

# Capital Flight in the Presence of Domestic Borrowing: Evidence from Eastern European Economies

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**Summary.** — We estimate capital flight from 10 Central and Eastern European countries for the period 1996–2009. Capital flight from the transition economies is mainly an economic phenomenon, driven by differences in interest rates and investors' perceptions of economic conditions in their countries as well as by the ease with which they are able to obtain funds that can be transferred overseas through domestic loans and capital inflows. Domestic credit expansion is an important source of financing for capital flight. Paradoxically, financial liberalization has fueled rather than reduced capital flight by reducing its costs and increasing the funds that can be moved abroad.

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## 1. INTRODUCTION

One of the remarkable aspects of the transition in Eastern and Central Europe has been the high volume of capital inflows into these countries. Such inflows have included large amounts of Foreign Direct Investment (FDI) as well as inflows of financial capital. Some of these financial inflows have financed domestic investment outlays, but they have also led to a rapid expansion of lending to households and businesses by local banks that may have fueled capital flight from these countries. We construct a model of capital flight that explicitly includes the possibility that home-country agents can borrow on the domestic market to augment the funds they have available for funding capital flight. Using data on credit expansion and our estimates of capital flight from these transition economies we show that domestic credit expansion has had a positive and significant effect on the volume of capital flight from the region.

The transition countries of Eastern Europe are a particularly interesting sample from which to draw inferences about the drivers of capital flight because, unlike the African, Latin American, and South East Asian countries that have been the focus of previous work on the causes of capital flight, the transition countries have experienced much faster and more extensive progress in financial and market reforms, in their integration into the global economy and in the development of stable democratic institutions, the rule of law, and the protection of property rights, all factors that are seen as important determinants of the volume of capital flight. They began the transition with few of the economic institutions that underpin a modern market economy, considerable uncertainty about their political and economic viability, doubts about their ability to master inflation, and to maintain the international value of their currencies and few ties to

international markets for goods and for capital. Nevertheless, a number of them have now joined the European Union (EU) and others are serious candidates, democracy seems established and policies are, for the most part, seen as credible, as is the rule of law. As dramatic as the institutional and political changes that have taken place is the expansion of credit to households and businesses in these countries, and the role of this domestic credit in funding capital flight is the focus of this paper.

## 2. ESTIMATES OF CAPITAL FLIGHT FROM EASTERN EUROPEAN COUNTRIES

### (a) Methodology

We estimate capital flight as the difference between the country's recorded sources and uses of funds, a measure developed by the World Bank (1985) that is often referred to as the "World Bank" or "residual" method.<sup>1</sup> The residual method estimates capital flight indirectly, using balance of payments and international asset data. It weighs the country's sources of funds, as given by the net increase in external debt and the net inflow of foreign investment, against the uses of these funds as given by the current account deficit and the change in foreign reserves. If the recorded sources are greater than the recorded uses, then there is capital flight from the country. While this measure has some conceptual weaknesses, it is the most widely used measure in the literature on capital flight because it is relatively straightforward to implement and relies on commonly available data.

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The volume of capital flight using the residual approach can be estimated in two ways that differ mainly in how the change in the country's external debt position is measured. One measure is:

$$CF_{ncd} = \Delta ED + NFI - CA - \Delta R \quad (1)$$

where  $CF_{ncd}$  is capital flight based on data on the net change in the stock of external debt. The term  $\Delta ED$  is the net change in the stock of gross external debt,  $NFI$  is the net foreign investment inflow,  $CA$  is the current account deficit, and  $\Delta R$  is the change in the stock of official foreign reserves.<sup>2</sup> The change in the stock of external debt is influenced by exchange rate fluctuations if some of the debt is denominated in euros or other currencies because total debt is calculated in dollars at the current exchange rate. Thus, in the framework of Eqn. (1), such revaluations would appear as capital flight. It is possible to partly account for such fluctuations in the dollar/euro exchange rate by using the World Bank's *Global Development Finance* (GDF) database, which gives an estimate of this cross-currency valuation effect on the external debt. However, the World Bank's GDF database lacks data for some countries in our sample.

Consequently, in this paper we measure capital flight as:

$$CF = NFD + NFDI + NPEI - CA - \Delta R \quad (2)$$

where  $NFD$  denotes net flows of total foreign debt from the GDF database or from IMF's *International Finance Statistics* and *Balance of Payments Statistics* database (see [Data Appendix](#)),  $NFDI$  is net foreign direct investment and  $NPEI$  is net portfolio equity investment inflows. This measure of capital flight can be considered as more conservative and, potentially, more reliable than  $CF_{ncd}$  in the sense that it does not ascribe possible discrepancies arising from data measurement errors to capital flight.<sup>3</sup>

There is a trend in the literature on capital flight to add to the estimates of capital flight obtained from balance of payments data by Eqn. (2), a separate estimate of capital flight that occurs through misinvoicing (see, e.g., [Demir, 2004](#); [Ndikumana & Boyce, 2010](#)). We choose not to do so for our sample of countries because the calculation of trade misinvoicing assumes that all or the large majority of discrepancies in the trade statistics of the sample countries and the mirror statistics of their trading partners are due to misinvoicing and that the trade statistics of "developed" partner countries are to be taken as accurate. However, the trade statistics for the countries in our sample do not show mismatches between home country and mirror statistics that are greater than those of industrialized countries.<sup>4</sup> Thus we conclude that, in the case of countries in our sample, there is no strong evidence in their trade data of the massive misinvoicing that may occur in some less developed economies. Consequently, the use of mirror statistics to calculate misinvoicing raises the possibility that we would simply add the "noise" of the standard mirror-statistics problem to our measures of capital flight from East Europe.<sup>5</sup>

#### (b) Interpretation of results for individual countries

[Table 1](#) reports our estimates of capital flight from Bulgaria, Croatia, the Czech Republic, Estonia, Macedonia, Hungary, Latvia, Lithuania, Poland, and Romania for the years 1996–2009. To provide a measure of cross-country comparability, we normalize the capital flight estimates by current GDP, also in US dollars. The average ratio of capital flight to GDP for the ten countries is 2.7%, which is considerably lower than the ratio of capital flight to GDP of 6.7% for seven CIS countries, including Russia and Ukraine but excluding the Baltic

Republics, reported by [Brada et al. \(2011\)](#). The East and Central European transition economies had greater political stability, more credible economic policies, better economic performance, less risk of expropriation, and less corruption than did the CIS countries, and these levels of capital flight are in the range of estimates of capital flight to GDP reported for Latin American, Asian, and African countries.

Examining the movements of capital flight over time, two regularities suggest themselves. The first of these is the increase in capital flight in the years around a country's EU accession. Capital flight peaked in the Czech Republic, Estonia, Latvia, Lithuania, and Poland around 2004 and in Bulgaria in 2006 and 2007. Increases in holdings of foreign currency held outside banks by a country's residents will appear as part of capital flight, so an increase in Euro cash holdings by both households and firms in the expectation of greater travel to, and commerce with, the EU region upon accession would represent a form of "internal capital flight."

Such "internal capital flight" may also have contributed to relatively high levels of capital flight in the early years of the sample. In the beginning of the transition process, agents in the transition economies had little experience with, and few realistic possibilities for, portfolio optimization through foreign investments. Therefore they may have chosen the easiest form of portfolio diversification into foreign assets by allocating part of their wealth to foreign currency holdings, with the currency held inside the country but outside the banking system. Because we cannot estimate the Euros or other foreign currencies accounted for by transactions demand, we assume all such foreign cash holdings in these countries do represent capital flight. The second regularity evident from [Table 1](#) is the decrease or even reversal of capital flight from most of the countries in our sample in 2008 and 2009. This may be due to the need by residents to repatriate flight capital held abroad to cover loans from domestic banks that had been used to finance some of the previous years' capital flight.

### 3. A MODEL OF CAPITAL FLIGHT

[Buiter and Szegvari \(2002\)](#) stress that some of what is seen as capital flight is a rational and mostly legal reallocation of capital from the home country to other countries in response to more favorable risk-return opportunities abroad and to investors' desire for portfolio diversification. Nevertheless, capital flight also encompasses illegal activities, such as money laundering, that moves money offshore ([Perez, Brada, & Drabek, 2012](#); [Reuter & Truman, 2004](#)). Money laundering involves illegality in two ways. First, the money to be laundered is often earned through illegal activity such as prostitution, drug distribution, bribe taking, etc. Second, the money is moved abroad, possibly in contravention of capital or currency controls, to hide its criminal origin or to evade taxes. Such transactions can involve money that is legally earned, but, because the home country has restrictions on capital outflows, or because taxes on returns to assets held abroad are not reported, investing abroad effectively criminalizes such activity.

Early models of capital flight (see, e.g., [Collier, Hoeffler, & Paitillo, 2001](#); [Cuddington, 1987a](#); [Le & Zak, 2006](#); [Sheets, 1995](#)) conceptualize the home-country investor's problem as one of allocating a given sum of money among domestic and foreign assets. Differences in risk-adjusted returns are in part due to home-country macroeconomic performance ([Harrigan, Mavrotas, & Yusop, 2002](#); [Hermes & Lensink, 2001](#)) and to shocks such as changes in tax rates, the exchange rate, or

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