

**ENTRY OF BANK FOREIGN CAPITAL IN DEVELOPING ECONOMIES: MEASURING PROFIT & COST EFFICIENCY**

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**Abstract:** The paper aims at acknowledging the efficiency effects of bank privatization upon the entry of strategic foreign investor. Thus, a broad experience from the developing countries is reviewed. General conclusion is that the foreign capital infusion improves the profit and cost efficiency of the banks. The paper also investigates the various methodologies that academics employ when they investigate the topic.

**JEL classification:** G21, L33

**Key words:** Privatization, Foreign capital, Cost and profit efficiency, Measurement

### Introduction

Privatization of state-owned banks in developing countries is an economic and political issue that has been incessantly attracting the attention in the last few decades. As such, it has “grabbed” a considerable sliver of the authorities’ energy in an attempt to attain better banking system and therefore, faster economic development for their own country. “Privatization is a process, not an event” (Verbrugge et al, 1999, p.30) and it carries all the risks arising from the question if it has been made in a proper way and which will be its broader implications.

A great stake of the literature focuses on the bank performance once privatization process has been carried through. For instance, Beck et al (2005) argues that, no matter which method of privatization has been employed, it is expected that the bank privatization will advance bank performance and enhance financial intermediation. However, the evidence from practice is, in a mere, inconclusive. Initially futile, bank privatization in Mexico, say, was successfully completed only after the second round of privatization, behind the inflow of the foreign capital (Unal and Navarro, 1999). Yet, this does not apply for the Brazilian privatization route, which considered being merely effective and productive (Nakane and Weintraub, 2005).

Additionally, foreign capital entry captures an immense body of the bank privatization processes in developing countries. The reason for this rests in the conclusion that almost all developing countries opened the doors for the foreign capital in their banking systems, projecting that it is crucial for better outlook performance of their banking system in general. In this line of thinking, Bonin et al (2004) acknowledge the cases of Czech Republic and Poland as feebly successful due to the retention of large shareholdings by the state and dispiriting the doorway for foreign investors.

It is obvious how this flow of thoughts introduces the importance of the state-owned banks privatization and especially, the influence of foreign capital entry on bank performance. This paper sheds light on these queries. The remainder is organized as follows. Firstly, brief remarks are given for why to privatize the banks with foreign capital. Then the foreign capital entry's impact on bank's profit and cost efficiency is deeply examined. Special emphasis in this section is given to the measurement methodologies of topic's study. Finally, the last one concludes the paper.

### **Why bank privatization with foreign capital?**

The most significant issue when domestic state-owned banks are privatized is whether the foreign capital entry is a good solution. Academics vastly agree that this is related with several positive impacts on the banking system and the economy in general. In favor of these and the following contemplations is the fact that today, foreign banks own over 50% of the bank capital in CEE countries, while in many other countries this figure exceeds 80% (Uiboupin, 2005).

Literature identifies several domains where the influence of the bank foreign capital is at hand. For instance, Weill (2003) highlights that benefits are twofold: firstly, foreign-owned banks gain benefits from better control from their private shareholders, who, in turn, gives higher operational motives to managers; and second, foreign ownership is related to inflow of know-how and improved risk management. Still, the same author broadens the areas where the foreign capital entry is favorable: stronger corporate governance, higher stock selling price, introduction of operational expertise etc; in one word, "foreign bank entry has a salutary effect on banking sectors" (Bonin et al, 2004, p.7). Albeit such an optimistic view, Bonin and Huang (2002) warn that foreign capital entry in developing countries "may be a two-edged sword" (p.1078), as it will augment the performance of the banking system, but will put higher competitive heaviness on the other banks, thus driving them out of the game.

However, a major part of bank privatization literature is purposely devoted to examining the bank performance and efficiency after the foreign capital has crossed the threshold - the former measured by relevant accounting ratios, for example, ROA, and the latter referring to the cost efficiency, i.e. the aptitude to reduce costs at a certain output level (Sathye, 2005). It seems that these issues are the main concerns of the foreign investor and that's why many academics investigate the pros and cons related to this topic. Their findings are presented ahead.

### **Measuring the profit & cost efficiency: Does privatization with foreign capital matter?**

As mentioned above, academics were mainly focused on measuring the efficacy of foreign ownership on bank assets in terms of the bank profit and cost efficiency after a large stake of foreign capital has been introduced in. Several studies examine this field of academic interest and their findings, as well as the methodologies they use are presented below. Yet, the research for the developing and transition economies is limited, probably because of the lack of data concerning a longer period of time.

Besides, all of the obtainable papers follow a unique perception that privatization with foreign capital matters, but they trail different approaches a propos the efficiency determinants, on top of the methodology applied. Therefore, the latter is further distinguished in order to accentuate the endeavor of this paper.

**Multiple regression analysis with accounting measures**

An essential sliver of academic research measures bank efficiency past the foreign capital inflow, through a variety of accounting measures, which are further considered as a pure regression models' input.

Claessens et al (2001), for instance, investigate the difference between the foreign-owned and domestic banks, extending the work of Demirguc-Kunt and Huizinga (1998; cited in: Claessens et al, 2001). Namely, the latter authors found that foreign ownership boosts net interest margins and profits in developing countries, but this does not apply for developed countries. Moreover, Claessens et al (2001) deepen the areas where the cost and profit efficiency could be measured and for this purpose they use accounting measures, among which: interest margins, taxes paid, overhead costs, provision for loan losses and profitability. They comprise a vast sample of 80 countries' banking systems observed in the 1988-1995 period and develop Multiple regression models, where each of these variables is considered as dependent. In other words, a selection of variables, among which, the foreign ownership share is considered to be most important, are regressed on profit and cost efficiency measures.

Applying this methodology, these authors set up that in developing countries, banks that possess a major stake of foreign ownership tend to experience higher interest margins, higher profitability and higher tax payments compared to domestic ones. In other words, "foreign bank entry is associated with greater efficiency in the domestic banking system" (Claessens et al, 2001, p.906). Yet, on the other hand, Uiboupin (2005) argues that this conclusion might not hold in transition economies in the short run. According to him, taking into account this time preference, overhead costs of foreign-owned banks could be higher, due to the competitive pressure of the domestic-owned banks, as well as due to the new-market-adjustment costs. Hence, cost efficiency could be achieved in a long run only. It could be inferred that foreign-owned banks undoubtedly perform better; however, the time horizon matters.

Majnoni et al (2003) pursue similar approach when they test whether the reliance on striking foreign ownership stake in Hungary is allied with improved cost efficiency (as measured by operating costs) and profit efficiency (as measured by ROA and by lending spreads). Over their sample of 26 Hungarian banks lively in the 1994-2000 periods, they chase Multiple econometric regressions, testing whether aforementioned relationships are statistically robust. However, alike Claessens et al (2001), Majnoni et al (2003) use "a set of efficiency and activity indicators" (p.15), in order to capture dissimilar facets of cost and profit efficiency. The same applies for the independent sets of variables, among which, for the purpose of this paper, the most significant are those which measure duration of foreign ownership, foreign management style and investment type. Findings are in line with the general notion that foreign bank ownership pursues higher profitability and cost efficiency.

But, according to Majnoni et al (2003) this increase is unswervingly dependent on the duration of the presence in a particular country, since a broader interest margin and a wider assortment of financial services could be achieved after a series of problems are overridden, later than the foreign stake has taken place. The same applies for the cost reduction, after different managerial strategies for achieving cost efficiency have been followed. It could be seen that Majnoni et al (2003) involves the managerial efficiency among the measures as well and confirms Uiboupin's (2005) conclusions. As a digression, Hungary first among the transition economies has started the privatization process.

Even though the aforesaid articles are based on the same methodology of examination, it could be distinguished how by tracking slightly different approaches, a similar conclusion is reached: improved bank efficiency, whether it is due to higher interest margins and lower overhead expenses, at one side, or foreign ownership duration and management style, on the other.

### **Frontier approaches of measuring bank efficiency**

Alike the afore-mentioned methodological approaches, large part of the academics use Frontier approaches, but they again defer in the range of techniques proposed. However, although some authors (Berger and Humphrey, 1997) suggest a plenty of frontier approaches (Data envelopment analysis, Free disposal hull, Stochastic frontier, Distribution-free and Thick frontier approach), the literature available as regards the topic, vastly uses the Stochastic frontier approach with slight modifications among.

In this line of thinking, after distinguishing the different techniques on duty, Weill (2003), for instance, engages in detailed analysis of the differences in cost efficiency between foreign-owned and domestic banks in Poland and the Czech Republic. For this point, he utilizes a two-step approach, drawing on a sample of 47 banks in 1997. He further takes up the Stochastic Frontier approach to estimate the efficiency scores. Following this author, “cost efficiency measures how close a bank’s cost is to what a best-practice bank’s cost would be for producing the same bundle of outputs.” (p.580). Main weakness of this methodological approach is that it emphasizes the shape of the frontier by spelling out a functional form of the cost function, but, on the other hand, it allows for a random error, which in turn perks up the estimated figures (Weill, 2003). The same author comprises the level of equity in his model, in order to confine the risk differences. Findings conform to greater cost efficiency for Czech and Polish banks. Namely, the regression of the cost efficiency scores on the nature of ownership demonstrated a positive and significant effect of foreign ownership. Furthermore, Weill (2003) elucidates this by the fact of transfer of banking know-how and stronger corporate governance.

Opiela (2000) uses the same methodological technique to assess the cost and profit efficiency for the Polish banking sector only (56 banks), suggesting upper efficiency for the foreign owned banks. Also, Ogrodnik (2003) confirms the benefits for Poland from opening the banking sector and consenting to the inflow of foreign investments in it.

Following this line of thoughts, Kraft et al (2002) examines the Croatian banking system in the 1994-2000 periods, as well measuring the cost efficiency. They also pursue the Stochastic Frontier approach, but they specifically focus on Fourier-flexible functional form, which slightly defers from the other frontier approaches, since it “augments the popular translog specification to include trigonometric terms.” (p.6). Further, three indicator variables as determinants of Croatian banks’ cost efficiency in the examined period are used, among which, the foreign ownerships counts for the importance of this paper.

Alike the above presented papers, Kraft et al (2002) did not find significant improvements in the Croatian banks’ efficiency after privatization. This refers to the domestic as well as the foreign-owned banks. Several reasons could be argued, but authors agree that among them, one possible might be “the movement of the frontier due to the entry of more efficient foreign banks” (p.12). This, in turn, puts competitive

strain on the domestic-owned banks, making them less efficient. However, the final conclusion is that although entered reputable foreign banks possess efficiency advantages, they could exploit them properly in a long run only, a notion mentioned earlier.

A large fraction of the literature for the topic is covered by Bonin et al (2003). They investigate the bank privatization process and its implications in six relatively advanced transition economies: Bulgaria, Czech Republic, Croatia, Hungary, Poland and Romania. In each of them, the investigation focuses on the ten largest banks by their asset size, and encompasses the 1994-2002 period. Emphasis is given to the foreign penetration in the banking systems of these countries. The methodological approach is pretty similar to the above mentioned, but they start with “testing for differences in means across bank types for several measures of bank performance, including frontier efficiency estimates . . .” (p.5). For instance, when means for various performance measures like ROA, net interest margin and commission-to-income ratio are calculated, it could be inferred that foreign ownership counts for improved banks’ profitability. Moreover, the same procedure applies for the cost management, and enhanced efficiency is found. Again, the critical conclusion sheds light on the variety of efficiency measures discussed previously.

What's more, these authors embark on efficiency analysis by computing the efficiency estimates which are upgraded on the Translog profit and cost function – those that were mentioned earlier and which are much-more, standardized methodological pattern for examining the topic. However, Bonin et al’s (2003) approach to some extent adjourns from those present in the literature. That is to say, dummies for countries and years are here built-in, with the intention that the efficiency scores are corrected for the unchangeable features. Moreover, for the profit efficiency scores, additional constant is drawn in, in order the net income to be normalized. All these and additional detailed features for improved model yielded Bonin et al (2003) to the conclusion that privatization improves banks’ performance and that the domestic banks in which a stake of foreign ownership has been introduced in, experience maximization of their value in terms of the ease of attaining cheaper funds. These counts towards the cost efficiency, as well as the enhanced profit efficiency, which comes from the broader interest spread, on top of the upgraded technology and new lines of services developed.

In addition to the empirical studies discussed in this paper, Megginson (2004) concludes that in developing countries, the indication undoubtedly supports the notion that foreign bank ownership reliance is being enhancing the profit and cost efficiency. Moreover, Clarke et al (2003) indicates that in the last few decades, foreign ownership has largely taken place in Peru, Venezuela, Argentina, Brazil, Czech Republic, Poland, Hungary and Balkan countries, contributing towards building better banking systems in terms of the topic explored, and “may well be the default outcome for many national bank privatization programs” (Megginson, 2004, p.24) in future.

### **Conclusion**

The question that has been addressed in this paper is whether the reliance on foreign ownership in developing countries’ banking systems, after a privatization process has been tagged along, improves the bank profit and cost efficiency. After embarking on general reviews of the more significant privatized banking systems, important conclusions can be reached.

That is to say, almost in all cases, it was found that foreign capital inflow improves bank efficiency, which embraces broader interest margin, lower overhead costs, improved managerial efficiency, “ability to access a richer menu of financial services and ... higher quality loan portfolio” (Majnoni et al, 2003) and several smaller effects which count towards the overall efficiency. However, what matters is the time horizon behind the infusion of the foreign stake, usually represented by the foreign presence in a particular country.

Another noteworthy result from this paper is that notwithstanding the methodological approach in exploring the topic, the same conclusion is lastly drawn. Specifically, these approaches encompass multiple regression models, mean variances estimations and frontier approaches. Albeit the latter are represented through the Stochastic Frontier approach only, still, it appears in a variety of operational forms, ranging from standard translog functions to adding trigonometric terms and dummy variables for capturing special effects. Nonetheless, what matters is that they all lead to the same conclusion: improved banks’ profit and cost efficiency in terms of the academic topic explored.

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