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Job search and mobility in developing countries. Theory and policy implications ☆

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Abstract

A labor market model is developed in which the formal sector is characterized by search frictions whereas the informal sector is competitive. We show that there exists a unique steady-state equilibrium in this dual economy. We then consider different policies financed by a tax on firms' profits. We find that reducing the unemployment benefit or the firms' entry cost in the formal sector induces higher job creation and formal employment, reduces the size of the informal sector but has an ambiguous effect on wages. We also find that an employment/wage subsidy policy and a hiring subsidy policy have different implications. In particular, the former increases the size of the informal sector while the latter decreases it.

JEL classification: D83; J41; J64; O17
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1. Introduction

The informal sector is a pervasive and persistent economic feature of most developing economies, contributing significantly to employment creation, production, and income generation. Recent estimates of the size of the informal sector in developing countries in terms of its share of non-agricultural employment range roughly between one-fifth and four-fifths. In terms of its contribution to GDP, the informal sector accounts for between 25% and 40% of annual output in developing countries in Asia and Africa.[1]

Some researchers in this area have tried to understand how an informal sector emerges. The usual argument puts forward is that firms and workers join the informal sector in order to avoid taxation or any formal regulation from the government (see e.g. Rauch, 1991, or Loayza, 1996). Other researchers have focused on the implications of the existence of the informal sector on the economy. In particular, they have studied how the informal sector generates externalities (both positive and negative) for the formal economy (see e.g. Marcoullier and Young, 1995; Dessy and Pallange, 2003; Fugazza and Jacques, 2003).

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[1] For more empirical evidence and literature surveys on this issue, see Schneider and Enste (2000) and Schneider (2005).

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In the present paper, we focus on the labor-market aspects of the informal sector, and show that its emergence is mainly due to search-matching frictions in the formal sector. We determine the steady-state equilibrium and then evaluate different policies aiming at reducing unemployment. We show that, even if the informal sector is unregulated and cannot be directly targeted by a government's policy, the latter affects indirectly the wage, the employment and thus the size of the informal sector.

Our paper is related to the literature on rural–urban migration, initiated by the two seminal papers of Todaro (1969) and Harris and Todaro (1970). One of the main issues raised in this literature is that creating urban jobs may increase rather than decrease urban unemployment because of the induced negative effect on rural migration, which may outweigh the positive effect of creating jobs (Todaro, 1976). This is referred to as the Todaro paradox.[2] Even though this is not the main issue of this paper, we also investigate the Todaro paradox in the context of formal and informal sectors.

We consider a search-matching model. There is a tradition of search models in the migration literature. The early models were using the old search approach where only one side of the market (the workers) was modeled (see e.g. Fields, 1975; 1989; Banerjee, 1984; Mohtadi, 1989). There is also a more recent literature, which incorporates the search-matching approach a la Mortensen–Pissarides (Mortensen and Pissarides, 1999; Pissarides, 2000) in a Harris–Todaro model (see Coulson et al., 2001; Ortega, 2000; Sato, 2004; Laing et al., 2005; Satchi and Temple, 2006). These authors model the urban/rural areas or formal/informal sectors in different ways and focus on different issues. Coulson et al. (2001) analyze the effect of location and commuting costs on wages and unemployment in a search model with two different locations. Ortega (2000) and Sato (2004) propose a similar analysis but focus on the welfare effects of migration. Laing et al. (2005) analyze how a huku system (which prevents workers from freely moving between rural and urban areas) in China can affect workers' outcomes of a labor market characterized by search frictions. Finally, Satchi and Temple (2006) focus on the impact of growth on the labor-market outcomes of workers in both the formal and informal sectors, where the former is characterized by search frictions. Although all these approaches are in some way related to our model, none of them analyzes the policy implications of their model but rather characterizes an equilibrium that matches certain empirical facts. To the best of our knowledge, this is the first paper that evaluates the consequences of different policies on workers' labor-market outcomes in the formal and informal sectors where there is free mobility between the two sectors and search frictions in the formal sector.

To be more precise, we develop a model where there are search frictions in the formal sector whereas the informal sector is competitive. In the formal sector, the wage is determined by a bargaining between workers and firms and, because of search frictions, unemployment emerges in equilibrium. In the informal sector, wages are paid at the marginal productivity of workers and there is full employment. The informal sector is fully accessible for everybody while there is an entry cost both for firms and workers in the formal sector. We characterize the steady-state equilibrium of the economy and show that the equilibrium exists and is unique but not efficient because of search externalities. We then consider different policies financed by a tax on firms' profits. We find that reducing the unemployment benefit or the firms' entry cost in the formal sector induces higher job creation and formal employment, reduces the size of the informal sector but has ambiguous effect on wages. We also find that an employment/wage subsidy policy and a hiring subsidy policy have different implications. In particular, the former increases the size of the informal sector while the latter decreases it.

2. Model and notations

There are two sectors in the economy: the formal sector and the informal one. All workers and firms are ex ante totally identical. There is a continuum of workers whose mass is N. Among the N workers, N^{F} and N^{I} work in the formal and informal sector, respectively (F and I stand for formal and informal). We have $N=N^{\mathrm{F}}+N^{\mathrm{I}}$, and

$$N^{\mathrm{F}} = L^{\mathrm{F}} + U^{\mathrm{F}}$$

$$N^{\mathrm{I}} = L^{\mathrm{I}}$$

where L^{F}, L^{I}, and U^{F} are respectively the employment levels in the formal and informal sectors, and the unemployment level in the formal sector. Since there is no unemployment in the informal sector, U^{F} is also the unemployment level in the economy. Thus, by combining these two equations, we obtain:

$$U^{\mathrm{F}} = N - L^{\mathrm{F}} - L^{\mathrm{I}}. \tag{2.1}$$

[2] See, in particular, the papers by Zarembka (1970), Blomqvist (1978), Arellano (1981), Takagi (1984), Nagakome (1989), Brueckner (1990), Stark et al. (1991), Raimondos (1993), Brueckner and Zenou (1999), Brueckner and Kim (2001).