Openness and the finance-growth nexus

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ARTICLE INFO

ABSTRACT

Rajan and Zingales (2003) hypothesize that openness—trade and financial—is a crucial determinant of financial development. The main policy implication emerging from this hypothesis is that openness should be promoted as a means of facilitating economic growth through financial development. While subsequent research confirms that openness affects financial development, we study whether finance continues to be growth promoting as economies become increasingly open—a key implicit assumption behind the policy recommendation. Using data from 78 economies for the period 1981–2006, we find that very high levels of financial openness generally erode the growth-promoting role of financial development while high trade openness strengthens it. These worldwide findings by and large hold for subsamples of Sub-Saharan African, Latin American and OECD economies. Notable exceptions are the invariance of the finance-growth (FG) nexus on trade openness in OECD economies and the positive effect of financial openness on the FG link in Latin American economies.

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1. Introduction

Rajan and Zingales (2003) hypothesize that both trade and financial openness are crucial for financial development. They argue that financial development is opposed by incumbent industrialists and financiers who are wary of the ensuing competition and, hence, erosion of their rents. However, trade openness, together with financial openness, could mute industrial and financial incumbents' resistance to financial development for two important reasons. On the one hand, incumbents who are doing well in an open economy environment may not oppose financial development as they may see domestic competition less pressing. On the other hand, firms that are struggling to survive foreign competition likely need to increase their investment, and, as a result, they may push for more financial development so as to get better access to external credit. In this sense, openness could be considered as an important determinant of financial development. In partial support for this hypothesis, Baltagi et al. (2009) find that opening up either the trade or the capital accounts—but not necessarily both—could induce financial

development. Using a new data set on *de jure* measures of openness and financial development, Hauner et al. (2013) also document strong evidence that trade liberalization is a leading indicator of domestic financial liberalization. However, they find little support for the view that capital account liberalization leads to financial development.

Obviously, the main reason why some economists are trying to investigate determinants of financial development is that they believe financial development fosters economic growth. This conviction is clearly reflected in the following opening sentences of Rajan and Zingales (2003)' paper: "There is a growing body of evidence indicating that the development of a country's financial sector greatly facilitates its economic growth….Why then do so many countries still have underdeveloped financial sectors?" Accordingly, the main policy implication of the Ragan and Zingales hypothesis is that policy makers and development institutions should promote openness to mute interest groups' resistance to financial development and to generate economic growth. This line of reasoning, however, is based on the implicit assumption that financial development always—or at least even when an economy is highly open—leads to economic growth. Contradicting this assumption, recent studies have consistently established that the impact of finance on growth depends on a number of institutional and economic conditions prevailing in an economy, including trade and financial openness (see, for example, Rioja and Valev, 2004;

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Yilmazkuday, 2011; Law et al., 2013; Herwartz and Walle, 2014).[2] Therefore, examining if finance continues to foster economic growth as economies become increasingly open can be an indirect, yet a very relevant, approach to testing (the implication of) the Rajan and Zingales hypothesis. If, for example, the evidence suggests the opposite, then the hypothesis or the respective empirical evidence cannot be used to advocate openness as a means of promoting economic growth.

The aim of this paper is to empirically examine whether and how *the impact of financial development on economic growth* (henceforth the finance-growth (FG) link/nexus/relationship) depends on trade and financial openness.[3] To this end, we follow a functional coefficient modeling approach where the long-run FG nexus is allowed to depend on a factor variable, in this case, a particular measure of openness. Specifically, our study improves on previous attempts to examine the impact of trade openness (Yilmazkuday, 2011; Herwartz and Walle, 2014) and financial openness (Herwartz and Walle, 2014) on the FG nexus in at least three ways. First and foremost, we employ a continuous financial openness measure, namely, the percentage of the economy's aggregate foreign assets and liabilities in GDP (Lane and Milesi-Ferretti, 2007). Due to its smoothness, this measure, unlike the one used in Herwartz and Walle (2014), can be treated as a factor in the semiparametric estimation. Second, as a robustness check, we utilize disaggregated openness measures. In this regard, the financial openness measure is divided into two indicators: foreign assets and foreign liabilities. Similarly, the trade openness measure is disaggregated so that it distinguishes between imports and exports, on the one hand, and between goods exports (imports) and services exports (imports), on the other. Third, taking advantage of the smoothness of the new financial openness measure, we pursue a new empirical strategy of estimating a bivariate factor model, with trade openness and financial openness as the first and the second factors. This method helps to investigate whether financial development is beneficial when an economy has simultaneously high levels of trade and financial openness. Moreover, this approach allows us to identify which of the two openness types (trade and financial) is the most influential factor in determining the FG nexus.

In Section 2, we provide a brief review of the theoretical and empirical literature on the impact of openness on the FG relationship. The survey predicts a positive role of trade openness on the FG link in economies that have benefited more from international trade, and a negative one in economies whose firms suffered from increased international competition. The main channel here is that, the more the funds agglomerated by financial intermediaries are efficiently utilized by firms, the larger is the impact of financial intermediary activities on economic growth. However, access to international trade could have a less significant role of enhancing macroeconomic efficiency in economies which already have large domestic markets. Hence, it is expected that the effect of trade openness on the FG nexus of high-income OECD economies could be negligible. With respect to financial openness, two main channels are highlighted. The first channel, which we call the "substitution" channel, builds on the fact that financial openness and financial development could play the same growth-promoting

roles, e.g. risk diversification. Hence, as financial globalization intensifies, (domestic) financial development will likely become less important to economic development. A further negative effect of financial openness on the FG relationship is predicted by the "volatility" channel. This channel emphasizes that because financial integration improves international risk sharing, it leads to intensified specialization, which in turn induces vulnerability to industry-specific shocks, and hence, might negatively affect the efficient utilization of resources channeled by the financial sector.

In Section 3, we describe the data and sketch the empirical methodology. Our data set covers 78 economies over the period 1981–2006. We estimate both parametric and semiparametric models. The former model is estimated by means of dynamic OLS (DOLS) and fully modified OLS (FMOLS) estimators. The DOLS model is later generalized into a semi-parametric functional coefficient model where the parameter measuring the impact of financial development on economic growth is represented as a function of trade and financial openness.

Section 4 discusses parametric and semiparametric FG nexus estimates. Our results from the data covering all 78 economies indicate that trade openness strengthens the FG nexus while financial openness weakens it. While these worldwide findings remain by and large robust to splitting the data into groups of more homogeneous economies (Sub-Saharan Africa (SSA), Latin America and OECD), there are a few notable exceptions. For instance, unlike in SSA and Latin America, trade openness is not a significant determinant of the FG nexus in OECD economies. Furthermore, a high degree of financial openness is favorable for a strong FG nexus in Latin America. This is in contrast to the results obtained in other cross sections, especially OECD economies, where economies see the strongest FG link when they are the least financially integrated. Given that OECD economies have deeper financial systems that could better absorb international shocks, and that industrialized economies are indeed reaping the fruits of risk sharing due to financial integration (Kose et al., 2009), our results hint at the predominance of the "substitution" channel in OECD economies. The bivariate functional estimates corroborate the univariate ones: it is only in Latin American economies that simultaneously opening the trade and capital accounts is found to significantly enhance the FG nexus. Therefore, our results offer only a partial support to the suggestion emerging from the Ragan and Zingales hypothesis that opening up both trade and capital accounts is a crucial means of fostering growth-promoting financial development.

Section 5 concludes with a short summary of the main results and potential research topics for the future. Some technical issues of functional coefficient modeling are addressed in Appendix A.

2. Review of the literature

Noting that studies on the impact of openness on the FG nexus have treated trade and financial openness as two independent factors, we separately review the literature on the dependence of the FG link first on trade and subsequently on financial openness.

2.1. Trade openness and the FG nexus

The effect of trade openness on the FG relationship seems to emanate from the impact of international trade on the overall macroeconomic performance of an economy. Therefore, as trade openness could have positive and negative effects on economic growth, it could also have contrasting effects on the FG nexus. On the one hand, trade openness may lead to enhanced macroeconomic efficiency by providing access to new raw materials and products, low-cost intermediate goods, larger markets and latest technologies (Yanikkaya, 2003). The increased efficiency—both at the firm

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[2] These works, including the current study, could also be seen as part of the broad research effort towards relaxing the standard, yet restrictive, assumption that all economies grow alike (e.g. Durlauf and Johnson, 1995; Bos et al., 2010).

[3] In the finance and growth literature, the phrase "FG nexus/link/relationship" has been used to refer to two slightly different concepts. Some studies (including this paper) use it to narrowly mean "the impact of finance on growth". These studies often estimate the growth models controlling for the potential endogeneity of financial development. However, they typically do not test the presence of a reverse causality from growth to finance. Other studies, however, explicitly examine the direction of causality between finance and growth. Hence, the phrase "FG nexus/link/relationship" in such studies means "the (causal) relationship between finance and growth".