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Demand and supply drivers of foreign currency loans in CEECs: A meta-analysis

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ABSTRACT

We present a meta-analysis of the determinants of foreign currency loans in Central and Eastern Europe. We base our inferences on the results of 21 studies that provide around 800 estimated coefficients for seven determinants of foreign currency loan demand. Our results indicate that, on average, supply factors (foreign currency deposits and the minimum variance portfolio ratio) appear to play a more significant role than demand factors (interest rate differentials) of foreign currency loans. Moreover, we show that the estimates reported in the literature tend to be influenced by selected study characteristics such as the econometric methodology and their regional focus.

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1. Introduction

As part of their financial integration and catching-up process, several Central and Eastern European Countries (CEECs) have built up high stocks of assets and liabilities denominated in foreign currency (mainly in euro or Swiss francs). As a result, high shares of unhedged foreign currency loans have fueled fears concerning systemic risks with regard to financial vulnerability (see, for example, Beckmann et al., 2012; EBRD Transition Report 2011). The analysis of the exposure of households and firms to foreign currency risks in CEECs has been gaining importance in the last few years and numerous studies have been published on this topic. Despite a large number of publications on this issue, especially in recent years, there is no unique agreement in the literature concerning the main driving factors of foreign currency loans in the region (Crespo Cuaresma et al., 2011; Zettelmeyer et al., 2010). Thus, this contribution presents a meta-analysis of foreign currency loan determinants in CEECs, including publication bias analysis and the explicit assessment of model uncertainty in the specification of meta-analytic regressions. To the best of our knowledge, these issues have hardly been analyzed in the previous literature. In addition, besides applying conventional estimation approaches for meta-analysis (e.g. the random effects model, random effects maximum likelihood model, and weighted least squares), we use Bayesian model averaging (BMA) methods to assess the degree of model uncertainty attached to the meta-regressions for foreign currency loans.

The presence of foreign currency loans dominates private sector indebtedness in some CEECs, while foreign currency loans are basically nonexistent in others. For instance, in the Czech Republic, at one side of the spectrum, the share of foreign currency-denominated private debt has remained low and relatively constant over the past years, being present only in the corporate sector while almost absent in the household sector (Fidrmuc et al., 2013). In contrast, the shares of foreign currency loans have increased rapidly to about two thirds of total loan stocks in South East European countries (e.g. Croatia and Serbia). Moreover, the phenomenon of foreign currency loans quickly extended from corporate lending to household loans (especially in Hungary and Romania).

The previous empirical and theoretical literature has identified several determinants of foreign currency loans in CEECs. The determinants which are most often cited in the surveyed studies include the interest rate differential, the inflation rate, exchange rate changes, the volatilities of inflation and the exchange rate and their ratio (the so called minimum variance portfolio ratio), as well as the degree of bank funding in foreign currency.[1] These determinants reflect demand and supply factors as well as the interaction between the two. Therefore, the impact of some determinants may be ambiguous, depending on whether supply or demand motives dominate. While it is difficult to assess the actual importance of demand and supply factors for the individual determinants, we can expect that demand factors dominate the role of the interest rate differential. In contrast, the asset structure of banks can be largely viewed as a supply factor. One interesting finding of our contribution is that banks' deposits in foreign currency and portfolio factors (MVP-ratio) are highly robust determinants of differences in foreign currency loans, while the demand-driven factors yield a much less clear-cut picture. This can be interpreted as an indication that supply factors have actually played a more important role in foreign currency loans than is generally argued in the literature (see e.g. Brown and De Haas, 2012; Brown et al., 2010, 2011; Fidrmuc et al., 2013).

Additionally, empirical studies related to foreign currency loans in CEECs are inherently characterized by significant data problems, a characteristic which is common to many other fields in the natural and social sciences. Meta-analyses of existing studies on a common topic have been suggested as a potentially fruitful way of overcoming such a problem and gaining more powerful results (see, e.g., Lipsey and Soydan Wilson, 2001) by extending the analysis beyond standard literature surveys. In addition to providing a more precise aggregate view on the subject, this approach allows for an analysis of possible factors which may influence the results (e.g. the methodology used, data definition, characteristics of the authors). In the past decade, the use of meta-analysis has become a popular research tool in economics (see, e.g., Stanley, 2001; Stanley and Jarrell, 2005), in particular in

[1] We do not cover some possible special aspects such as for example the perspective of EU accession and euro adoption (see for example Rosenberg and Tirpák, 2009) due to these rarely being included in empirical studies, leading to a low number of coefficients.