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An Examination of Bank Sector Deregulation on Inbound FDI: Commercial Bank Acquisitions

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This paper sets out to explore the relationship between competition policy and inbound FDI. To do so, the author has related changes in regulations that raise or lower barriers to entry in the commercial banking sector to changes in the amount of home market penetration by foreigners in the form of bank acquisitions (i.e., acquisitions of domestic banks by foreign banks as a ratio of all bank acquisitions in the domestic market). Using a standard logit regression on a database of 48 developed and developing countries over a 9-year period, the results show that a reduction in barriers to entry is strongly and positively related to increased market penetration of the home market by foreign commercial banks. The results show that the likelihood of foreign acquisitions will be complicated by the existence of a bank crisis and seems to be positively related to EC liberalization in the form of the adoption of the EC banking directives. GDP was not found to be a significant factor relevant to market entry. Furthermore, these results support the hypothesis that inbound FDI in the form of a foreign bank taking over a domestic bank is positively related to reductions in legislative barriers governing market entry, and therefore that inbound FDI can be positively related to competition policy as articulated by a bank sector regulator.

Field of research: International Trade Policy – country analysis; competition

1. Introduction

During the 1990s, many countries underwent significant liberalization of their banking sector. The changes dismantled market barriers to entry that had previously limited foreign investment into the domestic banking sector of most countries. As a result, governments were faced with issues related to foreign entry in the banking sector. Governments have typically been concerned about the banking sector from a competition perspective and have been anxious to avoid market concentration from arising either through mergers, influence over or acquisition of domestic banks.

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Sector regulators that were initially put in place to monitor these interactions between domestic banks have more recently been challenged by market entry from abroad and have designed a number of policy responses to this challenge. These policy responses have generally been confined to the credit worthiness and adherence to domestic banking laws of potential foreign entrants. Very little, if any, study has been devoted to the potential manner in which the variety of regulatory hurdles put in place by the bank sector regulators has had an impact upon inbound FDI.

This paper studies the relationship between deregulation in the banking industry and subsequent market entry from abroad by foreign commercial entities as a proportion of overall acquisitions in the market. Traditionally, policy makers have looked at industrial policy as a means of maximising FDI, rather than concentrating on the banking sector. By combining location theory, FDI theory and commercial banking studies, this paper seeks to shed light upon whether inbound FDI is positively affected by domestic banking regulations, through the medium of location decisions made by commercial banks that are looking for cross-border investment opportunities. Traditional FDI literature tends to focus on factors such as the local supply of human capital, modern infrastructure and other fundamentals of economic growth whereas the goal in this analysis is to more narrowly focus on FDI that takes place as a result of changes in bank sector regulations. Thus, the relationship between regulation and foreign entry outlined in the following paper will serve as an indication of the nature of the relationship between changes in sectoral regulation (which can be thought of as a subset of competition policy) and inbound foreign direct investment (FDI.)

In the banking sector, market entry is generally governed by a specific banking regulator, which is often the central bank.[1] During the 1990s, several factors led to a relaxation of regulatory restrictions that withheld foreign entry in banking; these included the enlargement of the European Community (EC) and the subsequent adoption by member states from 1993 onwards of a common approach to rules and standards in banking, the emergence of former Soviet-states into the capitalist marketplace, the entry into force of the WTO and its associated agreements on services liberalization in 1995 - with an indirect effect upon banking, the rise of multinational capitalism brought about by the globalization of trade associated with the subsequent pressures exerted upon domestic banks for the internationalization of their services and, in several instances, loan conditionality imposed by agencies such as the International Monetary Fund (IMF) and the World Bank to open domestic financial sectors of client countries in the wake of various financial crises.

This study is the first part of a much larger work examining in more detail the nature of the interaction between the regulations governing market access and foreign investment, that I have broadly labeled the interaction between

competition policy and FDI. Subsequent studies will examine the propensity for neighboring states, or states within a common customs area, to invest in each other, plus the effect of the price of foreign market entry on the price of bank assets before and after deregulation.

2. Literature Review and Motivation for study

This paper is an attempt to understand the link between competition policy and foreign direct investment (FDI). To do so, it employs a model of market entry into host country bank markets. The commercial banking industry provides an ideal environment in which to model these conditions. Commercial banks produce a homogenous product in a large number of geographically separated markets, with variations in market structure and economic conditions. Banks are governed by sector regulators that articulate competition policy. This paper examines entry in the form of bank acquisitions in 48 national markets over a period of 9 years from 1995-2004. To do so, it examines more than 500 bank acquisitions. These analyses compares well with other studies of entry, which typically employ fewer observations and tend to rely on tariff code data (such as SITC and HS).

Therefore, the banking market allows for the examination of differences in barriers to entry created by regulatory conditions. Over the sample period, many countries had banking laws and other regulations that restricted foreign entry into the sector. This paper hypothesizes that as these laws change, foreign entry to the sector will increase as a proportion of overall acquisitions in the host country. This proposition will be tested against several well-known indicators for market entry such affiliation through a trade agreement or customs union.

These effects have been differentiated from other factors that may impact upon the likelihood of foreign investment. These factors include the likelihood of a banking crisis: banks may be either more willing or less willing to invest in the banking sector of a country that has undergone a bank crisis. A bank crisis may create an opportunity to invest because domestic bank assets have been devalued below their perceived real value and thus more attractive to foreign investors. Similarly, the bank crisis may alter banking regulations to make it temporarily easier for foreigners to acquire assts in the banking sector (a recent example is Thailand, which significantly relaxed rules and conditions on foreign ownership of domestic banks for a limited period immediately following the 1997 currency crisis.) Alternatively, the presence of a banking crisis may expose structural flaws in the system that repels foreign investment.

Common membership of a customs union may invite foreign entry into the banking more readily than would otherwise be the case. Therefore, countries that were members of the EC were tagged in the database from their time of entry into the customs union, to differentiate their behavior from that of investors into non-affiliated economies. Preliminary results, to be examined in a following

paper, seem to confirm the intuitive conclusion that entry into a customs union significantly increases the likelihood that foreign investment into the banking sector will originate from another member of the customs union.

Previous literature on foreign entry in to the banking sector focuses on mergers, acquisitions and de novo entry, whereas the analysis presented here is concerned solely with acquisitions. In terms of the GATS framework, as defined by Keys (2004), this is defined by Mode 3, commercial presence. Acquisitions were chosen because the “foreignness” of the acquiring entity was easier to establish than in the case of mergers. The interaction between the host country’s regulatory environment and foreign entry in the form of acquisitions has been researched to a limited extent, but with the shortcoming that this literature has focused mostly on the United States. In contrast to previous studies already undertaken in this field, this analysis excludes the United States and instead focuses on market entry in a sample of 48 countries across many regions and income levels.

Several location-specific factors have previously been put forward in the literature as factors relevant to market entry in banking. These include economic integration between the home and host country, perceived growth opportunities in the host country and host country regulation. I shall briefly examine each of these factors below.

A series of studies have focused on home and host country integration as measured by variables such as trade volumes, geographical difference, and bilateral FDI.[1] These studies have drawn their conclusions from a small series of banks, either based in one country or from a small subset of countries. The causal relationship between the flow of non-financial FDI and bank entry is not clear from these studies. Both Seth, Nolle, and Mohanty (1998) and Clarke, Cull, Peria, Sanchez (2002) raise more serious questions about whether banks enter foreign markets to service clients from their home country. If not, the hypothesis that banks move into foreign markets to service home clients who are expanding into foreign markets should be questioned.

Perceived growth opportunities as measured by growth in GDP and perceived inefficiencies in the banking sector. These studies include Claessens, Demirguc-Kunt, and Huizinga (2000) model foreign presence across 80 countries from 1988-95, and find that foreign banks are attracted to markets with low taxes and a high per capita income. According to these authors, market entry seems to take place in markets that are characterized by high economic growth rates and in which the banking sector is perceived to be comparatively inefficient. A similar paper by Focarelli and Pozzolo (2000) surveys only 28 countries, most of which are developed.

Previous studies focusing on the link between regulation and market entry in the banking sector have examined both cross-country regulatory requirements and home-country restrictions on outward investment activities as factors in new market entry decisions. Frankel and Morgan (1992) found that cross-country regulatory requirements may have reduced foreign bank costs relative to US banks in the US market because of reduced regulatory requirements in their home country, thus giving them a competitive advantage. Focarelli and Pozzolo (2000 and 2006) find that restrictions on banks outward activities and domestic activities reduced their proclivity to invest abroad.

Barth, Caprio and Levine (2001) presented a landmark study on the factors affecting bank entry plus a catalogue of variables affecting bank regulation and link this through correlation to foreign bank entry. This study differs from that of Barth et al by examining commercial bank acquisitions to see if they are follow the same pattern as that witnessed in mergers and acquisitions more broadly and linking changes in legislation governing bank entry to an increased in foreign bank penetration of the home market.

These studies have focused on the developed country experience and, particularly, that of the United States. This paper contrasts with those that have come before by examining a large database of both developed and developing countries. This allows the reader to contrast the experience of those countries that have adopted a level playing field approach with those that have resulted in more meager benefits. Finally, the analysis presented here differs markedly from those that have gone before by removing the United States form consideration altogether and focusing on a particular governance variable – competition policy as articulated through bank prudential regulations – rather than a broad set of governance variables. Furthermore, whereas previous studies have focused on broad definitions of bank entry, this analysis focuses on acquisitions as a subset of market entry into the banking sector.

3. Methodology

Data was collected from several sources so that a comprehensive survey of the banking sector could be undertaken. Such a survey was envisaged from the outset to include variables that accounted for significant liberalization of the subject economy, numbers of acquisitions that took place within the subject economy, the numbers of those acquisitions that were foreign and the type of acquisition that took place over the period 1995-2005. Firstly, only commercial banks were of interest in this analysis and data pertaining to other types of banks (such as investment banks) were weeded out from the database. Secondly, takeover may refer to mergers or majority shareholdings as much as outright acquisitions. Rather than wade into the problematic territory of determining which banks were ‘owned’ by foreigners according to their level of foreign shareholding,

any data that referred to mergers was also removed from the database. The data that remained was therefore specifically concerned with acquisition, meaning the outright purchase of one commercial bank by another. .

The nationality of the acquiring bank was determined using The Banker's Almanac,[2] which is an up-to-date database encompassing ownership information of registered commercial banks, which established the ownership structure of the banks under consideration. As mentioned above, only 100% changes of ownership were considered in this study. Complications arising from the nationality of the acquiring entity were dealt with in a number of ways. For example, it is not unusual for a multinational bank registered in one country use a subsidiary registered in another country to carry out purchasing activities on its behalf, which confuses the assignation of nationality to the purchasing entity. Several of the domestic banks that were acquired by foreign entities were purchased through the subsidiary agent of a larger entity headquartered elsewhere. To take a hypothetical example, if Citibank Luxembourg was registered as the acquiring entity, and if Citibank Luxembourg was a 100%-owned subsidiary of Citibank in the USA, the nationality of the acquiring entity was deemed to be the USA. In this case, an acquisition that at first blush seemed to be a domestic transaction may have taken on international aspects once the ownership of the acquiring entity had been established.

Finally, the legislation pertaining to each country was outlined in detail by a private information agency, the Fitch Ratings database.[3] The information contained on the legislative environment allowed a value to be assigned to each country depending upon whether or not foreign entry in the banking sector was allowed or not. Unfortunately, information on legislative changes pertaining to the banking sector was more limited than the scope of the original database, which necessitated a refinement of the number of countries that could be included in the final analysis (for a list of the excluded countries, please see table 4.)

Several countries altered their legislation during the period under review, in which case the binary was updated from the year in which liberalization took place until the end of the period under examination. Liberalization was marked by a 1 in the database, whereas a banking sector that was largely closed to foreign entry was denoted by a 0.

A series of logit regressions were undertaken on this database to clarify the nature of the relationship between legislative changes and the acquisition of domestic firms by foreign commercial banks.

3.1 Tests for Correlation

The standard tests for correlation were carried out. The variables were found to be uncorrelated to each other in any unexpected manner. The table below shows the results of the standard correlation tests undertaken by the author.

Table 1: Results of the Tests for Correlation

	Acquiring entity foreign	*Log Acquisitions*	*Log GDP*	*Bank crisis*	*Open to foreign entry*	*EC liberalization*
Acquiring entity foreign	1.000					
Log Acquisitions	0.4791	1.000				
Log GDP	0.2638	0.3915	1.000			
Bank crisis	-0.0492	0.0595	-0.0112	1.000		
Open to foreign entry	0.1203	-0.0119	-0.0364	-0.0437	1.000	
EC liberalization	0.2832	0.2338	0.4067	-0.1939	0.1107	1.000

3.2 The Logit Model

The logit model is appropriate for the following analysis because the dependent variable is a binary variable testing whether or not foreign entry is reliant upon a number of explanatory factors (0= no foreign entry in the form of a acquisition, 1 = foreign entry in the form of a acquisition.) The probability model can be specified as

$$P = F(Z) = \frac{1}{1+e^{-Z}} = \frac{1}{1+e^{-(\alpha+\beta' X)}}$$

P Represents the probability that Z takes the value 1 and F is the cumulative logistic probability function; X is the set of independent variables and α and β are parameters. The regression equation thus reduces to

$$\ln \frac{P}{1-P} = Z = \alpha + \beta' X$$

In this case, X represents the vector of explanatory variables.

β_1 - *Acquiring entity is foreign* is the log number of foreign acquisitions that have taken place in the country during the time period in question. The number of acquisitions includes the number of domestic acquisitions (a domestic bank acquiring another domestic bank) plus foreign acquisitions, in which a foreign entity has acquired a domestic bank.

β_2 - *Log GDP*. GDP has often been associated with higher levels of foreign inbound direct investment and therefore it was considered useful to run log GDP as an independent variable.

β_3 - *Bank crisis* indicates the existence of a bank crisis. To date bank crisis events it was necessary to rely upon analysis of the banking sector undertaken by Fitch credit rating agency and reports by the IMF. The results for this variable were potentially ambiguous given that bank crises may sometimes stimulate entry, both because countries may liberalize their bank sector under conditionality from an agency from the IMF for a temporary period of time, which may have a stimulatory effect on the number of foreign acquisitions, and also because bank assets may become temporarily ‘undervalued’ during a bank crisis thereby attracting foreign investors. On the negative side, bank crises are destabilizing and may repel investors, depending upon the particular exigencies presented in each case. The results reflect this ambiguity.

β_4- *Openness to foreign entry*. This binary variable indicates the year of liberalization in the banking sector, as specifically defined by openness to foreign entry in the banking sector. Some countries maintain strict policies excluding foreign investment in this sector, in which case they were given a 0 score across the entire time series. Some countries had liberalized their banking sector before the start of the time series and were therefore awarded a value of 1 across the time series. Countries that opened their banking sector to foreign entry during the time period were awarded a 0 for the years in which foreign entry was disallowed and a 1 in the year of liberalization and for each subsequent year. Gradations in the level of liberalization were difficult to capture (for example, Thailand maintains a banking policy that restricts bank entry without strictly forbidding it.)

β_5 - *EC liberalization* indicates whether the country has implemented the banking directives of the European Union and in what year. This information was taken from the Fitch credit agency. Note that the implementation of banking directives is not automatically related to the year of accession to the European Union (EU). Greece, for example, did not implement the EU banking directives until the year 2000, even though it was one of the original members of the EU.

3.3. Results

The results indicate that there is a positive and significant relationship between changes in the legal structure governing entry into the banking sector and new market entry by foreign banks. Though data is lacking regarding the amount of FDI that foreign entry contributed to the economy, we can state with some confidence that there is a positive link between the two (to deny that there is a positive link between the competition policy as enunciated by the bank regulator and inbound FDI would require that one assumes these foreign acquisitions took place without any money changing hands, which would be difficult to believe.) These results are even more significant when viewed in light of the fact that greenfield investment into the banking sector was not accounted for in this analysis. These positive and significant results are likely to appear much stronger once greenfield entry has been accounted for.

Foreign entry into the banking sector was positively and significantly related to the number of acquisitions that were taking place in the domestic market at the time of foreign entry, as expected.

The relationship between a country's GDP and the amount of foreign acquisitions in that country was positive but not significant. The insignificance of the variable is probably related to the size of the database and the particularities of the banking sector. In future studies, it would be worthwhile to break up the economies by levels of economic development and test whether GDP was a significant indicator within each one of these groups.

The bank crisis coefficient was weakly positive. This reflects the different types of bank crises.[4] Bank crises may be perceived by foreign banks as an opportunity to invest, because the crisis is perceived to be a short-lived shock from which the economy will recover and during which time the assets of domestic banks have become undervalued, or as a reason to avoid the economy in question because the crisis is perceived to be a reflection of general macroeconomic weakness that will persist over the long term. This ambiguity is demonstrated in the result.

Finally, the banking directives imposed by the EC on Member states obliged them to adopt measures that open their market to penetration by banks from within the European Union. The coefficient is positive, demonstrating that these directives do influence the acquisition of domestic bank assets by foreigners. Future tests should include a variable to gauge whether domestic banking assets are primarily purchased by banks headquartered in the EU.

Table 2: Results of the Regression
Number of observations: 480
Number of data points: 2,400
Pseudo R^2 :0.20

	Coefficient	*Standard Error*	*Z*	*P>|z|*
Log Acquisitions	1.309	.258	5.08	0.000
Log GDP	0.324	.252	1.28	0.200
Bank crisis	0.222	.617	-0.36	0.719
Open to foreign investment	1.319	.391	3.37	0.001
EC Liberalization	0.790	.319	2.47	0.013

3.4 Information sources

The data used to compile information on the prudential regulations governing the banking sector was taken from the World Bank and research published by the independent ratings agency, Fitch. Both sources also provided useful information about the structure of the industry in individual countries.

The Bankers Almanac provided information about the number and type of merger and acquisition activity that had taken place in the banking sector over the period under consideration.

The Bankers Almanac also provided up to date information about the ownership structure of the acquiring entities, which ensured that the nationality of the acquiring entity could be determined. The final nationality of the bank was taken as the location of the company headquarters that owned the bank, even if the acquiring entity was situated in another country.

The data available from these two sources was limited across time and the number of countries surveyed, and it was necessary to reduce considerably the database from its original size. The following countries were culled from the database because information about the regulatory structure of the industry could not be ascertained, even though good information was available about the number and nationality of acquisitions in these countries.

The following two tables show the countries that were included and the countries that were excluded from the final regression.

Table 3: Country by number of commercial bank acquisitions and the nationality of foreign acquiring entities

Country	*Acquisitions between 1995-2006*	*Of which foreign banks are taking over domestic ones*	*Nationality of Acquiring Banks*
Argentina	12	2	United Kingdom, Uruguay
Australia	8	5	UK, France, Singapore, USA, Germany
Austria	8	6	UK, Ireland, France, Netherlands, Germany
Belgium	9	2	France, Netherlands
Brazil	14	1	UK
Colombia	1	1	Spain
Bahamas	2	2	UK, Switzerland
Croatia	3	0	
Cyprus	4	3	Tanzania, UK, Turkey
Czech Republic	3	2	France
Denmark	4	2	Sweden
Ecuador	3	0	
Estonia	3	0	
Finland	5	3	Sweden
France	51	9	Belgium, Romania, Germany, Greece, Japan, Kuwait, UK, USA,
Germany	114	11	Austria, Belgium, France, Ireland, Netherlands, Romania, UK,
Greece	3	0	
India	1	0	
Israel	3	0	
Italy	48	5	France, Germany, UK
Kenya	2	1	Switzerland
Latvia	1	1	Finland
Lebanon	4	0	
Lithuania	1	0	
Luxembourg	5	5	
Malaysia	13	2	Singapore, UK
Malta	1	0	
Mexico	8	5	Brazil, Poland, Spain, USA
Netherlands	5	3	Germany, UK
Norway	2	2	France, Sweden
Panama	5	2	France, Venezuela
Poland	20	2	Germany, Sweden
Portugal	4	1	USA
Republic of Belarus	2	0	
Republic of Hungary	1	1	Germany
Republic of Korea	3	0	
Republic of the Philippines	7	0	
Russian Federation	25	0	

Singapore	5	3	Luxembourg, Netherlands, UK
Slovakia	2	1	France
Slovenia	6	1	France
South Africa	7	3	France, Taiwan, UK
Spain	9	1	USA
Sweden	4	3	Denmark, France, Netherlands
Switzerland	37	1	France
Taiwan	1	0	
Thailand	1	0	
Ukraine	11	1	Austria
United Kingdom	18	10	Hong Kong, France, Germany, Scotland, South Africa, Switzerland, Sweden, USA

Table 4: Countries excluded from consideration due to lack of information about regulatory environment

Country	*Number of Acquisitions between 1995-2006*	*Of which the acquiring entity was foreign*
Aruba	2	0
Azerbaijan	1	0
Bolivia	2	2
Botswana	1	1
Burkina Faso	1	0
Canada	10	7
Cayman Islands	1	1
Channel Islands	13	6
Chile	4	1
Commonwealth of the Bahamas	2	2
Cote d'Ivoire	1	0
Gibraltar	1	1
Guyana	1	0
Haiti	1	1
Hong Kong	0	0
Isle of Man	1	1
Jamaica	14	14
Japan	5	2
Kingdom of Bahrain	1	1
Kyrgyzstan	1	1
Lesotho	1	0
Macedonia	2	0
Mauritius	1	1
Morocco	2	1
New Zealand	2	2
Nicaragua	1	0
People's Republic of China	6	0
Puerto Rico	1	1
Republic of Armenia	1	0
Republic of El Salvador	3	0
Republic of Georgia	1	0
Republic of Ireland	3	1
Republic of Trinidad and Tobago	2	0
Serbia and Montenegro	20	1
Taiwan, China	1	0
Tajikistan	1	0
Uruguay	3	1
Uzbekistan	2	0
Zambia	1	0

Source: Fitch Ratings, Bankers Almanac

4. Conclusion

The results of this study are relevant to policy actions that govern the regulation of domestic commercial banks in the sense that the actions of bank sector regulators can now be directly linked to the amount of FDI that a country receives. This factor stands in addition to the well-known industrial policies that have been considered in FDI literature. A positive relationship between the penetration of the market by foreign commercial banks and foreign inbound FDI suggests that incentive packages for investment in the banking sector should be offered on equal terms to all investors, foreign as well as local. The results of this study may indicate that good governance in the area of banking could focus on those areas in which policy makers are not well informed, namely government policies in the commercial banking sector.

The results also make clear that the harmonisation of banking sector regulations – as, for example, has taken place within many of the Member states of the EU – will increase the propensity for banks to acquire holdings in countries that share the same bank sector policy environment. This may argue for a more harmonized approach to banking sector regulation at the international level, which would provide a level of stability to banking markets that is not currently attainable in the diffuse international banking sector regulatory environment.

Notes

1.See the database on bank sector regulation and supervision compiled by the World Bank, available online at http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20345037~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html

2. For measures of country integration as measured by geographic distance, see Ball and Tschoegl (1982) and Grosse and Goldberg (1991); as measured by bilateral trade flows and non financial sector FDI see Goldberg and Saunders (1980) and (1981), Goldberg and Johnson (1990), Grosse and Goldberg (1991), Brealey and Kaplanis (1996), and Yamori (1998); as measured by bilateral FDI flows, Nigh, Cho, and Krishnana (1986), Goldberg and Johnson (1990), Sagari (1992), Brealey and Kaplanis (1996), Miller and Parkhe (1998), and Buch (2000).

3. Available online at www.bankersalmanac.com . Subscription is required for most parts of the database.

4. Available online on www.fitchratings.com . Subscription is required to access most information.

5. For more on the subject of bank crises, interested readers may benefit from the work of Kaminsky and Reinhart (1999) as well as Lestano and Kuper (2003).

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