Journal of Banking & Finance 42 (2014) 232–246

Contents lists available at ScienceDirect

Journal of Banking & Finance

journal homepage: www.elsevier.com/locate/jbf

# The financial crisis and bank–client relationships: Foreign ownership, transparency, and portfolio selection

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ARTICLE INFO

*Article history:*
Received 10 January 2013
Accepted 17 November 2013
Available online 1 December 2013

*JEL classification:*
G21
G28
G34
F36

*Keywords:*
Foreign entry
Bank ownership
Bank portfolio
Information asymmetry
Financial market crisis

ABSTRACT

Using a unique dataset that matches banks with their client firms, we investigate the differences between foreign and domestic banks in a developing country. In particular, we are interested in examining how foreign banks solve the information asymmetries that characterize lending relationships and whether those relationships have changed since the financial crisis of 2008. Foreign banks are likely to limit their lending activity to larger firms or more transparent firms because they are at an informational disadvantage relative to domestic banks. We find that foreign banks focus on relationships with foreign, listed, and larger firms. In addition, their portfolio is more heavily weighted towards firms in less competitive industries and exporting firms. Comparing outcomes for 2006 and 2009, we find that banks are more concerned with leverage in 2009 and have reduced the number of firms in their portfolio post-crisis.


## 1. Introduction

Financial liberalization has increased the presence of foreign banks in developing countries all over the world. Claessens et al. (2008) record a 90% increase in the number of foreign banks in low income countries between 1995 and 2006. The market share of foreign banks is also growing rapidly in these countries. The entry of foreign banks presents both opportunities and problems for developing countries. While an expansion of credit markets is clearly advantageous, foreign bank entry can be fraught with problems. In their quest to mitigate information asymmetries, foreign banks may be drawn to particular types of borrowers and effectively reduce the pool of 'good' clients available to domestic banks (e.g. Berger et al., 2003; Buch, 2003; Van Tassel and Vishwasrao, 2007; Gormley, 2013). The aim of our paper is to examine the differences between foreign and domestic banks using the relationships and portfolio of clients that they choose. Specifically, we are interested in seeing if foreign banks choose a significantly different client portfolio than private or state-owned domestic banks. We use data from the Center of Monitoring the Indian Economy's (CMIE) Prowess Database to compile a unique dataset of Indian banks and the manufacturing firms who are their clients. We examine the relationship between bank ownership type and the firm and industry characteristics of their clients to test theoretical hypotheses about how banks deal with information asymmetries.

In practice and theory, banks devote a great deal of attention to developing a loan portfolio. Screening borrowers for credit history, ability, and potential success is an important component of a bank's performance. In their review of the literature on banking relationships, Elyasiani and Goldberg (2004) comment that it "important for prudent lenders to gather information about the credit-worthiness of the borrowers" (page 315) and stress that knowledge about borrowers is vitally important to the lending process. The theoretical literature in banking places special emphasis on the type and nature of borrowers as any information asymmetry regarding a bank's client portfolios impacts bank performance. In an early model of bank behavior, Stiglitz and Weiss (1981) show that when banks lend to small firms, the relationship is prone to adverse selection and moral hazard problems due to limited information flow. Along the same lines, Diamond (1984, 1991) and Leland and Pyle (1977) demonstrate that such adverse selection issues are largely alleviated for big financial institutions who can

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http://dx.doi.org/10.1016/j.jbankfin.2013.11.026
0378-4266/

acquire significant amounts of information on borrowers. While asymmetric information problems may be particularly acute for foreign banks when entering markets abroad, these difficulties can be mitigated, even in developing countries. Goldberg and Saunders (1981) find information asymmetry disadvantages can potentially be offset by superior screening technologies and a readymade set of transparent clients if banks follow multinational clients abroad.

Empirical research also shows that while business lending improves with foreign bank entry, such lending is restricted to firms in more urban areas and to those which have more transparent information available (Clarke et al., 2000). Berger et al. (2001) find that business lending is limited for opaque firms with high information asymmetry. Clarke et al. (2003) also document that foreign bank lending varies by country and suggest that more research is needed on issues surrounding bank lending for developing countries. Claessens et al. (2001) suggest that foreign bank entry increases efficiency through increased competition and conclude that for developing countries, the disadvantages of foreign ownership are outweighed by the advantages. These papers find that foreign banks tend to lend to larger, more profitable, and more transparent firms. Our study distinguishes itself from other studies via the following contributions.

First, much of the existing literature primarily examines the impact of foreign banks soon after they enter the domestic market.[1] As India conducted the bulk of her liberalization policies in the early 1990s, we add to the literature by examining banking relationships in a context where foreign banks are already well established. Second, prior research examines foreign banks in a framework where the mode of entry is mostly through mergers and acquisitions (M&A) (Berger et al., 2000). In India, foreign banks enter via de novo banking. Literature suggests that mode of entry can impact banking relationships. Examining foreign bank entry into Poland, Degryse et al. (2012) note that the mode of entry impacts the portfolio composition of banks; they find that greenfield banks have a smaller percentage of opaque borrowers when compared to domestic banks and to foreign banks which enter through acquisition. Thus, our study adds an important dimension to the study of foreign banks in the context where bank entry is not through M&As.

Third, our study introduces market structure variables that have not previously been examined by studies in this area. For example, we examine output market competition factors such as Herfindahl indices, export orientation, primary sector exposure of firms, and business group membership as sources of potential differences between state, foreign, and private ownership. Khanna and Palepu (2000) find that in the Indian case, firms with group affiliations have more access to foreign sources for capital. Thus, it is likely that foreign banks have relationships with firms with group affiliations. In the absence of transparent information, foreign banks might prefer to lend to firms in concentrated industries where the lack of competition may contribute to their success.

Fourth, because our study focuses on India, we can examine the role of state ownership which is common in the banking sector in India. We ask if there is a difference in the portfolio of firms that a bank interacts with, based on its ownership type. This is of interest in countries with multiple ownership types, and where state ownership of banks may force a certain portfolio selection. Despite liberalization, India still maintains strong governmental control over the banking and financial markets. According to a 2004 World Bank Report, while the market share of public sector banks to total assets has fallen since liberalization, India still has one of the highest percentages of public sector banking in the world. Thus, the prominent regulatory role of the government, along with the concentration of state-ownership leads to significant differences between other studies which focus on relationships in Western countries and our research, which looks at bank–client relationships in a prominent emerging market country. State-owned banks may have a mandate to serve certain industries and sectors, regardless of performance, while private foreign and domestic banks might be free to choose a portfolio of better performing firms. We use firm performance variables such as leverage, sales, and profitability to study differences in the portfolio of state-owned and private banks.

Finally, we study the impact of the 2007–2008 financial crisis by examining banking relationships pre- and post-crisis. The period shortly preceding 2009 (the primary focus of our study) was characterized by a worldwide financial crisis. It is possible that the tightening of credit markets precipitated actions, particularly on the part of foreign banks which were not common in the pre-crisis period.[2] We conduct the same analysis for two different time periods, 2006 and 2009. We find that while banks did pay attention to the broad characteristics of firms such as age, foreign ownership, and size in 2006, the attention to actual bank performance appears to be more important in 2009, although the differences are small. Most significantly, foreign banks appear to have reduced the number of firms and industries to which they are lending in 2009.

Two notable papers which use the same dataset as ours include Gormley (2010) and Berger et al. (2008). Gormley (2010) uses the CMIE Prowess database to examine foreign bank lending decisions in India between 1991 and 2002 and finds that foreign banks financed a very small set of firms and that foreign bank entry increased information asymmetry problems. Berger et al. (2008) use data for the year 2001 to explain bank diversification behavior by firms. They study the likelihood of firms choosing foreign banks and multiple banks as clients. Both these studies use data when banking markets in the country were still nascent and our paper adds to this literature by examining bank portfolio choice using more recent data. Our study covers a period which is 17 years after India liberalized her financial markets, allowing us to shed more light on how bank–client relationships have evolved.

Specifically, we use the firm level CMIE data to create a dataset which matches banks with their corporate clients so that we have data on the average firm and industry level characteristics of each bank's portfolio. This is an extensive dataset where there are more than 9000 potential firms that a bank might include in its portfolio. We investigate differences in the client portfolios and examine if firm opacity, industry level competition, firm performance, and portfolio diversity are significant drivers in determining bank–client portfolio choices across different ownership types. Similar to Berger et al. (2001) and Degryse et al. (2012), we find that foreign banks have relationships with transparent firms. Foreign banks deal significantly more with foreign firms, listed firms, and older firms. We compute industry level Herfindahl indices to find that the foreign banks in our sample also interact with firms in more concentrated industries. Our results document that foreign banks hold a portfolio of less leveraged and better performing firms. While there is some suggestion in the literature that state-owned banks may have higher numbers of poorly performing firms in their portfolio due to governmental lending mandates, we do not find any evidence that state-owned banks choose a particular portfolio of firms based on performance, either good or bad. Clarke et al. (2000) also find that while foreign bank entry increases lending, such lending tends to be concentrated in specific sectors and regions. While we cannot explore regional biases due to data

[1] One exception is Mian (2006) whose examines foreign banks well after the liberalization period.

[2] We are grateful to an anonymous referee of this journal for proposing this line of inquiry.