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Do foreign-owned banks affect banking system liquidity risk?

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ABSTRACT

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Existing empirical research shows that foreign-owned banks play a stabilizing role in emerging economies' banking systems. Anecdotal evidence suggests that this stabilizing role can be attributed to transnational banks' access to more diversified sources of liquidity. There exists, however, no empirical evidence so far on transnational banks' liquidity behavior and its effect on aggregate banking system liquidity. This paper aims at closing this gap. First, we look at the liquid assets holdings of transnational banks and show that in "normal" times they are significantly lower but in crises times higher than those of single-market banks. Second, we find evidence that transnational banks' presence significantly reduces the risk of aggregate liquidity shortages in emerging economies. *Journal of Comparative Economics* **37** (4) (2009) 647–657. University of Bonn, Lennestr. 37, 53113 Bonn, Germany.

1. Introduction

During the past two decades the level of foreign bank penetration into most of the emerging economies of Central and Eastern Europe increased tremendously, but both timing and scale of foreign bank entry differed substantially across countries (see Table 1). Countries like Estonia and Hungary liberalized foreign bank entry early on and were less affected by the consequent period of financial system distress in the region. On the other hand, in the early transition period Bulgaria and Romania were reluctant to open their markets to foreign banks and suffered severe banking crises with numerous bank runs. This observation is consistent with a wide body of empirical literature concerning the impact of foreign bank entry on the stability of the hosting banking system. For example, Demirgüc-Kunt et al. (1998) present cross-country evidence from a large sample of emerging economies that foreign bank presence reduces the likelihood of a banking crisis in emerging economies. Furthermore, Detregiache and Gupta (2004) argue that foreign banks have a stabilizing influence before or during local crises. Anecdotal evidence suggests that this stabilizing role of foreign banks might be due to (among other factors such as better credit screening and risk management) their access to more diversified sources of liquidity. Theoretical support for the argument that transnational banks have more diversified sources of liquidity is given by a model by Freixas and Holthausen (2005), although the literature lacks any empirical evidence in support of this argument.

The purpose of this paper is to close this gap by studying the liquidity position of a large sample of banks in 10 Central and Eastern European emerging economies. Our analysis concentrates on two main hypotheses based on the assumption that subsidiaries of transnational banks have through the internal capital markets of the transnational banks internationally diversified access to liquidity.[1] First, on the micro level we expect transnational banks to show different relative volumes of

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[1] Carletti et al. (2007) offers a theoretical model of the effects of internal capital markets within a country on bank liquidity behavior.

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Table 1
Share of assets of foreign-owned banks in the banking system

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Bulgaria	0.00	0.00	0.01	na	0.43	0.45	0.50	0.63	0.63	0.70	0.73
Czech Republic	0.09	0.15	0.15	0.15	0.15	0.37	0.71	0.81	0.80	0.82	0.90
Estonia	0.00	0.30	0.32	0.55	0.99	0.99	0.98	0.99	0.98	0.98	0.99
Hungary	0.45	0.33	0.39	0.50	0.51	0.57	0.57	0.54	0.54	0.61	0.65
Latvia	0.18	0.20	0.26	na	0.65	0.67	0.69	0.80	0.81	0.75	0.76
Lithuania	0.02	0.28	0.50	0.67	0.67	0.93	0.92	0.89	0.89	0.92	0.91
Poland	0.17	0.21	0.20	0.35	0.47	0.50	0.44	0.57	0.79	0.60	0.60
Romania	0.00	0.00	0.00	0.01	0.06	0.21	0.40	0.46	0.42	0.32	0.29
Slovakia	0.02	0.03	0.06	0.12	0.17	0.10	0.18	0.78	0.78	0.82	0.84
Slovenia	0.19	0.22	0.21	0.44	0.50	0.47	0.44	0.48	0.36	0.22	0.23

Source: own calculations based on BankScope and IFS.

liquid assets than those of banks operating in only one country. In particular, if as modeled by Freixas and Holthausen (2005), subsidiaries of transnational banks can access liquidity in both the host banking system and abroad, foreign banks should be less concerned about liquidity shocks and would hold lower volumes of liquid assets compared to domestic banks. In times of an aggregate liquidity shortage in the host country, however, subsidiaries of transnational banks increase their liquid asset volumes relative to domestic banks.

Second, on the macro level, we empirically examine the effects of foreign bank penetration on aggregate liquidity. The ability of foreign banks to access liquidity abroad during periods of liquidity distress in the host country would imply that banking system with a predominant share of foreign banks are less likely to experience periods of severe aggregate liquidity shortages. The results of our empirical analysis confirm both our micro and macro level hypotheses.

The rest of the paper is structured as follows. Section 2 describes the data. Section 3 focuses on an empirical examination of the difference between transnational and local banks' liquidity positions on the micro level. Section 4 concentrates on the question whether increased foreign bank penetration changes the risk of aggregate liquidity shortages. Section 5 contains the conclusions of this paper.

2. Sample and data sources

Our empirical analysis concentrates on ten Central and Eastern European (CEE) emerging economies: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. These countries provide an excellent laboratory for a study of the impact of foreign bank penetration for several reasons.[2] First, they share a number of similarities concerning key macroeconomic and financial system features. To start with, all countries in our sample share a past of planned socialist economies. Further, the banking systems in all countries suffered substantial banking system distress mostly due to the huge stock of nonperforming loans to former state-owned enterprises (EBRD, 2006). Another interesting common feature of the CEE banking industries is that in all countries at least 90% of the foreign banks (in terms of total assets) are subsidiaries of banks with headquarters in the Euro area.[3] Therefore, foreign-owned banks in CEE have access to a large, well diversified, and liquid money market, particularly when compared to the relatively underdeveloped financial markets of the host economies.

Having said this, we should point to some key differences across the CEE countries with regard to foreign bank penetration. Whereas some of the countries experienced a quick increase in the level of foreign bank penetration others did not (see Table 1). Moreover the mode of foreign bank entry substantially differed across the sample. The extremely high degree of foreign bank penetration in Bulgaria, the Czech Republic, Poland and Slovakia mainly results from the privatization of the largest formerly state-owned banks to transnational banking groups. In the Baltic countries, a few large foreign-owned banks started with a greenfield investment and quickly acquired dominant market shares after numerous incumbent banks went bankrupt early in the 1990s. In Romania and Slovenia foreign bank entry was heavily restricted throughout the whole sample period. The variation of foreign bank penetration within an otherwise relatively homogenous sample is an opportunity to examine the role of foreign banks while controlling for the macroeconomic features of the transition from planned to market economy systems common to all countries. Moreover, the fact that foreign bank penetration followed different modes allows us to disentangle the effect of privatization from that of foreign bank ownership.[4]

We base the empirical analysis on bank level balance sheet data drawn from *BankScope*.[5] The data includes financial statements of 378 banks from the ten CEE economies, of which 32 are Bulgarian, 51 Czech, 16 Estonian, 49 Hungarian, 33 Latvian, 15 Lithuanian, 78 Polish, 39 Romanian, 33 Slovakian, and 32 Slovenian. The data covers 75–95% of total banking assets in each

[2] In the last decade researchers have extensively used the sample of CEE countries for studying various aspects of foreign banks entry (see Giannetti and Ongena, 2009; Hainz and Claeys, 2007, etc.).

[3] The geographical proximity of these countries also makes the classical controls of gravity models which are often used in international banking literature (Buch and Lipponer, 2007) superfluous.

[4] Private bank ownership in our sample countries does not perfectly correlate with foreign bank ownership. So in Hungary, for example, the share of foreign bank assets is relatively low, whereas virtually no state-owned banks operate in the market.

[5] A financial database supplied by Bureau van Djik.