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Regulation of entry, labor market institutions and the informal sector ☆

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ABSTRACT

This paper develops a two-sector matching model that incorporates the main features of Latin American labor markets. It has an innovation in its matching structure that makes it more consistent with some key stylized facts of the informal sector in these countries. The model is numerically solved using Brazilian data and several policy simulations are performed. Reducing formal sector's entry cost significantly reduces the size of the informal sector and improves overall labor market performance. Increasing enforcement significantly reduces informality but has strong adverse effects on unemployment and welfare. Thus, the results indicate that the tradeoff between lower informal employment and higher unemployment rates is not present when one looks at policies that aim at reducing the costs of being formal, as opposed to policies that simply increase the costs of being informal.

1. Introduction

A common feature of almost every Latin American country is the existence of extremely restrictive labor market institutions and strict regulation of entry. As a consequence, for both firms and workers the decision of being formal turns out to be extremely costly, which significantly increases the attractiveness of informal activities.

From the firms' perspective, the costs of being formal can be separated in two: (i) the costs of entering the formal sector, which come from procedures, fees and bureaucracy requirements to start a formal business; and (ii) the costs of staying in the formal sector, which can be further divided into taxes, regulation and bureaucratic requirements. Being informal also entails costs that are directly or indirectly related to labor market institutions: (i) the official penalties applied when the firm is caught by the government; and (ii) restricted access to public goods, specially the law system and police. Turning to the workers side, the main costs of being formal come from the taxes associated to formal labor contracts, notably income taxes and mandated social security contributions. Being informal, however, implies that the worker does not have access to the benefits predicted by law, is not protected by job security legislation and faces higher turnover rates.

The objective of this paper is to analyze the impact of different labor market institutions and regulation of entry on the size of the informal sector and overall labor market performance in an integrated framework. For that, I extend the two sector continuous-time matching model proposed by Acemoglu (2001) in order to incorporate the main institutional aspects of most Latin American labor markets. Additionally, I modify its matching structure so that it combines separated markets and undirected search, which makes it more coherent with some key stylized facts of the informal sector in developing countries. The analysis is focused on steady state equilibria and, therefore, it regards the long term effects of institutions.

The model is numerically solved using Brazilian data and used to quantitatively analyze the impact of several policies. Brazil constitutes an interesting case study, as it has a large informal sector nearly 50% of its labor force and very restrictive labor and entry regulations (it is ranked among the most restrictive in Latin America). Moreover, the informal sector has been steadily increasing over the past decade and this growth started just after a major revision of the national Constitution in 1988, which significantly increased overall labor costs.

The simulation results indicate that reducing payroll taxes and increasing unemployment benefits are not effective policies to reduce informality and improve labor market performance. In contrast, lowering the costs of entry into the formal sector substantially improves employment composition: making formal sector's entry costs similar to informal sector's would increase formal employment by nearly 31% and reduce unemployment by 36%. In fact, reducing entry costs improves all labor market indicators and increases welfare. Importantly, increases in unemployment resulting from raising formal

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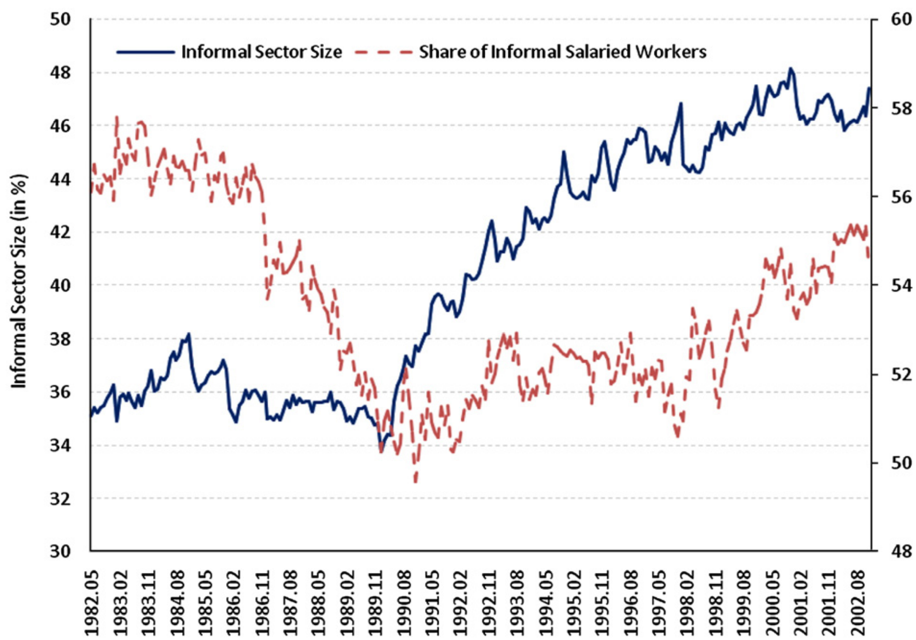

Fig. 1. Informal sector evolution in Brazil. Source: Monthly Employment Survey (PME). Secondary y-axis: Informal salaried employees as a share of total informal employment (in %).

entry costs are also accompanied by increases in the wage gap.[1] Thus, the model's results are in line with the empirical relationship between the controlled wage gap and unemployment documented since the early 1990s (see Section 2). Considering the substantial increases in the fixed costs of hiring formally observed in the 1988–1998 period (see Gonzaga, 2003), these results offer a rationale for the aggregate behavior of the Brazilian labor market during the 1990s and early 2000s.

The results also indicate that increasing the enforcement of current labor regulations is very effective to reduce the size of the informal sector, but it also significantly increases unemployment and leads to substantial welfare losses: increasing enforcement could cause a decrease of up to 14.3 percentage points in the size of the informal sector, but it would also imply a 6 p.p. increase in unemployment and a nearly 15% decrease in welfare. These adverse effects are a result of stronger enforcement of current inadequate labor market institutions and high entry costs in the formal sector.

These results could in principle be seen as supportive of the argument that rationalizes the so-called “shadow puzzle”: large informal sectors are widely tolerated in spite of the improvements in technologies to detect shadow activities because intensifying the degree of coercion would lead to higher unemployment (see Boeri and Garibaldi, 2005). Taken together, however, my results regarding formal sector's entry cost and enforcement level make the latter argument somewhat less appealing. The results show that the tradeoff between lower informal employment and higher unemployment rates does not exist when one looks at policies that reduce the cost of being formal, instead of repressive or punishment policies. Thus, the best option to decrease informality and improve labor market performance and welfare would be to reduce the costs of entry into the formal sector instead of intensifying punishment and auditing of informal activities.

This paper relates to the literature that focuses on the causes and consequences of the informal sector and, more specifically, to the studies that analyze the role played by institutions. A number of recent papers have analyzed different aspects of informality within the framework of matching and search models. Boeri and Garibaldi (2005) and Albrecht et al. (2009) analyze how workers with heterogenous productivity sort into both sectors and how some specific labor market policies may affect informal sector's composition and size, as well as their impact on unemployment level. Bosch (2006) focus on the within firm margin of informality to analyze why the job finding rate of formal jobs is strongly pro-cyclical and volatile, while in the informal sector this rate is relatively stable. Finally, Zenou (2008) develops a model with search frictions in the formal sector, whereas the informal sector is fully competitive, to assess the impact of policies aiming at reducing unemployment.

To the best of my knowledge, the model developed in this paper is the only one in the literature of formal–informal matching models to combine separated markets and undirected search. This constitutes an advantage, as it allows to analyze both sectors separately, and hence to compute separated tightness, vacancy rates and employment probabilities but without assuming that workers must direct their search to a specific sector. Thus, this approach allows workers to apply for both sectors simultaneously, which seems to be more reasonable when one analyzes labor market informality in developing countries (see, for instance, Maloney, 1999). In addition, this structure allows me not to rely on sectorial unemployment rates, which are hard to justify empirically.

Moreover, evidence for developing countries seems to indicate that perfect competition and full employment do not adequately depict informal sector's functioning. Labor market frictions in the informal sector might be less important than in the formal sector, but they seem to be too significant to be assumed away. Flows from informal employment to unemployment are quite sizable and flows out of unemployment to formal and informal employment are nearly of same magnitude, which suggests that modeling the informal sector as a frictionless buffer might not be a good approximation.[2] This model is in line with this evidence, as it provides a rationale for the existence of the informal sector that does not need to rely on technological differences or labor market imperfections in the formal sector vis-a-vis a perfectly competitive informal sector.

[1] Given that workers are homogeneous in this model, the empirical counterpart of the wage gap observed in the model would be the controlled (or conditional) wage gap.

[2] Maloney (1999) provides detailed evidence for Mexico.