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# Does Less Market Entry Regulation Generate More Entrepreneurs?

## Evidence from a Regulatory Reform in Peru

Sendhil Mullainathan and Philipp Schnabl

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### 5.1 Introduction

Starting a new business in a developing country is difficult. Aspiring entrepreneurs often need to spend large amounts of time and money to formally open a new business. As a result, many entrepreneurs in developing countries avoid official licensing procedures by operating informally or not operating at all. Starting with De Soto (1990), a large literature has pointed toward official licensing procedures as an important constraint on entrepreneurial activity in developing countries. This constraint on entrepreneurial activity in turn stifles innovation, reduces competition, and lowers economic growth. However, there is little empirical evidence on whether reductions in licensing procedures indeed generate more entrepreneurial activity.

To address this question, we analyze the impact of licensing procedures on entrepreneurial activity by studying a reform of municipal licensing procedures in Lima, Peru. The reform reduced the cost and time to register for a municipal business license. We study this specific reform for two reasons. First, by analyzing a change in licensing procedures, we can identify the impact of licensing procedures on entrepreneurial activity separately from

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other factors affecting entrepreneurial activity. Second, this type of licensing reform is similar to policies currently undertaken by many governments in developing countries, and the findings are thus relevant elsewhere.

Our analysis shows that the reform of licensing procedures had a large positive impact. The reform reduced the median licensing time by 60 percent, from forty to sixteen days, and lowered the average licensing cost by 42 percent, from \$212 to \$124. As a result, the number of newly licensed firms increased fourfold, from 1,758 in the year before the reform to 8,517 in the year after the reform. This increase of newly licensed firms represents a 43 percent increase in total licensed businesses.

To understand the reasons for this large increase in newly licensed firms, we conduct interviews with a random sample of 200 newly licensed firms before and after the reform. We distinguish between two types of businesses: businesses that have been operating informally prior to applying for a license and businesses that have not. We find that about 75 percent of the increase is due to businesses that have operated informally before applying for a license, and 25 percent of the increase is due to newly established businesses. Since informal businesses can only switch once, we estimate that about 75 percent of the increase in newly licensed businesses is temporary and 25 percent is permanent.

To understand the motivation for obtaining a license, we interview newly licensed firms about their reasons for applying for a municipal license. Both before and after the reform, the most important reason for applying for a license is to avoid paying fines and bribes. Other reasons such as access to credit or the ability to enforce contracts are far less important. We explain this result by the fact that the municipal license is only one part of a longer process to formalize a business, and most benefits usually associated with formalization are linked to other parts of the licensing process. For example, our interviews suggest that access to credit is linked to obtaining a tax identification number, which is a required step prior to applying for a municipal license.

Overall, we interpret our results as evidence that organizational reform can have a large impact in an environment in which bureaucrats lack the incentives to provide efficient services. We think this lack of incentives is caused by the absence of an organized constituency for new businesses, since the benefits of better licensing procedures are highly dispersed. Instead, the licensing process provides opportunities for bureaucrats to extract rents from businesses, which in turn generates incentives to maintain a costly and time-consuming licensing process. Over time, the lack of a constituency combined with opportunities for rent extraction leads to an environment in which even simple changes aimed at improving the licensing process are not implemented. Hence, in this type of environment, an organizational reform can have a large impact on the quality of public services.

This chapter relates to a large theoretical and empirical literature on regu-

lation. The first study of entry regulation was conducted by De Soto (1990), who documented the large cost of licensing a new business. More recently, Djankov et al. (2002) conducted a cross-country study of market entry regulation in eighty-five countries. They find that all countries regulate market entry, but high-income countries regulate market entry less than low-income countries. The authors find no evidence of public benefits of regulation and conclude that market entry regulation is set up to extract rents from businesses. Klapper, Amit, and Guillén (chapter 4 in this volume) analyze the determinants of business registration using cross-country panel data. They find that countries with a higher level of economic development and better governance have higher registration rates. Their findings suggest that more extensive market entry regulation can reduce entrepreneurial activity.

This chapter also relates to the literature on the characteristics of entrepreneurs in developing countries. Mondragón-Vélez and Peña (chapter 3 in this volume) find that business owners in Columbia have higher education and receive higher incomes than self-employed workers. De Mel, McKenzie, and Woodruff (chapter 2 in this volume) find a similar relationship for microenterprises in Sri Lanka. Using Brazilian data, Djankov et al. (2009) show that family characteristics are important determinants of entrepreneurship. These findings are consistent with the characteristics of new entrepreneurs in Peru.

The novel contribution of this study is to use a reform of licensing procedures in a single country in order to study the impact of entry regulation on entrepreneurial activity. The advantage of this approach is that it controls for time-invariant variables such as the extent of market failures that may prompt licensing procedures in the first place.

## 5.2 Background and Intervention

### 5.2.1 Project Selection

In 2004, the Municipality of Lima (henceforth Municipality) and the World Bank Foreign Advisory Services (FIAS) jointly conducted a study on the main barriers to investment in Peru. The study identified licensing procedures as the most important barrier to investment and new business activity. In particular, the study highlighted the municipal business-licensing process as burdensome. The study showed that about 65 percent of the total cost of licensing a new business was due to procedures administered by the Municipality.

As a result of this study, the Municipality and the International Finance Corporation (IFC), a part of the World Bank Group, decided to implement a pilot program to simplify municipal licensing procedures. The project team decided to implement the pilot project in one out of forty-five districts in Lima, the capital of Peru. The reason they chose a single district was

because districts have autonomy in structuring the licensing process, and it was deemed too costly to reform the processes in all districts at the same time.

The project team chose the Central District of Lima for the project. This decision was based on three reasons. First, the Central District is economically the most important district with the largest number of businesses. Second, the project team had estimated that a large number of businesses were operating without a municipal license in the Central District.<sup>1</sup> Third, the Central District was broadly representative of other districts in terms of the cost of licensing a business and in terms of the length of the licensing process. The project team therefore expected the findings to be relevant for other districts.

### 5.2.2 Licensing Process

The licensing process in Peru can be separated into two parts. The first part deals with the incorporation of a company and the issuance of a tax identification number (RUC). This part is regulated and administered by the federal government. The second part deals with the issuance of an operating license, usually referred to as a municipal business license. This part is regulated by the Municipality and administered by the districts.

In this chapter, we focus our discussion on the second part of the licensing process: the municipal business license (henceforth municipal license). The reason is that the second part of the process was the target of the reform, whereas the first part of the licensing process was not affected by the reform. This is important, because some benefits of licensing are primarily associated with the first part of the licensing process, while other benefits are associated with the second part. Based on qualitative interviews, we learned that some businesses finish only the first part of the licensing process, because they think that the second part does not offer enough benefits to justify the costs. Usually, this means that these businesses receive a tax identification number from the federal government but fail to obtain a municipal license from the Municipality. In the results section, we discuss how these businesses may affect the interpretation of our results.

For the remainder of the chapter, we define firms that have not finished the entire licensing process as informal. This definition is chosen because our analysis focuses on firms that are applying for a municipal license, independent of whether they had previously completed the first part of the licensing process.

1. Prior to the reform, the Central District business register contained 13,948 active municipal licenses, whereas the Cadastral Register counted more than 50,000 locations that pursued economic activities in the Central District. The difference between the two registries suggested that at least three-quarters of all businesses operated without a municipal license.

### 5.2.3 Municipal License Prior to the Reform

Prior to the reform, the municipal business-licensing process can be separated into four main requirements.<sup>2</sup> The first requirement was that businesses had to submit a business license application. In order to submit an application, the business owner had to purchase an application form, complete the form, and submit the form, together with a detailed plan and description of the business establishment. The plan and the description had to be certified by a licensed architect. In the application, the business owner had to choose between applying for a permanent or for a provisional license. The main difference between the two licenses was that the provisional license only lasted for a year but required a lower initial payment.

The second requirement was that the business owner had to have his business activity approved. In order to gain approval, the Municipality checked whether the business activity had been classified according to its official classification system. Loosely speaking, classified activities were traditional business activities (e.g., retailing), whereas unclassified business activities were business activities that had emerged more recently (e.g., information technology services). If a business activity was classified, the activity was automatically approved. If a business activity was not classified, the business owner had to file a separate license (CCU) in order to gain approval. Importantly, earlier approvals of similar activities did not establish precedent, which meant that each business in an unclassified business activity had to submit a new application.

The third requirement was that businesses had to undergo several inspections. All business owners were required to undergo one inspection by the Civil Safety Authority (Defensa Civil), one inspection by the Cadastral Registry, and one inspection by a certified architect. If the business was located in Lima's historical district or operated in a historical monument, the business also had to undergo inspections by two other agencies. In practice, the most burdensome inspection was the one conducted by the Civil Safety Authority. Many business owners needed to undergo the inspections several times in order to comply with all requirements.

The fourth requirement was that business owners had to have their business location approved in accordance with zoning laws. Some areas in Lima were open to all business activities, whereas other areas were reserved for specific types of business activities. The business owners had to ensure that the business activity was permitted in their area. If the business activity was not permitted, then they had to file an exemption. In this case, the business

2. The licensing process prior to the reform was regulated in Ordenanza 282 (El Alcalde Metropolitano de Lima 2002).

had to undergo a similar process to the one required for approval of unclassified business activities.

Additionally, there were special regulations for businesses pursuing high-risk activities (e.g., gas stations), businesses larger than 500 square meters, and businesses located in shopping malls. Most importantly, businesses located in shopping malls could only apply for a license if the shopping mall fulfilled additional safety requirements set out by the National Institute of Civil Safety (INDECI).

#### 5.2.4 Assessment of the Licensing Process

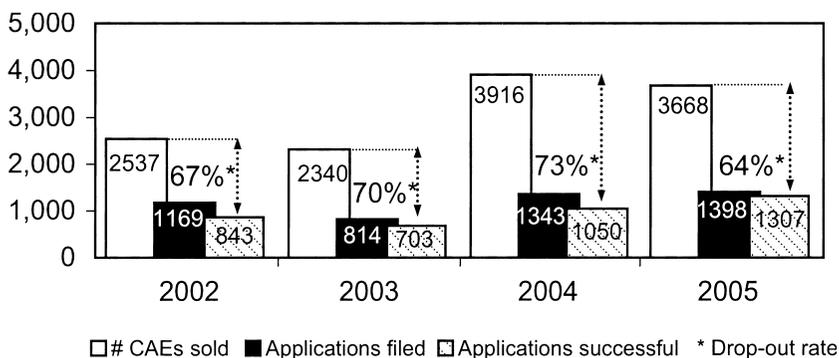
In practice, the municipal licensing process represented a challenging hurdle for many businesses. One measure of the difficulty to obtain a license was the dropout rate during the process. We measure dropout as the share of businesses that were successfully licensed out of all businesses that had purchased a business application form. We use this measure because purchasing an application form was a good indicator of a business's intention to obtain a license.

Figure 5.1 reports the number of business application forms sold and the number of successful applications for the years 2002 to 2005. On average, only about 30 percent of businesses that purchased an application form eventually finished the application process. This low success rate shows that many businesses wanted to obtain a municipal license but did not manage to complete the process. In fact, this measure of success is an upper bound, because some businesses dropped out before purchasing an application form or never applied once they learned about the details of the licensing procedures.

In order to understand the obstacles to obtaining a municipal license, the Municipality and the International Finance Corporation commissioned a study to analyze the licensing process. The study identified several problems that caused the large dropout rate.<sup>3</sup> First, the Municipality had outdated and bureaucratic internal processes for dealing with business owners. For example, only the manager of the licensing department was authorized to sign licenses, which meant that if the manager was out of the office, no licenses were issued. More generally, there was no sequencing of procedures, and the various internal offices were uncoordinated. As a result, some business owners were sent back and forth between offices without any direct communication between the offices.

Second, the business activities classification was outdated, and it was too difficult to register a new business activity. As a result, many businesses in unclassified business activities decided to drop out during the application process. For example, in 2004, only 1 percent of the applications filed

3. The discussion of the licensing process is based on *Secretaría Técnica para la Simplificación de Trámites* (2006a, 2006b).



**Fig. 5.1 Dropout rate prior to the reform**

*Note:* This figure reports the total number of application forms (CAE) sold, the number of applications filed, and the number of successful applications. The dropout rate is computed as the share of business applications that did not result in a successful application. The figure shows that about two out of three businesses dropped out of the application process prior to the reform.

included an application for a new business activity. Several members of the licensing office suggested that this low number was due to the costly and time-consuming process of approving a new business classification.

Third, the inspections were often carried out with delays, and there were no clear rules on the requirements that a business had to satisfy. In particular, many businesses failed inspections carried out by the Civil Safety Authority. One reason for this difficulty was that the Municipality never issued guidelines on the requirements for inspections by the Civil Safety Authority. This made it impossible for business owners to properly prepare for the inspection.

Fourth, some of the zoning classifications were outdated. For example, in the mid-1990s, the Municipality decided to establish a cultural area in the historic center of Lima. This area was restricted to bookstores, theaters, and entertainment businesses. However, there was little demand for such services in the historical center; instead, the area attracted many optometrists. Since zoning rules did not allow optometrists in these locations, many businesses applied for an exemption. This process took significantly longer than the regular process, and only a few optometrists eventually finished the process.

Fifth, some of the additional requirements were difficult to satisfy. In particular, the requirement for businesses located in shopping malls turned out to be a barrier for obtaining a license. The reason was that prior to the reform, only two out of about 150 shopping malls were properly licensed so that businesses within those shopping malls could apply for their own licenses. Some businesses in unlicensed shopping centers still managed to get a license, but it required more effort, and many of these applications were denied.

Finally, many businesses complained about the erratic enforcement of licenses. Sometimes, the Municipality would send out inspectors to close down businesses that did not have a license. In practice, inspectors rarely ordered the closure of businesses; instead, businesses had to pay a fine for failing to have a municipal license, and some businesses reported paying a bribe. In qualitative interviews, many business owners reported that the main motivation to obtain a municipal business license was to avoid the hassle of paying such fines and bribes.

### 5.2.5 Reform of the Licensing Process

In 2004, the Municipality and the International Finance Corporation set up a joint project team to reform the licensing process in order to reduce the cost of obtaining a municipal license.<sup>4</sup> The main elements of the reformed process were (a) an improved coordination within the Municipality, (b) a faster process for businesses deemed as low safety risks, (c) a single multi-purpose inspection, and (d) an overhaul of outdated business classifications and zoning laws.<sup>5</sup> We discuss each element in detail.

To improve coordination among internal offices, the Municipality decided to assign a single contact person to each business owner. Under the new licensing process, the business owner only communicates directly with the assigned contact person, and the contact person is in charge of coordinating all internal offices. To facilitate this new structure, the project team reorganized the internal processes within Municipality to allow for better communication across offices.<sup>6</sup>

To speed up the licensing process, the Municipality decided to link the licensing process more closely to the public safety risks posed by a new business. The Municipality now classifies businesses into low-risk and high-risk activities. The new classification is based on the United Nations Standard Industrial Classification in order to allow for regular updates following international standards. Based on historical data, about 78 percent of businesses are classified as low risk, which means that the vast majority of new firms were expected to benefit from the new risk-based classification.

With respect to inspections, the Municipality decided that businesses only need to undergo a single multipurpose inspection. This new inspection is car-

4. The reform of the licensing process is described in International Finance Corporation (2006).

5. The new licensing process is regulated in Ordenanza 857 (El Alcalde Metropolitano de Lima 2005).

6. One of the authors participated in a one-day workshop to develop the reformed process. The most surprising experience was that many ideas discussed at the workshop seemed simple to implement and elicited broad support from all participants. For example, several people complained that office managers had no assigned deputies, which meant that some offices would practically shut down if the office manager was absent. Apparently, many people had previously voiced this complaint, but before the reform process, it never resulted in changes in the organizational structure.

ried out by the Civil Safety Authority and combines all previous inspections. Importantly, the Municipality decided to issue an official list that specifies all the requirements that a business owner has to satisfy. The list was intended to help business owners to prepare for the inspection. Moreover, for low-risk businesses, the Municipality changed the timing of the inspection.<sup>7</sup> Prior to the reform, the Municipality only granted a license after a successful inspection. Since the reform, the Municipality now grants a license after the application is approved but before the inspection is carried out. This change in timing puts the burden on the Municipality to revoke a license rather than to grant a new license. Most importantly, if the Municipality fails to carry out an inspection, the business is automatically licensed.

The Municipality also updated the business classification and zoning laws. The new business classification system and some of the zoning rules<sup>8</sup> are applicable in all districts in Lima. The Municipality also developed a new process to ensure that new business activities are classified regularly as they emerge.

Finally, the project team developed a number of simple organizational changes to facilitate and speed up the licensing process. The most important ones were (a) the development of a central payment facility, (b) the integration of outside-display applications with the business license, and (c) the creation of a customer care division. The Municipality also lowered the official fees for applying for a license.

One important aspect of the reform was that it did not require any legal changes. After the reform, businesses still had to satisfy the same legal requirements as before the reform. Thus, the reform affected only the administration of the licensing requirements by the Municipality without changing the legal requirements.

## 5.3 Evaluation Methodology and Results

### 5.3.1 Methodology

We evaluate the project using a before-after analysis. The before-after analysis compares outcomes before and after the reform and attributes changes to the reform. The analysis relies on the assumption that there are no other confounding factors that affect the outcomes of interest, such as seasonal variation or other changes in the Municipality. We think this assumption is reasonable in the context of this analysis, because we observe

7. Specifically, a business is low risk if (a) the area of the business is smaller than 100m<sup>2</sup>; (b) the business location has not been declared to be in a ruinous, uninhabitable, collapsed, or similar state; (c) the business is not operating in a declared historical monument; and (d) no dangerous, toxic, or highly flammable products are stored or sold.

8. In other districts, zoning-rule changes took place along the principal roads, the so-called *Vias Collectoras*.

an immediate and strong impact directly after the reform. However, we discuss potential confounds in the result section and conduct some robustness checks to ensure the validity of our assumption. In particular, we conduct two rounds of interviews with newly registered firms before the reform in order to identify time trends in the main outcome variables. The analysis shows little evidence of trends.

We use two main data sources to evaluate the reform: administrative records and interviews with newly licensed businesses. We obtained the administrative records directly from the Municipality. With respect to the interviews, we conducted four rounds of interviews with newly registered businesses. Two of the rounds were conducted before the reform, and two rounds were conducted after the reform. One of the rounds after the reform cannot be compared directly to the other rounds, because only firms in low-risk activities were sampled. This sampling method was chosen to conduct a preliminary evaluation of the reform in the summer of 2006. We therefore report all results using data from the three interview rounds in which all firms were sampled. To check robustness, we replicate our results using all four interview rounds for firms in low-risk activities and find quantitatively and qualitatively similar results.

We also conducted qualitative interviews with a subsample of newly licensed businesses. In each interview round, we interviewed ten additional firms about their impression of the licensing procedures. We also interviewed several government officials working in the Municipality. These qualitative interviews help to develop a better understanding of the intervention and its impact on newly licensed businesses.

Finally, we only interviewed firms that were applying for a permanent license. Initially, we chose this restriction because our analysis of historical data showed that almost all licensees were permanent licensees. However, during the interim evaluation in the summer of 2006, we found that there was a significant and unexpected increase in the number for provisional licenses. Hence, in the last interview round, we added twenty additional firms that had obtained provisional licenses. To ensure consistency across rounds, we use the interviews for the interpretation of our results but do not include the data on provisional licenses in the quantitative analysis.

### 5.3.2 Results

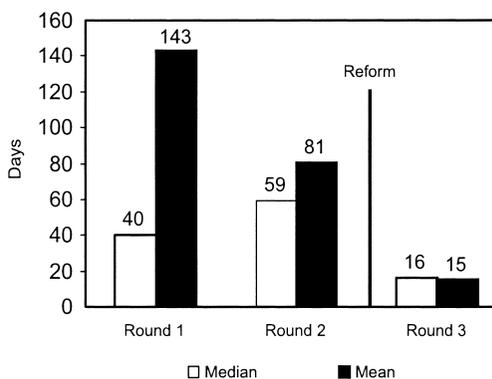
We first show the impact of the reform on the length and cost of the licensing process. We then discuss the impact on the total number of newly licensed firms. Finally, we discuss the characteristics of newly licensed firms and their motivation to seek a license before and after the reform.

#### *Licensing Process*

The reform of the licensing process led to a significant decline in the cost and length of licensing a new business. Unless otherwise noted, all estimates are based on interviews with newly licensed firms.

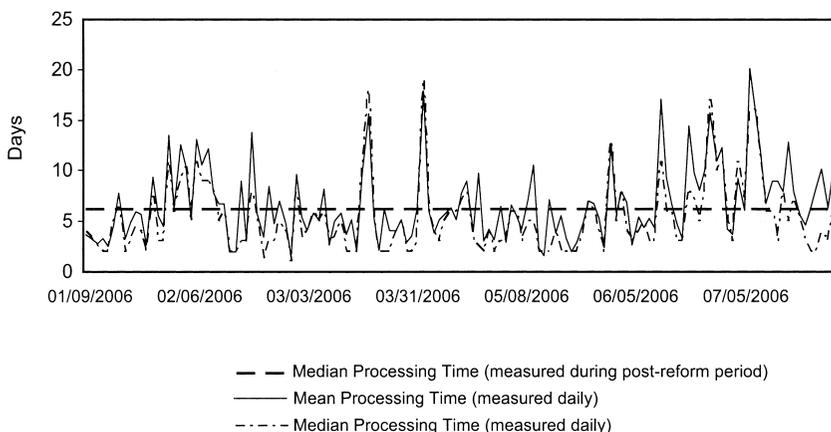
With respect to the length of the process, figure 5.2 reports the total number of days from the start of application until the license is issued (time to license). The average time to license dropped from 110 days to 15 days, and the median time dropped from 40 days to 16 days. For comparison, figure 5.3 reports time to license based on administrative records. This figure shows that the average time to license was 6.7 days after the reform. The estimate based on administrative records is lower than the one based on firm interviews, because the administrative records only include low-risk firms, which generally have a shorter time to license. Overall, both estimates point towards a large and sustained reduction in the average time to license.

Regarding the cost of obtaining a license, figure 5.4 reports total payment



**Fig. 5.2 Length of the registration process**

*Note:* The figure reports the mean and median number of days required to obtain a license. The figure shows a large decrease in the length of the licensing process after the reform.



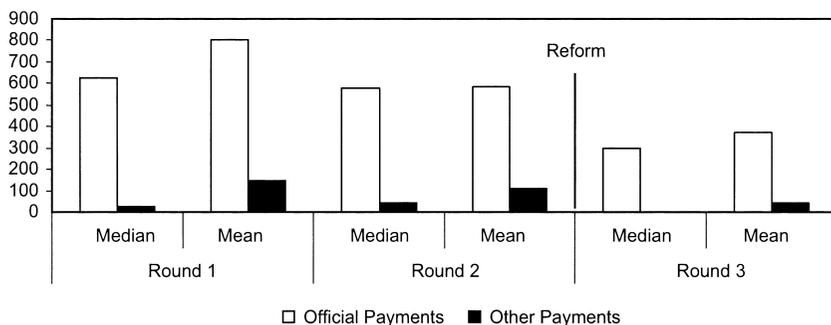
**Fig. 5.3 Average daily processing time**

*Note:* The figure reports the average length of the licensing process for low-risk businesses after the reform based on administrative records.

incurred throughout the registration process. We break down payments into official payments to the Municipality and other payments (e.g., external consultants). The figure shows that the total cost of registration decreased by 42 percent, from \$212 to \$124. The reduction in cost was primarily caused by a reduction in fees charged by the Municipality and a reduction in expenses for external consultants.

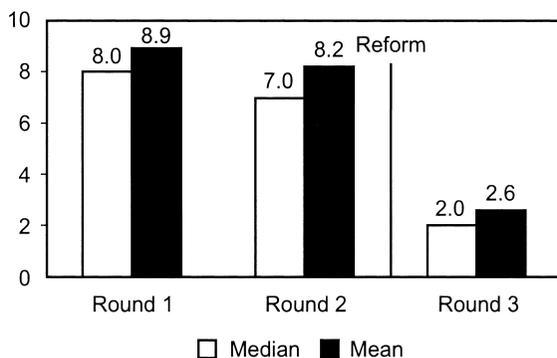
With respect to the time spent at the Municipality, figure 5.5 reports the number of visits to the Municipality. The figure shows that the median number of visits was reduced by 75 percent, from eight visits to two visits. This large reduction primarily represents a decrease in the time spent dealing with the Municipality during the licensing process.

Regarding inspections, figure 5.6 reports the total number of inspections. The figure shows that the number of inspections decreased from four inspections to two inspections. Qualitative interviews with government officials



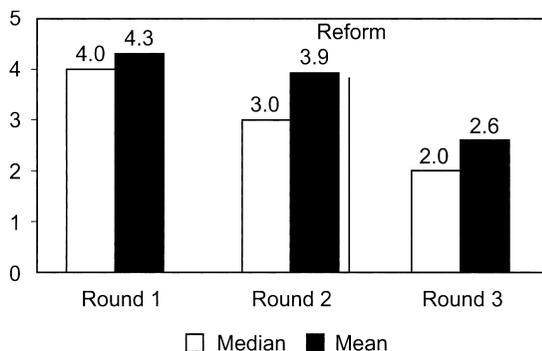
**Fig. 5.4 Cost of the licensing process**

*Note:* The figure reports the average cost of licensing a new business. The figure shows a large decrease in the cost after the reform.



**Fig. 5.5 Visits to the municipality**

*Note:* This figure shows the average number of visits to the Municipality. The figure shows that the number of visits decreased after the reform.



**Fig. 5.6** Number of inspections

*Note:* This figure shows the average number of inspections. The figure shows that the total number of inspections decreased after the reform.

suggest that the change in the timing of inspections reduced the power of inspectors to slow down the licensing process. As a result, inspectors are less likely to let a business fail an inspection. Moreover, the new multipurpose inspection helped to reduce the number of redundant inspections.

Overall, the interviews with newly licensed firms show that the reform was a success. The reform led to a significant reduction in the cost of obtaining a license and the length of the licensing process.

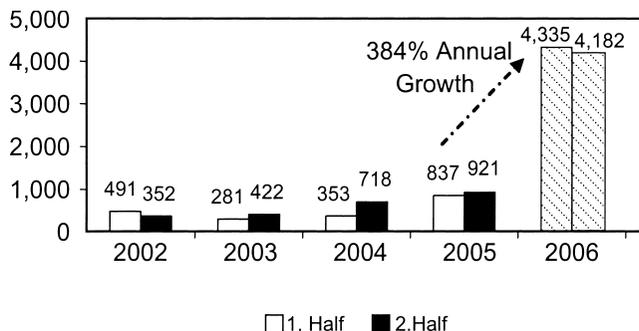
#### *Number of Newly Licensed Firms*

The reform had a large impact on the total number of newly licensed firms. Figure 5.7 shows that the number of newly registered firms increased four-fold, from 1,758 businesses in the year prior to the reform to 8,517 businesses in the year after the reform. This increase represents a 43 percent increase in the stock of licensed businesses prior to the reform. To understand the large impact of the reform, we highlight two important aspects of the reform.

First, a significant share of the increase was due to businesses that were already operating in the informal sector prior to the reform and decided to obtain a municipal license after the reform. We estimate the share using two different methods.

The first method relies on comparing the number of firms licensed in the first year after the reform and the number of firms licensed in the second year after the reform. Based on preliminary data, we estimate that the number of newly licensed firms dropped from 8,517 in the first year after the reform to 3,500 in the second year after the reform. Assuming that all informal firms that wanted to obtain a license had applied for a license in the first year after the reform, we estimate that about 74 percent of the increase is due to informal firms.

The second method is based on firm interviews. In the interviews, we find



**Fig. 5.7 Newly licensed businesses**

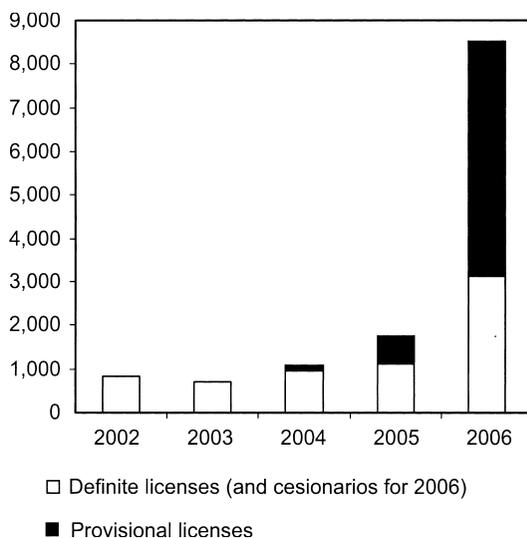
*Note:* This figure shows the total number of newly licensed businesses in the years from 2002 to 2006. The figure shows the number of firms increased about fourfold after the reform of the licensing process.

that before the reform, about 78 percent of all businesses operated informally prior to applying for a license. Assuming that this fraction remains constant over time, we estimate that about 78 percent of the increase is due to informal firms. Given that the two methods arrive at similar numbers, we estimate that about 75 percent of the increase is due to informal firms switching from the informal sector to the formal sector, and 25 percent is due to newly created businesses.<sup>9</sup>

Second, there was a large and unexpected increase in the number of provisional licenses.<sup>10</sup> As shown in figure 5.8, the share of provisional licenses was less than 5 percent prior to the reform and increased to 63 percent after the reform. This finding was particularly surprising, because the qualitative interviews prior to the reform suggested that there was little interest in provisional licenses. Interviews with officials at the Municipality suggest that the reform made provisional licenses more accessible. In fact, the Municipality did not provide the option to apply for provisional licenses prior to the reform and only issued provisional licenses when there were concerns about specific aspects of an application. After the reform, the Municipality provided the explicit option of applying for a provisional license. The advantage of a provisional license is that the Municipality only charges \$50, whereas the Municipality charges \$150 for a permanent license. Moreover,

9. Importantly, both newly created businesses and informal businesses switching from the informal to the formal sector are important drivers of business activity. New businesses entering the marketplace are clearly an important force for investment and innovation. However, informal businesses switching to the formal sector can also be an important source of new business activity. For example, formal businesses may grow more because they do not have to stay small in order to avoid attention by authorities.

10. In 2003, the government introduced provisional licenses regulated in Ley no. 28015 (Congreso de la Republica 2003). This law was intended to promote the formalization of micro- and small enterprises in Peru.



**Fig. 5.8 Annual licenses by type of license**

*Note:* This figure shows the total number of newly licensed businesses by type of license. The figure shows a large increase in the share of provisional licenses after the reform.

the Municipality set up new guidelines to issue provisional licenses within seven days. The disadvantage of provisional licenses is that businesses have to reapply for renewal after one year, whereas permanent licenses are valid until further notice.

Apparently, a large number of businesses preferred provisional licenses to permanent licenses. Qualitative interviews with firms suggest that many businesses heavily discount the expected cost of renewal. One reason for the high discount is that many business owners think there is a high probability that the business will not survive for more than one year.

Overall, we find a large increase in the number of licensed business. We estimate that about three-quarters of the increase is due to informal firms switching to the formal sector, and one-quarter is due to newly created firms. We also find a large increase in the share of provisional licenses, which indicates a large discount rate among new businesses.

#### *Impact of the Reform on Firm Characteristics*

Somewhat surprisingly, the reform had little impact on the characteristics of newly licensed firms. As shown in table 5.1, prior to the reform, the majority of business owners were male; they were on average forty-one years old, and more than 90 percent of them had completed secondary schooling. The median business had weekly revenues of \$230, employed two workers, and had been operating for about one year prior to applying for a license. More than 50 percent of firms were in the retail industry, and the vast

**Table 5.1** Owner and firm characteristics

Reform	Before		After
	Round 1	Round 2	Round 3
Interview round			
	<i>Owner characteristics</i>		
Male	0.48 (0.46)	0.46 (0.50)	0.68 (0.47)
Age	40.7 (13.2)	41.4 (10.2)	39.7 (14.2)
High school	0.90 (0.30)	0.90 (0.30)	0.96 (0.20)
University	0.30 (0.46)	0.22 (0.42)	0.30 (0.46)
	<i>Firm characteristics</i>		
Weekly revenues (median)	700	1,000	1,000
Weekly revenues (mean)	4,230 (10,477)	2,520 (4,181)	3,114 (7,354)
Workers (median)	2.0	2.0	2.5
Workers (mean)	3.2 (3.4)	3.1 (2.4)	2.7 (1.2)
Firm age (median)	2.0	2.0	2.5
Firm age (mean)	2.1 (2.9)	2.8 (4.4)	1.1 (1.7)
Located in shopping mall	0.42 (0.50)	0.40 (0.50)	0.28 (0.45)

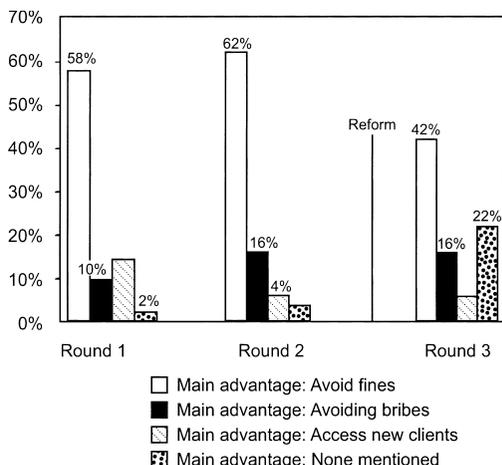
*Note:* Characteristics of surveyed firms and their owners; sample size: fifty businesses per interview round.

majority served the general public directly. After the reform, there was little change in either business owner characteristics or firm characteristics. The main difference is that firm owners are more likely to be male. However, this difference is not statistically significant. To increase sample size, we cross-checked the gender results with administrative records and did not find a statistically significant effect.

Overall, we find little differences in observable characteristics of newly licensed firms. We find this result to be interesting, because many newly licensed businesses after the reform had been operating informally prior to the reform. We interpret these findings as evidence that informal and formal firms are quite similar, at least in terms of observable characteristics.

#### *Motivation for Obtaining a Municipal License*

The main reason to apply for a license is to simplify one's dealings with the Municipality. Figure 5.9 shows that the main reason to obtain a license is "to avoid paying fines and bribes to the Municipality." This result is true both before and after the reform. In qualitative interviews, a number of firms say that dealing with the Civil Safety Authority, which conducts business inspections, is their main problem in dealing with the Municipality.



**Fig. 5.9 Motivation for obtaining a license**

*Note:* This figure shows the main motivations for firms to obtain a license. Both before and after the reform, the main reasons are to avoid paying fines and bribes.

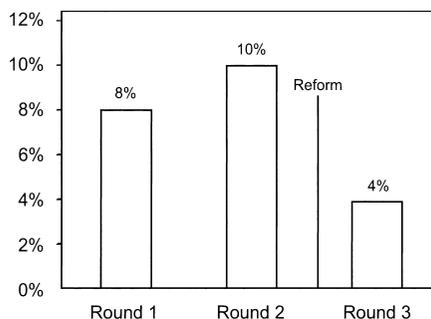
Importantly, we find a decrease in the number of firms that report paying a bribe after the reform. Figure 5.10 shows that the share of firms that report paying a bribe during the licensing process fell from 9 percent before the reform to 4 percent after the reform.<sup>11</sup> We note that paying a bribe is a criminal offense in Peru, and many business owners are reluctant to report bribes. We therefore interpret these numbers as a lower bound of the bribes actually paid. Consistent with this finding, several businesses said in qualitative interviews that the municipal license would put them in a better bargaining position with government officials.

Other reasons to formalize were far less important. In particular, only a few firms mentioned that the municipal license would help them to have better access to credit or better enforcement of contracts and property rights. Qualitative interviews with businesses suggest that businesses do not need a municipal license for access to credit, because a tax identification number is usually sufficient to apply for a loan. However, some businesses mentioned that a municipal license would help in terms of rates and credit limits with banks. Similarly with contract enforcement, many businesses said it would be sufficient to have the tax identification number in order to enforce contracts and deal with courts.

## 5.4 Interpretation

We think there are two broad interpretations of our findings. First, the findings may reflect an improvement in the technical efficiency of the licensing

11. However, the difference is not statistically significant.



**Fig. 5.10 Share of firms that pay a bribe**

*Note:* This figure reports the share of firms that reported paying a bribe. The figure shows a decline in the share of firms that pay bribes after the reform.

process. By technical efficiency, we think of the use of new capital (e.g., new software) that helps government officials do their work more effectively. Second, the findings may reflect an improvement in the organizational efficiency. By organizational efficiency, we mean the reorganization of tasks within the Municipality so that government officials have better incentives to improve their services.

Our analysis of the reform suggests that the reform primarily improved the organizational efficiency. Most of the changes did not require new capital outlays but involved the restructuring of existing processes. As discussed earlier, often it was well understood within the Municipality that specific changes would speed up the licensing processes, and the reform provided the opportunity to implement changes that were generally understood to be useful.

This interpretation raises the question of why the reform was not implemented earlier. Our simple answer is that government officials lacked the incentives to improve the licensing process. The licensing process only affects a relatively small part of the electorate, and aspiring entrepreneurs—as opposed to existing businesses—have no organized constituency. The benefits of improvements to the licensing process are highly dispersed, and some potential entrepreneurs may not even be aware of them. Moreover, it seems that a few government officials benefited from the status quo. As discussed earlier, a number of businesses reported paying a bribe to the Municipality. Hence, the lack of incentives for improvement combined with the opportunity to extract bribes generated a powerful force against changes to the licensing process.

Based on our results, it is difficult to distinguish between an explanation that emphasizes the lack of incentives of government officials and an explanation that emphasizes the opportunities to extract rents. In fact, we believe those two explanations are complementary, because they tend to reinforce each other. A complacent bureaucracy provides opportunities for

bureaucrats to extract rents. Similarly, bureaucrats that extract rents have strong incentives to support a complacent bureaucracy. Hence, the lack of incentives for government officials goes hand in hand with rent extraction by government officials.

Finally, we think our results are inconsistent with an explanation that emphasizes public benefits of regulation. As discussed earlier, the reform did not change any legal licensing requirements but only affected the administration of the legal requirements by the Municipality. This means that all government regulation aimed at targeting market failures was unchanged. Hence, it is unlikely that the reform of the licensing process affected the extent to which regulation mitigates market failures.

## 5.5 Conclusion

This chapter analyzes a reform of the licensing process in one district in Lima, Peru. The reform reduced the cost and time of licensing a new business. As a result of the reform, we find a large increase in the number of newly registered businesses. Interviews with newly registered firms show that the main reason for registering a business is to avoid paying fines and bribes. We interpret these findings as evidence of a bureaucracy that uses licensing procedures to extract rents from businesses.

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