1
Introduction

An extensive literature has explored the role of liquidity constraints as determinants of occupational choice, emphasizing inefficiencies generated by indivisibilities due to upfront costs to entrepreneurship. With limited access to credit, upfront costs reduce the incidence of entrepreneurial activities, aggregate productivity, and long term development (for example, Banerjee and Newman, 1993 and Aghion and Bolton, 1997).

Part of this literature is concerned with the determinants of such indivisibilities. For instance, Evans and Jovanovic (1989) examine limited liability as the mechanism behind entry costs to a higher productivity sector, while more recently Paulson, Townsend and Karaivanov (2006) attempt to empirically distinguish limited liability from moral hazard in generating indivisibilities to entrepreneurship[1]. All these papers try to come up with explanations for why individuals are credit-constrained in equilibrium, some of them ending up unable to pay for positive startup costs.

In reality, though, startup costs can be expressed as functions of the limits to contract enforcement in a given setting. There are two important dimensions that are left out when this perspective is not emphasized: (i) the role of the operation of courts in determining the degree of contract enforcement in the economy, and (ii) the role of the degree of contract enforcement in determining the nature and extent of these market imperfections and, through these, entrepreneurship.

In this paper, we explicitly model the operation of courts and the contract environment in a model of occupational choice and entrepreneurship. Our model shows that different contract enforcement settings are related to different inefficiencies in occupational and investment choices, not because of its effects on access to credit - what has been traditionally looked at - but rather through its effects on equilibrium upfront payments required from the wealth-constrained entrepreneur. Some of these inefficiencies are identical to

---

[1]Identification is based upon the hypothesis that, when wealth increases, borrowing should increase under limited liability, but decrease under moral hazard.

those highlighted in the traditional literature, while others are very different in nature.

The first generation of papers in the occupational choice literature analyzes how indivisibilities derived from startup costs, when coupled with credit constraints, affect development, potentially leading to poverty traps and increased inequality (for example, Evans and Jovanovic, 1989, Banerjee and Newman, 1993, Ghatak et al , 2001, and Ghatak and Jiang, 2002). In these papers, there is no explicit treatment of the operation of courts or of the determinants of the contract environment, except through the effect of limited liability in generating limited access to credit markets.

This is not to say the occupational choice literature has not noticed other sources of inefficiencies. Jeong and Townsend (2008) notice that liquidity constraints might imply that entrepreneurs operate in a suboptimal scale; nevertheless, investment by unconstrained entrepreneurs is always optimal, and upfront payments are always positive.

The presence of entry costs to entrepreneurship which cannot be overcome through credit markets was recently linked to the capital misallocation literature by Banerjee and Moll (2010), which shows that intensive margin misallocation - the presence of wedges on the market price of capital, which distorts firms profit-maximization problem - asymptotically disappears if firms are able to save, financing capital investment from their own profits (therefore surpassing wedges from market financing), whereas extensive margin misallocation - absence of entry from firms with positive expected profits, due to the presence of indivisibilities - does not.

In the occupational choice literature (e.g.: Banerjee and Newman, 1993 and Ghatak and Jiang, 2002), although individuals have to contract capital and labor in order to become entrepreneurs, analysis has traditionally taken a reduced-form approach in what comes to the design of these contracts. Our paper is not the first to notice that: Ghatak, Morelli and Sjöström (2001) endogeneize labor contracts in order to show that upfront costs to entrepreneurship might in fact be efficiency-enhancing. This is so because, in a multi-period model, if success in the first period - when non-observabilities leave room to moral hazard - determines which workers are able to become entrepreneurs in the second period, upfront costs create economic rents to entrepreneurs and thus generate incentives to exerting effort in the first period. In contrast, after endogeneizing capital contracts, we are able to explore a number of unaddressed trade-offs; in particular, we show that upfront costs might not be economically justified.

More recently, a number of papers has explored the relationship between

contract enforcement and occupational structure. Antunes et al (2008), for example, analyze the effect of contract enforcement on entrepreneurship and development, allowing economies to differ on the extent to which collateral can be executed on the event of default. Akin to Japelli, Pagano and Bianco (2005) - that investigate the effect of judicial enforcement on credit -, the authors take courts as capacity to execute foreclosure rights - to execute debtor's collateral on the event of default. Quintin (2008) analyzes the relationship between contract enforcement and informality. Increased contract enforcement, by increasing the attractiveness of formality due to better access to credit markets, reduces informality.

Empirically, recent papers by Chemin (2009a and 2009b) have shown a robust relationship between increased effectiveness of the justice system (either increased speed in judiciary decisions or better training of judges) and increased incidence of entrepreneurship in Pakistan and increased credit demand and economic activity in India. Japelli, Pagano and Bianco (2005) also accounts for a positive effect of a more agile judiciary on lending and alleviation of credit constraints in Italy. Visaria (2009) and Mookherjee et al. (2009) study the impact of improved enforcement of debt contracts in India; the former documents a negative impact on interest rates, whereas the latter addresses general equilibrium effects to explain impact heterogeneity, conditional on borrower's wealth. Naritomi et al. (2009) find that, across Brazilian municipalities, exogenous variations in the the presence of local courts are correlated with long term development.

All these contributions relate to ours in the sense that they analyze, either theoretically or empirically, some dimension of the relationship between courts, contract enforcement and entrepreneurship. But our model deals with a number of issues not previously considered. In this paper, we explicitly model the operation of the justice system – which we refer to simply as "courts" – as affecting the set of contractible events. Specifically, we draw on the literature on courts and unforeseen contingencies (in particular, Anderlini et al, 2007) and embed a simple occupational choice equilibrium structure within a model of the operation of courts.

The model analyzes the decision to become an entrepreneur in an environment where spot markets are not available, inducing economic relationships of investment and exchange mediated by contracts. Under an incomplete contracts' framework, the operation of courts constitutes a central element in the rational calculation of individuals choosing among occupations, once it directly affects both expected returns and startup costs of entrepreneurship. In our theory, courts determine the set of events under which contracts are

upheld ex-post. The set of events for which contracts are enforced then determines the transfers between agents that can be sustained in equilibrium and, therefore, the attractiveness of entrepreneurship as opposed to salaried labor or subsistence production. Given the operation of courts, and the contracting environment of the economy, occupational and investment decisions are made.

Other papers also deal with the economic consequences of limits to contract enforcement; in particular, Genaiolli (2006) develops a model of how contracting parties respond to judges' biases (in favor of one of the litigating parties) by writing highly ex-post contingent contracts, as opposed to the much more simple, non-contingent contracts that are written when judges abide by legal codes. In contrast, we are rather interested in under which conditions a contractually defined positive ex-ante transfer is demanded from the marginal entrepreneur.

There is an extensive literature on the ex-post effects of ex-ante incompleteness. In particular, Hart and Moore (1988) show how specific investment is hampered by the lack of guarantee of the appropriation of ex-post returns, and Hart and Moore (1998) recognize that contract incompleteness limits the credibility of promises of payment that involve future cash flows. By taking together this literature with that of courts and that of occupational choice, we are able to address effects of courts' operation on entrepreneurship and investment that have been overlooked so far, since, as afore-mentioned, the emphasis has been traditionally on its effect on access to credit markets, as opposed to the nature of upfront payments required from wealth-constrained entrepreneurs.

The model provides a starting point to formulate the decision to become an entrepreneur conditional on the judicial setting, which can vary in terms of the extent to which contracts are enforced. It illuminates how courts and the contract environment determine decisions related to occupational choice and investment and, through these, the type and extent of inefficiencies observed in the economy. In particular, our results suggest that the hypothesis of positive startup sustained by the previous literature may be misleading.

If the key determinants of the decision to become an entrepreneur and of entrepreneurial investments are indeed the existence of startup costs and the ability to appropriate returns from ex-ante investments, both these decisions depend on the distribution of bargaining power and on the operation of courts. Our setup considers various potential combinations of these dimensions.

We show that, under certain conditions, it may be optimal for a supplier to demand part of the future cash flow instead of anticipated capital. In these situations, indivisibilities associated with startup costs are not a problem, but

entrepreneurs' intensive margin investments may be suboptimal. While this literature has traditionally emphasized the role of improving credit market conditions so that constrained individuals are at least partially able to enjoy the returns from the higher productivity sector, we show that improving the operation of courts might be even more important, since under a variety of settings suppliers are willing to finance wealth-constrained individuals if contractibility and contract enforcement guarantee that she is not expropriated ex-post, in expectation, from her ex-ante outside option. Moreover, while unconstrained individuals's investment is not affected by credit market conditions, it is decisively contingent on the contractual environment whenever there is a positive probability that the entrepreneur is expropriated from its ex-post returns.

Our paper also contributes to the broader literature on the role of institutions and property rights in the process of development. Following North (1990), institutions are usually defined as constraints on individual behavior, rules of the game that "structure incentives that mediate human exchange, be them political, social or economic." From this perspective, this paper provides a structured analysis of the importance of courts and the legal system – as determinants of the contract environment – in promoting entrepreneurial activity. We analyze how limits to contract enforcement, by shaping expected returns to entrepreneurship, affect occupational decisions and aggregate productivity.

Model's predictions are taken to the data exploring the creation of Special Civil Tribunals (Juizados Especiais Cíveis) in Brazil during the 1990's, which operationalized small claims justice in the country, expanding the operation of courts to the least favored ones. We argue that a marginal decrease in litigation costs should increase entrepreneurship and investment, as a consequence of enabling some constrained individuals to access courts' technology, what can be interpreted as a transition from no courts to some contractibility for these individuals. Estimates indicate a positive net effect of this institutional change on entrepreneurship, employer status and self-employment, although not on firm size. After controlling for a series of potential confounding effects, we find that these effects are robust through specifications, although heterogenous both in what comes to local average initial levels of these outcomes and to individual's position in the wealth distribution.

The remainder of the paper is structured as follows. In section 2, we develop the basic setup of the model and characterize the equilibrium under two extreme scenarios: complete contracts and missing courts. These extreme cases illustrate in a simple setting the role played by contract enforcement

and bargaining power in determining the nature of the inefficiencies observed in the economy. Section 3 introduces courts in the model and discusses their role under different distributions of bargaining power. Next, section 4 discusses the institutional change used a source of exogenous variation in litigation costs and presents the empirical exercise along with some robustness checks. Finally, section 5 concludes the paper.