Pathways of Formalization

Going Beyond the Formality Dichotomy

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(Work in progress. All figures are preliminary. Please do not quote)
Motivation

• Strong (erroneous?) belief among policy makers that formalizing firms leads to large productivity and fiscal gains
  • Productivity and employment gains from formalization programs remain for the most part quite modest
  • There are both advantages and disadvantages in being formal – many small firms choose to remain informal
  • Formal sector growth hinges mostly on the growth of formal sector firms, as opposed to the formalization of informal firms

• Still, there could be gains for small firms in becoming formal, but...

Objective of the study

...there is a poor understanding of the formalization process that may hinder effective policy making.
Informality Myths

- **MYTH # 1: We can get rid of informality through good policy making**

Source: Loayza and Rigolini (2011).
Informality Myths

- **MYTH # 2: There are “formal” and “informal” firms/workers**
  - Formality is usually treated as a “dual” concept
  - Yet, formalization is a gradual process. There are various pathways to formality.

- **MYTH # 3: There is only one type of informality**
  - Formality has multiple dimensions
  - Business and labor formality are related but different dimensions

- **MYTH # 4: Once the firm becomes formal, it stays formal forever**
  - The formality status is very dynamic
  - Some firms return to informality, even in times of massive formalization
Motivation

• **MYTH # 5: When formalization happens, all firms are evenly formalized across firm sizes**
  - There are large firms that employ informal workers
  - If employment generation concentrates on large firms, it can be that SMEs remain informal

• **Our study documents new aspects of the formalization process**
  - It documents business and labor formalization patterns
  - It analyses how both dimensions – business and labor – can affect one another
  - Focus of the paper: SMEs (firms and workers)
Literature – Formalization Initiatives

• Business formalization and labor formalization are seen as separate areas:
  • Main initiatives for business formalization (information, one-stop shops, simplification of registration, costs reduction, inspection or incentives) show positive impacts but mostly in the short run
  • Regarding labor formalization, there have been studies on access to social security, changes in labor costs and enforcement, with inconclusive results.
  • A combination of firm and labor formalization schemes, such as the mono-tax system, show small positive effects that tend to disappear over time.

• Main approaches
  • Most of the studies interpret formalization as a dual and irreversible process
  • No studies on the effect of firm formalization on labor formalization, or vice-versa
How our study differs

• Our study looks at business and labor formalization **jointly**

• It also aims at understanding how both dimensions affect one another

• The questions are relevant from both an academic and a policy perspective:
  
  • Formalization is a gradual process
  
  • Firms respond to incentives and can both formalize and de-formalize
What kind of formality do we explore?

- **Business formality**
  - Complying with local regulations to operate
  - **Our indicator: Municipal license**

- **Labor formality**
  - Complying with labor regulations
  - **Our indicator: Payroll Registry** (Ministry of Labor)

<table>
<thead>
<tr>
<th></th>
<th>Registered firms</th>
<th>Unregistered firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>License</td>
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</tr>
<tr>
<td>Large</td>
<td></td>
<td></td>
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<tr>
<td>- Formal</td>
<td></td>
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<tr>
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<tr>
<td>- Informal</td>
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<td>Employment</td>
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<td>Employment</td>
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</tbody>
</table>

Focus on SMES
2. Peruvian context
SME initiatives/programs/laws

- **Business formality**
  - There are specific tax regimes for SMEs (RUS, RER, *Mype tributario*)
  - Municipal regulations
  - Sectoral regulations

- **Labor formality**
  - Electronic payroll

- **Note:**
  - We do not evaluate these regimes.
  - In Peru, business and labor formalization policies schemes are not connected
Business and labor formality by firm size

- There is a strong correlation between informality and SMES

- Business registration and labor registration are different processes

Peru: labor and business formality by firm size (2014)

Formalization is a slow process

• Peru (labor) informality rates:
  – 80% in 2007
  – 72% in 2016

• Composition of informal employment 2016:
  – Own-account workers: 40% (no RUC)
  – Wage workers: 43% (no SS)
    ○ SME: 29%
    ○ Medium and large: 14%
  – Other: 17%

Figure 1: Peru, Informality rates among wage earners, by firm size.

Source: Labor Ministry of Peru.
3. Analysis
Data description

• Peruvian Survey of Micro and Small Enterprises
  • All firms are registered with the Tax authority

• Data on firm & labor formalization is available for a panel of 888 manufacturing firms in 2011 and 2012

Simultaneity regressions use the 2012 cross-section

Transition analyses use information from both years
Formality status – no apparent dynamics

But there is a lot of churning in and out of formality

Type of transition 2011/2012 both dimensions

The de-formalization of firms in our sample contrasts with the (modest) increase in formalization of the Peruvian Economy
Formalization also happens gradually along both dimensions

<table>
<thead>
<tr>
<th>2011</th>
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<th>Licence</th>
<th>Payroll</th>
<th>Both</th>
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<td>8</td>
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<td>Payroll</td>
<td>26</td>
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<tr>
<td>Both</td>
<td>2</td>
<td>18</td>
<td>5</td>
<td>74</td>
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</table>

Table 2: Business and Labor formality transitions (Percentage of firms given initial status in 2011)
## Transition regressions

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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<td>OLS</td>
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<tr>
<td>Payroll</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Log distance to SUNAT</td>
<td>0.0135 (0.0575)</td>
<td>0.0438*** (0.0162)</td>
<td>0.0156** (0.008)</td>
<td>-0.0150** (0.006)</td>
</tr>
<tr>
<td>Firms in E-Payroll / firms in SUNAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth in pc electricity consumption 2011/12</td>
<td>-0.191 (0.192)</td>
<td>0.00229 (0.0684)</td>
<td>0.102 (0.149)</td>
<td>-0.00937 (0.102)</td>
</tr>
<tr>
<td>Log product per worker</td>
<td>0.0100 (0.0315)</td>
<td>0.00474 (0.0128)</td>
<td>0.0656** (0.0310)</td>
<td>-0.0292* (0.0175)</td>
</tr>
<tr>
<td>Log number of workers</td>
<td>0.0677 (0.0497)</td>
<td>-0.0370*** (0.0137)</td>
<td>0.0595 (0.0443)</td>
<td>-0.0276 (0.0200)</td>
</tr>
<tr>
<td>Incorporated business</td>
<td>0.208** (0.0914)</td>
<td>-0.0875*** (0.0255)</td>
<td>0.277*** (0.0687)</td>
<td>-0.239*** (0.0401)</td>
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<tr>
<td>Age 1-4</td>
<td>-0.0267 (0.0777)</td>
<td>0.0598** (0.0265)</td>
<td>-0.0912 (0.0653)</td>
<td>-0.0437 (0.0383)</td>
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<tr>
<td>Constant</td>
<td>0.576 (0.579)</td>
<td>0.163 (0.211)</td>
<td>-0.706 (0.581)</td>
<td>1.234*** (0.338)</td>
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<tr>
<td>Observations</td>
<td>168</td>
<td>720</td>
<td>287</td>
<td>601</td>
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<tr>
<td>R-squared</td>
<td>0.086</td>
<td>0.078</td>
<td>0.161</td>
<td>0.105</td>
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</tbody>
</table>

Standard errors in parentheses. Significance: *** p<0.01, ** p<0.05, * p<0.1

* Sample size in each column depends on initial (2011) status.

- Legal status increases the probability of formalization and decreases that of informalization.
- Firms with more workers are more likely to get formal.
- Younger firms are more likely to get informal.
- We do not find a significant effect of local level of activity.
- We do not find a relationship with output per worker.
<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) OLS License</th>
<th>(2) 2SLS License</th>
<th>(3) OLS Payroll</th>
<th>(4) 2SLS Payroll</th>
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</thead>
<tbody>
<tr>
<td>Payroll registry</td>
<td>0.0738** (0.0298)</td>
<td>-0.0964 (0.206)</td>
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</tr>
<tr>
<td>License</td>
<td></td>
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<td>0.107*** (0.0377)</td>
<td>0.686*** (0.331)</td>
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<tr>
<td>Log distance to SUNAT</td>
<td>-0.0751*** (0.0190)</td>
<td>-0.0794*** (0.0198)</td>
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<td>Firms in E-Payroll / firms in SUNAT</td>
<td></td>
<td></td>
<td>0.019*** (0.005)</td>
<td>0.0238*** (0.006)</td>
</tr>
<tr>
<td>Log product per worker</td>
<td>0.0304* (0.0157)</td>
<td>0.0383** (0.0185)</td>
<td>0.0491*** (0.0176)</td>
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<td>Log number of workers</td>
<td>0.0672*** (0.0167)</td>
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<td>0.0522* (0.0293)</td>
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<tr>
<td>Incorporated business</td>
<td>0.154*** (0.0316)</td>
<td>0.211*** (0.0755)</td>
<td>0.310*** (0.0344)</td>
<td>0.205*** (0.0711)</td>
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<td>Age 5-8</td>
<td>0.0355 (0.0370)</td>
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<td>Age 9-12</td>
<td>0.112*** (0.0389)</td>
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<td>Age 13-16</td>
<td>0.154*** (0.0429)</td>
<td>0.142*** (0.0457)</td>
<td>-0.0754 (0.0486)</td>
<td>-0.163** (0.0735)</td>
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<td>Age 17-+</td>
<td>0.201*** (0.0388)</td>
<td>0.204*** (0.0393)</td>
<td>-0.000107 (0.0443)</td>
<td>-0.120 (0.0839)</td>
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<tr>
<td>Constant</td>
<td>0.302 (0.267)</td>
<td>0.253 (0.275)</td>
<td>-0.736** (0.315)</td>
<td>-0.936** (0.370)</td>
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<tr>
<td>Observations</td>
<td>888</td>
<td>888</td>
<td>888</td>
<td>888</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.188</td>
<td>0.157</td>
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<td>0.068</td>
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<td>Weak identification test</td>
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</tbody>
</table>

Standard errors in parentheses. Significance: *** p<0.01, ** p<0.05, * p<0.1
Stock-Yogo weak ID test critical values: 16.38 (10% maximal IV size); 8.96 (15% maximal IV size)
6. Conclusions and implications
Conclusions

• The process of formalization can go in both directions
  - Firms learn about their productivity and can decide to go back to informality
  - Younger firms, the smallest and the ones without legal status have higher probabilities of returning to informality

• Labor formalization may be a step that many low productivity firms may not be willing to take even if various SME specific regime exist both along the labor and tax dimensions (although not connected)

• Enforcement appears to be one of the drivers of formality status and formalization among SMEs
  - Some studies (circa 2000) showed a tax detection probability around 60% while a labor detection probability around 4%
Implications

• Incentives/enforcement can play a key role in the decision making of the type of SMEs analyzed in this paper
  
  • The incentives to formalize depend on benefits and costs, regulations, and expected enforcement levels
  
  • In a country like Peru, where special labor and tax regimes exist, stronger enforcement may be needed
  
• Articulated efforts are required to promote an effective path towards formalization
  
  • Formality regulations depend on different national and local government agencies that do not coordinate to promote formalization
  
  • A path towards formalization needs to allow firms taking small steps and learning about their productivity in each step
Thanks