working paper series

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BAD MANAGEMENT: FOREIGN ACQUISITIONS
IN TURKISH BANKING

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Working Paper No. 568

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November 2010

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First published in 2010 by The Economic Research Forum (ERF) 7 Boulos Hanna Street Dokki, Cairo Egypt www.erf.org.eg

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Abstract

This paper analyzes the determinants of cross-border acquisitions and the impact of foreign acquisitions on performance in the Turkish banking sector. The results suggest that foreign banks target relatively better performing banks to acquire, and that post-acquisition performance of the targets does not improve. There is some evidence that both established and newly acquired foreign banks focus on expanding their market shares. Concerning static-ownership effects, the results also show that, in general, foreign-owned and state-owned banks perform as well as private-owned domestic banks. The only exception is with respect to non-performing loans, in that state-owned banks seem to suffer from asset quality problems.

ملخص

تحلل هذه الورقة محددات الاستحوذات عبر الحدود و اثر تلك الاستحواذات علي الأداء في القطاع المصرفي التركي. وتشير النتائج إلي أن البنوك الأجنبية تستهدف الاستحواذ علي البنوك التركية التي يتسم أداؤها بالجودة النسبية, إلا أن البنوك التي يتم الاستحواذ علي بنوك عليها لا تحظي بتحسن في أداءها. وثمة ما يدل علي أن البنوك الأجنبية سواء التي تم إنشاؤها حديثا أو تلك التي استحوذت علي بنوك محلية تركز علي زيادة أسهمها في السوق. أما بالنسبة لأثر الملكية المستقرة علي البنوك فتبين النتائج أن البنوك الأجنبية أو الحكومية يتسم أداؤها بذات الجودة التي يتسم بها أداء البنوك الوطنية ذات الملكية الخاصة. ويستثني من ذلك فقط ما يتعلق بالقروض خارج نطاق الأداء, حيث تعاني البنوك الحكومية, علي ما يبدو, من مشكلات تتصل بجودة الأصول .

1. Introduction

This paper studies the determinants of cross-border acquisitions and the impact of acquisitions on performance of the Turkish banking sector. Turkey presents a potentially interesting case for studying both foreign bank motivations in entering emerging markets, and the impact of foreign acquisitions on banking performance. The country, as an early follower of financial liberalization policies since 1980, managed to attract some foreign banks in the early 1980s. However, the share and the scope of their activities failed to improve mainly because of the macro-economic instability the country experienced. In the aftermath of the financial crises of 2000 and 2001, foreign bank involvement increased significantly. This has raised concerns about the impact of increased foreign control on the competitiveness and efficiency of the sector and, more recently, on the stability of the system because of the current global financial crisis. Accordingly, the aim of this study is to try to shed some light on the motives of foreign banks entering Turkey and their performances subsequent to acquisitions.

The study contributes to two related strands of literature: the literature on performance effect of foreign ownership in emerging banking markets and the literature on cross-border banking mergers and acquisitions (M&As). Despite the recent importance of emerging markets as target locations for foreign banking, the debate is continuing concerning the causes and the effects of foreign bank entry into developing economies. Moreover, the existing literature tends to focus mainly on the European transition countries' experiences. Turkey's financial reform process has been greatly different from that of the transition countries and hence this study will help expand the existing literature by testing whether the arguments developed in the existing literature can hold in the Turkish case.

The rest of the paper is organized as follows. Section 2 will provide a review of the literature on cross-border M&As in banking. Section 3 follows with an overview of foreign banking in Turkey. In Section 4, the methodology and the empirical analysis are provided. Section 5 concludes by summarizing the main findings and offering some suggestions for further research.

2. Cross-Border Bank M&As in Emerging Markets

The ultimate motivation for consolidation is to maximize share value. M&As can increase share value by increasing the market power of the involved firms in setting prices or by improving their efficiency (Berger et al., 1999). Efficiency can improve as a result of M&As in financial services firms through several ways (Amel et al., 2004). First, the larger firms that are created through consolidation can reduce average costs by getting hold of cost saving technologies or by spreading fixed costs over a larger base. Second, merging parties can enter new markets and cross-sell their products to a wider customer base, and hence exploit economies of scope. Finally, managerial efficiency may increase due to consolidation. The empirical literature on the determinants of bank M&As, hence, tends to focus on testing the two alternative hypotheses: the market power hypothesis and the efficient management hypothesis. According to the market power hypothesis, acquirers' motivation is to build up market power. Therefore, they target large banks irrespective of their performance levels. According to the efficient management hypothesis, poorly managed banks are more likely to become targets of acquiring banks that are motivated to replace bad management and increase profits and value. The empirical findings, however, have been mixed. Hannan and Rhoades (1987) fail to find support for the hypothesis that poorly managed firms are more likely to be acquisition targets than others. Wheelock and Wilson (2000), on the other hand, show that managerial inefficiency increases the risk of failure while decreasing the probability of a bank being a target. They suggest that the cost of reorganizing an inefficient bank, or the fact that inefficiency might signal unobservable problems, could be the factors discouraging potential buyers. Koetter et al. (2007) control for the distressed and non-distressed mergers in their study of German cooperative and savings bank mergers. Their findings support the efficient management hypothesis in that both distressed and non-distressed mergers involve underperforming banks. They propose that non-distressed mergers might be undertaken in order to avoid any future financial distress or regulatory intervention. Pasiouras and Zopounidis (2008) examine the determinants of acquisitions in the Greek banking industry. They find that profit and cost efficiency are not significantly related to the probability of acquisition while market share is negatively and significantly related to the acquisition likelihood. The authors hence conclude that evidence fails to support the efficient management hypothesis.

2.1. Ownership effects on bank performance

Berger et al. (2000), propose two hypotheses for explaining performance effects of ownership. Under the home field advantage hypothesis, domestic banks operate more efficiently than foreign banks due to organizational diseconomies to operating or monitoring an institution from a distance. Other barriers such as culture and regulatory and supervisory structures can also be effective. Under the global advantage hypothesis, some foreign banks can overcome these cross-border disadvantages and operate more efficiently than domestic banks in other nations. They achieve lower costs by spreading their best practice policies and procedures over more resources and/or raise revenues through superior investment and risk management skills. The existing evidence, despite being inconclusive, seems to suggest that in developing countries, foreign banks tend to achieve higher efficiency levels while in developed countries the opposite is true most of the time. DeYoung and Nolle (1996), for example, find that foreign-owned banks are less profit-efficient than US-owned banks. Similarly, Chang et al. (1998) find that foreign-owned multinational banks operating in the US are less efficient than their US-owned multinational counterparts. Sturm and Williams (2004), on the other hand, find that foreign banks in Australia are more efficient than domestic banks, although this does not produce higher profits.

Given that foreign-owned banks dominate the banking markets in many European transition economies, the efficiency performance of banks of different ownership structures in these countries has received much attention recently. Hasan and Marton (2003) report that in Hungary, banks with foreign ownership are significantly less inefficient than domestic banks. In addition, the higher the share of the foreign involvement is the more efficient the bank is. Jemric and Vujcic (2002) and Kraft et al. (2006) report that foreign banks are more efficient than domestic banks in Croatia. Bonin et al. (2003) analyze the effect of foreign ownership on banking efficiency in 11 transition countries. The results show that ownership matters in that state-owned banks are less efficient than private-owned domestic banks while foreignowned banks are more efficient than the private-owned domestic banks. Kasman and Yildirim (2006) analyze cost and profit efficiencies in the eight Central and Eastern European Countries (CEECs) that became new members to the European Union and report that foreign banks perform, on average, better than domestic banks. Havrylchyk (2006) finds that foreign banks are more efficient than their domestic peers in Poland. However, the author also notes that foreign bank efficiency is totally due to the better performance of greenfield banks, and that foreign banks had acquired the more efficient banks, but did not enhance their efficiency further.

A few studies analyze foreign bank performance in other emerging markets. Sathye (2003) and Ataullah and Le (2006) find that in India foreign banks perform better than private domestic banks while publicly-owned banks dominate foreign banks in some cases. Berger et al. (2009) report that in China foreign banks are the most profit efficient followed by private-

owned domestic banks. In addition, they show that minority foreign ownership is associated with higher profit and cost efficiency. Finally, for Turkey, Yildirim (2002) find that foreign banks have higher overall technical efficiency than private-owned domestic banks and state-owned banks, while state-owned banks have higher pure technical efficiency than the other two groups. Isik and Hassan (2003) also show that foreign banks in Turkey are significantly more technically efficient than private-owned domestic and state-owned banks while state-owned banks dominate both forms of ownership in terms of allocative efficiency.

2.2. Motivations and performance effects of M&As

The recent consolidation process—through international mergers and acquisitions in many banking markets—has led to the emergence of studies examining the effect of foreign entry and consolidation on bank profitability and performance¹. Vander Vennet (1996) analyzes cross-border M&As in the EU's credit institutions between 1988 and 1993 together with domestic mergers. The results show that in the case of cross-border acquisitions the targets exhibit lower operational efficiency in the pre-acquisition years and the acquisition leads to better operational efficiency. While this finding supports the managerial efficiency hypothesis, there is also the indication that foreign acquirer change the pricing strategy and follow a penetration strategy in that acquired banks' interest margin drops significantly in the post-acquisition period. Lanine and Vander Vennet (2007) test the relative strength of the management efficiency and market power hypotheses in the context of acquisitions of Eastern European banks by Western European banks. They find that Western banks acquire CEEC banks that are not the relative underperformers but established banks with large market shares thus supporting the market power hypothesis. They also analyze the performance of targets in the post-acquisition period and report that there are no efficiency improvements in these banks. Similarly, Poghosyan and De Haan (2008) analyze crossborder acquisitions in the European transition economies. The results show that foreign banks target relatively large and efficient banks when entering transition economies with weak institutions, thus providing support for market power hypothesis. However, when entering transition economies, which progressed more in economic and institutional reform, they acquire relatively less efficient banks, thus providing support for the efficiency hypothesis. Analyzing both within and cross-border bank acquisitions in the EU countries, Hernando et al. (2009) find that less efficient banks and large banks are more likely to be acquired by other banks in the same country. In addition, they show that cross-border acquisitions are more likely to occur in more concentrated banking markets while domestic acquisitions are less likely. Concerning efficiency as a determinant of cross-border acquisitions, they find some evidence supporting the efficiency hypothesis in that inefficiency, relative to median of the market, increases the likelihood of a bank being a target.

Berger et al. (2005) criticize the empirical research on bank governance and performance that does not include, in the same model, all the static effects of different types of bank ownership (long-run performance effects related to constant domestic, foreign, or state ownership). In addition, the model needs to include selection effects and dynamic effects of changes in ownership (performance effects related to domestic M&As, foreign acquisitions and privatizations). Otherwise, the model will be misspecified and could give misleading and biased results. They suggest a new methodology which includes jointly all the governance variables and apply the methodology using data from Argentina in the 1990s. Concerning

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¹ There is a wide empirical literature on bank internationalization focusing on various factors as determinants: level of integration between the foreign bank's country of origin (home country) and the country where the foreign bank expands into (host country), host country market opportunities, ownership advantages (organization and home country specific factors) and regulatory restrictions (see, for instance, Seth, et al. (1998), Yamori (1998), Focarelli and Pozzolo (2005), and Magri et al. (2005)). This literature is not reviewed here as the study focuses on the firm-specific characteristics of the targets.

foreign acquisitions, they find that banks selected for acquisition are not performing differently than domestically owned banks that are not acquired and that the post-acquisition performance of these banks deteriorates in the short run. There are a number of studies that follow the same methodology to analyze the corporate governance changes and bank performance in other emerging markets. Williams and Nguyen (2005) examine the impact of changes in bank governance on performance for South East Asian commercial banks. They find that banks selected for foreign acquisitions had the best profit efficiency performance. In addition, the findings suggest that potential efficiency benefits associated with foreign ownership may take longer achieve as foreign banks need to be well-established in the region first. Lin and Zhang (2009) find that Chinese banks undergoing foreign acquisitions have better pre-event performance results. In addition, the acquisition events result in no significant performance effect in either the short or the long term.

3. An Overview of Foreign Banking in Turkey

Prior to the foundation of the Republic, the Turkish banking system was dominated by foreign banks.² When the Republic was established in 1923, there were 35 banks operating in Turkey, 13 of which were foreign-owned and accounting for 50 percent of total deposits. That the credit market was not developed enough and dominated by foreign banks was considered a major economic problem, and the development of national banking was regarded as a necessary condition for promoting industry and trade. Although the number of foreign banks increased during the early years of the Republic, their number decreased continuously starting from the 1930s. The 1929 world recession, its negative effects on Turkey's foreign trade, changes in Turkey's economic policy and foreign exchange controls after the 1930s all resulted in limitations on the operations of foreign banks in Turkey.

In 1980, Turkey started to take steps towards transforming itself into a market economy with financial liberalization being a central ingredient of the process. The establishment of new commercial banks was permitted and the number of foreign banks underwent renewed growth. The sector experienced growth due to new entries to the sector and the expansionary policies of the existing institutions. While the concentration ratios declined considerably, the sector continued to exhibit properties of monopolistic competition, and the large state-owned banks continued to be dominant. Opening the banking system to foreign competition was considered an important component of increasing competition in the sector by the authorities. Foreign banks that entered in the 1980s, however, were not "classical deposit banks." They targeted foreign-trade-related activities and did not compete with domestic banks in traditional banking activities (Akgüç, 1989 and Atiyas and Ersel, 1994). However, despite their small scale of operations, the entry of foreign banks was instrumental in motivating the domestic banks to modernize themselves as they brought in new services, advanced technology and market oriented management techniques into the sector (Pehlivan, 1996).

The ability of the sector to undertake asset transformation weakened in the late 1980s and especially in the 1990s because of growing macroeconomic instability. The banks increasingly concentrated on financing the government's borrowing requirements because financing the public sector yielded very high profits. Since the authorities had failed to improve the supervisory and the regulatory framework, the sector was exposed to interest and foreign exchange risks, and suffered from low asset quality and insufficient capital bases. Finally, in December 1999 an exchange rate-based stabilization program backed by the IMF was introduced in order to control inflation, correct macroeconomic fundamentals and strengthen the increasingly fragile financial system.

² Akgüç (1989) provides a comprehensive review of the Turkish banking industry from the pre-republic period to the mid-1980s, and this section draws upon it.

While the program achieved some initial success, the financial and currency crises experienced in November 2000 and February 2001 effectively eroded the financial sector's capital. In May 2001, a restructuring program was introduced with four major components: restructuring of publicly owned banks, resolution of the banks under the Savings Deposit Insurance Fund (the Fund), improving the capital bases and limiting the market risks of private banks and taking legal and corporate measures in order to improve the supervision, regulation and competitiveness in the sector. In the process, the number of banks, branches and employees decreased, and concentration levels increased. Table 1 in Appendix 1 presents summary statistics of the Turkish banking structure.

Several factors have been effective in this process. A number of closures followed the restructuring efforts that had started prior to the financial crisis. Some of the banks under the Fund's control were acquired by either Turkish commercial banks as part of their growth strategy, or by foreign banks. The Fund also merged several of these banks and the resulting banks were reorganized as an asset management company. A few private-owned domestic banks also consolidated with other banks belonging to the same industrial group to benefit from scale economies, improve capital bases and better compete in the new environment. State-owned banks were recapitalized and an operational restructuring plan was introduced through which both the number of branches and employees were substantially reduced.

The performance of the sector started recovering with the improving macroeconomic fundamentals in 2002. The negative trend in the number of branches and employees was reversed in 2004. Economic growth, positive expectations about economic developments, stability in the markets and the availability of international funds contributed to this recovery process. At the same time, new regulations were introduced to improve risk management and corporate governance practices in the banking system. A limited deposits insurance system was introduced in 2004, replacing the previous full coverage insurance system. Two of the three state-owned banks had successful Initial Public Offerings subsequent to the restructuring programs. In addition to foreign investors acquiring banks that were under the control of the Fund, a number of foreign banks increased their stakes in the sector by acquiring either controlling stakes in Turkish banks or making strategic partnership agreements. As a result, over a very short period of time the share of foreign banks in the sector increased considerably starting from a negligible level. As of March 2009, the share of foreign banks in the total banking sector had reached 21.3%. When the foreign investors' share of the float in the stock exchange listed banks is included in the analysis, the figure reaches 39.8% (BRSA, 2009). Taking advantage of favorable conditions in the domestic and the international markets, foreign banks expanded both their branch networks across the country and helped their strategic partners introduce new products. It is argued by industry participants that foreign bank entry has been especially effective in increasing the competition in the areas of financing small and medium sized enterprises (SMEs) and consumer and mortgage lending (see, for instance, Norton (2007)). Table 1 lists the crossborder acquisitions between 2001 and 2008.

4. Empirical Analysis

4.1. Methodology

The integrated approach developed by Berger et al. (2005) is employed here in order to analyze the cross-border acquisition determinants and the impact of foreign acquisitions on performance. The empirical model takes the form:

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Performance measure= \alpha+\beta_1StateSta+\beta_2ForeignSta+\beta_3ForeignSel
+\beta_4ForDynST+\beta_5ForDynLT+\beta_6ForExit+\beta_7DomExit+\beta_8MShare+\beta_9Assets+\beta_{10-15}YearFixedEffects+\beta_{16-18}OuarterFixedEffects+Error Term
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A number of alternative performance measures are employed: return on average assets (ROAA) and return on average equity (ROAE), net interest margin (NIM), operating costs to total assets ratio (COST), and non-performing loans (NPL). The first two ratios provide an overall measure of profitability. NIM is widely used in the banking literature as an efficiency measure as it shows the success of the core intermediation activity (Vander Vennet, 1996). COST is included as a measure of cost efficiency since potential operating cost savings through mergers are arguably a strong motive for mergers (Rhoades, 1998). NPL is employed as a proxy for asset quality or asset risk.

The key explanatory variables are the static, selection and dynamic ownership change variables. StateSta and ForeignSta are indicator variables for state-owned and foreign-owned banks, respectively, that do not undergo any ownership change during the analysis period. Private-domestic ownership is excluded as the base case in the regressions. ForeignSel is the indicator variable that takes the value of one for all the periods for banks that are acquired by foreign banks. The variable measures the effects on performance of being chosen to be acquired. Two dynamic change variables associated with foreign acquisitions are employed: ForDynST measuring the short-term effect of acquisition on performance and ForDynLT measuring the long-term effects. ForDynST is the indicator variable that takes the value of one for the quarters after the ownership change. The observations for the quarter of the completion of the acquisition and the following quarter are deleted in order not to allow the transitional impact of the acquisition on performance to affect the results. ForDynLT is the indicator variable that shows the number of quarters since the foreign acquisition and starts with the value of two for the second quarter following the acquisition. Two exit indicator variables are defined: ForExit and DomExit controlling for the foreign banks that left the Turkish market and a private-owned domestic bank that left the system due to domestic acquisition, respectively. Two control variables are also included: Assets defined as real total assets taking into account the size, and MShare defined as market share in terms of total assets. All the regressions include year and quarter fixed effects. Table 2 lists the variables and detailed explanations.

4.2. Sample

The sample includes all the commercial banks that were in operation between December 2002 and March 2009. The banks experiencing ownership changes are identified and the data on the dates of the completion of the deals and the amount of equity changing hands is compiled by using various sources such as statistical reports available by the Banks Association of Turkey and banks' annual reports. The acquisitions that are included in the analysis involve from 20% to 100% of the total equity changing hands. Quarterly bank level data is accessed through the electronic data inquiry system of the Banks Association of Turkey. At the end of 2002, there were 40 depository banks. Two banks that were under the control of the Fund are excluded from the analysis. One of them was restructured and the other one was absorbed by a public-owned bank during the sample period. The two banks that were intervened by the Fund in 2003 are also not included in the analysis. There was one foreign bank that acquired a license to become a depository bank in 2004 and hence it is included in the analysis only for the subsequent quarters. One privately owned bank, which was absorbed by a group-owned bank in April 2003, is not included as there was only December 2002 financial data. The final sample is an unbalanced sample of 36 commercial

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³ The foreign banks leaving the system were foreign bank branches for all the cases except for Kocbank. Kocbank, a bank owned by a partnership between Koç Group and UniCredit, merged into Yapi Kredi subsequent to the acquisition of Yapi Kredi by the partnership. There is only one domestic merger during the sample period, acquisition of Ak International, by Akbank, the controlling owner, in 2005. Table 1 provides further details on these cases.

⁴ The two banks were controlled by the same business group. One was closed down after the intervention while the other one is still operating with a new management team appointed by the Fund.

banks with 776 bank-quarter observations at most. The distribution of cases included in the analysis according to ownership indicator variables is as follows. There are three state-owned, 11 foreign-owned and four privately-owned domestic banks that did not experience any ownership change over the analysis period. There are 12 banks that were acquired by foreign investors and five foreign-owned banks and one private-owned domestic bank that left the system during the study period.

4.3. Empirical results

Table 3 presents the OLS regressions of alternative bank performance measures on bank ownership variables and other controls. Two sets of regressions are employed following Berger et al. (2005), the first with only ForDynST and the second with ForDynST and ForDynLT included simultaneously. Considering first the static ownership indicators, with respect to all the performance variables foreign banks do not perform better than private-owned domestic banks. State ownership, on the other hand, is associated with a lower performance compared to domestic-private ownership only with respect to the NPL. The results imply that state-owned banks continue to suffer relatively more from asset quality problems despite the restructuring efforts undertaken in these banks.⁵

While foreign ownership is not associated with better performance according to static ownership indicators, our central explanatory variable, ForeignSel is statistically significant with respect to ROAA and NIM performance measures suggesting that foreign banks selected relatively better performing banks to acquire. The findings concerning the static variables and selection variable do not change when the long-term effects are also included. Regarding the short-term and long-term performance effect of foreign acquisitions it is found that profitability and asset quality deteriorate both in the short term and in the long term.

Foreign banks' failure to improve performance subsequent to acquisition can be due to a number of reasons. Potential benefits in an M&A activity may take long to materialise as operational integration of the merging banks and transfer of new technologies to the targets are complicated and costly processes. Foreign banks' cost reducing technological advantages may not guarantee better overall performance and profitability as they need time to learn and adapt to the new environment. Alternatively, foreign banks may follow a strategy of increasing market shares rather than concentrating on profitability and efficiency performance. For example, DeYoung and Nolle (1996)—subsequent to empirically showing that foreign-owned banks were less efficient than US-owned banks in the US—argue that their findings support the hypothesis that foreign-owned banks forgo profitability in return for increasing market shares.

Turkey's strong growth potential is regularly mentioned by industry observers as a factor increasing the attractiveness of the sector for foreign investments (see, for example, Kuser, 2005). Accordingly, in a second group of regressions the impact of ownership and ownership changes on market share growth is analyzed by using the same methodology (Table 4). Change in market share is measured in total assets (Agrowth), total loans (Lgrowth) and total deposits (Dgrowth). As before, the first three regressions include only the short-term dynamic effects of foreign acquisition (ForDynST) while the last three regressions include also the long-term dynamic effects variable (ForDynLT). Foreign-owned banks exhibit significantly higher growth rates measured in assets, loans and deposits relative to the private-owned Turkish banks. While foreign banks do not seem to pick bad performers in terms of market

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⁵ The state-owned banks experienced a wide-ranging reorganization program over the study period. Two of them went public successfully offering about 25 percent of their equity. Although the process did not result in any new controlling owners, robustness checks were performed by running alternative regressions which controlled these ownership changes in the two banks. The results remained unchanged.

shares growth, banks subsequent to the foreign acquisition display a significantly stronger short-term growth performance in terms of assets.

5. Conclusions

Dominating foreign bank presence in many emerging markets has led to two main concerns: whether foreign banks are mainly interested in building up significant market powers and whether increased presence of foreign banks is associated with greater efficiency in the domestic banking system. While the former raised negative reactions, the latter resulted in more positive evaluations. However, the existing empirical studies have yet to reach a conclusive answer concerning the motives and the likely outcomes of foreign bank entry into emerging markets.

This paper tests whether the arguments and the empirical findings of the existing literature can hold in the Turkish case. The findings suggest that foreign banks do not target underperforming banks while failing to improve efficiency in the target banks subsequent to the acquisitions. There is also some evidence of a strategy that values market share over performance improvements in the case of acquired banks. Concerning static-ownership effects, the results also show that, in general, foreign-owned and state-owned banks perform as well as private-owned domestic banks according to various performance indicators. The only exception is with respect to non-performing loans in that state-owned banks seem to suffer from asset quality problems.

Taking into account the fact that performance effects of M&As can take longer to materialize and that the majority of the acquisitions occurred later in the study period, the analysis should be repeated when a longer series of data becomes available in the future. An analysis of foreign bank performance and strategies over the period while the current global crisis unfolds would especially constitute an interesting area for further research. Findings from such a study should have important policy implications both for the regulatory authorities and for the market participants in emerging markets.

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Table 1: Cross-Border Acquisitions in Turkish Commercial Banking Sector between 2001 and 2008.

Bank's name	Acquiring institution	Dates (completion)	Notes			
Demirbank	HSBC	December 2001	Intervened by the Fund in December 2000 and subsequently sold and transferred to HSBC Bank plc.			
Sitebank	Novabank S.A.	December 2001	Intervened by the Fund in July 2001 and subsequently sold and transferred to NovaBank S.A.			
Kobank	UniCredit SPA	October 2002	Koç Group and UniCredit signed a partnership agreement to become 50/50 shareholders in Koc Financial Services (KFS), the controlling owner of Kocbank.			
Turk Ekonomi Bankasi	BNP Paribas	February 2005	Acquired 42.13% through a strategic partnership with TEB Mali Yatirimlar which owned 84.24% of the bank.			
Turk Dis Ticaret Bankasi	Fortis Bank NV-SA	July 2005	Acquired 89.34%			
Yapi ve Kredi Bankasi	Koc Financial Services (KFS)	September 2005	Acquired 57.4%. In October 2006 Koçbank, owned by KFS, and Yapi ve Kredi merged under Yapi ve Kredi. KFS currently owns 81.80% of the bank as of end-2008.			
Turkiye Garanti Bankasi	General Electric Capital Corporation	December 2005	Acquired 25.5% through a strategic partnership with Dogus Group, the controlling owner of the bank.			
Finansbank	National Bank of Greece S.A.	August 2006	Acquired 46%. Fiba Group, owner of Finansbank, merged another group-owned bank Fiba Bank with Finansbank in April 2003.			
Denizbank	Dexia Participation Belgique SA	October 2006	Acquired 75%.			
Eurobank Tekfen A.S.	Eurobank EFG Holding SA	March 2007	Acquired 70%			
Sekerbank	Turan Alem Securities JSC	March 2007	Acquired 33.98%.			
Turklandbank AS (MNG Bank)	Arab Bank PLC and BankMed, SAL	January 2007	Acquired 50% and 41%, respectively.			
Akbank	Citibank Overseas Investment Corporation	January 2007	Acquired 20%, through a strategic partnership agreement. Akbank absorbed BNP-Ak Dresdner Bank in September 2005 subsequent to acquiring other controlling shareholders' stakes.			
Oyak Bank	ING Bank	December 2007	Acquired 100%.			
Turkish Bank	National Bank of Kuwait (NBK)	January 2008	Acquired a 40% stake.			

Table 2: Definition and Measurement of Variables Used in the Empirical Analyses

Variable	Definition	Measurement
Performance variables		
ROAA	Return on average assets	Net income to average assets. Average assets are defined as the simple mean of the value at the end of the quarter t (Q_t) and quarter t -1 (Q_{t-1}).
ROAE	Return on average equity	Net income to average equity. Average equity is defined as the simple mean of the value at the end of the Q_t and Q_{t-1} .
NIM	Net interest margin	Net interest income to average assets
COST	Cost to average assets	Operating expenses (non-interest) to average assets.
NPL	Non-performing loans	Bad Loans to gross loans
Agrowth	Asset share growth	Percentage change in the asset share between Q _t and Q _{t-1}
Lgrowth	Loan share growth	Percentage change in the asset share between Q _t and Q _{t-1}
Dgrowth	Deposit share growth	Percentage change in the asset share between Q _t and Q _{t-1}
Governance indicator variables		
Static		
State-Sta	Static state-owned bank	Dummy indicating a state-owned bank for which there was no governance change during the sample period. Equals 1 or 0 for a bank for all the periods.
Priv-Sta	Static domestic private- owned bank	Dummy indicating a domestic private-owned bank for which there was no governance change during the sample period. Equals 1 or 0 for a bank for all the periods.
Foreign-Sta	Static foreign-Owned bank	Dummy indicating a foreign-owned bank for which there was no governance change during the sample period. Equals 1 or 0 for a bank for all the periods.
Selection		
Foreign-Sel	Foreign acquisition	Dummy indicating a bank that experienced foreign acquisition during the sample period. Equals 1 or 0 for a bank for all the periods.
Dynamic		
Foreign-DynST	Foreign acquisition- Short term	Dummy indicating the quarters following foreign acquisition. Equals 0 prior to acquisition and 1 afterwards. Observations in the quarter of and the quarter following the acquisition are deleted. Equals 0 for banks that did not undergo foreign acquisition.
Foreign-DynLT	Foreign acquisition- Long term	Dummy indicating the number of quarters following the acquisition. Equals 0 for the periods prior to acquisition and starts with 2 in the second quarter following the acquisition. Observations in the quarter of and the quarter following the acquisition are deleted. Equals 0 for banks that did not undergo foreign acquisition.
Exit variables		
Foreign-Exit	Foreign bank	Dummy indicating a foreign-owned bank that left the system.
Domestic-Exit	Domestic-private bank	Dummy indicating a domestic private-owned bank that left the system due to domestic acquisition
Control variables	26.1	
MShare	Market share	Total assets to total assets of the depository banks
RAssets	Log of real assets	Total assets converted into constant 2004 Turkish lira figures by using CPI of Turkish Statistical Institute.

Table 3: Bank Performance and Ownership Indicators

	ROAA	ROAE	NIM	COST	NPL	ROAA	ROAE	NIM	COST	NPL
State-Sta	.110	6.010	.714	382	8.563**	.089	5.981	.690	361	8.625**
	(.439)	(4.903)	(.473)	(.643)	(3.370)	(.445)	(4.916)	(.460)	(.651)	(3.379)
Foreign-Sta	1.273	1.849	.747	1.088	1.203	1.291	1.874	.768	1.069	1.152
-	(.909)	(5.555)	(1.286)	(1.452)	(2.624)	(.910)	(5.562)	(1.284)	(1.458)	(2.625)
Foreign-Sel	.787*	.875	.992*	.198	-1.028	.802*	.895	1.008*	.184	-1.074
	(.466)	(4.341)	(.544)	(.607)	(1.786)	(.469)	(4.354)	(.540)	(.614)	(1.796)
Foreign-DynST	-1.985**	-3.622	290	2.006	4.626**	-1.336*	-2.719	.449	1.335	2.689*
•	(.836)	(4.121)	(.643)	(1.207)	(1.788)	(.708)	(3.870)	(.804)	(.991)	(1.500)
Foreign-DynLT	` ′	` ′	` ′	, ,	` ′	105**	146	120	.109	.315*
•						(.049)	(.285)	(.075)	(.069)	(.182)
Foreign-Exit	734	-7.671	3.827	4.519	3.489	703	-7.628	3.862	4.487	3.389
o .	(1.806)	(7.903)	(2.608)	(4.384)	(5.170)	(1.809)	(7.905)	(2.610)	(4.382)	(5.208)
Dom-Exit	9.614***	23.234***	5.398***	-2.639	4.458**	9.640***	23.271***	5.428***	-2.666	4.377**
	(.876)	(4.740)	(.595)	(1.595)	(2.102)	(.883)	(4.762)	(.594)	(1.607)	(2.129)
MShare	058	535	.047	`.099 [´]	.632	057	533	.048	.098	.629
	(.105)	(.470)	(.103)	(.210)	(.416)	(.105)	(.470)	(.102)	(.210)	(.415)
RAssets	.558	4.418***	262	911	-2.404	.564	4.428***	255	919	-2.424
	(.413)	(1.480)	(.400)	(.879)	(1.518)	(.415)	(1.486)	(.401)	(.883)	(1.524)
Constant	-6.072	-34.798**	8.403**	17.067*	32.112**	-6.157	-34.916**	8.306**	17.154*	32.364**
	(4.489)	(15.374)	(3.829)	(9.339)	(13.186)	(4.509)	(15.440)	(3.837)	(9.382)	(13.266)
No of Observations	776	776	` 776 [′]	773	744	776	776	776	773	744
R-squared	.097	.147	.099	.232	.209	.098	.147	.100	.232	.211

Robust standard errors in the parantheses. All regressions include year and quarter fixed effects. *, **, and *** represent significance level of 10%, 5% and 1%, respectively.

Table 4: Bank Growth and Ownership Indicators

	Agrowth	Lgrowth	Dgrwoth	Agrowth	Lgrowth	Dgrwoth
State-Sta	078	5.226*	13.560	111	5.408*	13.540
	(1.274)	(2.800)	(10.742)	(1.260)	(2.874)	(10.894)
Foreign-Sta	7.668***	16.841*	116.640*	7.697***	16.691*	116.657**
	(2.739)	(9.496)	(57.109)	(2.735)	(9.383)	(57.213)
Foreign-Sel	639	3.917	-16.040	616	3.783	-16.026
	(1.169)	(4.870)	(18.340)	(1.177)	(4.798)	(18.577)
Foreign-DynST	4.353*	-1.077	51.824	5.394**	-6.744	52.454
	(2.205)	(10.903)	(46.489)	(2.454)	(14.572)	(37.834)
Foreign-DynLT				169 (.248)	.922 (.923)	102 (2.695)
Foreign-Exit	4.488	-10.457	-31.685	4.538	-10.747	-31.654
	(4.772)	(10.578)	(38.799)	(4.784)	(-10.711)	(39.254)
Dom-Exit	-8.773***	-24.105***	-67.179	-8.730***	-24.342	-67.153
	(2.040)	(8.097)	(41.981)	(2.042)	(8.070)***	(42.357)
MShare	474	.749	3.645	473*	.741	3.646
	(.270)*	(.847)	(4.092)	(.270)	(.847)	(4.087)
Assets	1.670	-3.717	-17.432	1.681	-3.776	-17.426
	(1.060)	(3.451)	(16.473)	(1.062)	(3.490)	(16.546)
Constant	-12.582	36.276	159.494	-12.719	37.021	159.414
	(9.668)	(34.084)	(156.501)	(9.695)	(34.359)	(157.258)
No of Observations	776	742	768	776	742	768
R-squared	.035	.020	.030	.035	.020	.030

Robust standard errors in the parantheses. All regressions include year and quarter fixed effects. *, **, and *** represent significance level of 10%, 5% and 1%, respectively.

Appendix

Table 1: Summary Statistics of the Turkish Banking Structure

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total assets to GNP*	.92	.82	.93	.78	.70	.71	.82	.85	.66	.74
Sectoral distribution of assets										
Deposit banks	.95	.96	.95	.96	.96	.96	.97	.97	.97	.97
State owned commercial banks	.35	.34	.33	.32	.33	.35	.31	.30	.29	.29
Privately owned commercial banks	.49	.47	.55	.56	.57	.57	.60	.55	.52	.52
Foreign banks	.05	.05	.03	.03	.03	.03	.05	.12	.15	.15
Banks controlled by the Fund	.06	.09	.05	.04	.03	.00	.00	.00	.00	.00
Non-deposit banks	.05	.04	.05	.04	.04	.04	.05	.03	.03	.03
Concentration (percentage of total ban	iking systen	ı assets)								
Top 5 banks	46	48	56	58	60	60	63	63	62	62
Top 10 banks	68	69	80	81	82	84	85	86	85	86
Commercial banks only										
Number of banks	62	61	46	40	36	35	34	33	33	32
Number of branches	7660	7807	6889	6087	5949	6088	6228	6804	7570	8741
Number of employees	168558	164845	132274	118329	118607	122630	127857	138570	153212	16632

* Total banking system assets.

Source: Banks in Turkey, various issues.