

AFAANZ Grant Report

30.11.2018

1) - Dr Vladimir Volkov, Developing researcher, Lecturer in Economics and Finance, University of Tasmania, Tasmanian School of Business and Economics, e-mail: Vladimir.volkov@utas.edu.au

- Professor Mardi Dungey, Established Researcher, Professor in Economics and Finance, University of Tasmania, Tasmanian School of Business and Economics, e-mail: mardi.dungey@utas.edu.au

2) Title: Measuring interconnectedness of the global equity market from historical decompositions

3) Updated Project Summary: We propose a novel approach to extend the spillover index of Diebold and Yilmaz (2009, 2014) to one calculated from historical decompositions. The extension allows for signing of the contribution of different spillovers to target markets, and thus whether they are associated with "good" or "bad" news in the market. This project will develop applications for this new methodology including for a set of global daily equity market indices for the period 1996-2016. This will lead to a new mapping which includes not only the direction of spillovers between equity markets, but also the signed impact of those spillovers.

4) Funds Granted: 5986\$

5) Detailed Report on Expenditure of Funds against Budget Items, with variations explained:

We spent 4996\$ on the video card (Titan V). Initially we wanted to spend 2450\$ on this item but a specification of this video card was not powerful enough. As it was proposed in the original budget, this project required to work with big data sets. These data sets required additional computational power to accelerate an estimation of spillover indices that we proposed.

6) Outcomes, for example, working papers, presentations and publications (give full details, including abstracts)

- CAMA working paper, 52/2017: Mardi Dungey, John Harvey, Pierre Siklos, Vladimir Volkov, Signed spillover effects building on historical decompositions;

Abstract: The spillover effects of interconnectedness can be further decomposed into both the sources of shocks and whether they amplify or dampen volatility conditions in the target market. We show how to use historical decompositions to rearrange the information from a VAR to include the sources, direction and signs of spillover effects building on the unsigned forecast error variance decomposition approach. We apply the methodology to a panel of CDS spreads of sovereigns and financial institutions for the period 2003-2013 and identify how these entities contribute to global systemic risk.

- Presentations: 2017 Banking and Financial stability meeting; 2018 University of Adelaide economics seminar; Economics seminar series 2018 – Indiana University.

7) Future Intentions for this Project (give full details)

a. Conference submissions:

I am going to present this paper in the CFE conference, Italy in December 2018.

b. Journal submissions

We expect 2 publications from this project. In particular, the first paper that establishes an idea and intuition behind the newly proposed signed spillover index will be submitted to the Journal of Money, Credit and Banking in the first half of 2019. Another paper that reveals econometric properties of the signed index in more detail will be submitted to the Journal of Financial Econometrics by the end of 2019.

8) Summary of Outcomes and Benefits

We should like to rank this AFAANZ project as very beneficial for both participants.

- During the presentation at Indiana University we were able to establish an emerging link with academics working on the similar problem. This motivates a new project on extending ideas related to the signed spillover index.
- 2 PhD students used our methodology in their thesis. They found that our method is useful in empirical applications especially in the context of developing financial markets.
- We expect 2 Q1 publications (SCIMAGO journal ranking) from this project.