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WHAT BUSINESSES EXPERIENCE

Papua New Guinea 2015 Country Profile



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The Country Profiles produced by the Enterprise Analysis Unit of the World Bank Group provide an overview of key business environment indicators in each economy, comparing them to their respective geographic region and group of countries with similar income levels. The same topics are covered for all countries with slight variations of indicators. All indicators are based on the responses of firms. To learn more about the Enterprise Analysis Unit and to obtain Country Profiles for other countries, please visit www.enterprisesurveys.org

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Economy Overview Papua New Guinea 2015

Region:	East Asia & Pacific
Population:	7,619,321
GNI per capita (US \$):	2,112
Income Group:	Lower middle income

Introduction

The Enterprise Surveys (ES) focus on many aspects of the business environment. These factors can be accommodating or constraining for firms and play an important role in whether an economy's private sector will thrive or not. An accommodating business environment is one that encourages firms to operate efficiently. Such conditions strengthen incentives for firms to innovate and to increase productivity — key factors for sustainable development. A more productive private sector, in turn, expands employment and contributes taxes necessary for public investment in health, education, and other services. Questions contained in the ES aim at covering most of the topics mentioned above. The topics include infrastructure, trade, finance, regulations, taxes and business licensing, corruption, crime and informality, access to finance, innovation, labor, and perceptions about obstacles to doing business.

The ES are conducted by the World Bank Group and its partners across all geographic regions and cover small, medium, and large firms. The size of the firm is determined by the number of employees: 5 to 19 (small), 20 to 99 (medium), and 100 or more (large). Firms with less than five employees are ineligible for the survey. Firms that are 100% state-owned are also ineligible. Partners for the ES have included the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the UK's Department for International Development (DFID).

The surveys are administered to a representative sample¹ of firms in the non-agricultural, formal, private economy.

Sector coverage is defined consistently across all economies and includes the entire manufacturing sector and most services sectors: retail, wholesale, automotive repair, hotels and restaurants, transportation, storage, communications, construction, and IT. Public utilities, government services, health care, and financial services sectors are not included in the sample (Figure 1). The ES interview takes place with top managers and business owners.

The ES are repeated approximately every four years for a particular economy (or region). By tracking changes in the business environment, policymakers and researchers can look at the effects of policy and regulatory reforms on firm performance. Repeated surveys aid in studying the evolution of the business environment and how it affects the dynamics of the private sector.

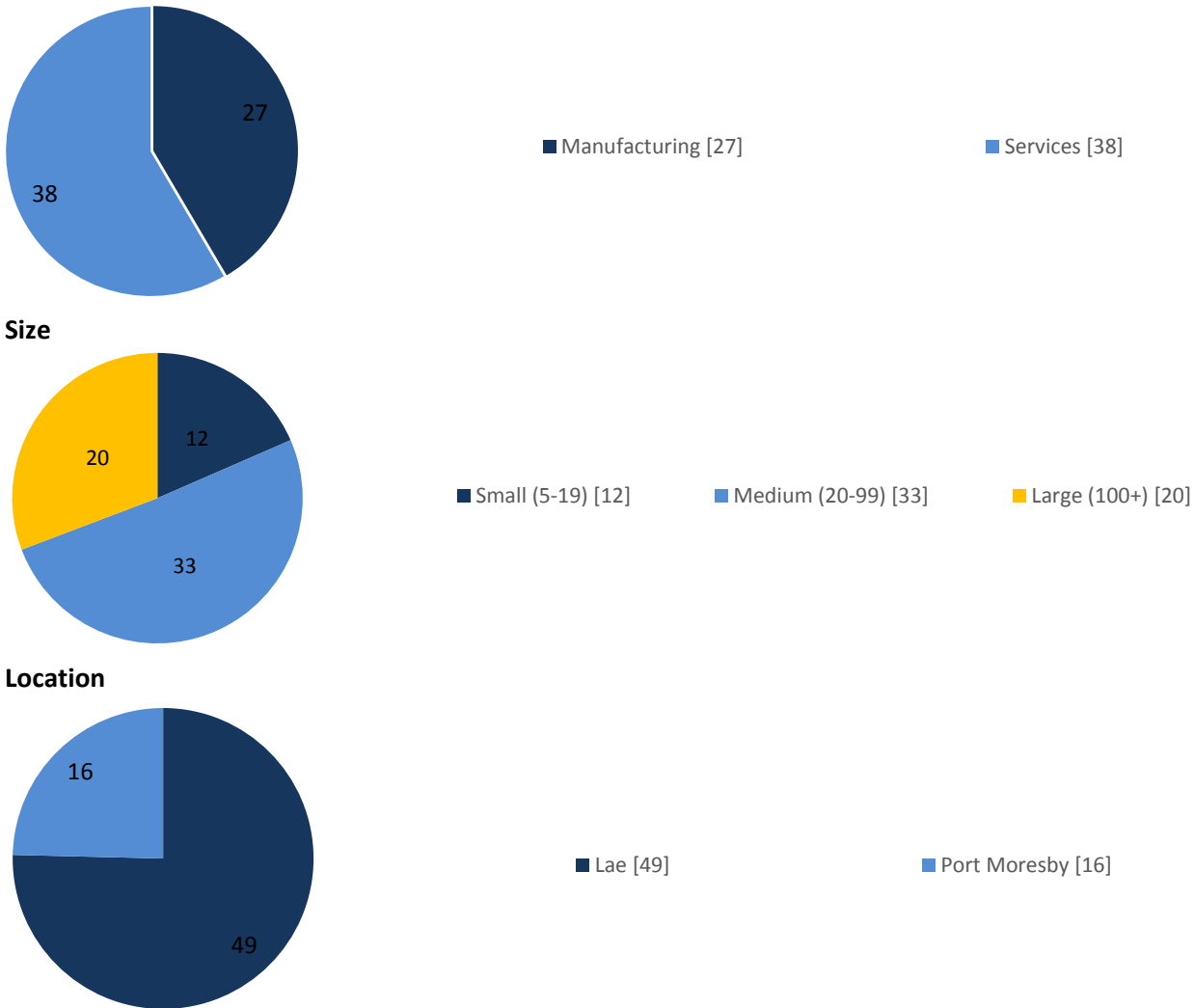
This document summarizes the results of the Enterprise Survey for Papua New Guinea. Business owners and top managers in 65 firms were interviewed from August 2015 to June 2016. Figure 2 provides a description of the sample breakdown across the three survey design categories: business sector, firm size, and location.

Figure 1: Sectors of the economy covered by the Enterprise Surveys

Excluded	Included
SECTORS Agriculture Fishing Mining Public utilities Financial intermediation Public administration Education, health and social work	SECTORS Manufacturing (all subsectors) Construction Motor vehicles sales and repair Wholesale Retail Hotels and restaurants Storage, transportation, and communications IT
ADDITIONAL CRITERIA <ul style="list-style-type: none"> • < 5 employees • Informal firms • 100% state-owned firms 	ADDITIONAL CRITERIA <ul style="list-style-type: none"> • 5+ employees • Formal (registered) firms • Minimum of 1% private ownership

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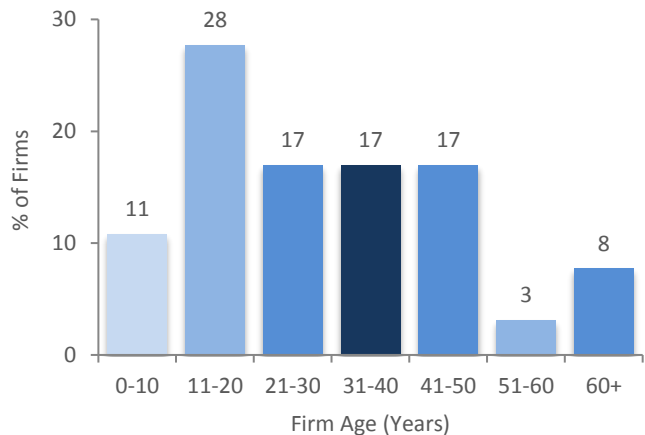
Figure 2: Characteristics of firms surveyed
Sector



Firms Characteristics

In addition to collecting information on the business environment and firm performance, the ES also collect information on characteristics of private firms. Figure 3 shows the distribution of firms in the private sector according to their age, measured by the number of years they have been in operation. The effect of the business environment on firm performance may depend on firms' experience and longevity. Also, older firms and young firms may differ in their ability to successfully navigate the business environment.

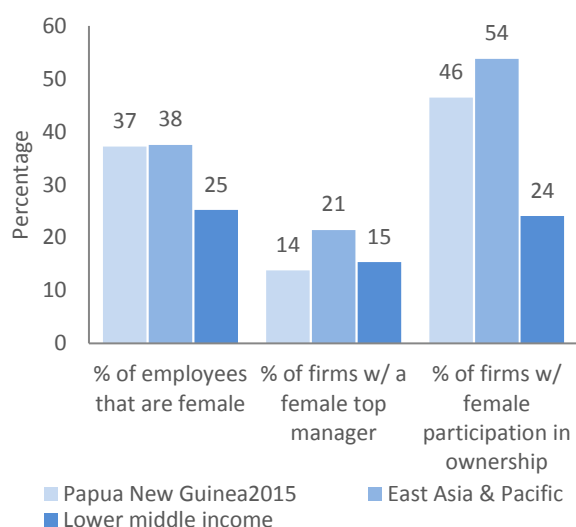
Figure 3: Age distribution of firms (percent of firms)



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Figure 4 exhibits the percentage of female participation in employment, in top management and in firm ownership, compared to the equivalent percentages for the region and for economies with similar income levels. Female inclusion in economic activity is necessary for promoting shared prosperity, one of the twin development goals of the World Bank Group.

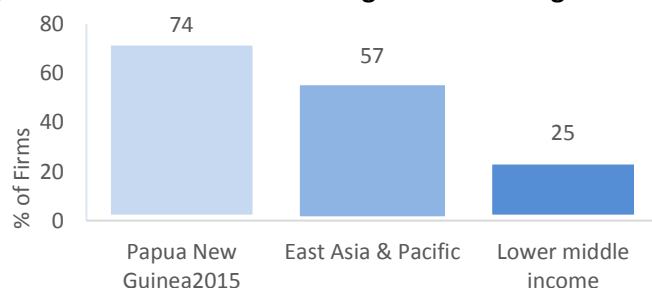
Figure 4: Female participation in employment, top management and ownership



Workforce

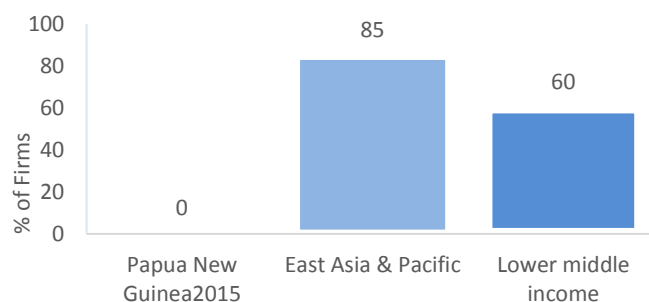
The ES collect workforce information such as the number of permanent full-time employees, the number of temporary employees, employees by gender, whether formal training is offered, and the top manager's experience working in the firm's sector. In addition, for manufacturing firms, the ES also collects the breakdown of the workforce between production and non-production workers and between skilled and unskilled production workers. Figures 5 and 6 highlight firms' investment in the skills and capabilities of their workforce.

Figure 5: Percent of firms offering formal training



The incidence of training is measured by the percent of firms that offer formal training and the intensity of training is measured by the share of workers receiving training in the manufacturing sector.

Figure 6: Within firms offering training, proportion of workers trained*

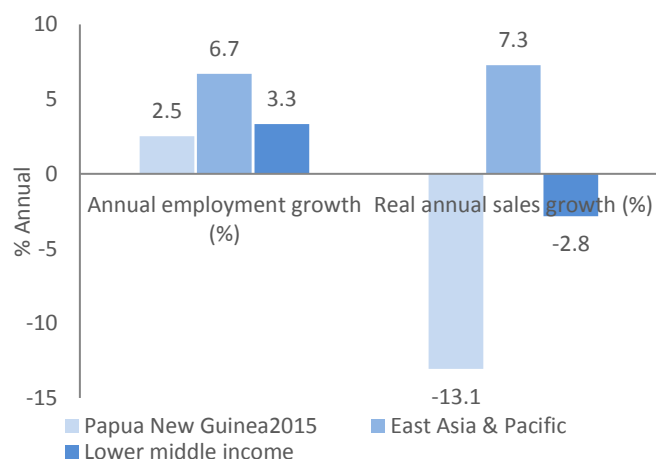


* only for manufacturing firms

Firm performance

If an economy's business environment is supportive and competitive, resources are often channeled to the most productive uses and firms invest to further increase their productivity. Using the responses to questions on annual sales and the total number of permanent full-time employees, both in the last fiscal year and three fiscal years earlier, growth measures can be computed for each firm. Figure 7 displays the resulting annual growth rate in employment and in real sales. By looking at business environment measures in conjunction with available performance measures, policymakers can determine which aspects of the business environment may be impeding or enabling the growth of the private sector.

Figure 7: Annual employment and sales growth



Physical Infrastructure

A well-developed physical infrastructure, including roads, electricity, water and telecommunications, is central to competitiveness and growth of an economy. Quality infrastructure efficiently connects firms to markets for inputs, products, and technologies. It reduces the cost of production and enhances the competitiveness of firms in domestic and international markets.

The ES capture the dual challenge of providing a strong infrastructure for electricity, water supply and telecommunications in addition to information on the development of institutions that effectively provide and maintain these public services.

Efficiency in the operation of the private sector requires a reliable supply of electricity. Figure 8 shows the extent to which firms face failures in the provision of electricity and their effect on sales as measured by the losses they generate. Inadequate electricity provision supply can increase costs, disrupt production, and reduce profitability.

Figure 8: Reliability of electricity supply and related losses

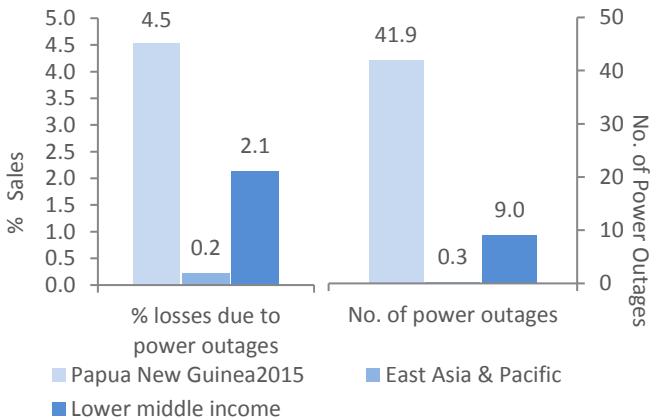
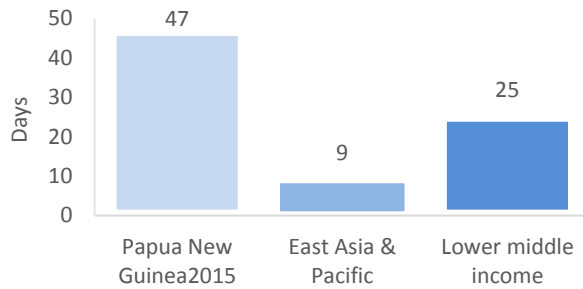


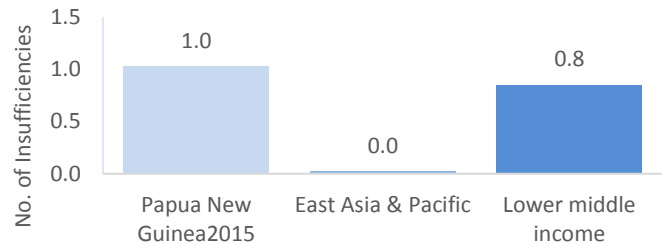
Figure 9 displays the efficiency of infrastructure services by quantifying the number of days it takes to obtain an electricity connection. Service delays impose additional costs on firms and may act as barriers to entry and investment

Figure 9: Days to obtain an electrical connection



For many industries in the manufacturing sector water is also an important input in the manufacturing process. Figure 10 presents the average number of water insufficiencies in a typical month experienced by firms in the manufacturing sector. Interruptions in water provision can have serious harmful effects on firms' operations.

Figure 10: Reliability of water supply*



* only for manufacturing firms

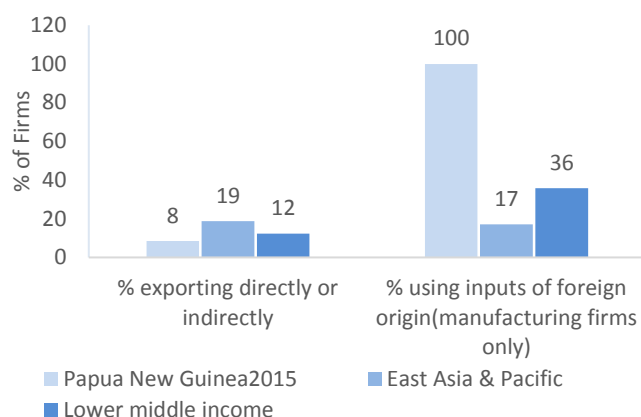
International Trade

Participation in international trade allows firms to expand, raise standards for efficiency, import materials at lower cost, and acquire updated and better technologies. However, trading also requires that firms deal with customs and trade regulations, and often firms are also required to obtain export and import licenses.

The ES quantify the trade activity of firms and collects information on the operational constraints faced when exporting and importing. Figure 11 provides a measure of the intensity of foreign trade in the private sector, captured by percentage of firms' exporting (either directly or indirectly) and also the percentage of manufacturing firms using inputs or supplies of foreign origin.

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Figure 11: Percentage of exporting and importing firms



Efficient customs procedures enable businesses to directly export and import goods. Figure 12 displays the average number of days to clear customs for exports and imports. Delays in clearing customs for exports and imports create additional costs to the firm, can interrupt production, interfere with sales, and may result in damaged supplies or merchandise.

Figure 12: Average days to clear exports and imports through customs



Access to Finance

Well-developed financial markets provide payment services, mobilize deposits, and facilitate funding for the purchase of fixed assets – such as buildings, land, machinery, and equipment – as well as working capital. Efficient financial markets reduce the reliance on internal funds or informal sources such as family and friends by connecting firms that are creditworthy to a broad range of lenders and investors.

The ES provide indicators on the sources of firms financing and on the characteristics of their financial transactions.

Figure 13 compares the various sources used to finance purchases of fixed assets (investments). Investment purchases can be financed by internal sources, banks, inputs' supplier credit, or other sources, including non-bank financial institutions or personal networks. Excessive reliance on internal funds may indicate potentially inefficient financial intermediation.

Figure 14 displays two indicators of the use of financial services by private firms: the percentage of firms with a checking or savings account and the percentage of firms with a bank loan. The former indicator measures the use of deposit mobilization services which helps firms to manage their liquidity and payments. The second indicator measures the use of financial services on the credit side. Availability of credit permits funding projects that otherwise would be constrained by each firm's limited pool of funds.

Figure 13: Sources of financing for purchases of fixed assets

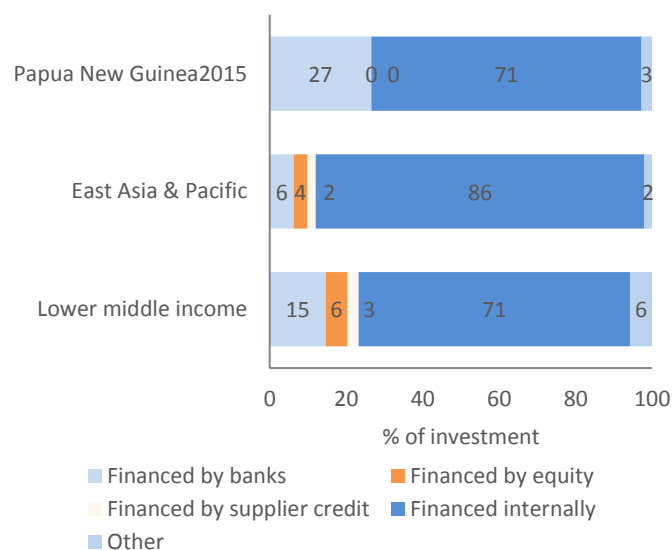
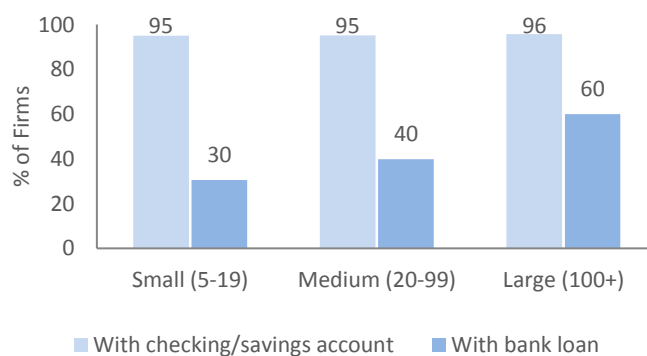


Figure 14: Use of financial services

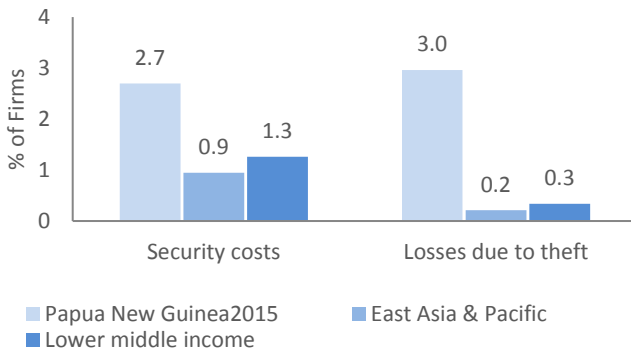


Crime and Informality

Firms can become the target of theft, robbery, vandalism, or arson. Protecting themselves against crime imposes costs as firms are forced to divert resources from productive uses to cover security costs. Moreover, both foreign and domestic investors perceive crime as an indication of social instability, and crime drives up the cost of doing business.

Figure 15 displays the direct costs of security incurred by firms as well as their losses due to crime. These resources represent the opportunity cost of crime since they could have been invested in productive activities.

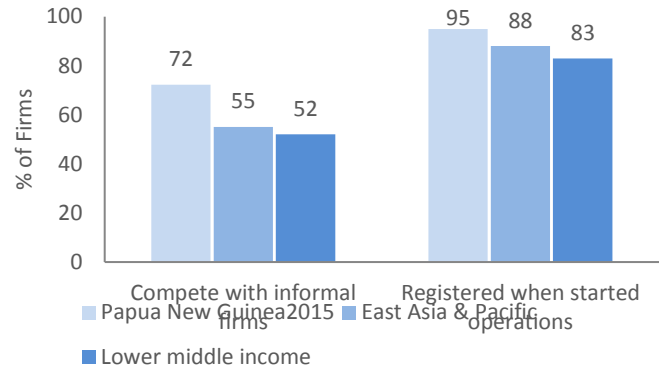
Figure 15: Firms' cost of crime



When firms are formally registered, they are required to abide by rules and regulations, which are commonly set by governments. Paying taxes is usually the most tangible consequence of becoming part of the formal private sector. Some firms try to avoid these consequences by not registering their business and thereby remaining in the informal sector. A large informal sector may represent a challenge to competing formal firms as informal firms are able to engage in practices that can give an unfair advantage over formal firms that must comply with the prevailing rules and regulations.

Figure 16 provides two measures of the incidence of informality in the private sector. The first indicator is the percentage of firms that indicate that they face competition from unregistered or informal firms. The second indicator is the percentage of currently registered firms that started operations being formally registered.

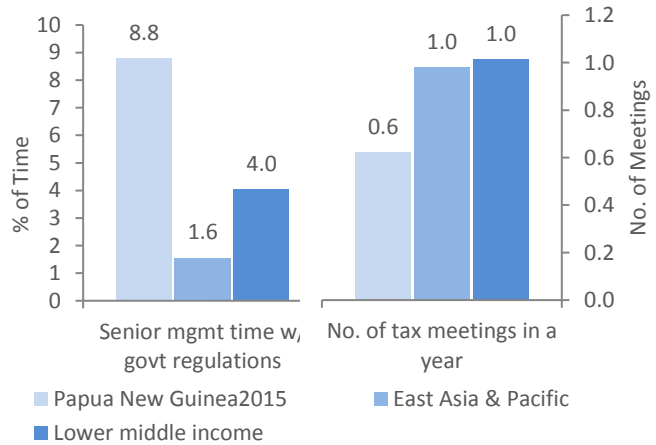
Figure 16: Firms and informality



Regulations, Permits, and Taxes

Good economic governance in areas such as regulations, business licensing, and taxation is a fundamental pillar of a favorable business environment. Registered firms pay taxes and are supposed to comply with regulations.

Figure 17: Time tax and meetings with tax officials



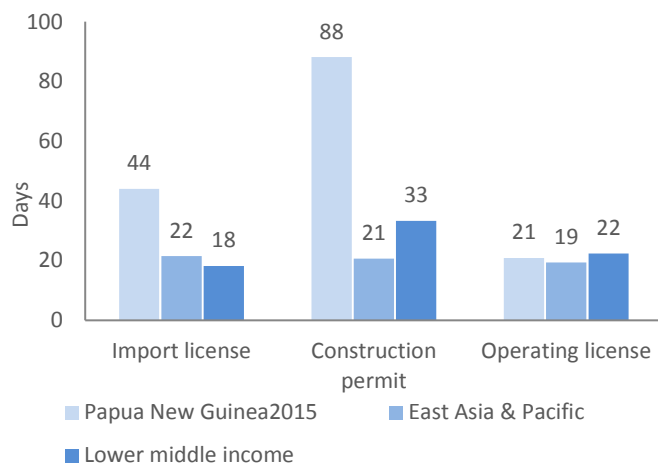
Permits and licenses are usually required for business to operate, build a new structure, and to import directly, among other activities. Ideally, these regulations and permits safeguard the general public's interest while remaining transparent and not imposing heavy burdens on the private sector.

The ES provide quantitative measures of regulations such as business licensing and taxation. Figure 17 illustrates the "time tax" imposed by regulations, which is the percentage of time spent by senior management dealing with regulatory compliance. Figure 17 also presents the number of required meetings with tax officials in a year. Figure 18 focuses on the efficiency of business licensing and permit services. The indicators measure the time

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required to obtain an import license, a construction permit, and an operating license. Delays in obtaining licenses can be costly to entrepreneurs as they add uncertainty and additional costs to much needed business transactions.

Figure 18: Number of days to obtain permits



Complying with regulations is costly for businesses. Excessive or inefficient regulations can discourage private sector activity and foreign direct investment.

Corruption

Corruption by public officials can be a major administrative and financial burden on firms. Corruption creates an unfavorable business environment by undermining operational efficiency and raising the costs and risks associated with running a private firm.

Inefficient regulations constrain firms' operations as they present opportunities for soliciting bribes, where firms are required to make "unofficial" payments to public officials to get things done. In many economies bribes are common and quite high and they add to the bureaucratic costs in obtaining required permits and licenses. They can be a serious impediment for firms' growth and development.

Figure 19 provides a composite index of corruption, the bribery incidence, that reflects the percentage of firms experiencing at least one bribe payment request across six different transactions including paying taxes, obtaining permits or licenses, and obtaining utility connections.

The ES capture individual transactions where bribes may be solicited. Figure 20 displays the extent to which firms

are requested to pay a bribe in order to receive selected public services. Businesses may be asked to pay bribes when they request a construction permit, while trying to secure a government contract, or during meetings with tax officials. These three types of transactions are common instances where opportunities for bribery occur.

Figure 19: Bribery Incidence (percent of firms experiencing at least one bribe payment request)

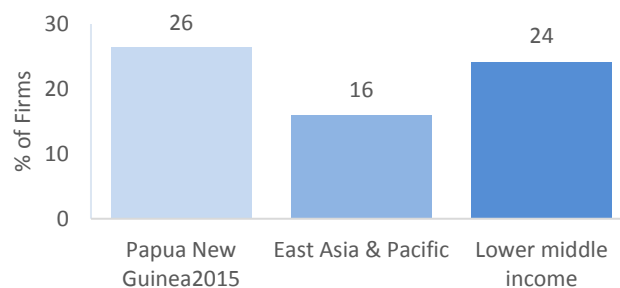
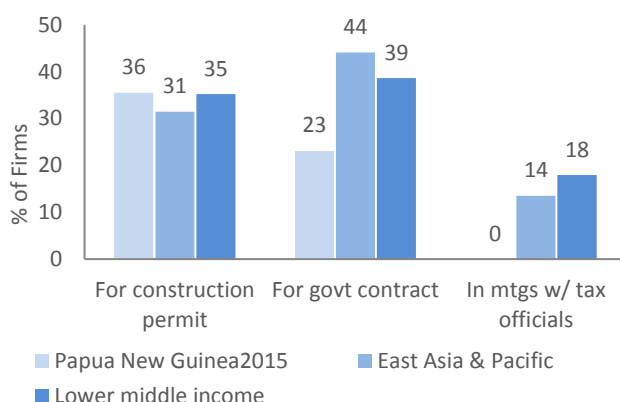


Figure 20: Percentage of firms requested or expected to give gifts or informal payments



Business Environment Obstacles

Most indicators in the ES are derived from survey questions that ask businesses for their actual experiences dealing with the business environment. For example, "How many days did it take to get a permit?" or "How many hours did the power outage last?". A small number of survey questions ask business owners or top managers for their subjective opinion regarding the importance of various business environment elements.

Figure 21 shows the percentage of firms that consider a specific business environment obstacle as the most important one. The respondent was asked to choose the biggest obstacle to their business from a list of 15 business environment obstacles. The figure presents the

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top 10 ranking obstacles compared to the regional averages.

Figure 22 displays the top 10 obstacles for small, medium, and large firms. In many economies, the perceptions of managers of large firms are very different from the perceptions of managers of medium and small firms. This

is related to the capacity to navigate business environment obstacles: larger firms may have more options to face obstacles but at the same time they are also more visible and more exposed to failures of the business environment.

Figure 21: Top ten business environment constraints (percent of firms)

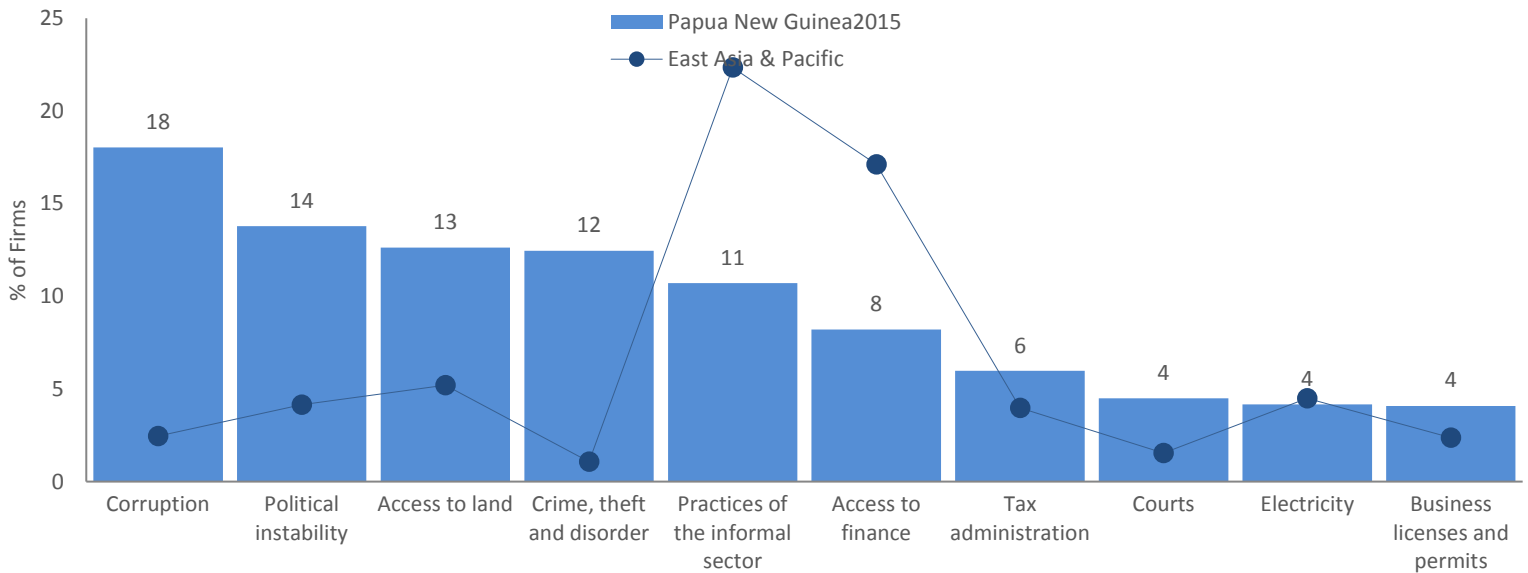
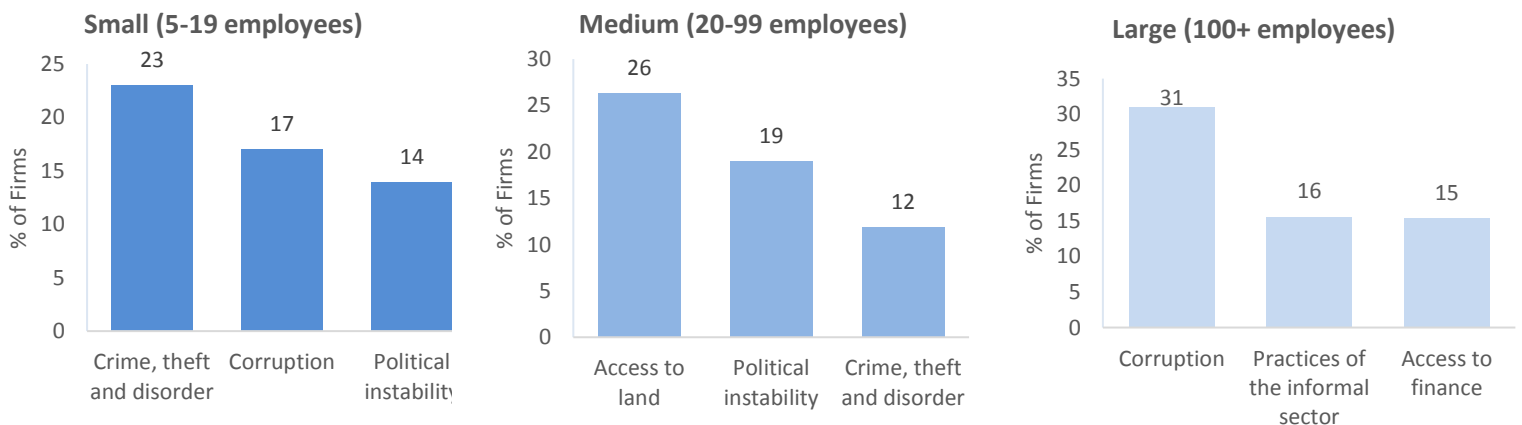


Figure 22: Top three business environment constraints by size (percent of firms)



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Appendix

The following tables contain the values of all indicator variables used in the country profile.

	Papua New Guinea 2015	Small firms	Medium firms	Large firms	East Asia & Pacific	Lower middle income
Firm Characteristics						
Age of the establishment (years)	27.7	29.8	29.3	24.7	13.3	16.6
Gender						
Percent of firms with female participation in ownership	46.5	37.4	66.3	24.3	53.8	24.0
Percent of firms with a female top manager	13.8	19.4	9.2	17.3	21.4	15.4
Proportion of permanent full-time workers that are female (%)	37.2	39.5	41.6	29.3	37.5	25.2
Percentage of permanent full-time non-production workers that are female.	40.0	40.0	20.0	45.5	39.2	20.4
Percentage of permanent full-time production workers that are female.	26.3	n.a.	40.0	22.5	37.3	18.1
Workforce						
Percent of firms offering formal training	73.7	69.0	77.4	70.8	56.9	25.3
Proportion of workers offered formal training (%)*	n.a.	n.a.	n.a.	n.a.	84.9	60.3
Years of the top manager's experience working in the firm's sector	22.5	20.2	18.8	28.2	14.8	14.5
Number of permanent full-time workers	135.9	11.7	44.4	304.1	50.1	40.3
Number of temporary workers	7.0	0.9	4.1	13.4	4.9	5.0
Number of permanent production workers*	99.8	8.3	30.9	168.3	71.0	52.3
Number of permanent non-production workers*	79.9	3.9	13.4	148.6	18.6	11.9
Number of permanent skilled production workers*	68.6	8.3	25.3	112.0	36.7	37.1
Number of permanent unskilled production workers*	31.9	0.0	5.8	56.3	37.5	14.2
Proportion of unskilled workers (out of all production workers) (%)*	19.9	0.0	16.6	24.7	43.8	28.2
Performance						
Real annual sales growth (%)	-13.1	-14.2	-11.2	-15.0	7.3	-2.8
Annual employment growth (%)	2.5	-7.4	5.4	3.3	6.7	3.3
Infrastructure						
Number of electrical outages in a typical month	41.9	22.8	41.9	50.3	0.3	9.0
Losses due to electrical outages (% of annual sales)	4.5	6.6	3.9	4.5	0.2	2.1
Days to obtain an electrical connection (upon application)	47.1	17.3	61.1	49.8	9.3	25.3
Number of water insufficiencies in a typical month*	1.0	0.0	2.3	0.0	0.0	0.8
Trade						
Days to clear direct exports through customs	9.8	n.a.	15.0	7.0	7.5	6.3
Percent of firms exporting directly or indirectly (at least 1% of sales)	8.4	23.0	6.7	4.3	18.8	12.2
Days to clear imports from customs*	15.8	3.8	14.9	17.8	9.5	9.1
Percent of firms using material inputs and/or supplies of foreign origin*	100.0	100.0	100.0	100.0	17.0	35.8
Finance						
Percent of firms with a checking or savings account	95.3	94.9	95.1	95.7	85.3	74.9
Percent of firms with a bank loan/line of credit	45.7	30.5	39.8	59.9	26.8	25.0
Proportion of investment financed internally (%)	70.6	61.7	74.6	68.2	85.9	71.0
Proportion of investment financed by banks (%)	26.6	22.9	25.4	28.8	6.2	14.6
Proportion of investment financed by supplier credit (%)	0.0	0.0	0.0	0.0	2.2	2.9
Proportion of investment financed by equity or stock sales (%)	0.0	0.0	0.0	0.0	3.6	5.7
Crime						
Security costs (% of annual sales)	2.7	1.0	3.8	1.9	0.9	1.3
Losses due to theft and vandalism against the firm (% of annual sales)	3.0	2.2	2.6	3.7	0.2	0.3
Informality						
Percent of firms competing against unregistered or informal firms	72.3	77.9	72.5	69.7	55.1	52.0

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Percent of firms formally registered when they started operations in the country	95.0	88.5	93.3	100.0	88.0	83.0
Regulations and Taxes						
Senior management time spent dealing with the requirements of government regulation (%)	8.8	5.6	11.1	7.0	1.6	4.0
Number of visits or required meetings with tax officials	0.6	0.7	0.6	0.6	1.0	1.0
Days to obtain an import license	44.0	10.0	93.3	30.2	21.5	18.2
Days to obtain a construction-related permit	88.1	90.0	157.5	65.6	20.6	33.3
Days to obtain an operating license	20.9	20.0	26.1	17.5	19.4	22.3
Corruption						
Bribery incidence (percent of firms experiencing at least one bribe payment request)	26.4	0.0	23.5	37.7	15.9	24.2
Percent of firms expected to give gifts to get a construction permit	35.5	0.0	9.5	46.2	31.5	35.2
Percent of firms expected to give gifts to secure government contract	23.1	0.0	8.0	36.1	44.1	38.6
Percent of firms expected to give gifts in meetings with tax officials	0.0	0.0	0.0	0.0	13.5	17.9
Biggest Obstacle						
Access to finance	8.2	0.0	5.4	15.4	17.1	11.6
Access to land	12.6	0.0	26.4	0.0	5.2	3.8
Business licenses and permits	4.1	0.0	1.8	8.8	2.4	3.4
Corruption	18.0	17.0	8.5	31.0	2.5	11.0
Courts	4.5	11.5	5.6	0.0	1.5	1.1
Crime, theft and disorder	12.5	23.0	11.9	8.7	1.1	2.9
Customs and trade regulations	0.0	0.0	0.0	0.0	3.0	3.1
Electricity	4.2	11.5	0.0	6.5	4.5	9.5
Inadequately educated workforce	3.1	0.0	4.9	2.2	9.4	4.3
Labor regulations	0.0	0.0	0.0	0.0	2.7	3.2
Political instability	13.8	13.9	18.9	6.9	4.2	12.3
Practices of the informal sector	10.7	11.5	6.7	15.6	22.3	17.1
Tax administration	6.0	11.5	4.9	5.0	4.0	2.8
Tax rates	2.3	0.0	4.9	0.0	13.9	10.8
Transportation	0.0	0.0	0.0	0.0	6.3	3.1

* These indicators are computed only for the manufacturing sector

1. The sample for each economy is stratified by industry, firm size, and geographic region. The level of detail of the stratification by industry depends on the size of the economy. Stratification by size follows the three levels presented in the text: small, medium, and large. Regional stratification includes the main economic regions in each economy. Through this methodology estimates for the different stratification levels can be calculated on a separate basis while, at the same time, inferences can be made for the non-agricultural private economy as a whole. For more details on the sampling strategy, review the Sampling Note available at www.enterprisesurveys.org.