

EMIL VERNER

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PERSONAL

Date of birth: June 24, 1990

Nationality: Denmark and U.S. Permanent Resident

EDUCATION

Ph.D. Candidate in Economics *2012–2017 (exp.)*

Department of Economics and Bendheim Center for Finance, Princeton University

Research areas: Household finance, corporate finance, macroeconomics, international finance

Adviser: Atif Mian

M.A., Economics *2014*

Department of Economics, Princeton University

General Exams: Macroeconomics; International Macroeconomics and Finance

B.Sc. Economics *2012*

Department of Economics, University of Copenhagen

WORKING PAPERS

“The Consumption Response to Extended Unemployment Benefits in the Great Recession” with Graham McKee ([link](#))

“Household Debt and Business Cycles Worldwide” with Atif Mian and Amir Sufi ([link](#)). Media: [NBER Digest](#), [Center for Equitable Growth](#), [The Economist](#)

ACADEMIC EXPERIENCE

Presentations

NBER Lessons from the Crisis for Macroeconomics Meeting (2015*), Princeton Finance Workshop (2015), NBER Monetary Economics Program Meeting (2015*), Princeton Macroeconomics Workshop (2014, 2015, 2016), Danmarks Nationalbank (2015), DAEiNA Annual Meeting (2015). *=coauthor.

Research

Research Assistant for Professor Atif Mian *Summer 2014*

Research Assistant for Professor Markus Brunnermeier *Spring 2014*

Research Assistant for Professor Mark Watson *Summer 2013*

Summer Research Analyst, Peterson Institute for International Economics *Summer 2011*

Teaching

TA, ECO 313, Econometric Applications (Watson and Kolesár), Princeton University *Spring 2015*

TA, Introduction to Microeconomics (Reinhardt), Princeton University *Fall 2014*

TA, Macroeconomics A & B (Whitta-Jacobsen), University of Copenhagen *Fall 2011, Spring 2012*

OTHER ACTIVITIES

Treasurer; First Year, Second Year, and Post-Generals Representative: Graduate Economics Club, Princeton University *2012-2015*

Intern, Actuarial Department, ATP (Danish Labor Market Supplementary Pension Fund), Denmark *10/2008-4/2009*

HONORS AND AWARDS

American Finance Association Doctoral Student Travel Grant	2015
Woodrow Wilson Scholars Fellow, Princeton University	2015-2016
Towbes Prize for Outstanding Teaching, Princeton University	2015
Leschly Family Scholarship, Princeton University	2013, 2014
Princeton Graduate Economics Fellowship	2013-2017

SKILLS

Computer: Matlab, Stata, SAS, R, L^AT_EX

Languages: English and Danish (fluent); French, Spanish and Portuguese (working proficiency)

Research Proposal: Household Finance Research Grant

Project Title: Household Balance Sheets and the Real Economy: Evidence from Liability Dollarization in an Emerging Market

This project will investigate how shocks to household balance sheets affect household decisions and the broader economy. Using administrative credit registry data, I will empirically analyze the consequences of the expansion in foreign currency household debt in Hungary and the series of unexpected depreciations that raised household debt burdens by as much as 50 percent. Moreover, the project will evaluate the effectiveness of subsequent government policies that reduced principals and removed exchange rate risk from household balance sheets in order to assess the scope for policy to address household debt overhang.

Hungary experienced a large expansion in credit to the household sector in the 2000s that was followed by a severe recession and slump in consumption starting in 2008. As in other European emerging markets, a substantial fraction of the rise in mortgage, home equity, and consumer debt was financed in Swiss francs and, to a lesser extent, euros. By the end of 2007, roughly half of outstanding mortgages and 70 percent of all household debt was denominated in foreign currency. A series of sharp depreciations in the Hungarian exchange rate starting in the fall of 2008 unexpectedly raised household debt burdens and monthly installments by as much as 50 percent by 2012. Swiss franc borrowers experienced the largest increases in the value of their loans because of the strengthening Swiss franc during the Eurozone crisis.

This project will consider the Hungarian experience in order to make three contributions to literatures in household finance, macroeconomics, and international economics. First, this project will contribute to our understanding of how changes in household net worth through unanticipated variation in the value of foreign currency liabilities influence debt management, consumption, durable spending, and labor supply. Understanding how exchange rate induced changes in household wealth affect household behavior and the broader economy will complement the recent work on the effects of *housing* net worth shocks.¹ The benefit of analyzing non-housing movements in household net worth is exchange-rate-induced shocks only affect household wealth and liquidity. Housing wealth, on the other hand, influences outcomes through through wealth, income, substitution and collateral value effects, as well as factors directly related to the local housing market.

Second, this project will contribute to the international economics literature on the balance sheet effects of depreciations. International macro models with financial frictions predict that depreciations have contractionary effects when agents have foreign currency liabilities. Despite the emphasis on balance sheet effects in the theoretical literature, there remains a lack of consensus on the importance of contractionary balance sheet effects of depreciations in large part because of lim-

¹Mishkin (1978) argues that the deterioration in household balance sheets can explain a substantial part of the decline in consumption during the Great Depression. Mian, Rao, and Sufi (2013) and Mian and Sufi (2014) show that shocks to housing net worth precipitated the fall in consumption and employment in the cross-section during the Great Recession.

ited available data on currency denomination of liabilities.² This project overcomes this limitation by using credit registry data that includes the currency denomination each loan. Moreover, extant research on liability dollarization focuses exclusively on *firm* foreign currency liabilities, despite the large rise in foreign currency liabilities in the household sector in emerging markets during the 2000s, especially throughout Central and Eastern Europe.³ To my knowledge, this project will be the first to analyze the consequences of exchange rate shocks on households with foreign currency liabilities and on the local macroeconomy.

Finally, this project will contribute to our understanding of whether government policy can address the welfare costs and potential inefficiencies associated with elevated household debt burdens. I will consider two Hungarian government programs that targeted households with foreign currency debt. The first policy (Conversion Law of 2014) removed salient exchange rate uncertainty from FC borrowers' balance sheets by requiring banks to convert nearly all foreign currency loans into domestic currency at market rates. This policy change will allow for a unique test whether households expand consumption and cut precautionary saving following a reduction in the *uncertainty* of debt service costs. The second policy (Settlement Act of 2014) targeted at homeowners required lenders to reduce principals, resulting in a reduction in monthly payments of 20-25 percent. The timing of the implementation of this law by banks was staggered, as many banks appealed the ruling to the constitutional court. This project will analyze whether debt reductions reduced delinquency rates and led households to increase spending on durable goods.⁴ Moreover, I will consider the trade-offs associated with redistribution from (mainly foreign) banks to households, focusing on negative effects through increased cost of credit or decreased lending from banks who suffer the largest losses from the policy.

The advantage of considering the Hungarian setting is the availability of detailed household loan level data from the Household Registry of Hungarian Credit Information System. The registry contains information on all loans extended to individuals by all financial institutions in Hungary, including demographic information on the borrower, the identity of the lender, and the currency denomination of the loan, which has been a challenge in empirical research on liability dollarization. My project will link these credit registry data with information on household income from tax registries and information on household expenditure from the Household Budget Survey and from zip-code level measures of employment, retail consumption, auto purchases from the Hungarian Central Bank and Central Statistics Office. Finally, I will collect bank balance sheet information, including losses from the government interventions, from bank annual reports. The NBER household finance research grant will provide the resources needed to construct these datasets during my visit to the Hungarian Central Bank in Spring and Summer 2016.

²See Kim, Tesar, and Zhang (2015) for a discussion of the mixed evidence on the importance of balance sheet effects and new evidence from Korean firms during the Asian Financial Crisis.

³See BIS Quarterly Review, September (2010) for a summary of the rise in foreign currency borrowing in emerging Europe.

⁴There is limited empirical research on the effect of mortgage modification programs. One exception is Agarwal et al (2013), which analyzes the effects of the U.S. Home Affordable Modification Program (HAMP). That study analyzes expenditure at the regional level, but not at an individual level.

Itemized Budget: Household Finance Research Grant

Item	Description of Item	Approximate Cost (\$)	Details
1	Travel to Hungary	3000	Airfare for three round-trips to Budapest to access the Household Registry of the Central Credit Information System at the Hungarian Central Bank in April-May for preliminary analysis, July-August to perform the main analysis, and October to conduct additional data work after receiving feedback.
2	Transportation within Hungary	500	Travel within Hungary to investigate the effects of the Hungarian housing crisis in different regions. Other expenses associated with travel.
3	Accommodation	1500	Approximately three-months accommodation in Budapest during visits to the Hungarian Central Bank.
4	Research assistance	5000	Research assistance for data collection, data work, and translation. In particular, I will be collecting data from bank annual reports on loss provisions associated with government mortgage and home-equity “cram-downs” as part of analysis of the costs of borrower-friendly policies. All non-proprietary data produced from this project will be made publicly available. This project will also contribute to linking credit registry data to tax registries, household surveys (Household Budget Survey), and zip-code level outcomes. Research assistance will also be used for translating legal documents (laws related to home-owner policies), data documentation, and news reports from Hungarian.
Total		10,000	