

The effect of financial repression and enforcement on entrepreneurship and economic development[☆]

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Abstract

A general equilibrium model with heterogeneous agents (with respect to wealth and ability) shows that differences across countries in intermediation costs and enforcement generate differences in occupational choice, firm size, credit, output and income inequality. Counterfactual experiments are performed for Latin American, European, transition and high growth Asian countries, with empirical estimates of each country's financial frictions and United States values for all other parameters. The results isolate the quantitative effect of these financial frictions in explaining the performance gap between each country and the United States, and depend critically on whether a general equilibrium factor price effect is operative. © 2007 Elsevier B.V. All rights reserved.

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1. Introduction

Financial repression and contract enforcement vary considerably across countries and with the level of economic development. For example, Demirgüç-Kunt et al. (2004) document that the net interest margin, a measure of financial repression which reflects explicit and implicit financial sector taxes and bank regulation, is

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over 10% in Belarus, Burundi and Ghana, but less than 2% in the Netherlands and Switzerland.¹ Similarly, data from [The World Bank \(2005a\)](#) show that the quality of enforcement, reflected in collateral requirements and bankruptcy laws, varies considerably across countries. [La Porta et al. \(1998\)](#) show that institutions that affect enforcement are also correlated with the level of economic development (see [Fig. 2](#)). We assess the quantitative effects of these financial frictions on macroeconomic development—output per capita, total credit, income inequality and occupational choice.

A general equilibrium model with heterogeneous agents is constructed with the two financial frictions. Agents choose to be either workers or entrepreneurs, as in the [Lucas \(1978\)](#) “span of control” model. The key modification is to permit firms to use capital in addition to labor; see [Antunes and Cavalcanti \(2007\)](#). Heterogeneous ability is exogenous, in the sense that the ability to manage a firm productively is drawn from a fixed distribution and is independent within and across generations. Agents choose consumption and capital bequests to maximize preferences subject to lifetime wealth. Bequests thus connect generations across time and the bequest distribution evolves endogenously. Financial repression is modeled as a deadweight cost to intermediate loans and limited enforcement arises from an incentive constraint to ensure loan repayment. The capital of each entrepreneur depends on her net worth and project profitability. Thus, the most able individuals will not necessarily become entrepreneurs or operate firms of the unconstrained optimal size. Rather, occupational choice and firm size are determined endogenously by an agent’s type (ability and bequest) and the credit market frictions.²

The long run equilibrium of the model is calibrated to match key statistics of the United States economy. The change in the model’s equilibrium properties is assessed as the two policy variables, intermediation costs and the level of contract enforcement, vary. First, benchmark changes in the policy parameters are analyzed. Next, independent estimates of intermediation costs and contract enforcement for Brazil, France, Russia and Singapore, keeping the other parameters at the United States level, are used to compute new equilibria. This counterfactual exercise determines what United States output per capita and credit would be if financial policy variables were the same as in, for instance, Brazil. The effects of the frictions depend on two opposing forces: a *demand effect* and a *general equilibrium effect*. When intermediation costs increase or enforcement weakens, the demand for loans by entrepreneurs decreases for a given interest rate. This is the demand effect. When the interest rate is exogenous, this is the only effect in the loan market. Consequently, less productive and smaller firms operate because a larger number of firms are required to clear the labor market. When the interest rate is endogenous, a fall in the demand for loans decreases the interest rate. A lower interest rate implies higher capital, productivity, and firm size. This is the general equilibrium effect, and the overall effect of a change depends on the two opposing forces.

Simulations show that the quantitative effect of financial reform depends critically on the interest rate. For instance, when financial contract enforcement and intermediation costs change from the United States to the Brazilian level, output per capita decreases by roughly 43% points when the interest rate is fixed (this is about half of the difference in output per capita between Brazil and the United States),³ but by only 6.3% points when the interest rate is determined endogenously. The general equilibrium factor price effect is quantitatively significant. The effect of financial reform on entrepreneurs’ income inequality is also striking. When the interest rate is fixed, financial reform decreases borrowing costs. Fewer but more able managers become entrepreneurs, and this is more efficient. Inequality increases because more able managers operate firms. When the interest rate is endogenous it increases after an identical financial market reform. This offsets the loan demand effect, especially for able but capital constrained entrepreneurs at the upper tail of the entrepreneurial income distribution. The robustness of the results is checked by assuming that non-financially constrained firms produce a significant fraction of output (a “corporate sector” as in [Quadri \(2000\)](#)). Interestingly,

¹The net interest margin is a measure of the wedge between borrowing and lending rates. See [Fig. 2](#). Implicit financial taxes are taxes on financial transactions, intermediary profits or inflation and repressive regulations are factors such as barriers to entry and non-interest-bearing reserve requirements.

²[Antunes et al. \(2008\)](#) prove the existence of a unique stationary equilibrium that is fully characterized by a time invariant bequest distribution and associated equilibrium factor prices. From any initial bequest distribution and any interest rate, convergence to this unique invariant bequest distribution occurs. They also describe a direct, non-parametric approach to compute the stationary solution.

³Interestingly, intermediation costs and contract enforcement can explain most of the difference in output per capita and total private credit as a share of output between France and the United States.

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