FOREIGN BANKS IN CEE'S ECONOMIES. A PANEL DATA ANALYSIS

Daniel Badulescu – Ramona Simut – Radu Alin Morutan

Abstract

Although foreign banks operate in Central and Eastern European (CEE) countries since the early 1990s, the consequences of the 2007-2010 economic crisis and the uneven economic development in these countries over the last years have determined researchers to reconsider the importance, the risks and effects of foreign banks' presence in the host economies. The positive consequences, such as supplementary capital, corporate practices, efficient allocation of resources, competition, and shock resilience are strongly contradicted by foreign banks' selectivity and preference for large and consolidated clients, the centralization of decision-making, reduced lending during crises, worsening pro-cyclical phenomena, opaque practices in the repatriation of profits etc. Our paper examines the relationship between foreign banks' assets (as share of foreign banks' assets in total bank assets) and several macroeconomic indicators (change of real GDP, inflation and unemployment), and, respectively, bank performance indicators (i.e. interest rates on bank credit to the private sector, and bank cost to income ratio), for CEE countries, from 1996 to 2013. For each indicator, we estimate a panel data model. The results show that the foreign bank assets are positively and significantly associated only with the rate of change of real GDP, meanwhile with the other two macroeconomic indicators (i.e. inflation and unemployment), the foreign bank assets are negatively and statistically significant correlated. Moreover, we found that foreign bank assets are not correlated with the bank cost/income ratio, but negatively correlated with interest rates on bank credit to the private sector. The results show that, during the financial crisis, an increase in the assets of foreign banks reduced inflation, unemployment rate and interest rate, but less significantly than during a typical, non-crisis period.

Key words: Foreign banks assets, CEE, macroeconomics, bank's performance indicators

JEL Code: G21, G01, E01

Introduction

The penetration of foreign banks into emerging or developing economies of CEE countries is not a new phenomenon; Latin American economies have experienced this at least a decade ago. Interestingly, in the first half of the 1990s, the banking sectors of many Western European countries recorded higher shares of foreign capital compared to those in CEE. What is really remarkable in the case of CEE economies is the rapidity and the magnitude of this penetration (Onder & Ozyildirim, 2016): in around 10-15 years, in most CEE banking sectors, the foreign capital acquired more than 70% of total assets, loans or number of units (Morutan & Badulescu, 2016).

However, most studies focus on the discovery of positive (or not) effects especially in the financial sector, while the relationship between foreign banks and host economies as a whole is less addressed. When investigating the behaviour of foreign banks during crisis and post-crisis times, we have to mention that it does not resemble with the optimistic pre-crisis period. Mostly this change is influenced by the parent-banks' position on home-market, the nature and origin of capital (e.g. EU vs non-EU) and, last but not least, the importance or the market share of the subsidiary on the host market (Iwanicz-Drozdowska & Witkowski, 2016).

1. Literature review

The literature on the effects of foreign banks' penetration into the national economies is consistent but mostly imbalanced, ambiguous and sometimes contradictory. Only recently, researchers have started to consider that several elements (e.g. the uneven level of development of host economies, the nature of the parent - subsidiary relationship, the power and the experience or the degree of internationalization of the parent-bank, the analysed period and especially the crisis's consequences, the economic situation in the countries of origin) play an important role in explaining these effects.

According to Beck & Levine (2003), foreign banks have a positive impact on the economy through the additional capital flows, better lending technology and decision-making in resource allocation and risk control, corporate governance and monitoring, accelerating economic growth. Indirectly, foreign banks can foster competition, driving domestic banks to increase their efficiency and enhance service diversification, profitable use of resources, lowering costs and promoting better relationships with the companies (Allen, Beck, Carletti, Lane, Schoenmaker, & Wagner, 2011), (Claessens & Van Horen, 2014), helping to reform and modernize the economy and, implicitly, contributing to economic growth (Beck, Demirgüç-

Kunt, & Soledad Martinez Peria, 2010); (Morutan & Badulescu, 2016). Foreign banks put pressure for improvements in the economic legislation, firstly in banking and, gradually, on the whole economy (Onder & Ozyildirim, 2016), on market expansion and increasing population and firms' access to banking services (Giannetti & Ongena, 2008).

Among the positive effects on financial markets, the literature reveals that foreign institutions, which are better capitalized then their domestic counterparts, strengthen financial stability in emerging markets by improving the solvency and liquidity of host countries' banking systems (De Haas & Van Lelyveld, 2006), foreign banks being "more efficient and profitable than domestic institutions, and they experience faster and more stable loan growth" (Havrylchyk & Jurzyk, 2010, p. 3). The foreign banks curb the magnitude of the crises and capital outflows in less consolidated markets during difficult periods. They can rely on liquidity from parent banks, trying to not jeopardize their positions and investments already made in the host markets (Detragiache & Gupta, 2006). Especially in the case of CEE countries, foreign banks possess better quality portfolios, better performing, monitored and resilient customers, being able to overcome difficult times and even capitalize the opportunities provided by a temporary shortage in the credit supply from local banks (De Haas & Van Lelyveld, 2006), (De Haas, 2014).

Morgan et al. (2004) consider that foreign banks belonging to strong groups reduce the economic volatility (a stabilizing effect) in host countries, but these positive effects also depend on the level of development of the country (Aghion, Bacchetta, & Banerjee, 2004), the effects being more obvious in the developed economies than in the developing ones, in investment than in production, and this behaviour is, typically, time-bounded (Morgan & Strahan, 2004). Confirming the role of foreign banks in the banking system of emerging CEE economies as a stabilizing force, tempering the volatility of production, consumption and investment, Onder & Ozyildirim (2016), however, circumscribe it to normal economic periods. Thus, during the crisis, the parent banks' decisions on their subsidiaries did not mitigate the fluctuation of GDP, consumption and investment in host countries, but after the crisis, foreign banks contributed to the consumption's resuming and the economic recovery (Onder & Ozyildirim, 2016). As long as the economies in the CEE region need consistent and stable flows of investment, access to financial markets, modernization and increased involvement in world trade, De Haas (2014) considers that foreign banks generally have proved as stable lenders in the region, and can help alleviate macroeconomic fluctuations.

On the other hand, critical views point out that informational asymmetries due to imperfection and constraints in supply (lending techniques, strategies, customer selection) or demand (information's opacity, high risk profile, insufficient collaterals) affect the positive role of capital inflows brought by foreign banks (Dell'Ariccia, Detragiache, & Rajan, 2008), (Ghosh, 2017) and, therefore reduce economic growth, especially in developing countries. Striving to maintain a higher efficiency and profitability compared to domestic banks, foreign banks focus on selecting a specific clientele (the so-called "cherry-picking" behaviour). They tend to focus on the most profitable clients (typically large state owned enterprises or private firms, strategic providers, subsidiaries of foreign corporations) and ignore the SMEs, a growing and extremely important sector in emerging economies, affected by extensive restructuring processes, unemployment and severe budgetary constraints (Cull & Martinez Peria, 2012), (Badulescu, Simut, & Badulescu, 2014). The rapid penetration of foreign banks may weaken the position of the host banking system (Peek & Rosengren, 2000), as domestic banks do not have enough time to adapt and modernize, which may present systemic consequences, affecting the credit supply and multiplying the episodes of severe financial instability.

The positive role of EU integration and attracting powerful international banks with long-term strategies on CEE markets should not lead to an undifferentiated analysis of their market behaviours. Studies should also address the degree of independence and exposure policies on the local market (Iwanicz-Drozdowska & Witkowski, 2016). In many cases, the entry mode and the position they succeed on the host market can influence their behaviour over time. Thus, the greenfield banks seem to be more likely to transmit negative shocks from international markets to host markets compared to foreign banks acquiring important domestic banks (Morutan & Badulescu, 2016), and failure to reach pre-set targets may lead to rethinking the strategy of international banking groups in CEE markets.

2   Methodology

In order to investigate the relationship between foreign bank assets and selected macroeconomic indicators, respectively, bank performance indicators in several CEE countries, we used annual data from 1996 to 2013. The independent variable is represented by the foreign bank assets, while the dependent variables are: the rate of change of real GDP, inflation (per cent change in the Consumer Price Index), and unemployment rate - as macroeconomic indicators, and interest rates on bank credit to the private sector, and bank cost to income ratio - as bank performance indicators. All variables are measured in percentages. Data was collected from the EBRD

(2018) and World Bank database (World Development Indicators) (2017). The main indicator is *foreign bank assets*, measured as the share of foreign banks' assets in total bank assets. By using this proxy, we will examine the impact of foreign bank assets on macroeconomic indicators, and on banks' performance indicators mentioned above, for 11 CEE countries: Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia, Estonia, Latvia, Lithuania (the last one only in the case of macroeconomic indicators) in the period between 1996 and 2013.

In our study, we will use the following linear panel model to examine the relationship between foreign bank assets and the selected macroeconomic and banks' performance indicators:

$$ln(Y)_{it} = \alpha + \beta_1 ln(X)_{it} + \beta_2 \text{Crisis}_t \cdot \text{Foreign bank assets}_{it} + \gamma_i + u_{it} \quad (1),$$

where: Y_{it} represents the dependent variable of country *i* at time *t*, X_{it} is the independent variable – foreign bank assets of country *i* at time *t*, ln indicates natural logarithms, α is the intercept, γ_i represents the unobserved panel-level random effect, β_1 and β_2 are the coefficients, and u_{it} is an error term.

To determine whether the relationship *between foreign banks' presence and macroeconomic indicators*, respectively *between foreign banks' presence and bank performance* indicators has changed during the crisis, we have created interaction variables between Foreign Bank and year dummy variables (Crisis_t) (pre-crisis (Crisis_{2007}), crisis (Crisis_{2008}, Crisis_{2009}) and post-crisis periods (Crisis_{2010}) (Onder and Ozyildirim, 2016, p. 455). For the purpose of the study, the fixed effects and the random effect method were used. In analyzing panel data, it should first be assessed whether the difference between the fixed effect parameter estimator and the random effects parameter estimators are significant or not, and selecting a method from fixed effects models and random effects models. The Hausman test (1978) and Breusch-Pagan LM tests (1979) have been conducted to check which model is more appropriate for the data series, fixed or random effect model. According to Hausman test, if the null hypothesis is accepted, the estimator of random effects is efficient and the difference between the estimators must be close to zero. In the case of the Breusch-Pagan LM test, if LM is greater than χ^2, the null hypothesis is rejected, therefore the random effects model is appropriate.

3 Empirical results

According to the results presented in Table 1 and Table 2, the random effect model is accepted, because the null hypothesis of the Hausman test (H_0: shows that the random effect models are adequate) is accepted for both macroeconomic and bank performance indicators, the p-value > 0.05. Also, in the case of the Breusch Pagan LM test, the results show that the random effect model is more appropriate, the p-value < 0.05.

Tab. 1: Panel data analysis for banks performance indicators

	Banks performance indicators - Endogenous variable	
	Bank cost to income ratio, in per cent	Interest rates on bank credit to the private sector
Hausman test [p-value]	1.283042 [0.52]	4.565257 [0.10]
Breusch-Pagan LM [p-value]	89.07459 [0.0001]	293.7573 [0.00]
Model	Random Effects	Random Effects
	Coefficient	
Intercept	4.088 (45.77)***	33.46 (5.60)***
Foreign bank assets	-0.0009 (-0.42)	-0.2794 (-3.64)***
Crisis$_{2007}$xForeign bank assets	-	-
Crisis $_{2008}$xForeign bank assets	-	-
Crisis $_{2009}$xForeign bank assets	-	-
Crisis $_{2010}$xForeign bank assets	-0.001 (-1.70)*	-
R-squared	0.018354	0.0687
F-statistic	1.6453*	13.07429***
Observations (unbalanced)	179	179

Note: Sample period 1996 - 2013. Number of time periods (T) = 18. Number of countries (N) = 10 (without Lithuania). The terms presented in parentheses () denote z-statistics for the random effect (RE) model. *, ** and *** denotes the levels of significance of 1%, 5% and 10%.

Source: World Bank database (World Development Indicator) (2017) and EBRD Banking Survey (2018)

Regarding bank performance indicators, we find that foreign bank assets are not significantly correlated with the bank cost/income ratio during 1996-2013, except for the post-crisis periods (2010), when these foreign bank assets influenced to a small extent the bank cost/income ratio. A 1% increase in foreign banks' assets lead to a 0.001% decrease in the bank cost/income ratio. Another indicator that significantly affected the banking system, important to be studied in relation to the foreign banks, is the interest rates on bank credit to the private sector. This indicator is negatively and significantly correlated with the foreign bank assets, at the 1% level.

More precisely, if foreign bank assets increased by 1%, interest rates on bank credit to the private sector decreased by 0.27% in the period 1996-2013, and it seems that the relationship between the two indicators was not affected by the financial crisis.

Tab. 2: Panel data analysis for macroeconomic indicators

	Macroeconomic indicators - Endogenous variable		
	Economic growth: the rate of change of real GDP	Inflation: per cent change in the Consumer Price Index	Unemployment rate
Hausman test [p-value]	0.781793 [0.97]	2.841631 [0.5847]	5.721450 [0.22]
Breusch-Pagan LM [p-value]	138.3620 [0.000]	162.70 [0.000]	163.2773 [0.000]
Model	Random Effects	Random Effects	Random Effects
	Coefficient		
Intercept	3.175 (4.25)***	3.635 (9.64)***	9.965 (10.16)***
Foreign bank assets	0.013 (1.85)*	-0.524 (-6.27)***	-0.018 (-2.25)**
Crisis $_{2007}$xForeign bank assets	0.036 (2.86)***	-	-0.056 (-5.51)***
Crisis$_{2008}$xForeign bank assets	-0.022 (-1.79)*	0.008 (2.69) ***	-0.061 (-6.01)***
Crisis$_{2009}$xForeign bank assets	-0.149 (-11.53)***	-0.004 (1.86)*	-0.017 (-1.68)***
Crisis$_{2010}$xForeign bank assets	-0.040 (-3.12)***	-0.007 (-2.41)***	-
R-squared	0.454137	0.236539	0.243158
F-statistic	31.780***	14.561***	15.421***
Observations (unbalanced)	197	197	197

Note: Sample period 1996 - 2013. Number of time periods (T) = 18. Number of countries (N) = 11. The terms presented in parentheses () denote z-statistics for the random effect (RE) model. *, ** and *** denotes the levels of significance of 10%, 5% and 1%.

Source: World Bank database (World Development Indicator) (2017) and EBRD Banking Survey (2018)

The results show that the independent variable, i.e. foreign bank assets, is significantly positively associated only with the rate of change of real GDP at the 10% level. Thus, if foreign banks' assets in the CEE increased by 1%, the rate of change of real GDP increased by 0.013%. Regarding the other two macroeconomic indicators, we found a significant negative correlation. According to the results presented in Table 2, during the analyzed period, the foreign banks assets significantly influenced the inflation rate (measured as a percentage change in the consumer price index). Therefore, a 1% increase in foreign banks' assets in CEE banking systems will lead to a 0.524% decrease inflation. A 1% increase in foreign banks' assets in CEE banking systems will lead to a decrease in unemployment by only 0.018%.

During the financial crisis, the foreign bank assets seemed to have a significant impact on the rate of change of real GDP, on inflation and unemployment rate. In the case of the rate of change of the real GDP, the results show that, in 2009, an increase in the assets of foreign banks, reduced the rate of change of the real GDP with 0.149%. The inflation rate was also affected during the crisis. In 2008, the inflation decreased by 0.008 per cent at 1% variation in the foreign bank assets. After 2008, the inflation decreased. In the case of unemployment, we found that, during the financial crisis, a 1% increase in the assets of foreign banks, decreased the rate of unemployment to a greater degree (0.056 in 2007 and 0.061 in 2008) than during the normal period (0.018). This impact seemed to be temporary, until 2009.

Conclusion

The existing literature provides many studies on the implications of foreign banks' entry into the banking system (e.g. profitability, credit flows, financial stability, risks and concentration), but not many on the implications for economic growth in host countries. In this paper, based on data for 11 CEE countries for the period 1996- 2013, we found that foreign bank assets (as share in the total bank assets) are positively and significantly associated only with the rate of change of real GDP. The foreign bank assets are negatively and statistically significantly correlated with inflation and the unemployment rate. Regarding bank performance indicators, we found that foreign bank assets are not correlated with the bank cost/income ratio, but negatively correlated with the interest rates on bank credit to the private sector. We can thus conclude, partially endorsing several recent researches on the topic, that during the financial crisis, an increase in the assets of foreign banks has reduced the inflation, unemployment rate and interest rate, but less significantly than during a typical, non-crisis period.

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Contact

Daniel Badulescu

University of Oradea, 1 Universitatii Str., Oradea, Romania,

dbadulescu@uoradea.ro

Ramona Simut

University of Oradea, 1 Universitatii Str., Oradea, Romania,

simut.ramona@yahoo.com

Radu Alin Morutan

University of Oradea, 1 Universitatii Str., Oradea, Romania,

raalmoru@yahoo.com