Center for Equitable Growth Continuing Student Fellowship

Project Title: Optimal Unemployment Insurance in Developing Countries, Theory and Evidence from Brazil
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Few developing countries have adopted an Unemployment Insurance (UI) program yet. But the need to create a flexible labor market capable to sustain economic growth (to shield workers from labor demand fluctuations, most developing countries rely on job protection --high separation costs-- rather than worker protection --UI-- and scholars[1] that it deters economic growth) while facing increased needs to protect workers because of increased exposure to economic shocks and volatile international markets (following growth policies of privatization and opening to trade) naturally bring UI on the agenda: the list of countries considering its implementation is growing rapidly. Given specificities such as a large informal sector and a lack of administrative and enforcement capacity, incentives and impacts generated by UI programs are likely to differ both in essence and magnitude. Yet there is currently little empirical evidence and no attempt to adapt optimal social insurance formulas to this context.

Brazil consists of an ideal case study as it is a large and growing economy with a formal labor market subject to very high turnover (more than 40% of the formally employed have less than 1 year of tenure) and very high level of income and risk (job-loss) inequalities. It has more than 20 years of experience with unemployment insurance contrary to most developing countries, even in the region. It is there a sizable program (from 1995 to 2002, UI payments amounted to 2.2% of the payroll of eligible workers or 3 times the equivalent US figure). Moreover, from 1995 to 2002 (our study period), half of the labor force was informal and there is ample evidence of UI beneficiaries working informally.

By focusing on the Brazilian UI program, using administrative data covering the universe of formal employment and exploiting several empirical strategies (a natural experiment expanding UI benefits, tenure-based discontinuities in UI eligibility), this project will estimate the magnitude of key (sufficient) statistics needed to inform the design of a UI program. Preliminary findings suggest that: (i) UI benefits strongly affects the timing of formal job finding for those workers able to find a formal job soon after job-loss; (ii) those workers constitute a small share of the overall pool of UI beneficiaries as most job-losers do not find a formal job rapidly (reemployment rates are similar in Brazil and the US but formal reemployment rates are much lower, highlighting the role of informality). Therefore, offering UI is costly as most beneficiaries would exhaust their benefits for typical lengths of benefit duration and UI benefits might have little distortionary effect on the job-finding behavior of the average (formal) job--loser.

[1] Heckman and Pages (2004), *Law and Employment: lessons from Latin America and the Caribbean*.

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By exploiting recent advances in the modeling of labor markets with informality, we will extend the classic Baily[2] formula for optimal unemployment insurance to include the informality dimension of developing countries' labor markets, first as a (partial) self-insurance mechanism then as an insurance mechanism generating a negative externality[3]. Using evidence from the empirical part of this project, simulations exercises will highlight the impact of different parameters on optimal insurance levels and evaluate extended Baily formulas for the Brazilian case.

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[2] see Chetty (2008), *Moral Hazard versus Liquidity and Optimal Unemployment Insurance.* Journal of Political Economy, vol. 116(2), pages 173-234.

[3] Informality creates an environment where the rule of the law is not observed, informal firms need to stay small not to be detected, have less access to formal credit, constitute "unfair" competition for formal firms on similar markets.