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Financial openness, risk and bank efficiency: Cross-country evidence☆

Yun Luo[a], Sailesh Tanna[b,*], Glauco De Vita[a]

[a] Centre for Business in Society (CBiS), Faculty of Business and Law, Coventry University, Gosford Street, Coventry CV1 5DL, UK
[b] School of Economics, Finance and Accounting, Faculty of Business and Law, Coventry University, Priory Street, Coventry CV1 5FB, UK

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ABSTRACT

This paper assesses the interrelationship between financial openness, bank risk and bank profit efficiency using a cross-country sample of 2007 commercial banks covering 140 countries over the period 1999–2011. To establish whether the impact of financial openness on both bank risk and profit efficiency occurs directly or through each one of the two bank characteristics (efficiency and risk, respectively), we begin our analysis by investigating the potential reverse Granger causality between profit efficiency and risk using a dynamic simultaneous model via system GMM estimation. We then account explicitly for the role of bank risk in the estimation of bank profit efficiency using stochastic frontier analysis, allowing for the influence of different measures of financial openness and risk alongside other control variables. Our results indicate that financial openness reduces bank profit efficiency directly, not through changes in bank risk. We also find that financial openness increases bank risk indirectly, through the decreased bank profit efficiency channel.

1. Introduction

Since the 1980s the global capital market has become increasingly interdependent owing to increased cross-border capital mobility among countries. Both developed and developing countries have thus embarked on the liberalization of their capital accounts, allowing foreign ownership of domestic resources, including equity (financial openness). This process gained further impetus in the 1990s as a result of the IMF and World Bank led reform programmes which embraced the Washington Consensus.

The initial stimulus behind the drive for financial liberalization was its postulated link with economic growth, stemming from the seminal contributions of McKinnon (1973) and Shaw (1973). In broad terms, the finance-growth nexus works through the efficiency of the financial intermediation process which makes for a better allocation of financial resources, in turn promoting investment and economic growth.

The prospect of benefits to be gained from financial development led to widespread deregulatory reforms with many countries allowing banks to be foreign-owned and inviting foreign entry of banks on a national treatment basis (Claessens et al., 2001). As part of this process of liberalization, deregulation and greater global financial integration, banks worldwide expanded their services abroad and engaged in greater risk taking while at the same time adapting to the changing social and economic environment in order improve their productive efficiency (Denizer et al., 2007). Heightened competition brought about by greater financial openness and freedom of markets also placed a strong emphasis on banks to improve their efficiency by adjusting their risk-return profiles.

In this paper, we revisit empirically the influence of financial openness on bank profit efficiency but we do so by accounting explicitly for the role played by bank risk in this relationship. Although various individual links among these three variables have already been analyzed in previous literature, few studies have considered the three variables jointly in an international sample of bank-level data.

At the theoretical level, several propositions exist in the literature with regard to both direct and indirect effects, positive as well

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* Corresponding author. Tel.: +44 24 7765 7414; fax: +44 24 7765 8400.
E-mail addresses: luoy4@coventry.ac.uk (Y. Luo), s.tanna@coventry.ac.uk (S. Tanna), glauco.devita@coventry.ac.uk (G. De Vita).

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as negative, of financial openness on bank profit efficiency, as well as the role that bank risk may play in relation to each of the above variables.

The first, positive and direct effect of financial openness on bank profit efficiency stems from the well-established, though arguably controversial, theoretical premise that opening up the economy to foreign capital provides banks with greater possibilities for enhanced capital allocation to productive investments, also as a result of a higher propensity to channel funds towards higher expected return projects (see, e.g., Obstfeld, 1994; Levine, 1997).[1]

The above premise (and related supporting evidence) forms the cornerstone of the free market view, a view that stands opposite to that purported by those who advocate more regulated markets because financial openness can also generate significant economic costs and have a direct negative impact on efficiency. For example, Agénor (2003) posited that entry by foreign banks may, as a result of their credit rationing strategies (on firms and, to a lesser extent, households), have a negative impact on the expected increase in efficiency in the financial sector. He also postulated that financial openness can create pressures on local banks (which tend to have lower operational costs) to merge in order to remain competitive. The resulting market concentration (which could also arise as foreign banks acquire local banks) could create monopoly power that would reduce the overall efficiency of the banking system. Moreover, bank consolidation and restructuring driven by the freedom of markets could further undermine the efficacy of corporate control and management best practice, which may in turn adversely affect bank profits. Nevertheless, whether the direct effect of financial openness on bank profit efficiency is positive or negative remains an empirical question, which has yet to be satisfactorily squared by the applied literature.

Possible reasons why previous findings are mixed and hence ambiguous may be due to the failure to incorporate in the analysis of the above relationship the simultaneous role that bank risk may play as a conduit for an additional, indirect influence of financial openness on bank profit efficiency, and its potential reverse causality with the latter since it is equally possible that financial openness might affect bank risk via its impact on bank profit efficiency.[2]

The indirect effect of financial openness on bank profit efficiency that operates through bank risk could also be positive or negative. A portfolio management theory perspective would suggest a positive impact, particularly for larger banks, warranted by new opportunities for risk spreading and international portfolio diversification in terms of both income and asset diversity (see, e.g., Laeven and Levine, 2007). Conversely, the indirect effect through the risk channel could be negative given the new opportunities for banks to incur more risks under a more liberalized and deregulated financial regime as banks expand their operations into foreign markets or in non-traditional activities (see Cubillas and González, 2014). Higher bank risk and risk taking may, in turn, undermine efficiency gains from financial openness (see Dailami, 2009). These considerations should suffice in making it at least plausible to hypothesize the existence of an additional indirect - positive or negative - effect running from financial openness to bank profit efficiency that may operate via bank risk; the determination of the prevailing net effect remaining a task for empirical estimation.

To the best of our knowledge, no single study has examined the importance of bank risk in investigating the effect of financial openness on bank profit efficiency, nor the impact of financial openness on both bank risk and profit efficiency by distinguishing between its direct influence and the effect that occurs through each one of the two bank characteristics (efficiency and risk, respectively). This paper makes a fresh contribution in these directions.

Accordingly, using a sample of 2007 commercial banks operating in 140 countries over the period 1999–2011, the analysis will cater for these investigative routes as follows. Given that bank profit efficiency may be directly affected by financial openness, or indirectly through changes in bank risk levels, and since bank profit efficiency may also be a factor affecting bank risk, the analysis starts by using dynamic simultaneous models on both profit efficiency and bank risk with financial openness as an explanatory variable via system GMM estimations that also allow us to address the reverse causality between bank risk and profit efficiency. Then, to assess the sensitivity of our results, we estimate profit efficiency using stochastic frontier analysis (SFA) that allows estimates of efficiency to be influenced directly by a number of variables including different measures of risk and financial openness. Since country-specific differences in institutional factors and regulations may affect the role and relevance of bank risk in influencing bank profit efficiency under a more globally integrated financial environment, and given that this influence may vary with the state of economic development, we also control for country-specific differences in the regulatory environment and other factors, and conduct a battery of robustness tests.

The main results show that financial openness reduces bank profit efficiency directly, not through the channel of bank risk. Significantly, we also show that financial openness increases bank risk indirectly, through the decreased bank profit efficiency, a result that has not yet been reported in the literature.

The rest of the paper is organized as follows. Section 2 offers a brief theoretical background and discusses previous literature. Section 3 describes the methodology and data. Section 4 presents and discusses the empirical results. Section 5 concludes.

2. A review of related literature

As anticipated in our introduction, opening up the economy to foreign capital flows and relaxing entry barriers into the banking sector are expected to promote greater financial development and stimulate domestic competition. In this process banks too may accrue efficiency gains, directly or indirectly, as a result of more possibilities to allocate resources to productive investments, improved risk diversification and management best practice, reduced transaction, overhead and information costs, and new financial instruments and services (Claessens et al., 2001; Hermes and Lensink, 2008; Levine, 2001; Laeven and Levine, 2007; Herwartz and Walle, 2014). Yet, as noted earlier, the empirical evidence on the impact of financial liberalization/openness on bank efficiency is mixed, with many studies reporting a negative effect. Most of the applied studies relating to profit, cost or technical efficiency are conducted for individual countries with relatively few offering regional or cross-country level coverage.

Among country-specific studies, Williams and Intarachote (2003) investigate the impact of financial liberalization on the profit efficiency of Thai banks and find that bank profit efficiency decreases during the deregulation period. Bonaccorsi di Patti and Hardy (2005) investigate the effects of financial liberalization on bank cost and profit efficiency in Pakistan and find that while profit efficiency improved immediately after liberalization, the efficiency improvement did not continue in subsequent years. Using a dataset of Turkish banks, Denizer et al. (2007) too find that banking

[1] Furthermore, the availability of foreign capital and/or greater foreign bank presence may increase the profit efficiency of banks through better financial intermediation, economies of scale and scope, and reduced transaction-, overhead- and information-costs (see, e.g., Levine, 2001).

[2] Indeed, a number of studies have examined the trade-offs between bank efficiency and risk using Granger causality techniques (see, e.g., Berger and DeYoung, 1997; Williams, 2004; Fiordelisi et al., 2011).