



The Public Defense
of the Doctoral Thesis in Economics

by

Vukan Vujić

on

Essays on Applied Economics

will be held on

Tuesday, June 19, 2018 at 10 am

in the

Room 106

Central European University

Nádor Street 15, Budapest

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

Abstract

In my dissertation I exploit novel datasets to answer relevant and interesting economic questions. Although questions are vaguely related: transmission of financial shocks, effects of labour supply shock, and drivers of corporate charitable giving; all three chapters share similar methodological approach: applying microeconomic methods to test hypothesis derived from economic theory.

The contribution of the thesis consists of providing new empirical evidence to existing questions, first and second chapter, or tackling questions that have not been yet analysed in the literature: the third chapter. The main contribution of the first chapter lies in a better measurement of a variable of interest, for which previous studies did not have available data, and had to use approximation. Second chapter follows identification strategy that is well-known in literature, but in a setting of developing country and specific episode. Extending the methodology to different settings contributes to the literature by providing evidence for the external validity of the hypothesis: that the results found in one setting hold in other settings too. Last but not least, the third chapter compares donation behaviour of foreign and domestic firms, topic that has not been studied yet, using quantitative approach on a big sample of firms. Previous studies were by business or sociology scholars, conducted on a small sample of firms, and descriptive in nature.

The first chapter aims to answer the question if foreign banks deleveraged from Central and Eastern Europe (CESEE) during the European Sovereign debt crisis. High interest rates and relatively low indebtedness of households led foreign banks to form subsidiaries and enter CESEE markets. The subsidiaries relied to a great extent on a funding from the parent bank. Parent banks could borrow cheaply in their home markets and then transfer funds in form of loans or equity to their CESEE subsidiaries. However, the Eurozone crisis put an end to this business model. The crisis inflicted losses on parent banks and led to deterioration of capital position. Due to unfavourable market conditions, banks were unable to raise new equity and had to reduce the assets in order to satisfy regulatory capital requirements. Analysts and financial press raised concerns that bank will withdraw funds from CESEE and provoke credit crunch in the region. To examine if this really happened I collect data on related party transactions from the annual financial statements of subsidiaries. The data on related party transactions is not part of any commercial database, so related literature could provide only indirect evidence for the transmission of financial shock from Eurozone to CESEE.

The second chapter examines the effects of refugee influx during Yugoslav wars on the municipal labor markets. Arrival of refugees represents “natural experiment”, allowing for clean identification of the effects of labor supply shock. Arrival of refugees was motivated by political and not economic factors which eases endogeneity concerns. Moreover, arrival occurred in a short period of time, and was substantial in size, which decreases the likelihood that the effects are driven confounding factors, and not by refugee arrival.

The third chapter analyses charitable donations spending of domestic and foreign firms in Serbia. The question if foreign firms donate more than domestic firms has not been posed so far in the

economics literature, and this chapter provides valuable insights by analysing unique dataset of Serbian firms. Uniqueness of the dataset stems from the fact that firms registered in Serbia had to report donations expenses in their annual financial statements, which is not the case in other countries. Hence, previous studies of corporate charitable donations had to rely on a survey or industry-level aggregated data from the tax authorities.

Chapter 1: Shock Transmission through Internal Capital Markets: Evidence from Foreign Bank Subsidiaries in Eastern Europe

Based on the unique, hand-collected dataset on the related party transactions of 97 foreign bank subsidiaries in Eastern Europe, the chapter aims to answer two related questions: first, is there a relationship between exposure of the parent bank to the European Sovereign Debt Crisis and deleveraging from CESEE subsidiaries? Second, how did deleveraging impact the asset growth of CESEE subsidiaries? On a higher, more abstract level, the two questions undercover the mechanism of transmission of financial shocks from abroad, which is one of the mechanisms how financial crisis spread to other countries and become global. Related studies of the CESEE region could provide only indirect evidence for the shock transmission due to inexistence of data on related party transactions between parent banks and subsidiaries. This chapter addresses the issue of data availability by analysing information on the related party transactions from subsidiaries' annual financial statements.

The main empirical approach consists of comparing change in internal funding with respect to pre-crisis period of affected and unaffected subsidiaries. Affected subsidiaries belong to parent banks that had significant exposure to the sovereign debt of countries hit by the Eurozone crisis. Unaffected subsidiaries belong to parent banks that were less impacted by the Eurozone crisis, Swedish banks for example. The paper finds a positive relationship between a parent's exposure to the crisis and the withdrawal of internal funding. Parent banks with higher exposure to crisis-hit countries withdrew more funds from their subsidiaries during the period from 2010 to 2011 than banks with less crisis exposure. However, the effect is non-linear, since Scandinavian banks deleveraged from the Baltic countries despite having almost no sovereign exposure to Eurozone crisis.

In response to the decrease in internal funding, the subsidiaries reduced their asset growth. The subsidiaries were unable to compensate for internal with external funding, and consequently had to decrease the amount of funds they provided to their clients. The chapter identifies that equity funding has much higher multiplier effects on asset growth than debt funding. This finding is expected as withdrawing equity tightens regulatory capital constraints and limits loan growth of the subsidiary.

In addition to the cross-sectional approach described above, the chapter reports results of panel estimation. Results of panel estimation correspond to the cross-sectional results. Moreover, panel results show that subsidiaries had similar internal funding trends in the pre-crisis period, which provides support to the hypothesis that results are driven by the crisis and not by other

confounding factors. The results withstand a battery of robustness checks such as different measurements of the exposure to the Eurozone crisis, and looking at the impact of changes in external funding.

The findings present dark side of cross-border banking, and are of relevance for policy makers. While cross-border banking helps financial integration and enables loan growth, it also makes economy vulnerable to financial shocks from abroad. Policy makers need to be aware of this, and provide incentives for stable funding models.

Chapter 2: Labour Market Effects of Immigration: Evidence from Yugoslav War Refugees in Serbia

The chapter explores the refugee influx to Serbia during the Yugoslav wars, in order to study the labour market effects of immigration. The refugees were the Serbian minority from Bosnia and Croatia, and shared the same language, culture and previous labour market experience with the domestic population of Serbia. This allows me to control for labour market substitution, which is problematic in studies of migration effects based on flows from developing to developed countries.

The main empirical approach of the paper consists of instrumental variables estimation, where I instrument for refugee influx using the share of pre-war migrants and the distance from the war region as instruments. Instrumenting for refugee influx addresses the issue of the endogeneity of the location choice: concern that refugees settled in municipalities with higher expected economic growth. Besides instrumental variables estimation, the paper reports results of matching and synthetic control approach, as well as a series of robustness checks.

Estimated effect of wages is more negative than in studies that examined migration to developed countries. According to Hamermesh (1993), estimated decrease in wages for 10% increase in number of immigrant workers on the U.S. data is around 3%, which is half of the estimated effect for Serbia. However the effect is short-lived and labor markets adjust in a period of two years. The chapter identified negative effects on unemployment rate and increase in rate of commuters who commute to work to other municipality. The chapter did not find any relationship between refugee influx and migration abroad. The latter seems to be primarily driven by legacy reasons: historical rate of migration abroad.

Chapter 3: Foreign Firms and Corporate Philanthropy: Evidence from Serbia

On a sample of 2,000 Serbian companies during the period from 2010 to 2013, the chapter examines the main drivers of corporate donations spending. In particular, the chapter compares donation behaviour: donated amount and propensity to donate, of domestic and foreign owned firms. Economic theory has ambiguous predictions with respect whether foreign firms donate

more than domestic firms. On the one hand foreign firms have established corporate social responsibility practices, as well as significant resources. On the other hand, domestic firms have stronger connection to domestic communities, potential donation recipients, as well as legacy of firm investments in social infrastructure, inherited from period of socialism. Hence, the question is empirical and needs to be answered by examining the data. Besides comparing donation behaviour of domestic and foreign firms, the chapter also examines the impact of country of origin: level of economic development and legal origin, and firm management: if the firm is run by a foreigner or by the Serbian national.

The empirical approach consists of a pooled OLS and logit estimation. In a pooled OLS, the dependent variable is share of donations, expressed as a share of revenues or as an absolute amount, while in logit estimation the dependent variable is indicator if the firm made donation in a given year. As a robustness check, I replicate the estimation with Poisson regression.

The findings suggest that domestic firms donate more than foreign firms: domestic firms are four percentage points more likely to make a charitable donation than foreign firms. Conditional on donating, domestic firms spend 0.05 percentage points of revenue more on donations than foreign firms. Home country characteristics and management composition are important determinants of donation behaviour. Foreign companies from developing and offshore countries donate less than companies from developed countries. Companies from English common law countries donate less than companies from civil law countries, particularly Scandinavian countries. Last but not least, a higher share of foreign directors is associated with lower donations.

These findings suggest that foreign firms are slow in transferring corporate philanthropy practices. Hence, there are limited benefits of foreign investment in terms of corporate charitable giving. If policy makers find charitable giving an important criterion when deciding which investors to attract, then they should aim for attracting Scandinavian firms, as well as incentivizing foreign companies to nominate domestic managers.

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RESEARCH INTERESTS

Empirical banking, Development economics

EDUCATION

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10/2009 – 06/2010 MA in Law and Economics, University of Belgrade
02/2008 – 06/2008 Exchange semester, Corvinus University of Budapest
09/2005 – 06/2009 BA in Economics, University of Belgrade

PROFESSIONAL EXPERIENCE

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10/2016 – 06/2017 Quantitative Pricing Analyst, Blacklane, Berlin
11/2014 – 09/2016 Associate, Morgan Stanley, Budapest
06/2013 - 09/2014 Research assistant, Central European University, Budapest
06/2013 – 09/2013 Visiting researcher, Hungarian National Bank, Budapest
11/2009 – 08/2010 Junior economist, Foundation for the Advancement of Economics,
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06/2009 – 09/2009 Intern, TUI AG, Hannover
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TEACHING EXPERIENCE

Mathematics pre-session (Summer 2013, CEU)
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PUBLICATIONS

Vujić, Vukan. "Internal capital markets and crisis transmission: evidence from foreign bank subsidiaries in CESEE." *Focus on European Economic Integration*. Q 3 (2015): 39-56.

H. Akbar, Yusaf, and Vukan Vujić. "Explaining corruption: The role of national culture and its implications for international management." *Cross Cultural Management* 21, no. 2 (2014): 191-218.

CONFERENCE PRESENTATIONS

„Macroeconomic Policies and Financial Stability Issues in Emerging Markets“, 30 October, 2014, Baku

HONORS AND SCHOLARSHIPS

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Doctoral Fellowship, Central European University (2010-2013)

Serbian Government Scholarship (2008-2013)

SKILLS

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