



**Second Year Policy Analysis**

# **Reducing Informality**

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**Bridging the Gap Between  
the Two Mexicos**

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*“Despite decades of reforms—at times half-hearted, at times full-throttled—Mexico has failed to bridge the gap between a globalised minority and a majority that lives in what Enrique Peña Nieto, the president, admits is ‘backwardness and poverty’ (...) Mexico’s duality shows that getting macroeconomic policy right is necessary to success, but not sufficient. The difficulties it still faces are a cautionary tale.”*

**- The Economist, 19 September 2015**

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This work is dedicated to the memory of Alfonso's father.

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## EXECUTIVE SUMMARY

Using both quantitative and qualitative data, we identify the presence of matching problems that factor in the decision of formal firms to hire informally: Employers cannot directly observe the workers' productivity or the level of effort they exert in their work. Since formal employment in Mexico raises the costs of firing significantly, these two frictions make informal hiring more attractive. This does not mean that there are no incentives to hire formally, however: Employers largely agree that it reduces labor turnover, which can be costly, and allows them to meet labor standards required to join certain value chains, particularly in the exporting sector.

We propose two policy interventions to address this issue: An internship program for non-college educated workers and a profit-sharing mechanism tied to performance evaluations. The first policy, a program under the name of "*Mi Primera Chamba*" will screen all potential workers in two stages: First via an application and admission fee and second via a final test after a two-month workshop. After this, the selected participants will take part in a series of two 5-month internships with sponsoring firms. The goal of the policy is to make it easier for firms to observe productivity while hiring formally.

Second, we propose a change in the 10% profit-sharing by firms that is currently required by law. This change will keep half of the amount (5% of profits) under the current mechanism based on salary and tenure in the firm, while the other half is allocated in proportion to performance evaluations. While all firms are automatically required to implement the evaluation methodology set forth by the government, firms can apply an alternative methodology if said it gathers support from 50% of its workers or more.

In both cases our policies do not fully solve the matching frictions but rather make formal hiring more attractive to the marginal firm, since formality has its own appeal to employers. Thus, we expect that our policies, if implemented, will reduce the share of informal workers in total employment by 2.5-3 percentage points, representing approximately 1.3-1.5 million workers.

## I. PRESENTATION

Few contrasts in Mexico are greater than the gap existing between the formal and informal sectors of the economy. In this paper, we turn our attention to a relatively overlooked subgroup of informal workers: those employed in formal firms. We argue that this type of informality arises in part because employers cannot assess workers' productivity before they hire them and, once they do, the job security provided by current legislation creates incentives to shirk. We propose two interventions that can reduce informal hiring within the formal sector by five points: an internship program for non-college educated workers and a profit-sharing mechanism with performance evaluations.

## II. PROBLEM STATEMENT

Most of the discussion about informality in Mexico has focused on non-agricultural employment in the informal sector, which represents approximately 27% of the total. **However, comparatively little attention has been paid to informal workers in formal firms, i.e. employees without a labor contract that nonetheless work in firms that are legally separate from their owners.** This group of workers represents 13% of total employment and 18% of employment in the formal sector, approximately. We focus on this group of the informal workers as a way to increase fiscal revenues, improve the quality of health care coverage and increase access to pensions. Hereinafter, unless otherwise noted, 'informality' refers specifically to non-agricultural employment in informal firms and the informality rate estimates the percentage of workers in formal firms who are nonetheless employed informally.

### **Client description**

Reducing informality is a priority of the Mexican government, which has implemented a series of labor market reforms between 2012 and 2014 in an attempt to reduce it. This paper has been prepared for the Ministry of Finance in Mexico (SHCP in Spanish) with the support of the National Council on Productivity (CNP in Spanish).

### **Positive net fiscal effect**

Since 2014, as oil prices fell, overreliance on oil revenues has led to a widening of the fiscal deficit, reaching 4% and pushing gross public debt above 50% of GDP in 2015.<sup>1</sup> Even as higher tax rates enacted over the last three years are expected to increase revenues by two to three percentage points of GDP, closing the deficit will be challenging. In 2015, Mexico collected only 17.4% of GDP, half the OECD average of 34.2%. Two thirds of the difference corresponds to lower tax collection from personal income (3.4%) and social security contributions (3.3%)—an indicator of its narrow tax base. **Policy proposals to reduce informality will have to balance the positive fiscal effects of a larger number of taxpayers against the costs of the proposed interventions.**

**Despite representing 13% of total employment, informal workers in formal firms have attracted little attention.**

### **Better access to health care**

According to the OECD, before the creation of *Seguro Popular* in 2001-2002, access to health care was limited to 48.3% of Mexico's population, which had employer-provided coverage. Over the following 13 years, however, *Seguro Popular* increased coverage to 92.3%, although it only managed to reduce out-of-pocket expenditures from 50.9% in 2000 to 45.2% in 2012. Part of the reason for this is that *Seguro Popular* does not protect against many conditions that are included under IMSS and ISSSTE (public insurance in the formal private and public sectors, respectively) or private insurance (such as heart attacks for people over 60 or renal failure). **Because *Seguro Popular* is the default source of insurance for informal workers<sup>2</sup>, a larger formal sector would not increase coverage but it could improve the quality of access.**

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<sup>1</sup> International Monetary Fund. [World Economic Outlook Databases](#). October 2016. Organization for Economic Cooperation and Development. [Tax Revenue Statistics](#). 2016.

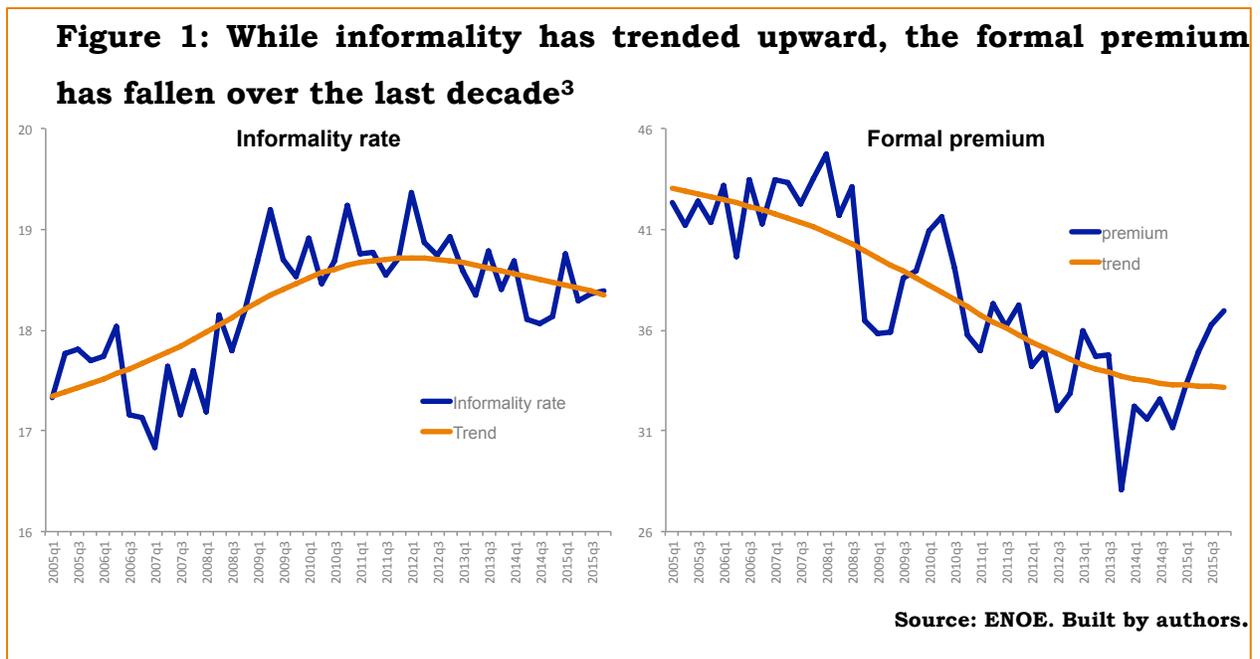
<sup>2</sup> The IMSS voluntary opt-in scheme encompasses only 5% of the insured, making *Seguro Popular* the default choice for informal workers.

**Expanded pension coverage**

Informal workers do not have pensions and thus need to work well past the retirement age or rely on relatives in order to provide for themselves. Partly as a result, in 2009-2014 the effective retirement age in Mexico was 72 years for men and 68.1 for women, the second and third highest in the OECD, respectively, despite the official retirement age being at 65. **A policy to reduce informality must ensure pension coverage for newly formalized workers.**

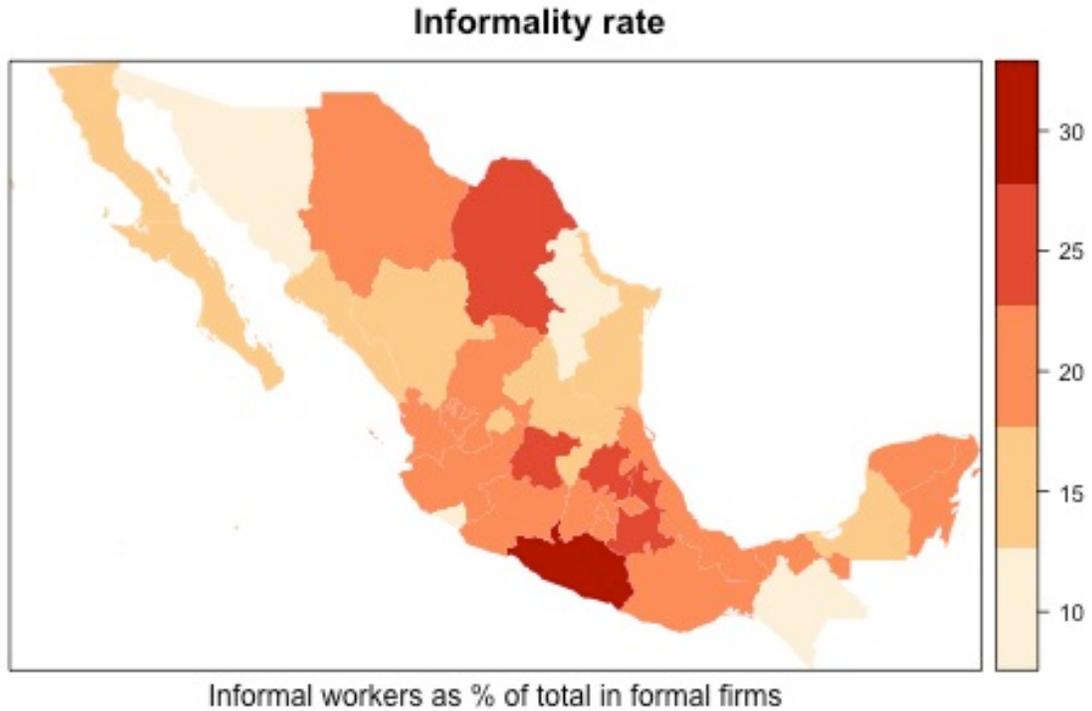
**III. BACKGROUND**

In 2015, the informality rate *within* the formal sector—the percentage of all workers in formal firms who are informally employed—was 18.39%, about one percentage point above its level in 2005. Over this period, the level informality peaked in mid-2012 and began falling afterwards. In turn, the formal premium—the earning differential between formal and informal workers expressed as a percentage of the latter’s income—stood at 36.94%, after falling approximately 14 percentage points between 2005 and 2013, bottoming out at 28% by the end of 2013, and rising eight percentage points over the next two years (Figure 1).



<sup>3</sup> Trend estimated using the Hodrick-Prescott filter.

**Figure 2: Both the informality rate and the formal premium are very uneven across states (2015)**



Source: ENOE. Built by authors.

**Behind the national average, however, lies significant variation across states** (Figure 2). In 2015, the three states with the lowest informality (Coahuila, Chihuahua and Sonora) posted informality rates of 9.11%, 9.56% and 11.27%, respectively, while the three with highest informality (Guerrero, Puebla and Hidalgo) reached 31.34%, 27.62% and 25.51%, respectively. Moreover, while informality fell by 0.17 to 2.98 points in 10 states between 2005 and 2015, it expanded in all others, especially in Guerrero and Hidalgo, where it increased by 7.88 and 5.78 percentage points, respectively.

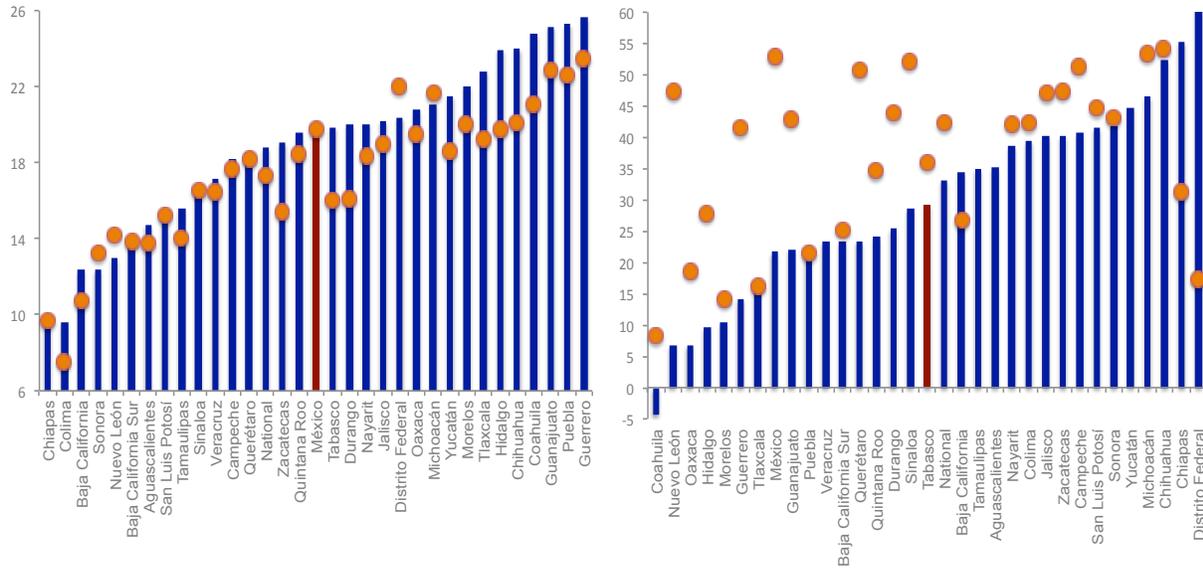
Formal premia present even greater variation, with one state, Chiapas, actually showing a negative premium—informal workers are paid more than formal workers after discounting the taxes paid by the latter—and another, Sinaloa, where the premium reached almost 70% in 2015. Overall, however, the formal premium appears to be very large, with six states (Aguascalientes, Campeche, Coahuila, Colima, San Luis Potosí and Sinaloa) paying 50% or more to formal workers than to informal ones, and 12 others where its is above 30%. **It is worth noting, however, that the premium is far more volatile than the informality rate, both across states as well as over time** (Figure 3).

When comparing industries<sup>4</sup> (ex. agriculture) the variation is also evident. Entertainment has the highest informality rate, at 40.32%, followed by Hotels & restaurants at 39.47% and Housing services, at 35.24%. On the opposite side of the spectrum, however, are Education, with no informality, Corporate services, with 1.45%, and Mining, at 6.93%. The largest decreases over the last 11 years were recorded in Corporate services, which posted a 15.94 point decline, and Media, where it fell by 7.37 percentage points. On the contrary, the largest increases were registered in Housing & Restaurants, with 6.24 points, and Entertainment, which saw informality rise 5.47 points. **Most importantly, informality appears to be concentrated in four sectors (Hotels & Restaurants, Retail, Manufacturing and Transportation, which together represent 46% of all informal workers, approximately (Figure 3).**

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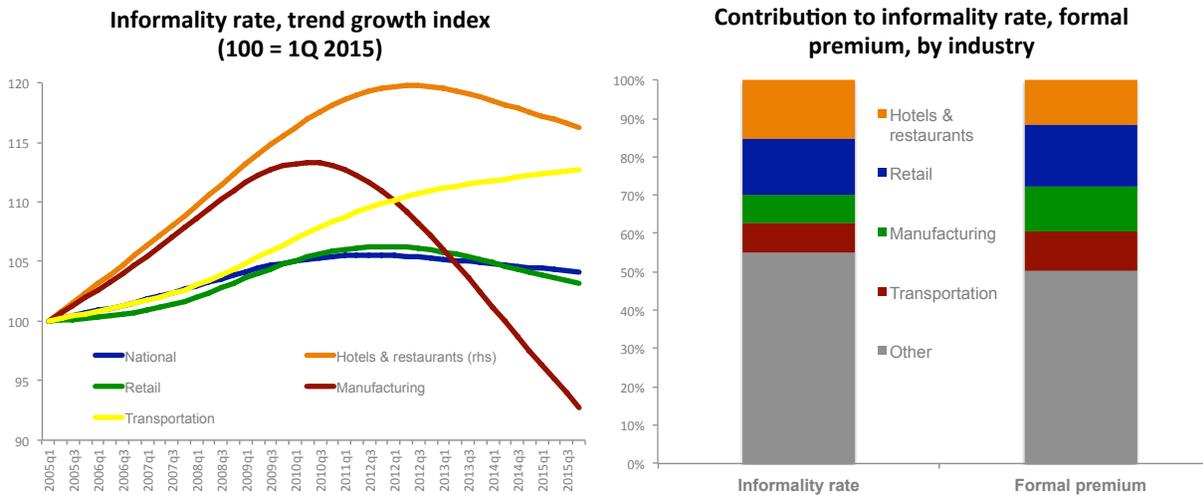
<sup>4</sup> We use the North American Industrial Classification provided by INEGI to identify different industries.

**Figure 3: The formal premium appears to be much more volatile over time and across states than the informality rate (2015)**



Source: ENOE. Built by authors.

**Figure 4: Hotels & restaurants, retail, manufacturing and transportation make up close to one half of overall informality**



Source: ENOE. Built by authors.

These four sectors have followed different paths over the last decade, however. While informality in Hotels & restaurants (which contributes 2.9 points to the national rate) and Transportation (1.5 points) have risen by more than 10%, Retail (2.6 points) has barely increased by 3%. In contrast, Manufacturing (1.4 points), has seen a decline of about 7% over the same period.

### **Who is informal and what does it imply?**

Informal workers are on average younger, more likely to be male and tend to have less children<sup>5 6</sup> (Figure 4). **Most surprisingly, however, they tend to have higher educational attainment—they have on average completed 10.3 years of schooling against 9.3 years in the case of formal workers** (Figure 5). In terms of the Mexican education system, this gap amounts to having started upper secondary school (“*preparatoria*”) or not. Differences in schooling are also consistent across levels of education, with 76% of informal workers having complete secondary education<sup>7</sup> at most versus 80% of formal workers. This surprising contrast also remains en looking at technical and college education: the share with technical or college degree is 4 points higher for informal workers.

What explains this unexpected result? **One possible reason appears to be that many young workers are initially hired informally while completing or immediately after their studies.** In fact, after controlling for age and size of firm, formal workers do appear to have a higher proportion of college graduate: For formal workers 30 or older working in firms with 50 or more employees, college graduates represent 15% of the total, compared to 13% of informal workers (within this subgroup based on age an firm size, formal workers represent 80% of the total). This difference remains after controlling for the length of tenure at the current job, i.e. whether the worker has more than a year at the current position.

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<sup>5</sup> Differences for all variables in Figure 4 are statistically significant at the 99% level.

<sup>6</sup> Some percentage estimates do not add up to 100 because of rounding errors.

<sup>7</sup> This includes what in Mexico is known as “*preparatoria*”. In total, secondary education encompasses five to six years.

**Figure 5: Informal workers are younger and more educated, on average<sup>8</sup>**

	2015		2005	
	Formal	Informal	Formal	Informal
Average age	38	34	36	32
Female (%)	56	42	56	42
Average number of children	2.2	1.5	2.5	1.6
Average years of schooling	9.3	10.3	8.6	9.6
Less than primary education (%)	6.1	1.8	8.8	2.7
Up to primary education (%)	28.7	19.4	35.4	25.7
Up to secondary education (%)	45.3	55.2	38.0	49.1
Up to technical or college education (%)	18.8	22.8	17.1	21.9
Up to graduate education (%)	1.2	0.8	0.7	0.6
Only worker in household (% of total)	15	0	14	0
Single (%)	38	42	39	47
Married (%)	52	51	52	47
Divorced (%)	4	6	4	5
Widowed (%)	5	2	5	2

Source: ENOE. Built by authors.

**Figure 6: Informal workers are more easily found at smaller firms<sup>9</sup>**

	2015		2005	
	Formal	Informal	Formal	Informal
Average number of jobs	1.0	1.1	1.0	1.0
Works in a family business (%)	29	75	32	65
Works with relatives (%)	1	8	2	13
Average hours worked per week	43.7	44.3	43.6	42.4
Works all year, no vacations (%)	35.1	74.7	33.9	72.9
Workplace has 50 workers or less	18	86	18	84
Workplace has 51 workers or more	82	14	82	16
Has a supervisor (%)	82	99	79	99
Has less than a year at current job (%)	5	25	4	26
Has Seguro Popular (%)	33	34	0	0

Source: ENOE. Built by authors.

<sup>8</sup> Differences featured in the table are statistically significant (i.e. not a result of sampling fluctuations) at the 90% level of confidence or higher.

<sup>9</sup> Differences featured in the table are statistically significant (i.e. not a result of sampling fluctuations) at the 90% level of confidence or higher.

Yet another possibility, is that not all education is equally as good, and that graduates from low quality college-level institutions are not better off (and might be even worse off, due to forgone years of experience) than those without college education—this is the story of the college graduate who does manage to get a job in his or her field of instruction and takes another position, for example. While important, there is no data available to verify this second possibility, unfortunately.

**Formal and informal workers are even more different from each other when we consider what they do at work** (Figure 6). Informal workers have on average 1.1 jobs, compared to 1.0 for formal workers and complete 0.6 hours more per week while working all year, without vacation in more than 75% of cases (two thirds of formal workers do have vacations). More importantly, informal workers tend to be employed in smaller firms, of 50 workers or less, and 99% have a supervisor. Finally, only 5% of formal workers have less than one year at their current job, compared to one quarter of informal workers. Both groups are nearly identical in their enrollment in *Seguro Popular*.

#### **IV. CONCEPTUAL FRAMEWORK**

The dispersion of informality rates and formal premia point to the fact that informality is a multifaceted problem. We develop a conceptual framework that organizes these difference features in a diagnostic tree, and combine that with a political and administrative mapping of reform.

##### **From the two-sector model to a diagnostic tree**

In analyzing informality, we follow a framework in which workers can switch from formal to informal jobs and vice versa. At the same time, firms decide whether to hire formally or not. Because the decision to hire and/or work formally corresponds to the expected benefits of doing so minus the costs, this creates both supply and demand for formal and informal jobs. To map this interactions we use a diagnostic tree (Figure 7) where the first decision node

corresponds to supply and demand and the second row of decision nodes identifies costs and benefits. The economic conditions affecting these costs and benefits, follow in the third and fourth rounds of nodes.

**On the left side of the diagnostic tree, firms might demand less formal workers if they believe that their productivity is too low to compensate for the costs of hiring** (minimum wage, labor regulations on safety, vacations, etc. and taxes on payrolls, for example). On one hand, this could be a result of low human capital (poor health or education hurts productivity), low physical capital (the firm is credit constrained and cannot invest in capital that allow workers to produce more) or poor infrastructure. On the other hand, however, this could be a result of factor misallocation: workers are not as productive because they are stuck in low productivity industries. Finally a third reason could be that firms are uncertain about the productivity of workers: Since a formal worker cannot be easily laid off, employers do not hire formally to avoid the risk of getting stuck with an unproductive worker or having him or her shirk after being hired.

**Rigid labor laws in Mexico create a problem for firms: If they cannot observe productivity or effort, hiring a worker is risky because he cannot be laid off later.**

**On the right side, workers decide whether to work formally based on whether the costs, which basically consist of taxes, are too high or the benefits too low.** Benefits, which consist for the most part of access to pensions and health care, can be low if they conclude that the quality of these is low (i.e. bad quality of care, low pensions) or believe that they have good substitutes available. For instance, *Seguro Popular* and *Pensión para Adultos Mayores* are two publicly subsidized programs that can be regarded as imperfect substitutes of health care and pensions provided by formal employment.

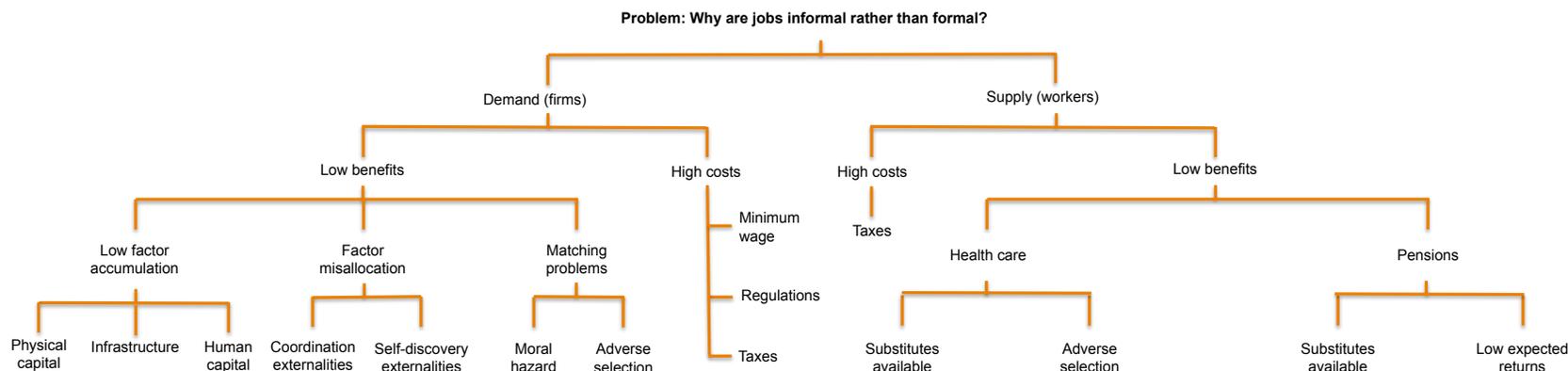
### **Mapping political support and implementation capacity**

While the diagnostic tree articulates the multiple dimensions of informality, we also need a framework to understand the institutional context in which different alternative policies might be deployed to address them. In Mexico, decision-making is divided horizontally, in branches of government, and vertically, in national and subnational levels. **We believe that policy preferences across government might vary significantly across two dimensions. The first is political, and corresponds to the authority necessary to formulate the policy; the second is administrative, and has to do with the capacities necessary to implement it.** These two dimensions define the (potential) roles of each agent in the policy process (Figure 8).

The first quadrant corresponds to actors in government that are in favor of a particular policy and have the capabilities (whether official or not) to implement it: they are the doers. Conversely, the second quadrant corresponds to agents that are also in favor of a policy yet are not capable of helping in its implementation: they are the supporters, which can be leveraged in the arena of public opinion, for example. Finally, the third and fourth quadrants correspond to the critics and the rivals, which are both united in their opposition to the policy—with the latter having also the capabilities to either block or counteract it.

A central aspect for both doers and rivals is sustainability. Here, we borrow from the framework on scaling policy solutions developed by Andrews, Pritchett and Woolcock (2016). They define scale up along four dimensions: quantitative, which fits with the traditional understanding of scale, i.e. more people being affected; functional, implying that more activities are performed; political, in that support is broader; and organizational, as more resources are devoted. To this framework we add a fifth mechanism, which we will regard as operational, implying that activities become more complex and sophisticated over time (Figure 7). In both cases, there is significant complexity inherent to the problem as well as discretion on the part of implementing agencies.

**Figure 7: A diagnostics tree to analyze the determinants of informality**



**Built by authors.**

**Figure 8: Political support and administrative capacity - Five dimensions of scaling**



Scaling up...	... implies more:	Authors
Quantitatively	Recipients/Beneficiaries/Supervision	Andrews, Pritchett and Woolcock (2016)
Functionally	More activities	
Politically	Support/Independence	
Organizationally	Money/Employees	Own
Operationally	Sophistication	

**Source: Andrews, Pritchett and Woolcock (2016). Built by authors.**

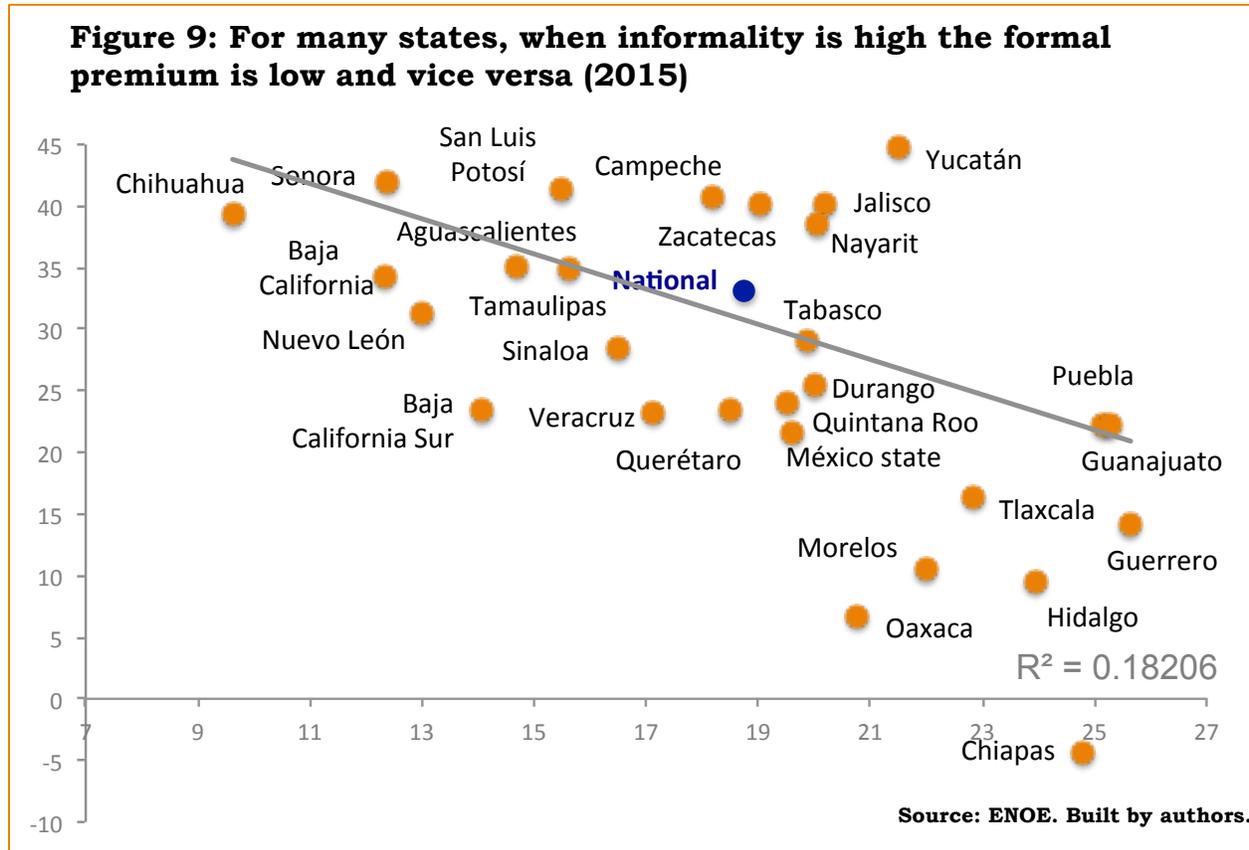
## V. DIAGNOSTIC

Our conceptual framework seeks to account for the fact that labor informality is a multidimensional problem whose salient features change over time and across states. In the case of informal workers at formal firms, however, we believe that there are significant problems “matching” firms to workers. Since there is no data on firm or worker behavior, we base our diagnostic on two strategies. First, we use data on other factors (formal premia, cross-sector informality, level of education, etc.) to show that these factors on their own are not enough to account for the current level of informality in Mexico. Second, we make use of qualitative data that we have gathered directly via in-depth interviews with formal employers and entrepreneurs across several industries (Manufacturing, Hotels & restaurants, Retail, etc.) that hire a mix of formal and informal workers.

### **Focusing on firm-level decisions**

From the conceptual framework outlined in the previous section it follows that a first step is to identify whether demand or supply are driving changes in informality. This can be verified by observing the correlation between informality rates and formal premia: **If firm behavior is driving informality, then their greater (lower) willingness to hire formally should drive the formal premium up (down); conversely, if workers’ decisions are the dominant factor, their greater willingness to work formally would drive the formal premium down.**

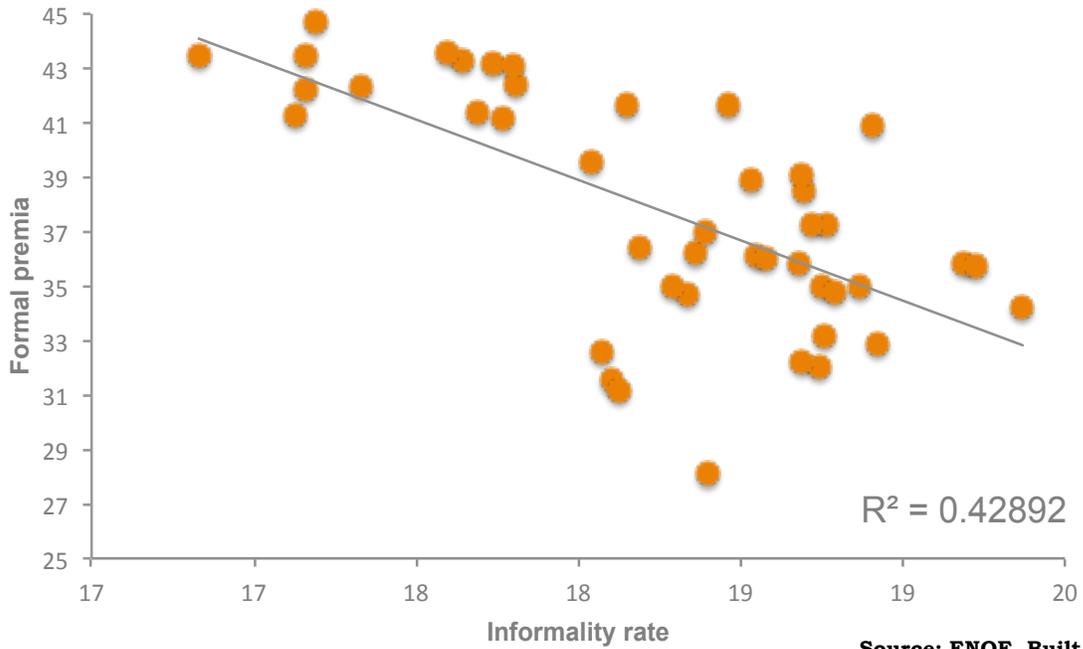
The data shows that, across states, the relationship between informality and the formal premium is largely negative (Figure 9). With varying degrees of strength, the negative relationship between the two holds across states for the whole period of study, from 2005 to 2015. **On average, over the last eleven years, the variation in informality rates explains 16% of the volatility in formal premia across states. Moreover, approximately 42% of the variation in the formal premia at the national level over the last eleven years is explained by the level of informality** (Figure 10).



These results suggest that demand side forces have a significant effect on the level of informality. **It should be noted, however, that this does not imply that informality is purely a demand-driven phenomenon: Supply side considerations may very well play a role**, and there is a significant literature on this issue (see Appendix). According to the data, some states do in fact exhibit a upward-sloping relationship between informality rates and formal premia, such as Distrito Federal (the capital city) and Baja California Sur, for example. Several other states, however, do show the negative relationship over time exhibited in the aggregate data, which is the case of states such as Yucatán and Colima (Figure 11).

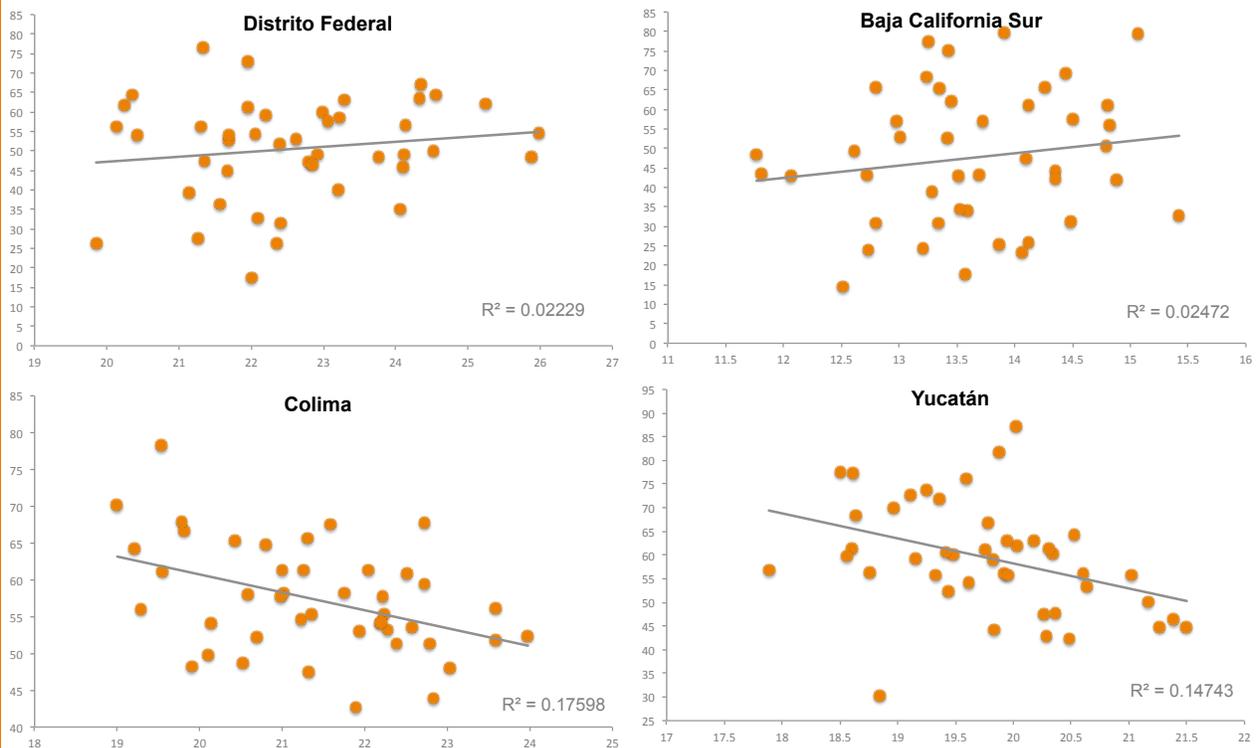
In general, two thirds of states exhibit the negative relationship between informality and formal premia that suggest demand-driven interactions. This points to a sizeable role of firm-specific incentives in the size of informal employment in the formal sector of the Mexican economy. Moving forward, we shall focus the diagnostic on this side of the analysis.

**Figure 10: The negative relationship between informality rates and formal premia also holds over time at the national level**



Source: ENOE. Built by authors

**Figure 11: Although on the aggregate informality appears to be driven by demand, the story in each state is different**



Source: ENOE. Built by authors

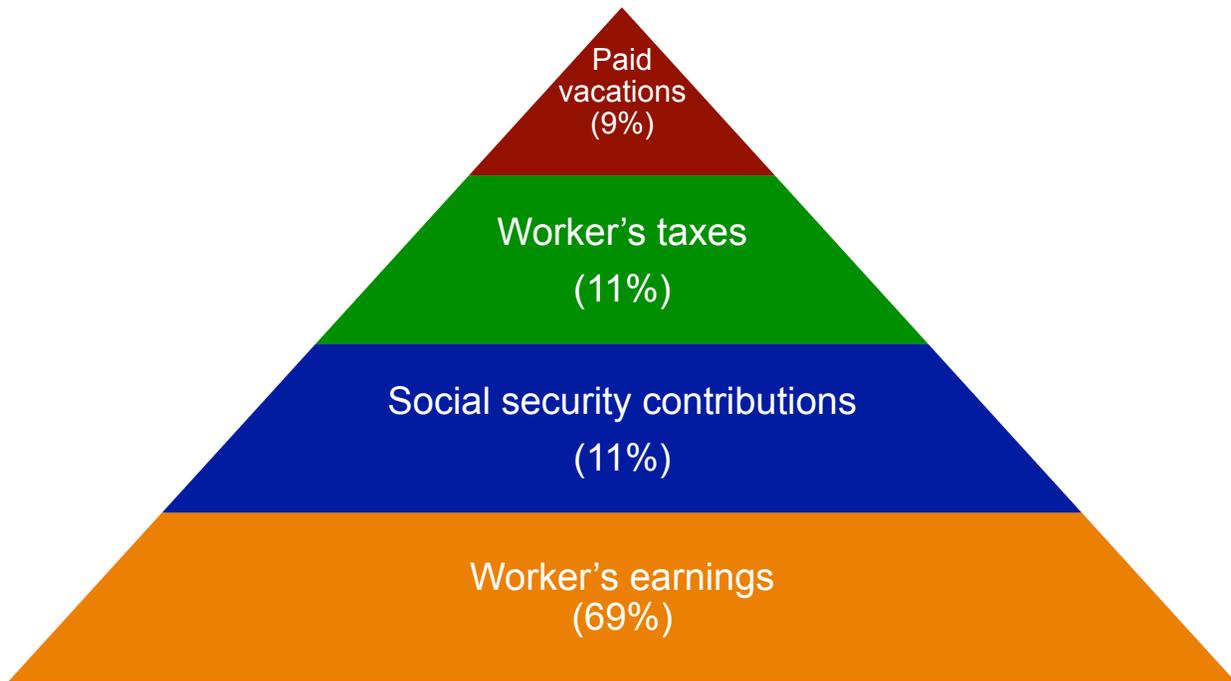
### **What are the costs of hiring formally?**

If firms are hiring too many workers informally, it must be because they find it more profitable to do so, that is, formal hiring costs exceed the benefits. Therefore, analyzing the firm's decision to hire an employee formally or informally involves evaluating the benefits of doing so, which consist mainly of the expected productivity of the worker, against the costs, which involve taxes as well as other regulations, including the minimum wage. **It should be noted from the start that the minimum wage is not binding in Mexico:** In 2015, it stood at 70 pesos per day, which on a monthly basis represents less than half the average income among informal workers and is below the bottom decile of the income distribution in said group.

**Firm demand appears to be a force driving informality. If firms are hiring too many workers informally, it must be because the costs of hiring formally exceed the benefits.**

With that in mind, we focus on the costs of hiring associated with taxation and other regulations. In addition to regular compensation, Mexican law dictates that employers from firms one year and older should pay an annual bonus financed by 10% of the profits of the prior year (in cases of losses, no bonus is required; also, employees in management positions are not eligible for the bonus). This, together with the base salary of the employee, represents approximately 69% of the cost of hiring in the case of the median worker (who earned 4,300 pesos during the last quarter of 2015). In addition, the employer makes social security (health care and pensions) for a total representing approximately 11% of the base salary. Another 11% is added because of taxes deducted from the worker's paycheck as well as payroll taxes, which are levied by state governments an average 2.5%. Finally, workers earn paid leave for vacation totaling 15 days per year, which represents an increase in costs of approximately 9%. **Combined, all of this represents an additional 31% in hiring costs for formal workers** (Figure 12).

**Figure 12: Formality significantly increases the cost of hiring (estimates for median worker)**



Source: ENOE, Procuraduria de la Defensa del Contribuyente, Ley Federal de Trabajo. Built by authors

It is intuitively appealing to focus on reducing the costs of hiring as a way to reduce informality; however, we must discard this for two reasons. **First, current fiscal pressures in Mexico, with debt representing more than 50% of GDP, leave little room for reducing taxes**, especially after the current government enacted tax reform and increased tax rates on top earners. While it could be argued that there is an optimal reduction in tax rates that can increase revenues (a “Laffer effect” in which the impact of a broader tax base more than compensates for the lower tax burden per capita), the problem is that (i) the short term effect of said measures would be unambiguously revenue-reducing at a time when fiscal deficits are a concern; (ii) identifying said optimal rate is notoriously difficult. **Second, and just as important, all three main political parties spent significant political capital on tax reform in 2013-2014 with the dual goal of increasing revenue and making**

**the tax code more progressive** (this is discussed more in detail in Section VI). Even if tax reductions for firms are revenue increasing, this could work against the second goal of progressive taxation, making them politically unfeasible.

### **Why are the benefits from hiring formally low?**

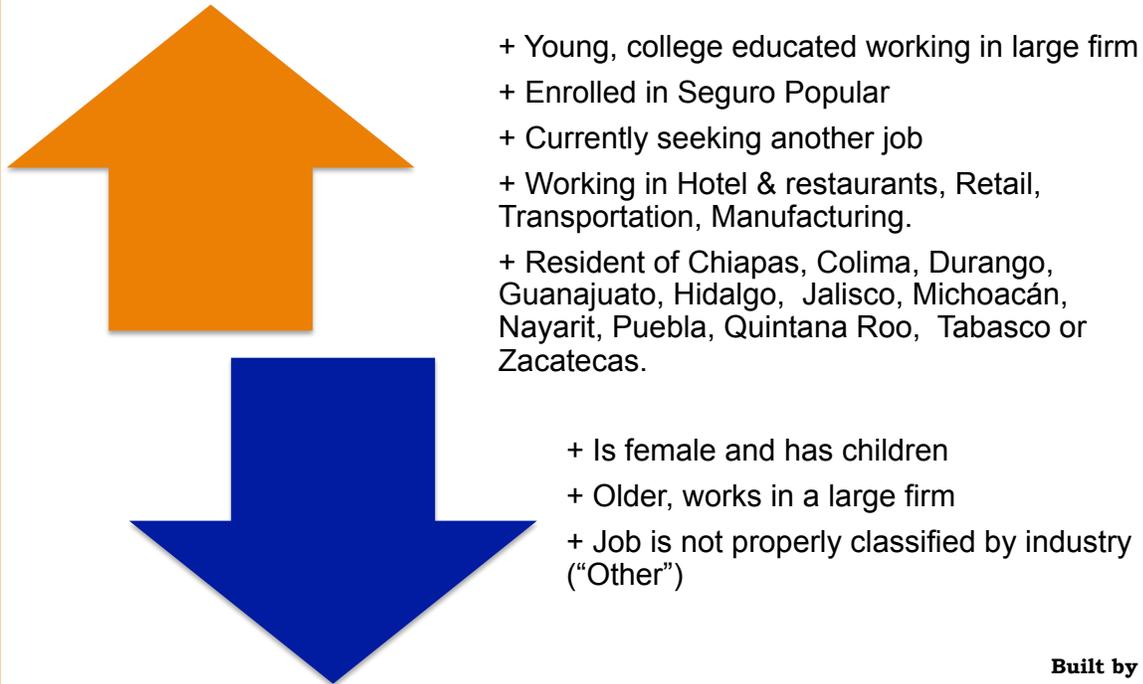
Given that there is little space for policy action on the side of costs, it is necessary to analyze why the benefits of hiring formally are insufficient for the firm. There are three potential reasons for this: First, either the firm has insufficient capital (i.e. firms are credit constrained) or workers have insufficient human capital to make the newly formal hires sufficiently productive; second, workers might be excessively concentrated in low value industries, where the value of their production is low and thus insufficient to merit formal hiring; or third, firms are uncertain about worker productivity and/or effort, preferring to retain flexibility by hiring them informally.

While there is data on education to control for human capital, we do not have data to control for access to finance or amount of capital employed by the firm. Instead, we make use of data on industry and size of firm (i.e. whether the firm has 50 workers or more) as proxies for capital accumulation: The idea is that larger firms tend to accumulate more capital, and industry variation makes it possible to (imperfectly) control for heterogeneity in capital per worker across firms. **Our estimates of the probability<sup>10</sup> of being informally employed show that, in the four industries that concentrate the largest number of informal workers (Hotels & restaurants, Retail, Transportation and Manufacturing), working for a large firm (which is arguably more capital-intensive than the rest) is associated with a lower probability of being informal** (Figure 13, see Appendix for full results). This suggests support for the role that credit constraints play on the emergence of informality, even for formal firms, albeit with the caveat that firm size is an imperfect predictor of capital accumulation. Other factors that have a negative effect on the probability of being informal are being female and having children (Figure 13).

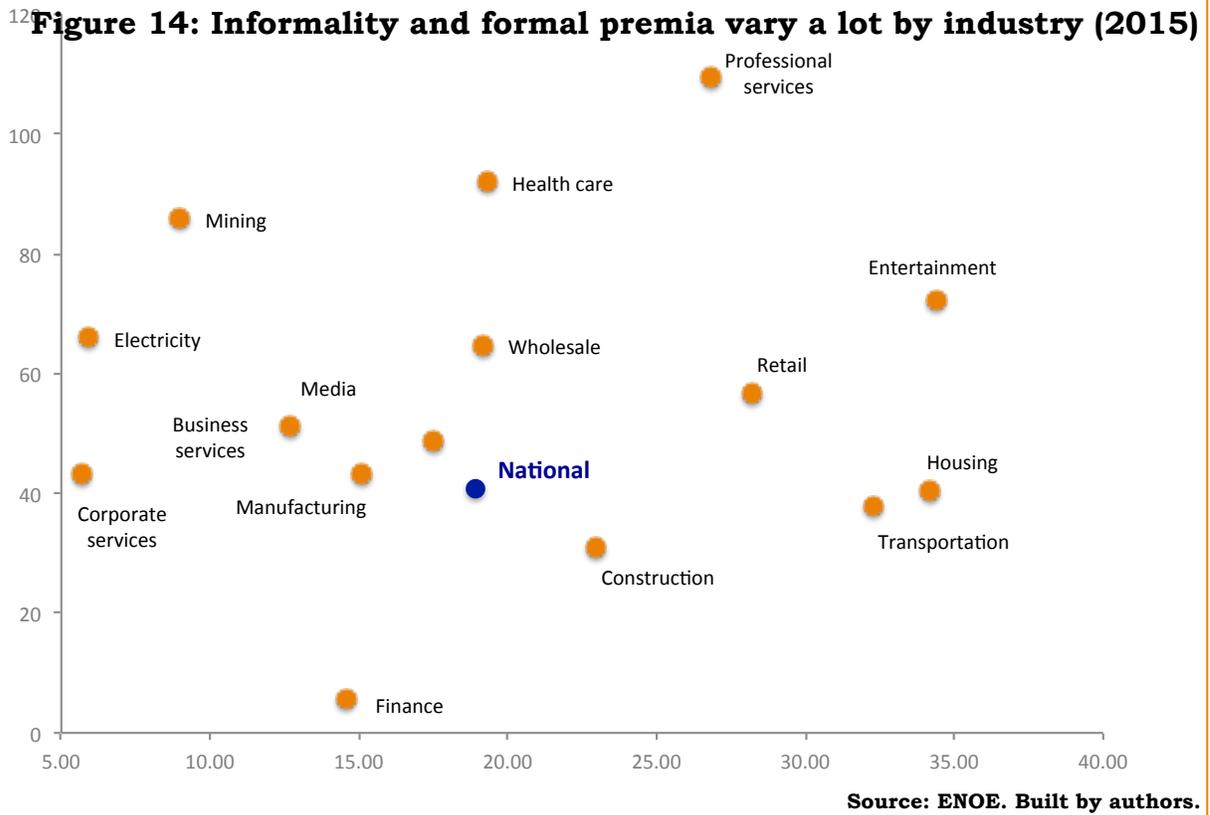
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<sup>10</sup> The estimation used a probit model as well as logit and OLS estimations to check for consistency.

**Figure 13: What increases or decreases the likelihood of being informal in a formal firm?**



**Figure 14: Informality and formal premia vary a lot by industry (2015)**



**On the other hand, we find that having a college degree does not have a relevant effect on the likelihood of being informal, except when the firm is large, in which case it increases the probability of being informal.** At the same time, age is negatively associated with being informal: The older the worker is, the less likely he or she is of being informal. These two pieces of evidence are consistent with the hypothesis, suggested earlier in Section III, that formal firms hire young, recently graduated college-educated workers informally while they are in transition towards a more definite position—the informal hiring serves the role of an “internship” of sorts.

**The estimation of the probability of being informal also shows that industry heterogeneity plays a role in informality.** The dispersion in the level of informality and the formal premium across sectors shows that certain industries have higher productivities than others. A relatively low-productivity industry such as Professional services has very high informality and requires a very large premium to work formally (less productive workers are more willing to be hired informally), while a high-productivity industry such as Mining has low informality and a high premium (demand for workers is mostly formal given their high productivity).

Our estimation of the probability of being informal explains 38% of the variation observed in the data. We complement this finding with a thought experiment: What would happen if informal workers became identical to their formal counterparts? In other words, we use the data to identify how much would the difference in income between formal and informal workers change if informal workers were to acquire the ‘endowments’ (average age, education, industry, etc.) as those formally employed.<sup>11</sup> The focus on the difference in earnings is useful because it complements the previous exercise on the probability of being informal: While the probability is associated with the informality rate, the difference in earnings corresponds to the formal premium. These two are closely related: If informality were erased, then the informality

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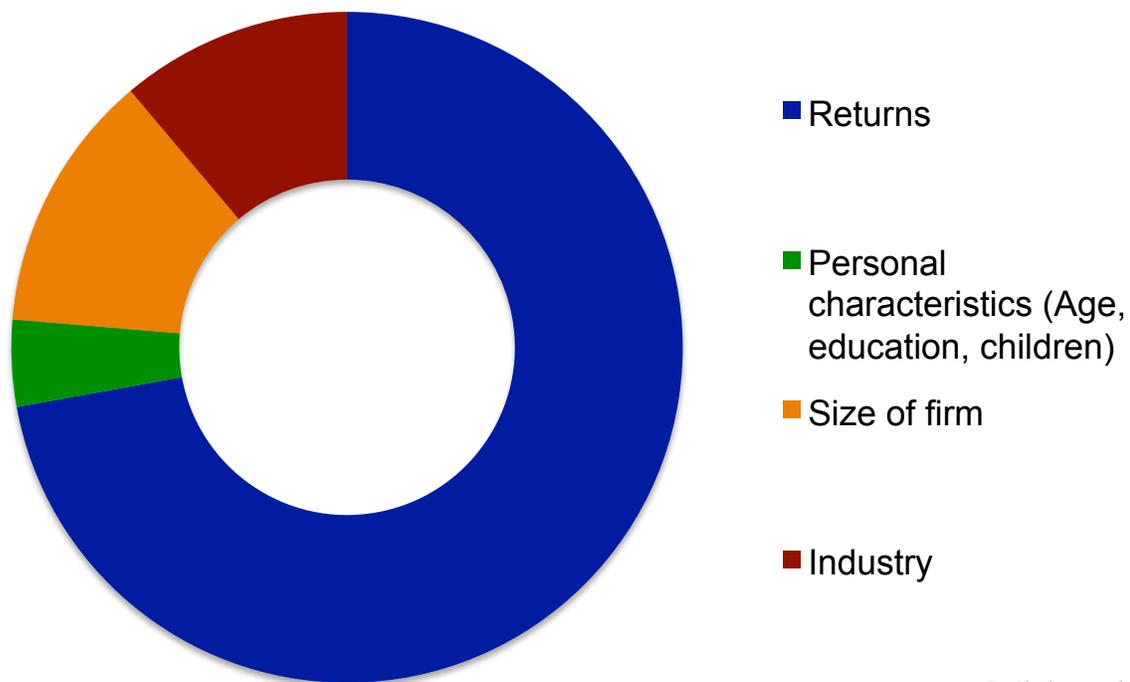
<sup>11</sup> The methodology used for bringing this thought experiment to the data is known as a Blinder-Oaxaca Decomposition.

rate would fall to zero, and so would the formal premium. **The result of this thought experiment is that differences in endowments explain approximately a quarter of the difference in earnings** (Figure 15). In particular, a worker's characteristics do not explain much, with firm size and industry composition explaining a larger fraction of the earnings gap.

### **Can matching frictions be a relevant factor in informality?**

The above discussion shows that factor accumulation (physical and human capital) and allocation (industrial composition) play a role in the emergence of informality. **As show above, both factors, in combination with controls for age, gender and location (state) explain 38% of the probability of being informal (the informality rate) and 28% of the differences in earnings between the two groups (the formal premium).** The question is, where can we find an additional explanatory factor?

**Figure 15: Personal characteristics of the worker explain only a small fraction of the earnings gap**



Built by authors.

We contend that the inability of employers to observe workers' productivity and effort creates incentives for informality given the current conditions in Mexico. Labor markets in Mexico are notoriously inflexible, and that rigidity is a factor in the high prevalence of informality. Under current legislation, a formal employee can only be fired if there is proof of engagement in dishonest, unethical or violent behavior in the workplace, or if he or she has more than three unjustified absences over a 30 day period. Furthermore, in case of a layoff workers can sue the employer for reposition to the Board of Conciliation and Arbitration, under the supervision of the Ministry of Labor. **If ruled in favor of the worker, the employer is responsible for paying three months in salaries as compensation for damages in addition to all lost earnings for the time that the worker was separated from his or her job (up to a maximum of 12 months).** Because this reposition lawsuits take more than a year on average (Figure 16), the employer faces the risk of paying 1.25 times the annual salary of a laid off worker after being forced to re-hire him or her.

**Not only does the data point to a 'missing factor' that explains a fraction of existing informality. We have collected significant qualitative evidence that points to the role of matching frictions in the emergence of informal hiring by formal firms.**

All of this means that firms take a significant risk when hiring formally. On one hand, since productivity cannot be directly observed before hiring, the employer could end up stuck with a worker that was less productive than expected. On the other hand, even if productive enough, once hired and provided with job security, the worker might exert less effort and shirk. The decision of a firm to hire informally can thus be seen as an attempt to retain flexibility and layoff power in order to reduce such risk.



Alam

Restaurant | 19 employees | \$1.2 M annual rev. | Mex. City

*Alam contracts all his employees under an outsourcing contract, therefore workers are not in the payroll of the restaurant but they have a formal contract. Alam prefers outsourcing rather than having workers under a payroll because it reduces the transaction costs of finding employees and hiring them, and also because it reduces potential liabilities for the company in case of suits from workers. On the other hand, they prefer outsourcing to total informality because it helps to get more stable workers, which is desirable given the high costs of training them. Alam can afford the costs of outsourcing because the restaurant relies on the financial backing of a large investment group.*



Brenda

Maintenance of industrial ovens | 40 full time employees and 150 temporary employees| \$1.5 million annual rev. | Mexico City

*Given its type of work, Brenda's company can use the hiring regime of the construction industry, which allows fixed-term formal contracts, with a relatively high degree of flexibility to hire and layoff workers. This is very convenient because the contracts between the company and its clients are temporary. The temporary workers receive the same non-wage benefits as the administrative employees, who are under a regular payroll.*



Fidel

Restaurant | 16 employees | \$100,000 annual rev. | Oaxaca

*In Fidel's restaurant, many workers prefer informal contracts because they do not appreciate the benefits of formality. The quality of the healthcare provided by the social security system is very poor, so employees often prefer to receive a higher net salary and pay for private health services when needed.*



Jesus

Digital marketing | 18 employ. | \$100,000 annual rev. | Queretaro

*Hiring workers formally is very inconvenient from the financial perspective; nevertheless Jesus hires all his workers under a fully formal payroll (except from two college interns). The only reason why the company does this is because they see themselves as socially responsible firm and want to provide comprehensive benefits to their workers. It is a way to promote commitment and long-term productivity. It is also risky, but they reduce the risk by hiring only college interns who have proved to be productive after a three to six months period.*



Jorge

Metalworking factory | 24 employ. | \$400,000 annual rev. | Mexico City

*Uncertainty about the skills and productivity of the workers is a major problem for Jorge. To address it, his company has created an informal "trainee program". Trainees are hired for a period of 28 days under a signed contract. If after this period they prove to be productive and well suited for the job, they are hired under the payroll. The trainee contract can be renovated up to a maximum of three periods according to an internal rule.*

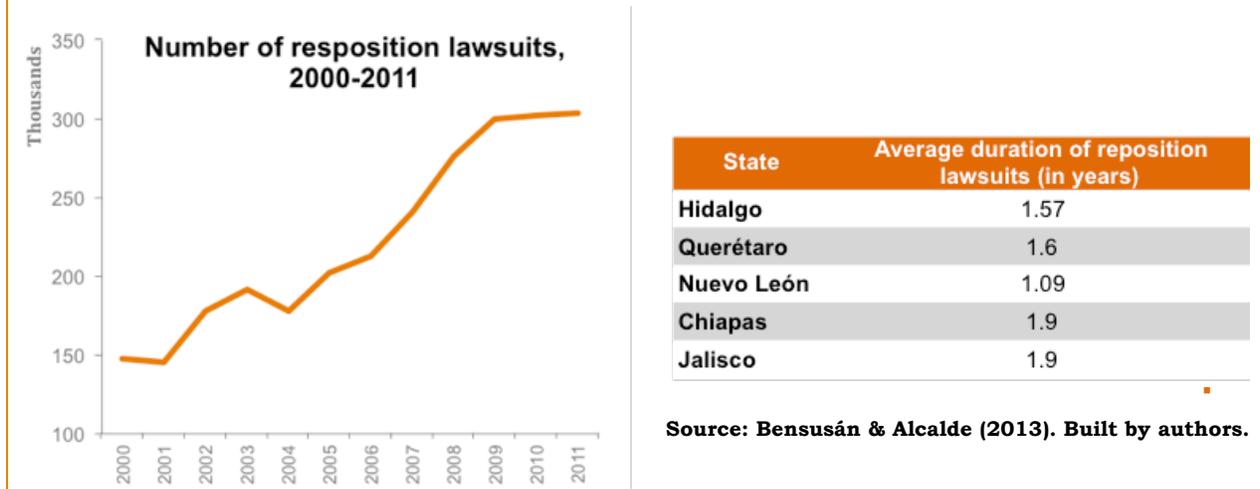
### **Qualitative evidence of matching distortions**

Not only does the data point to a ‘missing factor’ that explains a large fraction of the existing informality. In the absence of quantitative data on firm behavior, we have collected significant qualitative evidence (via ten in depth interviews with Mexican employers and entrepreneurs) that points to the role of matching frictions in the emergence of informal hiring by formal firms. Simply put, employers are uncertain about productivity and effort and therefore prefer to retain the flexibility that the informal labor market provides.

Our interviews took an average of 25 minutes, employed a predefined guide with prepared questions and were conducted via conference call. The majority of interviewees (9 out of 10) run formal firms that hire some of their personnel informally (for more information, see Appendix). We identify five broad themes shared in at least 70% of the interviews:

- **Hiring formally increases costs by approximately 35%.** In line with the earlier discussion about hiring costs, virtually all interviewees agreed that the hiring formally increases costs. Due to variations in social security contributions by industry (those with occupations entailing higher risk of bodily harm earn higher contributions), the exact percentage increase in costs varied somewhat, although the central and most common answer was around 35%. For some, the increase in formal costs is smaller because they already provide paid vacations voluntarily.
- **High costs of firing are a deterrent for hiring formally.** The fact that current Mexican legislation makes it difficult to fire workers discourages employers from hiring workers formally. The reason for this is that they do not have enough information about the worker’s skills when they start, and hence they prefer to retain the ability to fire a worker that turns out to be unproductive. In addition, since the future performance of the firm is uncertain, informal hiring enables the firm to adjust better to unforeseen negative shocks.

**Figure 16: Number and average duration of reposiotion lawsuits for selected states**



- **There are incentives for and interest in hiring formally.** Despite the aforementioned factors, the employers do see potential benefits from hiring formally. Chief among them is the interest in reducing worker turnover, which is its own source of costs for the firm (new employees need to be inducted and trained, and there is generally an adjustment period during which they do not produce at their full potential). Many interviewees also noted that employee loyalty is higher when hired formally rather than informally. A few also noted that, in the case of firms that join the supply chain of an exporter, the expectations of clients, which demand that the firm only hire formally become much more strict.
- **Despite their informal condition, they voluntarily grant several benefits from formal employment.** Some employers reported that they try to simulate the benefits associated with formal employment, particularly the annual bonus and the paid vacations, in order to elicit their loyalty and effort. As it would be expected, the cost of the annual bonus is kept in mind when arranging a monthly salary, so in this case the employer only rearranges the cash flows of the employee. The central

issue in most places, however, is health care coverage. Some employers have an internal agreement with their workers under which they agree to cover the insurance costs in case of sickness or accident. According to many employers, this strategy is more convenient than enrolling workers in the Social Security System, which has a very poor service quality.

- **Unions are seen with skepticism.** Although they do not lead any employers do not look on the unions kindly because of their role in supporting lawsuits for unjustified layoffs. They note that unions not only serve a purpose for collective bargaining, but in fact allow formal workers to avoid taxes: Unions increase their fees and dues, workers pay them so that they lower their taxable income, and once these are paid then the union proceed to pay back the worker.



Joaquin

Printing and graphic arts | 12 employ. | \$425,000 annual rev. | Mex. City

*Even though hiring workers informally would be considerably less costly, Joaquin prefers to have all the employees in the payroll because of business ethics. The policy of the company is to comply with all the federal and state regulations. This is particularly relevant for the company given that they export their products and services to the United States in the framework of NAFTA.*



Uriel

Printing and graphic arts | 12 employ. | \$425,000 annual rev. | Mex. City

*Uriel formalized his company and workers 5 months ago. The financial effect of this decision was negative for the company, but he decided to do so in order to provide his workers with better benefits to increase their commitment with the company. Interestingly, some workers asked him to lower his "formal salary" in order to contribute less to Social Security System, and the company would pay the rest "off the record" so they could get a higher direct salary.*



Andres

Private security | 90 employees | \$365,000 annual rev. | Mex. City

*Frequently workers stop showing up and then sue the company for an unjustified layoff. This leads to very long and costly trials, of which currently Andres has three. Workers can only do this if the work relation is formal. Therefore, Andres only uses formal contracts when workers have proved to be trustworthy and productive over time, never right from the very beginning.*

**The interviews also covered perceptions about policy issues.** When asked which was, in their opinion, the most important aspect about labor regulation today, several argued that the current tax burden is significant and that maybe smaller companies should be under a different tax regime than larger ones. They also pointed out that one of the reasons for the high informality was that enforcement by the government is deficient, which in turn means that informal hiring involves little risk. Finally, the quality of access to health care under publicly-run insurance schemes appears to be a factor in both the willingness of employees as well as the interest of employers in informal employment, since they can pay for better health care for their employees at a similar cost.

## VI. POLICY RECOMMENDATIONS

We propose two specific policy interventions in order to address the matching problems that involved in the emergence of informal hiring by formal firms: An internship program for non-college educated workers and a modified profit sharing mechanism that introduces performance evaluations. We put forth these proposals against a backdrop of existing attempts at reducing informality, which have had mixed results in the last five years.

	<b>Raul</b>	Printing and graphic arts   12 employ.   \$425,000 annual rev.   Mex. City
<i>None of the employees in Raul's company is formal. Interestingly, unlike the other entrepreneurs interviewed, the reason is not cost reduction. Raul provides the workers with all the benefits they would perceive under a fully formal contract: they have vacations, annual bonus, and instead the social security, Raul provides them with a private insurance scheme. According to Raul, this is much more convenient for his workers, because the Social Security system has very poor quality as compared to the private system.</i>		

	<b>Rosalino</b>	Food for babies / 2 employees / \$180,000 annual rev. / Mex. City
<i>Rosalino does not have any worker under a formal contract in the company's payroll. The main reason is that his company is a small startup and the future is yet very uncertain, so he puts great value on having the possibility of laying-off and hiring workers with flexibility. He plans hire formally once the company is more stable and settled. The costs of formality are too draconian for small startups like his.</i>		

## **Policy environment**

Labor legislation was been so politically sensitive that it was insulated from the broader process of liberalization of the 1980s and 1990s. In an attempt to broaden support for reform, in November 2012 then-president Felipe Calderon passed the first major change in federal labor laws in more than 40 years with the apparently contradictory objectives of liberalizing labor markets while increasing protections for specific groups of workers. The reform introduced a period from one to six months in which the employer could lay off new workers without having to pay any compensation for dismissal as well as special regimes for temporary work and telecommuting. At the same time, it limited outsourcing by firms to non-core operations, introduced paid maternity leave for six weeks and left the legal framework regulating labor unions intact.

**Currently, political capital for policy action is limited: Both the 2012 reform and the late-term dynamics of the current tenure of president Enrique Peña Nieto, who is starting his fifth year out of a six-year term, put significant constraints on the menu of policy alternatives.**

As noted earlier, the labor reform approved in 2012 was the third attempt by the government Felipe Calderón, after consecutive failures in March 2010 and 2011. In both cases, the ruling right-leaning PAN required the support in Congress from PRI, which refused in order to retain the support of unions and not be displaced by the far-left PRD in the 2012 elections. Popular resistance on the left managed to block any attempt at reform that involved some liberalization and the proposals were never put to a vote.

Things changed after president Enrique Peña Nieto from PRI was elected in July of 2012, however. Freed from electoral concerns, PRI supported PAN's attempts at reform and, more importantly, it joined the exiting government in passing the "Preferred Initiative" mechanism, requiring Congress to approve or reject legislative proposals by the president in no more than 30 days. This not only allowed Calderón to pass reform in the waning days of its presidency, but most importantly, introduced new formal rules that altered the political calculus, as stalling was no longer an option. Faced with a new proposal, PRI

decided to strip provisions regulating unions and passed the rest of the law in September of 2012. **The fact that this was the first change in labor laws since 1972 is a sign that labor reform does not happen easily in Mexico.**

**Labor legislation has always been politically sensitive in Mexico, but under the current political climate it is even a tougher sell. Significant policy initiatives will only become possible after the 2018 elections.**

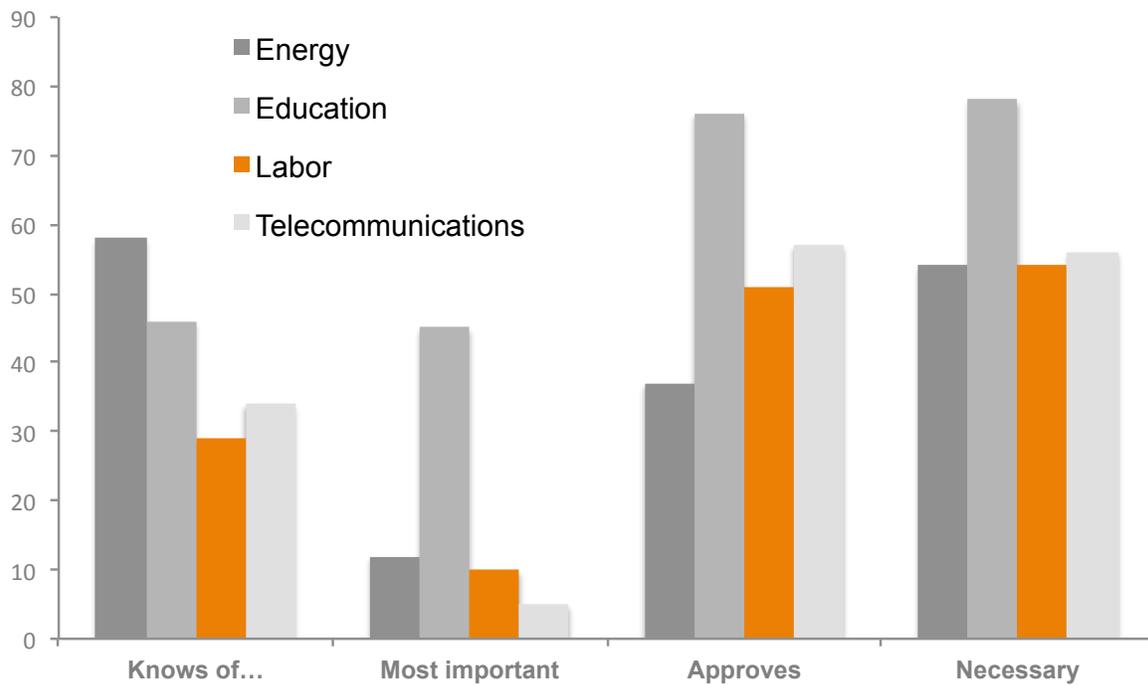
At present, the political scenario resembles that of 2010, when Calderón first pressed for reform: With two years to go until the next elections, Congress requires coalitions in order to pass laws, pushing labor reform appears to be a hard sell. Even for PAN, which would typically support market-based reforms, building coalitions with PRI under current circumstances seems unlikely, especially considering that the latest polls are led by left-leaning Andrés Manuel López Obrador, formerly from PRD. Further compounding this issue is that labor reform is only regarded as necessary by 54% the population and as the most important by 10%, even if less than one third believe that they really know about it (Figure 17). This leads to two observations: First, any attempt to reduce the costs of firing is simply unfeasible from a political standpoint; second, other types of policy action will only become possible have a better chance of getting traction after the 2018 elections.

### **POLICY PROPOSAL 1: “Mi Primera Chamba”, an internship program for non-college educated workers**

“Mi Primera Chamba”<sup>12</sup> (MPC) is an internship program for workers without college or technical education and no previous experience as a salaried full time worker. The program will be run by the Ministry of Labor (STPS in Spanish) with the support of SHCP and seeks to provide an easy way for employers to identify worker productivity, creating an incentive to hire formally.

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<sup>12</sup> “Mi primera chamba” is a Spanish colloquial expression for “My first job”. That is often used in Mexico.

**Figure 17: Most Mexicans do not regard labor reform as a top priority**

Source: CESOP (2015), retrieved from *El Informador* (01/09/2015). Built by authors.

**Policy description.** MPC will consist of government-run workshops and government-sponsored internships with participant firms following successful completion of the course. All admitted applicants will be enrolled in a two-month course consisting of three modules: (1) Basic mathematics and quantitative reasoning; (2) Industry-specific skills; and (3) Professionals ethics. Once the module is completed, participants will be tested in order to qualify for the internship program. If the participant fails the examination, he or she will have a second opportunity to take the test in the following two weeks. In case of a second failure, the participant will have to withdraw from the program.

The internship component of MPC will consist of two 5-month internships, which can be both completed with the same firm. Each participant will apply to an internship and be vetted according to each participant firm's internal criteria and procedures. Interns will be paid a monthly salary of 1,5015 pesos at minimum, with half of the salary being paid directly by the

government and the other half funded by the hiring in firm; employers are free to offer higher salaries at their own expense. In addition, employers fund health care coverage during the extension of the internship. The program does not assign workers to specific firms but makes available the complete set of participant firms offering internships via career fairs and events organized during the two-month workshop. Prior to the beginning of each 5-month internship period, firms will be automatically provided with each participants' full test results. Each firm will be allowed to hire a number of interns equal to 10% of its payroll, rounded up to the closest integer. At the end of the internship period, the firm has the option to end the internship, extend it (in case the previous one took place during the August-December period) or hire the worker permanently.

STPS will organize three rounds of applications each year and the program will begin in June–July (the workshop), followed by the internship periods (August-December and January-May). The program is sector-specific, and thus participant apply to be admitted in specific programs (i.e. Retail, Transportation, Hotels & Restaurants, etc.). In order to apply, prospective participants will be required to pay an enrollment fee of 450 pesos. Participants who failed their examination twice or completed the program and want to participate again are invited to do so for up to three consecutive years; after that, applications will not be accepted again until a full year has passed since the end of the last participation in the program.

**Scalability.** In order to start the program, STPS will focus on an initial set of four workshops—on Hotel & restaurants, Manufacturing, Retail and Transportation. This will require reaching out to firms in each sector and invite them to the program. To do so, STPS will contact the business organizations in each sector and set up a working group with them to recruit firms as participants in the program. Coordination between STPS and the participating firms will take place only through their representing business associations in

order to avoid fears on the part of firms that they will be the target of government scrutiny into their hiring decisions.

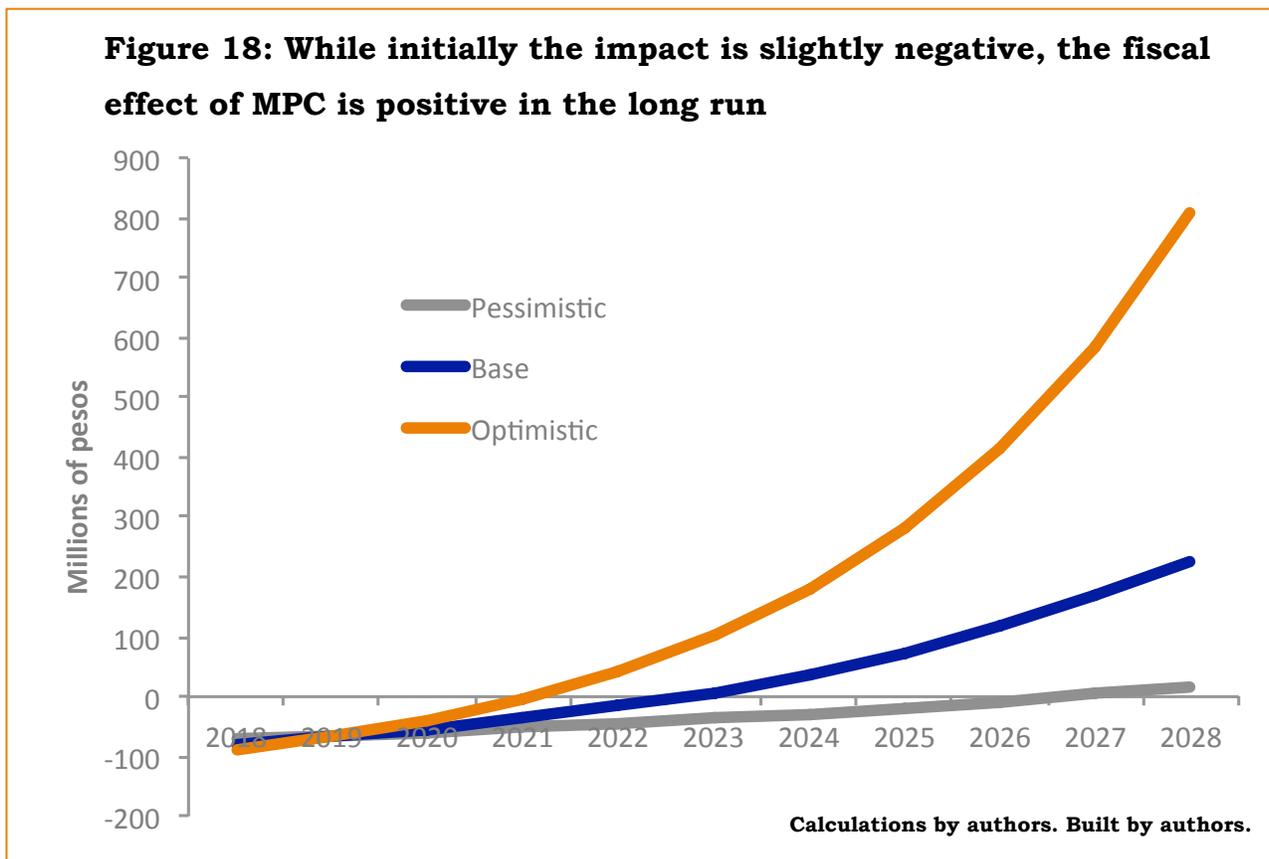
During its first year, the program as a whole (all four industries) will admit a maximum of 5,000 workers. The program will be run initially in the largest cities, with the specific industry focus depending on the degree of participation of the business associations in the territory. In the following years, the decision to increase the scope of the program (number of industries covered in workshops), its reach (geographical extension) and budget will be subject to a joint review of STPS and SHCP. Executing this policy and monitoring its scaling will require setting up a new agency within the STPS, focused on running, evaluating and promoting MPC. This unit reflects the fact that, in addition to quantitative, functional and organizational scaling, the policy involves operational scaling, because its activities will become more complex over time.

**Technical correctness.** Our analysis suggests that firms have a limited ability to assess the skills and inherent productivity of workers before hiring them. Therefore, the goal of MPC is to facilitate the identification of productive workers by firms rather than to impart new knowledge or skills. First, the fee allows the program to screen for motivation—while not prohibitive, the fee prevents those who are not actively looking for a formal job from enrolling. Second, allows the program to separate the better prospective workers from the rest before the internships begin.

In doing its screening, the program emulates a practice that is common in the private sector: A first stage selection of the potentially productive so that, in a second stage, firms can select from a narrower field of talent. Indeed, many firms take advantage of the fact that educational institutions already screen from within a large group of people, and then proceed to interview and hire from a smaller field (those accepted by the school and looking to graduate), lowering their costs of selecting new personnel (this is also true for graduate education). Non-college educated workers, however, lack access to this system

of recruitment. **Therefore, what MPC does for non-college educated workers is replicate the networking and screening infrastructure existing at higher levels of education.** In this case it is the government program, rather than an academic institution, that filters the initial pool of potential workers.

Yet if employers already use informal hiring as a way to evaluate productivity, what would make the internship program a superior substitute so that they switch and start hiring formally? Our qualitative data shows that workers do in fact have incentives to hire formally: It decreases turnover (informal workers are more likely to live after short tenures at a particular position), increases worker loyalty and makes it easier for the firm to comply to requirements from clients in their value chain (especially in the case of exports). **If the firm now has an alternative way to screen workers that allows it to simultaneously reap these benefits, then the incentives to hire formally become much greater.**



A central aspect to determine the feasibility of the policy is its net fiscal impact. In order to assess the impact we have conducted a sensitivity analysis with three scenarios: conservative, intermediate and optimist. The relevant variables for each scenario are (1) annual rate of increase of participants in the program (10%, 20% or 30%, respectively), (2) the percentage of participants that get a formal job (30%, 50%, or 70%) and (3) the average starting salary of interns that become formal (2,500, 3,000 or 3,500 pesos). The net impact is estimated as the additional collection of taxes as a consequence of the increased number of formal workers, minus the costs of the subsidies to the salaries paid to interns as well as the administrative costs of the program. The fiscal impact in most cases is positive and is negligible when negative (Figure 18).

***Administrative feasibility.*** Setting up a series of workshops that feed into an internship program is difficult because of the multiple interactions between that target population and those in charge of executing the policy, and because the procedures for carrying a workshop cannot be easily standardized. However, this weakness is significantly lessened because of the relative unimportance of the workshops themselves as opposed to the screening mechanism before (the fee) and after (the workshop). Nonetheless, in order to facilitate the implementation of the workshops, it is recommended to request the input of local universities, which can be asked to participate as partners in MPC and lend their faculty for the workshops on a rotating basis.

A second and more crucial challenge is setting up the internship network with the participation of different firms. As noted earlier, this will require strong coordination with business associations at both the national and local level. Yet as our qualitative work shows, there are multiple small or medium-sized firms that are also part of the target group and may or may not participate actively in these forums. **In turn, what this requires is a strong digital strategy that both advertises and actively recruits firms to participate in the internship program.** Once again, to address fears of scrutiny into the hiring practices of these firms (they might hire informally and

might avoid joining the program from fear of enforcement by the government), the digital strategy should be conducted in partnership with the relevant business groups, so that communication is handled through that channel.

The proposed scalability plan addresses these challenges by making sure that the program starts small, with a pilot involving 5,000 participants. This first stage, given its size, involves lesser challenges in conducting the workshops; similarly, it does not require widespread participation on the part of firms, ensuring that demand and supply for internships are easily matched and one does not outstrip the other. Moreover, because it begins by focusing on the four sectors with the largest contribution to informality, the program maximizes its impact for its given size.

**Political supportability.** As noted earlier, there is little space for meaningful action on labor reform until after the 2018 elections. However, current trends suggest a greater emphasis on workers and jobs moving forward, regardless of the electoral result. This creates fertile space to gather support for MPC, likely on both sides of the political spectrum. On one side, PAN and PRI, having pushed for the 2012 labor reforms, will seek to pivot towards a more centrist, “worker-centered” position; on the other, both MORENA and PRD will see that the proposal aligns with their stated policy preferences. This last fact is also true for unions, a major powerbroker with regard to labor policy. Thus, **there are reasons to believe that this policy is broadly supportable** (Figure 19).

## **POLICY PROPOSAL 2: Performance-based profit sharing**

We propose a change in current legislation regarding profit-sharing with the goal of introducing performance-based measures. The goal is to make worker earnings more reflective of employee effort and performance, providing a tool for employers to incentivize their workers and a way for the most hard working, dedicated of these to reap larger benefits from their effort.

**Policy description.** Firms are required by law to distribute 10% of any after-tax profits they make in a fiscal year with their workers. Of these, half is

equally distributed among all the workers and 5% is allocated proportionally with respect to salary level (management is exempted from the those legally mandated to share in the profits). **We propose to build on this existing framework, leaving the 5% equally distributed among all workers as it is, but introducing a performance assessment for the remaining 5%.**

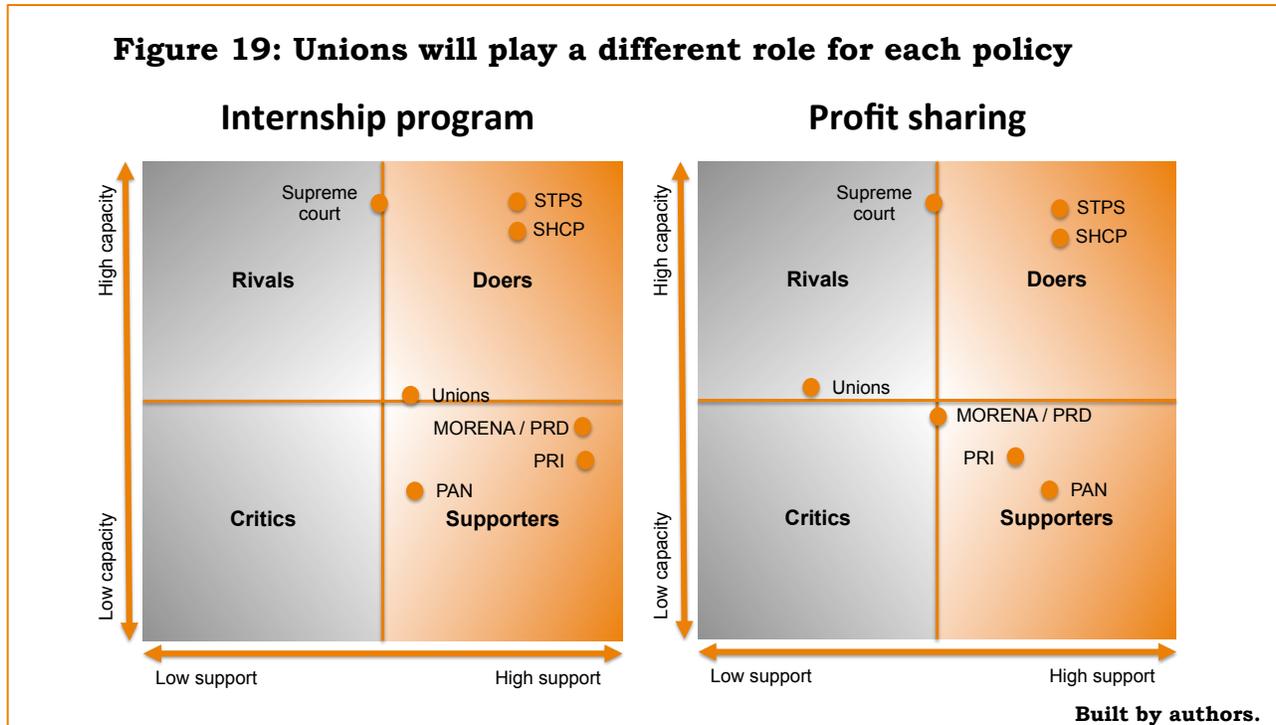
We propose the following methodology. First the immediate supervisor will assign each worker a score form 1 (low performance) to 3 (high performance). In terms of scoring, the number of workers earning a 1 should be equal to those earning a 3, with the number of average workers who receive a score of 2 being as small or large as the firm so choose. Then, the individual payment will be determined using the following formula:

$$Payment\_worker\_i = \left[ \frac{Salary_i}{\sum_{i=1}^N Salary_i} \right] * \left[ \frac{Score}{2} \right]$$

where *Payment\_worker\_i* is the total amount from the firm’s profits received by a worker for their performance, “*Salary<sub>i</sub>*” is the annual salary of worker, N is the total number of workers in the company’s payroll; and “*Score*” is the performance score assigned to the worker, which can take values from 1 to 3.

**The design of the formula is such that if the worker receives a score of 2 (average performance), for example, he or she would receive the same total amount prescribed under the current regulation.** The advantage of this system is that it penalizes bad performers and rewards good ones, yet it also contemplates a scenario in which all or most workers perform in line with expectations. This does a better job in aligning incentives for the firm and the worker than the current system does—overall profits do not depend solely on one worker and he or she might ‘free ride’ on the work of his or her colleagues.

Finally, while all firms would automatically opt into this new scheme, they will have the chance to opt out under the condition that they provide an alternative method to include performance evaluations in profit sharing. This method will have to be supported by at least 50% of the workers in the payroll and then approved by STPS.



**Technical correctness.** One issue associated with informal hiring was that, under informal contracts, it would be easier for employers to incentivize workers to exert more effort. The profit-sharing policy seeks to address this by providing an instrument to create similar incentives within a formal labor contract. By making a fraction of labor earnings contingent on performance, employers can provide both *carrots and sticks* to employees. At the same time, high productivity workers benefit from the upside. Mexico is one of the only three countries in the OECD with a mandatory profit sharing regime (OECD, 2008).<sup>1314</sup>

**Based on our interviews, we believe that many firms perceive the 10% of profits as a “sunk cost” that cannot be used to incentivize “good” behavior performance because it is not tied to any evaluation.** By introducing performance evaluations, the perceived benefits of hiring workers formally would increase, incentivizing firms to do so. Once again, a potential

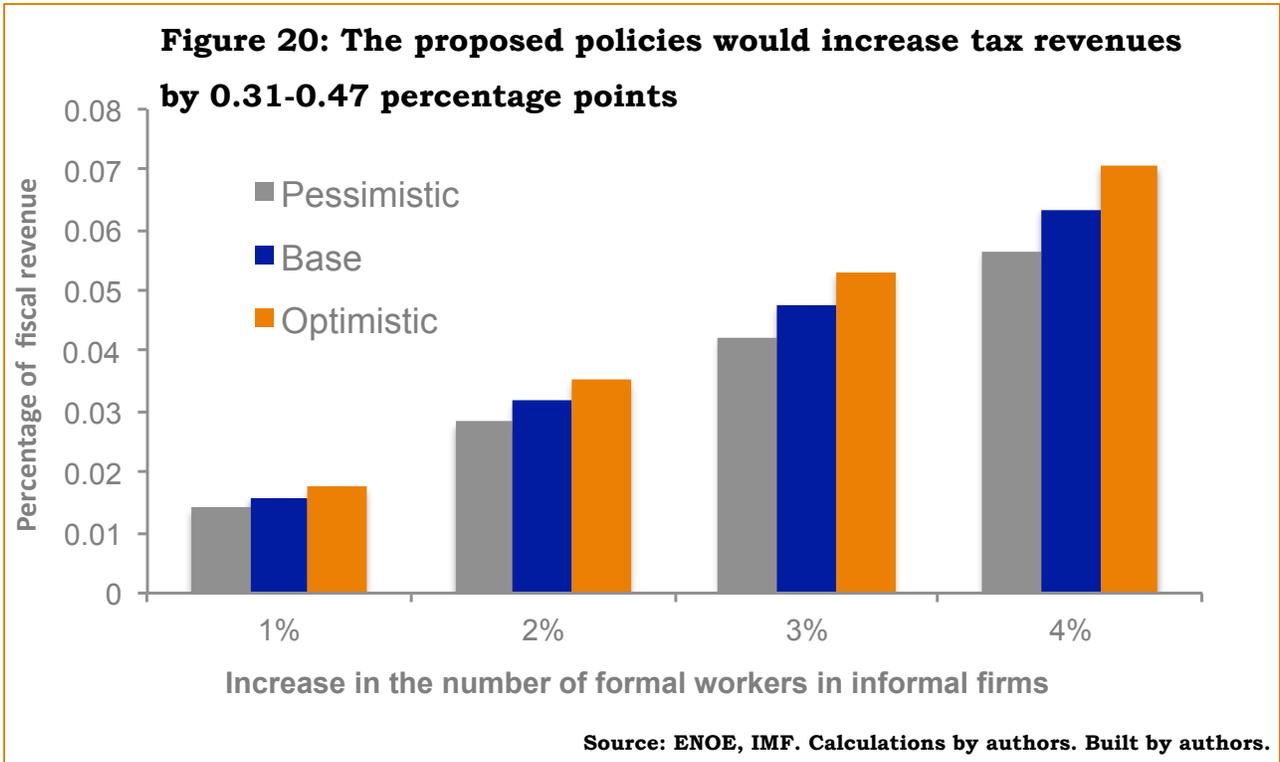
<sup>13</sup> The others are Chile (30% of the profits up to 4.75 minimum wages) and France (which uses the following formula:  $50\% * (\text{taxable profit} - 5\% * \text{equity}) * (\text{wage expenses}) / (\text{value added})$ ).

<sup>14</sup> Nevertheless, many firms in countries without mandatory regimes implement voluntary schemes that include performance evaluations.

objection could be that firms already are able to use informal contracts to monitor and reward effort. While true, the same logic applies as before: There are some reasons for which firms prefer to hire workers formally (lower turnover, workers satisfaction, etc.) so the marginal firm would certainly find it advantageous to hire formally. Also, note that because the introduction of profit-sharing does not generate budgetary outlays, its fiscal impact is positive and dependent on its effect on the tax base via lower informality.

**Administrative feasibility.** The proposed policy would require a change in law, which is simple from an administrative point of view. **The challenging aspect of the implementation will be enforcement, including labor protections against different types of discrimination in the evaluation.** Inspections, even if effective, would generate high transaction costs and require large budget. Given this, we propose an enforcement system that relies on complaints presented by the workers. Workers will be able to make their claims to STPS in the case the employer does not implement the new regime of profit sharing or the performance evaluations are used to discriminate based on some other characteristic. Workers will be able to make their complaints through a hotline as well as online.

**Political supportability.** Unlike the internship program program, the performance-based profit sharing policy might face some backlash from labor unions, which are largely opposed to the introduction of performance evaluations in general. In order to increase the political supportability of the policy, we propose to present it in a package with the “Mi primera chamba” program, which is highly supportable. **The package can be presented as an integral attempt to promote productive formal work, a ‘tit for tat’** in which unions agree to one policy they do not like (performance-based profit sharing) in exchange for one that they support (the internship program).



### What does success look like?

Informal workers in formal firms represent approximately 13% of employment and one third of the total number of informal workers. Both the internship program as well as the profit sharing with performance evaluations seek to incorporate behavior that already takes place in other areas of the economy, such as internships for college students or voluntary profit sharing by successful firms wanting to incentivize productivity. In both cases, **we expect to affect the cost-benefit calculation of the *marginal firm*: The firm that hires informally but would welcome the possibility of hiring formally if some of the limitations of formal hiring are solved.** That marginal firm is the target of our policy proposals.

Putting a number to the group of marginal firms that the policy might shift from informal to formal hiring is tricky, particularly giving the absence of quantitative data. A first exercise, however, starts by observing that factors other than matching frictions explain 38% of informality in formal firms. Assuming that the remaining 62% of firms respond to varying degrees to the

presence of matching frictions, and identifying the marginal firm as representing at least a third of the total, this yields a 2.5-3.0 percentage point decrease in the share of informal workers in the economy. **While this might sound small in percentage points, we would like to point out that it is in fact fairly significant: These are approximately 1.3-1.5 million workers, or roughly the entire population of the state of Aguascalientes.** These would involve more than one million more tax payers, who simultaneously enjoy better access to health care and pension coverage. Under our base scenario, we expect newly formalized workers to retain the same after-tax income, in which case fiscal revenues would increase by 0.31-0.47 percentage points; in an optimistic case, where earnings rise by 10% after formalization, the magnitude of the increase would be 0.35-0.52 points, while in a pessimistic case in which after-tax earnings go down 10%, the revenue increase would be 0.28-0.42 points (Figure 20). Compared to the expected budgetary costs of the policies, which are close to zero, we believe that this fiscal impact is very significant.

**We believe that our proposed policies can reduce the total share of informal workers by 2.5 to 3 percentage points and raise tax revenue by 0.3 to 0.5 percentage points.**

## VIII. CONCLUDING REMARKS

Win this paper we have proposed two policy interventions to address the effects that matching frictions have on informal hiring by formal firms: An internship program for non-college educated workers that seeks to make it easier for firms to identify worker productivity without having to hire informally; and a change in the current profit-sharing scheme that introduces performance evaluations in order to induce greater effort by workers under formal contracts. Given that informal workers hired by formal firms represent 13% of employment, approximately, we believe that these can contribute to a 2.5-3.0 percentage point reduction, leading to a significant broadening of the tax base at little short term cost and with significant revenue-increasing effects in the long run.

## APPENDIX

The appendix consists of the literature review, the complete results for econometric calculations discussed in Section V and the complete responses from the in-depth interviews discussed in Section V.

### Literature Review

The existing literature on informality is vast, but tends to be clustered around the association between informality and growth, the effects of taxes and regulations, and how access to health care and pensions affects the willingness to work informally. In addition, and while not explicitly linked to informality, we believe that the literature on the “new industrial policy” and contract theory can help to frame the problem.

**Growth, taxes and benefits.** *The existing literature.* In terms of mapping the relationship between informality and growth, the most prominent contribution is La Porta and Shleifer (2014), which used a panel of 68 countries between 1990 and 2012 and concluded that the negative association between the two is a result of the replacement of inefficient informal firms with no growth potential by more efficient and productive formal firms; a similar perspective was followed previously by Rauch (1991) and Massenet and Straub (2011), although the latter emphasized the credit channel. Docquier, Müller and Naval (2014), on the other hand, makes a distinction between the short run, where a causal relationship in the vein of La Porta and Shleifer (2014) holds, and a long-run equilibrium in which informality prevents income convergence between rich and poor countries and can potentially cause poverty traps. In the case of Mexico, however, Maloney (1997) shows a cyclical relationship between informality and economic growth, and suggests that workers perceive a good business cycle as an opportunity to leave a protected job and launch small informal enterprises. A potential area of overlap between all these results seems to be that informality could be a phase in the development of the firms,

but that if they get ‘stuck’ and do not formalize this can eventually become an impediment to growth.

Together with growth, taxation is one of the most discussed perspectives on informality. This view is fundamentally centered on the argument of De Soto (2000), formally modeled soon after by Erickson (2002), which postulates that informal firms have in fact a high growth potential but are held back by costly regulation imposed by the government. According to the World Bank (2011), tax reform has been a major instrument to reduce informality in many economies, yet the effects of such reforms may vary from country to country; however, studies conducted in Latin America have had more mixed results. While Kugler and Kugler (2009) find that, in the case of Colombia, an increase of 10% in the payroll tax has a negative effect on formal employment of 4%-5%, Gruber (1997) does not find a significant effect of tax reductions for Chile. The potential discrepancy might have to do with the particular characteristics of the labor market, however: the early literature on the relationship between labor markets and taxation found in Summers (1989) (and recently extended in Farne and Rodriguez (2013)) highlights the importance of the elasticity of labor supply and demand, the presence of a binding minimum wage, the bargaining power of workers and the valuation of the social benefits that come with formal employment. Closely linked to taxes is the effect of minimum wages on the informal sector; according to Jaramillo (2008), increases in the binding minimum wage led to more informality in Peru.

The valuation of the benefits associated to formality, health care and pensions in particular, has been the focus of a lot of work done recently in Mexico. Both Anton, Hernandez and Levy (2012) and Levy and López-Calva (2016) suggest that non-contributory safety nets promote informality in Mexico because they constitute an attractive alternative to the contribution-based health and pension programs provided in formal labor contracts. Earlier, Oviedo (2009) proposed that, even in the absence of safety nets, workers might perceive that non-wage benefits offered by formal contracts are not worth the value of their contributions. Finally, Perry et al. (2007) uses the results of a

survey in 65 municipalities in Bolivia, Brazil, Honduras, Nicaragua and Peru to show that the perceived benefits of formality in terms of non-wage benefits are low, and that the main incentive to formalize is lower risk of punishment.

***Industrial policy and contracts.*** *Two potentially new perspectives.* The work represented by La Porta and Shleifer (2014) on the relationship between growth and informality does not address why firms are unable to make the transition from being informal to formal, and later works have left that question open-ended. In that regard, the “new industrial policy” literature pioneered by Rodrik (2004), Rodrik (2008) and Hausmann, Rodrik and Sabel (2008) as well as the concept of economic complexity found in Hausmann, Hidalgo et al (2013) can offer a new line of thinking. The latter analyzes the impact of diversification on 128 different countries, and finds that more diversified countries are richer and their firms are more productive. Hausmann and Rodrik (2003) and Rodrik (2015) study the factors that prevent countries from diversifying and, among others, identify the existence of coordination and self-discovery externalities that require the intervention of government to be solved. Moreover, it introduces the notion of premature de-industrialization, and in passing points to a potential association between this process and higher informality. In Mexico, Hausmann, Espinoza and Santos (2015) and Levy, Hausman et. al (2015) have studied the problem of low diversification in Chiapas (where informality is close to 30%) and find that it is the state with least complexity.

Another unexplored ground with fresh ideas corresponds to the analysis of contractual interactions. Contract theory is a large area of research, and although (to our knowledge) there are no specific contributions that establish an explicit connection with the study of informality, issues of moral hazard and adverse selection (as a result of the inability to monitor effort or in the presence of perfect job security) are potentially fertile areas of work. This is largely based on the contributions of Stigler (1962), Arrow (1963) and Akerlof (1970) to the economics of information and Hart and Holmström (1987) as well as Meyer (1987) to the contractual understanding of labor markets.

**Probability of being informal: Estimation results**

DEPENDENT VARIABLE: INFORMAL IN FORMAL FIRM

VARIABLES	(1) Probit	(2) Logit	(3) OLS
Age	-0.000220** (9.32e-05)	-0.000149** (6.77e-05)	-0.00108*** (0.000135)
Age squared	1.19e-06 (1.11e-06)	9.05e-07 (8.21e-07)	1.06e-05*** (1.31e-06)
Female, has children	-0.000676*** (0.000188)	-0.000425*** (0.000132)	-0.000799*** (0.000297)
College	0.00147 (0.00101)	0.000856 (0.000627)	-0.00246 (0.0103)
Large firm (>50 workers)	-0.0306*** (0.00161)	-0.0280*** (0.00116)	-0.0530*** (0.00713)
College*Large firm	0.0107*** (0.00151)	0.00859*** (0.00130)	0.0183* (0.0104)
Has Seguro Popular	0.00628*** (0.000610)	0.00453*** (0.000446)	0.0162*** (0.00155)
Is seeking job	0.00695*** (0.00147)	0.00431*** (0.000943)	0.0574*** (0.0118)
Mining	-0.000296 (0.00997)	0.00106 (0.00660)	0.0203 (0.0714)
Construction	0.0195*** (0.00385)	0.0127*** (0.00239)	0.174*** (0.0407)
Manufacturing	0.0165*** (0.00191)	0.0110*** (0.00127)	0.170*** (0.0153)
Wholesale	0.0102*** (0.00252)	0.00717*** (0.00161)	0.0947*** (0.0226)
Retail	0.0191*** (0.00172)	0.0122*** (0.00115)	0.223*** (0.0127)
Transportation	0.0145*** (0.00343)	0.00979*** (0.00214)	0.134*** (0.0360)
Housing	0.0326*** (0.00426)	0.0205*** (0.00253)	0.370*** (0.0565)
Professional services	0.0343*** (0.00256)	0.0214*** (0.00166)	0.321*** (0.0265)
Business services	0.0141*** (0.00267)	0.00917*** (0.00175)	0.117*** (0.0255)
Education	0.0103*** (0.00229)	0.00759*** (0.00157)	0.0813*** (0.0177)
Health care	0.0302*** (0.00210)	0.0190*** (0.00140)	0.272*** (0.0191)

Entertainment	0.0370*** (0.00387)	0.0231*** (0.00238)	0.422*** (0.0495)
Hotels & restaurants	0.0200*** (0.00184)	0.0129*** (0.00123)	0.211*** (0.0144)
Other industries	-0.00831*** (0.00202)	-0.00590*** (0.00150)	-0.0442*** (0.0129)
Mining*Large firm	0.0259* (0.0138)	0.0236*** (0.00910)	0.0392 (0.0943)
Construction*Large firm	0.0161** (0.00683)	0.0178*** (0.00442)	-0.0534 (0.0644)
Manufacturing*Large firm	-0.00873*** (0.00245)	4.31e-05 (0.00192)	-0.194*** (0.0139)
Wholesale*Large firm	0.00973** (0.00481)	0.0132*** (0.00341)	-0.0926*** (0.0297)
Retail*Large firm	-0.0258*** (0.00259)	-0.0134*** (0.00222)	-0.314*** (0.0112)
Transportation*Large firm	-0.00356 (0.00715)	0.00302 (0.00545)	-0.153*** (0.0421)
Housing*Large firm	-0.0220** (0.00913)	-0.00747 (0.00677)	-0.404*** (0.0623)
Professional services*Large firm	-0.0141** (0.00569)	-0.00295 (0.00447)	-0.296*** (0.0308)
Business services*Large firm	0.0123*** (0.00442)	0.0159*** (0.00304)	-0.0805** (0.0318)
Education*Large firm	0.0147*** (0.00274)	0.0161*** (0.00204)	-0.0300* (0.0170)
Health care*Large firm	-8.37e-06 (0.00266)	0.00719*** (0.00194)	-0.209*** (0.0209)
Entertainment*Large firm	-0.0129* (0.00714)	-1.67e-05 (0.00504)	-0.386*** (0.0582)
Hotels & restaurants*Large firm	-0.0261*** (0.00417)	-0.0142*** (0.00385)	-0.268*** (0.0133)
Other industries*Large firm	0.0112*** (0.00394)	0.0124*** (0.00322)	0.00484 (0.00972)
Educational professionals	0.0132*** (0.00242)	0.00711*** (0.00174)	0.0449*** (0.0169)
Management professionals	0.0146*** (0.00292)	0.00770*** (0.00203)	0.0405** (0.0163)
Office professionals	0.0191*** (0.00156)	0.0106*** (0.00123)	0.0688*** (0.00744)
Handcraft professionals	0.0149*** (0.00190)	0.00814*** (0.00138)	0.0481*** (0.0103)
Trade professionals	0.0210*** (0.00179)	0.0123*** (0.00136)	0.105*** (0.00988)
Transport professionals	0.0186** (0.00834)	0.0117** (0.00532)	0.0792 (0.0596)

Security professionals	0.0154*** (0.00188)	0.00900*** (0.00140)	0.0581*** (0.0109)
Aguascalientes	-0.00200 (0.00166)	-0.00135 (0.00110)	-0.00448 (0.00450)
Baja California	-0.00186 (0.00167)	-0.000993 (0.00112)	-0.00115 (0.00436)
Baja California Sur	-0.000591 (0.00190)	-0.000813 (0.00126)	-0.00304 (0.00578)
Campeche	0.000982 (0.00171)	0.000426 (0.00116)	0.00313 (0.00465)
Coahuila	-0.00225 (0.00184)	-0.00160 (0.00125)	-0.00308 (0.00451)
Colima	0.00814*** (0.00151)	0.00532*** (0.00103)	0.0330*** (0.00552)
Chiapas	0.00624*** (0.00172)	0.00445*** (0.00118)	0.0147*** (0.00455)
Chihuahua	-0.00269 (0.00194)	-0.00169 (0.00132)	-0.00177 (0.00449)
Durango	0.00560*** (0.00166)	0.00369*** (0.00114)	0.0156*** (0.00482)
Guanajuato	0.00223 (0.00158)	0.00164 (0.00107)	0.00876* (0.00467)
Guerrero	-0.000548 (0.00172)	-0.000336 (0.00116)	-0.000173 (0.00449)
Hidalgo	0.00319* (0.00186)	0.00209 (0.00127)	0.00927* (0.00547)
Jalisco	0.00242 (0.00149)	0.00180* (0.000998)	0.00931** (0.00460)
México	0.000217 (0.00162)	0.000541 (0.00110)	0.00309 (0.00447)
Michoacán	0.00347** (0.00177)	0.00233* (0.00120)	0.0114** (0.00512)
Morelos	-0.00121 (0.00166)	-0.000611 (0.00112)	-0.00137 (0.00459)
Nayarit	0.00775*** (0.00155)	0.00508*** (0.00106)	0.0257*** (0.00517)
Nuevo León	-0.00415** (0.00169)	-0.00317*** (0.00113)	-0.00950** (0.00435)
Oaxaca	-0.00275 (0.00179)	-0.00218* (0.00122)	-0.00590 (0.00440)
Puebla	0.00473*** (0.00156)	0.00293*** (0.00107)	0.0135*** (0.00463)
Querétaro	0.00127 (0.00165)	0.00109 (0.00110)	0.00523 (0.00446)
Quintana Roo	0.00317* (0.00165)	0.00201* (0.00109)	0.0116** (0.00524)

San Luis Potosi	-0.00164 (0.00168)	-0.000941 (0.00113)	-0.00223 (0.00434)
Sinaloa	-0.00179 (0.00180)	-0.00130 (0.00120)	-0.00358 (0.00484)
Sonora	-0.000766 (0.00189)	-0.000833 (0.00127)	-0.00285 (0.00518)
Tabasco	0.00212 (0.00188)	0.00131 (0.00127)	0.00595 (0.00479)
Tamaulipas	-0.00198 (0.00178)	-0.00110 (0.00119)	-0.00140 (0.00475)
Tlaxcala	-0.00199 (0.00166)	-0.00150 (0.00111)	-0.00496 (0.00460)
Veracruz	4.64e-05 (0.00177)	0.000510 (0.00119)	0.00358 (0.00440)
Yucatán	0.000710 (0.00159)	0.000426 (0.00106)	0.00365 (0.00464)
Zacatecas	0.00283* (0.00167)	0.00230** (0.00114)	0.00950** (0.00474)
Constant			0.0666*** (0.00829)
Observations	163,903	163,903	163,903
R-squared	0.3851	0.3809	0.235

Standard errors in parentheses (\*\* p<0.01, \* p<0.05, \* p<0.1). NOTE: Marginal effects reported for Probit and Logit. All marginal estimates for predictors are presented at their mean values. The omitted industries are Agriculture, Electricity and Water, Media and Finance. The omitted occupation is professionals in Agriculture. The omitted state is Distrito Federal, the capital. Pseudo R-square reported for Probit and Logit in place of R-squared.

## In-depth interviews: Questions and answers

Name	Alam	Andres	Brenda	Fidel
<b>Type of firm</b>	Restaurant	Private security	Maintenance of industrial ovens	Restaurant
<b>State</b>	Mexico City	Mexico City	All over the country	Oaxaca
<b>How old is the firm? Years</b>	Less than a year	7	30	24
<b>Annual revenue (approx.)1</b>	US\$1,200,000 (24 million Mexican Pesos)	US\$365,000 (7.3 million Mexican Pesos)	US\$1.5 million (30 million Mexican pesos)	US\$100,000 (2 million Mexican Pesos)
<b>Formal or informal firm? ("Moral person" or "physical person")</b>	Formal	Formal	Formal	Formal
<b>Total number of employees</b>	19	90	40 full time and approx. 150 temporary	16
<b>Number of employees in the payroll</b>	0	30	40 (all the administrative staff)	6
<b>Number of informal employees (no contract of any kind)</b>	0	60	0	10
<b>Number of employees under other regimes</b>	19 (outsourcing)	0	Approx. 150 workers are temporal, hired with fixed-term contracts for specific projects under a special regime created for the construction industry. They receive the same benefits of payroll workers (social security, bonuses, vacations).	0
<b>Non-salary benefits granted to informal workers</b>	The workers are in the formal payroll of the outsourcing, which provides them with all the benefits required by law.	Annual bonus and 6 days of vacations. Also helps them with healthcare costs when there are accidents related to work.	There are no informal workers in the firm.	Vacations and bonus equivalent to the law requirements, and health coverage under an internal informal agreement.
<b>Perceived additional labor costs of hiring formally</b>	30%	30%	50%. This is much higher than the estimates of other interviewees, and this is because in the construction industry the payments to social security are higher because of the higher inherent risk of the work.	It really depends, because many firms reduce the salary of formal workers so that the overall amount is the same.
<b>Reasons for not hiring workers in the payroll</b>	They prefer to hire by outsourcing because this mechanism reduces the transaction costs of hiring and selecting workers for the company, and it also allows to company to avoid potential liabilities with the employee in case of a sue. This is a better option than informality for two reasons: (1) the employee turnover with informal workers is too high, which is not convenient for a restaurant given the high costs of training, and (2) they are backed by a big financial group that has the policy of not hiring informal workers.	(1) there is a high employee turnover, so it is usually not worth to assume all the transactions costs required to register a worker, and (2) after having a formal contract, many workers just stop showing up and shortly after sue the company arguing an unjustified lay-off with the support of unions. If they win (which they usually do) they have to receive a monetary compensation required by law. Currently Andres has 3 of these cases.	It is more convenient to hire workers in fix-term contracts (which is legal in construction) because of the temporary nature of work in the industry. Only the administrative staff is under the payroll.	There is very high turnover in the industry of restaurants (4 – 6 months relations are very frequent), and the costs of laying off workers is too high, so it is not worth assuming all the costs of formality. He has also had cases of trials for allegedly unjustified layoffs, in which he had to directly pay the workers to stop the trial. Another factor is that many workers (particularly those with no dependents) prefer to receive a higher net wage than to have the benefits of formality. They care more about liquidity than they do about health and retirement plans.
<b>Reasons for hiring workers in the payroll</b>	There are currently no workers in the payroll.	The company only hires workers formally when they have spent long time on the company and have showed good performance. This way they retain them and motivate them.	All the administrative staff is in the payroll. Even though this is more expensive, the philosophy of the company is that the most important value in the work relations is safety. Therefore, all the employees have to be enrolled in the social security, even those who are not directly exposed to the risk inherent of the construction job, such as the administrative staff.  They have had problems with the payroll staff because some workers have sued them for allegedly unjustified layoffs, leading to very high transaction costs. Nevertheless, they keep hiring workers formally.	Some people are very loyal to the company and its mission; they never let you down. You have to compensate these workers and make sure they stay with you. A good way is to give them all the benefits of formality.
<b>Relation with workers unions</b>	Their workers are not unionized. Unionization is not common in the restaurants industry.	Workers in the private security industry are parts of unions. This is what discourages Andres from hiring them formally, because unions support workers in the judiciary processes because of "unjustified lay-offs".	The workers are not enrolled in unions. According to Brenda, this is because repairing industrial ovens is a very specific skill and is well paid.	In the restaurant industry the unionization level is low. He has never hired unionized workers.
<b>What are the most critical aspects of labor regulation from the perspective of companies?</b>	Starting a company and complying with all the law requirements is hard but not impossible. In the case of Alam they were able to do it because they relied on the financial backing of a big investor group, which provided working capital.	The regulation provides a lot of protection to workers but companies have little protection. It is too costly to fire a workers, and when a company is sued by a former employee, it is highly unlikely that the company will win.	The quality of the social security system is very poor. Firms pay a considerable amount for their workers to be covered, but the benefits they receive are very poor.	The costs of being formal are too low compared to the benefits that the company and the workers receive. Many times formal workers who have access to social security prefer to be treated in private health centers, because the service quality in the public health centers is very low. Also the regulation should be more flexible to reflect the high dynamism of the labor market. In companies like restaurants the turnover of workers is very high.

Name	Jesus	Joaquin	Jorge	Raul
<b>Type of firm</b>	Digital marketing agency	Thermochemical treatment of metals	Metalworking factory (crankshaft, pulleys, treads, etc.)	Printing and graphic arts
<b>State</b>	Queretaro	Hidalgo	Mexico City	Mexico City
<b>How old is the firm? Years</b>	5	5	25	12
<b>Annual revenue (approx.)1</b>	US\$100,000 (2 million Mexican Pesos)	US\$1 million (20 million Mexican Pesos)	US\$400,000 (8 million Mexican Pesos)	US\$ 425,000 (8.5 million Mexican Pesos)
<b>Formal or informal firm? ("Moral person" or "physical person")</b>	Formal	Formal	Formal	Formal
<b>Total number of employees</b>	18	16	24	12
<b>Number of employees in the payroll</b>	16	16	22	0
<b>Number of informal employees (no contract of any kind)</b>	0	0	2 (janitors)	12
<b>Number of employees under other regimes</b>	2 interns from college	0	3 workers are on an informal "trainee program". They are hired for a period of 28 days under a signed contract. If after this period they prove to be productive and well suited for the job, they are hired. This trainee can be renovated up to a maximum of three times because of an internal rule.	0
<b>Non-salary benefits granted to informal workers</b>	There are no informal workers in the firm.	There are no informal workers in the firm.	Vacations, annual bonus and medical attention in case of emergencies under a verbal agreement.	They receive the same bonus they would get under a formal contract, plus 30 days of vacation, they also receive 1,200 Mexican Pesos (US\$60) monthly, which is the same amount the company would have to pay to the social security.
<b>Perceived additional labor costs of hiring formally</b>	30%	60%. This is much higher than the estimates of other interviewees. This is because in this particular industry the payments to social security are higher because of the higher inherent risk of the work.	15%. This is less than the average perception of other interviewees, because they give the benefits to informal workers anyway.	30%
<b>Reasons for not hiring workers in the payroll</b>	Virtually all the workers are in the payroll. Only two interns from college, that do not receive any benefits.	All the workers are in the payroll.	In the case of the janitors, is because they do not need them full time, so it would be costly to put them in the payroll.  In the case of the trainees, is because their productivity and skills are uncertain, so it would be too risky to put them on the payroll because of the high costs of laying-off.	In Raul's company, the reason to avoid hiring workers in the payroll it is not financial, because the company provides comparable benefits for workers out of pocket. The reason is that the private insurance is much more convenient than the social security system for both the workers and the company. From the perspective of workers, the quality and timeliness of the service is considerably better, and from the perspective of the company, they private insurance firm allows more flexibility for payments (30 days), whereas the social security system does not allow delays.
<b>Reasons for hiring workers in the payroll</b>	According to Jesus, from the financial perspective there's no reason to hire formally. The only reason why he does it is because the company cares a lot about the "human element". They consider themselves as a socially responsible company and are convinced that giving workers all the benefits is the best way to enhance productivity and increase long-term commitment.	Even though hiring workers informally would be considerably less costly, they prefer to have all the employees in the payroll because of business ethics. The policy of the company is to comply with all the federal and state regulations. This is particularly relevant for the company given that they export their products and services to the United States in the framework of the North America Free Trade Agreement (NAFTA).	From the perspective of Jorge, the main reason is that it is good to comply with the law. And he can deduct the labor expenses from his taxable income, which he could not if he only hired informally. Still the overall costs of hiring under the payroll are greater.	There are currently no workers in the payroll.
<b>Relation with workers unions</b>	None of the workers belong to a union. According to Jesus, workers in the digital marketing industry are not unionized. Jesus argues that unions have two main goals: (1) enriching their leaders through contributions, and (2) reducing payroll taxes. The way they do it is they put part of the salary as a "union contribution", which is not taxed, and then the union gives this back to the workers, and only keeps a minor portion. According to Jesus, it is very hard to reduce the unions power because the leaders have political power, two of them are senators.	They have never had unionized workers. The company is not big enough for the workers to form a union.	There are no unionized workers in the firm. Under Jorge's perspective, this is because the company is small, so there is no critical mass to form a union. And also the workers are well paid.	Their workers are not unionized. Hiring unionized workers is very dangerous. They usually require excessive benefits and are less productive. One the workers communicated the company they were thinking of unionizing, and management told them that if they did they would fired. They are able to hire non-unionized workers because they look for young student right after they graduate from high school, when they are not unionized.
<b>What are the most critical aspects of labor regulation from the perspective of companies?</b>	The costs of firing workers are too high. You can only hire workers in the payroll if you know they are productive and trustworthy, and if you have certainty about the future of the company in terms of revenue.	The quality of the social security system is very poor considering its costs. It is also very inflexible: the sanctions are disproportionately harsh if the payments are delayed.	The regulation does not promote technical skills development. Most of the young graduates of technical schools are not really prepared for the jobs, so they have to train them in-house. That is why they have the training program. Jorge considers that the government should have a more active role in training workers for technical jobs.	The costs of being formal are too high compared to the benefits that workers get. It is much more convenient (for both the company and the employees) to provide benefits and private insurance directly to the workers.

Name	Rosalino	Uriel
Type of firm	Food for babies	Furniture and interior design
State	Mexico City	Mexico City
How old is the firm? Years	Less than a year	9
Annual revenue (approx.)1	US\$180,000 (3.6 million Mexican Pesos)	US\$700,000 (14 million Mexican Pesos)
Formal or informal firm? ("Moral person" or "physical person")	Formal	Became formal 5 months ago
Total number of employees	2	24
Number of employees in the payroll	0	24
Number of informal employees (no contract of any kind)	1	0
Number of employees under other regimes	1 (it's a service contract for 6 months)	0
Non-salary benefits granted to informal workers	None	Does not apply
Perceived additional labor costs of hiring formally	36%	35%
Reasons for not hiring workers in the payroll	The main reason to avoid hiring workers formally is that the future of the company is very uncertain, so hiring workers under a payroll would be too risky given that the costs of laying-off are very high. Another reason is that for a small company with liquidity constraints it is not possible to afford all the benefits required in formal labor contracts.	All the workers are in the payroll
Reasons for hiring workers in the payroll	There are currently no workers in the payroll.	Before formalizing, workers did not pay taxes and did not have access to social security, but the firm gave them an annual bonus and vacations. Including workers in the payroll would lead to a considerably higher labor cost, but would also allow some tax benefits because of the reduction of taxable income. The overall effect on profits was clearly negative, but Uriel decided to formalize because he cares about his workers and wanted them to access social security.
Relation with workers unions	His workers are not unionized. The type of skills the company requires are very specific, and workers in these sectors are not part of unions.	The employees are not affiliated to unions, because they are qualified workers. Uriel considers that the unions only benefit their leaders through the collection of fees and reposicion trials.
What are the most critical aspects of labor regulation from the perspective of companies?	The benefits that companies have to provide formal workers are too high compared to the costs that they face to hire them. It is very hard to start a small business and comply with all the regulations.	It is too costly to provide all the non-salary benefits required by law. It is especially hard for small firms that are just starting. The other big problem is that it is almost impossible to win a judiciary process against a workers, so it is very costly to lay-off formal employees.

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