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Contents

EDITORIAL: Risk concentrations and the length of the financial intermediation chain s 1
News shocks and boom-bust cycles 2
Professor Koen Schoors is the new BOFIT new research fellow 5
Recent appointments at the Research Unit 6
Conferences and seminars 7
Recent Bank of Finland research publications 9

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EDITORIAL:

Risk concentrations and the length of the financial intermediation chains

Both academics and policymakers have for a long time, and often quite intensely, debated the relative merits and optimality of bank-based vs market-based financial systems. Recent research has argued that classifying financial systems as either bank-based or market-based may not be useful from the perspective of distinguishing financial systems. In fact, the most recent financial crisis provides a perfect example of why thinking in terms of a sharp distinction between bank-based and market-based financial systems does not greatly enhance our understanding of the dynamics of financial systems.

More specifically, the current crisis has the distinction of being the first post-securitization crisis in which banking and capital market developments have been closely intertwined.[1] Although in a historical context we are used to thinking of banks as reacting to changes in the external environment, expanding and contracting lending in response to shifting economic conditions, in a market-based financial system built on securitization banking and capital market developments are inseparable.

Securitization itself was marketed as an efficient means to allocate risks optimally, but a view has now emerged arguing that in the final crisis the risks seem to have been concentrated in the financial intermediary sector rather than with the final investors, who should have been better able to bear it. Not only do we have to dispense with the old view, so the argument goes, that emphasized the positive contribution of securitization to efficient allocation of risks, but also with the 'hot potato'[2] hypothesis, in order to understand the role played by securitization in the financial crisis. The 'hot potato' hypothesis fails to explain why securitization worked well for thirty years before the subprime crisis and also fails to distinguish between selling a bad loan down the chain and issuing liabilities backed by bad loans. If a bank manages to sell a bad loan, it gets rid of the bad loan and it is then someone else's problem. On the other hand, by issuing liabilities against bad loans, the bank does not get rid of the bad loans. In

[1] This is most convincingly spelled out in an analysis by Hyun Song Shin, *Financial Intermediation and the Post-Crisis Financial System*, BIS Working Papers No 304. March 2010

[2] "Hot potato" hypothesis is the name Shin (ibid.) gives to the new wisdom that emphasizes the chain of unscrupulous operators who passed on bad loans to the greater fool next in the chain.

fact, instead of passing the hot potato to a greater fool next in the chain, a bank may end up keeping the hot potato on its own balance sheet or pass it to a special purpose vehicle that the bank is sponsoring.

A distinct feature of financial intermediation based on securitization is the long chains of financial intermediaries involved in channelling funds from the ultimate creditors to the ultimate borrowers. An important observation in this context is that the longer the chain the more heavily it is dependent on the overall developments in the capital markets. More potential break points are introduced into the chain once it grows longer, so the natural question seems to be what are the benefits of such long intermediation chains? The experience from the most recent financial crisis suggests that it cannot be dispersion of credit risk, since the underlying interaction between banking and capital market development appears to have concentrated, not dispersed, such risks. This issue does, however, need further exploration in order to get a clearer picture.

An alternative reason could be an inherent need for maturity transformation in the financial system emerging from the demand for short-term claims by ultimate creditors. This maturity transformation can be made easier by coupling lending relationships together in a long chain of intermediation. This, in turn, implies the need to re-think the role of short-term debt. According to the more traditional thinking emphasizing banks' rigid and fragile deposit-only capital structure, short-term debt is a disciplinary device for bank managers not to engage in actions that dissipate the value of the bank's assets or an incentive mechanism for managers not to try to extort rents. However, prior to the most recent financial crisis, the ultra-short nature of financial intermediaries' obligations to each other cannot be easily explained by retail depositors' demand for short-term liquid claims.

More research is needed to shed light on this issue, but perhaps we can speculate on the idea that the long chain of intermediation fundamentally reflects the changing role of banks in the financial markets. Improvements in information technology and communication have had the effect of making public markets better informed so that eg more firms now have access to direct market funding. But these developments have not driven banks out of corporate lending, since they have refocused their core competence. Banks' core competence is to provide not funding per se, but funding on demand. In order to maintain its core competence, a bank needs to transform its assets continuously, which may explain and further strengthen the interaction between capital market developments and banking.

Jouko Vilmunen

News shocks and boom-bust cycles

Co-movement seems to be an inherent property of business cycle data. Aggregate co-movement refers to strongly positively correlated macroeconomic aggregates such as output, consumption, investment, hours worked and real wages. On the other hand, business cycle data also flags strong sectoral co-movement, meaning that variables such as output, employment and investment tend to rise and fall together in different sectors of the economy.

It would be natural to argue that these co-movement properties reflect the central role that aggregate shocks play in driving business fluctuations. However, it has proven to be surprisingly difficult to generate both aggregate and sectoral co-movement, even in models where aggregate shocks are the sole drivers of fluctuations. For example, Barro and King (1984)[3] are able to generate aggregate co-movement in their one-sector growth model only when the model economy is hit by contemporaneous shocks to total factor productivity (TFP). Other shocks produce a negative correlation between consumption and hours worked. On the other hand, Christiano and Fitzgerald (1998)[4] show that a two-sector version of the neoclassical model driven by aggregate, contemporaneous TFP shocks lacks the mechanism to generate sectoral co-movement of investment and hours worked.

Underlying the difficulty in generating co-movement between consumption and hours worked is the strong wealth effect in labour supply. Such strong wealth effects are also a feature of *news* (or expectations) *shocks*, which typically refer to shifts in agents' beliefs concerning future productivity developments in the economy. In standard neoclassical models of aggregate fluctuations, for example, an increase in perceived future productivity growth induces households to increase their current consumption, *including leisure*, since they act on an increase in their perceived wealth.[5] A rapidly growing literature has emerged on the role of news shocks in business cycle fluctuations in general and on mechanisms, with or without frictions, that help overcome the strong wealth effect associated with news shocks in particular.[6] The relevant research has produced a number of ideas on how to generate co-movement from news shocks: complementarities between durable and non-durable goods, variable capacity utilization, investment adjustment costs to investment and preferences giving rise to weak wealth effects on labour supply, habit persistence.

Maria Teresa Punzi

A particularly interesting line of thought in this context seeks an answer to the question of the role of news shocks in generating boom-bust cycles in asset prices, and perhaps also in real economic activity, or, if not a boom-bust cycle in real activity, at least a hump-shaped co-movement in output, consumption, investment, hours worked and housing investment as observed during the boom-bust housing price cycles in e.g. the US. However, as also noted by Luisa Lambertini, Caterina Mendecino and Maria Punzi (henceforth, LMP) in their forthcoming Bank of Finland discussion paper 'Expectations-Driven Cycles in the Housing Market', modelling endogenous boom-bust cycles in macroeconomics is a major challenge. It is difficult to generate extended periods of sustained house price growth followed by reversals through unanticipated shocks, which generate the strongest responses in the short run and eventually die out.

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[3] Barro R. J. and King R. G. (1984), 'Time-Separable Preferences and Intertemporal Substitution Models of Business Cycles', *Quarterly Journal of Economics*, 99: 817-839.

[4] Christiano L. and Fitzgerald T. (1998),'The Business Cycle: It's Still a Puzzle', *Federal Reserve Bank of Chicago Economic Perspectives*, 22: 56-83.

[5] The underlying assumption here is that leisure is a normal good.

[6] See e.g. Jaimovich N. and Rebelo S. (2008), 'News and Business Cycles in Open Economies', *Journal of Money Credit and Banking*, December, Vol. 40, Issue 8, 1699-1711; Jaimovich N. and Rebelo S. (2009), 'Can News about the Future Drive the Business Cycle?', *American Economic Review*, September, Vol. 99, Issue 4, 1097-1118; Khan H. and Tsoukalas J. (2011), 'The Quantitative Importance of News Shocks in Estimated DSGE Models', wp http://http- erver.carleton.ca/~hashkhan/Research/research.html.

To motivate their analysis, LMP refer to a potential link between households' optimism about favourable future house price developments and housing market booms. More generally, recent research[7] has come to emphasize the role of households' beliefs and various behavioural biases, optimism being one of them, in economic boom-bust cycles. Empirical research has provided evidence that some of these biases have the potential of amplifying asset price and business fluctuations, although it may still be difficult to generate amplified cycles from these behavioural biases in models of business cycle fluctuations of the neoclassical growth model variety, as shown by Jaimovich and Rebelo (2006)[8]. LMP further argue that survey evidence gives a significant role not only to news on business conditions and optimistic expectations of future house price developments, but also to future credit conditions, in affecting house price developments.

LMP seek to show that news on a variety of shocks can generate optimism about future house price developments. On the theoretical side, the authors extend the DSGE model of Iacoviello and Neri (2010)[9], which explicitly models the price and quantity side of the housing market, to allow for news shocks originating in different sectors of the economy. Essentially, the model constructed by Iacoviello and Neri combines four elements: i) a multi-sector structure with housing and non-housing goods, ii) nominal rigidities, iii) financial frictions in the household sector (with impatient and patient consumers or households that do and don't accumulate capital) and iv) a rich set of shocks. The ex ante heterogeneity among the households, with the impatient household wanting to borrow against future income to increase current consumption, induces credit flows across the households. Impatient households can borrow only up to a fraction (= Loan-To-Value, LTV) of their housing wealth. The fourth feature of the model is needed to take the model to the data.

LMP show that the news shocks they incorporate in the model have the potential to generate empirically plausible housing market fluctuations accompanied by hump-shaped dynamics in key macroeconomic variables, which, in addition, display co-movement. For the more specific issues of a boom to emerge from news shocks, the authors show that the necessary condition in this context is that agents expect rising house prices, which in turn fuels current housing demand and raises house prices on impact. Because the impatient households borrow against the collateral value of their houses, inflated house prices are coupled with an endogenous increase in household indebtedness. If expectations are not fulfilled, the housing market collapses, with a dramatic drop in both quantities and prices.

LMP also show that anticipated shocks originating in different sectors of the economy can generate housing market boom-bust cycles characterized by co-movement in GDP, consumption, investment, hours

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[7] See e.g. Piazzesi M. and Schneider M. (2009), 'Momentum traders in the housing market: survey evidence and a search model', *American Economic Review* P&P 99:2, pp. 406-411 and Nofsinger J.R.(2011), 'Household Behavior and Boom/Bust Cycles', forthcoming *Journal of Financial Stability*.

[8] Jaimovich N. and Rebelo S. (2007), 'Behavioral Theories of the Business Cycle', *Journal of the European Economic Association*, April–May, Vol. 5, No. 2-3, 361-368. The authors show that, of the behavioural biases they consider, expectations shocks and overconfidence – overestimating the precision of signal they receive (of economic fundamentals) – have the potential to generally increase business cycle volatility in an RBC-type model.

[9] Iacoviello M. and Neri S. (2010), 'Housing Market Spillovers: Evidence from an Estimated DSGE Model', *AEJ Macroeconomics* 2(2), 125-164.

worked and real wages. In particular, perceived future changes in both productivity and monetary policy can be a source of empirically plausible swings in house prices. However, the dynamic simulations indicate, interestingly, but perhaps somewhat surprisingly, that expectations only on shocks related to some of the nominal variables (such as the monetary policy rate and (central bank target) inflation) that are not met are likely to have adverse subsequent macroeconomic effects. LMP furthermore investigate the role of credit conditions as a source of housing market fluctuations as well as their role in the transmission of boom-bust cycles generated by expectations of different shocks. A representative household tends to think it is a good time to buy a house when current credit conditions are favourable and when they perceive credit tightening in the future. On the other hand, a lower LTV ratio dampens the boom-bust cycle in household debt, consumption and GDP. The more general proposition that emerges indicates that lower LTV ratios tend to reduce the volatility of these variables in the presence of both innovations and news shocks.

Hence, constraints on leverage seem to be the key to reducing excessive macroeconomic volatility that threatens to increase the fragility of the economy and to expose it to welfare-reducing boom-bust cycles. Important as these results derived by LMP are, further research is needed to gain further understanding on the precise nature of e.g. optimal collateral policy. Also, what is the nature of optimal monetary policy in the face of news shocks? For example, does monetary policy depend on whether or not a perceived shock is realized in the future?

Jouko Vilmunen

Professor Koen Schoors is the new BOFIT new research fellow

Professor Koen Schoors from Ghent University, Belgium, has been appointed the new research fellow of the Bank of Finland Institute for Economies in Transition. Prof. Schoors is one of the world's leading researchers in the Russian banking system. He has also carried out more general research on the functioning of financial markets in various institutional environments and their effects, for instance, on economic growth.

Koen Schoors

At BOFIT, Prof. Schoors will participate in a number of research projects concerning Russia's financial system. Russia offers an excellent opportunity to study for example the relationship between financial system and economic growth, since the change of socio-political system from socialism to a market economy can be regarded as a certain kind of natural experiment, such changes occurring relatively rarely in society. On the other hand, in interpreting research results, the specificities of the Russian economy and society must naturally be borne in mind. Prof. Schoors has researched eg the effects of the introduction of deposit insurance in Russia,[10] in which Prof. Schoors demonstrated that the

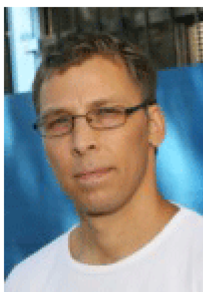
[10] Karas A, Pyle W and Schoors K (2010) The effect of deposit insurance on market discipline: Evidence from a natural experiment on deposit flows. BOFIT Discussion Papers 8/2010.

expansion of deposit insurance scheme to all commercial banks changed depositors' behaviour. After the scheme's introduction, insured depositors were less sensitive to their banks' risk and capitalisation levels. The findings demonstrate the potential for the expansion of deposit insurance to increase moral hazard, and that, in any case, it decreases market discipline among banks.

Iikka Korhonen

Recent appointments at the Research Unit

William Kerr


Otto Toivanen

Research unit has recruited two research economists from outside the Bank. Following our international recruitment, Mr Adam Gulan, PhD in Economics, Rutgers University, joined the Research unit in September 2011 (http://econ.rutgers.edu/agulan/index.html). . Ms Helinä Laakkonen, also with a PhD in Economics, has been appointed as of 1 January 2012 (http://blogs.helsinki.fi/hellaakk/). We now have a team of six research economists as planned.

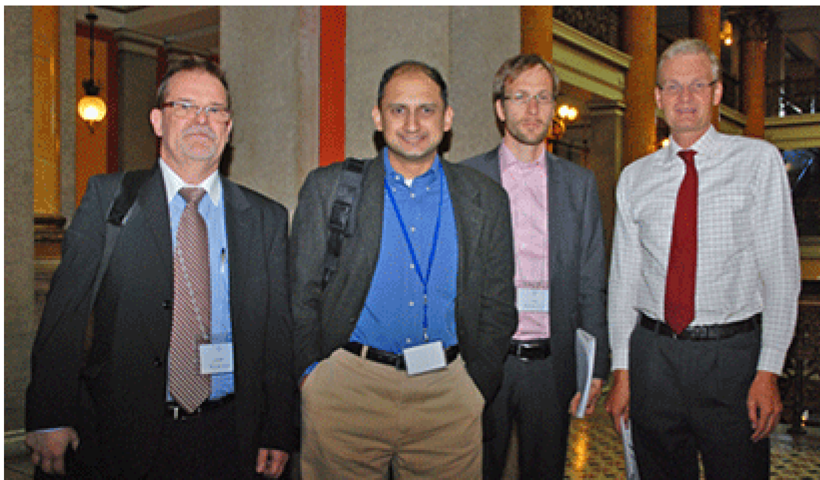
The Research Unit has also now recruited all four Research Fellows, with 1– 2 year contracts. We are pleased to announce the recent appointments of professors William Kerr from Harvard Business School (http://drfd.hbs.edu/fit/public/facultyInfo.do?facInfo=ovr&facId=337265) and Otto Toivanen from Katholieke Universiteit Leuven http://www.econ.kuleuven.be/msi/members/toivanen.htm. The main research interests of William Kerr are in economics and entrepreneurial finance while Otto Toivanen focuses on industrial organization and economics of innovations.

We have also renewed the contracts of the other two Research Fellows: Martin Ellison, Professor of Economics at the University of Oxford, and Timo Korkeamäki, Professor of Finance at the Hanken School of Business in Helsinki.

Conferences and seminars

Recent conferences with papers and presentations available

The Bank of Finland, CEPR (Center for Economic Policy Research), Journal of Financial Intermediation and SUERF (European Money and Finance Forum) jointly organized a conference on **The Future of Risk Management** in September 2011. The papers and presentations are available at the conference site http://www.suomenpankki.fi/en/tutkimus/konferenssit/aiemmat_konferenssit/Pages/CEPR_SUERF_2011.aspx.



Jouko Vilmunen, Viral Acharya, Esa Jokivuolle and Philipp Hartmann in the SUERF/CEPR conference, September 2011.

The Workshop on **Frequency Domain Research in Macroeconomics and Finance** was organized in October 2011 by the Bank of Finland Research in cooperation with Texas A&M University Corpus Christi, University of East London and the International Network of Economic Research (INFER). This was the first workshop to bring together economists working in this innovative area. Please visit the workshop site for the presentations and papers. http://www.suomenpankki.fi/en/tutkimus/konferenssit/aiemmat_konferenssit/Pages/FDR2011.aspx.

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Ramazan Gençay, Patrick Crowley, Jouko Vilmunen and Andrew Hughes Hallett after the workshop, October 2011.

Keynote speaker James Ramsey in the workshop, October 2011.

The Bank of Finland and the Oesterreichische Nationalbank (OeNB) jointly organized an international conference in Vienna on 21–22 November 2011, entitled **"Conference on European Economic Integration: European Integration in a Global Economic Setting – CESEE, China and Russia"**. The conference dealt with various aspects of the impact of China and Russia as emerging global economic players on the catching-up process in Central, Eastern and Southeastern Europe. Speakers from the Bank of Finland included Governor Erkki Liikanen, Member of the Board Seppo Honkapohja and Head of BOFIT Iikka Korhonen. Presentations given at the conference are available at the conference site http://oenb.at/en/service_events/fruehere_va/2011/ceei2011/conference_on_european_economic_integration_ceei_2011.jsp#tcm:16-234930.

Upcoming conferences

In 2012 the Bank of Finland will co-organize three international conferences in the key area of the Research Unit (interaction and stability of financial markets and the macroeconomy). The first will be a conference entitled **"Financial and macroeconomic stability: Challenges ahead"**, co-organized with the central banks of Turkey and Brazil and in cooperation with the Journal of Financial Stability. The conference will be held on 4–5 June 2012 in Istanbul. The second conference will be organized jointly together with the CEPR, on 11–12 October 2012 in Helsinki. The topic will be **search frictions and aggregate dynamics**. The ultimate decision on the third conference will be taken later.

Bank of Finland Research Seminars

Thursday 12 January 2012
Prof. Charles Noussair
Tilburg University
DSGE macro experiments at the central bank

Research seminars organized by the Bank of Finland's research unit are held on the first Thursday of the month at 13.30–15 in Rauhankatu 19, 3rd floor big meeting room (unless indicated otherwise). Research seminars are open to all interested parties. Please register in advance at seminars@bof.fi by noon of the preceding day. For further information please visit the seminar site.

BOFIT seminars

Tuesday 13 December 2011
Zuzana Fungáčová (BOFIT) & Petr Jakubík (ECB)
Bank stress tests as an information device for emerging markets: the case of Russia

Thursday 15 December2011 at 14:00
Alexander Plekhanov
EBRD
Region-specific constraints to doing business: evidence from Russia

Tuesday 20 December 2011
Sergei Vlasov
Central Bank of Russia
Assessing the fiscal stabilization and fiscal sustainability aspects of the Russian public finance

BOFIT seminars, open to all interested parties, are held on Tuesdays at 10.30 in Rauhankatu 19, 3rd floor big meeting room (unless indicated otherwise). Please register in advance via Noora Soikko (firstname.lastname@bof.fi). For further information please visit the seminar site.

Recent Bank of Finland research publications

Bank of Finland Research Discussion Papers

23/2011
Tatu Laine – Tuomas Nummelin – Heli Snellman: Combining liquidity usage and interest rates on overnight loans: an oversight indicator

22/2011
Kaushik Mitra – George W. Evans – Seppo Honkapohja: Policy change and learning in the RBC model

21/2011
Maritta Paloviita – Helvi Kinnunen: Real time analysis of euro area fiscal policies: adjustment to the crisis

20/2011
Yehning Chen – Iftekhar Hasan: Subordinated debt, market discipline, and bank risk

19/2011
Bill Francis – Iftekhar Hasan – Zenu Sharma: Leverage and growth: effect of stock options

18/2011
Bill Francis – Iftekhar Hasan – Qiang Wu: The impact of CFO gender on bank loan contracting

17/2011
Bill Francis – Iftekhar Hasan – Zenu Sharma: Incentives and innovation: evidence from CEO compensation contracts

16/2011
Meri Obstbaum: The role of labour markets in fiscal policy transmission

BOFIT Discussion Papers

29/2011
Pierre Pessarossi and Laurent Weill: Choice of Corporate Debt in China: The Role of State Ownership

28/2011
Maria Semenova: Save or borrow – what determines Russian households' financial strategies?

27/2011
Anne-Laure Delatte, Julien Fouquau and Carsten A. Holz: Explaining money demand in China during the transition from a centrally planned to a market-based monetary system

26/2011
William Pyle: The ownership of industrial land in Russian cities: Explaining patterns of privatization across regions and firms

25/2011
Yin-Wong Cheung and Eiji Fujii: Exchange rate misalignment estimates – Sources of differences

24/2011
Elena Fedorova: Transfer of financial risk in emerging eastern European stock markets: A sectoral perspective

23/2011
Vladimir Mau: The role of state and creation of a market economy in Russia

22/2011
Xinhua He, Duo Qin and Yimeng Liu: Exchange rate misalignments: A comparison of China today against recent historical experiences of Japan, Germany, Singapore and Taiwan

21/2011
Dong He and Honglin Wang: Dual-track interest rates and the conduct of monetary policy in China

20/2011
Elena B. Deryugina, Alexey A. Ponomarenko: Identifying structural shocks behind loan supply fluctuations in Russia

19/2011
Zhichao Zhang; Nan Shi; Xiaoli Zhang: China’s new exchange rate regime, optimal basket currency and currency diversification

18/2011
Peter Sarlin, Tuomas A. Peltonen: Mapping the State of Financial Stability

17/2011
Yanbing Zhang, Xiuping Hua and Liang Zhao: Monetary policy and housing prices; a case study of Chinese experience in 1999–2010

16/2011
Gregory C Chow, Changjiang Liu, Linlin Niu: Co-movements of Shanghai and New York Stock prices by time-varying regressions

Forthcoming Bank of Finland Research Discussion Papers

Maria Teresa Punzi: Housing market and current account imbalances in the international economy

Luisa Lambertini – Caterina Mendicino – Maria Teresa Punzi: Expectations-driven cycles in the housing market

Forthcoming BOFIT Discussion Papers

Pierre Pessarossi – Laurent Weill: Choice of Corporate Debt in China: The Role of State Ownership

Guonan Ma – Yan Xiandong – Liu Xi: China's evolving reserve requirements

Vladimir Mau: The State and Creation of a Market Economy in Russia

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