

Are Foreign Banks More Efficient than Domestic Banks? An empirical study of Transition and MED countries.

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Abstract

Using data from the Bankscope database I estimate an empirical model to evaluate foreign banks versus domestic banks performance in terms of profits and interest margins in the two European Union neighbourhood areas of Central and Eastern European Countries and Mediterranean EU partners countries. The issue is relevant not only from the financial point of view but also for the overall economic integration process that, at different stages, is under way in the regions. I find that, given the number of foreign firms and their size, foreign banks seem to outperform domestic banks in terms of profit and cost efficiency.

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1. Introduction

After the outbreak of the Asian crisis in July 1997, financial crises have been on the top of political and academic agenda. Since then¹, Russia, Brazil and Argentina, among others, experienced heavy devaluations of their currencies that brought about social disorders, losses in consumers savings, and the need of the IMF intervention.

Financial sector problems typically start with growing non – performing loans. Also the WTO expresses its concerns and recommendations in a series of reports (Trade, Finance and Financial Crises) where a simple evidence emerges: banks are the most important players for investment and trade – related financing in financial markets, since they provide trade - related loans, letters of credit, etc.. Banks are also the financial markets players which are most vulnerable to crises. Insufficient capitalisation is a contingency for problems but even with a capital asset ratio of 15 or 20, banks are still highly leveraged, that is, their capital is only a small fraction of the loans they give out.

Screening bad credit from good credit is a key issue when dealing with financial crises issues. Poor banking regulation and supervision are another key cause of banking crises, as inefficient monitoring of banks may lead to risky behaviour in terms of allocation of credit.

Financial crises can undermine monetary and fiscal stability, have repercussions on economic stability and growth, locally and abroad; also trade patterns and volumes can be changed significantly, after a negative shock affects a country's currency.

For many emerging markets, the growing presence of foreign financial institutions has been a striking structural change during the 1990s, especially in the banking system. In this study I evaluate foreign banks presence² and performance in Transition and MED countries³ in the light of the economic integration process that sees most of Transition countries entering the European Union by 2004 and MED countries involved in a wide co-operation and integration program with the E. U., aimed at realising a Free Trade Area in the Mediterranean Basin.

¹ A detailed analysis of financial crises from late 1970s to mid 1990s can be found in WTO (1999).

² The increased activities of foreign banks in emerging markets can be measured either in terms of foreign bank participation in domestic banking markets or in terms of how effectively foreign banks control banking activity (IMF, 2000). In this study I adopt the first approach.

³ The set of Transition countries (here, CEE) includes Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia. The set of Southern Mediterranean countries (MED) includes the 12 EU partners in the Barcelona process: Algeria, Cyprus, Egypt, Jordan, Israel, Lebanon, Malta, Morocco, Syria, Tunisia, Turkey (Palestine where possible).

The pattern of FDI in the two regions has been different and can be synthesised as follows: EU investors literally conquered the Transition markets in the nineties⁴, taking advantage of the rich market potential, relatively cheap and skilled labour and of the fact that after the CMEA meltdown, a phase of deep reconstruction, liberalisation (with heavy need of new capital) and privatisation was launched. As FDI flooded in the area, also foreign banks⁵ entered these markets, quickly reaching large majority participation of existent banks and mostly creating a new competitive banking sector where almost none existed before. Expectations about FDI in the MED countries as a result of the Barcelona process were instead disappointed (Petri, 1997). After 1995, only a slight increase in the FDI flow took place, mostly in the traditional oil sector. FDI concentrated in the labour intensive – low technology sectors of the markets, but the structural condition of MED countries are still quite different from the initial conditions of CEE countries after 1990: a weaker market potential, older and insufficient infrastructures, strong state presence in virtually every economic sector⁶, risky macroeconomic and business contexts. A similar pattern is observable in the banking sector: also because of heavy foreign entrance restrictions, only recently foreign banks were able to enter some of the MED countries (Lebanon is an exception, as a traditional location for international banks, while Syria in practice does not allow foreign entry in financial sectors but for institutes originating from Arab countries). These countries are characterised by a strong state presence in the banking sector, likely to induce distortions in the competitive allocation of credit (Claessens, Demirgüç-Kunt, A., Huizinga, H., 2001). Table 1 illustrates foreign presence in the banking sector for Transition and MED countries. The first column refers to the weight of foreign banks' assets over total bank assets in a country. Estonia and Jordan rank first, even though Jordan is considered to have an excessively large banking sector⁷. Turkey and Hungary foreign banks represent over 60% of total assets, while for Malta and Latvia the same figure is around 50%.

⁴ Especially Poland, Hungary and the Czech Republic. For a detailed study of FDI in CEE countries see Alessandrini (2000)

⁵ Transition economies have inherited few financial institutions and markets from the era of central planning. Under planning, the financial system was little more than a bookkeeping mechanism for tabulating the authorities' decisions about the resources to be allocated to different enterprises and sectors (EBRD, 1998).

⁶ MED countries are within the group of developing countries that faced the need to review their financial structure since the eighties, implementing economic reforms and structural adjustment programs, where the International Monetary Fund often played a major role. Although there exists a global homogeneity across the area, the banking industry differs from country to country according to degree of financial constraints and capital transactions, which are important parameters to measure the banking sector development and efficiency. See Bosco – Guagliano (2002) for details.

⁷ The case of Jordan is particular. Economists have long maintained that the Kingdom's 21 private banks have done little to respond to reforms introduced by the Central Bank in recent years such as the removal of foreign exchange controls, the strengthening of banking supervision and the deepening of the domestic capital market.

The second column refers to the number of foreign banks (defined as those where foreign control is over 50%) as a percentage of total banks. While these figures are an average from the 1988 –1995 period, it is interesting to note as in column 3 the same figures refer to 2000.

The change for Transition countries is dramatic. Especially if we observe Estonia (from 43% to 60%) Lithuania (from 10% to 45%) and Slovakia (62% in 2000). The striking case is Hungary where in 2000 about 80% of banks are foreign owned.

The situation for MED countries is pretty different. The number of foreign banks has decreased between the two periods in Jordan (43% to 18%), Lebanon (from 49% to 14%) and Morocco (33% to 13%). Malta registered a sharp increase (+25%), while Cyprus is an outlier (22% of foreign banks in 2000) because, despite the small dimension, the special legislation for international businesses made this country an international off-shore banking centre.

The impression from these data is that foreign banks literally obtained a majority control of banking assets in Transition countries, while MED countries just started opening internal markets to foreign operators in the banking sector.

The remainder of the paper is organised as follows. The next paragraph reviews the literature concerning foreign and domestic banks and specifies the hypotheses to test. Some graphs and statistics present the data from Bankscope for domestic and foreign banks in the two regional areas. The third paragraph contains an empirical analysis about two issues: first, I want to compare the global macroeconomic situation of the two areas and evaluate a standard location model for FDI, in asking how host countries' macroeconomic parameters play a role in determining the location of foreign bank in Transition and MED countries.

Second, I compare foreign banks with domestic banks in terms of profit, net interest return and operating costs efficiency. The last paragraph concludes.

2. Literature and hypotheses.

The literature about Foreign Direct Investment in the banking sector is mainly empirical. Clarke et al. (1999) divide the related literature in two parts: the traditional view, that adopts the “follow the client” idea, and a more dynamic view, built upon Grubel (1977), and Kindleberger (1983), where the interaction between domestic and foreign banks is deeply

These reforms aim at allowing the country's over-banked sector to play a bigger role to ensure success of IMF-guided reforms aimed at liberalising the economy. (Jordan Times, 2000)

investigated. Kindleberger (1983) and Levine (1996) both underline that banks sometimes follow and other times lead companies from their home country into foreign markets. Goldberg and Saunders (1981) find a positive correlation between foreign bank presence in the USA and bilateral trade. This would support the leader – follower view.

But for emerging markets it is particularly true that the aim is to gain market access and exploit growth potential, competing with local banks in capturing local demand.

The Ownership - Localisation - Internalisation paradigm (O.L.I., Dunning, 1977) for multinational enterprises is accepted by most authors to explain FDI in banking; others underline the specificity of some factors that make the international business approach inadequate to cover some aspects of internationalisation of the banking activity.

Sagari (1992) presents four hypotheses to test for USA FDI in banking: according to her, FDI in banking depends on the host country level of protectionism, parallel FDI in non banking – industries, market size and level of competitiveness of domestic banks. The motivation for inserting these additional hypotheses, as determinants of FDI in banking, in the OLI framework is mainly because banking is a market – oriented business and foreign banks have specific competitive advantages that could be lost if externalised.

Buch (1999) stresses instead how two factors affect FDI in banking: the customer preferential relationship and the irreversibility of the investment initiative (Dixit and Pindyke, 1994, Blandon, 2001) underlines as the amount of irreversible investment in the banking industry should be particularly high. Two reasons justify this: first, bank reputation, associated to its brand name, probably constitutes the main ownership advantage, and as a consequence important investments in advertisement are generally made by financial institutions. Second, information constitutes the most important intermediate input in the banking industry. Since there are relevant costs associated to learning banking requirements, and a market for a bank's brand name and own information does not exist, foreign activity involves important sunk costs.

These aspects do not emerge in a O.L. I. approach, which should progressively be revised and reinterpreted for this “banking case”. If we also consider that “follow the client” (Aliber, 1984) is a typical reason for banks to go abroad, while for other industries is less or not at all relevant, we could synthesise the whole reasoning as follows: banks act according to strategies specific to a service industry becoming multinational, which not only looks at the local market, but also serves as a support for clients going abroad as well. Location, ownership and internalisation factors alone do not satisfactorily complete the picture of a

sector where relationships play a major role and the irreversibility of the investment is at stake. “Relationships” and networks effects are crucial factors not only on the customer side, but also with respect to local competitors, since in the financial sector, trust and knowledge elements are much more critical than in other industries.

Data on FDI in banking for emerging and developing economies are usually scarce, and studies generally focussed on industrialised countries (Sagari, 1992; Buch, 1999). Recently, the availability of data allowed for studies over transition countries (Papi and Revoltella, 1999) or emerging economies (Clarke et al., 1999).

The most commonly addressed issue by empirical tests is the one of the potential benefits or disadvantages stemming to domestic banks from the foreign banks presence, in terms of better resource allocation, formation of human capital, higher efficiency and increased competition, increased stability (Stiglitz, 1993; Levine, 1996; Goldberg, Dages and Kinney, 2000; IMF, 2000; Claessens et al., 2001). The basic reasoning is the same that stands under the FDI theory in general: there exist competition and efficiency effects, (studied for example in Transition countries: see Konings, 1999; Aitkin and Harrison, 1999; Bosco 2001) that on one side stimulate internal reorganisation and cost efficiency, on the other lead foreign firms to literally steal market shares to domestic - less efficient and innovative - firms. The same framework applies for the banking sector (Hermes and Lensink, 2000). Actually, the competition and efficiency effect in the banking sector is exacerbated, since, while manufacturing firms can choose either to produce for the local market or to re- export, banks, as a service, solely operate on the local market and have the option to diversify their activities by means of the group they belong to.

Balance sheet data are the key to the analysis, in that they allow to detect compelling differences between foreign and domestic banks. Crystal, Dages and Goldberg, (2002) find that, for Argentina, Chile and Colombia, foreign banks seem to rely less on deposit - based funding than private domestic banks; average loan growth and the share of liquid assets are higher for foreign banks than for private banks; loan growth is stronger and less volatile (Goldberg, Dages, Kinney, 2000). Differences in efficiency between foreign and domestic banks may reflect the ability to select and capture high quality customers, and this would justify the trend in loans (repayment or losses).

The empirical regularity above can be assessed for the case of MED and CEE countries and is illustrated in Figures 1.a and 1.b. The loans growth pattern is pretty different in the two areas. In CEE countries, foreign banks are numerically superior to domestic banks and the value of net loans for foreign bank (as a percentage of total assets per bank) is higher. Nonetheless, the

loan growth rate over the period 1994 – 2000 is higher for domestic firms (15%) with respect to foreign firms (6%). This result can be interpreted either as a lack of confidence of the customers towards foreign banks or, more probably, as differing loans policies.

In MED countries, the contrary happens, as there are fewer foreign banks, whose net loans value is inferior to domestic banks. The gap between loan growth rates is even larger than for CEE countries. Actually the loan growth rate registered for domestic banks is 21% while for foreign is 8%⁸.

This result could be interpreted either as a difference in market strategies or, more likely, in a different composition and behaviour of customers. Banks specific activity affects performance as in the host market foreign commercial banks may find it hard to compete with local already long - established banks, while investment banks may have competitive advantages while operating off – shore because of better international connections with other financial intermediaries. In the short run, it is likely to observe lower returns on assets for foreign banks because of higher provisioning.

In this work it was not possible to analyze the change in indicators through time for foreign banks with respect to domestic bank as the initial year of investment is not taken into account: a short run against medium run dynamic does not emerge. I use the available data to compare year by year the performance of domestic and foreign banks. Figure 2.a and 2.b show the trend in MED and CEE countries for the ROOA (Return on average assets) of domestic and foreign banks. It is hard to make a comparison between these two deeply different realities, but some change in CEE countries is visible after 1997, where, together with a general fall of the indicator for domestic and foreign banks, foreign banks started to outperform domestic banks. For MED countries, the indicator takes on higher values but not significant difference through time is observable between domestic and foreign banks, even if one should actually be careful in tackling these data as many missing values are likely to invalidate results.

When assessing performance by synthetic indicators, a widely debated question is how to measure bank efficiency (Molyneux, Altunbas Gardener, 1996; Demirgüç-Kunt and Huizinga, 1999; Focarelli and Pozzolo, 2000; Claessens, Demirgüç-Kunt and Huizinga., 2001;).

If a sector is competitive, firms should not be able to exert monopolistic power, and should fix a price as close as possible to marginal costs. So X-efficiency would turn to be an ideal indicator. The problem is that usually this measure is harder to compute for banks (Molyneux, Altunbas, Gardener, 1996), than it usually is for manufacturing firms where the exact size and

⁸ Actually time series are shorter for many MED banks and missing data is usually the rule. I'm aware that too many missing values would mine the efficiency in estimation.

composition of costs is detectable. For banks, economies of scale and scope are so important that their effect on profits can hardly be disentangled from the effect of the mark up over marginal costs.

As a general rule, if a sector is competitive, the profit margin should be consequently low; in terms of internal efficiency, a firm – in this case, a bank is more efficient if the profit margin is lower. On the other hand, efficiency leads to reduce costs and increase net profits; a comparison can be made only given total costs. To a first extent, high profits can be considered as an index for inefficiency in the sector.

Some studies (Demirgüç-Kunt, A., Huizinga, H., 1999; Claessens, Demirgüç-Kunt, A., Huizinga, H., 2001) present a decomposition of profit in its different components. From this scheme important considerations emerge.

The role of the interest margin is particularly important. High interest margins may reflect a case for a bank with high overheads that are transferred to customers in terms of high passive rates on mortgages and loans, and so suggests that the bank may not be able to allocate credit efficiently by means of a valid customers screening and monitoring. To a first extent, a high interest revenue, *coeteris paribus*, can be seen as a proxy for inefficiency.

Figure 3 shows the relative weight of interest revenue and non interest revenue for domestic and foreign banks in CEE and MED countries. A net difference in efficiency does not emerge, since the relative weight is on average 50% for both types; although the net interest margin is slightly higher than non-operative income for all banks in all countries, for MED countries this pattern is stronger than for CEE countries: on average, foreign and domestic banks' net interest margin is 110,59% of non interest income, while the same figure for CEE countries is 109,49%⁹.

A symmetric reasoning holds for cost efficiency and concerns operating costs. High overheads are unambiguously an index for low efficiency and may reflect a need for restructuring and reorganisation for the bank.

Figure 4 shows the weight of overheads with respect to profit before taxes. A clear regional pattern emerges. For both local and foreign banks in CEE countries overheads are 2,50 times larger than profits; while the same figure falls to 1,90 for MED countries. Surprisingly, the performance in terms of overheads is the same for foreign and local banks in both areas.

⁹ The values are computed as a mean over the 1993 – 2000 period, jointly for domestic and foreign banks in CEE and MED region separately.

Starting from these preliminary results, the empirical analysis will be divided in two parts. In the first, I will test for location determinants. Macroeconomic and financial conditions affect the location of foreign direct investment in all sectors. Following Sagari (1992) and Focarelli and Pozzolo (2000) I will test if economic conditions, as market size and potential, international openness (measured as trade volumes and FDI inflows), financial stability, affect the pattern of foreign investment in banking for the two regions. The hypothesis I will test here is:

- ◆ H1: Sound macroeconomic conditions, market potential and rules, financial markets stability and openness positively affect the likelihood to observe a FDI initiative in the banking sector.

H1 will be considered for the whole sample of 21 countries and for the two regional blocs separately, as to control for the different macroeconomic and political conditions in the areas.

In the second part, following Demirgüç-Kunt, A., Huizinga, H., (1999) and Buch (1999) I will test econometrically three hypotheses concerning efficiency:

- ◆ H2: Foreign banks are more efficient than domestic banks if their profits are lower. (This holds true if the sector is competitive; it is more likely to be true for CEE countries than for MED countries, where the state still has large shares of participation, influence, and foreign entry is somehow restricted))
- ◆ H3: Foreign banks are more efficient than domestic banks if they have lower interest margins (This holds true if banks transfer high overheads to customers)
- ◆ H4: Foreign banks are more efficient than domestic banks if they have lower overheads

3. Empirical analysis

Location determinants: H1

The model that best fits the idea of factors that affects a probability to observe an outcome is the Probit/Logit Model, where a dependent, binary indicator, variable is described as depending from a set of exogenous variables. The question I pose is the following: what are the factors that most likely influence the probability of observing a FDI initiative in the banking sector? The model has this form:

$$y_i = x_i' \beta + \varepsilon_i$$

By means of maximum likelihood estimate the betas can be interpreted as the probability change that the y_i variable is equal to 1¹⁰: intuitively, the estimate explains the effect of explanatory variables over the percentage of “1” for the dependent variable in the sample, where “1” indicates the presence of single foreign firm in a country at a given time. It is possible that the model stems from some economic or behavioral hypotheses, and this would lead to a representation for latent variables in the model. That is, y_i would be conditioned by choices or preferences that do not appear in the model since not directly observable: the theoretical utility function deriving determines y^* , unobservable. The hypothesis here is: the foreign bank decides to undertake a FDI if y^* is superior to a certain critical threshold. Given a utility function defining y^* , the endogenous variable equals 1 if a bank has an investment in the region in the sample period, zero otherwise:

$$\begin{aligned} Y_i^* &= X_i \beta + u_i \\ Y_i &= 1 \quad \text{if } Y_i^* > 0 \\ Y_i &= 0 \quad \text{otherwise} \end{aligned}$$

The exogenous variables inserted in the model refer to host economies’ characteristics, as GDP, GDP growth, market interest rate; and to local banking sector characteristics¹¹, as liquidity, number of banks, credit access in the local markets. Results of the Probit estimation are reported in Tables 2 and 3. In Table 3, a regional dummy evaluates the change in probability of observing a FDI when one passes from CEE countries (0) to Med countries (1). The model performs satisfactorily, in that all variables are significant at 5% level, and coefficients have the correct sign. An increase in GDP per capita, Openness and FDI Inflows slightly increase the probability of observing a FDI initiative in the banking sector. The first effect can be thought as an increase in credit demand, rather a simple increase in market potential as for the generic FDI case; the second evaluates the importance of imports and exports proxies for the willingness to trade (this can be seen also as broad index of economic policy towards the rest of the world); the third effect validates the usually complementary relationship that exists between trade and foreign direct investment. Some characteristics of the sector were captured by the number of banks, profits, and total assets. All these variables

¹⁰ By means of an particular option Stata allows for transforming directly the estimated coefficients in changes in probability.

should give an idea of the size, the profitability and the degree of fragmentation of the sector. I find that an increase in the total number of banks and total assets decrease the probability of FDI in banking, as a larger size of the sector discourages the entry of foreign investors. Coming to performance, the sign is still negative but less significant. Of course there might be a problem here due to the endogeneity of profits; foreign banks are included in the sample and may well contribute to the profitability of the sector. However, theoretically large profits are related to a lack of competition and to a oligopolistic structure; it is understandable that the attractiveness of a sector decreases with the rise in distortions to competition, (especially in those cases where the state intervenes in the economy). The nominal interest rate is marginally significant with a positive coefficient in table 2 but not significantly different from zero in table 3. It can be interpreted as a proxy for the expected return from an investment and in this case the positive impact would be correct. Notwithstanding, it can also be interpreted as a proxy for the rental cost of capital that would dissuade investment at macroeconomic level. This mixed effect emerges in table 3 as the nominal interest rate is not significant anymore and suggest that a better specification is required for this variable.

An important result is contained in table 3 and concern the decrease of 29% in probability of observing a FDI in banking when passing from CEE countries to MED countries. This exactly quantifies the role of macroeconomic conditions in determining foreign investing banks preference towards a region, confirming what already said about regional attractiveness.

Efficiency: H2 – H4

The idea is to compare domestic banks and foreign banks to state if there are significant differences in efficiency. P&L and balance sheet information is exploited to build bank specific variables. The net interest revenue and non - interest bearing income positively affect banks profits, as they are positive components of income. Overheads and current and lagged loans negatively affect profits. Overheads are the larger component of cost for a bank, while loans, current and past, imply that some resources allocated to customers are unavailable for alternative investment uses.

Together with banks specific variables, context specific variables, as GDP per capita, FDI inflows, openness to international trade, the total (domestic + foreign) number of banks, the

¹¹ There could be a endogeneity problem here because market conditions are affected by foreign banks presence.

amount of total liquid reserves of banks in the country, are included to control for environmental characteristics that affect FDI status in a country. High GDP per capita, FDI and trade should increase the attractiveness of a country. A large number of banks can be an index for an already developed market, with a certain degree of competition. The indicator for bank liquid reserves mainly reflect legal prescriptions about the mandatory reserve coefficient, for example. High reserve coefficients are an index for a constrained credit market. I can expect that an increase in liquidity requirements negatively affect profits, net interest margins and positively overheads. On one hand, profits are also constrained by high liquidity requirements (in that funds cannot be re-invested), on the other, large reserves requirements may well require higher operative costs to be managed.

The estimated equation is the following:

$$Y_{it} = \alpha + \beta B_{it} + \gamma M_{it} + \delta F + \varepsilon_{it} \quad (1)$$

Foreign ownership, F , is taken into account as an constant indicator through time (Demirgüç-Kunt, Huizinga, 1999). Y is in turn profits, net interest margin and overheads. Bank specific variables (B) are equity (as a percentage of total assets, and lagged, to control for the effect of an increase of capital in the past), other operative income, net interest revenue, overheads, net loans (also lagged). Macroeconomic variables (M) are total number of banks, GDP per capita, FDI inflows, openness.

The estimation technique is FGLS (Feasible Generalized Least Squares) applied to panel data with correction for heteroskedasticity and panel specific AR(1) autocorrelation¹². I will focus on the effect of being a foreign bank on the three dependent variables in turn, for the whole sample and for the two regional areas of Central and Eastern European countries and Mediterranean countries.

Table 4 contains the results for all countries (CEE and MED) together. These results are partially consistent with Demirgüç-Kunt, Huizinga, (1999) and Claessens¹³ et al. (2001). Bank variables appear statistically significant and usually show the expected sign, while macroeconomic indicators are globally less significant.

¹² See the Appendix for a note on the variables and on the estimation technique.

¹³ The difference of this study with respect to Claessens et al. (2001) is that they allow for the foreign participation to vary through time, while here the foreign presence is summarised by a dummy variable.

Being foreign negatively affects the net interest margin, profits and overheads. (Boxes 1 through 3). The initial hypotheses cannot be refused and foreign banks globally perform more efficiently than local banks when the whole sample is taken into account.

This result is important because foreign banks have to compete with local banks in terms of network, customers' knowledge, and may find it difficult, especially at the first stage of the entry, to gain a sufficient market share and obtain positive profits. Notwithstanding, they appear to have lower operative costs, lower profits and interest margins. Actually this result is in contrast with the graphs built from the same data about profits and overheads, that there appear equivalent for foreign and domestic banks.

Overheads (boxes 1 and 3) are positively related to the net interest revenue; this happens because when a bank has high operating costs, these are transferred to customers. Of course, overheads are negatively related to profits, and they decrease with the size (as measured by lagged equity in box 3) of the bank. Here, the dilemma of economies of scale emerges: nothing assures that the difference in overheads between foreign and domestic banks must be justified by efficiency and not by a different role of economies of scale. But the interpretation would anyway indicate that foreign bank are able to spread costs over larger assets, when compared to domestic banks. In box 1, other operating income is negatively related to net interest revenue. This is in line with expectations since the *coeteris paribus* condition assumed in the regression implies that given profits, these two income components are substitutes.

In box 3, other operating income is positively related to overheads. Again, a high operative income can require a high number of operations, personnel use, practices, that increase operating costs. Net loans as a fraction of total assets correct for the firm capability to give out loans. As expected, they influence positively the net interest revenue and negatively profits. The relation with overheads is not significant. Bank liquid reserves negatively affect net interest revenue and profits (since these are resources that cannot be invested), and positively affect overheads, for the reason seen before.

Coming to macroeconomic indicators, GDP per capita is not significant in box 1, while is negative in box 2 and negative in box 3. Since in the other tables GDP per capita has different signs that change with specification, the role of this variable is unclear and maybe not directly related to bank variables. FDI inflows are an index of openness to international investment, and positively affect profits (box 2). This result also holds for tables 5 and 6. The effect on the net interest revenue and on overheads is again mixed. As for Openness, it usually has a positive and significant impact in all Tables and boxes. A large trade share is an index for expenditure potential so that at country level also bank variables are affected.

Tables 5 and 6 repeat the same analysis for CEE and MED countries. The pattern of Bank variables and Macroeconomic variables is almost the same, while the foreign dummy has a changing coefficient. For CEE countries, being foreign has a positive impact of interest revenue, while it has a negative but not significant impact for MED countries. The strong positive effect for the first case must be handled with care, since now in CEE countries foreign banks are the majority out of the total, so the meaning of foreign is probably different than for MED countries. Again foreign firms have lower profits in CEE countries and larger profits in MED countries. This can be explained by transition. Banks in CEE countries are experiencing a slow progress toward a market economy while this transition is still at the horizon for MED countries, and foreign banks represent almost the totality of banks in CEE countries. A real difference maybe can emerge more in MED countries, where local banks are still well settled with respect to CEE countries. The overheads variable is only significant and positive for CEE countries and is consistent with the result in box 1.

4. Conclusions and policy implications.

Foreign investors literally flooded in CEE markets after the 1990 events; foreign banks represent the majority of total banks in this area and helped creating a competitive and performing financial environment. MED countries are just recently experiencing a slow inflow of FDI in banking, also because of decreasing entry barriers and restrictions to foreign capital entry in local markets. Although some countries, as Syria, do not allow foreign entry in the financial sectors yet, other countries, as Tunisia and Egypt and increasingly attracting FDI because of perspective growing market potential.

From a first graphical overview a certain uniformity in terms of importance of overheads, interest margins, loans arises; the econometric analysis indicates that at aggregate level foreign bank do perform better than domestic banks, but this effect become uncertain when the single regional areas are taken into account. These results may depend on the different weight of foreign / domestic banks in the areas but also on the data set which has many missing values for MED countries.

Policy implications mainly derive from the need to assure to the neighbourhood of EU, and to international financial system, integration and stability. Integrated markets are efficient and stable, and financial crises cab be avoided. Although local markets and banks would always require some protection and monitoring by central authorities, free access and competition would foster economic and financial integration: this is mainly important for MED countries,

for which a prospect free trade area is at stake. CEE countries (or at least most of them) banking sector is today represented mainly by foreign banks, that emptied the room left by the melt CMEA financial institutions. The priority now is to set up a proper legislation and monitoring institutions as controlling foreign institutions (whose headquarter or managing unit is often abroad) could turn out to be complex.

For MED countries it still makes sense to talk about policies not hindering foreign entry in the banking sectors, since these countries were historically closed to foreign investors and only recently reached some progress in adopting more open laws towards foreign investors in sectors of strategic importance.

Actually the problem can be the reverse: are these countries attractive enough for foreign investors? Apart from the oil sector, not so many foreign investors, even from the EU, moved to MED countries, although a certain increase of FDI was observable after the start of the Barcelona process.

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Tables and Figures.

Table 1. Indicators on foreign banks.

	1	2	3
	<i>Foreign Banks assets over total Bank assets (% , 1998)</i>	<i>Foreign Banks over total number of Banks (1988-1995 average)</i>	<i>Foreign Banks over total number of Banks (2002)</i>
<i>Bulgaria</i>	n.a.	n.a.	0.46
<i>Czech Rep^a</i>	26	0.54	0.61
<i>Estonia</i>	85	0.43	0.60
<i>Hungary</i>	62	0.61	0.77
<i>Latvia</i>	n.a.	n.a.	0.39
<i>Lithuania</i>	48	0,10	0.45
<i>Poland</i>	26	0.30	0.39
<i>Romania</i>	8	0.17	0.36
<i>Slovakia</i>	n.a.	n.a.	0.62
<i>Slovenia</i>	5	n.a.	0.17
<i>Algeria</i>	n.a.	n.a.	0.11
<i>Cyprus</i>	11	0.25	0.32
<i>Egypt</i>	4	0.10	0.22
<i>Israel</i>	n.a.	0.09	0.05
<i>Jordan</i>	68	0.43	0.18
<i>Lebanon</i>	27	0.49	0.14
<i>Malta</i>	49	0.00	0.25
<i>Morocco</i>	19	0.33	0.13
<i>Syria</i>	n.a.	n.a	0.00
<i>Tunisia</i>	n.a.	0.39	0.27
<i>Turkey</i>	66	0.13	0.07

Source: Column 1 Barth, Caprio, Levine (2001) New World Bank Database.

Column 2: Adapted from Claessens, Demirgüç-Kunt, Huizinga, (2001). Bankscope

Column 3: Adapted from Bosco – Guagliano (2002). Bankscope.

a = Recently, foreign banks seem to have reached a percentage close to 100%, but for two or three credit institutes with special commitment.

Figure 1.a Net loans per bank, CEE, 1994 - 2000

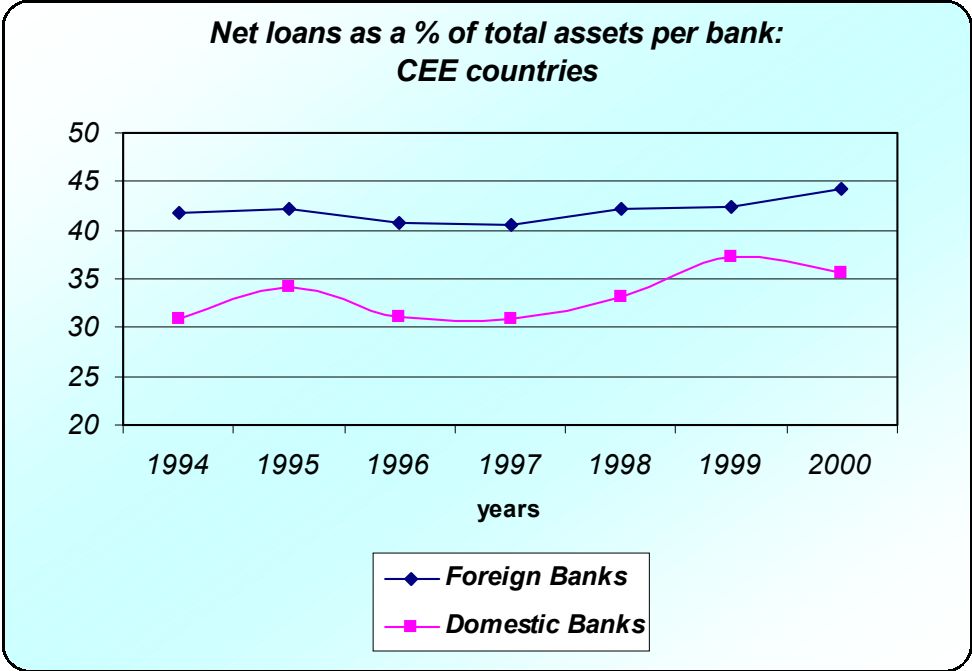
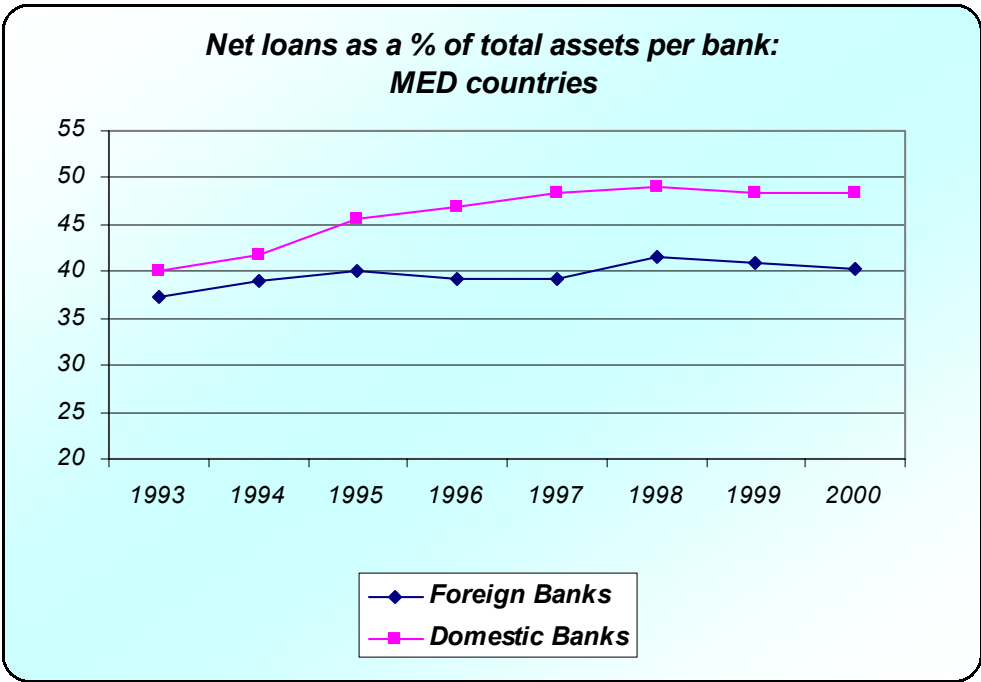


Figure 1.b Net loans per bank, MED, 1993 - 2000



**Figure 2. Return on average assets, CEE and MED countries
(%, 1993 - 2000)**

Figure 2.a

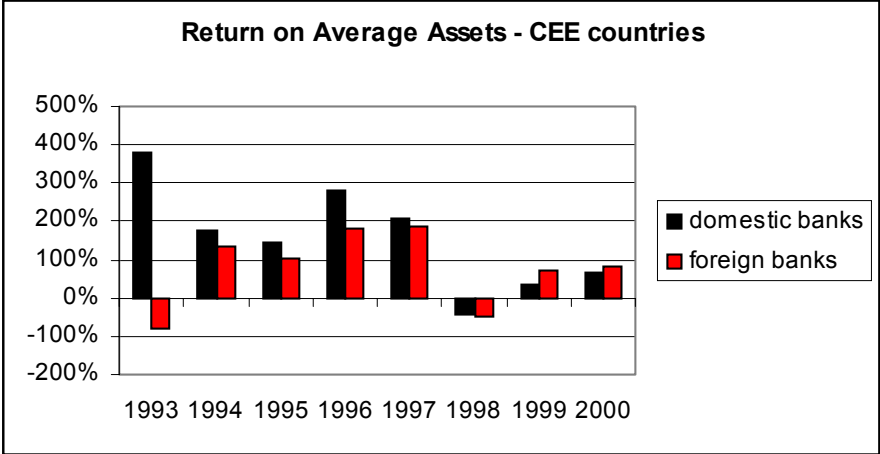


Figure 2.b

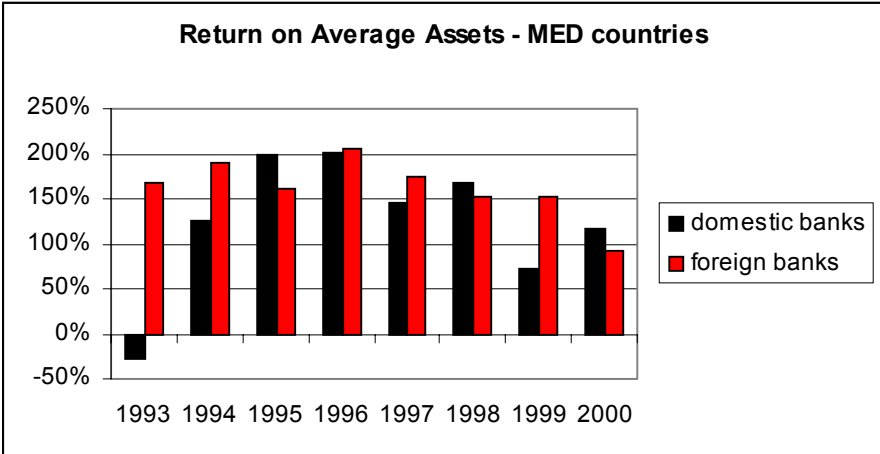


Figure 3. Interest and Non Interest Income by Bank type and Region
 (Decomposition of Total Income = 100%)

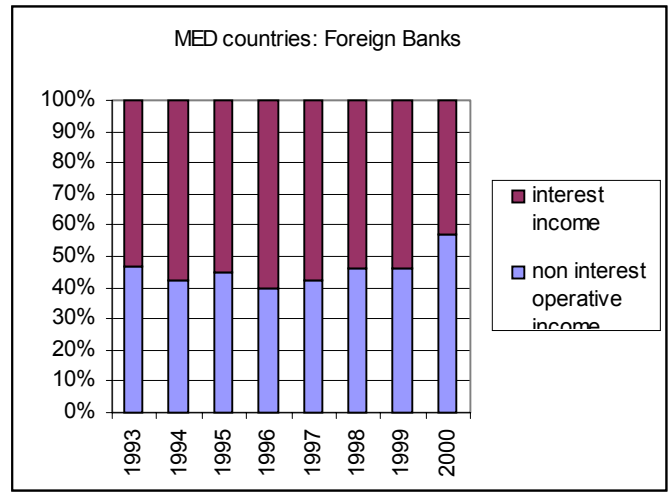
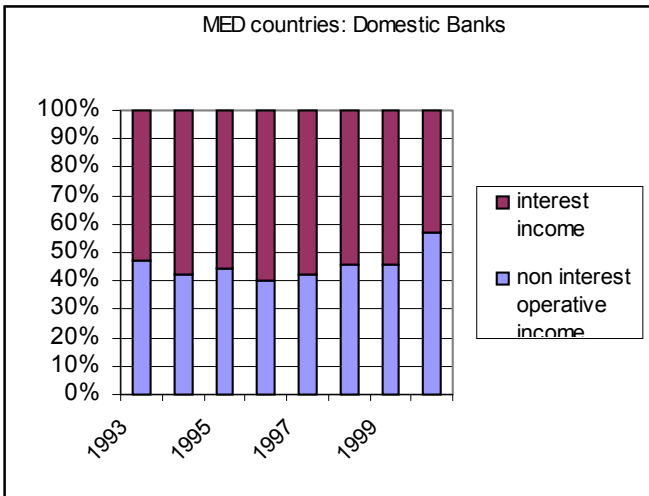
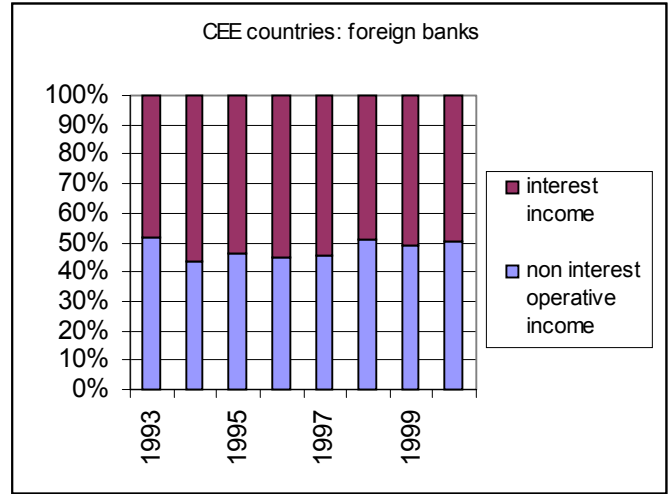
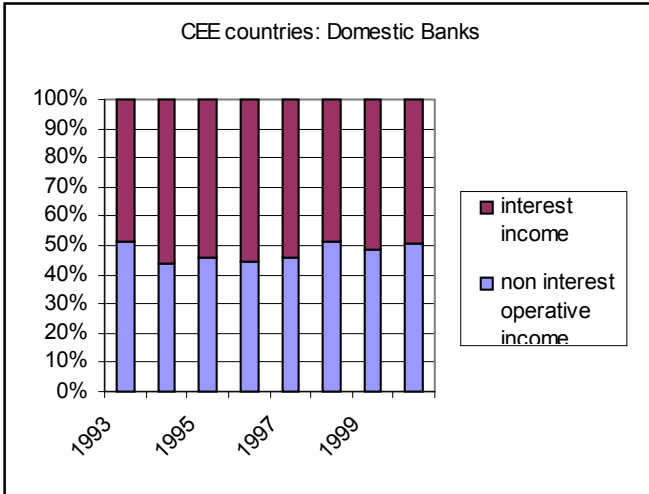


Figure 4

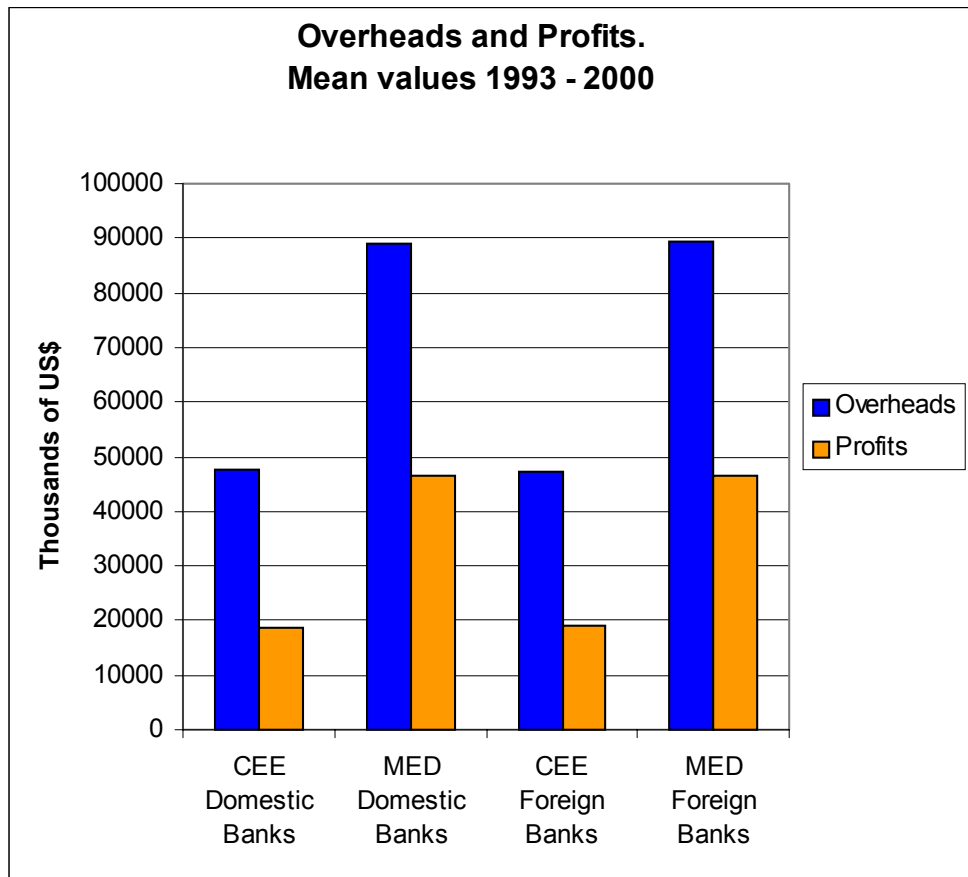


Table 2. Probit estimates. Full sample (21 countries).

<i>Dependent Variable:</i>							
Foreign	dF/dx	Std. Err.	z	P> z 	x-bar	[95% C.I.]	
<i>Independent Variables</i>							
GDP per capita	0.00000578	6.64E-07	8.73	0.000	7276.09	0.0000045	0.0000071
Openness	0.0590023	0.0188884	3.12	0.002	0.938792	0.021982	0.096023
FDI Inflows	5.33E-11	7.13E-12	7.48	0.000	1.2E+09	3.9E-11	6.7E-11
Profits	-0.000000213	1.09E-07	-1.95	0.051	29031.7	0.00	7.2E-10
Number of banks	-0.0032244	0.0004002	-8.03	0.000	45.0495	-0.004009	-0.00244
Total Assets	-2.01E-08	3.02E-09	-6.56	0.000	2000000	-2.6E-08	-1.4E-08
Nominal Interest Rate	0.0002537	0.0001287	1.97	0.049	28.4338	0.0000014	0.000506
Number of observations	3212			obs. P	0.366127		
LR chi2(7)	404.77			pred. P	0.3474545 (at x-bar)		
Prob> chi2	0.000						
Pseudo R2	0.0959						
Log likelihood =	-19070.4588						

Table 3. Probit estimates. Dummy effect for CEE/MED countries.

<i>Dependent Variable:</i>							
Foreign	dF/dx	Std. Err.	z	P> z 	x-bar	[95% C.I.]	
<i>Independent Variables</i>							
Region	-0.2950448	0.023852	-12.17	0.000	0.641968	-0.341794	-0.248296
GDP per capita	3.81E-06	6.96E-07	5.49	0.000	7276.09	2.40E-06	5.20E-06
Openness	0.0412906	0.019488	2.12	0.034	0.938792	0.003095	0.079486
FDI Inflows	2.53E-11	7.51E-12	3.37	0.001	1.20E+09	1.10E-11	4.00E-11
Profits	-2.02E-07	1.09E-07	-1.85	0.064	29031.7	-4.20E-07	1.20E-08
Number of banks	-0.000408	0.0004627	-0.88	0.378	45.0495	-0.001315	0.000499
Total Assets	-1.79E-08	3.13E-09	-5.63	0.000	2.00E+06	-2.40E-08	-1.20E-08
Nominal Interest Rate	-0.0001264	0.0001311	-0.96	0.335	28.4338	-0.000383	0.000131
Number of observations	3212			obs. P	0.366127		
LR chi2(8)	555.37			pred. P	0.3447079 (at x-bar)		
Prob> chi2	0.0000						
Pseudo R2	0.1316						
Log likelihood =	-18320.155						

Table 4. FGLS for the full sample (21 countries)

<i>Dependent Variable</i>						
Net Interest Revenue	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	-3010.501	517.4133	-5.82	0.000	-4024.613	-1996.39
Equity at time -1	0.1379476	0.048518	2.84	0.004	0.042854	0.2330411
Overheads	0.9055619	0.0234304	38.65	0.000	0.8596391	0.9514847
Other operating income	-0.480378	0.0150299	-31.96	0.000	-0.509836	-0.45092
Net loans/ total assets	180.4095	14.31509	12.6	0.000	152.3525	208.4666
Net loans/ total assets at time -1	91.04633	12.10735	7.52	0.000	67.31636	114.7763
Number of banks	28.59467	11.16825	2.56	0.010	6.705305	50.48403
Bank liquid reserves	-305.1201	30.82243	-9.9	0.000	-365.5309	-244.7092
GDP per capita	0.0394815	0.0261269	1.51	0.131	-0.011726	0.0906892
FDI Inflows	-2.34E-07	1.80E-07	-1.3	0.195	-5.87E-07	1.20E-07
Openness	535.8786	378.6702	1.42	0.157	-206.3013	1278.059
constant	7513.675	1301.31	5.77	0.000	4963.154	10064.2
Number of observations						
			2617			
Number of groups						
			470	Log likelihood		-27329.96
Observations per group:						
	min =		2			
	avg =		5.568085			
	max =		8			
Wald chi2(11) =						
			7175.54			
Prob >chi2 =						
			0.000			

(continued)

(continued)

<i>Dependent Variable</i>						
Profits before taxes	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	-4740.292	285.9121	-16.58	0.000	-5300.669	-4179.914
Net Interest Revenue	0.9432655	0.0038692	243.79	0.000	0.935682	0.9508489
Equity at time -1	0.1582299	0.1182018	1.34	0.181	-0.073442	0.3899012
Overheads	-1.06349	0.006197	-171.61	0.000	-1.075636	-1.051344
Other operating income	0.950203	0.0033708	281.89	0.000	0.9435963	0.9568097
Net loans/ total assets	-20.92367	4.081057	-5.13	0.000	-28.92239	-12.92494
Net loans/ total assets at time -1	-26.37761	3.917433	-6.73	0.000	-34.05564	-18.69958
Number of banks	39.12139	2.930236	13.35	0.000	33.37823	44.86455
Bank liquid reserves	-34.44259	10.4456	-3.3	0.001	-54.9156	-13.96958
GDP per capita	-0.078091	0.0334313	-2.34	0.019	-0.143615	-0.012567
FDI Inflows	1.56E-07	5.30E-08	2.94	0.003	5.21E-08	2.60E-07
Openness	1078.092	190.0882	5.67	0.000	705.5263	1450.658
constant	-612.1249	416.3682	-1.47	0.142	-1428.192	203.9417
Number of observations		2617				
Number of groups		470		Log likelihood		-25423.7
Observations per group:	min =	2				
	avg =	5.568085				
	max =	8				
Wald chi2(12) =		591116.58				
Prob >chi2 =		0				

(continued)

<i>Dependent Variable</i>						
Overheads	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	-2376.487	457.714	-5.19	0.000	-3273.59	-1479.384
Equity at time -1	-0.125363	0.0703608	-1.78	0.075	-0.263268	0.0125412
Net interest revenue	0.4772639	0.0081251	58.74	0.000	0.4613391	0.4931887
Other operating income	0.5338625	0.01163	45.9	0.000	0.5110681	0.5566568
Net loans/ total assets	7.363902	8.179042	0.9	0.368	-8.666726	23.39453
Net loans/ total assets at time -1	-11.15963	7.795839	-1.43	0.152	-26.43919	4.119939
Number of banks	-4.186642	8.384814	-0.5	0.618	-20.62058	12.24729
Bank liquid reserves	35.48804	17.65728	2.01	0.044	0.8804054	70.09568
GDP per capita	0.1675014	0.0332669	5.04	0.000	0.1022995	0.2327033
FDI Inflows	1.32E-06	1.89E-07	6.99	0.000	9.51E-07	1.69E-06
Openness	1244.608	321.4858	3.87	0.000	614.5074	1874.709
constant	-41.38795	925.4211	-0.04	0.964	-1855.18	1772.404
Number of observations						
Number of groups						
Observations per group:						
min =						
avg =						
max =						
Wald chi2(11) =						
Prob >chi2 =						

Table 5. FGLS for CEE countries.

<i>Dependent Variable</i>						
Net Interest Revenue	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	3927.187	668.1993	5.88	0.000	2617.541	5236.834
Equity at time -1	0.0845481	0.0432657	1.95	0.051	-0.000251	0.1693473
Overheads	0.8637843	0.0254255	33.97	0.000	0.8139512	0.9136174
Other operating income	-0.138742	0.0267421	-5.19	0.000	-0.191156	-0.086329
Net loans/ total assets	-60.589	5.647977	-10.73	0.000	-71.65883	-49.51917
Net loans/ total assets at time -1	-29.55268	5.339174	-5.54	0.000	-40.01726	-19.08809
Number of banks	59.14053	70.04393	0.84	0.398	-78.14305	196.4241
Bank liquid reserves	0.2357982	35.56275	0.01	0.995	-69.46592	69.93751
GDP per capita	0.0393052	0.0257754	1.52	0.127	-0.011214	0.0898241
FDI Inflows	-4.68E-08	1.92E-07	-0.24	0.808	-4.24E-07	3.30E-07
Openness	1688.545	505.0894	3.34	0.001	698.5876	2678.502
constant	4332.319	1626.566	2.66	0.008	1144.308	7520.33
Number of observations						
			956			
Number of groups						
			190		Log likelihood	-9856.705
Observations per group:						
	min =		2			
	avg =		5.031579			
	max =		8			
Wald chi2(11) =						
			2030.83			
Prob >chi2 =						
			0.000			

(continued)

(continued)

<i>Dependent Variable</i>						
Profits before taxes	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	-4862.369	434.4479	-11.19	0.000	-5713.871	-4010.866
Net Interest Revenue	0.66668	0.0157936	42.21	0.000	0.6357252	0.6976348
Equity at time -1	0.0931459	0.1314734	0.71	0.479	-0.164537	0.350829
Overheads	-0.777348	0.0146527	-53.05	0.000	-0.806067	-0.74863
Other operating income	0.7315193	0.0167611	43.64	0.000	0.6986681	0.7643705
Net loans/ total assets	-121.5504	11.97311	-10.15	0.000	-145.0173	-98.08357
Net loans/ total assets at time -1	-74.25963	9.89983	-7.5	0.000	-93.66294	-54.85632
Number of banks	171.9293	42.07576	4.09	0.000	89.46235	254.3963
Bank liquid reserves	-77.06238	20.70418	-3.72	0.000	-117.6418	-36.48294
GDP per capita	-0.234845	0.0511366	-4.59	0.000	-0.335071	-0.134619
FDI Inflows	4.91E-07	1.43E-07	3.43	0.001	2.10E-07	7.72E-07
Openness	984.4062	306.5218	3.21	0.001	383.6345	1585.178
constant	6846.053	1065.987	6.42	0.000	4756.756	8935.35
Number of observations			956			
Number of groups			190		Log likelihood	-9808.189
Observations per group:	min =		2			
	avg =	5.031579				
	max =	8				
Wald chi2(12) =		4467.72				
Prob >chi2 =		0.000				

(continued)

(continued)

<i>Dependent Variable</i>						
Overheads	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	2028.596	276.0972	7.35	0.000	1487.455	2569.736
Equity at time -1	-0.091266	0.0532053	-1.72	0.086	-0.195547	0.0130141
Net interest revenue	0.5721903	0.0146114	39.16	0.000	0.5435525	0.600828
Other operating income	0.3636371	0.0202688	17.94	0.000	0.3239109	0.4033633
Net loans/ total assets	11.60648	6.263998	1.85	0.064	-0.670727	23.88369
Net loans/ total assets at time -1	-9.56196	5.10956	-1.87	0.061	-19.57651	0.4525928
Number of banks	-205.5662	36.53722	-5.63	0.000	-277.1778	-133.9546
Bank liquid reserves	42.89554	24.92537	1.72	0.085	-5.95729	91.74836
GDP per capita	0.0877648	0.0150355	5.84	0.000	0.0582959	0.1172338
FDI Inflows	1.99E-06	2.42E-07	8.21	0.000	1.51E-06	2.46E-06
Openness	-128.1911	391.4993	-0.33	0.743	-895.5156	639.1333
constant	3812.981	963.1935	3.96	0.000	1925.156	5700.806
Number of observations		956				
Number of groups		190		Log likelihood		-9598.053
Observations per group:	min =	2				
	avg =	5.031579				
	max =	8				
Wald chi2(11) =		6020.72				
Prob >chi2 =		0.000				

Table 6. FGLS for MED countries.

<i>Dependent Variable</i>						
Net Interest Revenue	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	-1872.516	1563.607	-1.2	0.231	-4937.129	1192.098
Equity at time -1	-101.3226	31.55619	-3.21	0.001	-163.1716	-39.47363
Overheads	1.113934	0.0337904	32.97	0.000	1.047706	1.180162
Other operating income	-0.555576	0.0249513	-22.27	0.000	-0.604479	-0.506672
Net loans/ total assets	329.615	37.59948	8.77	0.000	255.9214	403.3087
Net loans/ total assets at time -1	35.97949	31.84242	1.13	0.259	-26.43051	98.38948
Number of banks	100.1264	29.34228	3.41	0.001	42.61661	157.6362
Bank liquid reserves	-0.82175	0.1544327	-5.32	0.000	-1.124433	-0.519068
GDP per capita	-340.2007	87.0067	-3.91	0.000	-510.7307	-169.6707
FDI Inflows	-2.51E-06	4.68E-07	-5.35	0.000	-3.42E-06	-1.59E-06
Openness	-2635.902	1001.339	-2.63	0.008	-4598.491	-673.3126
constant	4772.623	3957.53	1.21	0.228	-2983.993	12529.24
Number of observations		1661				
Number of groups		280			Log likelihood	-17806.94
Observations per group:	min =	2				
	avg =	5.932143				
	max =	8				
Wald chi2(11) =		2544.22				
Prob >chi2 =		0.000				

(continued)

(continued)

<i>Dependent Variable</i>						
Profits before taxes	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	870.2175	302.1518	2.88	0.004	278.0109	1462.424
Net Interest Revenue	0.9615505	0.0059489	161.64	0.000	0.949891	0.9732101
Equity at time -1	-1.590213	4.568185	-0.35	0.728	-10.54369	7.363265
Overheads	-1.05773	0.0091212	-115.96	0.000	-1.075607	-1.039852
Other operating income	0.9782457	0.0044829	218.22	0.000	0.9694593	0.9870321
Net loans/ total assets	-17.92303	7.196431	-2.49	0.013	-32.02778	-3.818286
Net loans/ total assets at time -1	-12.13948	7.004285	-1.73	0.083	-25.86763	1.588665
Number of banks	97.60874	7.501765	13.01	0.000	82.90555	112.3119
Bank liquid reserves	0.4203359	0.0383954	10.95	0.000	0.3450822	0.4955896
GDP per capita	97.17215	34.64568	2.8	0.005	29.26787	165.0764
FDI Inflows	2.24E-07	1.12E-07	2.01	0.045	5.06E-09	4.44E-07
Openness	2672.682	339.1567	7.88	0.000	2007.947	3337.417
constant	-12137.22	1108.69	-10.95	0.000	-14310.22	-9964.232
Number of observations		1661				
Number of groups		280		Log likelihood		-159929
Observations per group:	min =	2				
	avg =	5.932143				
	max =	8				
Wald chi2(12) =		62776.19				
Prob >chi2 =		0.000				

(continued)

(continued)

<i>Dependent Variable</i>						
Overheads	Coef.	Std. Err.	z	P> z 	[95% Conf.Interval]	
<i>Independent Variables</i>						
Foreign	106.3361	1179.566	0.09	0.928	-2205.571	2418.244
Equity at time -1	-51.43282	23.00537	-2.24	0.025	-96.5225	-6.343128
Net interest revenue	0.4673114	0.0099033	47.19	0.000	0.4479012	0.4867215
Other operating income	0.5270453	0.0139693	37.73	0.000	0.4996659	0.5544246
Net loans/ total assets	-62.52872	26.2389	-2.38	0.017	-113.956	-11.10142
Net loans/ total assets at time -1	-7.171912	21.56901	-0.33	0.740	-49.44639	35.10256
Number of banks	-37.11815	13.43902	-2.76	0.006	-63.45815	-10.77815
Bank liquid reserves	2.333379	0.1412616	16.52	0.000	2.056512	2.610247
GDP per capita	-5.027908	48.77631	-0.1	0.918	-100.6277	90.57191
FDI Inflows	1.38E-06	2.97E-07	4.65	0.000	7.99E-07	1.96E-06
Openness	9208.353	741.3025	12.42	0.000	7755.426	10661.28
constant	-7705.182	2605.017	-2.96	0.003	-12810.92	-2599.442
Number of observations		1661				
Number of groups		280		Log likelihood		-17129.61
Observations per group:	min =	2				
	avg =	5.932143				
	max =	8				
Wald chi2(12) =		7072.05				
Prob >chi2 =		0.000				

Note: the estimation technique is feasible generalised least squares for panel data, with heteroskedasticity and autocorrelation -panel specific AR(1) correction. The estimation technique would allow for cross section correlation also but it only applies for balanced data sets, while my data set is strongly unbalanced. Most coefficients are significant at 5% level. (But for some macro control variables).