What drives international financial flows? Politics, institutions and other determinants

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ABSTRACT

This paper uses a large panel of financial flow data from banks to assess how institutions affect international lending. First, employing a time varying composite institutional quality index in a fixed-effects framework, the paper shows that institutional improvements are followed by significant increases in international finance. Second, cross-sectional models also show a strong effect of initial levels of institutional quality on future bank lending. Third, instrumental variable estimates further show that the historically predetermined component of institutional development is also a significant correlate of international bank inflows. The results thus suggest that institutional underdeveloped can explain a significant part of Lucas [Lucas, Robert E. 1990. “Why Doesn’t Capital Flow from Rich to Poor Countries?” American Economic Review (Papers and Proceedings), 80 (2): 92–96. 1990] paradox of why doesn’t capital flow from rich to poor countries. The analysis also does a first-step towards understanding which institutional features affect international banking.

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1. Introduction

Cross-border capital flows have skyrocketed in the last decades (e.g. Lane and Milesi-Ferretti, 2007). Yet in spite of the rapid increase in financial globalization most countries still lack the necessary capital to finance domestic investment.1 In contrast to the standard neoclassical model with decreasing returns and frictionless markets that predicts capital flowing to poor countries where marginal returns are higher, international financial flows are moving to the industrial world (e.g. Prasad et al., 2007; Lane and Milesi-Ferretti, in press). Many explanations have been put forward in addressing Lucas2 (1990) inquiry on why doesn’t capital flow from rich to poor countries. For example capital flows to the developing world may be blocked by moral hazard and lack of collateral (e.g. Gertler and Rogoff, 1990), a history of serial default (e.g. Reinhart and Rogoff, 2004), or due to informational frictions (e.g. Portes and Rey, 2005). In addition capital may flow “upwards”, as rich countries’s larger market size is associated with superior diversification opportunities and low transaction costs (e.g. Martin and Rey, 2004). Yet Caselli and Feyrer (2007) show that (in a standard neoclassical model) the marginal product of capital is surprisingly equalized across countries.3 Their research suggests that the key explanation to Lucas paradox is the lack of complementarity to capital factors in poor countries, human capital and especially total-factor-productivity (TFP). This paper contributes to this literature by showing that institutional underdevelopment (political risk) in a key explanatory factor of the lack of foreign financing in the developing and underdeveloped world. Given the strong effect of institutions on productivity (see Acemoglu et al., 2005, for a review) this paper’s results can be viewed as revealing a specific mechanism on how property rights and contractual institutions affect economic development.

This paper combines financial bank flows to up to 140 (industrial, emerging, and underdeveloped) countries from the mid-eighties until 2002 with institutional proxies to study the impact of institutions on cross-border bank lending. Employing both panel fixed-effects and

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1 The paper builds on Chapter 3 of my London Business School doctoral thesis. I want to express my gratitude to my advisor Richard Portes and Antonio Ciccone and Julian Franks for detailed comments and encouragement. This research started while I was a graduate intern at the Capital Markets and Financial Structure Division of the European Central Bank. A special thanks goes to Jesper Berg and Annalisa Ferrando. I also received valuable feedback from Francesco Caselli, Simon Commander, Nicolas Coeurdacier, Wouter Denhaan, Charles Engel, Vitor Gaspar, Christos Genakos, Francisco Gomes, Florencio Lopez-de-Silanes, Steven Ongena, Charlotte Ostergaard, Enrico Perotti, Morten Ravn, Stefano Rossi, Gregoriou Siourounis, and seminar participants at various conferences. Bernadette Lauro offered great assistance with the data. I also thank an anonymous referee and Gordon Hanson (the Editor) for valuable suggestions that significantly improved the paper’s context. All errors are mine. E-mail address: elias.papaioannou@dartmouth.edu.

2 See Bosworth and Collins (1999) and Prasad et al. (2007) for surveys on the effect of capital flows on investment and growth.

3 In line with this result, Ju and Wei (2005) present a two-sector Heckscher-Ohlin model of capital flows that yields factor price equalization.
cross-sectional models the empirical analysis reveals a robust relationship between well-functioning institutions and foreign bank flows. The effect of institutional quality does not seem to be driven by income, human capital, or financial-economic risk. The strong institutions bank flows nexus is also present when we use instrumental variable techniques to account for endogeneity and measurement error.

This paper is closely related to empirical work that examines the effect of institutional and informational frictions on various types of foreign investment (e.g. Wei, 2000a,b; Portes et al., 2001; Wei and Wu, 2002; Portes and Rey, 2005; Buch, 2003; Celos and Wei, 2005; Alfaro et al., 2008). Using mainly cross-sectional approaches this literature has revealed a significant correlation between various types of institutional quality, such as low corruption and well-functioning bureaucracy, and international capital flows and holdings. Yet this correlation does not necessarily imply a causal relationship. First, both well-functioning institutions and foreign investment may be driven by a third, hard-to-account-for factor, such as trust or social capital (e.g. Guiso et al., 2004, 2006). Second, there is the issue of reverse causation. Since foreign investors ask pressure to governments to enhance investor’s protection, remove bureaucratic barriers, and tackle corruption, the correlation may (partly at least) capture this effect. This paper aims to advance this literature, employing two different methodologies that account for these drawbacks.

First, I utilize the time-series dimension employing panel techniques that account for country unobserved characteristics. Controlling for fixed-effects accounts for (to a first-approximation time-invariant) social norms, culture, geography, and trust, that affect both finance and institutional quality. This method also addresses directly whether institutional reforms are rewarded by foreign investors in terms of increased lending. The panel estimates are based on two datasets of bank lending from the Bank of International Settlements (BIS). The first covers at a quarterly frequency bank flows from 19 “source” to 50 “recipient–host” countries, while the second dataset reports annual aggregate flows to 140 recipient countries, both over the 1984–2002 period. The first dataset allows controlling for both “push” and “pull” factors. The second enables me to examine the effect of institutions on bank flows in a much wider sample than the previous work. Controlling for standard gravity factors (such as distance, size, etc.), time trends, and source country characteristics the fixed-effect estimates show that institutional improvements are followed by increased bank lending.

Second, to account for reverse causality, I build on the institutions and development literature (La Porta et al., 1998; Hall and Jones, 1999; Acemoglu et al., 2001, 2002) and estimate cross-sectional models using instrumental variable techniques. Besides endogeneity the IV estimates also account for measurement error in the institutional quality proxies. The IV estimates show that the historically pre-determined component of institutional performance from colonial history is a significant correlate of foreign bank lending. The results are similar when I estimate cross-sectional models with initial values.

1.1. Other related work

Besides contributing to the literature on the Lucas paradox, the paper’s results have implications for some other major puzzles in international macroeconomics, such as the portfolio home bias, the Feldstein–Horioka observation of a high investment–savings correlation, and the lack of international risk sharing (Obstfeld and Rogoff, 2000). The paper also fits to the law and finance literature (e.g. La Porta et al., 1997, 1998, 1999). This research project has focused primarily on assessing the impact of legal (and to a lesser extent political) characteristics in domestic financial patterns, like IPO’s, the breadth of equity and bond markets, etc. For example Djankov et al. (2007) show that sound investor protection leads to increases in private credit. Private credit is, however, an aggregate of both domestic and foreign investment. The current study thus adds to this literature, by providing evidence on a significant impact of politics and legal institutions in explaining differences in international finance.

From a theoretical standpoint the paper’s results add to recent efforts to incorporate institutional frictions in international macro models (e.g. Ju and Wei, 2007; Gourinchas and Jeanne, 2005). Yet, the most closely related theoretical work to the empirical analysis comes from the finance literature. Shleifer and Wolfenzon (2002) build an agency model in which an entrepreneur has a profitable project and seeks external finance. The entrepreneur maximizes her personal wealth, which is a function of the fraction of the project she decides to maintain, the project’s profitability, and the amount she is able to divert. Diversion in turn depends on the efficacy of the legal system; looting becomes costly with well-enforced investor’s rights. Domestic and foreign investors anticipate the likelihood of diversion and are unwilling to invest in countries with a high risk of expropriation. This paper’s results support this theoretical prediction, by showing that poor legal and property rights institutions block international bank lending.

1.2. Outline

The paper is structured as follows: The next section describes the empirical methodology and presents the data. Section 3 reports fixed-effect estimates on the effect of institutional quality on international bank flows. In Section 4 I turn to cross-sectional approaches. I start by estimating the “between” effect of institutional quality on bank loans. I then use instrumental variable estimates that directly tackle endogeneity. I also investigate which sub-component of the composite measure has the biggest explanatory power in predicting future bank lending. Section 5 summarizes.

2. Methodology, data and preliminary evidence

2.1. Empirical model

The empirical analysis is carried by estimating variants of the following model:

\[ \ln (F_{jt}) = X_j \beta + \gamma Q_{jt} + \epsilon_j. \]

The dependent variable is the logarithm of foreign net bank flows in country \(j\). \(X_j\) includes control variables, mainly related to the size of the economy, such as income and population. The main interest is on the sign and magnitude of coefficient \(\gamma\) on an aggregate measure of institutional quality (IQ) in country \(j\).

There are two major challenges in identifying the effect of institutions on international bank flows with regression equation (1). First it is hard to account for all factors that may affect international lending. For example, foreign capital flows and institutional quality may be both affected by hard-to-measure factors such as social capital (e.g. Guiso et al., 2004), religious norms (e.g. Stulz and Williamson, 2003), trust (e.g. Guiso et al., 2007), geography and initial endowments (e.g. Beck et al., 2003). This omitted variable problem is magnified by the limited number of countries (usually 50–100) and multi-collinearity, since countries with well-functioning institutions tend to also have high levels of human capital, open markets, sophisticated financial intermediaries, etc. Second, a positive correlation between capital flows and institutions may be driven by reverse causation.

3 Alfaro et al. (2008) also use instrumental variable techniques to assess the effect of institutional quality on net aggregate flows, finding similar results of a significant positive relationship.

4 For example, well-defined and protected investors’ rights appear to be a prerequisite for liquid capital markets (La Porta et al., 1997), merger and acquisition activity (Rossi and Volpin, 2004), and large project finance deals (Esty and Megginson, 2003).

5 When there are negative flows (indicating outflows), I take the log of the absolute value of flows and then change the sign.
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