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Effects of Foreign Acquisitions on the Performance of Securities

Firms: Evidence from Turkey

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Abstract

This paper analyzes the effects of foreign acquisitions on the performance of securities firms in Turkey by using Data Envelopment Analysis and panel regression. Emerging economies including Turkey have been attracting large amounts of foreign direct investments (FDI) to the financial services industry in recent years. Acquisition is a common way of FDI. However, evidence for the effects of acquisitions on the performance of financial firms is limited. Although a number of studies have been done for banking industry, securities firms are largely ignored. This study aims to fill this gap in the literature by bringing evidence from Turkey. Our results show that foreign acquisition has positive significant contribution to the efficiency of securities firms. This positive effect is significant two years after the acquisitions and becomes stronger in the later years.

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1. Introduction

Securities firms are one of the most important institutions in the financial system. They perform key services both in the primary market and in the secondary market, some of which are investment banking, market making, trading, portfolio management, and corporate strategy development. Securities firms are not asset transformers like the financial intermediaries such as commercial banks, mutual funds, credit unions, pension funds, life insurance companies. Financial intermediaries sell their own securities to collect funds from savers and then they invest this pool of funds by purchasing other firms' securities. However, securities firms do not issue their own securities but rather sell securities of firms and governments to financial market investors. Although many studies analyze the performance of financial intermediaries, only a few studies examine the performance of securities firms. This paper is one of the few studies in the literature related to the performance of securities firms.

Emerging economies including Turkey have been attracting large amounts of foreign direct investments (FDI) to the financial services industry in recent years. Acquisition of an existing firm is a common way of FDI. Foreign direct

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investors may not only bring capital, they may also bring some firm specific assets such as more advanced technology, know-how, and business connections which can influence the performance positively (Basti et al, 2011). However, evidence for the effects of acquisitions on the performance of financial firms is limited. Although a number of studies have been done for banking industry, securities firms are largely ignored. This study provides evidence for the effect of foreign acquisition on the performance of securities firms by using DEA and a panel regression model. Securities firms in Turkey compose a suitable sample for this study. Turkey is a developing country with fully liberalized financial markets where foreign securities firms can operate freely. Besides, Turkey attracts high amounts of foreign portfolio investments due to the relatively better returns. As a consequence, foreign investors have high shares in the stock and bond markets of Turkey. For instance, foreign investors hold around 70% of the free float of the shares traded on Borsa İstanbul, which is the only stock exchange in Turkey.

We find that there are efficiency gains after the acquisitions of securities firms by foreigners. These efficiency gains are significant two years after acquisitions and become stronger as time passes. Our results provide evidence for the improvement of performance after FDI.

The remainder of the study is as follows. Section 2 is the literature review of studies related to the performance of securities firms. Section 3 describes the data and methodology. Section 4 presents the results of the analysis. The conclusion is the final section.

2. Literature Review

Most of the past studies about the performance of securities firms investigate the factors influencing their efficiencies. Many of them attribute the superior performance of the securities firms to their sizes. Fukuyama and Weber (1999) examine the efficiency and productivity of Japanese securities firms during the period 1988-93. They find that the Big Four Japanese securities firms were more cost-efficient than smaller securities firms. They suggest that, if the banks are allowed to engage in universal banking as consequence of deregulation in the Japanese financial industry, they must operate on a large scale. Wang, Tseng and Weng (2003) assess pure technical, scale and allocative efficiencies of integrative securities firms in Taiwan and investigate how firm-specific attributes are related to each efficiency measure. They also find that firm size has a positive impact on the efficiency measures. Zhang, Zhang and Luo (2006) investigate the technological progress, efficiency and productivity of the US securities industry between 1980 and 2000. Their evidence suggests that, in contrast to small regional firms, the productivity of larger investment banks increased over time starting in 1980, except a few years after 1987. Aktas and Kargin (2007) analyze the efficiency and productivity of securities firms operating in Turkey during the period 2000-2005. They determine no considerable change in the efficiency and productivity of securities firms during the study period. Furthermore, they find that big-medium sized firms are more productive.

Apparently, size plays a key role in the performance of securities firms. However, firm size may not be the only factor that explains the performance differences. Many countries allow securities firms to operate as subsidiaries of banks or allow to be affiliated with the banks. Financial services integration between banks and securities firms are expected to bring synergy and increase performance. Therefore, investigating whether or not differences occur between the performances of securities firms that are subsidiaries of banks or affiliated with banks and those that are not is important. This investigation is important since integration of banks and securities firms does not have a long history and empirical results on the effect of integration on the securities firms is lacking. For instance, banks could not involve in securities activities for a long time in the USA due to the Glass-Steagall Act of 1933, which prohibited a bank from offering investment banking, commercial banking, and insurance services together. In 1999, the USA passed the Gramm-Leach-Bliley Act, which repealed the Glass-Steagall Act and enabled banks, insurance companies, securities firms, and other financial institutions to affiliate under financial holding companies (FHCs). A few studies examine the influences of bank affiliation on the efficiency of securities firms. Hu and Fang (2006) investigate the effects of FHCs in Taiwan on the managerial efficiency of its integrated securities subsidiary by using four-stage data envelopment analysis. They find that FHC has a significant negative effect on the managerial efficiency of its integrated securities subsidiary. Yeh, Wang and Chai (2010) compare the operational efficiency of securities companies in the financial holding system and in non financial holding system in Taiwan. Their results suggest that securities companies in the financial holding system have better efficiencies than those in the non financial holding system. Fukuyama and Weber (1999) examine the effects of various keiretsu links between securities firms and banks on overall cost efficiency of securities firms. They show that securities firms with keiretsu links to banks are more

cost-efficient and scale-efficient. However, new empirical results are necessary to understand the effect of financial services integration on the performances of securities firms.

Due to the deregulation of financial markets, foreign securities firms are operating in the securities industries as well as the domestic firms. In the literature, some studies investigate whether the performance of foreign-owned financial firms is significantly better than the performance of domestically owned financial firms. Sabi (1996) compares the performance of foreign and domestic banks in Hungary during the period 1992-1993 and finds that foreign banks are more profitable in comparison with the domestic banks. The empirical findings of Fukuyama, Guerra and Weber (1999) suggest that foreign-owned credit cooperatives in Japan are more efficient during 1992–1996. Choi and Hasan (2005) show that level of foreign ownership is affecting the performances of banks in the Korean commercial banking industry. Barros, Ferreira and Williams (2007) find that foreign ownership matters among the banks operating in the EU. Kasman and Yildirim (2006) find some evidence that foreign banks perform, on average, better than domestic banks in commercial banking in the eight Central and Eastern European countries that became new members to the European Union. Lensick and Naaborg (2007) show that a rise in foreign ownership negatively affects bank performance. There are empirical studies for Turkey as well. Isik and Hassan (2002) and Akin et al (2013) provide evidence for superior efficiency of foreign banks operating in Turkey. Studies that examine the performance differentials of financial firms under foreign ownership are mainly about banks. Securities firms are largely ignored in terms of their performance under foreign ownership as well as effects of foreign acquisitions on their performance.

3. Methodology

Data set of securities firms are obtained from the Association of Capital Market Intermediary Institutions of Turkey. We use 600 observations for 2005-2011. Out of 600, 121 observations belong to the securities firms which are acquired by foreigners; the rest belongs to the other securities firms. A two stage analysis of the data is applied. In the first stage, relative performances of the securities firms are measured by DEA. Then a panel regression is used to determine the effect of foreign acquisition on the efficiency.

Since multiple inputs and outputs for securities firms are used in the analysis, DEA is an appropriate technique to measure relative efficiency. We follow previous studies (Fukuyama and Weber, 1999; Zhang, Zhang and Luo, 2006; Wang, Tseng et al., 2003) to determine the outputs and inputs. There are two outputs and two inputs. While the outputs are commission revenue and other revenues, inputs are physical capital (fixed assets) and labor (number of employees).

Data Envelopment Analysis presents and solves the following linear programming problem for each firm:

$$\text{Max } h_o = \sum_{r=1}^s u_r Y_{ro}$$

subject to

$$\sum_{i=1}^m v_i X_{io} = 1$$

$$\sum_{r=1}^s u_r Y_{rk} - \sum_{i=1}^m v_i X_{ik} \leq 0$$

$$u_r, v_i \geq \varepsilon, \quad k = 1, \dots, n, \quad r = 1, \dots, s \text{ and } i = 1, \dots, m$$

Where X_{ij} and Y_{rj} stand for the amount of i -th input and r -th output of j -th DMU, respectively. v_{ij} and u_{rj} are the weights of i -th input and r -th output when j -th DMU is under consideration. n is the number of firms in the sample, s is the number of outputs and m is the number of inputs that the analyzed firm produces and utilizes respectively. ε is a very small positive number which ensures that every input and output has a value greater than zero.

4. Results

Table 1 depicts the mean efficiency scores for securities firms which are acquired by foreigners and which are not. While the mean efficiency score for the acquired firms is .223 in the years before the acquisition, it is higher in each year after acquisition and is also increasing year by year (except year 2) after acquisition. It reaches to .485 five year after acquisition. Basically results reveal that foreign acquisition contributes to the efficiency positively and these positive effects are magnifying as the time passes.

Table 1: Efficiency scores of acquired and non-acquired securities firms

	N	Mean	Std. Deviation	Minimum	Maximum
Efficiency scores of acquired firms					
in the years before acquisition	36	.223	.163	.034	.667
one year after acquisition	19	.307	.286	.073	1.00
two years after acquisition	19	.278	.271	.014	1.00
three years after acquisition	18	.410	.291	.050	1.00
four years after acquisition	15	.435	.322	.026	1.00
five years after acquisition	10	.485	.374	.172	1.00
Efficiency scores of non acquired firms	479	.208	.214	.010	1.00
Total	600	.231	.232	.010	1.00

Efficiency scores which are created through DEA are regressed by panel regression analysis to examine the effects of foreign acquisition on the efficiency. The three classical panel regression models namely, fixed effects, random effects and pooled regression are employed in the analysis. Dependent variable in the models is efficiency of firms derived from DEA. Independent variables are affiliation (bank affiliated which is coded by 1 or independent coded by 0), size (natural logarithm of assets), and the year dummies for the number of years after foreign acquisition. Base dummy is the year before acquisition. According to the table 2 which shows the coefficients of the factors for securities firms, Hausman and Breuch-Pagan tests specifies random effects model is suitable for the panel analysis.

According to the random effects; while firm size has positive impacts on the firm efficiency, bank affiliation has no statistically significant effects. When the mean efficiencies of the firms one year before the foreign acquisition and the firms that are not acquired during the times in the analysis are compared, it is seen that there is no significant difference ($t=0.44$, $p=0.66$). This implies that foreign firms do not acquire top efficient companies.

Acquired security firms have higher efficiency on average than the other counterparts starting from the second year after acquisition. The coefficients of those years are significant and increasing along with year. In other words, the effects of acquisition become more clear and strong in time.

5. Conclusion

Acquisition of financial institutions in the developing countries by foreigners has increased considerably in recent years due to the deregulation and liberalization in these markets. Turkey is a developing country with fully liberalized financial markets where foreign securities firms can operate freely. Besides, Turkey attracts high amounts of foreign portfolio investments due to the relatively better returns. As a consequence, foreign investors have high shares in the stock and bond markets of Turkey. Therefore, the performance effects of foreign acquisition on local securities firms deserve careful scrutiny in a capital market where foreigners are the dominant investors.

In this study, we examine the effects of foreign acquisition on the efficiency of securities firms in Turkey. A two stage analysis of the data is applied. In the first stage, relative performances of the securities firms are measured by DEA. Then a panel regression is used to determine the effects of foreign acquisitions on the efficiency. According to our results, foreign acquisition has positive significant effect on the efficiency of securities firms. This positive effect is observed in the early years of acquisition and it is higher in the later years. Our results provide evidence for the view

that in addition to capital, foreign direct investors bring firm specific assets such as more advanced technology, know-how, and business connections which improve the performance.

Table 2: Foreign acquisition and efficiency

Dep. Var:	Model 1	Model 2	Model 3
Efficiency	Fixed effects regression	Random effects regression	Pooled regression
LnAssets	0.079*** (7.24)	0.074*** (8.61)	0.052*** (7.21)
Bank Affiliation	-0.069 (-1.50)	0.006 (0.20)	0.075*** (3.46)
Acquisition year	0.70 (1.96)	0.082* (2.38)	0.116** (2.42)
One year after acquisition	0.021 (0.59)	0.035 (1.00)	0.074 (1.55)
Two years after acquisition	0.118*** (3.18)	0.135*** (3.78)	0.189*** (3.84)
Three years after acquisition	0.123*** (3.03)	0.138*** (3.55)	0.185*** (3.44)
Four years after acquisition	0.191*** (3.97)	0.204*** (4.38)	0.233*** (3.57)
Constant	-1.07 (-5.88)	-1.015*** (-7.15)	-0.681 (-5.77)
F	15.83	Wald chi sq = 138.36	25.17
P	0	0	0
Number of groups	103	103	
R-sq:	0.184	0.24	0.23
N	600	600	600
	Hausman Test	Breusch – Pagan test	
	Chi Square = 8.68	ChibarSquare = 608.86	
P	0.276	0.000	

t statistics in parentheses. * p<0.05. ** p<0.01. *** p<0.001

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