favors large businesses and encourages small firms to remain small and informal so as to remain hidden from the regulatory environment.

15. **The level of informality can be reduced by putting in place incentives for firms in the informal sector to move to the formal sector.** Informal firms are perceived to have a price advantage over formal firms and face less regulatory obstacles to doing business. This competitive edge appears to prevent formal firms from operating on a level playing field. The persistence of these constraints over several ICA surveys indicates that they are deeply embedded in the local business culture and are therefore challenging for policy makers to address and alleviate. Rather than attempting to repress informality, the Government may consider incentivizing firms in the informal sector to become formal, thereby increasing fiscal revenues, providing higher wages for workers and ensuring better productivity. In the short term, the RGC can design and implement a system of incentives for business registration encouraging companies to become formal, thereby increasing fiscal revenues, providing higher wages

for workers and ensuring better productivity. In the short term, the RGC can design and implement a system of incentives for business registration encouraging companies to become formal.

Next Steps in reforming the investment environment

16. **The increasing sophistication and diversity of Cambodia's economy suggest a number of policy priorities that will require large investments as well as more difficult regulatory changes.** These include: (i) addressing the high cost of electricity; (ii) automating Government processes; (iii) strengthening anticorruption measures; (iv) improving trade facilitation; (v) completing the draft Investment, eCommerce and Competition Laws; and (vi) designing and implementing a system of incentives for business registration.

17. **Cambodia's continued success in improving the investment climate will rest on the Government's efforts at implementation.** Progress in the business environment can be positively benchmarked against previous ICA surveys and in comparison to regional peers. But Cambodia's success depends on implementation. Cambodia's regulatory environment often follows international best practice and appears to comply with the RGC's international commitments and obligations. However, informal practices are still prevalent with poor implementation often hindering the stated objectives of the regulations. The RGC could design and implement a specific strategy aimed at creating incentives for officials to implement duly the law.

18. **A series of "smart" investment incentives may signal to investors the Government's seriousness in attaining a robust investment climate.** The revision of the current Investment Law would lead to an enhanced regime of investment incentives and investment protection. A system of smart incentives and more effective investment protection can pave the way to foreign investors opting to move into Cambodia, taking advantage of its competitive labor cost and its favorable geographical location at the center of the ASEAN Economic Community (AEC). A Zero-Corruption Strategy may be successful in curbing corrupt practices within the SEZs. Enforcing such a strategy is feasible in the controlled environment of an SEZ and may have strong resonance for Cambodia's positive image as a destination for foreign investment.

19. **The current improvements in the investment climate and the RGC's positive reform momentum present a unique opportunity for Cambodia to expand the economy and increase social welfare.** By seizing the opportunities offered by enhanced market access, dynamic growth and its advantage in labor intensive manufacturing, Cambodia can use the insights of the ICA report to ease the constraints on doing business, build investment and foster diversification in order to create wealth and opportunities for the Cambodian people.

Box 1.1: Links between the ICA 2014 and Cambodia's Industrial Development Policy 2014-2024

The RGC's Rectangular Strategy identifies the importance of automated trade and business processes, and the need for regulatory reform. The RGC is currently developing its Industrial Development Policy 2014-2024 that deals with many of the issues raised in this report. The RGC will focus on broadening the manufacturing base, attracting new investment and creating growth poles around the current manufacturing anchors. The IDP focuses on informality, which is dealt with extensively in chapter 3 of this report and the so-called "missing middle" of non-exporting SMEs, that is also discussed in chapter 3.

The recommendations in the ICA link to the IDP in the following ways:

1. Improved access to electricity is recognized as a key constraint in both the ICA and the IDP. The expansion of grid capacity and connectivity is advocated in both reports.
2. The issue of access to finance presents a puzzling picture because, while firms recognize that the cost of finance and the expense and difficulty of acquiring credit are major problems, very few of those businesses say that they require additional finance. The IDP adopts a long-term recommendation for enhanced credit intermediation through a strengthened regulatory environment for financial services and by mobilizing capital through the securities market.
3. Diversifying the manufacturing base requires new investment and better integration into regional value chains. This issue comes across clearly in the IDP 2014-2024 and is likewise recognized as a key issue in the ICA 2014.
4. Increased connectivity, including trade facilitation and improvements to transport infrastructure are recognized in both reports as crucial to developing the business environment. Streamlining export procedures and reducing obstacles to the development of new markets for Cambodia's merchandise trade feature as key recommendations in both reports.

CHAPTER 01

CRITICAL CONSTRAINTS

KEY MESSAGES

- **The three major constraints to doing business are associated with electricity, corruption and anti-competitive practices.**
- **Electricity is now the major concern of firms regardless of size and export orientation. Not only is the price of electricity higher in Cambodia than almost anywhere in the region but the service is patchy and inefficient.**
- **Corruption still remains a major concern and is closely linked to prevalence of uncompetitive practices. The proportion of firms paying informal fees has not diminished.**
- **Anti-competitive or informal practices, cost of financing, and skills and education are rated close to the top three constraints.**
- **Cambodia remains an attractive country in which to source labor, due to (relatively) low salaries, and its central location for manufacturers integrating into regional value chains.**
- **Customs and trade regulations have dropped dramatically as a constraint since the first ICA survey in 2003. This improvement is likely a reflection of the automation of Customs and border processes, culminating in the roll-out of the ASYCUDA customs automation software to major borders crossings and checkpoints.**
- **This survey examined firms in both the formal and informal sectors for the first time, allowing comparisons between survey responses for the two groups.**

1.1 Introduction

20. **The Cambodia ICA 2014 provides an overview of the business environment across the country based on the large-scale Cambodia World Bank Enterprise Survey 2012.** The data show that Cambodia's business and regulatory environment is reasonably competitive within the Association of South East Asian Nations (ASEAN) region, with an upward bias seen in many of the key indicators. Cambodia still remains an attractive place to source labor, due to the (relatively) low salaries expected by workers, and a conveniently central location for manufacturers wishing to integrate into regional value chains.

21. **These competitive factors are still clouded by a host of regulatory, infrastructural and logistical issues that tend to act as constraints on FDI.** The ICA report is designed to highlight these vulnerabilities by taking stock of progress that has been achieved and focusing on the work that has still to be done.

22. **The three top constraints emerging from the survey are electricity, corruption and anti-competitive practices with concerns about corruption and, to a lesser extent, tax rates and access to finance being higher for Cambodia than its low-income comparator countries.** Anti-competitive or informal practices, cost of financing, and skills and education are rated near to the top three constraints. Customs and trade regulations have dropped dramatically as a constraint since the first ICA survey in 2003, while access to electricity has worsened considerably and ranks as the top constraint reported by most firms. Corruption remains one of the main concerns as most firms are expected to make informal payments to public officials in order to get things done. This motivates firms to remain small and informal. Even if these costs absorb only a small proportion of business revenue, compared to regional peers, two-thirds of enterprises pay informal fees worth over one-fifth of the official cost of their licenses and permits. Moreover, firms lack competent workers, ranking skills as one of their main concerns.

23. **Cambodia's overall productivity has improved relative to the comparator countries, but that of the manufacturing sector has worsened.** Efficiency gains, reflected in the overall improvement in TFP, are associated with customs automation, better logistics infrastructure and reduced labor conflicts, while access to finance is still cited as a major or severe problem to doing business. The monetary and time-related costs of export registrations, together with the lack of adequate information about trade-related regulations, contribute to Cambodia's high trading costs.

24. **The RGC could consider implementing an urgent reform program to address the main constraints emerging from the ICA.** The reform program, which can result into a marked improvement of the business environment, could comprise of the following main actions:

    a. High cost of electricity: draft a comprehensive national plan comprising the review of energy sources (including renewable) and identify specific practices that may be contributing to the high cost of energy. Priority should also be given to improving existing agreements with neighboring countries to ensure the steady and reliable provision of electricity to the SEZs located near Cambodia's borders. A regional approach towards addressing constraints currently faced by the power sector may be more appropriate, as an isolated power sector expansion will likely require difficult trade-offs between economic growth and environmental challenges.

    b. Automate government processes. Corrupt and informal practices proliferate in opaque environments that often require face-to-face contact between investors and government officials. Automation of key government processes could help to eliminate these practices by reducing personal contact between parties and by creating a transparent online portal for information about rules and processes required by firms. Automation has the added advantage of creating a traceable record of transactions between the Government and the private sector. To this end, the swift passing of the e-Commerce Law by the National Assembly as soon as possible would enable firms to perform e-payments for government services. Both the Ministry of Economy and Finance (MEF) and Ministry of Commerce (MOC) are implementing automation in the areas of customs and border reform, new company registration and Certificate of Origin (CO) that can serve as models for other ministries.

c. Continued improvements to trade facilitation. The important improvements made by Customs leave no room for complacency as there are still cumbersome and time-consuming procedures to be completed manually through several agencies before import-export permits and licenses can be obtained. By streamlining and automating these procedures, in the framework of the National Single Window (NSW), Cambodia could improve its trade performance dramatically by contributing to decreased trade costs and improved firm competitiveness.

25. **The Cambodia World Bank Enterprise Survey 2012 which was carried out in seven geographic locations (an expansion beyond the boundaries of previous surveys) to include large urban centers located in Bavet, Battambang, Kampong Cham, Koh Kong, Phnom Penh, Siem Reap and Sihanoukville.** The survey comprised firms in the Manufacturing sector, Trade (defined as domestic trade, mostly retail), Tourism and Other sectors (comprising construction, transport and ICT). Firms in the formal and informal sectors were included, allowing comparisons between survey responses for the two groups for the first time. Responses have been weighted to allow for the fact that some firms (large, formal firms, for example) were more likely to respond than others.

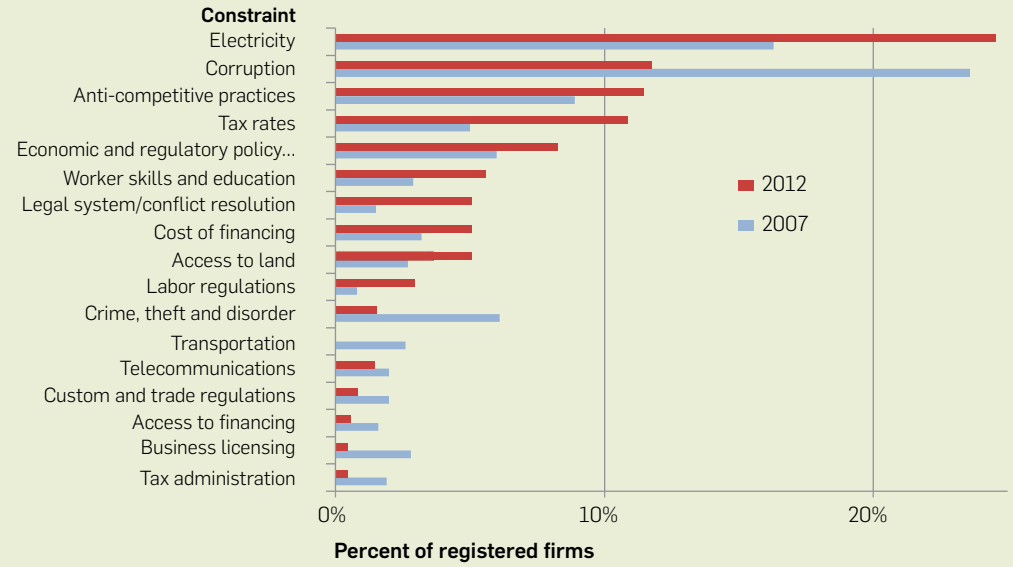
1.2 Key Constraints on Cambodia's Business Environment

26. **The three top constraints to doing business as perceived by firms are associated with electricity, corruption and anti-competitive practices.**[1] According to the registered enterprises surveyed, concern about basic infrastructure reflects the success of reforms addressing some of the 'soft constraints' that dominated earlier investment climate concerns of enterprises and a growing preoccupation with the adequacy of reliable infrastructure as there was a substantial decline in the respondents' preoccupation with crime, transportation, trade regulations, and business licensing (Figure 1.2).[2]

[1] The enterprise survey will not examine 'macroeconomic uncertainty' in detail as it has been well documented elsewhere. See Annex I for a full profile of the main constraints to doing business as reported in Cambodia across groups of firms.

[2] This figure is limited to registered companies only to allow a fair comparison between the 2007 and 2012 Cambodia Enterprise Surveys - the 2007 survey includes virtually only registered firms while the 2012 survey includes also many unregistered firms. Firms are classified as registered if they have any type of formal registration, such as a firm registration with the Ministry of Commerce, a tax registration with the Ministry of Finance, VAT registration, labor department registration, a registration certificate from the provincial commerce division, registration with municipality, or registration with the Council for the Development of Cambodia.

Figure 1.2: Electricity, corruption and anti-competitive practices are most often ranked as the top constraint by registered firms

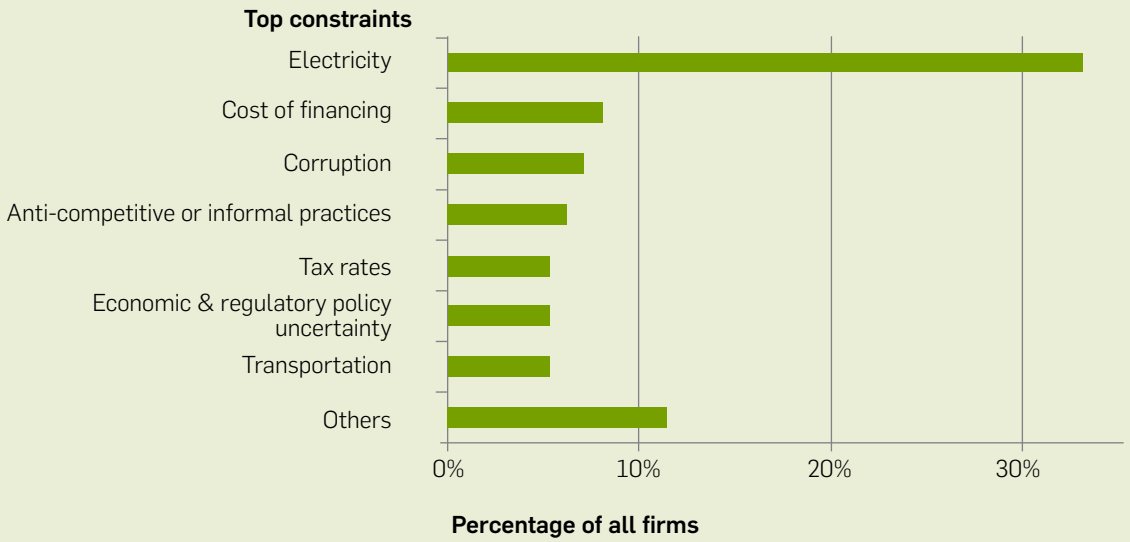


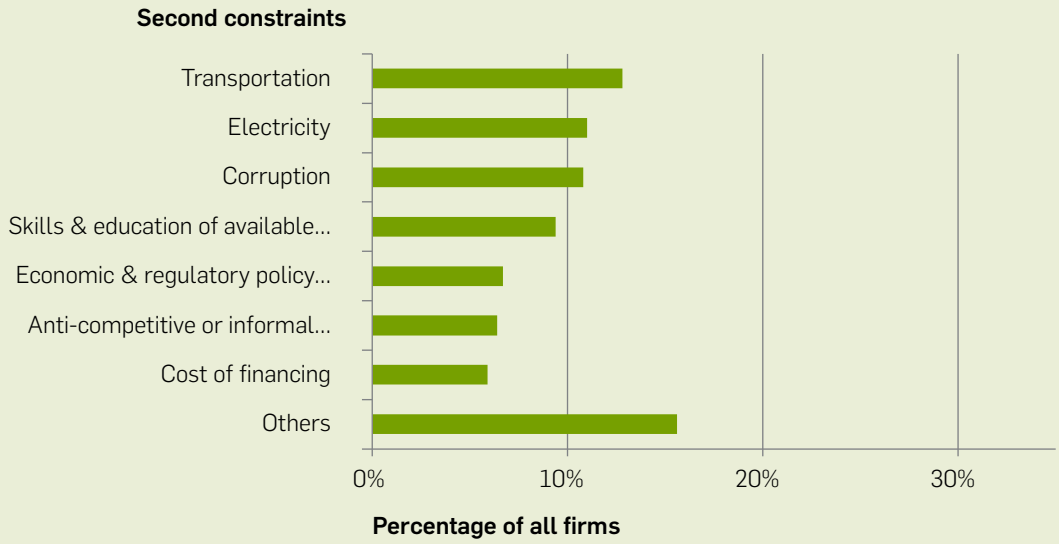
Source: World Bank Enterprise Surveys.

27. **Electricity is the major concern of firms.** Electricity is the major concern of enterprise managers regardless of size and export orientation. Not only is the price per kilowatt hour (kWh) higher in Cambodia than almost anywhere in the region but the service is also patchy and inefficient to the extent that diesel generators are used for about 30 percent of firms' manufacturing. In the SEZs, where electricity is cheaper, the intermittent supply of electricity, rather than its expense, is the main concern of companies.

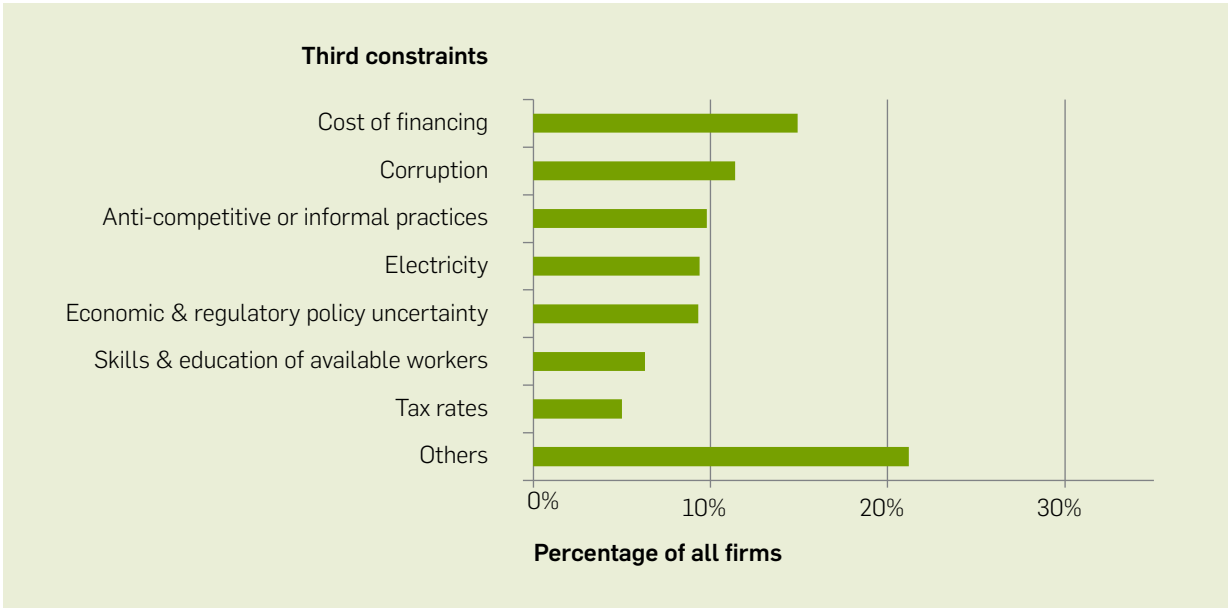
28. **While firms agree that the top constraint is electricity, there is less agreement on the second- and third-ranked constraints.** When asked to rank the top three constraints, one-third of the respondents to the enterprise survey (both registered and unregistered firms) selected access and reliability of electricity as their top constraint (Figure 1.3). Worries about electricity are now 50 percent higher than they were in the previous survey, whereas corruption remains a major concern despite its decline in importance compared to previous survey (Figure 1.2). There has also been growing worries about other factors affecting the ability of enterprises to do business. A much smaller proportion of enterprises selected other factors than electricity such as the cost of financing and corruption as the top constraint. In contrast, there was less unanimity about the second and third most important impediments to doing business. Transportation, corruption and electricity were selected as the second most important constraint by 11 to 13 percent of the enterprises. The cost of financing was ranked highest for the third most important constraint, followed fairly closely by corruption and anti-competitive business practices.

Figure 1.3: Electricity is the top constraint, but there is no consensus on other constraints[3]





[3] The figures do not add up to 100% because 'macroeconomic uncertainty' has been removed. See also footnote 1.

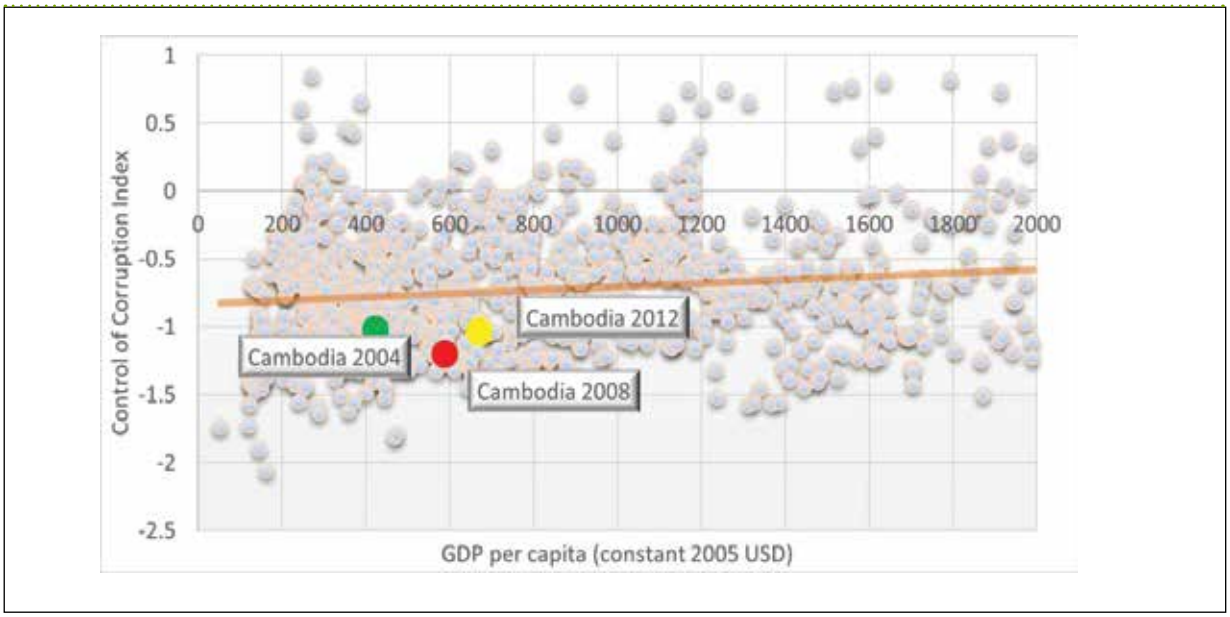


Source: World Bank Enterprise Survey, 2012.

29. **Corruption still remains a major concern (Figure 1.3).** Corruption remain a top priority for Cambodian firms, despite the fact that the average amount of informal fees paid has declined as a proportion of overall sales is lower than for other countries in the region. Furthermore, the incidence of informal practices has not diminished, implying that while officials may be demanding informal fees less frequently, the proportion of firms paying informal fees has not diminished (and there are indications that for certain activities such as importing goods, the proportion of firms paying gifts has increased).

30. **Concerns about corruption and, to a lesser extent, tax rates and access to finance are higher for Cambodia than its low-income comparator countries.** Those concerns appear to ease as countries move to higher levels of development. For the higher-income comparator countries, constraints shift to the quality of governance and the capability of the state to provide services like trade and labor regulations and business licensing that lower the number of informal enterprises and help to level the playing field for formal enterprises. However, corruption remains high relative to Cambodia's level of development. Despite improvements in the level of development, Cambodia ranks below the average of low-income countries with per capita GDP below US$2,000, measured in 2005 constant US dollars (Figure 1.4). Some improvement has been made in terms of the promulgation of an anti-corruption law in 2010, the establishment of an anti-corruption unit, and the introduction of an asset declaration law in early 2011. Yet, these reforms have not yet translated into real change for the surveyed firms, as Cambodia's ranking among all countries in the world remains at the lower 14 percentile of values in the range.

Figure 1.4: Corruption remains problematic despite improvements in Cambodia's level of development



Note: The graph plots the relationship between Control of Corruption Index from Worldwide Governance Indicators project and GDP per capita in constant 2005 US dollars in the period 1996-2012. Observations refer to countries with GDP per capita below US$2,000. Higher values of the Control of Corruption Index indicate better governance ratings.
Source: World Development Indicators.

31. **Anti-competitive or informal practices, cost of financing, and skills and education are rated near to the top three constraints.** Concern about anti-competitive or informal practices reflects worries of enterprises in the formal sector about the advantage that unregistered or informal enterprises have in competing in the marketplace. More than one-quarter more of all registered enterprises are more troubled by informal business practices than they were in the previous survey. Firms are also more worried about an inadequately educated workforce. The scarcity of a qualified workforce is due to a disparity between the supply and demand of skills in the market and to a growing need for trained workers in domestic industries operating within global value chains (GVCs). Cambodia's population continues to have a low education attainment and skills shortages for existing vacancies because of a skills mismatch (Hong, 2013).

32. **Concern about the cost of finance is about the same as in 2007 and therefore still high.** SMEs are particularly vulnerable both to access and costs of formal sector financing of their activities. The Government's Program on Access to Finance aims to facilitate greater funding to SMEs. There is also an expectation that lending risks will be lowered by the recent creation of a credit bureau to provide information to lenders on the credit rating of borrowers (MOC, 2009). Cambodia, however, still lacks adequate systems for collateral and access to credit guarantee facilities in order to provide security to creditors.

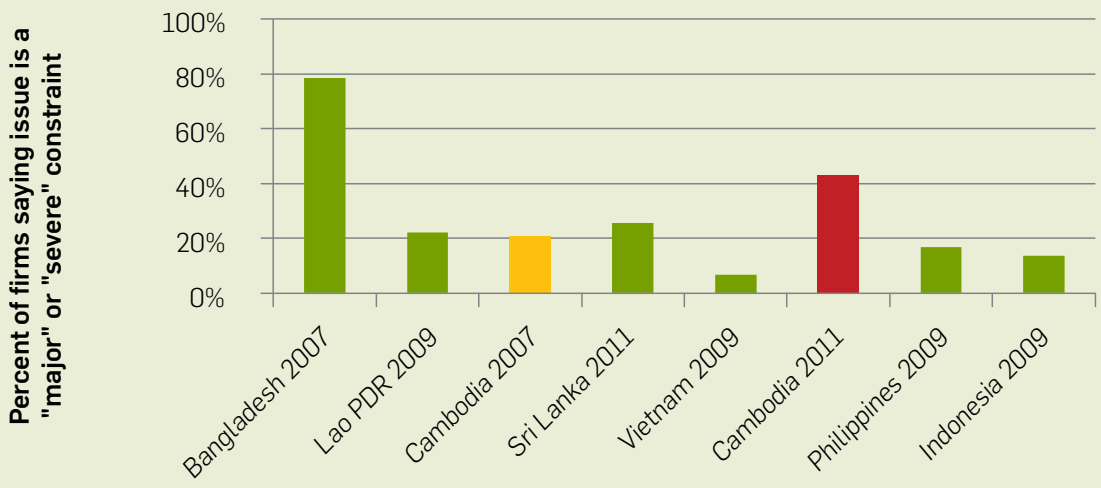
33. **Macroeconomic uncertainty is also listed as a major constraint.** The stability of the macroeconomic environment—low inflation, stable financial sector—may have been eclipsed by a perception that labor disputes and the national election, which was pending at the time of the survey, were the cause for concern. Macroeconomic uncertainty was also widely perceived to be a problem in the 2009 ICA. As a catch-all term, the constraint can be more easily understood as a compilation of constraints that are dealt with in more detail in the following sections.

34. **Customs and trade regulations have dropped dramatically as a constraint since the first ICA survey in 2003.** This improvement can be credited in large part to the automation of customs and border processes, culminating in the roll-out of the ASYCUDA customs automation software to major borders crossings and checkpoints. This has been reflected in Cambodia's dramatic rise of 46 rankings in the LPI since the previous ICA.

1.2.1 Electricity

35. **Access to electricity has worsened considerably and ranks as the top constraint reported by most firms.** The percentage of all enterprises (both registered and unregistered) that identify electricity as a major constraint is 43 percent, compared with 21 percent in 2007.[4] It reflects the generally low proportion of the population that has access to electricity in the country. With just over one-third of the population having access, Cambodia has a lower share of the population with access to electricity than any of its comparator countries, and electricity concerns by businesses are higher than any other country other than Bangladesh.

Figure 1.5: Electricity concerns of businesses in Cambodia are high compared to region



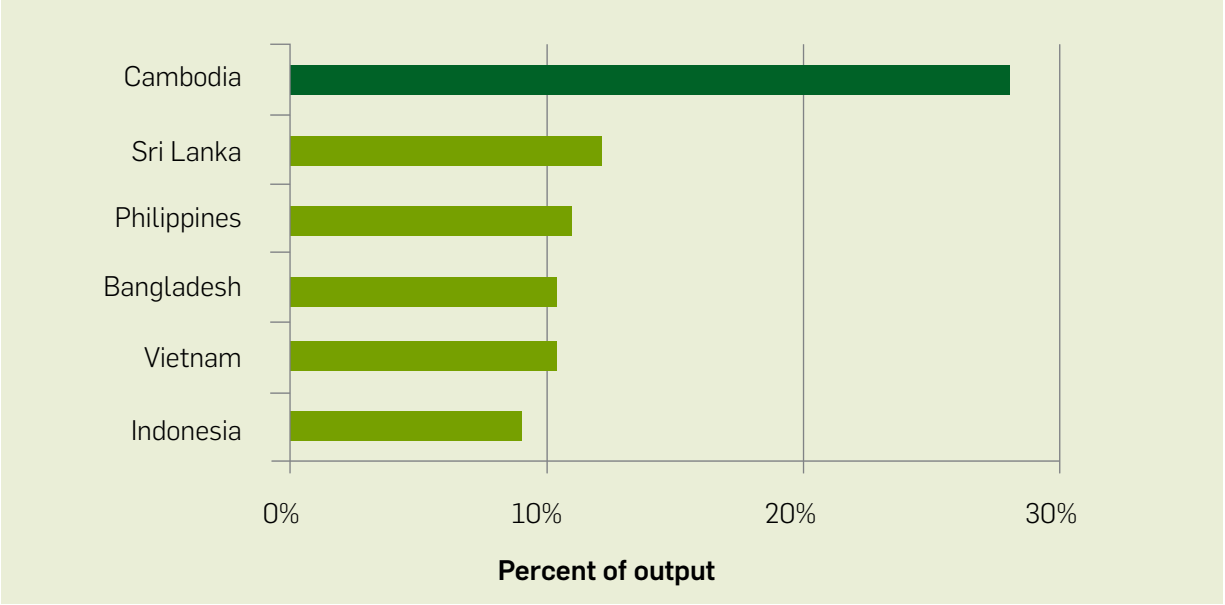
Source: World Bank Enterprise Surveys.

36. **Cambodia's electric power transmission and distribution losses as a percentage of output are higher than in any comparator country.[5]** In addition to having the highest loss rate in the region, Cambodia's proportion of losses in its output has more than doubled since 2004. These electric power transmission and distribution losses occur in transmissions between sources of supply and points of distribution and in electricity distribution to consumers.

[4] Please note that the figures for Cambodia 2007 only include registered firms.

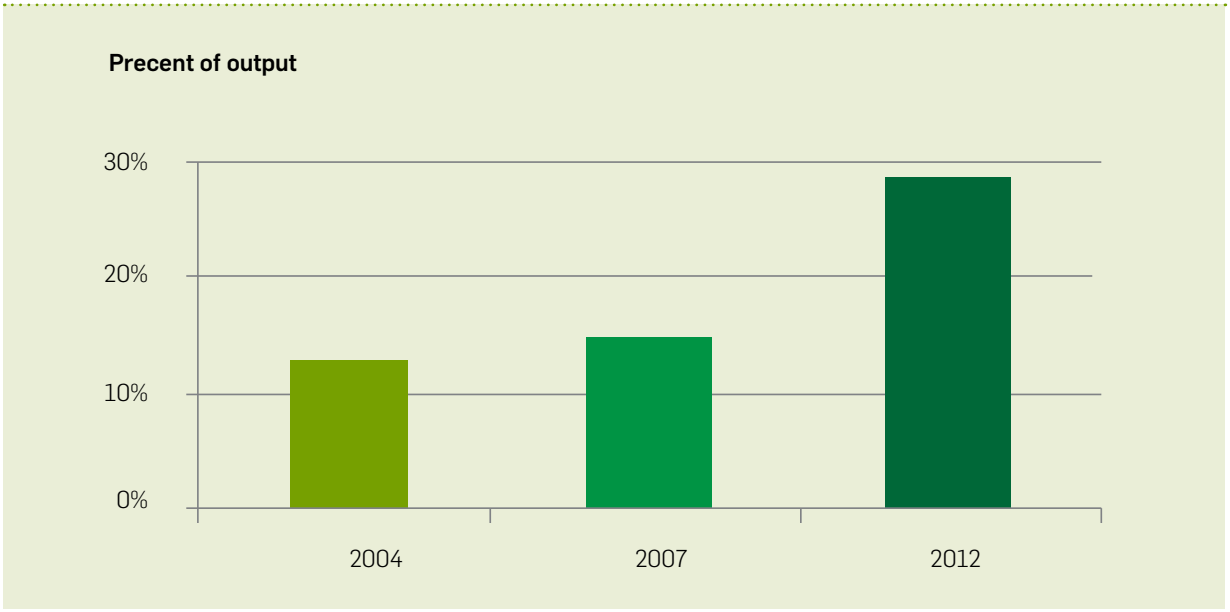
[5] Refers to the share of electric power transmission and distribution losses relative to electricity production, which is the total number of kWh generated by power plants, separated into electricity plants and CHP plants.

Figure 1.6: Cambodia has the highest rate of electric power transmission and distribution losses as a percentage of output



Source: World Bank Development Indicators.

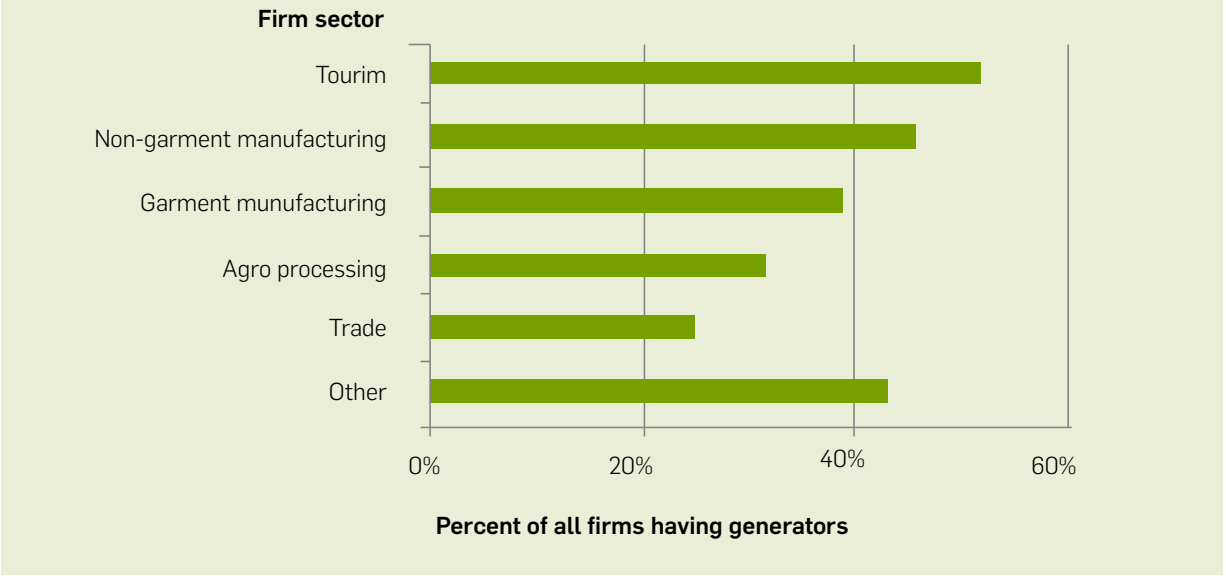
Figure 1.7: Cambodia's rate of electric power transmission and distribution losses is rising



Source: World Bank Development Indicators.

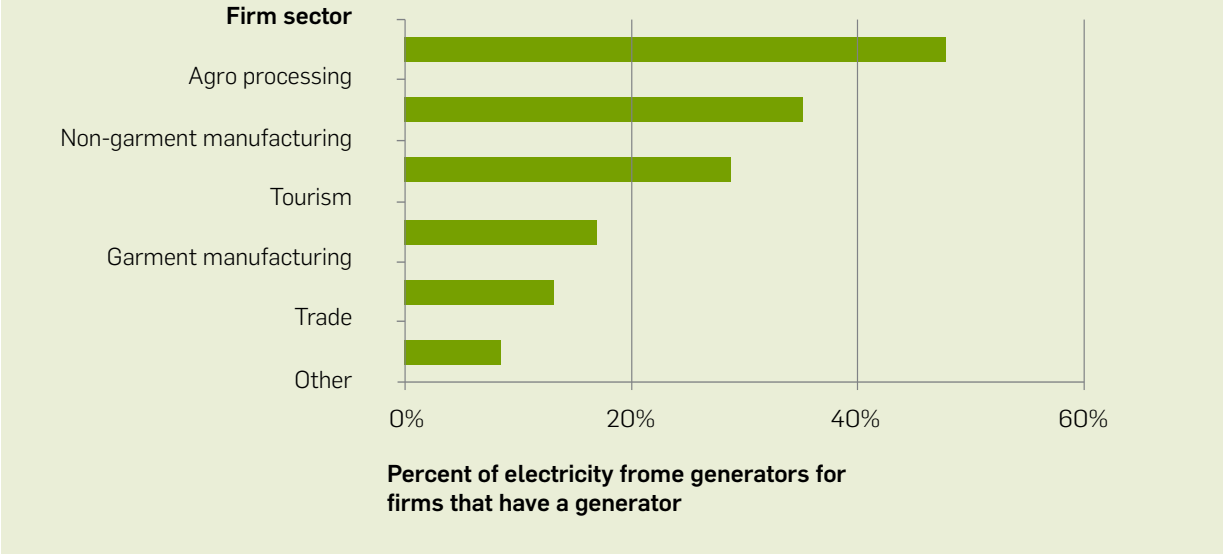
37. **A large number of businesses rely on generators to compensate for lack of access to electricity or, for those that do have access, the unreliability of that electricity.** On average, 37 percent of enterprises have generators. Among industries, tourism has the highest percentage of companies owning generators, followed by firms in manufacturing industries other than those in the garment and textile industry (Figure 1.8). Nevertheless, of those firms having generators, it is the ones in the agro-processing industry that have the largest proportion of electricity originating from generators, followed by those in manufacturing industries other than the garment and textile industry (Figure 1.9). The reason for this consumption pattern is that the garment and textile industry tends to be more labor intensive than the agro-processing and components industries.

Figure 1.8: Firms in the tourism and manufacturing sectors have the most generators



Source: World Bank Enterprise Surveys.

Figure 1.9: Agro-processers and non-garment manufacturers get most electricity from generators



Source: World Bank Development Indicators.

38. Greater dependence on generators leads to higher electricity costs. Companies in the garment and textile industry, for examples, have an average of cost of 28 US cents per kWh for electricity from their generators, compared with an average cost of 15 US cents per kWh for electricity from the grid. Those costs include capital, operating, maintenance and waste costs.

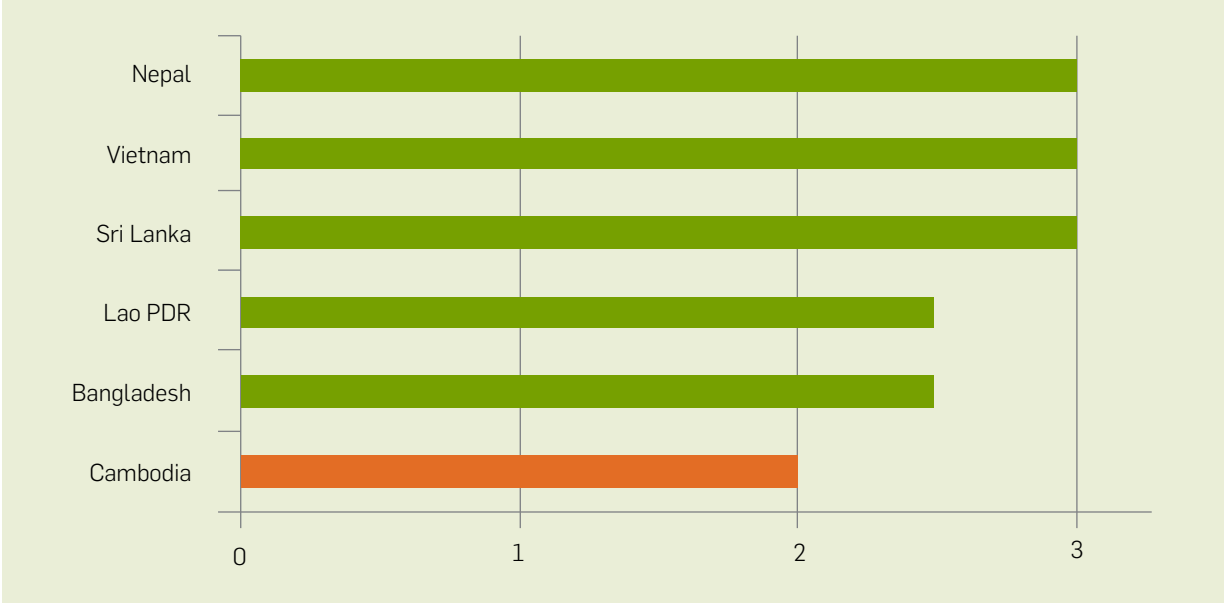
39. Hydropower is a priority area of development for the RGC. Although the hydropower sector is in an early stage of development, its expansion is already underway. Three hydropower plants are currently being built, power transmission capacity is being upgraded, and a new coal-fired plant is being constructed. The combined increase in supply, including that from new power lines from Vietnam and

the Lao PDR, will be close to 1,000 MW, with around half of that supply originating in the three new hydropower plants. The expansion is expected to triple the current supply of electricity and alleviate existing electricity-related problems currently experienced by businesses.

1.2.2 Corruption

40. Corruption remains a major problem in Cambodia. Over 30 percent of businesses regard corruption as a major constraint to doing business and 7 percent consider it to be their main problem (Figure 1.10). Although the proportion of businesses that view corruption as a major constraint has decreased compared with the proportion reported in 2007, Cambodia still leads the region in having the highest share of firms that consider corruption to be their main constraint to doing business. Likewise, Cambodia has the lowest rating in the region for transparency, accountability and corruption (Figure 1.11). In that assessment, Cambodia's rates 2.0 on a scale of 1 (low) to 6 (high), which represents a decline from of 2.5 in 2009.[6]

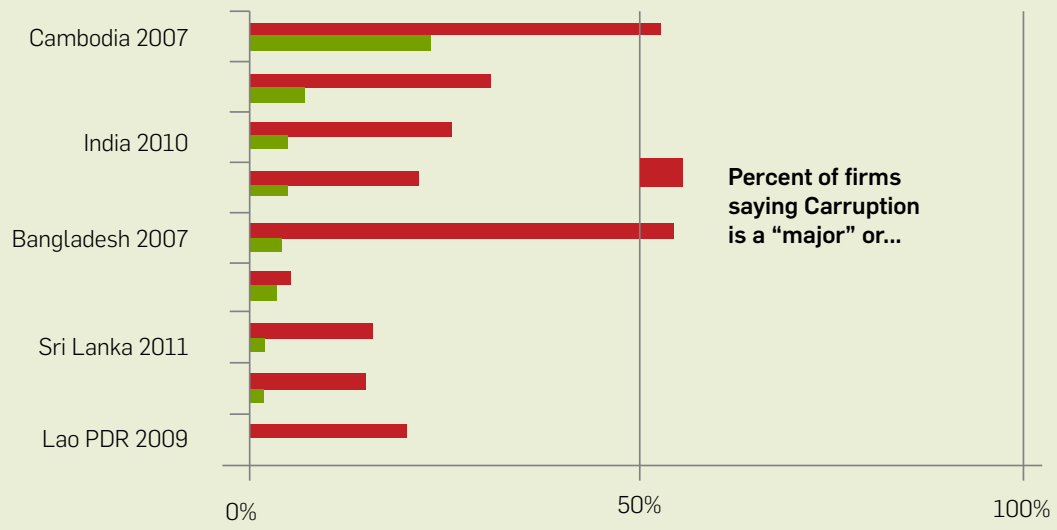
Figure 1.10: Cambodia has the lowest rating for transparency, accountability and corruption (2012)



Source: World Bank Development Indicators.
Note: on a scale of 1 (low) to high (6).
Source: World Bank, Country Policy and Institutional Assessment (CPIA) database.

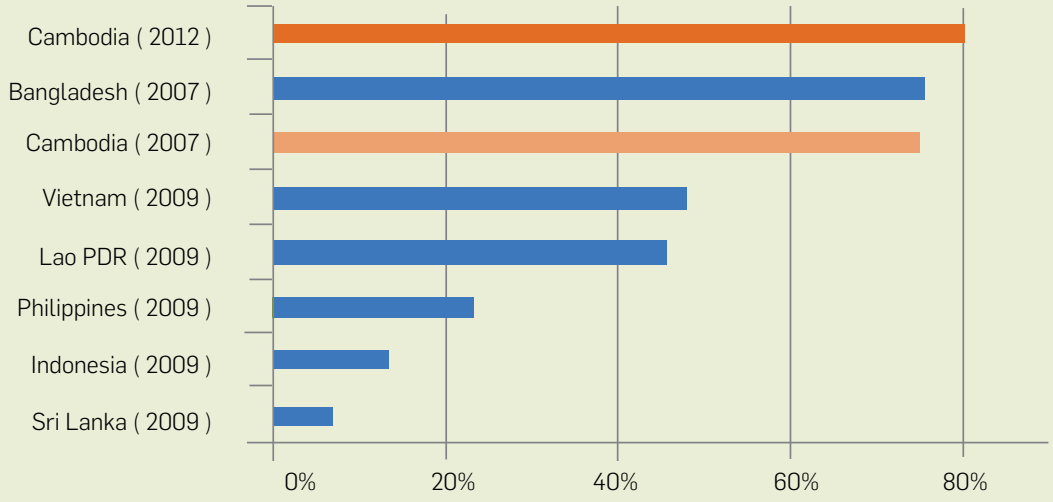
[6] Transparency, accountability, and corruption in the public sector is based on governance aspects and a broader coverage of social and structural dimensions that include a set of 16 criteria grouped into four clusters associated with economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions. For details, see World Bank, "CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)" at http://data.worldbank.org/indicator/IQ.CPA.TRAN.XQ.

Figure 1.11: Cambodia still leads region in share of firms that see corruption as the main problem



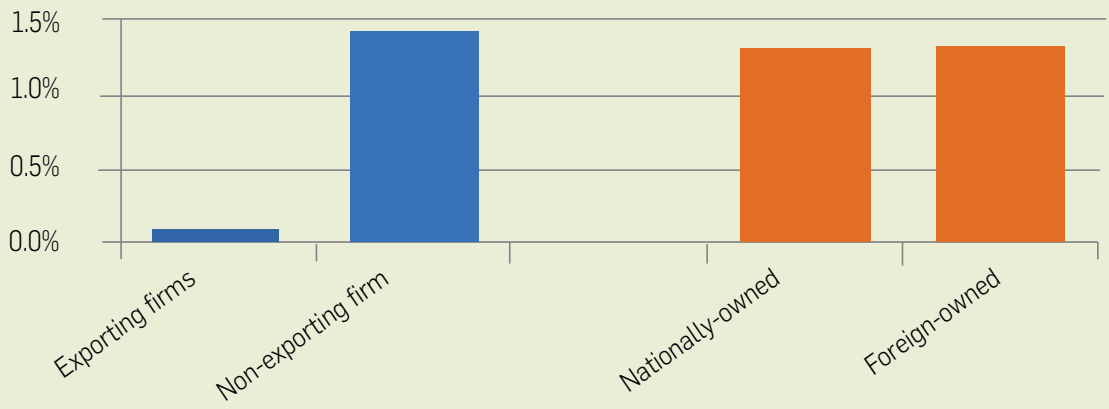
Source: World Bank Enterprise Surveys

Figure 1.12: Cambodian firms expect to make informal payments to get things done



Source: World Bank Enterprise Surveys

Figure 1.13: The cost of securing a government contract often includes bribes

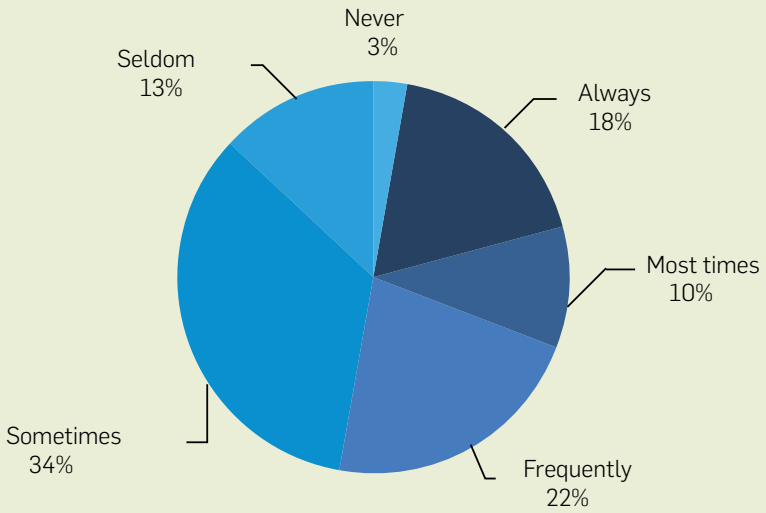


Informal payment as a percent of total contract value for all firms

Source: World Bank Development Indicators.

41. **Most firms expect to make informal payments to public officials in order to get things done.** Nearly all businesses regard gift-giving or informal payments to public officials as a regular part of the cost of obtaining permits or generally dealing with government procedures. Half of all registered enterprises make those types of payments frequently, most of the time, or always (Figure 1.14). These practices apply to procedures and practices across a wide range of government activities, including taxation, business registration, trade processes, construction permits and others. Having a close personal relationship with political leaders is regarded as being an effective way to get things done, and over two-thirds of businesses regard these ties as having a moderate, major or essential influence on whether they succeed in getting things done.

Figure 1.14: Most firms expect to make gifts or informal payments to officials…

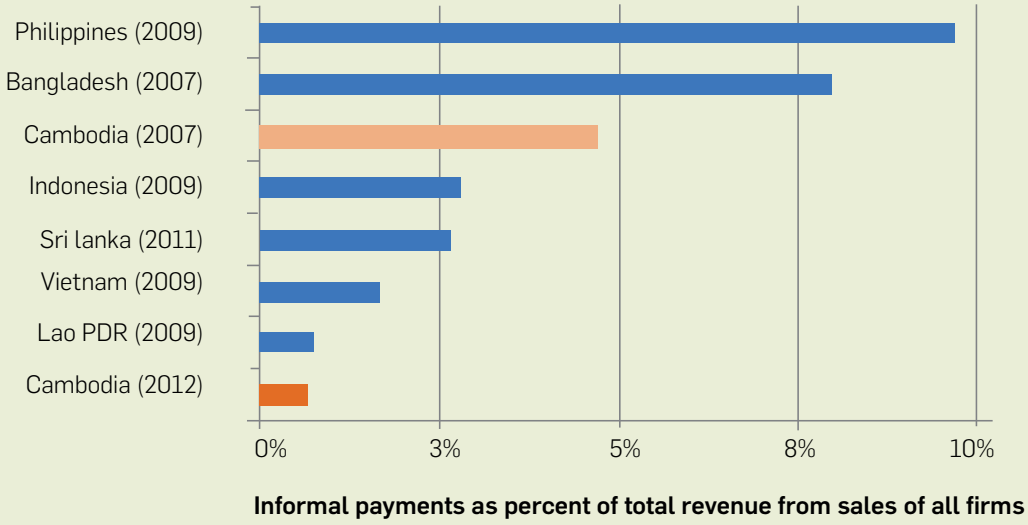


Percent of all firms expecting to make informal payments

Source: World Bank Enterprise Survey, 2012.

42. **Despite the pervasiveness of informal payments, these costs absorb only a small proportion of business revenue**. The amount of informal payments and gifts that businesses expect to make as a percentage of their total business sales revenue is the lowest in the region. The ratio has fallen from 5 percent in 2007 to 1 percent, which is relatively small compared with a ratio of 8 to 10 percent in Bangladesh and the Philippines, respectively (Figure 1.15). Nonetheless, informal payments often impose a heavy management burden in terms of time expended in dealing with public officials.[7]

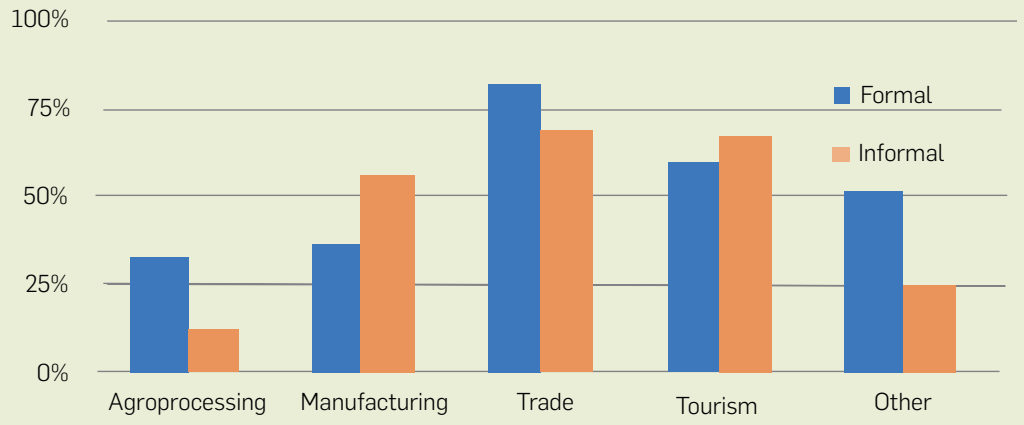
Figure 1.15:...but the overall cost of informal payments is low



Source: World Bank Enterprise Surveys.

43. **Corruption motivates firms to remain small and informal.** In Cambodia, small firms often maintain their small-scale as a way of being less exposed to corrupt practices than medium- to large-size enterprises. In this manner, they are able to make fewer informal payments to officials in order to get things done. This approach works better in agro-processing than in manufacturing, tourism and trade industries, where the incidence of corruption for enterprises not registered with the Ministry of Commerce ('Informal') remains high (Figure 1.16). Likewise, firms tend to remain in the informal sector as a way of avoiding informal fees or gifts, as well as taxes that often need to accompany procedures associated with the RGC's administrative and regulatory requirements. Overall, however, a substantially higher proportion of enterprises registered with the Ministry of Commerce ('Formal') (90 percent) than informal businesses (80 percent) usually needs to offer gifts or informal payments to government officials, which encourages and promotes informal business practices, a situation that gives rise to the third most cited constraint to doing business resulting from anti-competitive business practices.

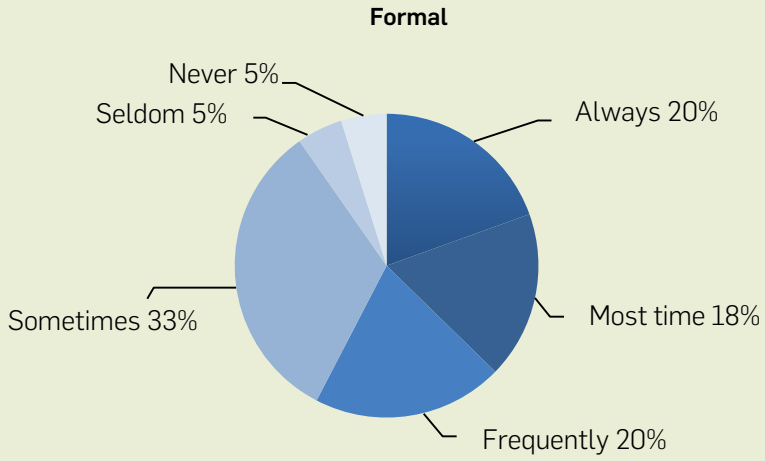
Figure 1.16: Vulnerability of small firms varies across



Firms reporting informal payment during meetings with or inspections of tax officials

Source: World Bank Enterprise Survey, 2012.

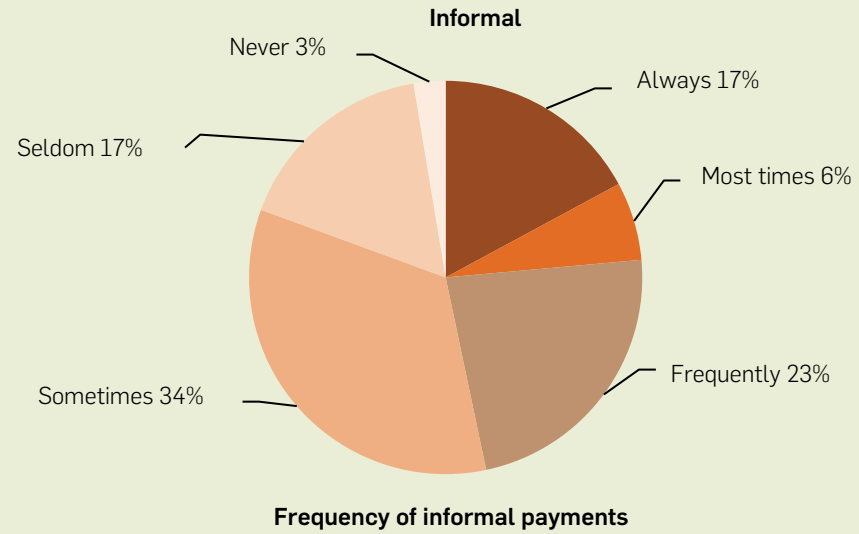
Figure 1.17: Most registered firms give gifts or informal payments to officials



Frequency of informal payments

Source: World Bank Enterprise Survey, 2012.

Figure 1.18: Most unregistered firms give gifts or informal payments to officials



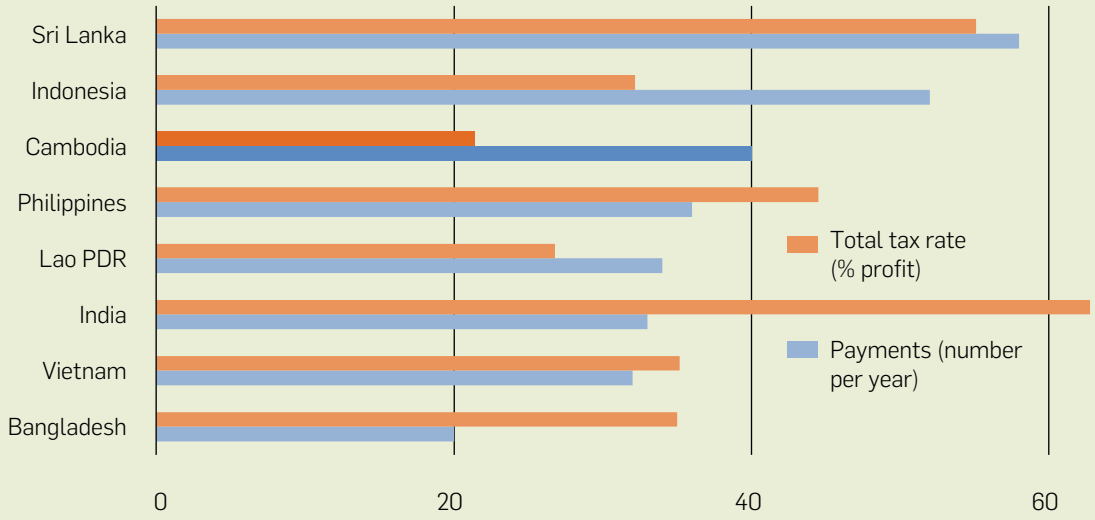
Source: World Bank Enterprise Surveys, 2012

44. Corruption also lowers investment incentives. In some cases, firms limit their vulnerability to potential corruption by forfeiting potentially profitable ventures in order to remain small and informal and thereby reduce their visibility to public authorities. This risk-avoidance strategy lowers the efficiency and potential investment by firms in areas that would otherwise expand and helps to diversify their activities. Those investment disincentives extend to foreign investors, who are often deterred from entering the Cambodian market by perceptions of high levels of corruption, unless those potential losses can be offset by lucrative deals. These types of risk-aversion behaviors represent a key barrier to higher enterprise productivity and expansion, and they also lower the potential revenue collection by the public sector.

1.2.3 Taxes and regulations

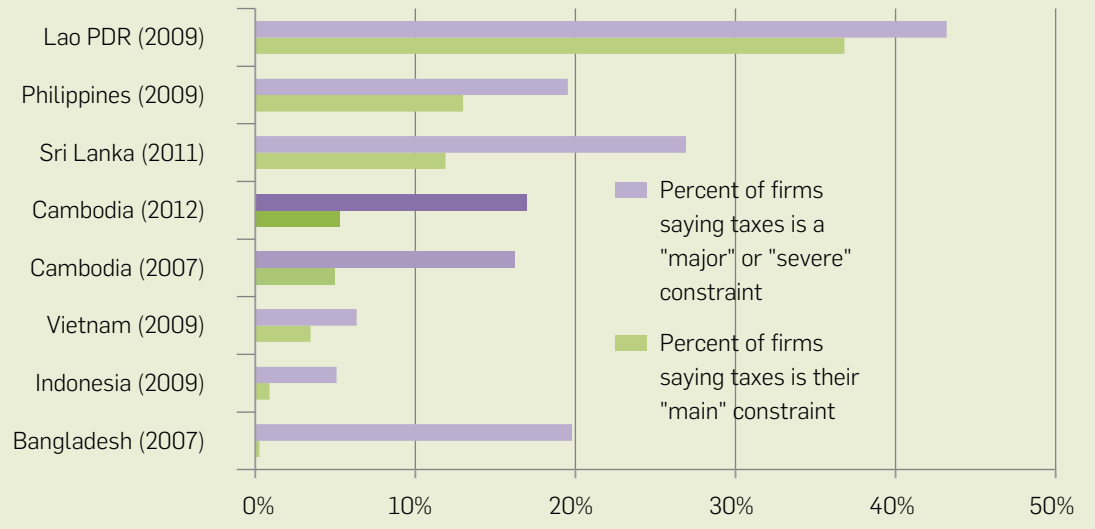
45. Cambodia's administrative burden of paying taxes and contributions has grown considerably. Notwithstanding an official tax rate of 21 percent that is half the average tax rate of comparator countries, over one-fourth of managers say that taxes remain a major or severe constraint to their doing business (Figures 1.19 and 1.20). That concern on the part of managers is significantly larger than the average of the comparator countries, and it is substantially worse than it was in 2007 when only 16 percent of managers regarded taxes as a major constraint.

Figure 1.19: Tax in Cambodia is lower than comparators



Note: Total taxes as a percent of profits and number of payments a year
Source: World Bank Doing Business.

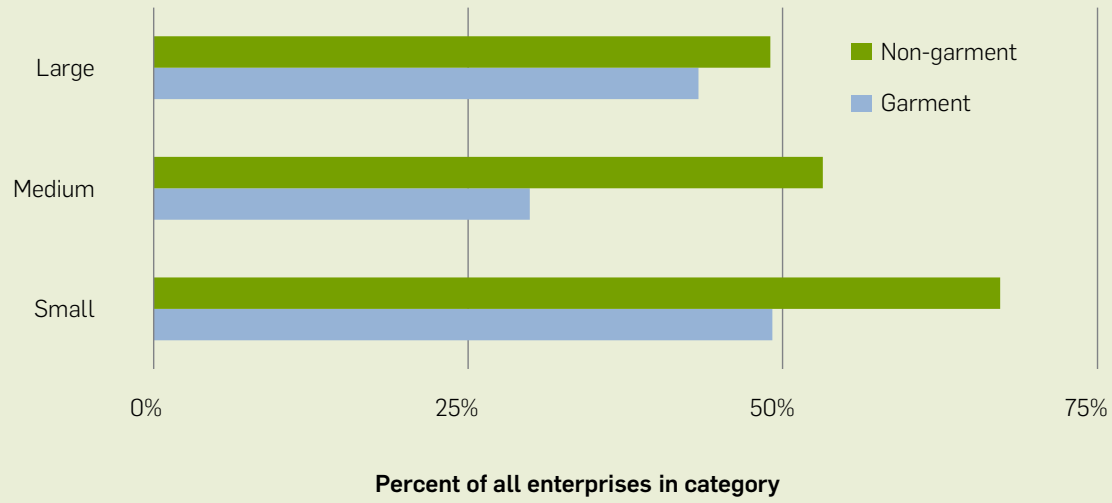
Figure 1.20: ...but many managers say tax is a major constraint



Source: World Bank Enterprise Surveys.

46. **Several factors explain the large administrative burden on managers in making tax payments, notwithstanding the fact that the direct cost of mandatory contributions to taxes has remained low and relatively unchanged.** First, the average number of 40 required payments each year is one-third higher than in 2007. Second, the number of hours a year spent preparing, filing and paying the major types of taxes has escalated from 137 to 173 hours. Third, the share of enterprises other than garment ones that make informal payments to tax officials has increased to 65 percent from 60 percent in 2007. Of these, a much larger share of small-size enterprises make informal payments than do medium-size ones, and medium-size enterprises make more informal payments to officials than do large size ones (Figure 1.21). And for all enterprises sizes, a much smaller proportion of garment enterprises make informal payments than other types of enterprises, largely because their taxes are subject to important tax incentives.

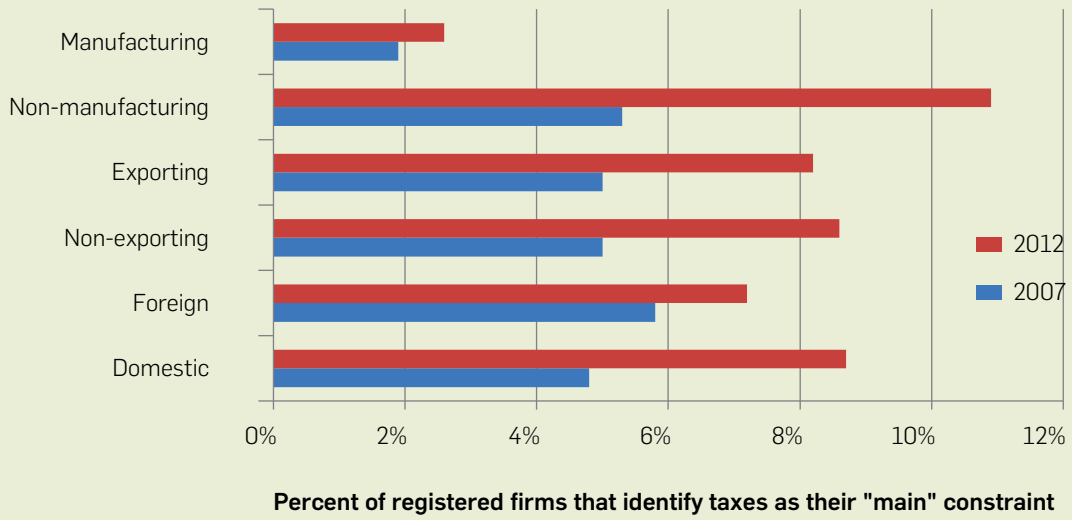
Figure 1.21: Small firms in non-garment industries report making most informal payments to tax authorities



Source: : World Bank Enterprise Survey, 2012.

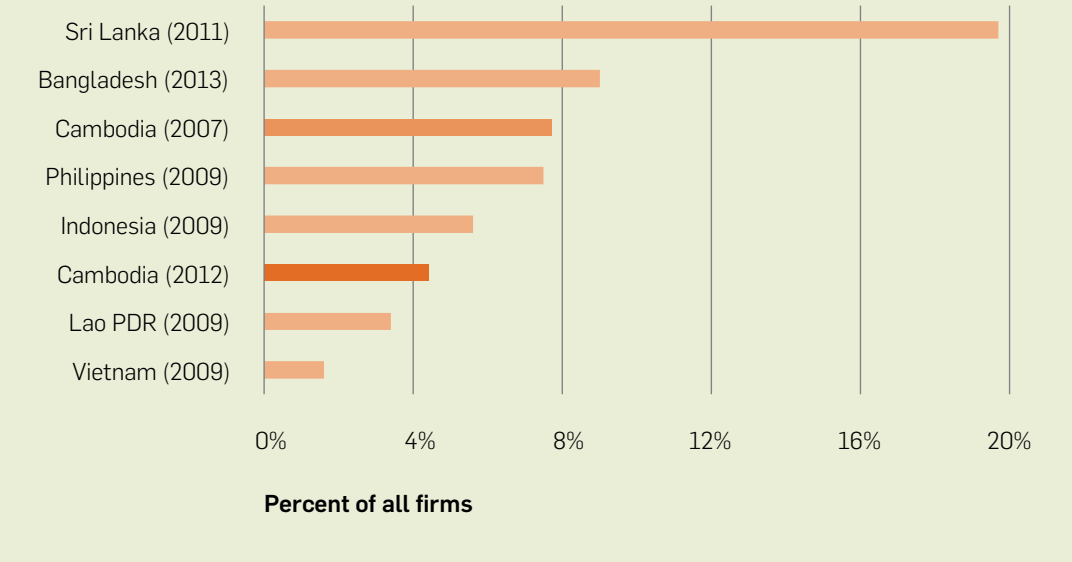
47. **Despite tax incentives, the share of foreign and export-oriented enterprises that regards taxes as their main constraint has grown.** That share has actually risen in all categories (Figure 1.22). These enterprises include manufacturing and non-manufacturing activities, export and non-export oriented industries, and foreign and domestic enterprises. Nevertheless, the largest increase has occurred in non-manufacturing activities, while the share of domestic enterprises that now regards taxes as their main constraint has increased somewhat more than foreign enterprises.

Figure 1.22: More firms consider taxes the main constraint



48. A smaller proportion of enterprises regard government regulations as a major constraint, even though the administrative burden of those regulations has increased. The share of businesses that regard licensing and permit gathering as a major constraint is now only 5 percent compared with 8 percent in 2007 (Figure 1.23). That proportion is considerably less than it is in comparator countries like Sri Lanka, where 20 percent of firms consider the licensing and permit process a major burden on their businesses. Most other comparator countries have a higher share than Cambodia, albeit with proportions that are well below that of Sri Lanka. Only in the Lao PDR and Vietnam do enterprise managers have a lower proportion than Cambodia that considers the licensing and permit-gathering process to be a major burden.

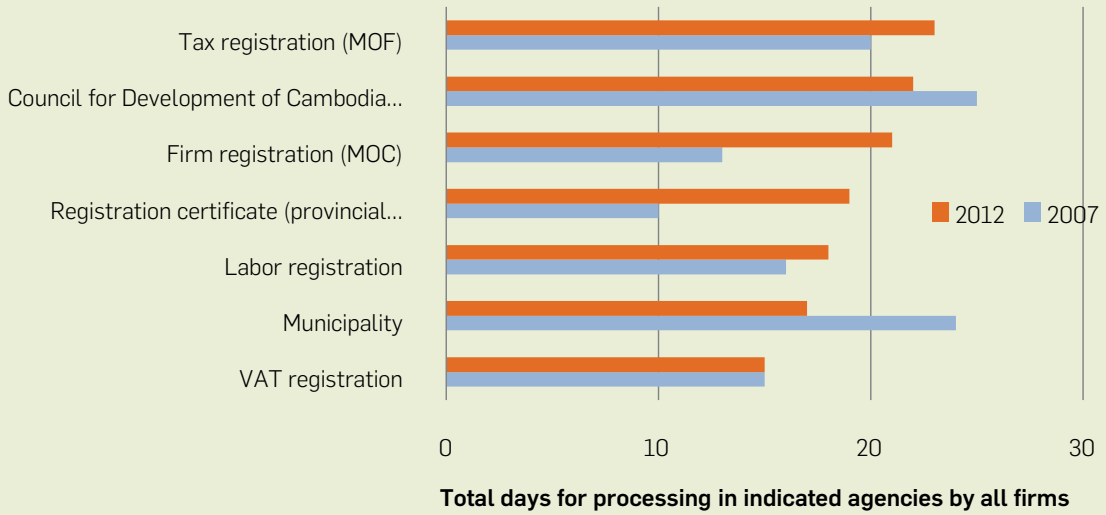
Figure 1.23: Fewer firms regard licensing and permits as a major constraint



Source: World Bank Enterprise Surveys.

49. Despite the improved perception about this possible constraint on businesses, the bureaucratic and administrative process for licensing and permit gathering has become more difficult in Cambodia. On average, the number of days needed to process licenses and permits has increased by 10 percent since 2007 (Figure 1.24). Yet this average belies large variations across agencies. The number of days required to obtain registration certificates in the provinces has nearly doubled since 2007, and the number of days to register a company at the MoC has increased from 13 to 21 days, reflecting a 60 percent increase in the number of days spent on the process. More days are also needed for labor registration (from 16 days in 2007 to 18 days in 2012) and tax registration (from 20 to 23 days). Only in the cases of administrative processes required in municipalities and the Council for the Development of Cambodia (CDC) have the number of days fallen (by 29 and 12 percent, respectively).

Figure 1.24: The number of days needed for administrative requirements has risen

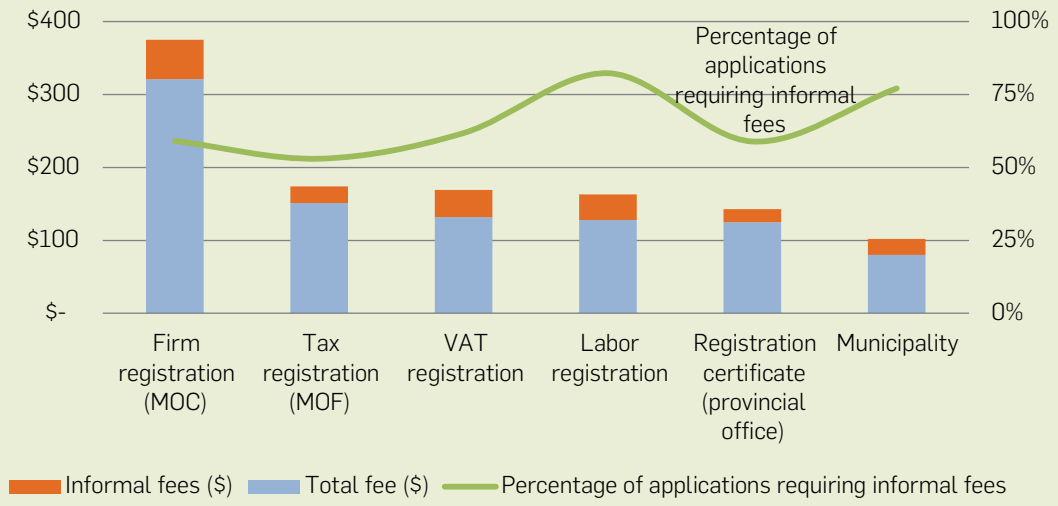


Source: World Bank Enterprise Surveys.

50. Two-thirds of enterprises pay informal fees worth over one-fifth of the official cost of their licenses and permits. Official fees at each agency average US$156, and they range from US$80 to register in municipalities to US$321 to register a business at the MoC. On top of those fees, two-thirds of the firms must pay informal fees to officials to process and issue the required registrations and licenses. Those informal fees average US$32 for each agency, and they range from US$18 for registration certificates in provincial offices to US$54 for a business registration at the MoC. The largest informal fees relative to their official costs are collected for the required declaration to the Ministry of Labor when hiring or dismissing employees. There are also a number of other procedures that apply to enterprises with at least eight employees that range from the establishment of internal regulations that conform to the general provisions of the labor code[8].

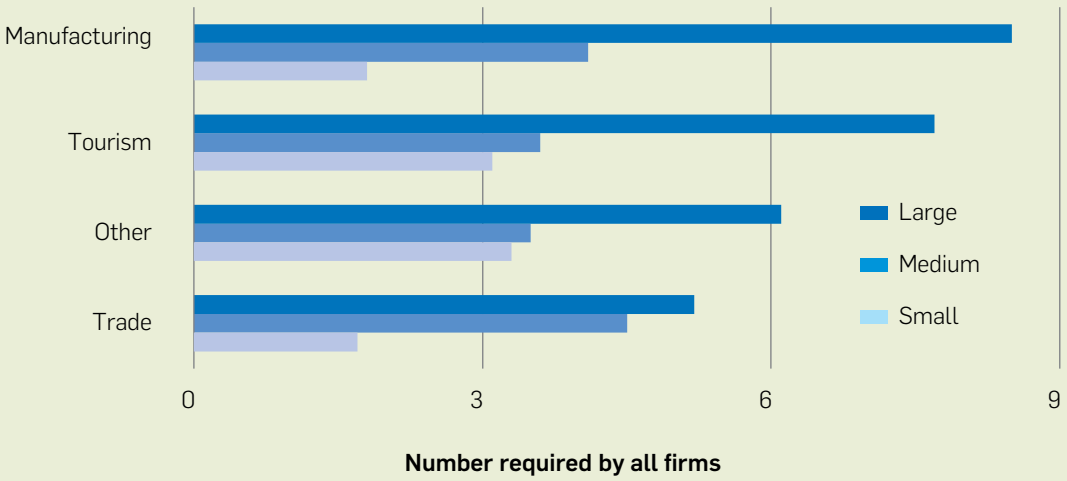
[8] For details on the required procedures, see section 10 on "notify the Ministry of Labor of the start of operations and hiring of employees" in IFC (2013a).

Figure 1.25: Informal fees cost 14-28% of each license and permit



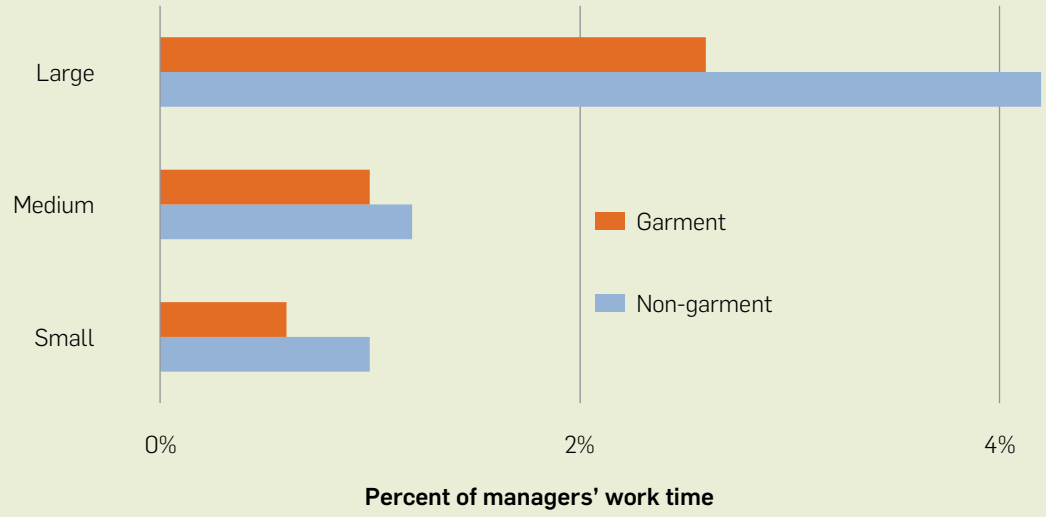
Source: World Bank Enterprise Survey, 2012.

Figure 1.26: Large firms require most licenses and permits



Source: World Bank Enterprise Survey, 2012.

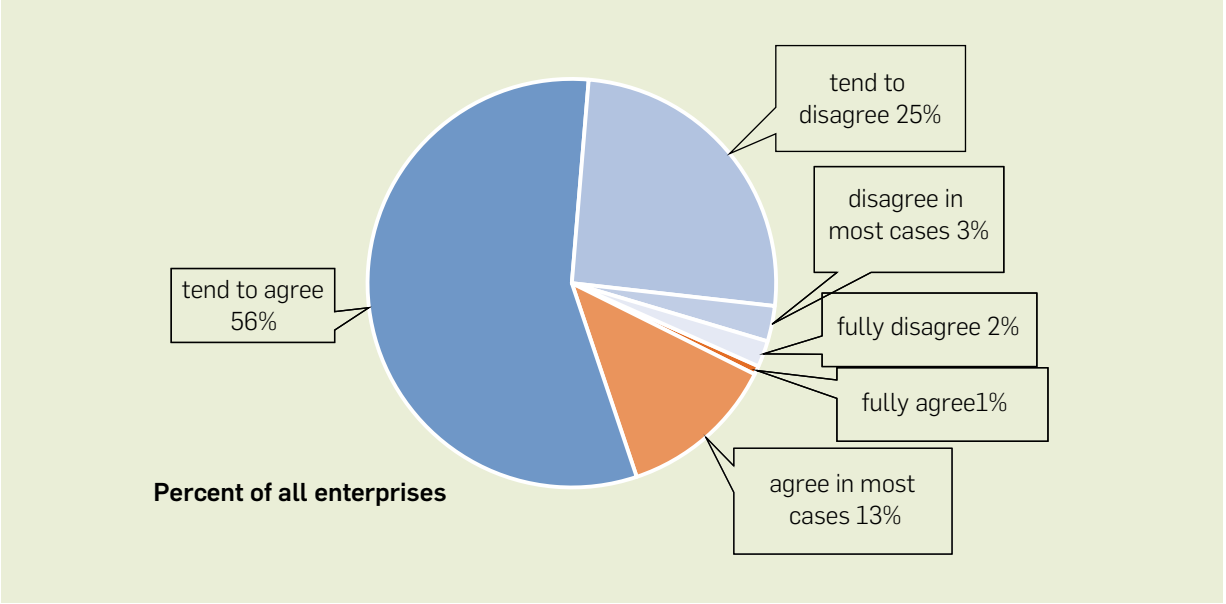
Figure 1.27: Senior managers of large non-garment firms spend the most time dealing with regulatory requirements



Source: World Bank Enterprise Survey, 2012.

51. **Large-size enterprises require more licenses and permits and spend the most time dealing with them.** On average, large non-agro-processing manufacturing firms require 8.5 licenses and permits to operate, compared with 2.5 for small-size enterprises and 4 for medium-size enterprises. Large tourism companies also need considerably more licenses and permits than small- and medium-size firms. These differences are reflected in the much greater time that senior managers spend on dealing with license and permit requirements. Senior managers of large non-garment enterprises in particular spend over 4 percent of their time dealing with permits and licenses, compared with an average of only 1 percent for managers of small and medium-size firms, whether or not they are part of the garment industry. Overall, however, the average time spent by all senior managers, regardless of firm size, has declined greatly since 2007 when the average time was over 9 percent of their time. Back then, only managers in the Philippines spent more time than Cambodian managers in dealing with regulations. The time currently being spent on dealing with regulations is lower than in any comparator country.

Figure 1.28: Confidence in the judicial enforcement of contracts is low



Source: World Bank Enterprise Survey, 2012.

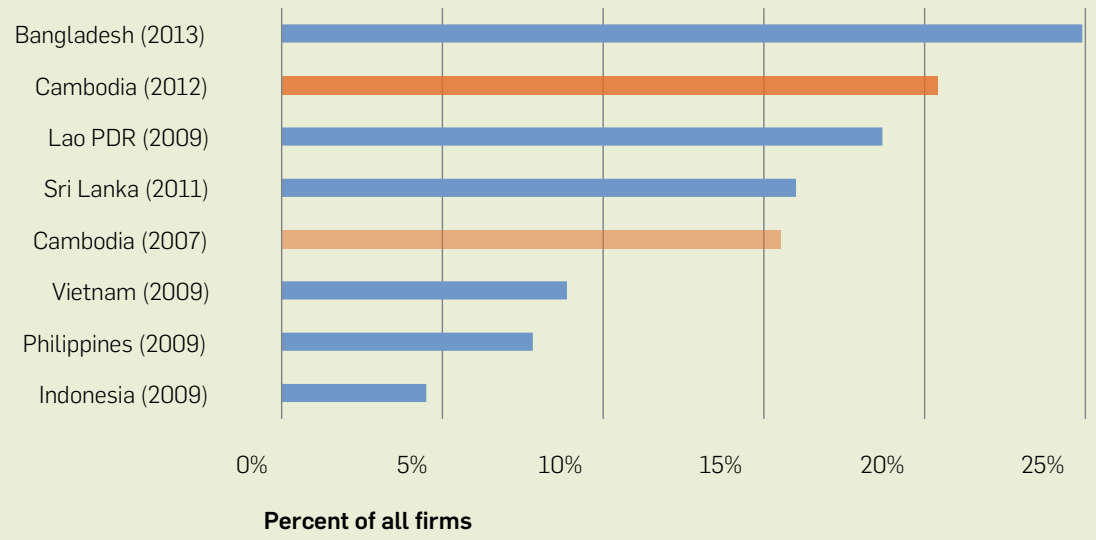
52. **Businesses lack confidence in the judicial system to enforce their contractual and property rights in business disputes.** Only 14 percent of enterprises usually or always have confidence in the judicial system, which is a substantial decline from 25 percent who expressed such confidence in 2007. This deterioration parallels Cambodia's declining ranking for contract enforcement, which in 2013 fell to 162 out of 189 countries from a rank of 134 out of 181 countries in 2007 (IFC, 2014). Another way to view this situation is that 86 percent of countries now have a better ranking than Cambodia, compared with 74 percent of countries that had a better ranking in 2007. The main reason for the worsening of Cambodia's ranking is that the time required to resolve a commercial lawsuit between two domestic businesses has increased from just over 400 days to 483 days, a 20 percent increase, even though costs and procedural complexity have remained the same.

53. **On the positive side, the proportion of enterprises that regard the legal system as a severe constraint to doing business continues to decline.** The share of businesses that rate the legal system as a major or severe constraint has declined to 7 percent from 11 percent in 2007 and 31 percent in 2003. This substantial reduction reflects the small number of disputes that end up in court since, as the early ICA indicated, they tend to be resolved through arbitration or simply remain unresolved. According to the US Commercial Service for Cambodia, local and foreign businesses report frequent problems with inconsistent judicial rulings, corruption, and difficulty enforcing judgments (US Department of Commerce, 2013). For these reasons, most commercial disputes are currently resolved through negotiations facilitated by the MoC, the CDC, the Cambodian Chamber of Commerce, and other concerned institutions. To facilitate the process, Cambodia adopted a Commercial Arbitration Law in 2006, and in 2010 the RGC provided for the establishment of the National Arbitration Center, which was officially launched in March 2013 as the first alternative dispute resolution mechanism to enable companies to resolve commercial disputes more quickly and inexpensively than through the court system.

1.2.4 Labor

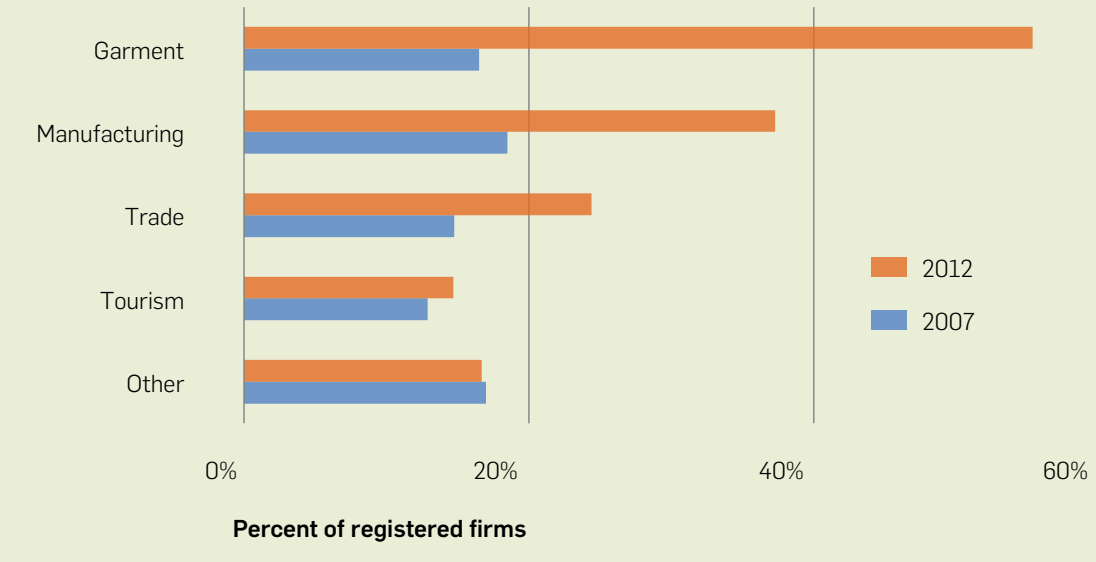
54. Cambodian firms rank the lack of skilled and trained workers the same as the highest ranking comparator country. Over one-fifth of all firms believe that inadequately trained or educated workers impede their productivity and growth. Among the comparator countries, only Bangladesh has a higher share of firms that is concerned about this constraint to doing business. That proportion is 60 percent higher than it was in 2007 (Figure 1.29).

Figure 1.29: Many Cambodian firms rate lack of skills and training as a major constraint



Source: World Bank Enterprise Surveys, 2012

Figure 1.30: Lack of skills and training is increasing in all sectors

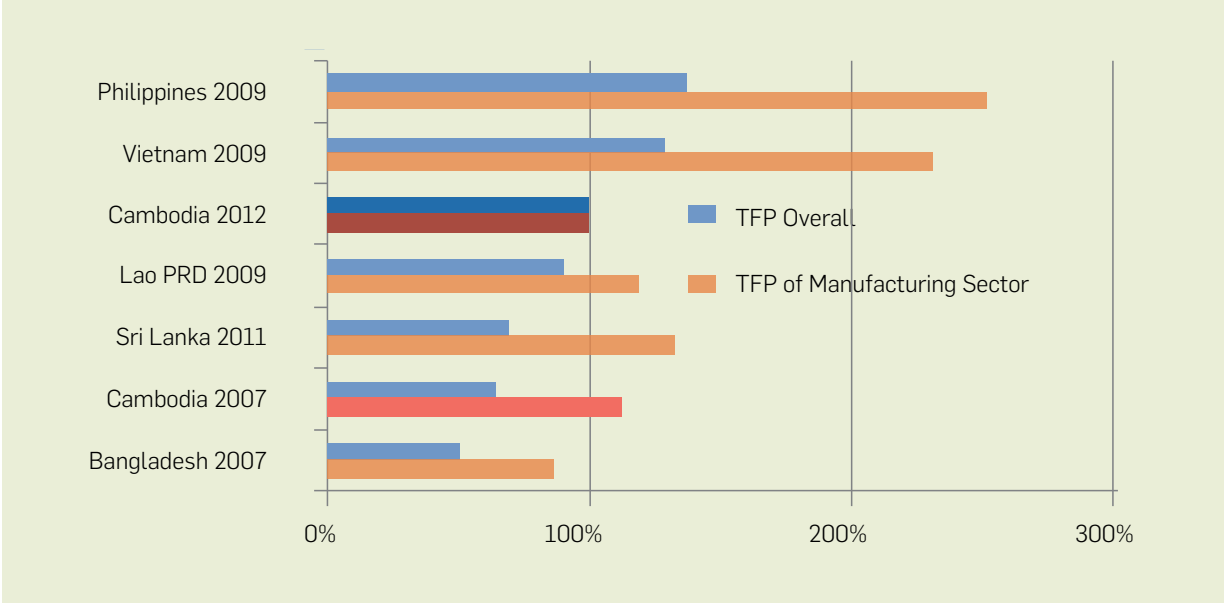


Source: World Bank Enterprise Surveys, 2012

55. **All types of enterprises lack competent workers.** While the proportion of large-size enterprises that are constrained by inadequate levels of trained or educated workers is the largest among the different types of enterprises, on average the share of all businesses that consider this constraint to be a major or severe constraint has increased by more than 75 percent since 2007. For large-size enterprises, however, the share is more than twice as high as in 2007. Among sectors, the share of garment industry managers that regard inadequately trained workers to be a major constraint has risen to 55 percent from only 17 percent in 2007, and those in other manufacturing industries that include agro-processing has risen from 19 to 37 percent.

56. **Cambodia's overall productivity has improved substantially, but that of the manufacturing sector has worsened.** Overall, total factor productivity (TFP) is more than 50 percent higher than in 2007. In contrast, that of manufacturing is 87 percent of its 2007 level (Figure 1.31).

Figure 1.31: Cambodia's overall productivity has improved, but manufacturing productivity lags



Note: TFP relative to that of Cambodia in 2012. TFP is calculated based on estimates of the log-linear relationship between output and capital, labor and a set of country-specific dummies.
Source: World Development Indicators.

57. **Cambodia has improved it productivity relative to the comparator countries.** The country has somewhat higher overall productivity growth than the Lao PDR, Sri Lanka and Bangladesh, but productivity growth in the manufacturing sector is below all the comparator countries except Bangladesh.

58. **Efficiency gains, reflected in the overall improvement in TFP, are associated with customs automation, better logistics infrastructure and reduced labor conflicts.** Customs automation now covers almost all customs declaration processes. Its countrywide implementation since mid-2012 has helped to reduce the average number of days for exports to clear customs from 4.3 to 2.7 days between 2007 and 2013, although no comparable change has occurred in imports. Progress has been particularly noticeable in reforming and modernizing import, export and transit operations through the streamlining and harmonization of customs procedures in line with international standards.

59. Export-oriented domestic firms have the highest proportion of managers who consider the inadequately trained and educated labor force to be a major constraint to their businesses. Although the proportion of domestic firms is only 4 percentage points higher than that of foreign companies, the increase in the share of domestic firms rating the labor force as being a major constraint has increased much more than that of foreign firms (27). In fact, the proportion has grown by 85 percent for domestic firms, whereas that of foreign firms is slightly lower. For export-oriented firms, the proportion of managers who view the inadequately trained labor force as a major constraint has more than doubled since the last enterprise survey, which is twice as high as the increase in non-export oriented businesses (Figure 1.33).

Figure 1.32: Domestic firms are suffering more from the lack of skills and training…

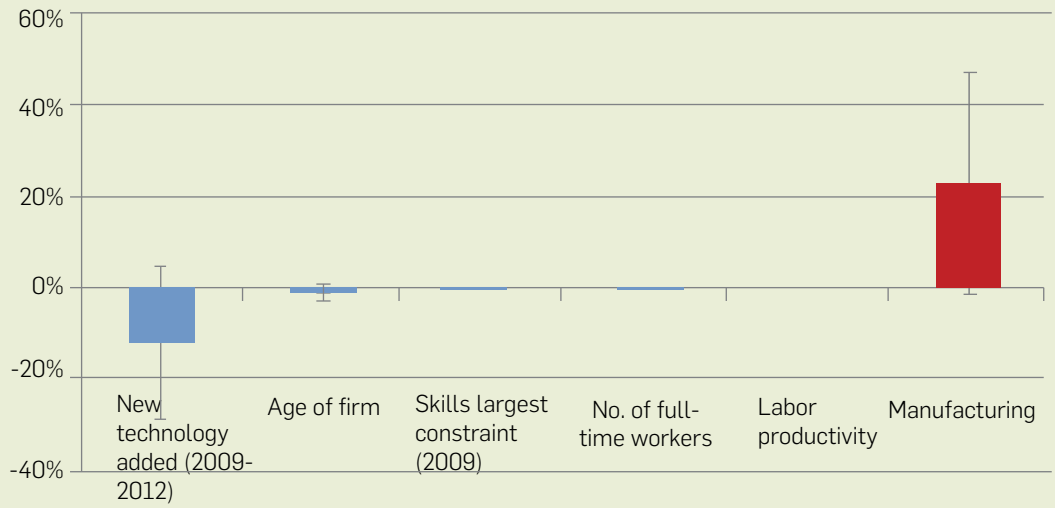
Source: World Bank Enterprise Surveys.

Figure 1.33: …while exporters are suffering more than non-exporters from the lack of skills and training

Source: World Bank Enterprise Surveys.

60. **The large increase in the share of firms that considers the inadequately trained labor force to be a major constraint is associated with the introduction of more manufacturing activity into the economy**. Estimates of the relationship between that constraint and possible explanatory factors indicate that changes in manufacturing activity have a positive influence on the constraint, whereas the introduction of modern technologies into companies has reduced the constraint's importance (Figure 1.34). The garment industry and other labor-intensive manufacturing industries have attracted a large number of unskilled migrants from rural areas and away from agriculture and the informal economy. Initially, low barriers to entry in the form of low education and skills requirements in the garment and other manufacturing industries provided much of the impetus for growth of those industries.[9] Nevertheless, increasing competitiveness in the export markets has given rise to a need for more skilled middle-level managers to oversee and train production-line workers. But so far only 1 percent of employed Cambodians have formal technical and vocational education and training (TVET) (Brixie, 2012). In comparison to other countries in the region, Cambodia has the smallest share of people enrolled in TVET at the upper-secondary and tertiary levels (World Bank, 2012).

Figure 1.34: Manufacturing positively influences the skill constraint, new technology reduces its importance.



Source: Estimates derived from data in World Bank Enterprise Survey, 2012.

61. **The supply of technical and vocational workers lags far behind enterprise demand.** About 87 percent of the employees required by enterprises approved by CDC are skilled and unskilled manual workers (Heng, 2013). Most of the requirements for workers with advanced degrees are concentrated in the services sector, which requires a relatively small number of accountants, managers and lawyers. In 2012, however, higher education institutions produced around 29,000 graduates for a market with 16,000 available positions, and in 2014 the expectation is that nearly 70,000 graduates will be available for less than 22,000 available positions (D'Amico, 2012). These figures show that while the excess supply of university graduates increases, there is a growing deficit in the number of workers with vocational and technical skills. In 2010-12, for example, the skills mismatch resulted in fewer than 7,000 applicants for nearly 36,000 jobs monitored by the National Employment Agency (Heng, 2013).

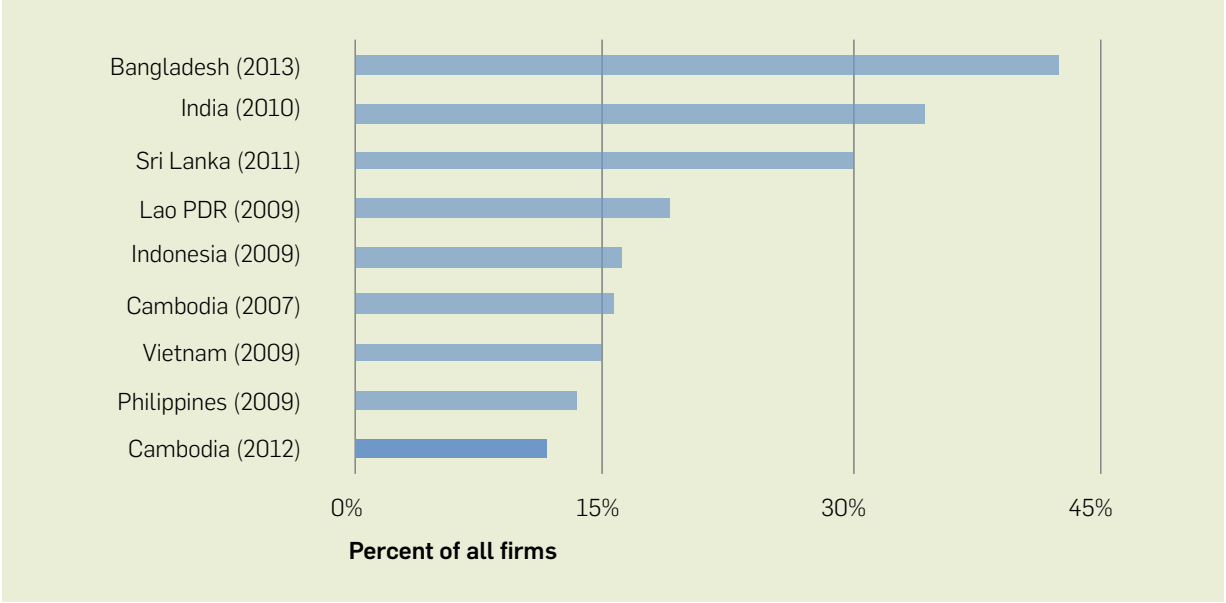
[9] For a description of the garment industry and employment issues in the garment industry, see Dasgupta and Williams (2011).

62. **Businesses remain wary of investing in training workers in supervisory knowledge and skills for fear of losing newly trained workers to competing factories.** Only 22 percent of non-production employees and 18 percent of production workers received formal training in 2012-13. To compensate for the lack of training within companies, centers are being established for key industries, most notably Better-Factories-Cambodia under an International Labour Organization (ILO) program; the USAID-funded Garment Industry Productivity Center; and the Garment Manufacturers Association in Cambodia (GMAC). The RGC has also taken action to improve labor market information through the creation of a National Employment Agency to promote vocational training through a National Training Agency in an effort to better balance higher education and technical and vocational education and training, and thereby provide more graduates with the relevant and quality expertise needed by businesses.

1.2.5 Finance

63. **Access to finance ranked as the 10th most cited major or severe problem to doing business.** Cambodia has a relatively small share of businesses that regards access to finance as a major problem relative to comparator countries (Figure 1.35).

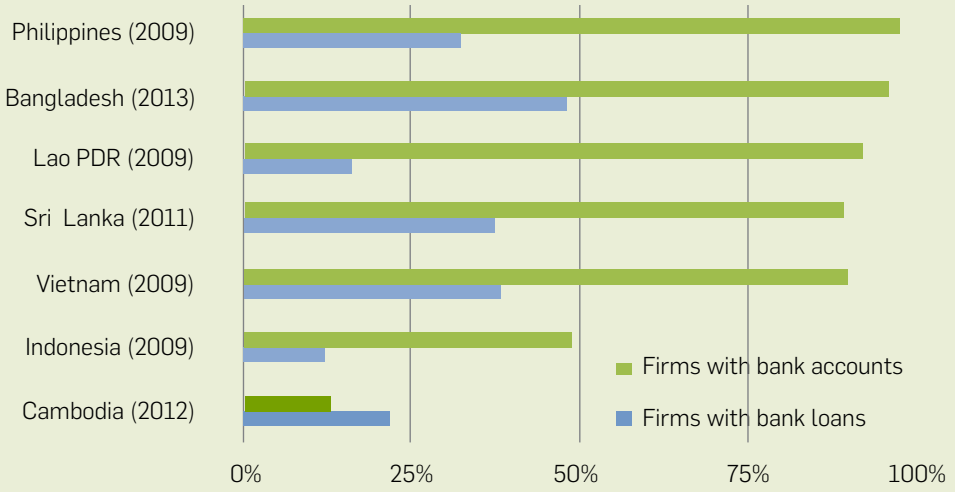
Figure 1.35: Cambodia does comparatively well in access to finance



Source: World Bank Enterprise Surveys.

64. **Use of banking services is relatively low.** The proportion of enterprises having bank accounts is only 12 percent, which is the lowest rate in the region (Figure 1.36). Yet 22 percent of enterprises have bank loans or lines of credit, which is higher than the shares in either Indonesia or the Lao PDR. Those figures suggest that 12 of the 22 percent share of firms that have loans are enterprises with bank accounts and the remaining 10 percentage points are unbanked enterprises.

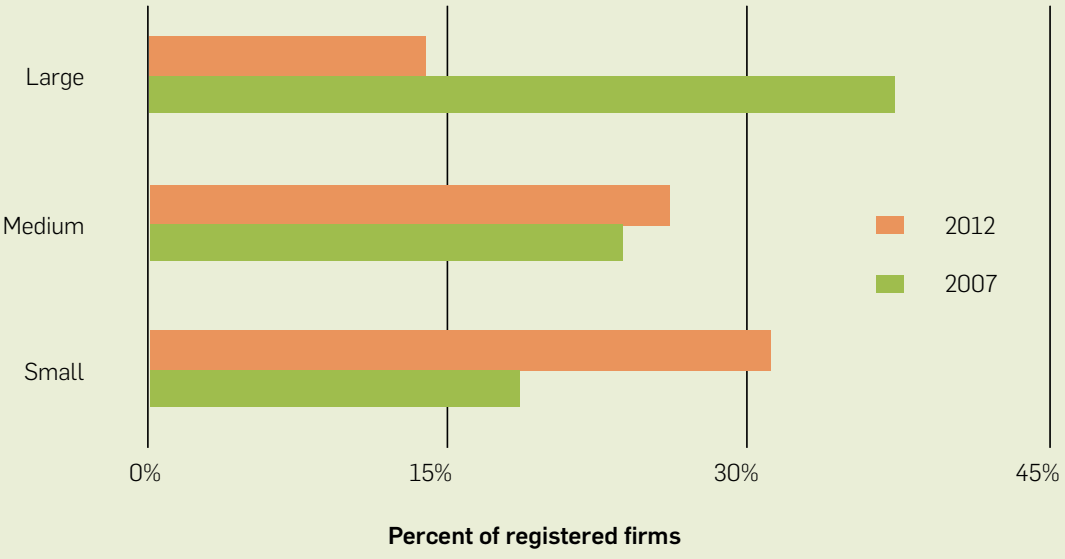
Figure 1.36: Only a few Cambodian firms use banking services



Source: World Bank Enterprise Surveys.

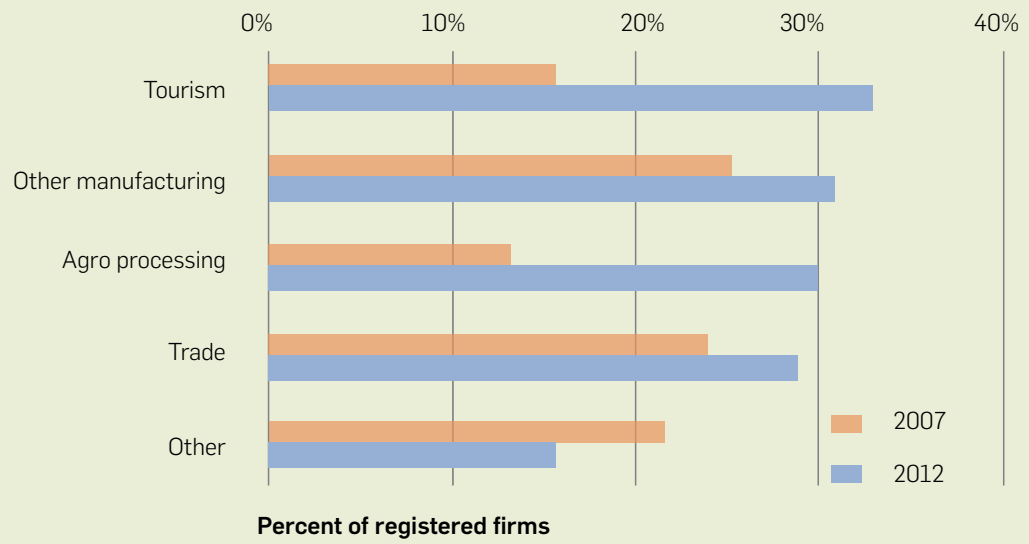
65. Small-size enterprises and firms in the trade and agro-processing industries have the largest share of bank loans or lines of credit. The share of registered small-size enterprises with loans or lines of credit has increased to 31 percent from only 18 percent in 2007 (Figure 1.37). In contrast, the proportion of large-size enterprises with loans or lines of credit has decreased to 14 percent from 37 percent in 2007. However, among large-size enterprises, banks prefer to lend to those enterprises in the garment industry (Ung & Hay, 2011). Additionally, there have also been substantial shifts across sectors. All the major sectors have higher proportions of loans and lines of credit than before (Figure 1.38).

Figure 1.37: Small firms have most credit with financial institutions



Source: World Bank Enterprise Surveys.

Figure 1.38: All major sectors have more credit than before

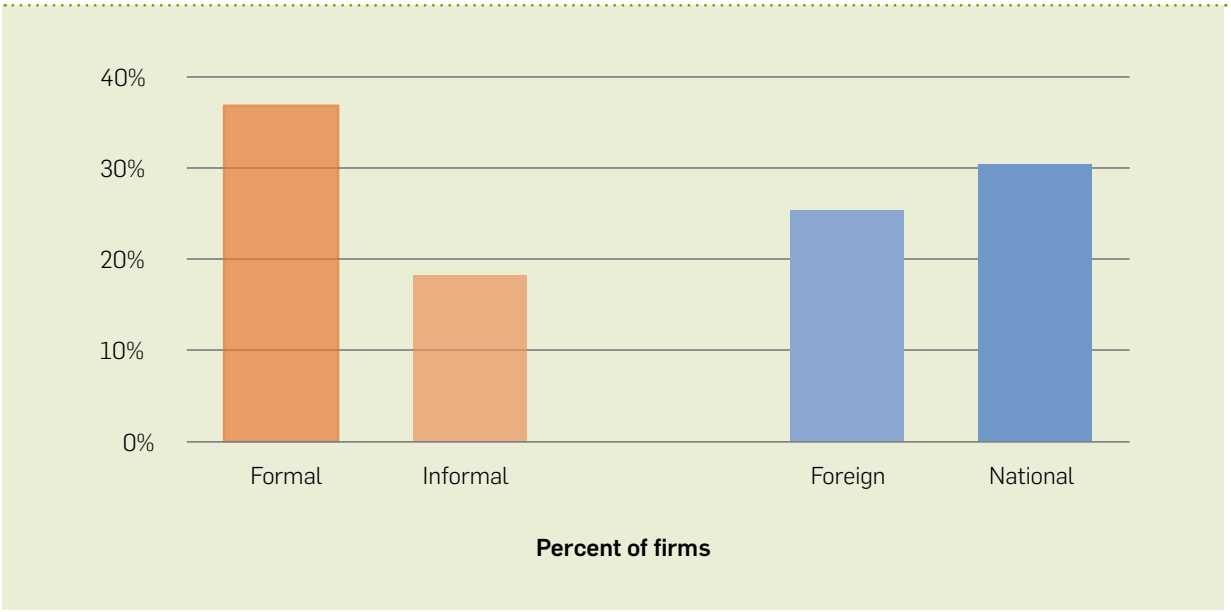


Source: World Bank Enterprise Surveys.

66. Small- and medium-size enterprises (SMEs) have limited access to finance and confront credit rationing or risk premiums. The larger proportion of bank loans directed to SMEs rather than larger firms reflects the dominance of smaller businesses in the economy. SMEs represent 99 percent of firms and absorb 45 percent of workers, yet as recently as 2010 commercial banks only provided 1 percent of their working capital and 1.7 percent of their investment capital (IFC, 2010) to those firms. What limits those loans is that, despite the high liquidity of the banking system, banks have difficulty in lending to smaller-size enterprises because the country's weak financial infrastructure makes enforcing loan agreements difficult and liquidating collateral very uncertain (Harvie, Narjoko and Oum, 2013). The limited amount of financial information resulting from weak accounting standards and the absence of a credit information sharing system also limits the ability of banks to evaluate the creditworthiness of borrowers. For those enterprises that are not registered, banks face even greater challenges in evaluating their creditworthiness.Banking institutions therefore ration credit to SMEs or apply high risk premiums on lending to those types of businesses, especially for SMEs that are not registered.

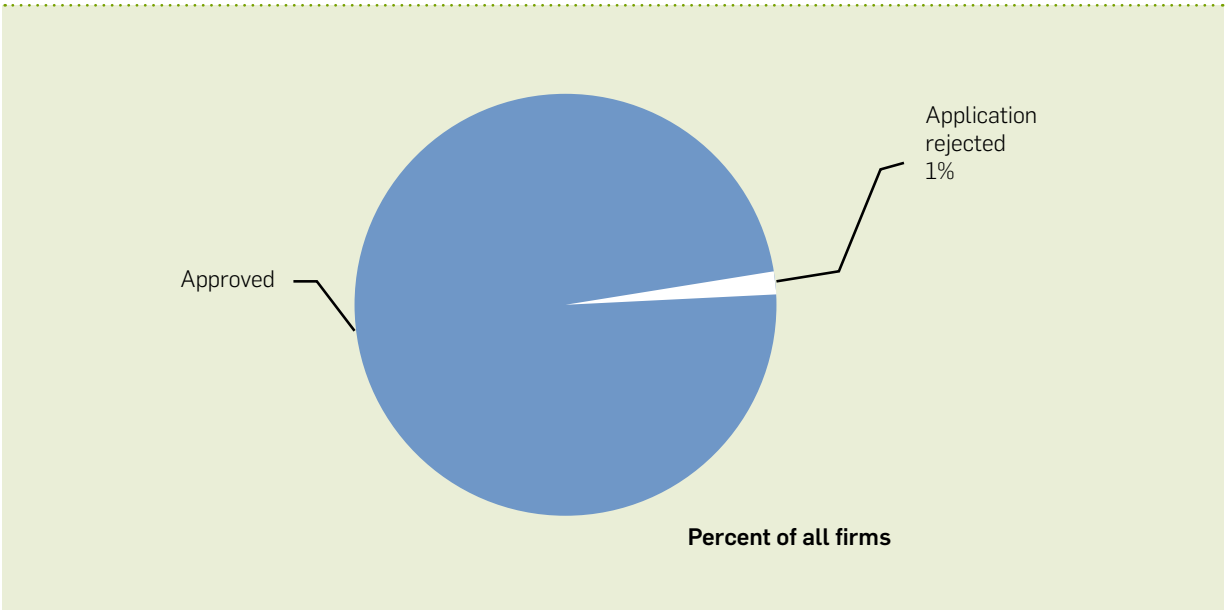
67. Domestic registered businesses have the largest share of loans. The proportion of firms registered with the Ministry of Commerce with loans is more than twice as high as the unregistered ones (Figure 1.39). At the same time, domestic firms that are registered have over 50 percent more loans than foreign enterprises. Also, bank loan applications by registered firms are nearly always approved, and only 1 percent of applications are rejected (Figure 1.40).

Figure 1.39: Twice as many registered firms have loans as informal ones



Source: : World Bank Enterprise Survey, 2012.

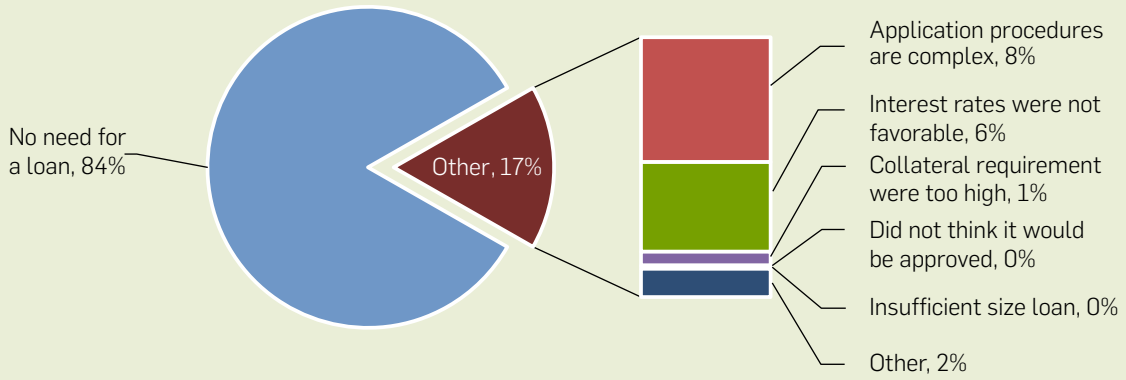
Figure 1.40: Bank loan applications are overwhelmingly accepted



Source: World Bank Enterprise Survey, 2012.

68. **For those registered firms that need a loan, the complexity of application procedures and high interest rates are regarded as the main reason for not applying for a loan.** Most firms do not need a loan (Figure 1.41). Among those that do but do not apply for one, half are dissuaded by the complexity of the application process, and another 38 percent consider the interest rates on the loans to be too high. While large-size firms are mainly concerned with the cost of financing, small-size enterprises regard the collateral requirements to be an important constraint to getting a loan, albeit a smaller problem than the complexity of the application procedure. Land, buildings and other physical assets are the main forms of collateral required by banks, although personal assets of the business owner are also commonly accepted. The average value of collateral as a percentage of loans is reported to be over 50 percent of the value of the loan, which is often prohibitive for smaller-size enterprises.

Figure 1.41: Most firms do not need loans

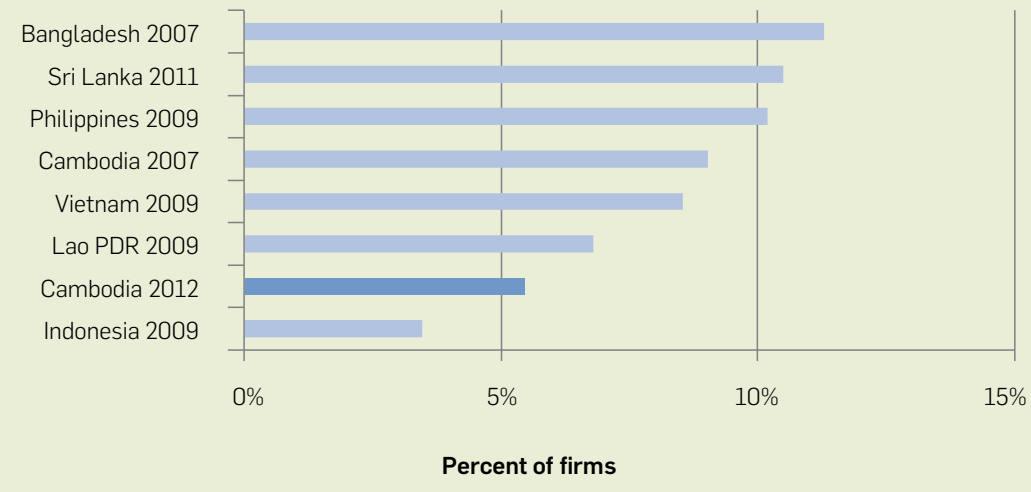


Source: World Bank Enterprise Survey, 2012.

1.2.6 Trade and Logistics

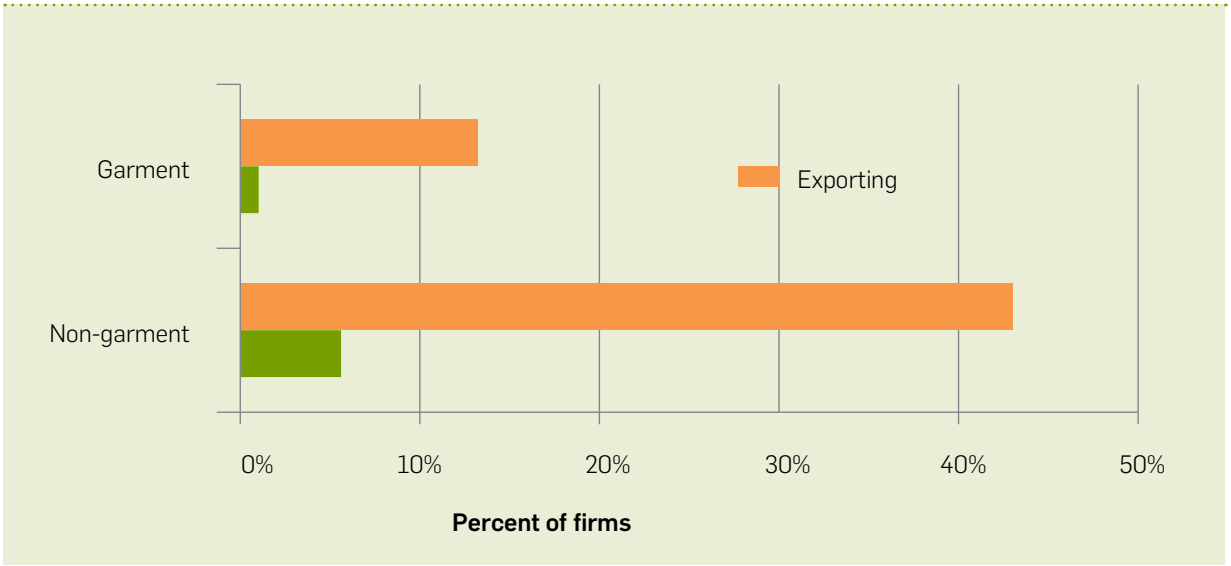
69. Although relatively few firms regard customs and trade regulations as a major constraint, a large proportion of those firms that are export-oriented do regard them as a major constraint. Overall, the proportion of enterprises that rates customs and trade regulations as a significant problem is almost half of that in 2007, when it was 13 percent (Figure 1.42). Nevertheless, of the export-oriented businesses, over three-fourths of non-garment enterprises consider these regulations to be a major or severe constraint on their growth and productivity (Figure 1.43). The lower share for garment exporters (14 percent) reflects preferential treatment given to the industry under the RGC's trade and development strategy (WTO, 2011). That strategy streamlines procedures for garment and textile exports in special government offices within the General Department of Customs and Excise (GDCE), which make it easier for businesses to get joint inspection reports from Customs and Camcontrol (ESCAP, 2012).

Figure 1.42: Fewer Cambodian firms now perceive Customs regulations as a major constraint



Source: World Bank Enterprise Surveys.

Figure 1.43: Non-garment exporters have the greatest concerns about Customs constraints



Source: World Bank Enterprise Survey, 2012.

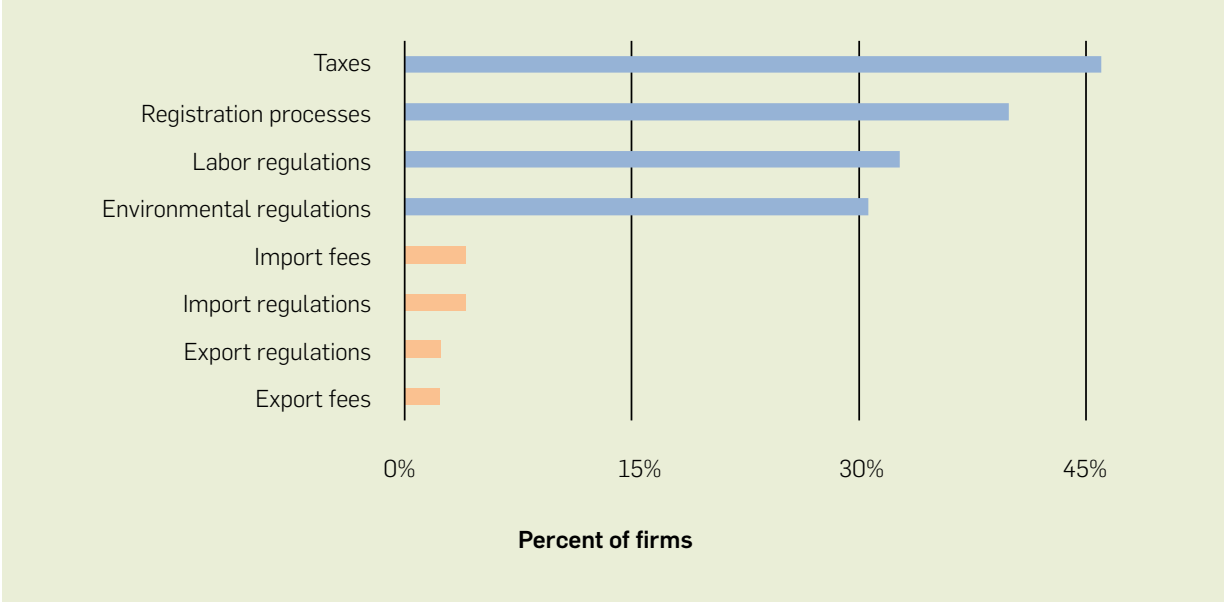
70. **The monetary and time-related costs of export registrations contribute to Cambodia's high trading costs.** CO are issued by the Cambodian MoC in order to comply with rules of origin requirements by foreign customers. A recent study found that the annual CO registration cost of around US$200 sometimes escalates to US$800 because of the addition of informal payments to expedite the registration process (Artuso & Reyes, 2013). For exports, however, a recent reform introduced by MoC has eliminated the obligation to register for a CO each year. The study also found that there are CO fees applied to each container, ranging from US$23 to US$58 for each container based on the size, destination and type of goods being shipped. For garments, exporters report having to pay an additional fee of US$30 for each container related to so-called export management costs. In addition to these monetary costs, there are time-related costs associated with processing the certificates, which according to some footwear exporters can take up to two weeks for each container. These large monetary and time-related expenses contribute to an overall trading cost in Cambodia that is, on average, 40 percent higher than in other countries in the region and which significantly undermines the international competitiveness of Cambodian exporters.

71. **The World Bank's Trade Development Support Program (TDSP) has helped to reduce trade transaction costs.** The program, which is being implemented between March 2009 and March 2015, has enabled trade sector-wide approach (SWAp) roadmaps to help automate the MoC, develop a trade portal and trade depository, automate CO, automate Customs at various checkpoints, facilitate trade by decreasing time needed to import and export, provide faster port handling, and reduce the number of inspections (Clarke, 2013).[10]

[10] The project consists of the following four components: Component 1 supports the application of appropriate IT to border management activities to streamline operations, improve the level of transparency and accountability and facilitate the achievement of all border related government objectives. Component 2 finances (a) technical support to the Ministry of Commerce's Department of Export Promotion to establish the exporter technical assistance window, and (b) a technical assistance matching grant facility that cover 50 percent of the cost of achieving market standards, or evidence of compliance with those standards. Component 3 on the Private Participation in Infrastructure and Investment Component finances a program of capacity building to implement the Law on Concessions and the Amended Law on Investment. Component 4 finances (a) the establishment and maintenance of a website in the Khmer language to make readily available to the public the final judgments of all cases in the Supreme Court and in the Court of Appeal; (b) the establishment and maintenance of a website to ensure the electronic publication of all Cambodian laws, related regulations and draft legislation in the commercial law field, broadly defined; and (c) training to use the established systems.

72. **Businesses have inadequate information about trade-related regulations.** While 37 percent of enterprises consider that they have sufficient information about domestic regulations, only 3 percent report having adequate information about customs and trade-related regulations (Figure 1.44). To overcome this problem, the RGC has made the transparency of trade rules and laws one of the strategic outcomes of the Cambodia Trade Integration Strategy, 2013-18 (Ministry of Commerce, 2013). In support of that effort, the RGC plans to establish online access to customs tariffs and other trade regulations in its national trade repository (Ministry of Environment, 2012).

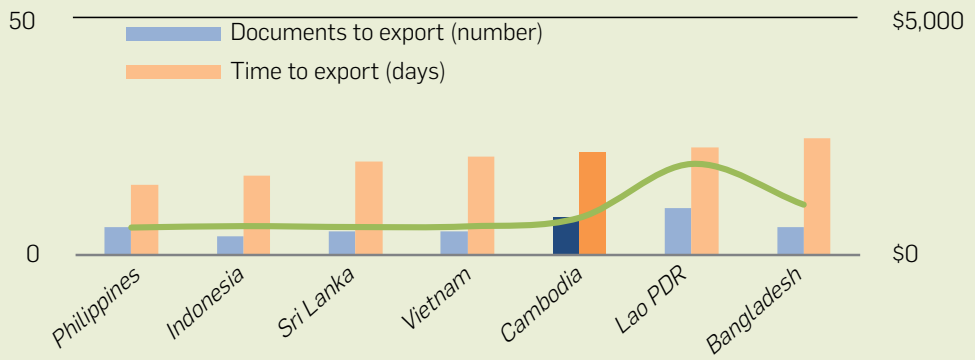
Figure 1.44: Firms need more information about trade regulations



Source: World Bank Enterprise Survey, 2012.

73. **Cambodia has relatively high and rising trading costs.** Cambodia's cost of either importing or exporting a container is 30 percent higher than the median cost of its comparator countries (Figure 1.45 and 1.46). Moreover, the number of documents and average number of days required to process exports and imports are all higher than the average of the comparator countries. These higher regulatory and processing burdens parallel the deterioration in Cambodia's trading cost competitiveness. Between 2007 and 2013, the average cost of importing or exporting a container rose by 9 to 10 percent. This increasing cost contrasts sharply with the decline of container shipping costs in comparator countries, which fell an average of 5 percent over the same period. Only Bangladesh had a significant cost increase, while the Lao PDR registered a modest increase. If Bangladesh is excluded, then the average price of exporting and importing a container in the comparator countries fell by 12 percent, which suggests a substantial deterioration in Cambodia's competitiveness in trading costs.

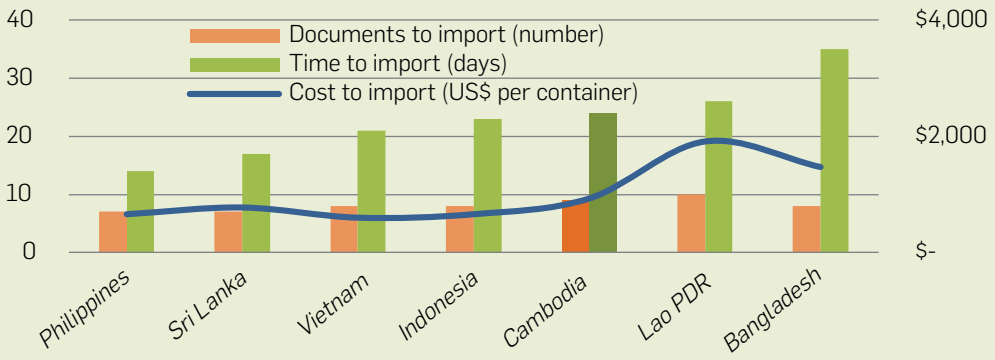
Figure 1.45: Cambodia's border export costs are high.



Number of documents to export, days to export, and cost to export

Source: World Bank Doing Business.

Figure 1.46: …and so are its import costs

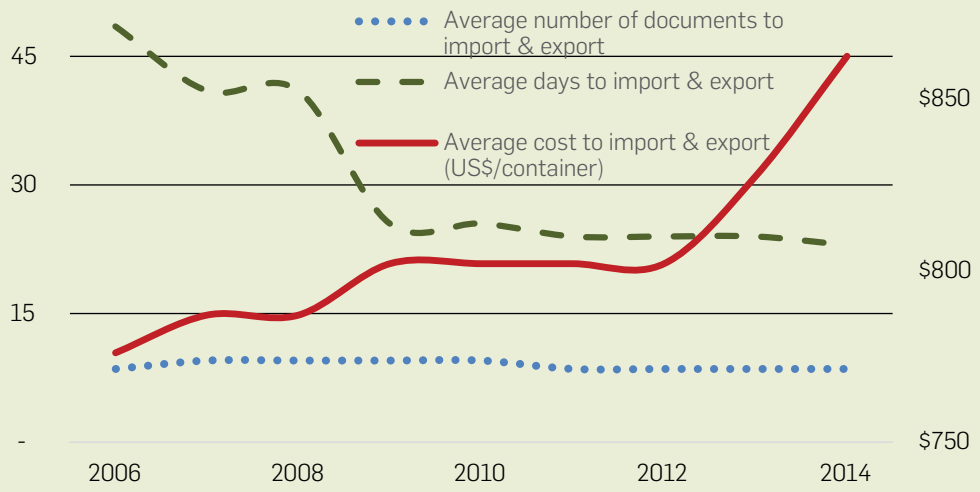


Number of documents to import, days to import, and cost to import

Source: World Bank Doing Business.

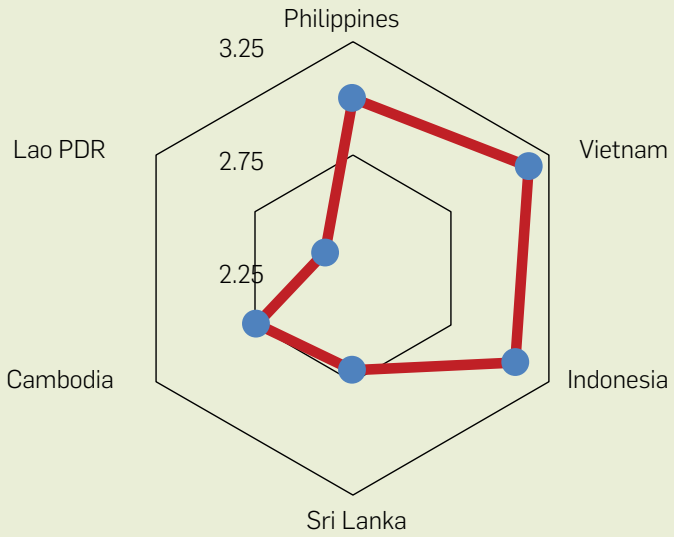
74. Cambodia's LPI has made impressive gains. There has been a remarkable rise of 46 places in Cambodia's LPI ranking to 83rd place out of 160 countries from 129th place four years earlier. The time to clear Customs has fallen from 5.9 days in 2010 to only 1.4 days in 2014. The percentage of consignments selected for inspection has fallen from 29 percent in 2010 to 17 percent in 2014, suggesting that Customs' efforts to improve risk management are paying off. As a result, Cambodia compares favorably with other countries in the region, outperforming the Lao PDR, for example (Figure 1.48).

Figure 1.47: Costs are rising, time taken is falling



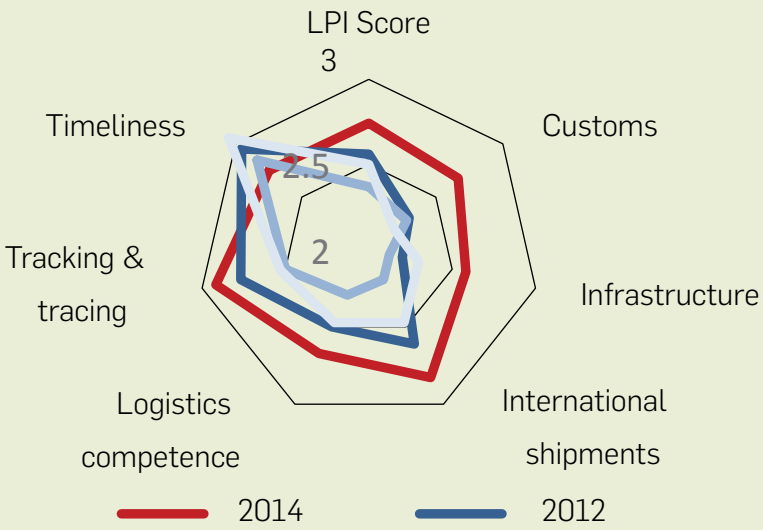
Source: : World Bank Doing Business.

Figure 1.48: Improvements in Cambodia's LPI score is helping it move to full participation in the AEC 2015



Source: World Bank Logistics Performance Index.

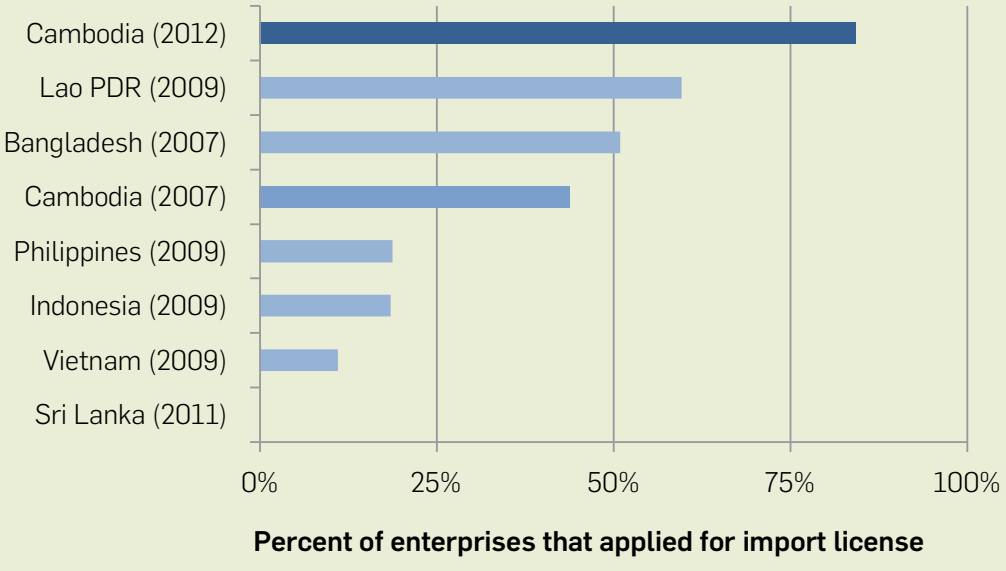
Figure 1.49: Cambodia's LPI shows remarkable improvements from reforms



Source: World Bank Logistics Performance Index.

75. Further improvements are under way, and more can still be done. Over 120 laws, royal decrees, sub-decrees and regulations containing formal non-tariff measures (NTMs) have been identified, covering various import and export-related permits, licenses and approvals needed to conduct trade. These NTMs have contributed to the large number of informal payments or gifts given to public officials in order to expedite processing of exports or imports. The 84 percent share of registered enterprises reporting such informal payments or gifts is nearly double that of 2007 (Figure 1.50). Such payments are often associated with high regulatory burdens on traders, while streamlining those trading procedures could indirectly reduce informal costs in trading across borders (IFC, 2014).

Figure 1.50: Cambodia has the highest share of firms making informal payments or gift-giving to get import licenses



Source: World Bank Enterprise Surveys.

76. **For the issuance of CO, efforts are being made to automate as well as improve transparency through a Trade Information Website that will make all rules, regulations and fees available online.** A NSW system will also allow traders to meet all import and export requirements through an online portal, which in turn will help ensure that data are only submitted once and that processing, risk assessment and inspection activities are well coordinated.

77. **Regulatory reforms are expected to help move Cambodia into the next stage of development.** Cambodia's export competitiveness has improved over time, but it remains concentrated in low value-added garment and agricultural products due to relatively low wages and productivity. While the country's abundant low-skilled workforce has proven successful in driving growth, moving to the next stage of development will involve efficiency-driven growth based on better product quality and value-added production processes that are supported by well-functioning public institutions and an efficient and streamlined regulatory framework (World Economic Forum, 2012). In this regard, the International Monetary Fund (IMF, 2014) has recently highlighted the potential benefits to export growth and diversification that are anticipated from the reform agenda being put forward by the MoC to reduce the regulatory burden for businesses while improving governance and accountability of government agencies to ease constraints on doing business.

78. **Based on the estimates of the production function (see Annex II), we simulate the impact of changes in the investment climate on productivity.** In particular, we can consider how much productivity changes if we move from a 'bad' investment climate (bottom 10 percentile of the distribution) to a 'good' investment climate (top 90 percentile of the distribution). Table 1.1 shows how much of the productivity change between the 10th and 90th percentile of the distribution could be achieved by changes in the four investment climate variables that were found to be mostly significant and robust across the different specifications: days to clear customs for imports, payments to deal with bureaucracy 'faster', loss from theft, robbery, vandalism or arson, and presence of a bank loan.[11]

79. **The simulations show that firms that would move from a bad investment climate to a good investment climate would increase their value added by 37.5 percent with a reduction in the number of days it takes to clear customs.** If the improvement is in terms of a reduction of payments to deal with bureaucracy faster, value added would increase by 20.5 percent. Improvements in access to loans would have a productivity impact of 28.7 percent and a reduction in the loss from theft, robbery, vandalism or arson would increase productivity by 3.5 percent.

Table 1.1: The importance of the investment climate for productivity

	10th Percentile	Median	90th Percentile	% Change value added*
Days to clear customs for imports (log(days+1))	0	0	1.10	-37.5
Payments to deal with bureaucracy 'faster' (log(percentage of sales+1))	0	0	1.79	-20.5
Loss from theft, robbery, vandalism or arson (log(percentage of sales+1))	0	0	0.14	-3.5
Firm has loan from bank/ financial institution (dummy)	0	0	1	28.7

** The percentage change indicates how much value-added would change in response to a change in those variables from the 10th to the 90th percentile.*

[11] We use the estimated coefficients of column (3) in Table 1 for the simulation.

CHAPTER 02

COPING WITH A DEMANDING INVESTMENT CLIMATE I- THE RISE OF SEZS

KEY MESSAGES

- **As of 2013, 23 SEZs have been authorized. These are located throughout the country, with concentration in Phnom Penh, Sihanoukville and along the borders with Vietnam and Thailand.**
- **The 2012 Enterprise Survey for Cambodia is the first survey to include a special module on SEZs, and it is the first in the country to sample firms located inside the SEZs.**
- **Analysis of the survey results provides no strong evidence that SEZ firms are significantly outperforming those outside the SEZs despite their larger size and export orientation.**
- **It is not clear that SEZ firms are delivering substantial spillover benefits to the Cambodian economy. While they do employ a higher skilled workforce and invest more in training than firms outside the SEZs, only some companies expose their employees to leading international technologies and practices.**
- **The survey evidence suggests that the zones are not making a significant difference in improving the investment climate faced by investors, which may well explain why we observe no major performance advantage in the SEZ-based firms. Firm perceptions indicate that SEZ-based firms have a more negative view of the investment climate than firms based outside the zones: almost no firm reported the investment climate being better in the SEZs than outside them.**

2.1 Introduction

80. **SEZs are designed explicitly to overcome barriers to a poor investment climate in the wider domestic economy.** By concentrating infrastructure investment and providing an improved business set-up, operations, and trade facilitation environment, often in combination with attractive fiscal incentives, some SEZ programs have been successful in attracting FDI, promoting diversified exports, and generating large-scale employment (especially women). Evidence from around the world suggests that two key criteria for determining success and sustainability of SEZ programs over time are: (i) the degree to which the SEZs improve the competitiveness of firms operating in them by addressing the real constraints facing investors (rather than relying on fiscal incentives); and (ii) the degree to which they establish effective linkages with the domestic economy and facilitate spillovers (technology, knowledge, policy reform) that raise the competitiveness of the wider domestic economy. It should also be noted that, in the Cambodian context, the SEZs policy aims at creating off-farm jobs, particularly in rural areas outside Phnom Penh, and to attract FDI in new manufacturing sectors, in view of diversifying its export base, which is largely reliant on the garment and foot-wear sectors.

81. **How successful have Cambodia's SEZs been in establishing an environment that improves the competitiveness of its firms? And how have Cambodia's zones performed against the SEZs policy objectives?** We find that Cambodia's SEZs policy is showing initial signs of success in terms of attracting investment in new sectors, including electronics and light industries. However, SEZs appear to have only a marginal impact on the investment climate facing firms, and have not yet created an environment that contributes to substantially improved firm performance and spillovers to the domestic economy. In fact, while the zones offer several benefits in terms of One-Stop Shops and enhanced border clearance procedures, investors continue to express disappointment that their expectations for a benign investment environment inside the zones are not being fulfilled.

82. **It is important that the revision of the current Investment Law is completed as soon as possible to modernize the existing regime.** A system of smart incentives and more effective investment protection can pave the way for foreign investors deciding to move into Cambodia, taking advantage of its competitive labor cost and its favorable geographical location at the center of the ASEAN Economic Community (AEC). The RGC could also consider designing and implementing a Zero-Corruption Strategy to curb corruptive practices within the SEZs. Policing this strategy would be feasible in the controlled environment of the SEZs, and have a strong resonance in terms of building a positive image for Cambodia as an FDI destination.

2.2 SEZs in Cambodia

83. **Cambodia launched SEZs in December 2005, with the establishment of the Cambodian Special Economic Zone Board (CSEZB).**[12] The zone program was intended to support investment attraction by streamlining administrative procedures and tapping the potential for private sector provision of infrastructure and services. In addition, the zones were seen as a tool to establish economic linkages between urban and rural areas, and particularly to promote investment outside Phnom Penh (World Bank, 2011). All SEZs in Cambodia are developed and operated by the private sector.

84. **While investors in the zones have access to a number of fiscal incentives, similar incentives are currently available to other 'qualifying investment projects' based outside the SEZs.** This latter policy may change as a result of a possible revision of the Investment Law. The main exception is for zone development projects, where developers may obtain concessional access to land for SEZ development in peripheral and border regions. In addition, zone investors have special suspension of VAT on inputs of construction material and equipment and, more importantly, on inputs sourced from other SEZ-based companies. Otherwise, the main advantages for investors looking to establish in the zones are:

    - **Land access and infrastructure:** The SEZs offer access to land and facilities with security of tenure; scope and quality of industrial infrastructure varies across the zones, with some zones offering substantial advantages in terms of access to cheap electricity imported from neighboring countries (i.e. electricity imported from Vietnam in the Bavet SEZ, etc.).
    - **"One-stop" facilitation:** The SEZs offer on-site facilitation of trade and administrative activities, with government official stationed on site.

[12] On 29, December 2005 through "Sub-Decree No. 147 on the Organization and Functioning of the CDC" and "Sub-Decree No. 148 on the Establishment and Management of the Special Economic Zone"

- **Expedited customs:** Special procedures are available to facilitate importing and exporting for zones located within 20 km of borders; in all SEZs outbound customs clearance takes place within the SEZ.

85. **As of 2013, 23 SEZs have been authorized. These are located throughout the country, with concentration in Phnom Penh, Sihanoukville and along the borders with Vietnam and Thailand (see Annex III for a list of SEZs including some details on their location, size, status, and investors).** Of the 23 approved zones, eight appear to have commenced operations, with four zones having more than three investors each, according to data from the CSEZB. These are Manhattan (18), Phnom Penh (37); Sihanoukville (18); and Tai Seng Bavet (11). Investors operating in the zones cross a wide range of activities, with the core in apparel, footwear, and electronics, but also including automotive, bicycles, plastics, food, and packaging (Box 2.1).The nascent production diversification in Cambodia is largely taking place within the SEZs, particularly in the light manufacturing sector. This marks a great achievement of this policy which has succeeded in creating new jobs in areas where Cambodia can further diversify its export base, if bottlenecks are addressed. Investment in the zones has increased substantially since 2011, with the number of reported investors having more than doubled in less than two years. Since fewer than 100 companies are currently operating in the SEZ (and only 32 took part in the survey), it is too early to draw conclusion on the effectiveness of the SEZ policy. Nevertheless, the findings of this survey could help policymakers to identify critical issues that would contribute to the policy success, if prompt corrective measures are taken.

Box 2.1: SEZs and diversification in light manufacturing

About half of the companies located in SEZs produce light manufacturing exports. Another 19 percent of companies produce garments and 8 percent produce footwear. The rest are either utilities or companies providing a service or a good for the domestic market. The contribution of these SEZs to Cambodia's light manufacturing exports can be summarized as follows:

- Five companies produce bikes from inside three different SEZs. Four of those companies are located closed to the border with Vietnam.
- Three companies (3 percent of all SEZ companies) in three different SEZs work on assembling motorized vehicles, which was Cambodia's largest light manufacturing export in 2011.
- Thirteen percent of all SEZ companies, a majority of which located in Phnom Penh SEZs, produce electronic and electrical exports. Sixty percent of these companies produce one of Cambodia's top electronic or electrical exports (wires, motors, circuits, tv components, line telephony components).
- Twenty five companies (28 percent of all SEZ companies) were involved in producing "other light manufacturing", including in sport equipment and toys, mattresses, nuts, screws and bolts, machinery, and other type of light manufacturing.

To compare, there were 7 companies producing bicycles across Cambodia in 2011, 5 producing motorized vehicles parts and components, 15 producing electronics and electrical goods, and 24 that could be classified under the "other light manufacturing" (minus furniture) category. This suggests that SEZs represent a most of Cambodia's total light manufacturing production. They are also likely to produce a much larger and more valuable share of exports.

Source: CTIS 2013, RGC.

2.3 Firm characteristics: inside versus outside the SEZs

86. The latest Enterprise Survey for Cambodia (2012) is the main data source for our analysis. The survey includes a special module on SEZs, and it is the first in the country to sample firms located inside the SEZs. Thirty-two firms established inside SEZs replied to the survey questionnaire in addition to 830 firms located outside the zones. Because the Enterprise Survey includes some types of firms that are not strictly comparable to firms inside SEZs (e.g. firms from the services sectors, informal firms, etc), a selected sample of the survey was chosen to serve as a comparison group. To do this, we restricted the sample of firms from the wider economy ("non-SEZ firms") to medium and large manufacturing firms excluding the agro-processing sector.[13] Regressions have been made controlling for differences in firm characteristics between SEZ and non-SEZ firms to verify whether significant differences occurred also after controlling for sector (particularly garments), ownership, and size (large firms versus medium firms). Bold underlined numbers in the tables indicate that the difference in responses between SEZ and non-SEZ firms are significantly different from each other at 10 percent after controlling for sector (specifically garment versus non-garment), size (medium versus large) and ownership (percent foreign).

87. Some differences in the profile of firms inside and outside the zones remain even after restricting our non-SEZ sample. These differences may affect the findings in subsequent sections, as they will shape the actual and perceived constraints faced by different investors, as well as the potential actions that they could undertake to overcome obstacles in the business environment. These differences are summarized below:

- ***Age:*** **Firms established inside SEZs are relatively new compared with firms in the main economy (2.3 versus 3.2 years, respectivly).** This result is to be expected, given that the SEZ program was only established in 2005.
- ***Size:*** **The average firm in the SEZs is larger in terms of employees (430 vs. 616) than the average firms outside the zones.** In particular, firms located inside the Manhattan SEZ are twice as large in terms of employment. However, firms outside the SEZs are on average larger than those inside the SEZs (US$8,691 vs. US$9,693), with the significant exception of the firms in Manhattan SEZ which have annual average sales of US$16,000.
- ***Ownership:*** **Although FDI participation is high in Cambodia, there are still differences in its prevalence inside and outside the zones**. Foreign control, defined as a foreign equity participation in a firm higher than 50 percent, is almost universal inside the zones (93.8 percent of firms) but less prevalent outside them (53.8 percent of firms).
- ***Market orientation:*** **The domestic market is a more important source of revenue for non-SEZ firms than for firms inside the zones.** On average, firms outside the zones sell three-quarters of their output in the domestic market while SEZ firms sell about one third of their products inside Cambodia.

[13] With the exception of one firm, all SEZ firms are classified as medium or large enterprises in the manufacturing sector and none is involved in agro-processing. For more details about the sample selection and firm characteristics see Annex 2.

Table 2.1: Key differences between SEZ and non-SEZ firms

	non-SEZ	SEZ	MA	SV	PP
Avg. age (years)	13.2	2.3	4.0	1.5	2.5
Number of employees	430	616	1245	213	431
Avg. sales (US$ thou.)	9,693	8,691	16,000	3,131	4,334
Export intensity (% sales)	25.5	70.3	100	56.3	54.5
Foreign controlled (% ownership)	38.4	93.8	100	87.5	100

MA= Manhattan; SV= Sihanoukville; PP= Phnom Penh

Note: Number of responses for other SEZs considered too low to present individually; however the data from all SEZ-based firms that responded is included in the aggregate SEZ figure. For details on response rates across SEZs, please see Annex IV. Bold underlined numbers indicate that the difference in responses between SEZ and non-SEZ firms are significantly different from each other at 10percent after controlling for sector (specifically garment versus non-garment), size (medium versus large) and ownership (percent foreign).
Source: World Bank Enterprise Survey, 2012.

2.4 SEZs and the investment climate

Overall assessment

88. **One of principle objectives of SEZs as an instrument is to help overcome many of the obstacles faced by firms in the wider economy.** While this has been the case in many SEZs around the world, it is by no means the rule. In many zones, it turns out that the investment climate offers no significant advantages to firms (Farole, 2011). Table 2.2 and Figure 2.1 summarize the main constraints perceived by businesses operating in Cambodia. Table 2.2 shows the percentage of firms rating each constraint as "major" or "very severe", while Figure 2.2 prioritizes these constraints. It shows the share of Cambodian firms that have identified each constraint as being among their top three obstacles to operation.

Table 2.2: Percentage of firms ranking constraint as "major" or "very severe"

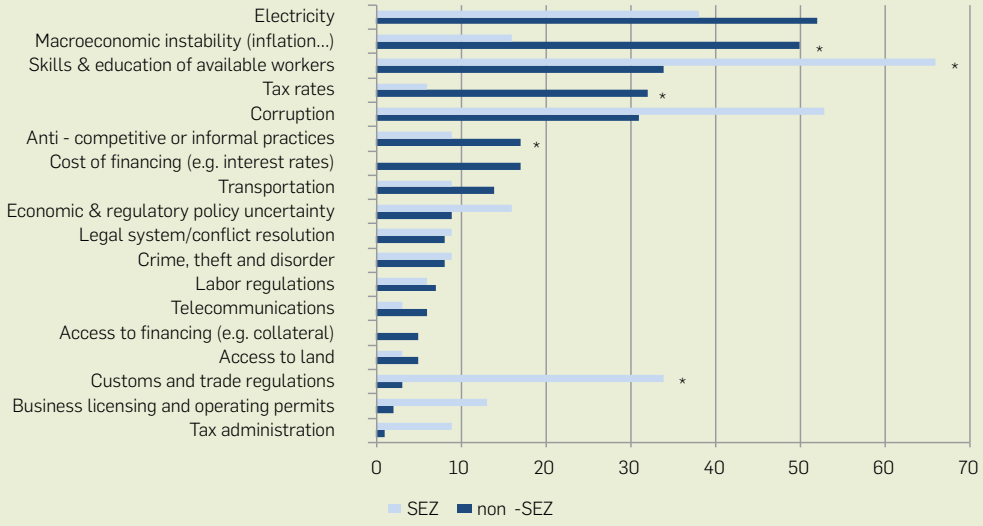
	non-SEZ	SEZ	MA	SV	PP
Corruption	38.1	74.2	83.3	62.5	81.8
Skills & education of available workers	36.7	71.9	57.1	75.0	72.7
Macroeconomic instability (inflation…)	40.4	43.8	57.1	50.0	36.4
Electricity	39.8	40.6	71.4	25.0	27.3
Economic & regulatory policy uncertainty	14.5	34.4	42.9	12.5	45.5
Tax administration	15.2	33.3	66.7	20.0	27.3
Transportation	16.8	28.1	42.9	37.5	18.2

	non-SEZ	SEZ	MA	SV	PP
Customs and trade regulations	10.9	28.1	14.3	25.0	45.5
Access to land	11.6	17.9	14.3	25.0	18.2
Legal system/conflict resolution	14.0	16.0	16.7	33.3	18.2
Anti-competitive or informal practices	21.4	15.6	0.0	0.0	36.4
Telecommunications	9.9	15.6	0.0	25.0	18.2
Business licensing and operating permits	8.8	15.6	14.3	0.0	27.3
Labor regulations	6.6	12.5	0.0	0.0	9.1
Water	14.1	12.5	28.6	12.5	9.1
Crime, theft and safety	8.1	12.5	14.3	12.5	18.2
Access to financing (e.g. collateral)	11.6	9.7	14.3	12.5	10.0
Tax rates	**20.1**	**9.4**	14.3	12.5	9.1
Cost of financing (e.g. interest rates)	**20.2**	**3.2**	0.0	0.0	10.0

Note: : Figures highlighted in red are outliers, either in SEZs as a whole versus non-SEZs or within the SEZ sample. Bold underlined numbers indicate that the difference in responses between SEZ and non-SEZ firms are significantly different from each other at 10percent after controlling for sector (specifically garment versus non-garment), size (medium versus large) and ownership (percent foreign).
Source: World Bank Enterprise Survey, 2012.

89. **Several findings emerge from the data. Most importantly, firms inside and outside the SEZs rank the same four issues as the most important constraints to business: electricity; corruption; macroeconomic instability; and skills and education of available workers.** For the SEZ-based firms, corruption and workers skills stand out as being by far the biggest factors of concern, identified as an important obstacle by more than 70 percent of firms (roughly double than non-SEZ firms). This high rate could be explained also on the base of unmet expectations by foreign investors who could have expected to face fewer issues in these areas, as a result of their decision to invest within an SEZ. After this group of four obstacles, there is significant drop in the percentage of firms that identify other issues as relevant, particularly for firms based outside the SEZs. For instance, no other issue was identified as a top 3 obstacle by more than a quarter of firms outside the zones, and only two issues were highlighted as top 3 obstacle by more than a third of firms inside the zones—economic and regulatory policy uncertainty (34 percent) and tax administration (33 percent). This drop is less sharp in SEZ firms (indeed, SEZ firms as a whole appear to be more negative in their perceptions of the investment climate), among which a group of issues—customs and trade regulations, and transportation—are still relevant for between one quarter and one third of firms. These issues, although not particularly high in the list of non SEZ-based firms, are important for SEZ firms mainly due to the higher prevalence of exporting firms within the zones.

Figure 2.1: Percentage of firms ranking constraint as their top 3 obstacles



Note: Stars indicate that the difference in responses between SEZ and non-SEZ firms are significantly different from each other at 10percent after controlling for sector (specifically garment versus non-garment), size (medium versus large) and ownership (percent foreign).
Source: World Bank Enterprise Survey, 2012.

90. **The fact that the same four issues are identified as the biggest constraints for firms both inside and outside the zones suggests that the SEZs cannot yet claim to have addressed effectively the biggest challenges in Cambodia's investment climate.** On the other hand, for at least two of these issues, it is difficult to imagine the SEZs could substantially alter the investment climate deficiencies. Macroeconomic instability is clearly outside the scope of the SEZs. Skills and education of workers is mainly an economy wide issue. In the case of corruption, while it is also an economy wide problem, it should certainly be possible to reduce substantially its impacts on business, through an SEZ environment with its own customs and administrative regime. Indeed, many zones around the world have managed to achieve this. Finally, the concern over electricity, to the degree it is a valid one (see below) is one that should clearly be addressed within an SEZ environment.

2.5 Productivity performance of firms in SEZs

91. **If SEZs are successful in establishing a more competitive environment in which firms can operate this should be reflected in the performance of firms established inside the zones relative to the firms outside.** This section compares the performance of SEZ and non-SEZ firms using different measures of productivity in order to assess whether the former perform better than the latter.[14]

[14] Another measure of firm performance would be growth (output, exports, employment). However, as this is the first time the SEZ firms have been surveyed, no panel data is available for this set of firms. Moreover, the majority of SEZ-based firms have been in operation for less than 4 years.

92. **Analysis of the survey results presented in 2.2 provides no strong evidence that SEZ firms are out performing significantly those outside the zones despite, as noted previously, their larger size and export orientation.** Where SEZ-based firms do have an advantage is in labor productivity, measured as value-added per worker.[15] Here, productivity for SEZ-based firms (US$4,948) is about 20 percent higher than for firms based outside the SEZs (US$4,117). However, unit labor costs are actually slightly higher (0.42 in the SEZs versus 0.40 outside). This seems to be explained mainly by higher labor costs in the SEZs, at US$1,502 per worker, on average, in the SEZs versus US$1,284 outside the zones (a difference of 58 percent), which in turn may be a function of differences in the skills profile of employment (see later discussion).[16] It also indicates that value-added per unit of output may be moderately higher in the SEZs.

93. **Given that labor productivity depends also on capital available, a broader measure of productivity is TFP.** This is an indicator of productivity that takes into account both labor and capital used in the production process. According to our estimates, average TFP of SEZ and non-SEZ firms is virtually the same. Further, no significant difference can be found in the capacity utilization of firms inside and outside SEZs. The gap in comparative performance reported labor productivity and the TFP estimates is explained by the SEZ-based firms being more capitalized—i.e. having higher levels of investment. This is to be expected given the high FDI ownership in the SEZs (FDI-owned firms around the world tend to be more capital intensive than their domestic counterparts). The low average age of SEZ-based firms may also contribute to the gap in capital employed, as these firms will have invested much more recently, while older, domestic firms may have already depreciated substantially the investments in their equipment and facilities.

Table 2.3: Performance comparison: SEZ and non-SEZ firms[17]

	non-SEZ	SEZ
Labor productivity (value added / worker)	4,117	4,948
Unit labor costs	0.40	0.42
TFP	**5.5**	**5.0**
Capacity utilization (%)	74.5	71.0

Note: Bold underlined numbers indicate that the difference in responses between SEZ and non-SEZ firms are significantly different from each other at 10percent after controlling for sector (specifically garment versus non-garment), size (medium versus large) and ownership (percent foreign).
Source: World Bank Enterprise Survey, 2012.

[15] The following cleaning rules have been applied when calculating the labor productivity numbers. First, all firms with negative value added are omitted. Second, all firms with a share of intermediates in output less than 0.1 or more than 1 are omitted, where intermediates are the sum of the costs of raw material, electricity, fuel, communication, and other production costs (excluding cost of labor, investment, depreciation, interest payment, and taxes). Third, if the intermediates share in output deviates more than three standard deviations from the industry-mean (after applying the first two cleaning rules), then the observation is omitted as an outlier. Fourth, the bottom or top five percent of the (weighted) labor productivity distribution for each industry is eliminated.

[16] Median labor costs are also higher in SEZ locations: US$1,320 versus US$1,111.

[17] The sample size for this table is SEZ=19 / non-SEZ=155. We drop firms without sufficient information to calculate all of the indicators in the table. We also drop outliers. Specifically, there were a number of outliers (particularly in the SEZ sample) where reported labor costs were substantially higher than value added (in some cases by a factor of 10).
For additional details on channels and determinants of linkages see Farole, Staritz and Winkler (2013)

2.6 SEZ firms and local economy linkages and spillovers

94. While FDI delivers a number of important contributions to host economies in terms of investment, employment, and foreign exchange, perhaps its most important role from the perspective of long-term growth and development, is as a source of knowledge, technology, and know-how that can contribute to upgrading the domestic economy. These so-called "spillovers" usually refer to the productivity gains that result from the diffusion of knowledge and technology from foreign investors to local firms and workers, and typically occur through one or more of the following channels:[18] (i) supply chain linkages (where foreign investors sell to local firms or, most importantly, purchase goods and services inputs from local firms); (ii) labor markets (when skilled workers from the foreign-owned firms take their knowledge with them to domestic firms or to starting new entrepreneurial ventures); and, (iii) changing market forces (when increased competition, collaboration, or demonstration resulting from FDI into the country leads to knowledge diffusion).

95. As one of the most important instruments for attracting FDI into Cambodia and ensuring the success and sustainability of these investors, SEZs are critical in determining the degree to which spillover potential is realized. The location of the zones, their sectoral focus, the nature of firms that are attracted into the zones, their policy and regulatory environment, and day-to-day operational and logistical issues in the zones all play a part in determining the scope and breadth of linkages that are likely to be established between SEZ-based investors and the local firms, workers, and institutions. The more established and deeper are the linkages, the more likely it is that meaningful spillovers will take place. The very nature of SEZs, as distinct enclaves outside of the domestic economy, means that policy and regulatory factors often act as barriers to effective linkages. This is particularly true of traditional export processing zones, whose primary value proposition is to facilitate export-oriented production based on imported inputs.

96. In the next section, we use the results of the enterprise surveys to look for evidence showing the degree to which SEZ-based investors are: (i) linked with the domestic economy; and (ii) engaged in activities that may lead to spillovers to domestic actors (firms and workers).

2.7 Spillover potential of SEZ-based firms

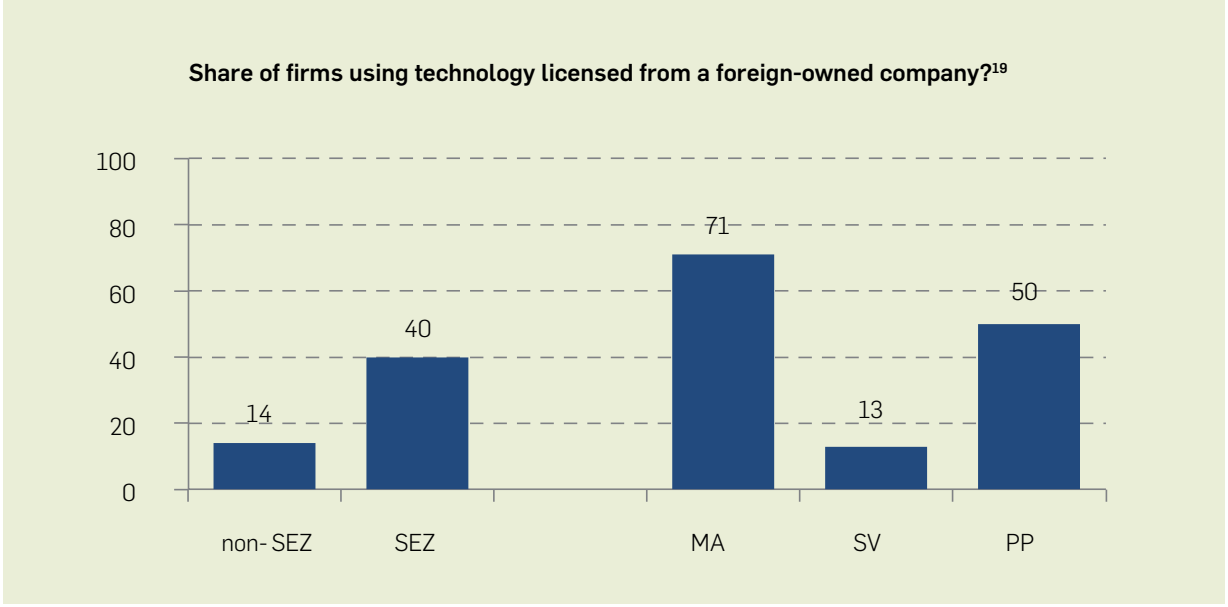
97. The concept of positive spillovers accruing through FDI is based on the premise that foreign investors will, on the whole, have a productivity advantage over domestic firms (given that the most productive firms of any economy tend to be the ones that compete in external markets through exporting and investing), and that they are more likely to have exposure to leading international technology and knowledge. As discussed previously, we find limited evidence that SEZ-based firms in Cambodia have a significant productivity advantage relative to similar firms based outside the zones. However, there may be explanations for this quite apart from knowledge, technology, and technical efficiency of firms—for example, the much more recent profile of investments from SEZ-based firms.

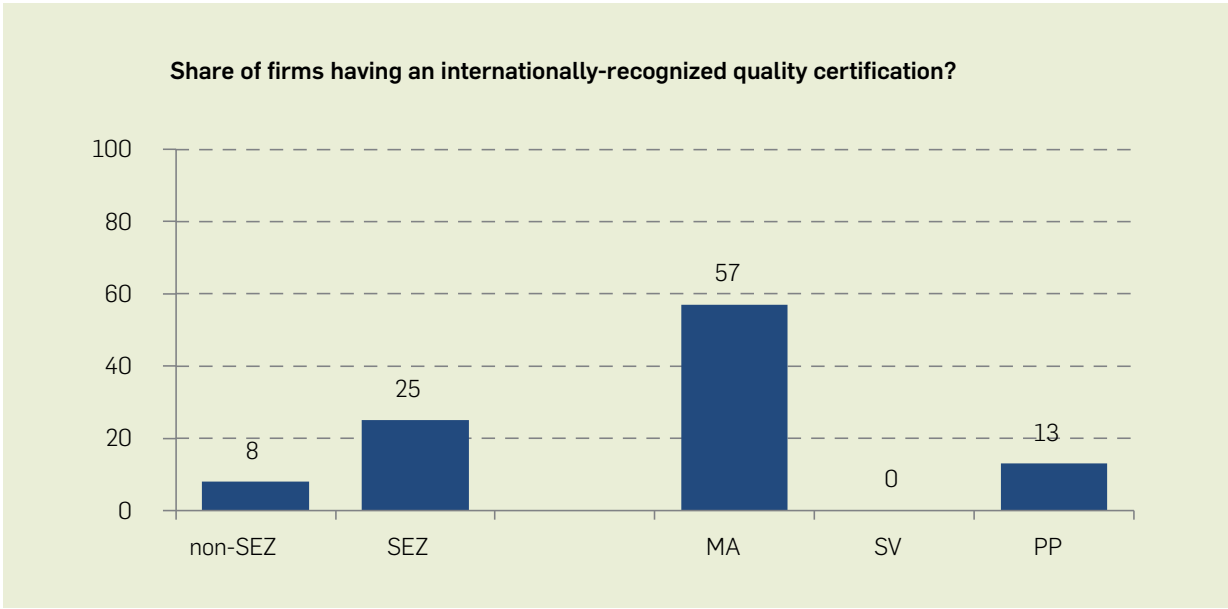
98. Therefore, we assess here the degree to which SEZ-based firms may have knowledge, technology, and practices that are more advanced than similar firms based outside the zones. This would suggest potential for spillovers to benefit the domestic economy. Figure 2.2 shows that SEZ-based firms are much more likely than firms based outside the zones to be using

[18] For additional details on channels and determinants of linkages see Farole, Staritz and Winkler (2013)

technology licensed from a foreign company and to obtain and internationally-recognized quality certification, such as ISO or industry-specific schemes. This is not surprising, given the strong bias towards foreign ownership in the SEZs. In this context, however, it is perhaps surprising that the figures are so low for the SEZ-based firms, with only a small minority having international quality certification or licensing foreign technology. Significant variation existed in the responses across zones, with a clear majority of firms in Manhattan licensing technology and investing in certification, while almost none in Sihanoukville made such investments.

Figure 2.2: International technology licensing and quality certification



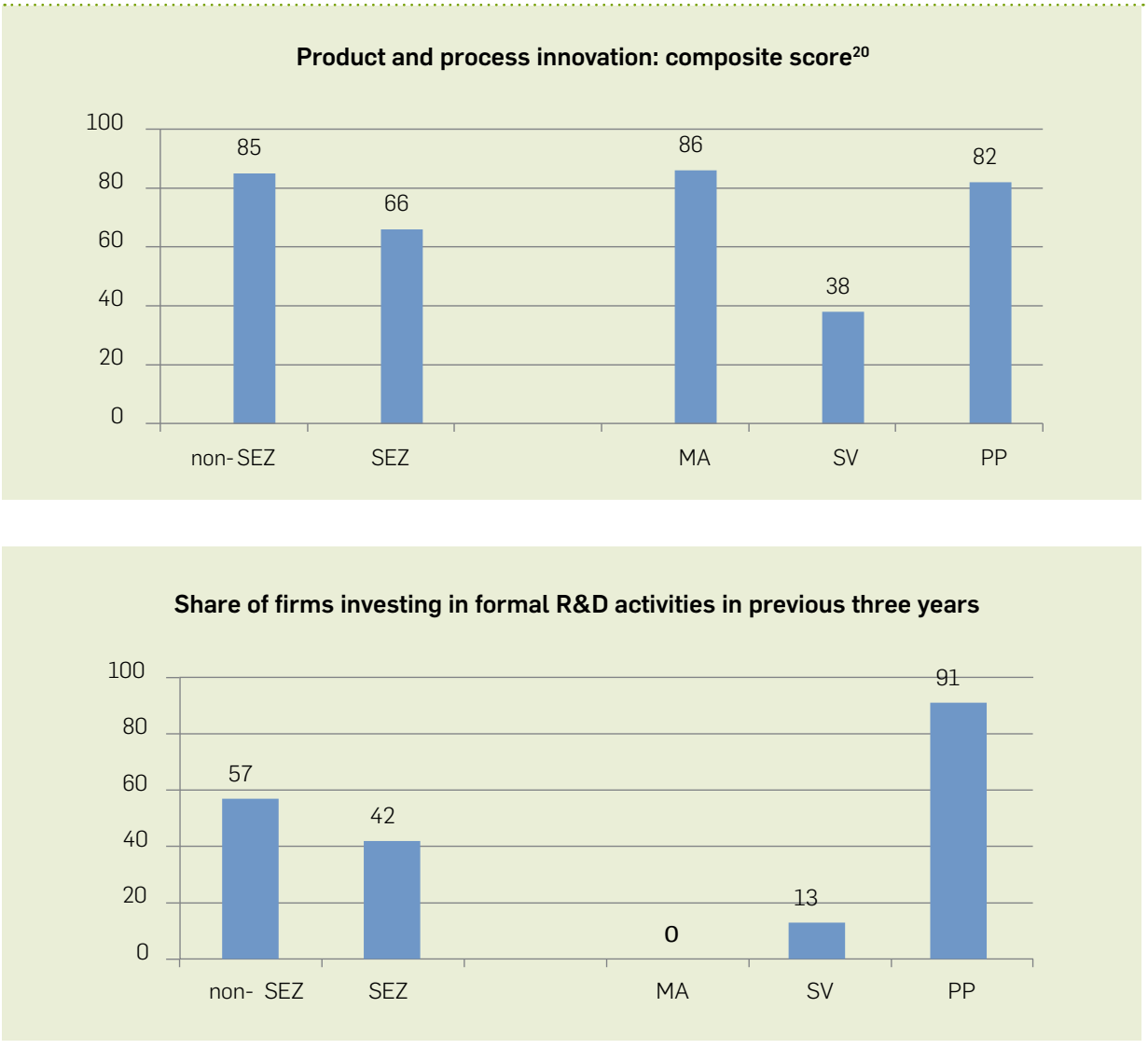


Source: World Bank Enterprise Survey, 2012.

[19]Excluding office software

99. Figure 2.3 shows that SEZ-based firms have actually invested less than non-SEZ firms in R&D as well as in product, process, and managerial innovations. Such investments appear to be particularly rare in Manhattan and Sihanoukville, but much more prominent in Phnom Penh. While this could be interpreted negatively that the SEZ-based firms have rather limited focus on innovation (and, therefore, possibly limited potential for spillovers), it may simply be a reflection that most of the firms in the SEZs are very newly-established, and so product and process upgrading has not yet been required. In fact, the share of non-SEZ firms investing in innovation and R&D appears to be quite high, so a positive reading of the results of Figure 2.3. could argue that newly-established foreign firms have facilitated an environment (through competition and demonstration effects, as well as potentially through linkages), which stimulates upgrading in domestic firms.

Figure 2.3: Innovation and R&D



Source: World Bank Enterprise Survey, 2012.

[20] Composite score is the average share of firms that, in the previous three years, introduced at least one of the following: new products or services (Q18), new or significantly improved methods of manufacturing products or offering services (Q20); new or significantly improved logistical or business support processes (Q21); new or significantly improved organizational structures or management practices (Q22); new or significantly improved marketing methods (Q23).

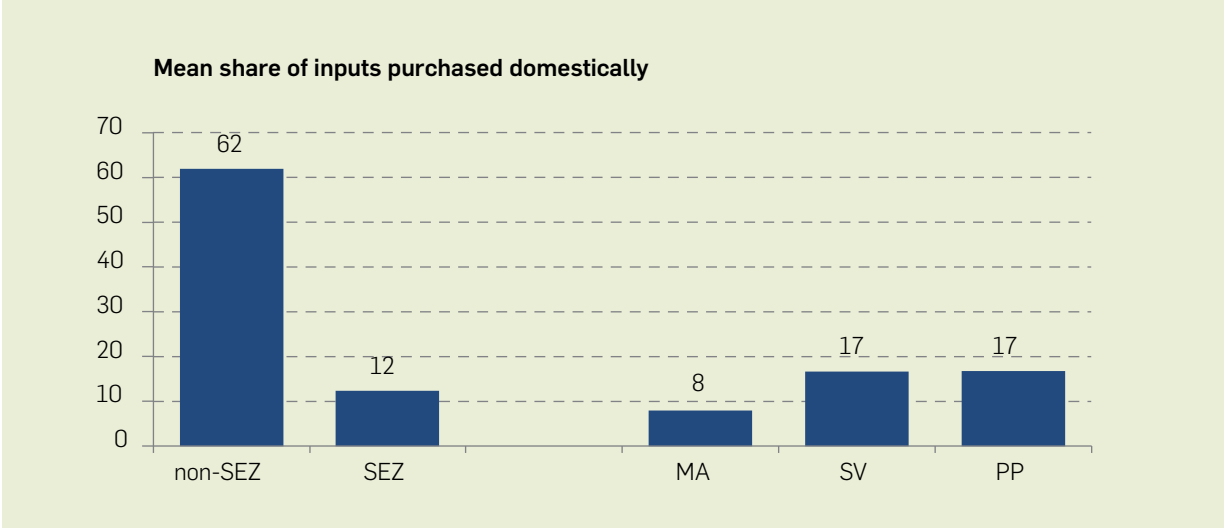
2.8 Evidence of input-output linkages

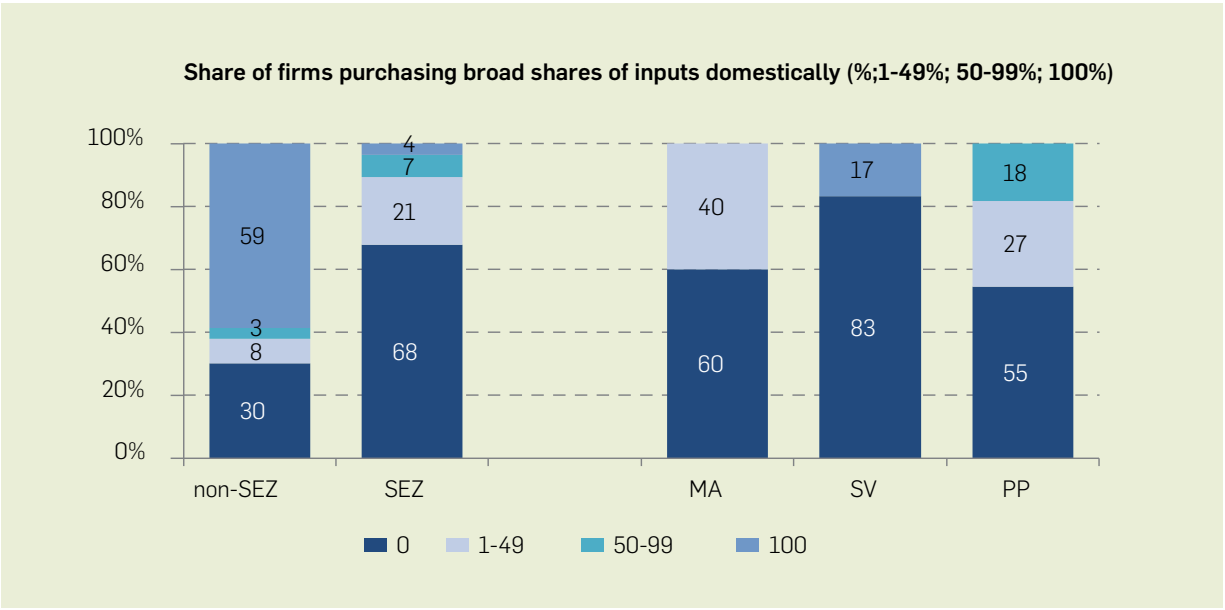
100. Given this context on the potential for the mainly foreign firms based in the SEZs to contribute productivity-enhancing technology and know-how to the Cambodian economy, a key issue is the degree to which these firms have established supply chain links with domestic firms, as this is normally the most important channel for the realization of spillovers. In terms of input (backward) linkages, Figure 2.4 . shows that SEZ firms source a very limited share of inputs from the Cambodian economy, and it highlights dramatic differences between SEZ and non-SEZ based firms. SEZ-based firms report, on average, sourcing only 12 percent of inputs from the domestic economy, only one-fifth the level sourced locally by firms based outside the SEZs. We can see from the distribution of sourcing patterns, that two-thirds of SEZ-based firms report sourcing no material inputs domestically, while only 7 percent report sourcing more than half of inputs locally. This is in dramatic contrast to non-SEZ based firms, where 59 percent of firms source all inputs domestically. Patterns across the three main SEZs do not differ dramatically, although firms in Sihanoukville are more likely to report sourcing fully from imports, which is perhaps unsurprising given its port location.

101. It should be noted that while this share of local sourcing from SEZ-based firms in Cambodia does appear low. It is common globally that export-oriented manufacturing firms, particularly those in sectors like apparel, footwear, and electronics, import the large majority of inputs. This is more often the case in relatively small countries with limited domestic supply capacity, as is still the case in Cambodia.

102. On average, just over one-third of the output of SEZ based firms is sold on the Cambodian market compared with just over half of non-SEZ based firms. The distribution of average firm output destinations suggests that for the most part firms are either oriented domestically or to export markets, with few firms selling to both markets (a pattern which, in itself, limits spillover possibilities). In this case, there also appear to be significant differences across the main SEZs. All surveyed firms in the Manhattan border SEZ are fully export oriented. By contrast, half of firms in Sihanoukville report selling all output in the domestic market, and two-thirds sell at least 50 percent domestically (Figure 2.4). This suggests Sihanoukville is functioning primarily as an import-facilitating zone rather than an export-promoting one.

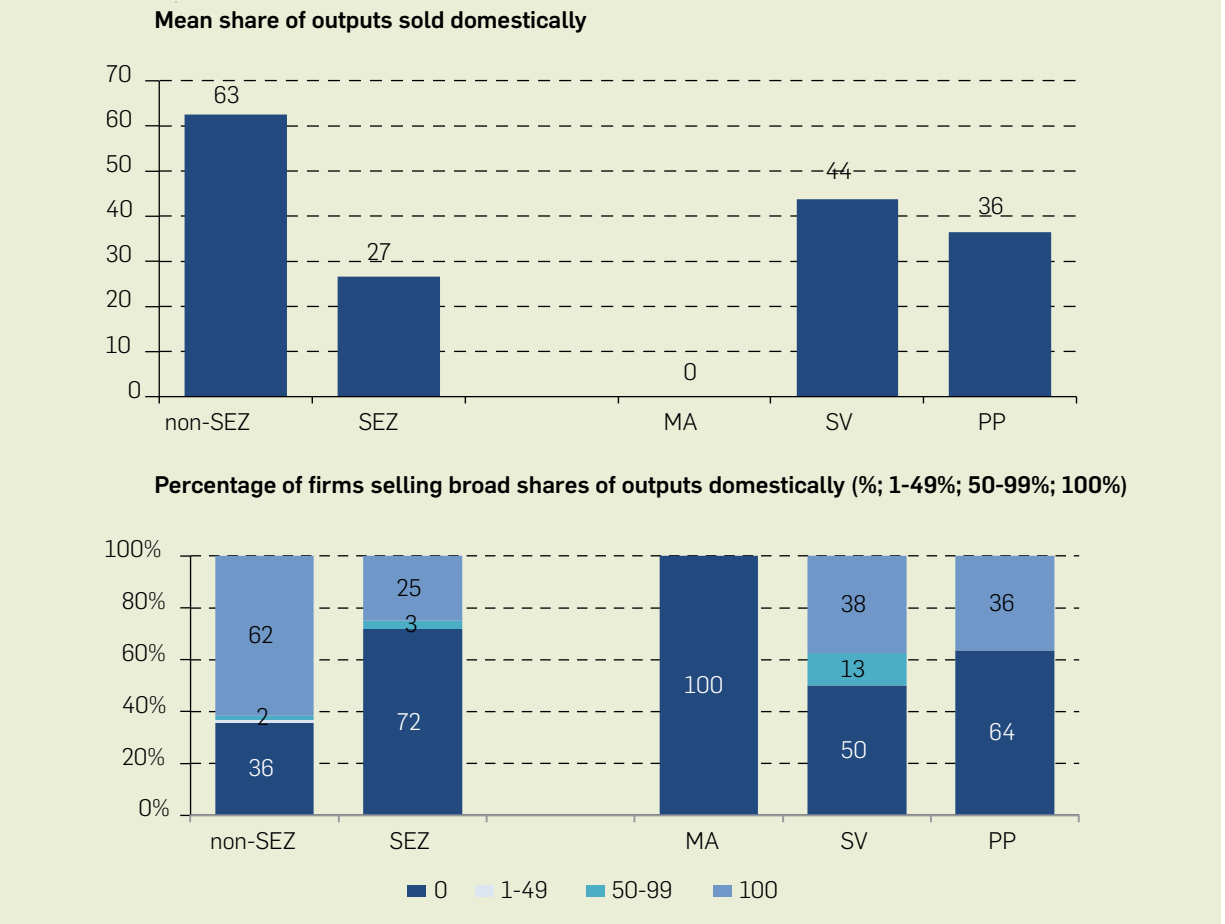
Figure 2.4: Input linkages – percentage of material inputs purchased from domestic sources





Source: World Bank Enterprise Survey, 2012.

Figure 2.5: Output linkages – % of outputs sold domestically



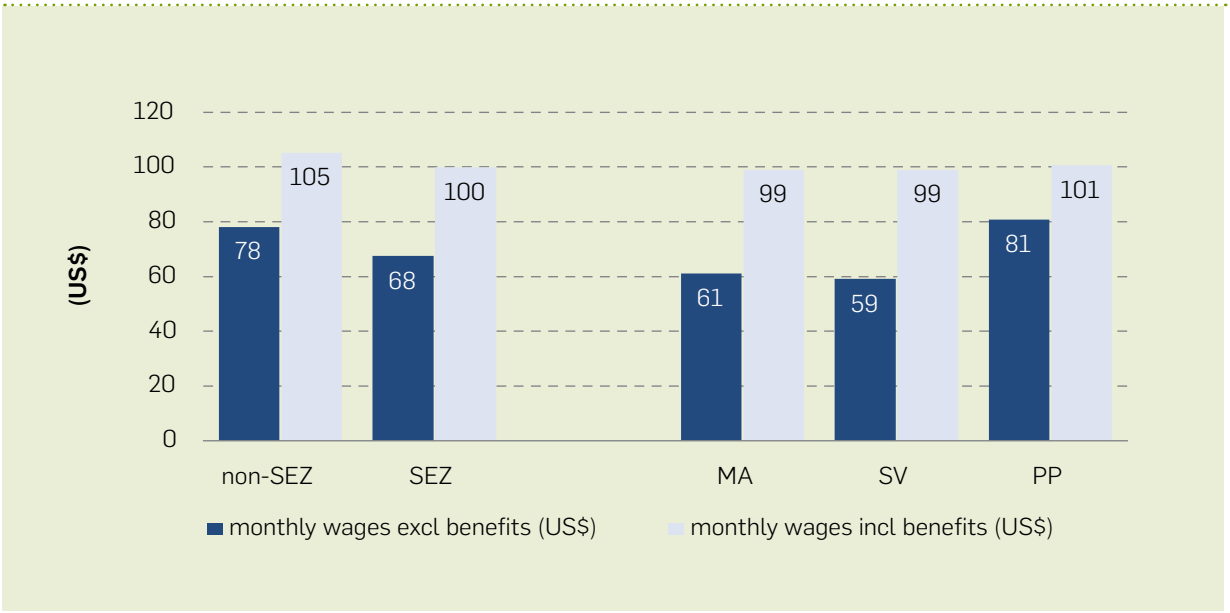
Source: World Bank Enterprise Survey, 2012.

2.8.1 Labor market spillovers

103. Finally, we look at the potential that positive spillovers from SEZ-based firms can occur through domestic labor markets. First, Figure 2.6 presents a comparison of wage levels inside and outside the SEZs. While wages are not actually associated directly with knowledge and technology spillovers, they are an important indicator of the broader impact that SEZ-based firms are having on the domestic economy.

104. The results indicate that wage levels of unskilled production workers are slightly lower in the SEZs than outside them. The difference is around US$10 lower at the base level, dropping to US$5 once benefits are taken into account, though these results are based on a small sample taken before the recent increase in the minimum wage. This gap is relatively moderate, although it goes against the trend seen in most SEZs worldwide, where wage rates, particularly inclusive of benefits, are often higher inside the zones. One of the explanatory factors may be the geographical location of Manhattan and Sihanoukville SEZs (salaries might be lower because of less dynamic job-market outside Phnom Penh) or the low level of unionization in Cambodia's SEZs. While firms in the non-SEZ sample indicated 21.5 percent of their labor force was unionized, the corresponding figure inside the zones was less than 8 percent. This was driven by no reported unionization in most of the zones, while in Phnom Penh SEZ, 21.5 percent of the labor force was estimated to be unionized—a figure somewhat below the 29.5 percent reported in Phnom Penh outside the zones.

Figure 2.6: Average monthly wage (US$) of an unskilled production worker



Source: World Bank Enterprise Survey, 2012.

105. Wages aside, however, the zones do appear to have certain conditions in place to facilitate spillovers (Figure 2.7). First, the skills profile demanded by SEZ-based firms appears to be significantly higher than for firms based outside of the zones, which raises the potential for higher level technologies and processes to be deployed and for learning to be absorbed. Sixty-seven percent of permanent employees in SEZ firms are reported to have secondary or tertiary education compared with only 54 percent in non SEZ-based firms. This pattern varies dramatically across locations, with 85 percent of staff in Phnom Penh zone having at least secondary education (and 31 percent with tertiary or vocational education) compared with 71 percent in Sihanoukville and only 43 percent in Manhattan.

This is most likely a function of the availability of skilled workers in these locations. It is worth noting that, even controlling for city of the location, the SEZs appear to demand higher-skilled workers. For example, in Phnom Penh the share of workers with at least secondary education is 60 percent outside the zones versus 85 percent inside; and in Sihanoukville it is 32 percent versus 74 percent.

106. In addition, firms based in the zones appear to be significantly more likely to invest in training of their workers, which again would contribute to higher absorptive capacity. On average, survey results indicate 79 percent of production workers in the SEZ-based firms participate in formal training programs, compared with 56 percent of firms based outside the zones. For non-production workers the difference was much starker—36 percent in the SEZs versus only 9 percent outside of them.

Figure 2.7: Skills and training

Source: World Bank Enterprise Survey, 2012.

Box 2.2: Do SEZs make a difference? Perceptions of investment at the local level

This section of the report provides evidence that some indicators of the business environment are slightly better inside the zones than outside. However, the scale of these benefits appears to be limited, and the evidence raises questions as to whether SEZs have succeeded in making a significant enough difference in the business environment to increase the competitiveness of the firms established inside them.

This is also reflected also in firms' own perceptions of the degree to which the location / zone in which they are based offers an advantage relative to the country overall for various investment location determinants. The table below suggests that, for the most part, investors do not perceive the zones in which they are based are providing an improved business environment. In Manhattan (MA) and Sihanoukville (SV), virtually all SEZ-based firms rated the environment in the zone as comparable to in the country overall across almost all categories. In Phnom Penh (PP), the results were much more diversified. A larger share of firms actually perceived the investment climate in the Phnom Penh SEZ as worse than outside it across most categories, with some exceptions (access to low cost labor was rated as more positive inside the SEZ; the business regulatory environment, tax, duties and rules of origin were seen as the same inside and outside by almost all respondents).

Table 2.4: Percentage of firms that rate the business environment in the SEZ as better than the business environment in the country overall

	MA			SV			PP		
	Better	Same	Worse	Better	Same	Worse	Better	Same	Worse
Access to local and regional markets	0	100	0	0	100	0	9	36	55
Access to transport infrastructure	0	100	0	0	100	0	9	36	55
Access to low costs of labor	0	100	0	0	100	0	36	36	27
Access to highly skilled labor	0	100	0	13	88	0	9	27	64
Access to suppliers	0	100	0	0	100	0	18	45	36
Access to technology	0	100	0	0	100	0	9	27	64
Availability and costs of land and buildings	0	100	0	0	100	0	27	18	55
Cost and quality of utilities	0	86	14	0	100	0	18	45	36
Corporate taxes and fees	0	100	0	0	100	0	0	55	45
Tariffs, duties, rules of origin	0	100	0	0	100	0	18	64	18
Business regulatory environment	0	100	0	13	88	0	9	82	9

Note: respondents were asked to rate separately the business environment in the SEZ and in the country (outside the SEZ) along each of the dimensions presented in this table on a scale of 1 (poor) to 5 (excellent). This table presents the share of firms whose responses showed higher ratings for the SEZ versus the country. Figures are weighted

107. Interestingly, other investment climate constraints that typically motivate the need for SEZs—customs, tax administration, access to land, water, telecommunications—are not identified as major constraints by firms based outside the zones, and in many cases are actually perceived as bigger problems for firms based inside the zones. The three issues that stand out clearly as being less of a constraint for firms inside the SEZs are: (i) cost of financing; (ii) anti-competitive or informal practices; and (iii) tax rates. The first two of these are clearly a function of firm characteristics, with firms outside the zones being smaller and domestically-owned (thus more likely to face greater problems accessing capital), as well as more focused on selling to domestic markets (thus more likely to compete with informal firms). Tax rates are therefore, the only significant factor where the SEZs appear to make a major difference in the perceptions of the investment climate. An explanation for this could be the ability for non-SEZ firms to negotiate informal arrangement with the Tax Department as compared with the higher formality in tax administration which characterizes SEZ firms.

108. But firms' perceptions of constraints are not always the most accurate indicator of reality. This is particularly true when comparing across sets of firms with significantly different characteristics and contexts. This may well be the case in the comparison of SEZ and non-SEZ based firms in Cambodia. Firms based in the SEZs may have much higher expectations of the investment climate, based on experiences in other countries or on the promise of the SEZs. Similarly, the fact that some typical constraints (for example tax rates and access to utilities) are not an issue for SEZ-based firms may lead to increased concerns over those factors that do remain.

109. In the remainder of this section, we focus on four issues—labor skills and education, electricity, corruption, and customs[21] —and probe more deeply the degree to which SEZs in Cambodia alleviate the burdens of the most important business climate constraints. In doing so, we attempt to use, wherever possible, survey data that go beyond simply perceptions of constraints.

2.8.2 Labor skills

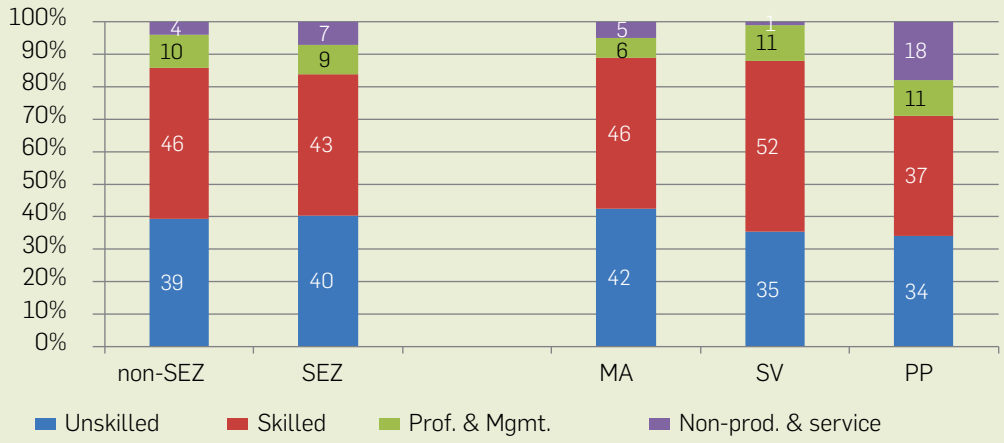
110. More than one third of SEZ firms identify labor skills as the single most important obstacle in the business environment and more than two-thirds rank it as one of their top three most important issues. Even though labor skills are also one of the most important issues for non-SEZ firms, a significantly lower percentage of firms identify them as the most important obstacle (14 percent) or among their top three constraints (36.7 percent). Even comparing within the same cities, like Phnom Penh and Sihanoukville, SEZ-based firms tend to rank labor skills as a more severe constraint than firms outside the zones.

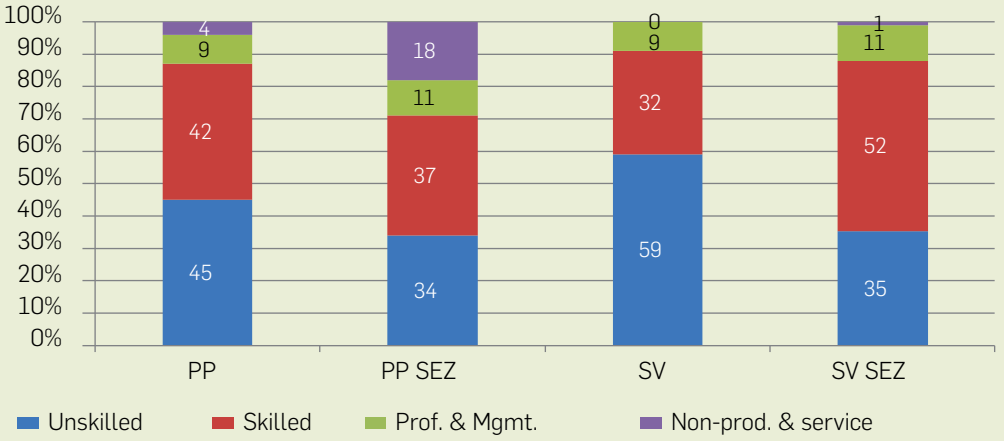
111. What can be driving the different views on the importance of insufficient labor skills as a business constraint in Cambodia? One explanation may be the different employee profiles that SEZ and non-SEZ firms demand. Figure 2.8 shows that unskilled workers represent about the same share of the workforce in SEZ and non-SEZ firms (40 and 39 percent, respectively). This difference is more acute when comparing SEZ versus non-SEZ firms in core locations like Phnom Penh (45 percent of workers unskilled outside the SEZs versus only 34 percent in the SEZs) and Sihanoukville (59 percent versus 35.5 percent).

112. SEZ firms are seeking to hire skilled workers at wages similar to or even lower than in the rest of the economy. In addition, the fact that SEZ firms are seeking to hire a more skilled labor force with wages that are similar or even lower than those offered in the rest of the economy could be one of the reasons why the lack of available skilled labor is perceived as more problematic for them (Figure 2.8).

[21] One of the issues identified among the top four constraints, macroeconomic instability, is not dealt with in this section as both firms inside and outside SEZs face the same macroeconomic environment. Although 'customs and trade regulations' are included among the top four most important business constraints, it is included in the discussion because its importance for exporting firms who represent a significant percentage of firms inside SEZs.

Figure 2.8: Composition of firms' workforce





Note: SV has only three observations.
Source: World Bank Enterprise Survey, 2012

2.8.3 Electricity

113. Twenty-eight percent of SEZ-based firms rank electricity as the single biggest constraint in the business environment; the highest total behind labor skills and slightly higher than the share of non-SEZ-based firms that identify electricity as the biggest constraint. Overall, about half the firms both inside and outside SEZ rank electricity as a top three concern (39.8 percent and 40.6 percent, respectively). In reality, our results show that there is not a lot of difference between SEZ and non-SEZ firms in terms of electricity environment they face, and that, if anything, the environment in the zones is slightly better. Table 2.5 illustrates that SEZs are somewhat worse off in terms

of the percentage of firms affected by outages and the losses estimated to have been incurred by outages (although this may be impacted by the relative scale and nature of production in SEZ firms) compared with non-SEZ firms, but perform slightly better in terms of average duration of outages. The number of outages per month experienced in Manhattan SEZ is exceptionally high (more than 143), compared with the experience of firms in other SEZs (less than 4 in Sihanoukville and between 2 and 3 in Phnom Penh) and outside the SEZ (less than 10).

114. **One area where zones seem to offer an advantage compared with the domestic economy is in the price of electricity which is considerably cheaper inside the zones (Riels867 vs. Riels1,330 per kw/hr).** This, however, is explained fully by the much lower costs of electricity in the Manhattan zone, where rates are less than half the average for non-SEZ-based firms. In fact, the estimated electricity costs in Sihanoukville, at Riels1,100, are not far to the non-SEZ average, while in Phnom Penh SEZ, they are below non-SEZ average (Riels928) (Table 2.5). It is worth noting that while Manhattan SEZ, which is close to the border and benefits from a connection to the Vietnamese grid, offers the cheapest energy among the zones, it also exhibits a very high number of episodes and hours lost to power outages. Manhattan SEZ is one of the locations in the country with the highest share of firms (85.7 percent) identifying electricity as among the three biggest constraints.

Table 2.5: Indicators of electricity infrastructure quality and price

	non-SEZ	SEZ	Manhattan (SEZ)	Sihanouk-ville (SEZ)	Phnom Penh (SEZ)
% firms experiences outages	81	87	100	75	80
Avg. number of outages per month	9.5	42.7	143.7	3.8	2.6
Avg. duration of outages (hours)	1.5	1.4	2.4	1.2	0.9
Losses incurred by outages (% sales)	1.6	3.6	2.7	4.3	0.4
Price (per kw/hr)	1,330	867	519	1,100	928

Source: World Bank Enterprise Survey, 2012.

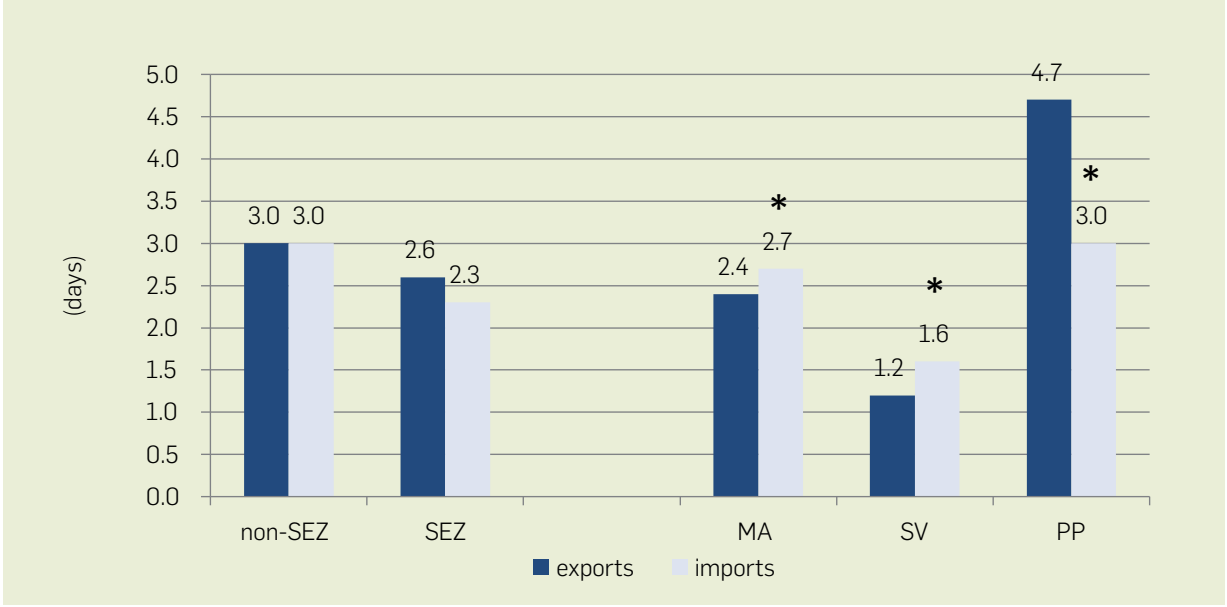
2.8.4 Corruption

115. **Corruption is identified by about three-quarters of SEZ firms as one their top three constraints.** In all zones with the exception of Phnom Penh, all firms interviewed declared that gifts or informal payments are required frequently, most of the time, or always when dealing with authorities. A significantly lower percentage of non-SEZ firms (38 percent) identified corruption among the top three obstacles in the business environment, which seems to be supported as well by a much lower share of non-SEZ-based firms (42.7 percent) reporting that gifts or informal payments are required frequently, most of the time, or always when dealing with authorities.

2.8.5 Customs and trade regulations

116. **Customs and trade regulations are identified as one of the top three business obstacles by 28 percent of SEZ-based firms, compared with only 11 percent of non-SEZ firms.** While this difference is substantial it is not unexpected, given the significantly greater reliance in SEZ firms on both exporting and importing.

Figure 2.9: Time (days) to clear goods through customs



Note: Stars indicate that the differences in firm responses across the different SEZ locations are significantly different from each other at 10 percent after controlling for sector (specifically garment versus non-garment), size (medium versus large) and ownership (percent foreign).
Source: World Bank Enterprise Survey, 2012.

2.9 Conclusions

117. **Cambodia's Special Economic Zones have expanded rapidly since they were first introduced at the end of 2005.** The Government's strong support of the program, along with the openness to private sector development and operation, has contributed to the establishment of 23 zones around the country. While many of these zones are still in the early planning stages, several have been successful in attracting foreign investors across a wide range of manufacturing sectors. Growth in investment in the zones has been particularly rapid since 2011 with significant diversification taking place particularly in the light manufacturing sector. This element alone marks an early success of this policy, as Cambodia needs to attract FDI to differentiate its export base and create job opportunities in sectors others than garments and footwear. By creating conditions for the establishment of light industry, Cambodia can tap into opportunities offered by regional integration, linking up to regional supply chains particularly in parts and components manufacturing.

118. **This note identifies some issues that deserve urgent attention to ensure SEZs' effectiveness, both in their ability to deliver a more competitive environment for investors and in their potential to deliver substantial benefits to the Cambodian economy.** First, while firms in the SEZs have characteristics that tend to be associated with high productivity—large size, export orientation, and foreign ownership—they do not appear to outperform non SEZ-based firms substantially.

119. **Second, it is not clear that the SEZ firms are yet delivering substantial spillover benefits to the Cambodian economy.** While they do employ a higher skilled workforce and invest more in training than firms outside the SEZs, only some companies expose their employees to leading international technologies and practices. The lack of innovation in the SEZs firms could also be explained on the base of their short history, as many of them have become operational only very recently and they have not had time or they have not yet experienced the need to introduce innovation in their production systems. Moreover, these firms are markedly less connected to the domestic economy, sourcing and selling mainly on international markets.

120. **Finally, and most importantly, the survey evidence suggests that the zones are not making a significant difference in improving the investment climate faced by investors, which may well explain why we observe no major performance advantage in the SEZ-based firms.** Firm perceptions indicate that SEZ-based firms have a more negative view of the investment climate than firms based outside the zones: almost no firm reported the investment climate being better in the SEZs than outside them. Moreover, the main constraints identified by non SEZ-based firms are almost precisely the same as those identified by firms in the SEZs. More objective measures across these main areas of constraint also support the finding that the SEZs offer at best only a marginal improvement in the investment climate.

121. **One reason for this is that some of the biggest constraints identified by firms are issues that cannot readily be isolated and addressed inside the zones, in particular concerns about work-force skills and of macroeconomic instability, as well as, to a lesser degree, corruption.** But it is also because the zones do not appear to be creating a significantly differentiated environment in terms of infrastructure, customs, and the regulatory environment. To some degree this may be a reflection that the Government has been relatively successful in making economy-wide improvements. It may also raise some questions about the effectiveness of at least some of the private developers.

122. **SEZs have played an important role in attracting export-oriented foreign investment at an important time in Cambodia's recent development by reducing the perceived risk for foreign investors and by overcoming issues of access to secure land and facilities.** Moreover, SEZs have been instrumental in triggering important initial changes in Cambodia's exports composition, starting diversification in sectors with high potential, such as bicycle/vehicle assembly and electronics. So the issue is more about where to go from here, and how to ensure the (increasingly proliferating) SEZs can properly differentiate themselves and deliver clear value added to investors, as well as provide an environment that promotes integration and spillovers between foreign investors and the wider Cambodian economy.

2.10 Recommendations

123. Priority measures that the Government could consider to address investors' complaints include the following:

i. **Streamline the procedures in the one-stop-shops and introduce an automated risk management system for cargo shipment inspections, particularly those related to Camcontrol, in order to reduce delays**. Given the potentially huge impact that this could have on attracting FDI, which is vital for Cambodia's development, the Government could consider monitoring closely all operations by ministry officials that take place within the zones, including asking for support from the Anti-Corruption-Unit.

ii. **Support SEZs' efforts to improve low skill-level of workers through vocational training in order to improve productivity.** A specific plan on supporting workers' skills development could be put in place with government support to a vocational training institute achieving economies of scale across firms.

iii. **Undertake a needs assessment of the current infrastructure gaps,** including in electricity, water supply and transport, and negotiate arrangements with the SEZ operators to identify viable long-term solutions to the problems outlined by SEZs' firms.

CHAPTER 03

COPING WITH A DEMANDING INVESTMENT CLIMATE II- THE INFORMAL SECTOR

KEY MESSAGES

- **There is a "missing middle" of exporters among SMEs in Cambodia compared with other countries. Firms perceive that the business environment favors large exporting firms and that there is little perceived benefit of formality unless the firm intends to export.**
- **Larger, foreign-owned and more capital intensive firms are more likely to be formally registered and more likely to be exporters.**
- **TFP is 39 percent higher in formal firms than in informal firms. Formalization of informal firms could increase the aggregate productivity by over 10 percent.**
- **Formal firms pay higher wages (especially benefits) to workers and provide more training.**
- **Informality is not necessarily a stepping-stone towards formal status. The age of firms is not linked with a rise in formality.**
- **Tax is a disincentive to formality. The survey shows formally registered firms report 57 percent of sales for tax purposes, but for unregistered firms this is only 29 percent.**
- **While informal firms view electricity and transport as major or serious constraints to their operations, formal firms face more constraints in terms of customs and trade regulation, labor regulations, corruption, crime/theft/disorder, anti-competitive or informal practices, legal system/conflict resolution, tax rates, tax administration, skills and education of available workers, and access to finance.**

3.1 Introduction

124. **Many firms in developing countries are operating informally and do not have all the necessary registrations required by law.** Informal firms contribute strongly to employment creation absorbing a large part of the labor supply in many developing countries. The informal sector is also often seen as "the free entry sector of last resort" for workers who would rather be in formal employment but have no other labor market opportunities. However, there are also 'opportunity' entrepreneurs looking for firm growth and expansion, although few microenterprises make the successful transition to larger firms.

125. **We find evidence that informal firms in Cambodia that grow the fastest are also most likely to formalize.** Therefore, a policy that enables the informal sector to grow will be compatible with and even supportive of a policy aiming at integrating informal firms within the formal sector over time.. However, the existing evidence suggests that the impact of these policies typically only result in a modest increase in the number of formal firms and their impact on performance is not always clear (Bruhn & McKenzie, 2013).

126. **The informal sector contributes significantly to Cambodia's economy (see Section 3.5 of this Chapter).** An important policy question within the Cambodian context is then whether this segmentation between formal and informal firms creates a large macroeconomic inefficiency, particularly as a disincentive to export. In other words, is it true that informal firms are less productive and less likely to export than formal firms in Cambodia and, if so, by how much would aggregate productivity be increased if informal firms operated formally? In particular, if the marginal productivity of inputs varies across formal and informal firms, aggregate productivity can be increased by moving resources away from the informal sector to the formal sector (e.g. by repressing the informal sector through increases in fines, higher labor costs following more stringent enforcement of labor laws, or outright closure and liquidation of informal sector firms) or by moving resources from the formal sector to the informal sector (e.g. by improving the access to capital for the informal sector).

127. **There are benefits associated with formalization.** First, the informal sector narrows the tax base and therefore reduces fiscal revenues. These lower tax revenues lead to higher tax rates in turn, discouraging formal firms from investing and growing and also making it less likely for new and existing firms to operate formally. Second, a tolerance for informal activities may erode law abidance and nurture a culture of disrespect for the law (Bruhn & McKenzie, p.16).

128. **Here we will consider three possible policy responses to the existence of the large informal sector in Cambodia.** First, should the Government try to integrate the informal sector into the formal sector, for instance by lowering registration fees, streamlining and automating regulatory procedures, reducing waiting times and cracking down on informal payments, in order to increase aggregate productivity and tax revenues? Or second, should the Government instead try to repress the informal sector, for instance by more stringent enforcement of existing regulations, thereby encouraging a flow of resources out of the informal sector into the formal sector? Or third, should the Government further enable the informal sector to grow, for instance by improving the access to capital?

129. **In this analysis we use data on informal and formal sector firms from the Cambodia ICA 2014.** Because this survey includes firms with five or more workers, the analysis does not address the issue of informality among microenterprises. While this may be seen as a weakness given that informality rates are the highest among the smallest firms, a focus on larger firms is actually especially interesting within the Cambodian context for a number of reasons.

130. **Most of the microenterprises (with fewer than five workers) in Cambodia are informal.** However, and remarkably, in Cambodia the informal sector also plays a surprisingly large role among small (with 5-19 workers) and medium-sized firms (with 20-99 workers). Our survey shows that 69.7 percent of the small firms have no firm registration from the MoC or a provincial/municipal commerce division and 45.0 percent of the same small firms have no tax registration. And even the larger medium-sized firms are often operating informally, with 44.2 percent of them not having a firm registration and 20.7 percent of them not having a tax registration (see Section 3.2 of this Chapter). Therefore, while informality is the norm among microenterprises, macroeconomic efficiency may potentially be strongly affected by informality among the larger firms.

131. **Second, the Cambodia ICA 2014 has been especially designed to capture informality, unlike previous ICA.** The sampling frame for the survey is the 2009 Establishment Listing, which was prepared for the 2011 Economic Census of Cambodia (a census of enterprises). The sampling frame included a question whether a firm had a firm registration from the MoC, and this information was used to stratify the sample by MoC registration (in addition to the usual stratification variables of location, sector and firm size. See Chapter 1 in this report for details on the sampling procedure).

132. The structure of this chapter is as follows. In the next section we discuss the profile or characteristics of informal firms in Cambodia. Informal firms are more likely to be smaller, less productive, active in the trade sector, domestically oriented and owned, as well as less capital intensive. Next we discuss the main causes of informality in Cambodia, showing evidence on the benefits and costs from being informal in Cambodia. While informal firms view electricity and transport more often as a major or serious constraints to their operation, they face fewer constraints in terms of customs and trade regulation, labor regulations, corruption, crime/theft/disorder, anti-competitive or informal practices, legal system/conflict resolution, tax rates, tax administration, skills and education of available workers, and access to finance.

133. Section 3.5 discusses the contribution of the informal sector to the Cambodian economy, showing that firms without firm registration contribute 25-30 percent of employment, capital (measured as machinery, equipment and vehicles) and value added. However, the same informal firms contribute more than 45 percent of total investment, suggesting that informal entrepreneurs expect (and enjoy) high marginal returns to their capital investments. They are also reporting a lower share of sales to the tax office than formal firms. In Section 5 we study the relative productivity of formal versus informal firms in Cambodia. Similarly to the literature, we find that informal firms are less productive than formal firms. However, we also note that the marginal productivity of capital is higher on average in informal firms than in formal firms (but the marginal productivity of labor is lower as reflected in the lower wages earned by workers in informal firms). We simulate the impact of different policy scenarios on aggregate productivity, and we argue that policies aimed at integrating and enabling the informal sector are more beneficial than policies of repression. In the final section we discuss the policy recommendations that follow from the analysis.

3.2 Informality among Cambodian enterprises

134. **The level of informality in an economy will depend on the relative costs and benefits of staying informal.** Although the term informality has been used in various ways, it can be most broadly defined as those activities and entities that are unregistered and which avoid government regulation, taxation, or observation (Schneider, 2000). Firms face a choice to register or not to register, and therefore the level of informality in an economy will depend on the relative costs and benefits of operating formally versus informally.

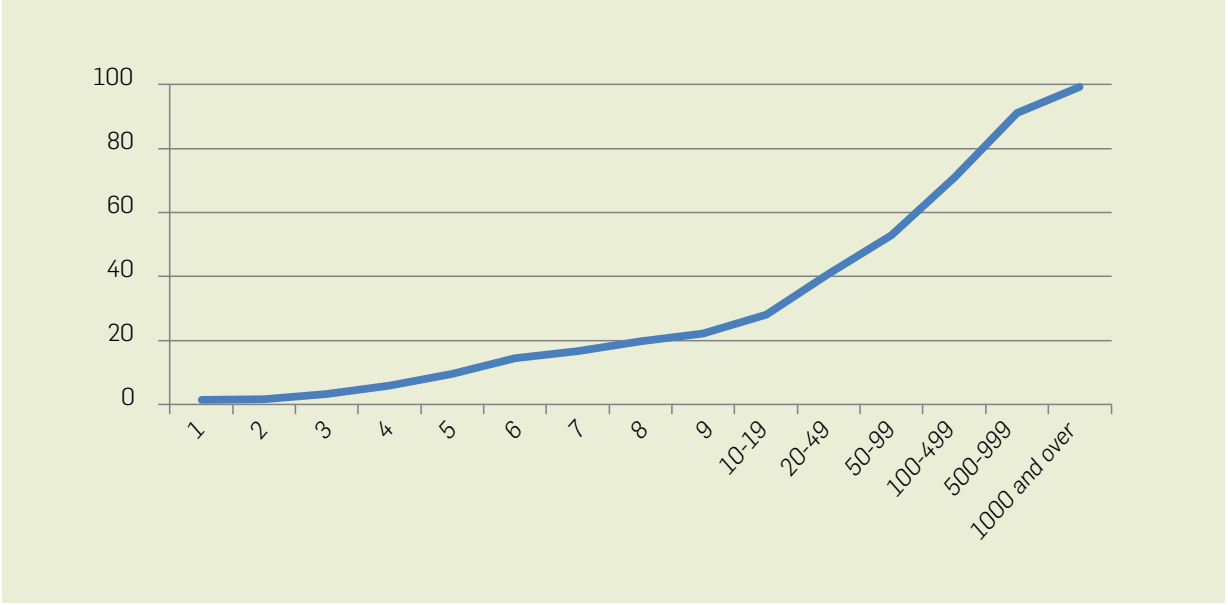
3.2.1 Which firms have an incentive to register?

135. **Given that registration can be costly and cumbersome, the ease of registration will affect the likelihood that a firm will be operating formally.** According to the 2013 Cambodia Doing Business Report, Cambodia stands at 175 in the ranking of 185 economies globally on the ease of starting a business (World Bank, 2013). In practice, this implies that starting a limited liability company in Phnom Penh with between 10 to 50 employees and conducting general commercial or industrial activities requires 9 procedures, takes 85 days, and costs 100.5 percent of income per capita and requires paid-in minimum capital of 28.5 percent of income per capita. This actually excludes any additional costs in terms of time spent on gathering information, bribes, and any fees paid to any facilitators assisting with the process (World Bank, 2013, pp.14-24). It has been reported elsewhere that these latter costs can be substantial, as there is still widespread frustration among small businesses in Cambodia regarding the difficulties and costs of formally setting up a business, where firms are often asked to pay extra charges, and firms often feel compelled to hire facilitators, including government officials to facilitate the process (IFC & The Asia Foundation 2009, pp.19-24).

136. **Not surprisingly, in practice most firms in Cambodia do not register as fully formal enterprises and opt for lower levels of formality.** A previous study by IFC identified five levels of formalization in the Cambodian business context, namely: (i) fully formal – national level, (ii) fully formal – provincial level, (iii) unregistered with operating license, (iv) possession of patent tax, and (v) fully informal (see Annex V). The Doing Business studies focus on the registration process for fully formal firms at the national level, but most firms will actually opt for a lower level of formalization.

137. **In the 2011 Economic Census of Cambodia, all firms were asked whether they had a firm registration from the MoC,** which is required for a firm to be operating fully formally at the national level. In total 17,369 of a total of 505,134 enterprises surveyed in the 2011 Economic Census of Cambodia were registered at MoC. Also, registration rates are very low for smaller firms and only reach 50 percent or higher for firms with at least 50 employees (Figure 3.1).

Figure 3.1: Percent of firm registration at MoC, by number of employees



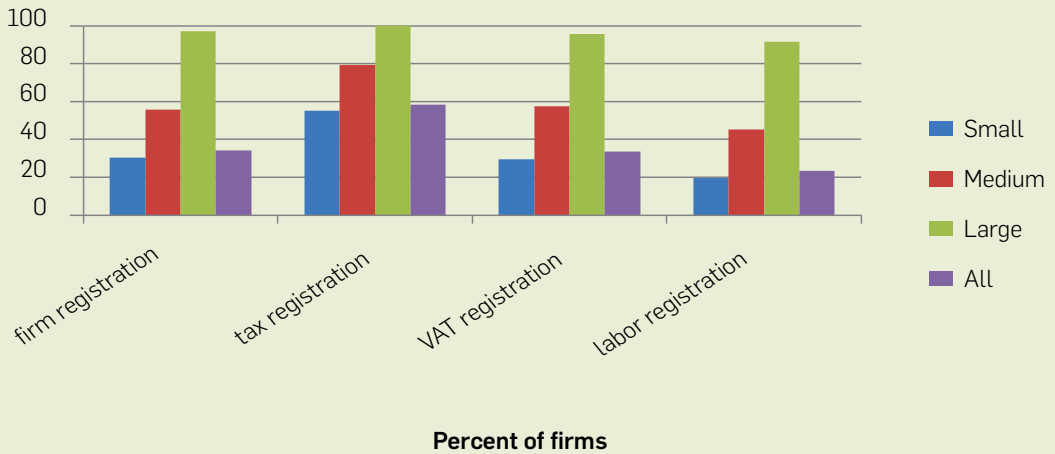
Source: : Economic Census 2011, National Institute of Statistics, Ministry of Planning, Phnom Penh (2012).

138. The economy of Cambodia is highly informal, with only 3.4 percent of all firms registered with the MoC. Given that only larger firms tend to be registered, while about 97 percent of all firms in Cambodia have less than 10 workers (2.6 percent have between 10-99 employees, and only 0.2 percent are large businesses with at least 100 employees), the economy is therefore highly informal with only 3.4 percent of all firms counted in the Census being registered at the Ministry of Commerce (National Institute of Statistics, Ministry of Planning, Cambodia 2012, Table 2-3-2).

139. The survey data shows that larger firms are more likely to be formal. Firms were asked about different types of registration, particularly whether they had: (i) a firm registration from MoC and/or registration certificate from the provincial/municipal commerce division, (ii) a tax registration from the Ministry of Finance, (iii) a VAT registration, and (iv) a Labor Department registration.[22] Figure 3.2 reports the frequency of firms reporting these types of registrations across small (less than 20 workers), medium (between 20 and 99 workers) and large (at least 100 workers) firms. Once again, we note that the ICA 2014 only includes firms with at least 5 workers, hence microenterprises are excluded.

140. Firms in Cambodia are more likely to have any of the four types of registrations when they are larger. Almost all of the large firms have a firm, tax, VAT and labor registration. The lowest levels of registrations are found for the small firms. However, and remarkably, medium-sized firms, which have at least 20 employees but less than 100 employees, are often also operating without registrations—in total about 45 percent of the medium-sized firms have no firm registration, 21 percent has no tax registration, 43 percent has no VAT registration and 55 percent has no labor registration.

Figure 3.2: Frequency of registration by type and firm size

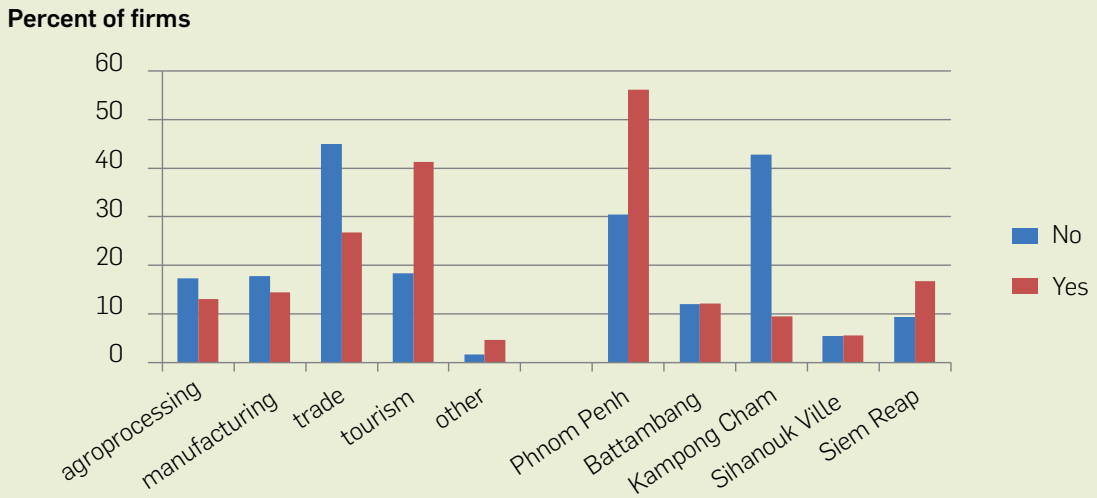


Source: World Bank Enterprise Survey, 2012.

[22] Firms were also asked whether they registered at the 'municipality' but the exact type of registration is not clear here. However, among all firms which did not get at least one of these four types of registrations, only 1.9 percent reported to be registered with municipality. We therefore limit the analysis to these four types of registrations which are clearly defined and virtually all firms with some type of registration reported at least one of these types of registrations. Six out of 775 firms in the survey reported that they had registered at the municipality but did not report any other register.

141. Hence, firm size and export status is an important predictor of whether a firm is operating formally or informally in Cambodia. In the next table we compare the distribution across sectors and locations of firms that have a firm registration with those that do not have this registration. It can be seen that firms without firm registration (at the MoC or at a provincial/municipal commerce division) are strongly overrepresented in trade and in Kampong Cham, and strongly underrepresented in tourism and in Phnom Penh and Siem Reap (Figure 3.3).

Figure 3.3: Sector and location by firm registration

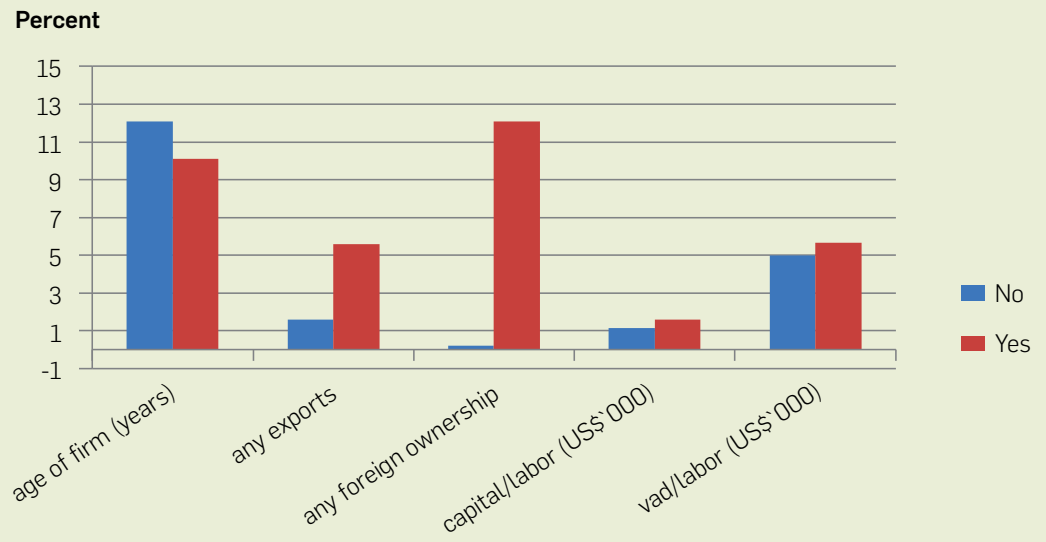


Source: World Bank Enterprise Surveys, 2012.

3.2.2 Which firms decide to stay informal?

142. Informal firms are less likely to export and less likely to be foreign owned. (Figure 3.4). This is understandable, as foreign firms are highly visible and formal exports require paperwork to be issued at least by Customs (Export Permit, Export Declaration, etc.) and the MoC (CO, etc.). Interestingly, however, informal firms are, on aveage, not younger than formal firms, suggesting that informality is not necessarily a stepping stone towards formal status.

Figure 3.4: Age of firm, export status and ownership by firm registration



Source: World Bank Enterprise Survey, 2012.

143. **Registered firms tend to be more capital intensive and more productive.** This is in line with previous studies showing that formal sector firms tend to be more capital-intensive and hence productive than informal sector firms. The reason for this may be that formal firms benefit from better access to markets, finance, infrastructure and government services, making them more productive. An alternative reason may be that formal sector firms compete with informal firms, and the productivity differential reflects the marginal cost of operating in the formal sector (e.g., the payment of taxes, time cost of management dealing with regulations). And finally, the productivity differential may simply reflect a selection effect, where more productive entrepreneurs are more likely to register their firm because they either are more skillful at navigating the regulatory environment or extracting benefits from being formal (e.g., take better advantage of the better access to markets, finance, infrastructure, and government services).

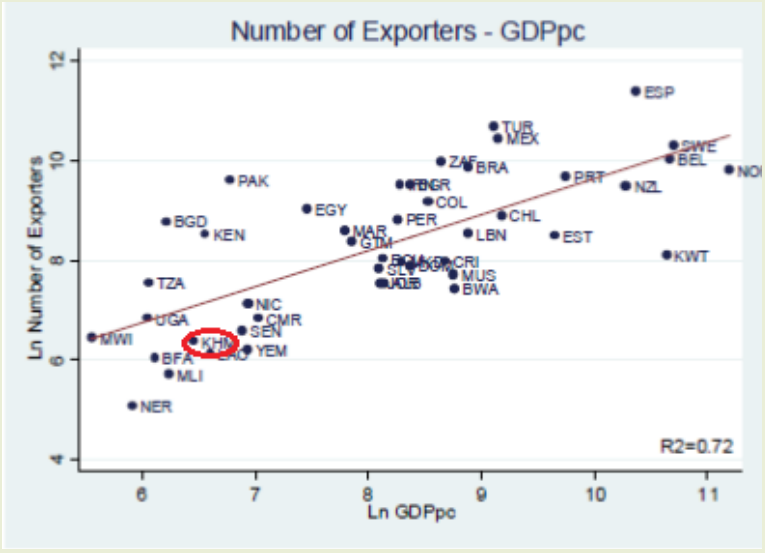
144. **But the productivity difference is actually not very large.** This suggests that informal firms are often as productive as informal firms in Cambodia (see Annex II for a multivariate analysis of the productivity differential).

145. **Firms are more likely to be registered if they are large, foreign-owned, and more capital-intensive or have higher labor productivity.** Multivariate regressions predicting whether a firm has either a firm, tax, VAT or labor registration (see Annex VI) show that for each type the likelihood of registration is higher for firms that are larger, are foreign-owned, and are more capital-intensive or have a higher labor productivity. Also after controlling for other firm characteristics, firms that are located in Kampong Cham are much less likely to be registered, suggesting that enforcement is not uniform across locations.

3.3 The Link between informality and export status

146. Cambodia's number of exporters (around 600 each year) is lower than expected given its stage of development (red line). In fact, export participation in Cambodia is similar to that of Burkina Faso and Malawi, countries with lower income per-capita.

Figure 3.5: Number of exporters and per-capita GDP, 2009

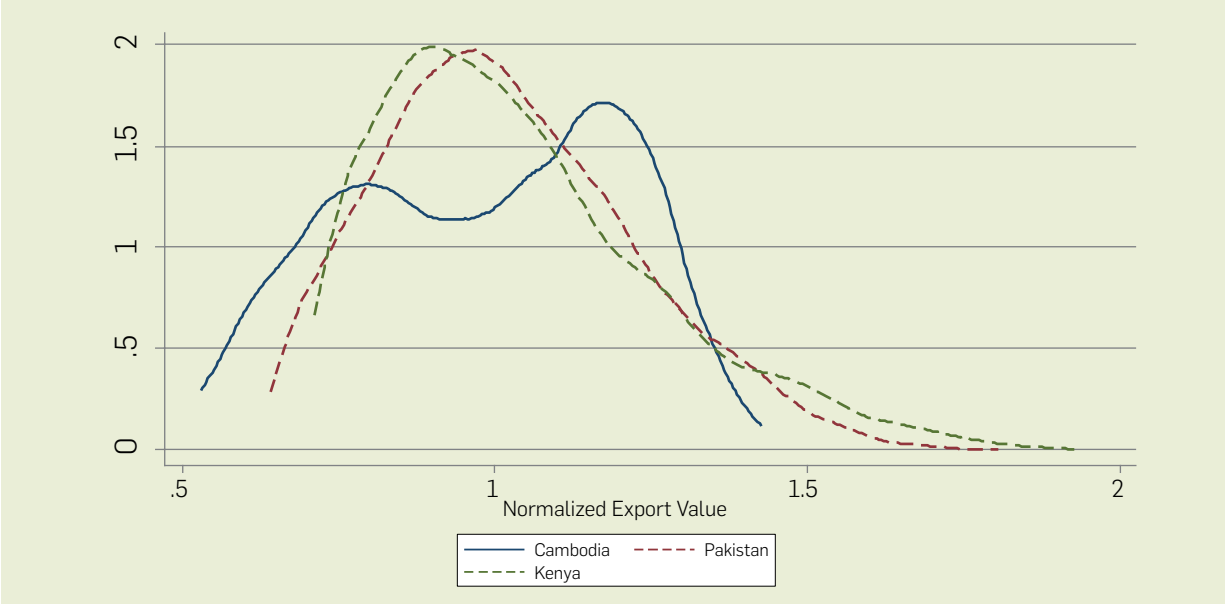


Source: : Cebeci et al (2012).

147. The low level of export participation in Cambodia is the result of very few SMEs being able to reach international markets. A well-established empirical fact is that the distribution of export value across firms resembles a Pareto-shaped distribution: Many small and mid-size firms and very few large enterprises that drive export performance. These trends are common to most countries in the world and to most natural and social phenomena.[23] While this finding is relatively stable across countries it does not apply to Cambodia. Figure 3.6 plots the distribution of export value of exporting firms in 2009 in Cambodia and compares it with that of Pakistan and Kenya, countries with similar per-capita income level. Results indicate that the distribution of export value in Cambodia follows an asymmetric bimodal distribution with some small firms, very few mid-size exporters and relatively many large firms. This distribution is very different than in the majority of countries across the globe and indicates the presence of factors that discourage export activity for mid-size enterprises.

[23] The distribution of countries, cities, rivers, mountains, incomes, oil reserves in oil fields, meteorite sizes are all examples characterized by the same asymmetric patterns: few large specimens account for the bulk of the total but coexist with a high number of smaller, less important ones.

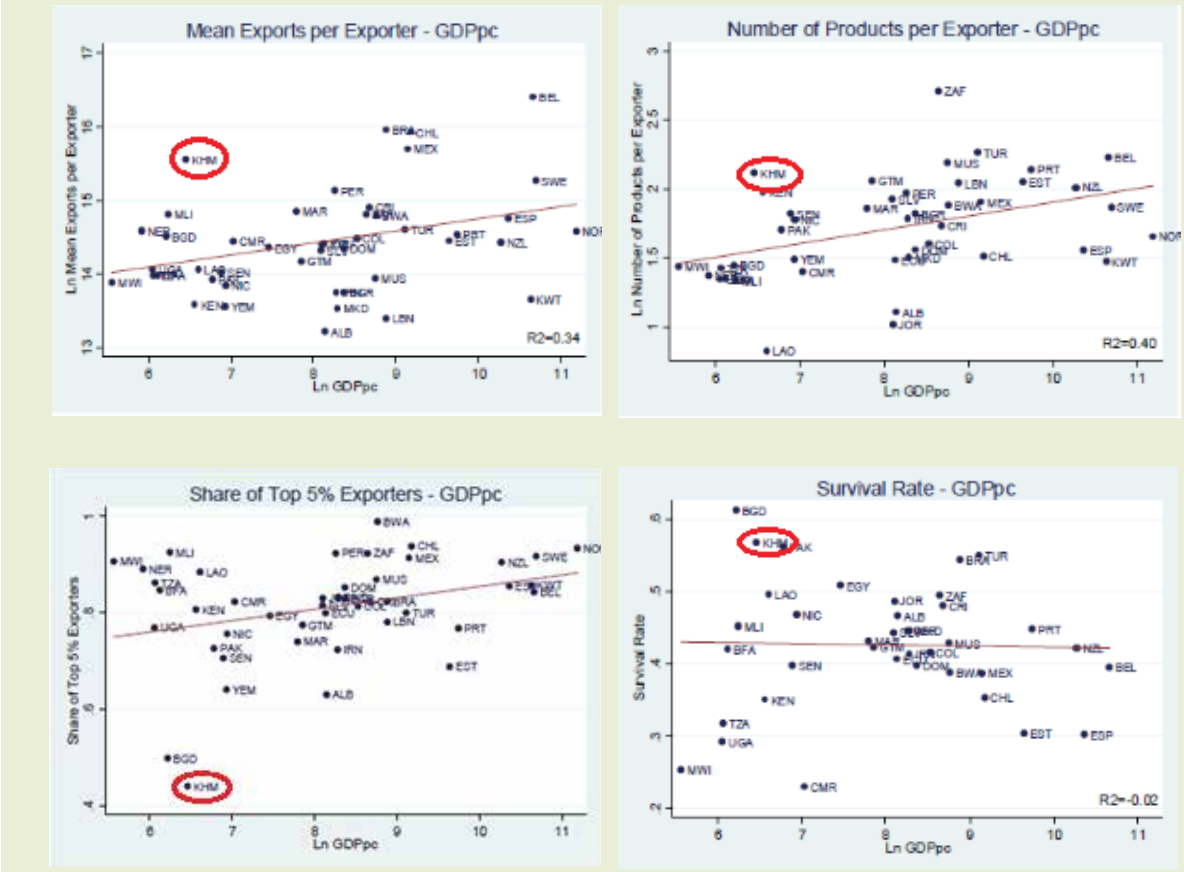
Figure 3.6: Distribution of export value across firms, 2009



Note: This figure compares the distribution of export value among exporting firms in Cambodia, Kenya, and Pakistan in 2009. Export value is normalized by the median of each country distribution.
Source: Authors' computation using the World Bank Export Dynamics Database.

148. Cambodian exporters are, on average, relatively larger than those in sized similar countries. The shortage of mid-size exporters implies that when we look at the aggregate pull of exporting firms, Cambodian exporters are, on average, relatively larger in relation to similar countries (both in terms of export value and number of products), show very low level of export concentration, and display a very high level of survival in international markets. All in all, Cambodia is an outlier among all countries for which firm-level export data is available. Figure 3.7 shows these indicators for the set of countries available in the Exporter Dynamics Database (EDD). The first panel, upper left corner, shows the mean export value per exporter while the second panel, upper right corner, depicts the mean number of products per exporter. These two indicators are proxies for the size of exporters and indicate that Cambodian exporters are excessively big, in average, for the country's level of development. In fact, the average Cambodia firm exports an amount equivalent to that of its Mexican counterpart. This confirms the fact that the few Cambodian firms that make it to international markets are relative big whereas other countries have a much larger share of small-and medium-size exportersthat drives the averages down remarkably.

Figure 3.7: Export size, concentration and survival rate, 2009



Source : Cebeci et al (2012).

3.4 Costs and benefits of informality in Cambodia

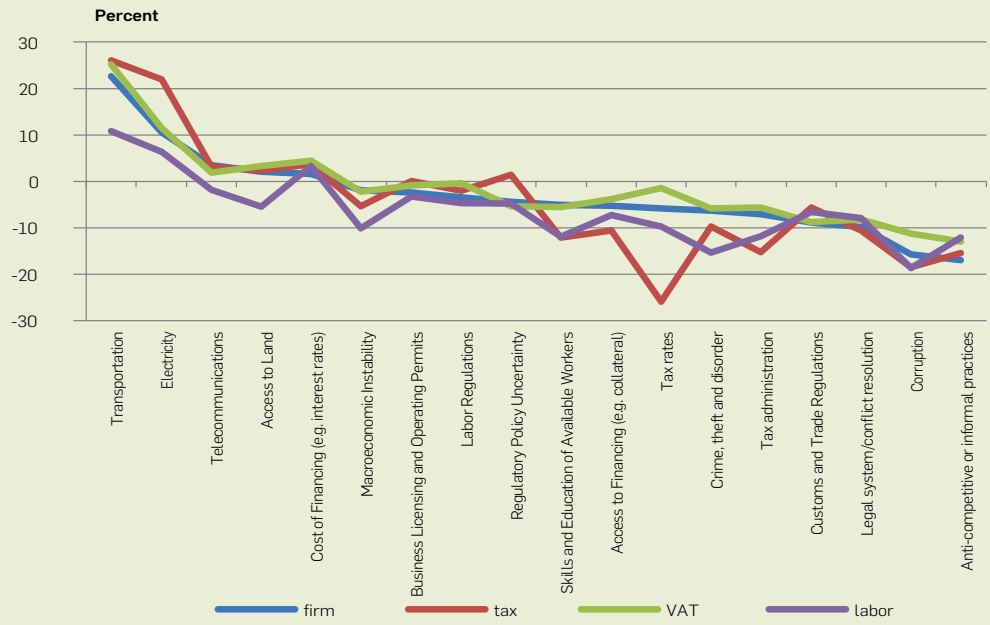
3.4.1 Constraints perceived by formal vs. informal firms

149. Many firms in Cambodia remain unregistered because the benefits do not exceed the costs of being registered. Earlier studies have suggested that tax burden, intensity of regulations, and corruption are among the main causes of people pursuing their business outside the formal system (Schneider et al., 2010).

150. Firms report different constraints to the operations of their business depending on their registration status in Cambodia, reflecting different costs and benefits to operating formally rather than informally (Figure 3.8). [24] Considering only the constraints for which the responses between formal and informal firms are statistically different at the 10 percent significance level, informal firms are only more likely to report major or very severe problems with transportation and electricity.

[24] See also Annex VII.

Figure 3.8: Reported major and severe constraints-different responses between informal and formal firms



Source : World Bank Enterprise Survey, 2012.

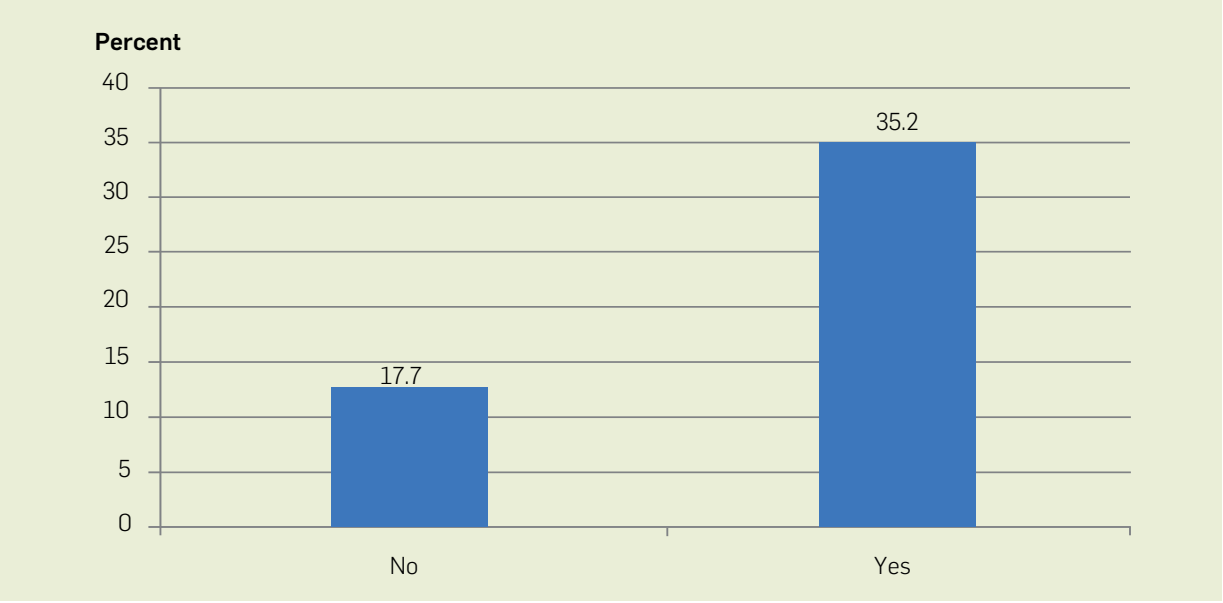
151. **There are different electricity rates for corporate and individual consumers.** A reason that informal firms might complain more about electricity being a constraint to the operation of the firm is that there are different rates for corporate and individual consumers. Informal firms are more likely to pay the (lower) individual consumer price but they are likely to feel pressure to limit their monthly electricity consumption to avoid attention of and possibly an inquiry by the Electricité du Cambodge (EDC).

152. **It is less clear why informal firms complain much more frequently about transportation problems.** This is still the case even after controlling in a multivariate regression analysis for sector, location, firm size, firm age, export status, foreign ownership, capital intensity, labor productivity and shares of primary, secondary and upper secondary worker (regression results not reported). Complaints might be due to possible higher informal payments requested by road police when intercepting a cargo shipped by an informal firm.

153. **For all other constraints for which there are statistical differences in responses between formal and informal firms, formal firms complain more.** They complain more about customs and trade regulation, labor regulations, corruption, crime/theft/disorder, anti-competitive or informal practices, legal system/conflict resolution mechanisms, tax rates, tax administration, skills and education of available workers, and access to finance. The fact that formal sector firms also complain more about crime/theft/disorder, skills and education of available workers, and access to finance, may be explained by the fact that formal sector firms tend to be larger, use more skill-intensive technology, and use more formal finance.

154. **Complaints about regulatory problems (both red tape and corruption) are clearly linked to the formal status of a firm.** The same holds for complaints about tax rates and tax administration—about which firms with a tax registration complain significantly more. Also the significantly higher complaints about anti-competitive or informal practices is related to the formal status of firms, especially formal firms face a competitive disadvantage in the competition with informal firms enjoying a cost advantage because of regulatory avoidance.

Figure 3.9: Firm has line of credit or bank loan, by formal status



Source : World Bank Enterprise Survey, 2012.

155. **In Cambodia, formal sector firms are much more likely to have a line of credit or bank loan from a financial institution than an informal firm** (Figure 3.9). Specifically, 35.2 percent of the firms with a firm registration (at MoC or affiliated department) reports having a line of credit or bank loan from a financial institution, against only 17.7 percent for the unregistered firms. If we control for firm characteristics, we still find that firms with a firm registration have a 11.5 percent higher probability to have a line of credit and/or bank loan (regression results not reported).

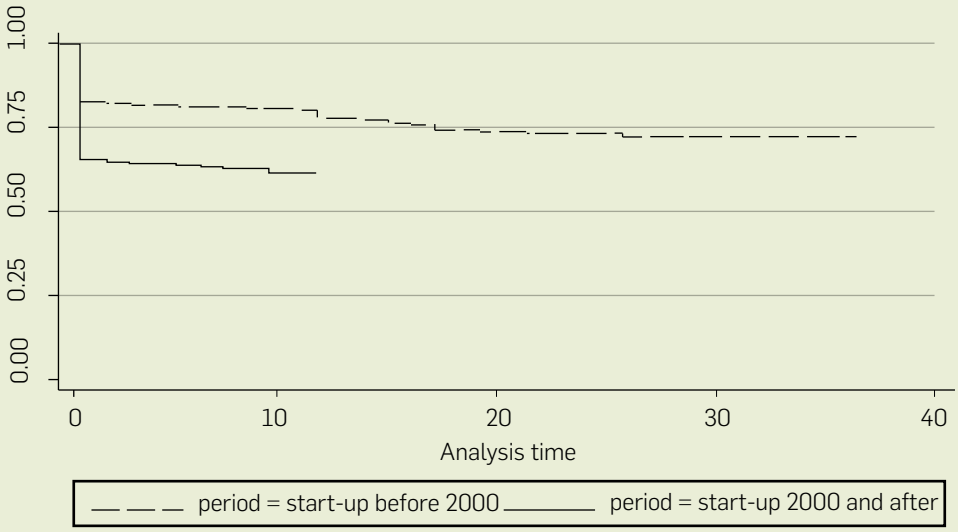
156. **However, the importance of formal sector finance as a source of working and investment capital varies little by the formal status of a firm.** Virtually all working and investment capital comes from internal funds (97.7 and 94.8 percent, respectively), and while banks are somewhat more important as a source of finance for formal sector firms for working and investment capital (1.7 versus 0.9 percent for working capital, 3.7 versus 3.1 percent for investment capital), the differences are marginal. This suggests that firms benefit relatively little from better access to finance when they formalize, which is a corollary of the overall unimportance of bank lending for financing firm activities in Cambodia.

3.4.2 When do firms decide to become formal?

157. **It is difficult to predict willingness of informal firms in Cambodia to formalize following, say, future changes in the regulatory environment.** However, the evidence on the effects of entry reforms and related policy actions on firm formalization from other countries show that these reforms induce only a modest increase in the number of formal firms (Bruhn & McKenzie, 2013). Still, in order to obtain somewhat more insight in the formalization decision, it is useful to look at the dynamics of firm registrations.

158. **If a firm registers, it does so usually in the start-up year of a firm.** Firms that started in 2000 or later are registered at a higher rate than firms that started before. For firms that started in the period before 2000, 18 percent registered in the start-up year and after 10 years a total of 27 percent of the (surviving) firms were registered. For firms that started in 2000 or later, the initial registration rate was already 35 percent in the start-up year and 38 percent after 10 years.

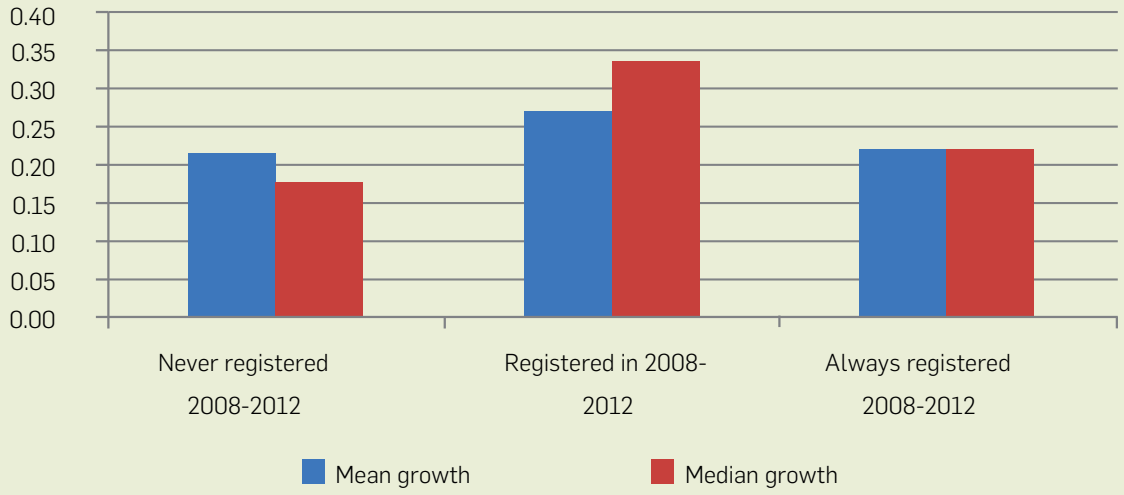
Figure 3.10: Proportion of firms that remains unregistered by firm age and period of start-up



Source : World Bank Enterprise Survey, 2012.

159. The fact that firm registration takes place primarily in the year of start-up implies that most informality is not a transitory phenomenon that changes as a firm grows older. Nevertheless, some firms are changing from informal to formal status, and the question is what drives these transitions. Unfortunately, we do not have much information on the firm at the moment of startup, but the number of permanent employees in 2008 is known. We therefore compare the growth of (log) employment of firms between 2008 and 2012 by formal status in 2008 and 2012 in Figure 3.11.

Figure 3.11: Mean and median change in log employment 2008-12, by registration status



Source : World Bank Enterprise Survey, 2012.

160. **Firms that were never or always registered show similar levels of employment growth over the period 2008-12.** Interestingly, firms that switched from informal to formal status in the same period show the highest employment growth, both in terms of mean and median employment growth[25]. Firms may become more formal because they become more visible as they grow, or, because the benefits of formality are larger for expanding firms (e.g., better access to finance and foreign markets).

161. **The high cost for registration might then also be a reason for companies to decide to become formal only when they can afford it.** Cambodia ranks 184th out of 189 economies in the overall ease of starting a business. It takes an entrepreneur 104 days to go through the 11 formal procedures needed to start a business in Phnom Penh, though a substantial reform effort has been launched at MOC to improve these indicators. In the process, the entrepreneur has to pay official costs equal to 150.6 percent of the country's per capita income. In comparison, an entrepreneur starting a similar business in Bangkok would undergo four procedures in 27.5 days, while one in Kuala Lumpur would have to complete three procedures in six days. Costs are also substantially lower in Thailand and Malaysia.

3.5 Contribution of the informal sector to the economy in Cambodia

162. **The informal sector is an important part of the economy in many developing countries, and it has been estimated that over 30 percent of value added and 70 percent of employment in developing countries are to some degree informal (World Bank, 2007).** Also it is not clear whether economic development per se will reduce the size of the informal sector (Schneider *et al.*, 2010).

163. **The sheer number of microenterprises contributes a sizeable part of the economy.** A simple reason why the informal sector is so important is that it includes a multitude of microenterprises that tend to be informal, and the sheer number of these microenterprises contributes a sizeable part of the economy (although more in terms of employment than value added given that labor productivity is typically lower in smaller firms).

3.5.1 Employment, capital, investment and value added in the informal sector

164. **The enterprise survey 2012 covers firms with at least five employees** in manufacturing (including agro-processing), trade, tourism, and other (construction, transport, computer programming, consultancy and related activities). Among these firms, most of employment, capital, investment and value added are generated in the formal sector (Table 3.1).

[25] We report mean and median employment growth because the sample of firms that switched formal status includes only 16 firms. The fact that the pattern for mean and median employment growth are similar, suggests that the small sample size of the 'switchers' is not driving the results.

Table 3.1: Contribution of informal sector (share)

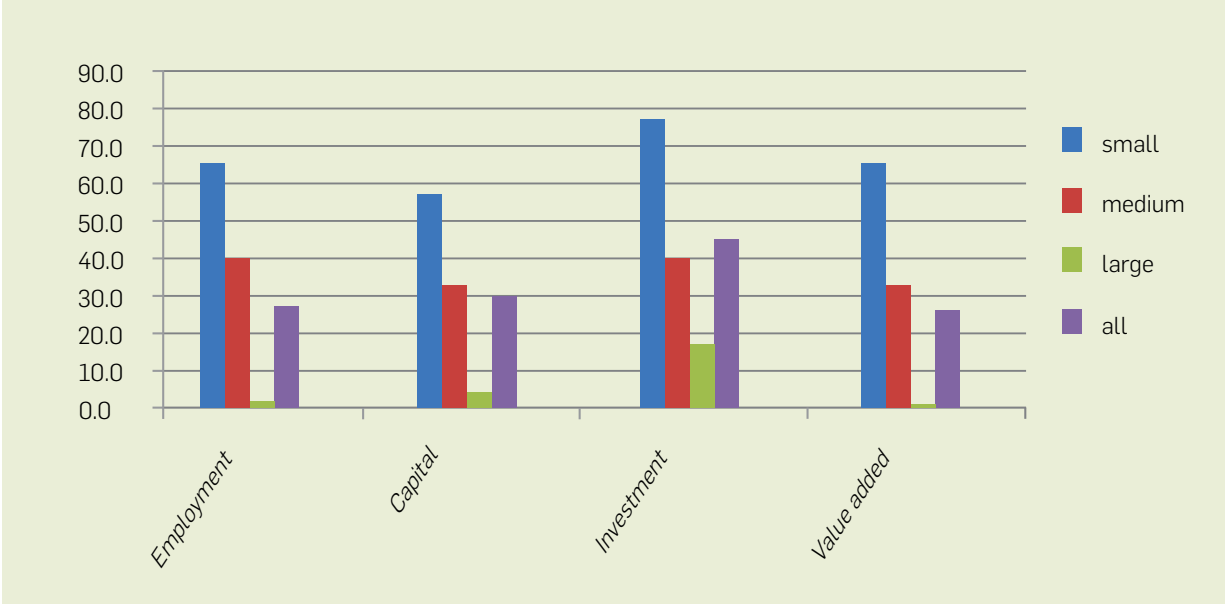
	No firm registration	No tax registration	No VAT registration	No labor registration
Employment				
Male	38.6	21.9	37.4	46.4
Female	19.9	10.4	20.3	25.0
Total	27.9	15.3	27.6	34.1
Capital	30.3	16.4	31.0	38.0
Investment	43.9	18.2	30.1	54.4
Value added	26.6	11.1	25.7	31.4

Note: Capital and investment relates to machinery, equipment (including computers) and vehicles.
Source: World Bank Enterprise Survey, 2012.

165. The informal sector contributes significantly to the Cambodian economy. Among the firms that have no firm registration with MoC or a provincial/municipal commerce division, the informal sector contributes about 27-30 percent of employment, capital and value added. Remarkably, the informal sector contributes a disproportionate share of investment, namely 43.9 percent among the firms without a firm registration. In the next section we will show that the returns to investment are relatively high in the informal sector, explaining this high investment contribution from the informal sector.

166. The informal sector also contributes strongly to medium-size firms. Also remarkable is that the informal sector not only contributes strongly among the small firms (with 5-19 employees), but also among the medium-size firms (with 20-99 employees) (Figure 3.12). Among the small firms, the informal sector contributes about two-thirds of the total in terms of employment, capital, investment and value added. Among the medium-sized firms, the informal sector still contributes about one-third of the total. Only among the large firms is the contribution of the informal sector minor. This shows that in Cambodia the significance of the informal sector is not limited to small (and micro) enterprises but also includes medium-sized enterprises.

Figure 3.12: Contribution by firms without firm registration by firm size



Source : World Bank Enterprise Survey, 2012.

3.5.2 Informal firms' sales and tax payments

167. The contribution of the informal sector in Cambodia may actually be underestimated because firms tend to underreport their firm activities, and this is especially the case for informal firms. Firms have been asked the following question: "Recognizing the difficulties many enterprises face in complying with taxes and regulations, what percent of total sales would you estimate the typical establishment in your area of activity reports for tax purposes?" Table 3.2 reports the mean responses by registration status and firm size.

Table 3.2: Share of sales reported for tax purposes by typical firm in same area of activity by formal status and firm size

	firm registration	tax registration	VAT registration	labor registration
Not registered				
Small	27.9	21.9	30.3	29.5
Medium	39.9	49.0	48.7	44.7
Large	71.3	-	80.7	76.9
All	28.7	23.1	31.4	30.6

	firm registration	tax registration	VAT registration	labor registration
Registered				
Small	52.5	46.4	47.4	59.7
Medium	69.3	58.2	61.9	70.4
Large	86.2	85.8	86.0	86.6
All	57.0	49.3	52.0	63.8

Source: World Bank Enterprise Survey, 2012.

168. For any firm size it is clear that informal firms report less of their sales to the tax office. Moreover, smaller firms tend to report a significantly lower share of their sales than larger firms. Overall, non-registered firms underreport about twice as much as registered firms. For example, firms that are registered with MoC or a provincial/municipal commerce division report 57 percent of sales to taxes against 29 percent for firms that do not have this type of registration.

169. Underreporting should also be expected in the survey especially for informal firms. Although it is not known to what extent these same firms underreport their own sales (and other variables) in the ICA (as opposed to the tax authorities), we also expect some underreporting in the survey especially for informal firms. This implies that the contribution of the informal sector may be actually underreported in Table 3.2 and Figure 3.12. Also the large contribution of the informal sector, together with the higher rate of under-reporting, implies that there is a large loss to government revenues through uncollected taxes in the informal sector.

170. Formal firms also under-report their sales for tax purposes. Table 3.2 shows that formal firms also significantly under-report their sales for tax purposes. Based on their perception, firms with a firm registration believed that business of their nature (on average) reported only 57 percent of their sales to tax purposes. This is a significant finding as it shows that formalization as a tool to improve tax collection will have its limits. Cambodia's tax collection remains relatively low compared with regional standards and the Government has recently taken great efforts and actions to combat tax evasion and to strengthen the tax administration. A medium-term Revenue Mobilization Strategy 2013-2018 has been drafted, targeting to raise its revenue (mostly from taxes) by 0.5 percentage point of GDP per annum with the expectation of moving up its domestic revenue-to-GDP ratio of 13.2 percent in 2011 to 16.5 percent in 2018.

3.5.3 Wages and training in the informal sector

171. The informal sector contributes 28 percent of total employment in firms with more than 5 employees. It was already shown that the informal sector, if defined by a lack of a firm registration at a Ministry of Commerce or a provincial/municipal commerce division, contributes 28 percent

of total employment among firms with at least 5 employees and which are active in the selected ICA sectors. This is an important contribution to the economy, even if Cambodia enjoys a high labor force participation rate, namely 87 percent for the population between 15–64 years old, and a very low rate of unemployment (Socio-Economic Survey, 2010). Paid employment is often preferred to self-employment, and a job in the informal sector can be a stepping stone for a higher paid job in the formal sector.

172. **The basic wage excluding benefits for an unskilled worker is the same for firms without and with a firm registration, namely US$73** (Figure 3.13). However, workers in the formal sector enjoy better benefits, and unskilled wages including benefits are US$10 higher per month. These higher benefits in the formal sector probably reflect a relatively stronger bargaining power for formal sector workers as well as rent-sharing.

Figure 3.13: Average monthly wage without and with benefits by firm registration

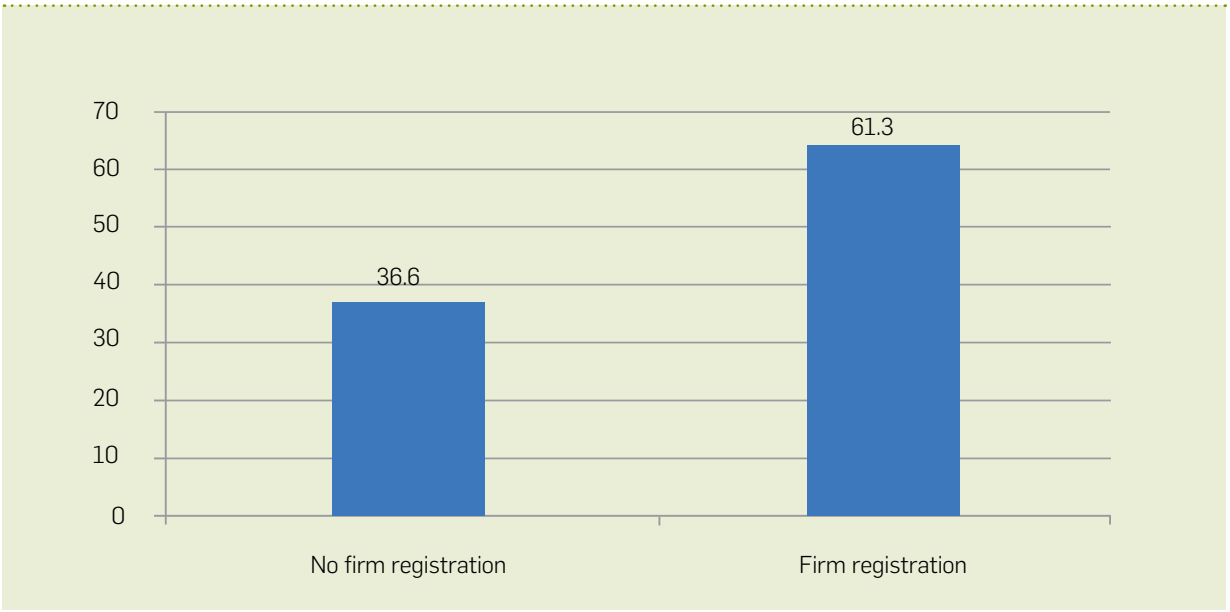
Source : World Bank Enterprise Survey, 2012.

173. **The labor force in Cambodia has predominantly low skills, with 93 percent of the labor force having at most lower secondary education level.** The ICA 2012 firms employ relatively more skilled workers, as only 74 percent of their workers had at most lower secondary education. Formal sector firms tend to employ more skilled workers, with 34 percent of their workers having more than lower secondary education as against 22 percent for firms without a firm registration.

174. **On average, 20.4 percent of the firms indicated that the skills and education of available workers was a major or very severe constraint to the operation of the business.** Problems with skills were reported by both formal and informal sector firms, although at a somewhat higher rate by the former. Given the generally low level of skills available in the labor force, firms often invest in formal training programs. Formal firms are much more likely to invest in formal training than informal sector firms, however (Figure 3.14). This is also the case if one controls for differences in firm characteristics (sector, location, firm size and age, exports, foreign ownership, capital intensity and labor productivity, and education level of workers).[26] Then formal sector firms have a 10 percent point higher probability of having a formal training program compared with similar informal sector firms.

[26] Regression results not reported.

Figure 3.14: Firm has formal training program



Source : World Bank Enterprise Survey, 2012.

175. Although the informal sector employs a significant share of workers, it does not contribute proportionately towards wages and training. This shows that although the informal sector contributes significantly to employment, it contributes less than its share in terms of wages (unskilled wages including benefits are lower) and worker training. Especially the lower level investments in training in the informal sector represents a long-term cost to the Cambodian economy—more training facilities are increasingly needed to upgrade the skills of the labor force allowing the Cambodian business sector to upgrade its technology, improve its productivity level and to increase its (comparatively) low wage levels.

3.6 Informal economy and macroeconomic efficiency

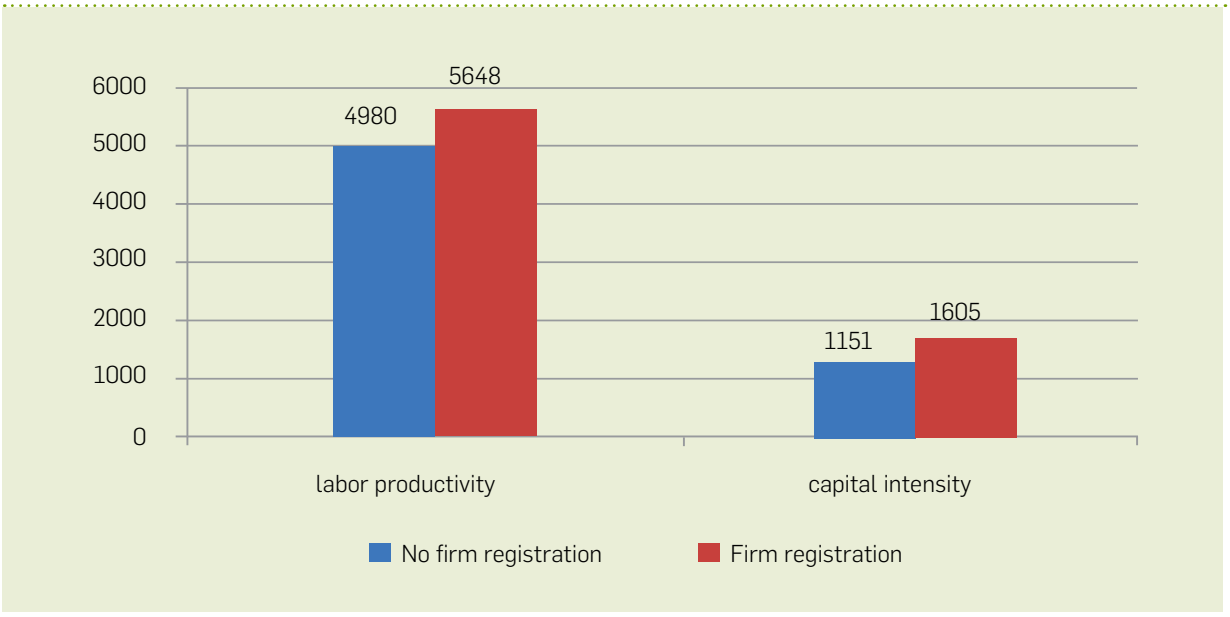
176. There are three possible policy responses to the existence of the large informal sector in Cambodia. First, the Government can try to formalize the informal sector, for instance by lowering registration fees, streamlining and automating regulatory procedures, reducing waiting times and cracking down on informal payments, in order to increase aggregate productivity and tax revenues. Second, the Government can try to repress the informal sector, for instance by more stringent enforcement of existing regulations, thereby encouraging a flow of resources out of the informal sector into the formal sector. Or third, the Government can adopt enabling policies for the informal sector to grow, for instance by improving the access to capital.

3.6.1: First policy option: create incentives to formalize the informal sector

177. **If firms in the informal sector are less productive, policies to formalize informal firms will create an aggregate productivity gain.** Many studies have found a positive empirical relationship between productivity and formal status of a firm (Farrell, 2004; La Porta & Shleifer, 2008; Bruhn & McKenzie, 2013). If this relationship reflects a genuine impact of formal status on productivity, and not just a selection effect where more productive firms are more likely choosing to operate formally, policies encouraging formalization of the informal sector will be productivity enhancing.

178. **Productivity is significantly higher for registered firms than unregistered firms.** In Cambodia, the mean labor productivity of firms with a firm registration (at MoC or a provincial/municipal commerce division) is US$5,648 against US$4,980 for firms without a firm registration (Figure 3.15). The figure also shows that formal sector firms are more capital-intensive (US$1,605 versus US$1,151), where capital is measured by the replacement cost of machinery, equipment and vehicles, and this may be one reason why labor productivity is higher among formal sector firms.

Figure 3.15: Labor productivity and capital intensity by formal status (US$)



Source : World Bank Enterprise Survey, 2012.

179. **Productivity differences between formal and informal firms may be for a number of other reasons.** The productivity between formal and informal sector firms may also vary because of other reasons, such as differences in sector of activity, location, skill-intensity, ownership structure and export orientation. After controlling for these factors as well as capital intensity, a formal sector firm is actually 39 percent more productive (or in other words, have a 39 percent higher total factor productivity) than an otherwise similar informal sector firm. [27]

[27] Regression results not reported.

180. However, the marginal revenue product of capital (MRPK) is higher for informal firms than formal firms on average (Figure 3.16).[28] Although the median marginal returns to capital are lower, the mean is higher because the informal sector includes a relatively large proportion of firms with high marginal returns to capital. Because there is also a relatively large proportion of informal firms with relatively low marginal returns to capital, the dispersion (standard deviation) of MRPK is higher for informal firms than formal firms.

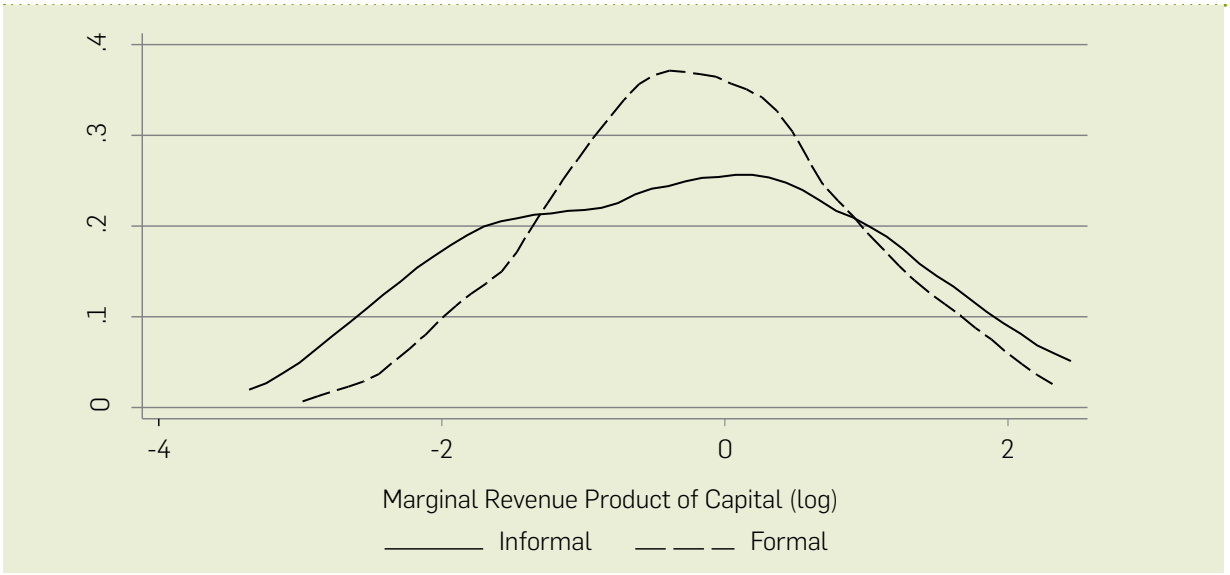
Figure 3.16: Mean, median and dispersal of marginal revenue products of capital and labor, by formal status. (US$)

Source : World Bank Enterprise Survey, 2012.

181. Figure 3.17 also shows that the marginal revenue product of labor (MRPL) is lower in the informal sector compared with the formal sector, both in terms of the mean and median. This is as expected as informal firms pay lower wages and profit-maximizing firms will hire workers up to the point where the MRPL equals the wage. The fact that the mean marginal returns to capital are higher in the informal sector, however, suggests that the cost of capital is higher for informal sector firms. This may reflect the fact that informal sector firms have lower access to formal sources of finance, forcing them to use more costly alternative sources. An alternative explanation for the high returns in the informal sector could be that lenders demand a higher risk premium when lending to unregistered firms. However, informal firms show a much higher rate of investment than informal firms (0.50 versus 0.27), which suggests that the higher marginal returns do outweigh any possible higher risks in the informal sector.

[28] For this, we estimate a Cobb-Douglas production function for both the formal and informal sector (see columns 2 and 3 in Annex VII), and calculate the marginal capital productivity for each firm in the sample.

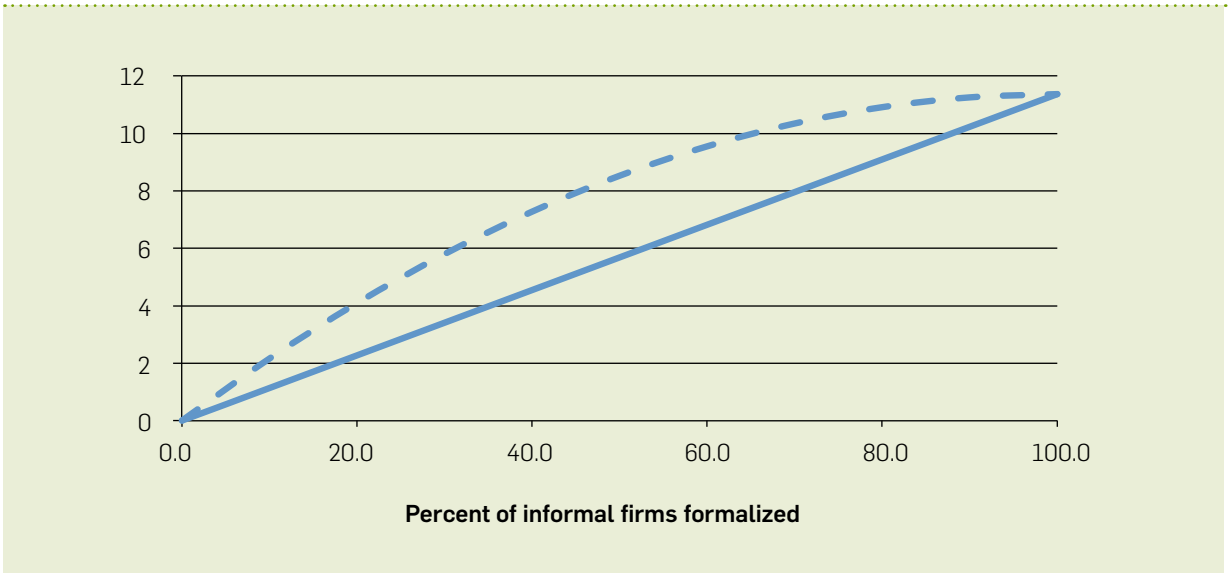
Figure 3.17: Log scale of marginal revenue product capital: formal vs. informal



Source : World Bank Enterprise Survey, 2012.

182. We find that aggregate productivity would increase by about 1.1 percent for each additional 10 percent of informal firms being formalized (solid line in Figure 3.18).[29] Previous studies have shown that a large reduction in the cost and time taken to register a firm leads only to a modest increase in the number of formal firms. Therefore, we simulate the aggregate productivity gain if subsets of informal firms were to start operating in the formal sector. If we assume that an informal firm were to start operating according to the production technology used by formal sector firms (column 2 in Annex II Table 2.2), then we can predict for each informal sector firm the counterfactual production that would be achieved if the firm became formal.

Figure 3.18: Aggregate gain in productivity by degree of formalization of informal sector



Source : World Bank Enterprise Survey, 2012.

[29] The aggregate gain to productivity differs from the mean firm-level difference in total factor productivity because aggregate productivity is a weighted average of the estimated firm-level productivity effect of formalization which is heterogeneous across firms.

183. **The observed productivity differential between informal and formal firms may reflect selectivity effects rather than genuine productivity effects from becoming formal.** One may argue that the estimated productivity gain will be overestimated if firms weigh up the potential benefits of being formal with the costs of becoming and being formal, and therefore the observed productivity differential between informal and formal firms may reflect selectivity effects rather than genuine productivity effects from becoming formal (McKenzie & Bruhn, 2013). However, the estimated production function does control for various observed firm characteristics, such as sector of activity, location, skill-intensity, ownership structure and export orientation, and capital-intensity.[30]

184. **Higher rates of formalization will also increase tax revenues, raise workers' wages (especially benefits), and improve workers' skills through more training.** Hence, the overall benefits from formalization might be sizeable even if the aggregate productivity gain may be overestimated. Also, if the firms that expect the highest productivity gain from formalization are more likely to choose to operate in the formal sector, the aggregate productivity gain will be higher than shown in Figure 3.18, as long as not all informal firms become formalized (see the broken line in Figure 3.18).

3.6.2 Second policy option: enforce regulations to force informal firms to become formal

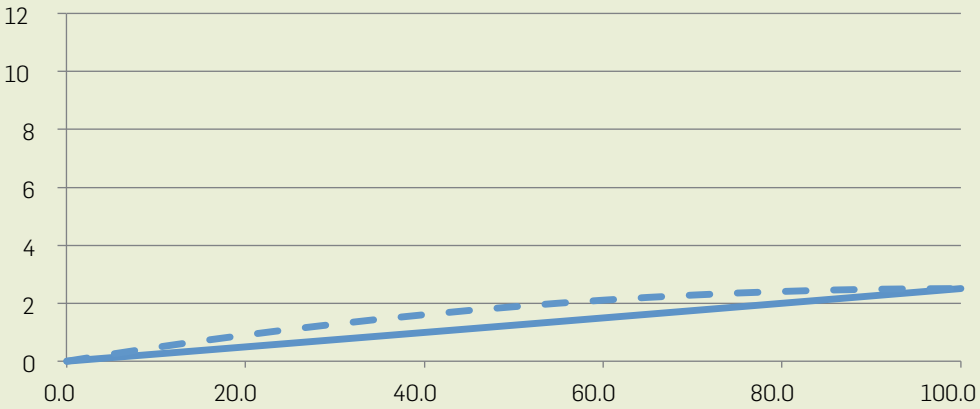
185. **Informal sector firms may be reluctant to formalize, especially if the benefits from doing so accrue to other stakeholders than the firm owners.** Therefore, an alternative policy avenue for the Government may be to encourage a flow of resources out of the informal sector into the formal sector, for instance by a more stringent enforcement of existing regulations. This will lower the (expected) returns in the informal sector and, as a result, resources (such as capital and labor) will move out of the informal into the formal sector (although some firms may simply choose to become formal as well).

What would be the aggregate productivity impact of this policy of *repression*? Let's assume that a certain percentage of the informal firms close shop and that its resources, capital and labor in particular, are moving towards the formal sector. For simplicity we assume that a random percentage of informal firms close, and that resources are reallocated proportionally to the existing resources in the formal firms.[31] Figure 3.19 shows that the aggregate productivity gain from liquidating informal sector firms and moving the resources (capital and labor) to the formal sector is linear with the percentage of in formal firms liquidated. *For instance, liquidating 20 percent of the informal sector would generate a 0.5 percent gain in aggregate productivity, while a 50 percent liquidation rate would increase aggregate productivity by 1.25 percent.* Of course, if liquidation is selective and low productivity firms are liquidated at a higher rate, the gain in aggregate productivity will be higher, as long as not all informal firms are liquidated (broken line in Figure 3.19).

[30] It is still possible, that the estimated productivity effect is (partly) driven by unobserved differences between formal and informal sector firms, but it is difficult to control for this for two reasons. First, although the ICA 2012 includes a panel component, this includes primarily formal sector firms. And second, the formal status of a firm does rarely change over time, and hence it is difficult to identify the productivity impact of formalization in the presence of time invariant unobserved effects.

[31] Implying that the capital and labor inputs in all formal firms are increasing at the same rate.

Figure 3.19: Aggregate gain in productivity by degree of liquidation of informal sector



Source : World Bank Enterprise Survey, 2012.

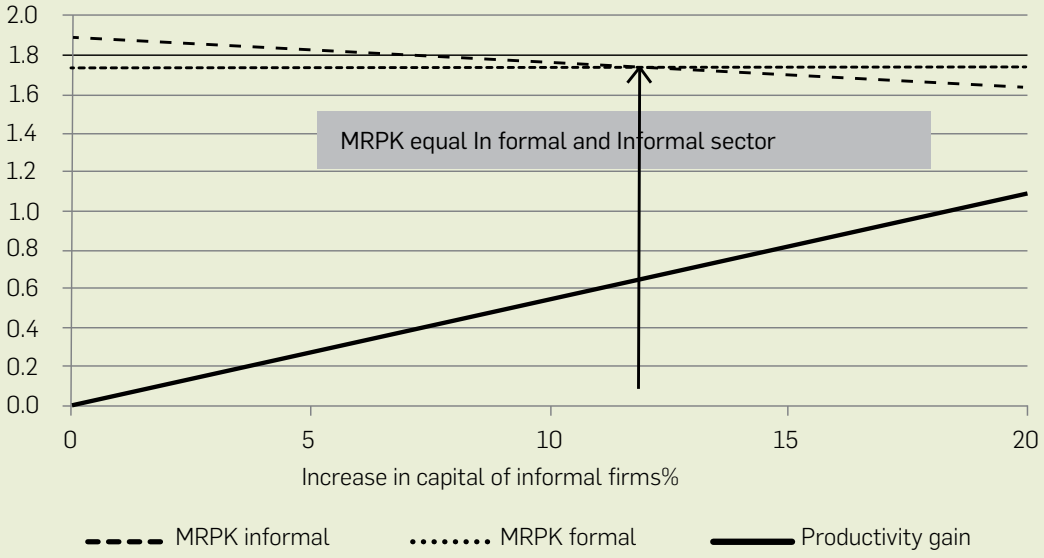
186. Liquidation of the informal sector leads to increased production in the formal sector due to the reallocation of capital and labor from the informal to the formal sector. Within the Cambodian context, the net gain is relatively small, especially if compared with a situation when informal sector firms become formalized (compare Figures 3.18 and 3.19). The productivity gain in Figure 3.20 is overestimated if a reallocation of labor from the informal sector to the formal sector reduces *the mean skill level in the formal sector. At the same time, the expansion of the formal sector will generate additional benefits in terms of* increases *in tax revenues, wages (benefits), and training.*

3.6.3 Third policy option: support growth of informal firms

187. Another policy option would be to adopt enabling policies allowing the informal sector to grow. In Cambodia, the marginal returns to capital are actually somewhat higher in the informal sector than formal sector. Also, informal firms that grow the fastest, are the most likely to subsequently become formal. Therefore, one possible policy option would be to improve the access to capital for informal sector firms to take advantage of their relatively higher returns stimulating informal sector growth.

188. Figure 3.20 shows the aggregate productivity gain if one increased the capital utilized in the informal sector (as percent of the existing informal sector capital stock). We assume that capital is increasing proportionally in each informal firm. The marginal revenue product of capital in the informal sector (broken line in Figure 3.20) becomes equal to that in the formal sector (dotted line in Figure 3.20), if informal sector firms increase their capital stock by 11.5 percent. The total gain in aggregate productivity would be 0.6 percent.

Figure 3.20: Aggregate gain in productivity by increase in capital of informal sector



Source : World Bank Enterprise Survey, 2012.

3.7 Conclusions

189. Aggregate productivity gains appear to be especially high if informal sector firms are incentivized to operate formally. This will require serious reforms in different areas, however, as formal firms experience more serious constraints than informal firms in the areas of customs and trade regulation, labor regulations, corruption, crime/theft/disorder, anti-competitive or informal practices, legal system/conflict resolution, tax rates, tax administration, skills and education of available workers, and access to finance. Hence, in order to entice informal firms to move into the formal sector, policies need to be in place to reduce these constraints. The benefits from such reforms, however, are not only increases in aggregate productivity, but also higher tax revenues, higher wages (especially benefits), as well as a more skilled labor force.

190. Improved access to capital for informal sector firms can also contribute to further growth in the Cambodian economy, given that the marginal returns to capital are at least as high, if not higher, in the informal sector compared with the formal sector. The disproportionally large contribution to investment of the informal sector is also a reflection of these relatively high returns. Growing informal firms are also more likely to start operating in the formal sector, and therefore an enabling policy for the informal sector is not necessarily in conflict with a policy to increase the formal sector over time.

191. In conclusion, given that the informal sector contributes less to tax revenues, pays lower wages (benefits) and provides less training to its workers, an enabling policy for the informal sector can be best combined with a policy that improves the incentives to formalize.

3.8 Recommendations

192. The following recommendations have been based on the conclusions drawn in the analysis presented above:

i. **Economic policies should not ignore the informal sector as it contributes significantly to the Cambodian economy.** This follows from the fact that informality is not limited to only micro enterprises in Cambodia. About 70 percent of small firms and 45 percent of medium-sized firms have no firm registration at the MoC or a provincial/municipal commerce division. As a consequence, firms without a firm registration contribute significantly to the overall economy, namely 27-30 percent of aggregate employment, capital and value added, and 44 percent of investment.

ii. **Policy makers should prioritize policies to encourage the informal sector to both grow and start operating formally, rather than repress the informal sector.** Total factor productivity is 39 percent higher in formal sector firms than in informal sector firms and therefore the formalization of the informal sector can potentially increase aggregate productivity by more than 10 percent. Also formal sector firms contribute more to fiscal revenues, pay higher wages (especially benefits) to their workers and provide more training. For these reasons, policies should be directed at encouraging firms to start operating formally. At the same time, informal firms that grow the fastest are also most likely to switch to the formal sector, and the marginal revenue product of capital is higher in the informal than formal sector. Therefore, policies that improve the access of capital to informal sector firms can also contribute to macroeconomic efficiency and even formalization over time. Policies of 'repression' aimed at the liquidation of informal sector firms appear to create little gain in aggregate productivity and would imply large adjustment and enforcement costs and are therefore not recommended.

iii. **Increases in tax revenues will depend both on encouraging the formalization of informal sector firms and on improving tax collection mechanisms.** Informal sector firms report only about half as much of their sales for tax purposes compared with formal sector firms and therefore formalization of the informal sector will have a significant positive impact on tax revenues. At the same time, even formal sector firms report only 57 percent of their sales for tax purposes, and therefore improved tax collection procedures are needed to further significantly increase fiscal resources for the Government.

iv. **Improvements in the investment climate are needed to reduce the size of the informal sector.** This follows from the fact that formal sector firms tend to face much more frequently major or serious obstacles to the operation of their business than informal firms stemming from challenges in the investment climate, particularly with respect to customs and trade regulation, labor regulations, corruption, crime/theft/disorder, anti-competitive or informal practices, legal system/conflict resolution, tax rates, tax administration, skills and education of available workers, and access to finance.

193. Efforts of the MoC in the area of improving company registration procedures should be scaled up, building on the results achieved in the past decade when many firms have decided to register under the system. Indeed firms nowadays are more likely to register at start-up than in the past.

194. **Regulations need to be transparent and clearly stipulate the rights and obligations of entrepreneurs.** It is also important that any regulations are transparent and clearly stipulate the rights and obligations of entrepreneurs as they are often unsure about the specific regulations and forced to hire intermediaries (including government officials) to deal with regulatory hurdles. Simplification and automation of existing procedures would facilitate registration for the informal companies considering becoming formal.

195. **However, many firms still choose to remain informal and further incentives are needed to entice informal sector firms to become formal.** Apart from a reduction in the costs of registration, it will also be necessary to increase the benefits from operating formally. Formal sector firms in Cambodia complain relatively more than informal firms about customs and trade regulations, labor regulations, corruption, crime/theft/disorder, anti-competitive or informal practices, legal system/conflict resolution, tax rates, tax administration, skills and education of available workers, and access to finance. Improvements in these areas are needed to make it worthwhile for informal firms to become formal.

196. **Another issue is that firms might lack the trust in the Government to operate formally.** Therefore, trust needs to be built between the informal sector and the government. This may be done through a public-private sector dialogue and by explicitly involving representatives from the informal sector to help create an environment conducive to formality. The "Government Private Sector Forum (GPSF)", a formal consultation mechanism between the government and the private sector could be a venue for this dialogue, particularly within the sectoral working groups which meet regularly to review specific issues related to the business environment. The Customs-Private Sector Partnership Mechanism meets quarterly and it could be asked to consider specific issues to encourage formalization. These mechanisms have been taken seriously by both sides over more than a decade now, and have removed many obstacles and solved multiple trade-related issues. However, there has been no involvement from the informal sector in these dialogues and for future dialogues it may be important to involve the informal sector to build trust and develop appropriate incentives to increase the net benefits from operating formally.

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Annexes

Annex I : Profile of investment climate perceptions

Annex Table 1.1: Respondents' evaluation to general constraints to operation (% of firms evaluating constraint as 'major' or 'very severe')

	Cambodia	Formal	Informal	Small	Medium	Large	Agro-processing	Manufacturing (except agro-processing)	Trade	Tourism	Other
A. Telecommunications	6.30	4.48	6.97	6.15	7.10	8.09	11.99	10.22	4.42	3.39	5.26
B. Electricity	42.90	**33.07**	**46.39**	44.06	33.20	38.05	**45.33**	**45.48**	**43.01**	**41.89**	**21.52**
C. Transportation	23.60	**9.23**	**28.61**	**24.16**	**21.39**	**10.52**	**46.55**	**25.10**	**22.16**	**10.18**	**10.91**
D. Access to land	11.40	12.87	10.92	**11.68**	**7.69**	**16.94**	19.94	14.10	9.27	7.90	9.63
E. Tax rates	16.90	23.34	14.43	**16.51**	**18.58**	**27.42**	**4.39**	**4.86**	**20.89**	**22.55**	**47.24**
F. Tax administration	10.00	**17.46**	**6.99**	**9.30**	**13.78**	**22.28**	**4.25**	**3.97**	**13.04**	**9.65**	**37.66**
G. Customs and trade regulations	5.50	**13.42**	**1.89**	**4.81**	**8.23**	**16.48**	**2.45**	**7.94**	**7.32**	**2.05**	**13.95**
H. Labor regulations	1.50	**4.75**	**0.22**	**1.12**	**2.89**	**11.10**	0.63	1.51	0.40	0.68	29.15
I. Skills and education of available workers	20.40	27.31	17.95	**19.35**	**25.13**	**43.69**	17.53	35.96	19.53	13.79	17.42
J. Business licensing and operating permits	4.50	6.61	3.66	**3.99**	**8.07**	**10.46**	**1.17**	**2.68**	**5.26**	**5.82**	**9.79**
K. Access to financing (e.g. collateral)	11.60	14.17	10.72	11.66	11.26	11.29	11.24	16.64	12.88	6.83	10.38
L. Cost of financing (e.g. interest rates)	22.90	24.70	22.18	23.29	20.35	16.58	**29.00**	**17.91**	**25.11**	**20.18**	**8.93**
M. Regulatory policy uncertainty	19.40	20.35	19.11	**18.17**	**28.71**	**31.08**	**12.69**	**7.68**	**17.92**	**32.30**	**24.44**
N. Corruption	30.60	**47.76**	**24.48**	**29.24**	**38.99**	**49.90**	**20.71**	**17.04**	**31.47**	**41.26**	**57.82**
O. Crime, theft and disorder	6.30	**12.29**	**4.12**	**5.63**	**11.39**	**10.57**	**0.44**	**2.06**	**7.42**	**10.28**	**9.94**
P. Anti-competitive or informal practices	23.10	**36.79**	**18.20**	22.40	28.99	27.84	14.80	15.25	27.97	23.42	47.59
Q. Legal system/conflict resolution	6.60	**16.21**	**3.09**	**6.08**	**7.86**	**21.25**	**2.28**	**6.88**	**8.66**	**5.42**	**9.14**

Note: Numbers in bold indicate statistically significant differences between subgroups (at 10 percent). Includes both formal and informal enterprises.

Annex Table 1.1 (continued)

	Domestic	Foreign-invested	Non-exporter	Exporter	High productivity	Medium productivity	Low productivity
A. Telecommunications	6.21	7.83	6.26	7.14	8.74	6.26	5.16
B. Electricity	42.93	42.90	43.23	33.02	48.45	40.54	38.21
C. Transportation	**24.31**	**8.10**	23.37	30.70	**36.66**	**15.20**	**21.21**
D. Access to land	10.71	27.53	10.78	32.06	15.08	15.01	6.15
E. Tax rates	**16.05**	**35.50**	16.88	18.57	**7.99**	**27.08**	**12.89**
F. Tax administration	**8.80**	**34.61**	9.80	17.28	8.26	10.42	10.59
G. Customs and trade regulations	**3.98**	**30.93**	**4.91**	**19.98**	5.08	3.26	7.44
H. Labor regulations	**1.32**	**5.50**	**1.34**	**6.35**	0.69	3.26	0.64
I. Skills and education of available workers	20.35	21.31	20.26	24.56	16.21	16.87	28.06
J. Business licensing and operating permits	4.46	5.77	4.47	6.31	6.42	2.01	4.34
K. Access to financing (e.g. collateral)	11.57	12.83	11.57	13.13	10.97	14.32	10.36
L. Cost of financing (e.g. interest rates)	22.58	29.50	22.35	39.80	20.90	17.86	30.34
M. Regulatory policy uncertainty	19.14	25.91	19.35	22.23	18.53	16.52	22.81
N. Corruption	**28.53**	**76.46**	**29.67**	**60.30**	27.15	27.00	34.87
O. Crime, theft and disorder	**5.22**	**29.66**	6.27	6.19	**2.72**	**7.48**	**8.35**
P. Anti-competitive or informal practices	22.49	37.25	23.23	19.83	17.55	24.64	26.18
Q. Legal system/conflict resolution	**5.50**	**30.33**	**6.24**	**18.49**	3.63	4.30	9.34

Note: Numbers in bold indicate statistically significant differences between subgroups (at 10 percent). Includes both formal and informal enterprises

Annex II: Investment climate and productivity

We now undertake an analysis of the relationship between the investment climate and firm-level productivity in Cambodia. This analysis of the relationship between the investment climate and firm-level productivity in Cambodia uses both the ICA 2007 and ICA 2012 data to estimate a production function for value added.[32] Value-added is calculated as the reported sales of output minus the costs for raw material, electricity, fuel, communications, and other costs of production (except investment, depreciation, interest payments and taxes).[33] Labor is measured as the sum of the number of permanent employees and the average number of temporary employees in the year. The capital stock is measured as the sales value (in 2007) or replacement cost (2012) of the machinery, equipment (including computers) and vehicles.

The results are illustrated in Table 2.1. The first column in Table 2.1 shows the estimates of a Cobb-Douglas production function without the investment climate variables. Apart from the inputs for labor and capital, also a number of firm characteristics have been included that are often found to affect productivity, namely the age of the firm (in log years), firm size dummies for medium (between 20 and 100 employees) and large firms (100 or more employees), a dummy for whether the firm exports (directly or indirectly), a dummy for whether the firm is (partly) foreign-owned, and the shares of the labor force with primary, lower secondary or higher secondary education. We also include location and sector dummies.

The regressions include all available observations except those with negative value-added (which are dropped automatically because of the loglinear specification). We have verified that further cleaning of the data did not affect the results in any serious manner and therefore we have retained all observations to keep the sample size as large as possible.[34]

The estimation results in the first column of Table 2.1 are plausible. Both the inputs for labor and capital have a positive and strongly significant impact on value-added, and they add up to one. Also firms that are older tend to be more productive, and this is also the case for exporting firms and firms with (some) foreign ownership. Firms with more educated workforces tend also produce more value-added. Interestingly, we do not find that medium and/or large firms are more productive than small firms, although it should be noted that the survey was designed to include firms with a minimum of five permanent employees only (and hence the micro firms are not included).

The Cambodia enterprise surveys of 2007 and 2012 include a large number of indicators that can be used to measure the investment climate in Cambodia. Following the taxonomy used by Escribano and Guasch (2005), we include a number of indicators for three areas in particular, namely (1) infrastructure, (2) red tape, corruption and crime, and (3) finance and corporate governance and we analyze how productivity is af-

[32] Value-added rather than gross output is used as the dependent variable in the analysis, because the ICA 2012 questionnaire asked trading firms not about their gross revenues from sales and the cost of goods purchased for resale, but about the resulting value of profit from trading.

[33] For trading firms the value-added is calculated as profits from trading minus the costs for electricity, fuel, communication, and other costs of trading (except investment, depreciation, interest payments and taxes).

[34] Some other studies have imposed a number of additional cleaning rules (apart from omitting observations with negative value added), such as dropping observations if the share of intermediates in output is less than 0.1 or more than 1, if the intermediates share in output deviates more than three standard deviations from the industry-mean , or if the observation is located in the bottom or top 5 percent of the labor productivity distribution for each industry and year (World Bank 2006, pp.141-42).

fected by in these three areas.[35] For infrastructure we use two indicators, namely (1) the total hours of power outages in the past year, and (2) the average number of days in the past year that it took a firm to clear customs from the time the firm's goods arrived in their point of entry (e.g. airport) until the time the firm could claim them from customs.[36]

For red tape, corruption and crime four indicators are included in Table 2.1. These are (1) the number of inspections or required meetings with tax officials in the past year, (2) the percentage of time in a typical week spent by senior management dealing with bureaucracy/regulation, (3) the percentage of sales paid by a typical comparable firm in gifts or informal payments to public officials to "get things done" with regards to customs, taxes, licenses, regulations, services, etc., and (4) loss from theft, robbery, vandalism or arson (as a percentage of sales) .

Four indicators are reported for the third area of the investment climate, finance and corporate governance: (1) whether the firm has an overdraft facility or line of credit, (2) whether the firm has loan from bank or financial institution, (3) whether the firm has constrained access to loans, and (4) whether the firm has hired an outside accounting/audit firm or individual auditor in 2006. A firm is regarded as having constrained access to loans if the firm does not have a line of credit or loan from a bank or financial institution because the application was turned down or because the firm never applied because it considered the application procedures too cumbersome, the collateral requirements too stringent, interest rates too high and/or because of corruption in the allocation of bank credit.

In the second column of Table 2.1, we report the estimation results after including these investment climate (IC) variables. The F-test on the IC variables has a p-value of less than 0.01 and therefore the IC variables are jointly highly significant. Also the results are mostly plausible: firms that suffer from larger delays in clearing customs are less productive. Also firm productivity suffers when firms need to pay a higher percentage of their sales to "get things done" or when they are the victim of theft, robbery, vandalism or arson. Firms with a loan are significantly more productive suggesting that some of the other firms are credit constrained. This is also suggested by the negative coefficient for the dummy whether a firm is credit constrained although it remains insignificant in this specification.

Because some firms have been interviewed in both datasets (panel firms), we re-estimate the model allowing for random effects. This does not affect the results in any noticeable manner. We also tested whether the random effects should be replaced by fixed effects (allowing for correlation of the firm-level effects with the other regressors). The Hausman test does reject the use of random effects if we do not apply additional cleaning. As noted above, we did not apply additional cleaning to the data to keep the sample size as large as possible and because it did not seem to affect the pooled regression results in any serious way. This is different when we estimate the model with fixed effects to calculate the Hausman test. As soon as we apply some common cleaning rules applied in other studies (see the footnote 3 above) or omit a small number of obvious outliers identified through added value plots, the estimates from a fixed effects regression are no longer significantly different from those with a random effects regression. Because it is well-known that fixed effects regressions are much more sensitive to measurement error than random effects regression, we regard the Hausman test after some cleaning as more accurate than the one based on uncleaned data (as reported in the table).

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[35] Table A.2 in Escribano and Guasch (2005). Some of their indicators are not available in the Cambodia ICA 2007 and 2012. Also some of the indicators are strongly related (e.g. there are five indicators related to power outages) and we include only one of them in the analysis. We do not include the variable 'fraction of sales undeclared to the IRS' because it refers to the typical firm and is based on perception rather than observation.

[36] For firms that did not (directly) import goods the last indicator has missing values. There are no missing values for the first indicator because all firms had power. We include a dummy variable in the regressions indicating whether there is a missing value for days to clear customs for imports, and missing values are assigned a zero.

Annex Table 2.1: Productivity and the investment climate, pooled regressions (2007 and 2012)

	Without IC variables		With IC variables			
	OLS		**OLS**		**Random effects**	
	(1)		(2)		(3)	
Inputs						
Labor (log)	0.79***	(0.04)	0.83***	(0.05)	0.86***	(0.06)
Capital (log)	0.20***	(0.04)	0.18***	(0.06)	0.18***	(0.05)
Firm characteristics						
Age of firm (log years)	0.16***	(0.05)	0.12**	(0.05)	0.11**	(0.05)
Size (dummy, omitted: small)						
Medium	0.08	(0.12)	0.08	(0.14)	0.01	(0.13)
Large	0.17	(0.21)	0.15	(0.25)	-0.02	(0.25)
Exporter (dummy)	0.58**	(0.26)	0.60***	(0.19)	0.56***	(0.19)
Foreign (dummy)	0.40**	(0.17)	0.39**	(0.18)	0.38**	(0.17)
Human capital workers (share, omitted: other)						
Primary education or less	-0.04	(0.12)	-0.14	(0.13)	-0.14	(0.13)
Lower secondary education	0.31*	(0.17)	0.25	(0.17)	0.22	(0.17)
Upper secondary schooling	0.75***	(0.19)	0.68***	(0.23)	0.61***	(0.22)
Investment climate variables						
Infrastructure						
Total duration of power outages (log(hours+1))			0.05	(0.03)	0.05	(0.03)
Days to clear customs for imports (log(days+1))			-0.41**	(0.20)	-0.43**	(0.21)
Red Tape, Corruption and Crime						
Tax inspections/meetings per year (log(times+1))			0.01	(0.05)	0.02	(0.05)
Senior management time dealing with bureaucracy/regulation (log(percentage+1))			0.02	(0.02)	0.03	(0.02)
Payments to deal with bureaucracy 'faster' (log(percentage of sales+1))			-0.10*	(0.05)	-0.13**	(0.05)
Loss from theft, robbery, vandalism or arson (log(percentage of sales+1))			-0.24*	(0.14)	-0.25*	(0.14)

	Without IC variables		With IC variables			
	OLS		**OLS**		**Random effects**	
	(1)		(2)		(3)	
Finance and Corporate Governance						
Firm has overdraft (dummy)			0.02	(0.20)	0.07	(0.22)
Firm has loan from bank/ fin. institution (dummy)			0.27**	(0.10)	0.25**	(0.10)
Firm has constrained access to loan (dummy)			-0.11	(0.13)	-0.14	(0.14)
External audit of financial statements (dummy)			0.08	(0.17)	0.11	(0.16)
Year 2012 (dummy)	0.92***	(0.11)	0.80***	(0.10)	0.78***	(0.11)
Constant	5.17***	(0.48)	5.61***	(0.79)	5.67***	(0.82)
Observations	1090		929	929		
R^2	0.70		0.70		0.70	
IC variables (F-test , p-value)	-		0.00		0.00	
Translog production function (F-test , p-value)	0.07		0.04		0.19	
Sector-specific input coefficients (F-test , p-value)	0.55		0.12		0.06	
Hausman test fixed versus random effects (X^2-test, p-value)	-		-		0.35[a]	

Note: standard errors correct for clustering within location-sector groupings. * significant at 10%; ** significant at 5%; *** significant at 1%. The regressions also include location and sector dummies and a dummy variable for whether there is a missing value for days to clear customs for imports.[a] After omitting 13 outliers identified from added value plots (see text). If the same cleaning rules are applied as in World Bank 2006 (pp.141-42), the p-value increases to 0.96.

A test has been performed to determine whether the Cobb-Douglas specification is an accurate enough specification of the applied production technology by the firms by considering the more flexible translog specification. The F-test suggests that it is, since it does not reject the Cobb-Douglas specification at a significance level of 10 percent, at least for the random effects specification.

There is some evidence that sector-specific instead of common input coefficients should be used (the F-test has a p-value of 0.06 in the random effects specification). We therefore also re-estimated the random effects model but allowing for the input coefficients to vary across agro-processing, manufacturing (except agro-processing), trade, tourism and other. We found that allowing for sector-specific input coefficients did barely affect the size and significance of the estimated coefficients of the investment variables (see column 1 in Table 2.2).

Annex Table 2.2: Random effect estimates of impact of investment climate variables on productivity

	Sector-specific input coefficients		Instrumental variables	
	(1)		(2)	
Investment climate variables				
Infrastructure				
Total duration of power outages (log(hours+1))	0.05	(0.03)	0.03	(0.03)
Days to clear customs for imports (log(days+1))	-0.46**	(0.20)	-0.21	(0.23)
Red Tape, Corruption and Crime				
Tax inspections/meetings per year (log(times+1))	0.00	(0.05)	1.31***	(0.48)
Senior management time dealing with bureaucracy/ regulation (log(percentage+1))	0.02	(0.02)	-0.09	(0.07)
Payments to deal with bureaucracy 'faster' (log(percentage of sales+1))	-0.11**	(0.05)	-0.21***	(0.08)
Loss from theft, robbery, vandalism or arson (log(percentage of sales+1))	-0.28**	(0.13)	-0.26*	(0.14)
Finance and Corporate Governance				
Firm has overdraft (dummy)	0.05	(0.22)	0.19	(0.25)
Firm has loan from bank/ financial institution (dummy)	0.23**	(0.10)	0.25	(0.20)
Firm has constrained access to loan (dummy)	-0.13	(0.13)	0.92	(1.27)
External audit of financial statements (dummy)	0.11	(0.16)	0.05	(0.15)
Year 2012 (dummy)	0.77**	(0.11)	0.61***	(0.14)
Constant	4.66**	(0.73)	5.49***	(0.59)
Inputs	Yes		Yes	
Firm characteristics	Yes		Yes	
Observations	929		929	
R^2	0.71		0.58	

Note: standard errors correct for clustering within location-sector groupings. * significant at 10%; ** significant at 5%; *** significant at 1%. The regressions also include location and sector dummies and a dummy variable for whether there is a missing value for days to clear customs for imports. The instruments used are the interaction dummies for sector and location.

A final concern might be that the results may be affected by the possible presence of endogeneity in the investment climate indicators, for instance because more productive firms are more demanding of the investment climate and therefore encounter and report more problems, or because of other omitted factors correlated with both the investment climate and productivity. A number of previous studies have used location-industry averages of the firm-level investment climate variables instead of the firm-level variables themselves to reduce the endogeneity problem (Dollar et al., 2005; Escribano and Guasch, 2005).

If we follow this approach only a few investment climate variables can be included in the analysis because of the small number of location-industry cells. We therefore applied individual tests for the presence of endogeneity in each of the investment climate variables in each year with a Hausman endogeneity test using as instruments sector-specific location dummies (Cameron and Trivedi 2005, p.276). We found that none of the IC variables showed significant endogeneity bias (at the 10 percent significance level), except for the variables measuring the number of inspections (p-value 0.001) and whether the firm is credit constrained (p-value 0.09).

Therefore, we also estimate an instrumental variable random effects model with sector-specific location dummies as instruments for the variables measuring the number of inspections and whether a firm is credit constrained. The last column of Table 2.2 shows the results. We still find similar productivity impacts from custom delays, payments to deal with bureaucracy, losses from theft, robbery, vandalism or arson, and bank loans as before, although two of these impacts are no longer significant at conventional significance levels.

However, the impact of tax inspections is remarkably different when we control for endogeneity in this variable. This difference can be understood when considering the tendency by firms to underreport their sales (and therefore value added). In the ICA 2012 survey, firms report that on average typical firms in their area of activity underreport their sales for tax purposes by 58.6 percent. If inspections increase reported sales, then we expect to see a positive impact from inspections on measured value added. But if firms that underreport less tend to attract fewer inspections, this would create a downward bias in the estimated coefficient without instruments. Results in columns (1) and (2) indeed confirm this pattern.

While increasing the number of tax inspections/meetings with officials tends to increase the (reported) productivity, it will also lead to increasing time spent by management dealing with bureaucracy and possibly increased payments to deal with the bureaucracy 'faster', both of which will reduce the productivity. Hence, the overall effect from increasing inspections is not a priori clear and depends on the amount of management time and bribing involved.

Based on the estimates of the production function, we simulate the impact of changes in the investment climate on productivity. In particular, we can consider how much productivity changes if we move from a 'bad' investment climate (bottom 10 percentile of the distribution) to a 'good' investment climate (top 90 percentile of the distribution). Table 2.3 shows how much of the productivity change between the 10th and 90th percentile of the distribution could be achieved by changes in the four investment climate variables that were found to be mostly significant and robust across the different specifications: days to clear customs for imports, payments to deal with bureaucracy 'faster', loss from theft, robbery, vandalism or arson, and presence of a bank loan.[37]

[37] We use the estimated coefficients of column (3) in Table 1 for the simulation.

The simulations show that firms that would move from a bad investment climate to a good investment climate would increase their value added by 37.5 percent with a reduction in the number of days it takes to clear customs. If the improvement is in terms of a reduction of payments to deal with bureaucracy faster, value added would increase by 20.5 percent. Improvements in access to loans would have a productivity impact of 28.7 percent and a reduction in the loss from theft, robbery, vandalism or arson would increase productivity by 3.5 percent.

Annex Table 2.3: The importance of the investment climate for productivity

Name of SEZ	**Information**			
	10th Percentile	Median	90th Percentile	% Change value added*
Days to clear customs for imports (log(days+1))	0	0	1.10	-37.5
Payments to deal with bureaucracy 'faster' (log(percentage of sales+1))	0	0	1.79	-20.5
Loss from theft, robbery, vandalism or arson (log(percentage of sales+1))	0	0	0.14	-3.5
Firm has loan from bank/ financial institution (dummy)	0	0	1	28.7

*The percentage change indicates how much value-added would change in response to a change in those variables from the 10th to the 90th percentile.

Annex III: Registered SEZs in Cambodia[38]

Annex Table 3.1: List of registered Special Economic Zones in Cambodia

Name of SEZs	Information	
1. Neang Kok Koh Kong SEZ	1) Location	Neang Kok Village, Pakkhlong Commune, Mundul Seyma Destrict, Koh Kong Province
	2) Land area	335.43 Ha
	3) Project Implementation	Infrastructure Developing: Fencing
	4) Zone Investors	1- Camko Motor Company Ltd.: (Vehicle assembly and spare part) 2-Yazaki Corporation (Wire harness)
2. Suoy Chheng SEZ	1) Location	Neang Kok Village, Pakkhlong Commune, Mundul Seyma Destrict, Koh Kong Province
	2) Land Area	100Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
3. S.N.C SEZ	1) Location	Sangkat Bet Trang, Khan Prey Nob , Preah Sihanouk Province
	2) Land area	150 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
4. Stung Hav SEZ	1) Location	Sangkat O Tres, Stung Hav District, Preah Sihanouk Province
	2) Land area	196 Ha.
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
5. N.L.C SEZ	1) Location	Phum Prey Phdao abd Phum Thlok, Khum Chrok Mtes, Srok Svay Teab, Sray Rieng Province
	2) Land area	105 Ha.
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None

[38] Source: http://www.cambodiainvestment.gov.kh/list-of-sez.html; accessed 24 June 2013

6. Manhattan (Svay Reing) SEZ	1) Location	Bavet Commune, Chantrea District, Svay Rieng Province
	2) Land area	157 Ha.
	3) Project Implementation	The company already built infrastructure, connecting power grid from Viet Nam and Fencing of the first phase of 70 Ha.
	4) Zone Investors	1- Best Way Industry Co., Ltd. (Bicycle) 2- S.Y.G. Steel International Co., Ltd. (Bolt-Nut) 3- Kingmaker Footwear Co., Ltd (Footwear) 4- Galaxy Textile Co., Ltd (Garment) 5- ARC Cambodia Corp.(Hi-tech equipment recycling) 6- MSEZ Comfort Hospital Co., Ltd (Hospital) 7- Sheico (Cambodia) Co., Ltd (Neoprene wet suits) 8- Forest Packing (Cambodia) Co., Ltd (Packing bag) 9- Pique Garment Co., Ltd (Garment) 10-Leegrow Plastic Packaging Co., Ltd (Packaging bag) 11- Ampac Packaging (Cambodia) Ltd (Packaging products) 12- Eastern Industrial Enterprise Inc. (Garment and textile) 13- Visca Plastics Joint Stock Company (Plastic) 14- Angkor Spring Co., Ltd (Mattress products) 15- Kaoway Sports Ltd (Sport Shoes) 16- Morofuji (Cambodia) Co., Ltd (Bags and package products) 17-Top Sports Textile Ltd (Textile and garment) 18- Elite (Cambodia) Co., Ltd (Garment)
7. Poi Pet O'Neang SEZ	1) Location	Poipet Commune and Nimit Commune, O' Chhrov District, Banteay Meanchey Province
	2) Land area	467Ha.
	3) Project Implementation	Infrastructure Developing: Fencing, Entrance gate, Electric pole
	4) Zone Investors	1- Campack Co., Ltd. (Jewelry Packing Manufacturing)
8. Doung Chhiv Phnom Den SEZ	1) Location	Kiri Vong District, Takeo Province
	2) Land area	79 Ha.
	3) Project Implementation	Infrastructure Developing: Landfill and fencing.
	4) Zone Investors	None

9. Phnom Penh SEZ	1) Location	Khan Dangkor, Phnom Penh and Ang Snuol District, Kandal Province
	2) Land area	350 Ha.
	3) Project Implementation	Fencing, roads, administrative building, entrance, electricity, water, and telecommunication system have been installed.
	4) Zone Investors	1- Navy Water Production Co., Ltd (Drinking water) 2- Bok Seng PPSEZ Dry Port Co., Ltd (Dry port) 3- Redial Industrial Co., Ltd (Plastic) 4- Civil (CP) Construction Product Ltd (Pole) 5- Tiger Wing Co., Ltd (Footwear) 6- Evergreen Industrial Co., Ltd (Garment) 7- Yamaha Motor (Cambodia) Company Limited Co., Ltd (Motorcycle assembly, accessories and spare parts) 8- Cambodia Success Industries Co., Ltd (Steel processing for construction material) 9- Agricom (Cambodia) Co., Ltd (Sugar packaging) 10- Cambox Private Limited (Plastic) 11- Ji-Xiang Co., Ltd (Processing cartons and papers production) 12- Colben Energy (Cambodia) PPSEZ Ltd (Power Plant) 13- Yi Xiang Co., Ltd (Plastic) 14- Ajinomoto (Cambodia) Co., Ltd (Seasoning and food processing) 15- Sin Chn Hong (Cambodia) Plastics Industry Co., Ltd (Plastic) 16- Clean Circle Co., Ltd (Leather shoes) 17- Cambodian Food Processing and Distribution Co., Ltd (Food processing) 18- Sichuan New Hope Agribusiness (Cambodia) Co., Ltd (Animal feed) 19- MKK Co., Ltd (Cigarette and cigar) 20- Liwayway (Cambodia) Food Industries Co., Ltd (Food Processing) 21- Haru Phnom Penh Comic Center Co., Ltd (Comic book assembly and authoring) 22- Dishells (Cambodia) Ltd (Heat insulation and its products) 23- Proceeding (Phnom Penh) Co., Ltd (Japanese traditional clothes) 24- FST PP Co., Ltd (Japanese traditional clothes) 25- Shin Feng Paper Co., Ltd (Carton box and paper processing) 26- Atlas Ice (Cambodia) Co., Ltd (Ice manufacturing) 27- Thibidi (Cambodia) Co., Ltd. (Electrical equipment) 28- Minebea (Cambodia) Co., Ltd. (Small-size motor) 29- O and M (Cambodia) Co., Ltd. (Leather products) 30- Combi (Cambodia) Co., Ltd. (Baby goods and toy)

		31- Marunix (Cambodia) Co., Ltd. (Wire harness assembly) 32- Sumi (Cambodia) Wiring Systems Co., Ltd. (Wiring Harness) 33- Kyowaseikan (Cambodia) Co., Ltd. (Packaging materials) 34- Sunhsin Thread And String (Cambodia) Co., Ltd (Shoulder Pads) 35- Zion Label And Printing Co., Ltd (Labels) 36- Daiwa Onkyo (Speaker) 37- Denso Electronics (Wiring harness)
10- Kampot SEZ	1) Location	Koh Toch commune, Kampot district, Kampot Province
	2) Land area	145 Ha.
	3) Project Implementation	Infrastructure Developing: Landfill and building Kampot seaport.
	4) Zone Investors	None
11- Sihanouk-ville SEZ 1	1) Location	Stung Hav District, Preah Sihanouk Province
	2) Land area	178 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	1-Cambodian Energy Limited (To build, operate and own a 100 MW coal fired power generation plant) 2-C.I.I.D.G Erdos Hongjun Electric Power Co., Ltd (Power plant of 3×135 MW (405MW) by coal-fire)
12- Tai Seng Bavet SEZ	1) Location	Bavet District, Svay Rieng Province
	2) Land area	99 Ha
	3) Project Implementation	Infrastructure Developing: Fencing, landfill, connecting electricity into the zone.
	4) Zone Investors	1-Atlantic Cycle Co., Ltd (Bicycle) 2-La More (Cambodia) Ltd (Footwear) 3-DK Inc (Garment) 4-Yorks (Cambodia) Co., Ltd (Gloves) 5-Smart Tech (Cambodia) Co., Ltd (Bicycle) 6-A and J (Cambodia) Co., Ltd (Bicycle Manufacturing) 7-Swany (Cambodia) Corporation (Gloves) 8-Ronchester (Lady's apparel) 9-Helsa South East Asia Co., Ltd (Shoulder Pads) 10-Towa (Cambodia) Co., Ltd (Men's Suits) 11-Nakayama Shoji Co., Ltd (Baby underwear)

13- Oknha Mong SEZ	1) Location	Srea Ambel District, Koh Kong Province
	2) Land area	100 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investor	None
14-Goldfame Pak Shun SEZ	1) Location	Sa Ang District, Kandal Province
	2) Land area	80 Ha
	3) Project Implementation	Infrastructure Development: Fencing
	4) Zone Investorst	1- Gold Dragon Printing & Carton Boxes Factory Co., Ltd (Carton, Printing plastic label, Knitting) 2- Kingway Manufacturing Limited (Garment) 3- Good Ray Development Limited (Garment)
15-Thary Kampong Cham SEZ	1) Location	Da commune, Memot District, Kampong Cham Province
	2) Land area	142.14 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investor	None
16- Sihanouk-ville SEZ 2	1) Location	Pou Thoung Village, Betrang Commune and Smach deang Village, Ream Commune, Prey Nop District, Preah Sihanouk Province
	2) Land area	1,688 Ha
	3) Project Implementation	Infrastructure Developing: building fence, roads, the administrative building, entrance, electricity, water, and telecommunication system.
	4) Zone Investors	1- Nanguo Garment Co., Ltd (Garment) 2- Hongdou International Garment Co., Ltd (Garment) 3- Qianlima Vehicle Co., Ltd (Vehicle assembling) 4- Taihua Plastic Products Co., Ltd (Plastics) 5- Huang Jia Arts and Crafts Co., Ltd (Arts and crafts candle) 6- Wealth (Cambodia) Steel Industry Engineering Co., Ltd (Steel processing for construction material) 7- Horseware Products Cambodia Co., Ltd (Horse ware products) 8- Zhong Zheng (Cambodia) Co., Ltd (Bags) 9- Keeptop Sporting Goods (Cambodia) Co., Ltd. (Bags Factory) 10- BRILLIANT SHOES FACTORY Co., Ltd (Shoes) 11- Prosource Electronics (Cambodia) Co., Ltd (Household appliances) 12- Wan Hai Hanger (Cambodia) Co., Ltd (Founded hanger) 13- Worldtec Cycles (Cambodia) Co., Ltd (Bicycles asembling) 14- Aley Global (Cambodia) co., Ltd (Garment) 15- Oufeiya Leather (Cambodia) Co., Ltd (Leather Products) 16- Asle Electronic (Cambodia) Co., Ltd (Electronics parts) 17- Shandong Forest Wood (Cambodia) Co., Ltd (Floor and plywood) 18-Izumi (Cambodia) Co., Ltd (TV frame and electric parts)

17- D&M Bavet SEZ	1) Location	Bavet commune, Chantrea District, Svay Rieng Province
	2) Land area	117.95Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
18- Kiri Sakor Koh Kong SEZ	1) Location	Khum Prek Kasach, Srock Kirisakor, Koh Kong Province
	2) Land area	1,750 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
19- Sihanouk-ville Port SEZ	1) Location	Tomnop Rolok Area, Sangkat Lek1 and Lek3, Sihanoukville City, Preah Sihanouk Province
	2) Land area	70 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
20- Kampong Saom SEZ	1) Location	Village 4, Ortres Commune, Stung Hav District, Preah Sihanouk Province
	2) Land area	255 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
21- P (SEZ) I C	1) Location	Salatean and Preytob Villages, Chhrokmates Commune, Svayteab District, Svay Rieng Province.
	2) Land area	107.55 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None
22- MDS THMORDA SEZ	1) Location	Khum Thmorda, Srock Veal Veng, Pursat Province
	2) Land area	2,265 Ha
	3) Project Implementation	Infrastructure Developing
	4) Zone Investors	None

Annex IV: Background on survey sample

We use the latest Enterprise Survey for Cambodia, conducted in 2012, as the main data source for our analysis. The survey includes a special module on SEZs and it is the first in the country to sample firms located inside the zones. In the original sample of the ES, 32 firms established inside SEZs replied to the survey questionnaire in addition to 830 firms located outside the zones, for a total of 862 responding firms (Annex Table 4.1).

Annex Table 4.1: Original sample for Cambodia's Enterprise Survey (2012)

Location	Firms	Percent
Battambang	73	8.5
Siem Reap	105	12.2
Phnom Penh	439	50.9
Kampong Cham	106	12.3
Sihanouk Ville	52	6.0
Kampong Thom	10	1.2
Kandal	9	1.0
Prey Veng	10	1.2
Pursat	10	1.2
Ratanak Kiri	7	0.8
Kampong Chhnang	9	1.0
Manhattan(SEZ)	7	0.8
Sihanouk Ville(SEZ)	8	0.9
Tai Seng (SEZ)	4	0.5
Phnom Penh (SEZ)	11	1.3
Kandal (SEZ)	1	0.1
Koh Kong (SEZ)	1	0.1
Total	**862**	**100**

Because the sectorial composition of firms inside SEZ does not reflect the composition of firms from the overall economy as the Enterprise Survey (ES) intends to do, a direct comparison with all non-SEZ firms is not optimal. For instance, the ES includes some types of firms that provide services or that are informal, which are not present inside the zones. Thus, a survey sub-sample was chosen to serve as a comparison group. For more details about the sample selection and firm characteristics see Annex Table 4.2 and Annex Table 4.3.

Annex Table 4.2: Cambodia's Enterprise Survey – Restricted Sample (number of firms)

Location	Small	Medium	Large	Total
Battambang	9	11	0	20
Siem Reap	2	10	0	12
Phnom Penh	22	31	86	139
Kampong Cham	11	16	3	30
Sihanouk Ville	1	3	0	4
Kampong Thom	1	1	0	2
Kampong Chhnang	1	0	0	1
Manhattan(SEZ)	0	1	6	7
Sihanouk Ville(SEZ)	0	4	4	8
Tai Seng (SEZ)	0	0	4	4
Phnom Penh (SEZ)	1	3	6	11
Kandal (SEZ)	0	0	1	1
Koh Kong (SEZ)	0	1	0	1
Total	**48**	**81**	**110**	**240**

Annex Table 4.3: Restricted Sample – Breakdown by Sectors (%firms)

	Non-SEZ	SEZ
Textiles	3.1	-
Apparel	47.8	35.5
Leather	3.1	16.1
Paper	1.9	-
Printing media	3.1	-
Pharmaceutical	0.6	-
Plastic	1.2	-
Other non-metallic minerals	0.6	-
Basic metal	3.1	-
Motor vehicles	-	3.2
Electronic equipment	0.6	3.2
Furniture	1.9	-
Other manufacturing	31.1	35.5
Vehicles wholesale & retail	0.6	-
Wholesale trade	0.6	-
Wood & products	-	3.2
Land transport	-	9.2
Food and beverages services	0.6	-
Total	**100**	**100**

Annex V: Levels of Cambodia business formalization

Level	Description	Key Documents Required	Representation in PBES Samples	
			2009 Full	2009 Original 10 Provinces
1	Fully Formal-National	Registration at Ministry of Commerce; Three-year Operating License from relevant ministry†; Patent Tax registration at National Tax Authority; Value Added Tax(VAT) identification number from Ministry of Economics and Finance; paying profit tax under real tax regime; Labor permit certifying approval of company's internal rules for enterprise with over 8 employees; Environmental Certificate governing solid waste and water disposal from the Ministry of Environment; Other licenses when applicable‡	4.3%	5.5%
2	Fully Formal-Provincial	License to Operate Commercial Enterprises from Provincial/Municipal Department of commerce*; one-year Operating License from Ministerial Department at provincial level†; Patent Tax registration at Provincial/ Municipal Tax Authority; Paying estimated tax if under $1500 annual profits; Other licenses including Labor Permit and Environmental Certificate when applicable‡	22.1%	21.5%
3	Unregistered with Operating Licenses	One-Year Operation License from Ministerial Department at Provincial Level†; patent tax registration at Provincial/Municipal Tax Authority; Other licenses including Labor Permit and Environmental Certificate when applicable‡	13.3%	14.3%
4	Patent Tax Ψ	Patent Tax registration at Provincial/ Municipal Tax Authority	23.7%	19.6%
5	Fully information	No formal documentation	35.7	40.3%

† The 4 most common are the Factory Operating License for Industrial Enterprises from the Heavy Industries Section of MIME: Handicraft Operating License from Handicraft and Light Industries Section of MIME: the Service Sector Operating License from MOT: and the Agriculture. Forestry and Fisheries Operating License from the Ministry of Agriculture. Forestry, and Fisheries.

‡ These include Construction Permits from the Ministry of Land Management, Urban Planning, and Construction, Road Construction License from the Ministry of Public Works, Sanitation Permits, and Import/Export Licenses from the Customs Authority.

ΨThe Patent Tax is an annual registration (of license) fee levied on all businesses, industries and professions, though farmer are exempted. The tax is based on turnover from the previous year. New businesses must register with the tax authorities within 15 days after economic activity (Law of Taxation.1999). The first Patent tax is estimated in accordance with the performance of similar enterprises. Firms that don't wish to export may register with provincial- municipal commerce division (under Prakas 78-MOC-2002).

*Firm that don't wish to export and are not eligible to pay profit taxes under the " real regime." as they have below $1500 in annual profits (Article 12 of Law on Commercial Enterprises and Registration) and not eligible may register with the Provincal/Municipal Commerce Division according to Prakas 78-MOC_2002, but they are not considered a legal entities. Firms that don't wish to export may register with Provincial-Municipal commerce Division (under Prakas 78-MCO_2002).

Source: IFC and The Asia Foundation (2009, Table 4).

Annex VI: Multivariate regressions predicting whether a firm has a firm, tax, VAT or labor registration

VARIABLES	(1) Firm registration	(2) Tax registration	(3) VAT registration	(4) Labor registration
Sector (omitted: Manufacturing)				
Agro-processing	0.13**	-0.06	0.06	0.20**
	(0.06)	(0.10)	(0.06)	(0.09)
Trade	0.01	0.02	0.07	-0.12**
	(0.06)	(0.06)	(0.06)	(0.05)
Tourism	0.21**	0.05	0.10	0.01
	(0.08)	(0.07)	(0.07)	(0.05)
Other sector	-0.06	-0.07	-0.01	-0.10
	(0.08)	(0.07)	(0.07)	(0.07)
Location (omitted: Phnom Penh)				
Battambang	-0.07	0.05	-0.02	-0.02
	(0.07)	(0.04)	(0.10)	(0.12)
Kampong Cham	-0.36***	-0.25***	-0.21***	-0.36***
	(0.05)	(0.08)	(0.06)	(0.05)
Sihanouk Ville	0.12	0.05	0.19**	-0.03
	(0.11)	(0.06)	(0.09)	(0.14)
Siem Reap	0.04	-0.03	0.03	-0.11***
	(0.09)	(0.06)	(0.08)	(0.03)
Firm size (omitted: small)				
Medium firm	0.13***	0.16***	0.24***	0.26***
	(0.03)	(0.04)	(0.05)	(0.05)
Large firm	0.30***	0.18***	0.41***	0.34***
	(0.04)	(0.04)	(0.07)	(0.07)

VARIABLES	(1) Firm registration	(2) Tax registration	(3) VAT registration	(4) Labor registration
Other control variables				
Share of female workers (%)	0.03	0.07	-0.05	0.06
	(0.08)	(0.09)	(0.10)	(0.10)
Firm age (year)	-0.00	-0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Any exports (dummy)	0.08	0.04	0.08	0.08
	(0.07)	(0.04)	(0.06)	(0.07)
Any foreign ownership (dummy)	0.18***	0.04	0.21***	0.21***
	(0.05)	(0.03)	(0.04)	(0.07)
Capital- labor ratio (10^6 US$)	31.52***	26.78***	23.41***	31.08**
	(9.15)	(7.69)	(7.56)	(11.53)
Value added per worker (10^6 US$)	4.55***	1.66	1.71	3.48*
	(1.45)	(2.33)	(1.59)	(1.74)
Constant	0.43***	0.69***	0.33***	0.32***
	(0.06)	(0.08)	(0.07)	(0.08)
Observations	524	524	524	524
R-squared	0.30	0.21	0.26	0.32

Robust standard errors in parentheses (clustered by location-sector pairs), *** p<0.01, ** p<0.05, * p<0.1

Annex VII: Reported major and severe constraints to business operation by registration status (%)

Table: Respondents' evaluation to general constraints to operation by registration status % of firms evaluating constraint as "major" or "very severe"

		Firm registration		Tax registration		VAT registration		Labor registration	
	Cambodia	No	*Yes*	No	*Yes*	No	*Yes*	No	*Yes*
A. Telecommunications	6.3	7.6	4.0	8.1	5.0	7.0	5.0	5.8	7.7
B. Electricity	42.9	46.5	36.0	**55.7**	33.8	46.8	35.3	44.4	38.1
C. Transportation	23.6	**31.0**	8.4	**38.4**	12.4	**31.9**	6.7	26.0	15.2
D. Access to Land	11.4	12.1	10.1	12.8	10.5	12.5	9.2	10.2	15.6
E. Tax rates	17.0	14.8	20.6	0.7	**26.6**	16.4	17.9	14.5	24.2
F. Tax administration	10.0	7.4	14.4	0.3	**15.5**	7.9	13.6	7.0	**18.8**
G. Customs and Trade Regulations	5.5	2.0	**10.8**	2.1	**7.8**	2.2	**10.9**	3.7	**10.2**
H. Labor Regulations	1.5	0.2	**3.7**	0.2	**2.3**	1.4	1.8	0.3	**5.0**
I. Skills and Education of Available Workers	20.4	18.7	23.7	13.4	**25.4**	18.5	24.1	17.6	29.5
J. Business Licensing and Operating Permits	4.5	3.6	6.0	4.6	4.5	4.2	5.1	3.7	6.9
K. Access to Financing (e.g. collateral)	11.6	9.8	15.1	5.5	**16.1**	10.3	14.2	9.9	17.2
L. Cost of Financing (e.g. interest rates)	22.9	23.4	21.8	25.0	21.3	24.4	19.9	23.6	20.4
M. Regulatory Policy Uncertainty	19.5	17.9	22.2	20.3	18.9	17.6	22.9	18.3	23.1
N. Macroeconomic Instability (inflation, exchange rate)	41.6	40.9	42.8	38.5	43.8	40.8	43.0	39.2	49.3
O. Corruption	30.6	25.2	**41.0**	19.9	**38.3**	26.8	38.1	26.2	**44.9**
P. Crime, theft and disorder	6.3	4.1	**10.4**	0.6	**10.3**	4.3	**10.1**	2.7	**18.0**
Q. Anti-competitive or informal practices	23.1	17.3	**34.3**	14.1	**29.6**	18.8	**31.7**	20.3	**32.4**
R. Legal system/conflict resolution	6.6	3.2	**13.0**	0.4	**11.0**	3.8	**12.0**	4.7	**12.6**

Note: numbers in bold indicate statistically significant differences between subgroups (at 10 percent).

Annex VIII: Cobb-Douglas Production Function Estimates (dependent variable: log of value added)

VARIABLES	(1) All firms	(2) Formal	(3) Informal
Capital (log)	0.25***	0.31***	0.20***
	(0.04)	(0.06)	(0.04)
Labor (log)	0.76***	0.74***	0.79***
	(0.06)	(0.12)	(0.07)
Battambang	0.28	0.26	0.23
	(0.18)	(0.28)	(0.23)
Siem Reap	-0.05	-0.71**	0.21
	(0.16)	(0.29)	(0.18)
Kampong Cham	0.09	-0.29	0.61**
	(0.19)	(0.22)	(0.31)
Sihanouk Ville	0.07	0.23	0.09
	(0.23)	(0.37)	(0.29)
Agro-processing	0.15	-0.68**	0.55**
	(0.21)	(0.34)	(0.25)
Trade	0.93***	0.96***	0.72***
	(0.20)	(0.27)	(0.26)
Tourism	0.23	0.24	0.09
	(0.18)	(0.23)	(0.24)
Other	0.35*	0.39	0.17
	(0.20)	(0.28)	(0.28)
Exports (dummy)	0.63**	1.65	0.43*
	(0.27)	(1.17)	(0.22)
Foreign ownership (dummy)	0.19	-0.25	0.33**
	(0.16)	(0.56)	(0.16)
Lower secondary school (proportion)	0.13	0.08	0.25
	(0.21)	(0.38)	(0.26)

VARIABLES	(1) All firms	(2) Formal	(3) Informal
Upper secondary school (proportion)	0.09	0.49	-0.21
	(0.25)	(0.40)	(0.35)
Higher education (proportion)	0.55**	-0.22	0.86***
	(0.25)	(0.45)	(0.31)
Firm registration	0.33***		
	(0.13)		
Constant	5.68***	5.36***	6.41***
	(0.32)	(0.56)	(0.42)
Observations	711	218	493
R^2	0.66	0.54	0.65

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