



The Public Defense
of the Doctoral Thesis in Economics
by

Dzsamila Vonnák

on

Frictions in Credit Markets

will be held on

Tuesday, May 31, 2016 at 2:00 pm

in the

Monument Building, Room 201
Central European University
Nádor Street 9, Budapest

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The doctoral thesis is available for inspection
at the CEU Economics Department

Abstract

This thesis consists of one co-authored and two single-authored chapters; each investigates some friction in the credit market. The first chapter is an empirical one; it isolates the effect of the foreign currency on the loan performance of firms borrowing in different currencies in crisis time. I use a novel micro-level dataset from Hungary to decompose the factors contributing to the higher loan deterioration of foreign currency borrowers compared to local currency debtors. The results suggest that foreign currency denomination can increase the default probability considerably (even by 7 percentage points). Hence regulators should pay more attention to loans denominated in safe haven currencies, since they harm particularly in bad times.

The second chapter is also empirical and is co-authored with Steven Ongena and Ibolya Schindele. It studies the impact of monetary policy on the supply of bank credit when bank lending is also denominated in foreign currencies. Accessing a comprehensive supervisory dataset from Hungary, we find that the supply of bank credit in a foreign currency is less sensitive to changes in domestic monetary conditions than the equivalent supply in the domestic currency. Changes in foreign monetary conditions similarly affect bank lending more in the foreign than in the domestic currency. Hence when banks lend in multiple currencies the domestic bank lending channel is weakened and international bank lending channels become operational.

The third chapter is a theoretical piece. It extends the standard global games framework by introducing an additional target on which agents can coordinate on. Global games are appropriate to model economic situations where agents have incentive to coordinate on some action, but due to incomplete information perfect coordination fails. I compare the multidimensional case to the standard global games problem. Furthermore, I investigate the effects of consolidating the multiple targets. I find that introducing an additional option generates a negative strategic correlation between the options and thus weakens the coordination. However, unifying the options eliminates the endogenous correlation and thus restores the coordination. I also show two potential applications to be modeled by the multidimensional global games framework.

Why Do Firms Default on Their Foreign Currency Loans? The Case of Hungary

Chapter 1 analyzes the factors contributing to the decline in loan quality of firms borrowing in different currencies during the 2008 crisis. I study a micro level dataset covering all firms with bank loan in Hungary. I assess what part of the change in the default rate is due to foreign currency denomination and to other effects of the crisis.

I find that the foreign currency denomination can increase the default probability considerably. For firms borrowing in Swiss Franc the currency effect varies between 0.7 percentage points and 7 percentage points, thus it accounts for 22%-42% of the overall default

change. In case of firms with Euro loan the effect varies between -0.2 and 1.7 percentage points and thus run to -9%-18% of the overall default change. A large part of this effect is attributed the exchange rate volatility, and indeed, the Hungarian Forint depreciated more against the Swiss Franc than against the Euro.

The comparison of the currency borrower groups shows that not only the currency effect, but also the other crisis effects are the highest for firms with Swiss Franc loan. Hence loans denominated in foreign currency afflicted exactly those companies the most who were also hit the hardest by the crisis. These correlated shocks caused the salient decline in loan quality of the Swiss Franc borrowers.

These results highlight the importance of regulating the borrowing in safe haven currencies. In emerging countries the loans denominated in safe haven currencies are often popular during credit boom periods, since they are typically cheaper than credit denominated in local currencies. However, in a crisis the safe haven currencies appreciate to the local currency and thus the debt burden of their borrowers increases. Thus, these loans are advantageous in good times and harmful in bad times.

In Lands of Foreign Currency Credit, Bank Lending Channels Run Through?

joint with Steven Ongena and Ibolya Schindele

Chapter 2 analyzes the differential impact of domestic and foreign monetary policy on the local supply of bank credit in domestic and foreign currencies. We analyze a novel, supervisory dataset from Hungary that records all bank lending to firms including its currency denomination. This chapter therefore takes the next obvious step in the empirical literature that identifies - with micro-data - the impact of monetary policy on the provision of credit.

Accounting for time-varying firm-specific heterogeneity in loan demand, we find that a lower domestic interest rate expands the supply of credit in the domestic but not in the foreign currency. A lower foreign interest rate on the other hand expands lending by lowly versus highly capitalized banks relatively more in the foreign than in the domestic currency.

The implications of our findings for monetary policy making are straightforward but salient. Local bank lending in foreign currencies limits the flow of the transmission of domestic monetary policy through a bank lending channel in the domestic currency only. Lending in foreign currencies is seemingly mostly unaffected by domestic monetary policy. On the other hand, monetary policies pursued by central banks abroad may affect local bank lending in these foreign currencies. Changes in foreign monetary policy, therefore, also seems to transmit to local lending, through an international bank-lending channel that changes the currency composition of the local bank loan supply. Overall, these findings suggest that calls for global monetary policy coordination even during normal times are well-founded (though difficult and unlikely given current institutional mandates).

Multidimensional global games and some applications

Chapter 3 investigates the coordination aspect of multidimensional global games. Global games are coordination games with incomplete information; they have been applied to several economic situations, such as bank runs, currency crisis, and technology adoption. I extend the standard global games framework by introducing an additional coordination target.

Multidimensionality has an important consequence for the power of coordination. When there are multiple options, coordination weakens. This is due to strategic motives of agents. Agents have incentives to make mutually consistent actions. Since there are a fixed number of agents, when there are multiple options, their power is split. The more people coordinate on one option the less people there are who can potentially coordinate on the other. This generates a negative correlation between the two options which I call strategic correlation.

The key element of the model is the interaction of the coordination motives of agents to move together and the substitutability of the options. When there are multiple options, each potential object of coordination, they are in fact substitutes. Thus, with multiple options the coordination disperses. However, unifying the options eliminates the coordination split and thus strengthens the power of coordination.

I show two applications which can be modeled by the multidimensional global games framework. The first application is the choice of invoicing currency of oil. In the oil market the historically established currency is the US Dollar. I show that there are situations when an agent would switch to the usage of a new currency if there were one new currency besides the US Dollar, however, would not switch if there were two other currencies. The second application is the introduction of common European bond. A common argument for joint issuance is that it smooths out idiosyncratic risk. While this argument is present in my model, there is an extra layer: joint bond issuance can make participating countries more vulnerable to speculative attacks.

CURRICULUM VITAE

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RESEARCH INTEREST

Empirical banking, Banking regulation, Games of incomplete information

EDUCATION

2009 - Ph.D. Candidate in Economics, Central European University
2001 - 2007 M.A. in Economics, Corvinus University of Budapest

EMPLOYMENT

2013 - Junior research fellow, Hungarian Academy of Sciences - Institute of Economics
2005 - 2009 Basel II consultant, Ramasoft Data Services and Technology Inc.

TEACHING EXPERIENCE

2012 Introduction to Econometrics: Lecturer at Mathias Corvinus Collegium
2010 - 2012 Statistics: Lecturer at Central European University
2010 - 2012 Introduction to Econometrics, Statistics: Teaching assistant at Eötvös Loránd University
2008 Mergers & Acquisitions: Assistant lecturer at International Business School

HONORS, SCHOLARSHIPS AND FELLOWSHIPS

2014 Olga Radzyner Award, Oesterreichische Nationalbank
2012, 2013 Visiting research fellow, Hungarian National Bank
2013 Visiting PhD student, ESSEC Business School
2010 - 2012 CERGE-EI Affiliate Fellow
2010 Academic Achievement Award for First-Year Doctoral Students, Central European University

CONFERENCE PRESENTATION

- 2015 INFINITI Conference on International Finance, Ljubljana
2015 Spring Meeting of Young Economists, Ghent
2015 PhD Student Conference in International Macroeconomics and Financial
 Econometrics, Paris
2014 MTA KTI Summer Workshop, Budapest
2013, 2014 Conference of the Hungarian Economic Association, Budapest
2013, 2014 MKE-PTE PhD Summer Workshop, Pécs

WORKING PAPERS

- Decomposing the Riskiness of Corporate Foreign Currency Lending: the Case of Hungary,
MT-DP, 2015/28.
- In Lands of Foreign Currency Credit, Bank Lending Channels Run Through?, with Steven
Ongena, Ibolya Schindele, CFS Working Paper, No. 474

NONACADEMIC PUBLICATIONS

- Capital Adequacy Handbook of Banks (original title: Banki Tőke megfelelési Kézikönyv), with
Márton Radnai, 2010, publisher: Alinea kiadó
- Liquidity Risk in the Revised European Capital Requirement Directive Proposal (original title:
Likviditási kockázat az Európai Tőke megfelelési Direktíva tervezett módosításában), with
Márton Radnai, 2009, Hitelintézet Szemle, volume VIII, issue 3, page 248-256

PERSONAL

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