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Are foreign banks more profitable than domestic banks? Home- and host-country effects of banking market structure, governance, and supervision

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ABSTRACT

Using both bank- and country-level data on banking sectors from 70 countries over the period 1992–2006, this paper empirically investigates the joint home- and host-country effects of banking market structure, macroeconomic condition, governance, and changes in bank supervision on foreign bank margins. We find that foreign banks are more profitable than domestic banks when they operate in a host country whose banking sector is less competitive and when the parent bank in the home country is highly profitable. Moreover, when foreign banks operate in a host country with lower growth rates of GDP, higher interest and inflation rates, and more stringent regulatory compliance with Basel risk weights, their margins increase. Specifically, changes in bank supervision of a parent bank's ownership restrictiveness in the home country significantly increases foreign bank margins, while supervisory changes in regulatory compliance with Basel risk weights in the host country enhances foreign bank margins.

1. Introduction

Over the last few decades, countries have extended their international financial activities and opened their doors to foreign banks, thereby increasing their levels of financial liberalization and integration and boosting the banking industry worldwide. The globalization of banking has led to institutional and regulatory improvements and benefitted both local and foreign banks. At the local level, globalization has increased the competitiveness of banking markets by reducing administrative costs, lowering net interest margins, and driving down bank rates of return. At the international level, globalization has allowed foreign banks—especially those from more developed financial systems—to expand into emerging market economies, where they have sometimes become dominant. Dietz et al. (2008) find that according to 2006 survey on global industry profit revenues and profits in the banking industry amounted to $788 billion, which was higher than profits in any other industry. The authors also indicate that between 2000 and 2006 the profits of developed countries grew significantly faster than those in less developed countries. This shows the role of profitability in banking industry is essentially important and draws higher interest and concern from academics and practitioners.

All banks—whether domestic or foreign—seek to enhance their profitability. Their ability to do so involves both internal and external determinants. Internal determinants encompass the management decisions made by each bank and are related to the bank's level of liquidity, provisioning policy, bank size, capital adequacy, and expense management. External determinants encompass macroeconomic factors beyond the bank's control, such as the legal environment, the state of the economy in which a financial institution operates, changes in national governance, and the impact of globalization.

Previous studies have evaluated how various factors impact bank profitability (e.g., Molyneux and Thorton, 1992; Ho and Saunders, 1998; Demirgüç-Kunt and Huizinga, 2000; Goddard et al., 2004). Jaffee (1989) finds that the interest spread was influenced by (i) the degree of market concentration that affected bank profitability; (ii) regulatory constraints that prohibited the bank from undertaking certain profitable activities and increased the cost of providing permissible activities; (iii) higher credit risk; and (iv) exposure to interest-rate risk. Some researchers have recently examined the impact of GDP on bank profits (Brock and Suarez, 2000; Staikouras and Wood, 2003; Williams, 2003; Claeys

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and Vennet, 2008), while others have assessed the impact of inflation on bank profits (Kosmidou et al., 2007; Pasiouras and Kosmidou, 2007; Athanasoglou et al., 2008) and the ambiguous effect of corporate income tax on net interest margin (Albertazzi and Gambacorta, 2010). Recent literature has also analyzed the effect of interest rates and banking market structure on such areas as bank profitability (Saunders and Schumacher, 2000; Maudos and Fernández de Guevara, 2004); credit risk (Angbazo, 1997; Maudos and Fernández de Guevara, 2004); non-interest revenue (Spathis et al., 2002); and bank-specific factors like interest rates, loans to assets, and a bank's market shares (Claeys and Vennet, 2008).

To evaluate a bank's performance and determine whether a positive empirical relationship exists between market concentration and bank profitability, researchers frequently use the paradigm of *Structure–Conduct–Performance* (Kosmidou et al., 2007; Pasiouras and Kosmidou, 2007). When such a relationship exists, it strongly implies that a bank will be able to gain a monopoly as its market concentration increases. Furthermore, García-Herrero et al. (2009) find that better capitalized Chinese banks tend to be more profitable and indicate that a less concentrated banking system increases bank profitability. Delis and Tsionas (2009) show that there is a negative relationship between efficiency and market power in line with the "quiet life hypothesis". In addition, Maudos and Solisa (2009) find that Mexican banking industry with high margins can be explained mainly by average operating costs and by market power.

Over the last few decades, many developing countries have liberalized their financial policies and begun encouraging the entry of foreign banks into the domestic banking market. As a result, the market structure of the banking industry has changed significantly. The traditional banking industry perspective suggests that when banks enter a new market, it leads to more competition among banks already in the market, thereby benefitting borrowers but ultimately harming local banks' monopoly rents. Thorne (1993) finds that the entry of foreign banks as a whole into a domestic market has a positive effect on the domestic market due to the spillover effect of the foreign banks' know-how and expertise. Claeys and Hainz (2006) conduct a theoretical analysis that showed foreign bank entry would drive down a country's average interest rate for new loans. Peria and Mody (2004) find that the entry of foreign banks into Latin American markets decreased the level of bank concentration. Maudos and Fernández de Guevara (2004) demonstrate that between 1993 and 2000, banking sectors in Europe (including Germany, France, the United Kingdom, Italy, and Spain) proxied both the Herfindahl index and the Lerner index, which measure the degree of concentration and market power. Their results showed a significant positive impact of market concentration on the interest margin.

In regard to whether foreign banks or domestic banks perform better in the same market, research has been contradictory. Some studies have found no significant differences between domestic and foreign banks (Vennet, 1996; Hasan and Lozano-Vivas, 1998; Crystal et al., 2001; Mian, 2003). Some studies have found that domestic banks perform better (Sturm and Williams, 2004) and that foreign banks are disadvantaged when compared to domestic banks in developed countries (Peek et al., 1999; Berger et al., 2000; Claessens et al., 2001; Sathye, 2001). One reason for this is that foreign banks may lack knowledge of the specific market at the time of entrance (DeYoung and Daniel, 1996; Mahajan et al., 1996; Berger et al., 2000; Kosmidou et al., 2004). Some studies have found that foreign banks are more profitable and more efficient than domestic banks in emerging markets (Claessens et al., 2001; Demirgüç-Kunt and Huizinga, 2000; Bonin et al., 2005; Grigorian and Manole, 2006; Berger et al., 2009b). Others, however, have found the opposite (Nikiel and Opiela, 2002; Yildirim and Philippatos, 2007).

One possible reason for such contradictory results may lie in the fact that empirical analysis for the performance of foreign banks has mainly concentrated on European Union and US banks operating abroad. Another may be that most studies have compared the performance of domestic banks with foreign banks for a single country rather than analyzing how cross-country differences in banking market structure influence a bank's profitability. For example, Williams (1996, 1998a,b, 2003) studies Australia, Minh To and Tripe (2002) studies New Zealand, Ursacki and Vertinsky (1992) focuses on Japan and Korea, Engwall et al. (2001) studies the Nordic countries, and Dietrich and Wanzenried (2009) studies Switzerland.

This paper contributes to previous studies in several ways. First, we empirically investigate the key factors in 70 countries that affect bank profitability in foreign banks when compared to domestic banks. To do so, we analyze the long-term relationship between bank profitability and banking market structure using structural measures, such as Panzar and Rosse *H* (P–R *H*) statistics and the Lerner index, as well as static measures, such as the Herfindhal Hirschman Index (HHI) and the Concentration Ratio (CR), over the period 1992–2006. Second, we empirically examine whether cross-country differences in banking market structure, macroeconomic environment, institutional governance, banking competition, and country risk between host country and home country influence foreign profitability. Third, we use regulation and supervision variables to explore the joint home- and host-country impacts of change in bank supervision on foreign bank profitability.

The rest of this paper is organized as follows. Section 2 reviews related literature dealing with international studies of bank profitability. Section 3 describes the model for analysis used in the theoretical framework of this paper. Section 4 presents the empirical model used for estimation, explains the data collection process, and provides summary statistics. Section 5 discusses the results of our empirical models. Finally, Section 6 presents our concluding remarks.

2. Related literature

Previous literature related to bank profitability can be classified into two major categories. The first is a cross-country comparison of bank profitability, and the second is the impact of banking market structure on bank profit. We discuss our detailed findings in the following sections and summarize the important empirical results in Appendix A.

2.1. International comparison of bank profitability

The empirical literature on bank profit focuses strongly on European countries. One exception to this is Williams (1996), who constructs a model that attempts to explain the performance of Japanese financial institutions in Australia. In general the model performs well for measures of size, but comparatively poorly for measures of profitability. Brock and Suarez (2000) report that bank spreads in the 1990s were influenced by liquidity and capital risk at the bank level and by interest rate volatility, inflation, and GDP growth at the macroeconomic level. Claessens et al. (2001) analyze 7900 banks from 80 countries for the period 1988–1995 and found that foreign banks enjoyed higher profits than domestic banks when operating in developing countries. They found the opposite effect, however, for banks operating in developed countries.

Kosmidou et al. (2007) analyze 19 Greek bank subsidiaries operating in 11 nations during the period 1995–2001. Their findings show that the profitability of the parent bank and the operating experience of the host nation had a robust and positive impact