

PETROS KATSOULIS

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RESEARCH INTERESTS

Macroprudential policy, financial stability, stress testing

EDUCATION

PhD Finance Cass Business School	2015 – 2021
MSc Mathematical Trading and Finance (Distinction) Cass Business School	2013 – 2014
BSc Financial and Management Engineering (Merit) University of the Aegean	2007 – 2012

RESEARCH

Working papers

Fiedor, P., and Katsoulis, P. (2020). [Information and liquidity linkages in ETFs and underlying markets](#). *Research Technical Paper Series*, 2020(8). Central Bank of Ireland.

Katsoulis, P. (2018). Systemic Liquidity Risk and Money Market Funds.

Casu, B., Kalotychou, E., and Katsoulis, P. (2017). Systemic Stress Testing under Central and Non-Central Clearing.

Policy Publications

Fiedor, P., and Katsoulis, P. (2019). [An Lonn Dubh: A Framework For Macroprudential Stress Testing of Investment Funds](#). *Financial Stability Notes*, 2019(2). Central Bank of Ireland.

PROFESSIONAL EXPERIENCE

Bank of England Research, Markets Directorate PhD Intern	11/2020 – 02/2021
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Bank of England Stress Testing Strategy, Financial Stability Strategy and Risk Directorate PhD Intern	10/2019 – 01/2020
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- Developed a methodology to estimate accurate market liquidity measures of government bonds in the absence of detailed transactions data, an important parameter of fire sales models measuring systemic risk

Central Bank of Ireland Market Based Finance, Financial Stability Directorate Economics Research Intern	09/2018 – 05/2019
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- Developed An Lonn Dubh, the Bank's macroprudential stress testing framework for investment funds domiciled in Ireland and presented it at the ESRB Task Force on Stress Testing
- Used Python and object-oriented programming to develop a framework that is modular, fully automated, highly flexible in terms of modelling assumptions and able to quickly provide results for a wide range of stress test scenarios

- Used the framework to inform policymakers about the potential adverse effects of various economic shocks for the stability of the asset management sector in Ireland

Cass Business School

Tutor

- International Banking (Postgraduate Course, 2020/21): Teaching online tutorials on issues related to banking
- Quantitative Methods for Investment Management (Postgraduate Course, 2017/18): Teaching lab-based tutorials using EViews. Student evaluation: 4.2/5
- Financial Econometrics (Undergraduate Course, 2016/17): Teaching lab-based tutorials using EViews. Student evaluation: 4.6/5

ICE Clear Europe

08/2014 – 07/2015

Junior Risk Analyst

- Responsible for the risk management of the equities asset class – closely monitored the market for news and corporate actions that affected stocks and ensured prudent action was taken whenever necessary
- Produced, analysed and improved risk reports, including market risk, backtesting, stress testing and clearing member reports using VBA and SQL
- Involved in quantitative tasks such as the application of Filtered Historical Simulation for the calculation of VaR, margining OTC Interest Rate Swaps under the new clearing regulations (EMIR) using multivariate analysis, providing solutions to statistical challenges such as accurate backtesting in the presence of correlated observations and developing new stress testing methodologies using PCA and Extreme Value Theory

ADDITIONAL INFORMATION

IT Skills

MS Office, Matlab, Python, SQL, EViews, Stata, SPSS, VBA, OxMetrics

Languages

Greek (Native), English (Fluent), French (Basic), Finnish (Basic)

Achievements and Interests

- Member of Beta Gamma Sigma, the academic honour society for business graduates
- Student Representative of PhD cohort: Organised student meetings to discuss academic progress and acted as a liaison between academic staff and students
- Associate Fellow of the Higher Education Academy
- Award for graduating 2nd best of BSc graduation year
- Played the piano for 10 years, performing in various concerts

REFEREES

Barbara Casu

Professor of Banking and Finance
Director of Centre for Banking Research
Cass Business School
City, University of London
b.casu@city.ac.uk

Pawel Fiedor

Senior Economist
Market Based Finance
Financial Stability Directorate
Central Bank of Ireland
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Giovanni Cespa

Professor of Finance
Director of PhD Programme Finance
Cass Business School
City, University of London
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Systemic Stress Testing under Central and Non-Central Clearing

The new OTC derivatives regulatory framework expanded the role of central clearing and established the collateralization of non-centrally cleared contracts. We assess the effects of this reform on bank-level and systemic risks. By developing a stress-testing network model of the largest market participants we compare defaults due to counterparty and liquidity risks and systemic losses in the regime with and without non-central clearing. We find risk-shifting effects from counterparty to liquidity risk and reduction of systemic risk at the expense of increased contagion from central counterparties. The expansion of central clearing further reduces systemic risk, in accordance with regulatory predictions.

Presented at: IBEFA Sessions in WEAI virtual 2020 annual conference, British Accounting and Finance Association 2018 conference, Financial Engineering and Banking Society 2018 conference and European Financial Management Association 2018 conference, as well as Bank of England and Central Bank of Ireland internal seminars.

Systemic Liquidity Risk and Money Market Funds

This paper examines the ability of the liquidity coverage ratio (LCR) to protect the banks against systemic liquidity risk arising from their interconnectedness with money market funds (MMFs). I develop a network model of banks (sellers) and MMFs (buyers) of money market securities and simulate MMF redemptions which can trigger asset sales and a disruption to the funding of the banks. The model is calibrated to the full holdings data of the US prime MMFs as of the end of 2017 following the introduction of the post-crisis regulations aimed at mitigating runs on MMFs and the adoption of LCR. I find that the banks can withstand the MMF funding withdrawal without breaching their LCR regulatory requirements even in the face of extreme MMF redemption shocks. The post-crisis reforms have similarly made MMFs more capable to withstand large redemptions, although they can still face severe losses if their cash is depleted and the banks are unwilling to accommodate asset sales. The results indicate that LCR can be effective from a macroprudential perspective at mitigating systemic liquidity risk.

Information and liquidity linkages in ETFs and underlying markets

We show that exchange-traded funds (ETFs) establish strong information links with the underlying equities but weak ones with the underlying corporate debt securities. This has several distinct effects on each asset class. First, ETFs propagate liquidity shocks to equities but not to debt securities. Second, ETF flows affect the underlying equities' returns to a much higher degree than debt securities' returns. Third, higher ETF ownership increases equities' volatility but decreases debt securities' volatility. The results are consistent with the view that the higher accessibility of equities facilitates the formation of close information links with ETFs through arbitrage, which makes equities' prices sensitive to ETF demand shocks and creates the potential for illiquidity contagion when this link is disrupted. In contrast, the hard-to-access nature of corporate debt securities results in weak information links with ETFs which reduces commonalities between the two markets.

Presented at: Bank of England and Central Bank of Ireland internal seminars, accepted for presentation at the 2020 European Winter Meetings of the Econometric Society.