Financial integration, productivity and capital accumulation [☆]

Alessandra Bonfiglioli [*]

Institut d'Analisi Economica CSIC, Campus UAB, 08193 Bellaterra, Barcelona, Spain

A B S T R A C T

Understanding the mechanism through which financial globalization affects economic performance is crucial for evaluating the costs and benefits of opening financial markets. This paper is a first attempt at disentangling the effects of financial integration on the two main determinants of economic performance: productivity (TFP) and investment. I provide empirical evidence from a sample of 70 countries observed between 1975 and 1999. The results for both *de jure* and *de facto* indicators suggest that financial integration has a positive direct effect on productivity, while it does not directly affect capital accumulation. I also control for indirect effects of financial globalization through financial development and banking and currency crises. While financial integration does not systematically increase domestic financial depth, it may raise the likelihood of banking crises, though only to a minor extent. Yet, the overall effect of financial liberalization remains positive for productivity and negligible for investment.

© 2008 Elsevier B.V. All rights reserved.

1. Introduction

Academic economists and practitioners have long debated over the effects of financial globalization on growth.[1] The removal of restrictions on international capital transactions has on some occasions been welcome as a growth opportunity and in others blamed for triggering financial instability and crises. Yet, little has been done to address empirically the mechanism through which financial liberalization affects growth. How do the main sources of growth – total factor productivity (TFP) and capital accumulation – react to financial globalization? This issue is of particular relevance for at least two reasons. First, understanding how TFP and investment are affected by financial liberalization would allow us to identify which models are more appropriate to analyze and predict the economic effects of financial globalization. Second, answering the question above would greatly help understand the welfare effects of financial integration. Gourinchas and Jeanne (2006) show that, whether capital or TFP react to

financial openness, matters significantly for the size of welfare gains (or losses).[2] Only recently, a few studies have started addressing this important issue. Among them, this paper is the first attempt at disentangling the effects of financial globalization on aggregate productivity and capital accumulation.

The theoretical literature proposes various mechanisms through which financial globalization may affect economic growth, with different implications for investment and productivity. In the neo-classical framework, all effects are generated through capital flows. In the standard model, opening international capital markets generates flows from capital-abundant towards capital-scarce countries, thereby accelerating convergence (hence short term growth) in the poor countries. In a more sophisticated context, productivity may also increase since capital inflows may relieve the economy from credit constraints and thus allow agents to undertake more productive investments (as in Acemoglu and Zilibotti, 1997). An alternative view (see Saint-Paul, 1992; Obstfeld, 1994) suggests that international capital mobility may affect productivity independently of investment, by promoting international risk diversification, which induces more domestic risk taking in innovation activities, thereby fostering growth. To understand which theory is more appropriate to address the effects of financial globalization on growth, I separately regress investment and productivity on a series of indicators of international financial liberalization, and study whether TFP and capital react differently across developed and developing countries.

I also investigate two indirect channels linking financial integration to capital accumulation and TFP. First, as pointed out by Rodrik (1998) and Stiglitz (2000) among others, financial liberalization may trigger financial instability, that is detrimental for both investment in physical capital and productivity.[3] I account for the effects of financial instability by controlling all regressions for indicators of banking and currency crises. In this way, any indirect effect of liberalization through crises is removed from the estimates for financial liberalization. I also estimate the joint effect of crises and liberalization and I explicitly address the link between financial liberalization and the likelihood of financial crises.

As another indirect effect, financial globalization may foster financial development (see Klein and Olivei, 1999), i.e. the availability of external finance to the private sector, which Beck et al., (2000) show to spur productivity more than investment. To disentangle this channel, I first control for a measure of financial depth in the regressions for TFP and capital. Next, I separately address the link between financial integration and financial depth.

The main results are robust to using two *de jure* and one *de facto* measures of financial integration and to adopting various econometric methodologies. They suggest the following: (1) International financial liberalization has a positive direct effect on TFP, especially in developed countries. (2) The direct effect on capital accumulation is insignificant. (3) Banking and currency crises generally harm both capital accumulation and productivity. However, (4) financial liberalization raises only the probability that developed countries experience minor banking crises and has virtually no effect on the likelihood of currency crises. (5) There is weak support for the hypothesis that financial integration affects productivity and investment by promoting financial depth.

The first two results appear difficult to reconcile within the neo-classical framework. Models predicting a rise in productivity due to efficient reallocation of capital within countries, with possibly no effect on overall capital accumulation, seem more suited to rationalize this evidence. After presenting the empirical analysis, I discuss more in depth the theories that may explain these results and provide some additional evidence on the mechanisms.

This paper is related to four strands of literature. Studies on growth and development accounting have shown that a large share of cross-country differences in economic performance and growth is driven by total factor productivity (TFP) rather than factor accumulation (physical and human capital).[4] Hence, financial globalization seems more likely to impact long-run growth if it affects TFP, rather than factor accumulation. This is indeed the main empirical result of the paper.

The theoretical literature on finance and growth argues that financial development spurs GDP growth not only by raising the funds available for accumulation, but also by fostering productivity growth.[5] King and Levine (1993), and more in detail Beck et al. (2000) show empirical evidence of a strong effect of financial development on TFP growth, and only a tenuous one on physical capital accumulation. In the same spirit, this paper analyzes separately the effects of financial integration on TFP and investment. Moreover, it partially encompasses the exercise in Beck et al. (2000) by assessing whether financial depth works as an indirect channel through which globalization affects productivity and capital accumulation.

A wide empirical literature addresses the effects of financial globalization on economic growth and volatility with various datasets and methodologies.[6] Some studies (for instance, Grilli and Milesi-Ferretti, 1995, Kraay, 1998 and Rodrik, 1998) find that financial liberalization does not affect growth, others that the effect is positive (Quinn, 1997, Levine, 2001 and Bekaert et al., 2005 among others), yet others that it is negative (Eichengreen and Leblang, 2003).[7] Perhaps surprisingly, little evidence exists on the effects of financial globalization on the main sources of growth: productivity and capital accumulation.[8]

---

[2] Their quantitative exercise points out that the benefits from an acceleration in capital accumulation along the convergence to the steady state, are way smaller (up to a fiftieth) than the gains from an improvement in productivity, hence in the steady state to which the economy converges.

[3] See Aizenman (2002) for a survey on the evidence on financial liberalization and crises.

[4] See Caselli (2005) for a survey on the development accounting literature, and Easterly and Levine (2001) for the stylized facts on development and growth accounting.

[5] Acemoglu et al. (2006) and Acemoglu and Zilibotti (1997) among others show that financial development may relieve risky innovators from credit constraints, thereby fostering growth through technological change.

[6] See Kose et al. (2006) and Henry (2007) for extensive surveys of this literature.

[7] These effects are also shown to be heterogeneous across countries at different stages of institutional and economic development (see Bekaert et al., 2005; Edwards, 2001), with different macroeconomic frameworks (Arteta et al., 2001), and adopting a different sequence of other financial reforms (see Kaminsky and Schmukler, 2003; Bekaert et al., 2005).

[8] As a first step in this direction, Chari and Henry (2004) find significant effects of equity market liberalization on investment and the Tobin's Q of listed firms, and conclude that these must be driven by changes in productivity, which they do not explore directly.