Financial System Architecture and the Intermediation Quality

Does the architecture of the financial system matter? The design of markets and financial institutions shapes the incentives and actions of intermediaries. A well-crafted architecture of the financial system, in a broad sense, can improve resource allocation. A less inspired design on the other hand might have severe negative consequences. Consequently, regulators need to constantly adapt to financial innovation. One challenge is the evolving role of banks and market-based intermediaries. Another is the increasing interdependence of international financial systems. This dissertation studies the impact of recent or proposed changes in the financial systems architecture. How should we design better banking regulation? securities exchanges? trade settlement infrastructures?

Optimal banking union design (Zoican and Górnicka, 2014) The first chapter explores the optimal design of supranational bank regulation. The global financial crisis ignited the debate around a common European bank regulator – the European banking union. One of its major pillars is the single resolution mechanism (SRM). Under the SRM, interventions on insolvent banks are centralized at the European level. The International Monetary Fund points out the SRM should reduce insolvency contagion through an intervention policy that minimizes costs for all member countries. We argue lower contagion comes at the cost of higher risks taken on by systemically important banks. The cost is particularly large if these banks hold opaque assets, such as structured derivatives. A system in which the SRM coexists with the current national resolution mechanisms is arguably a superior arrangement, as it can both prevent insolvency contagion and keep risk taking incentives low.

Exchange latency and liquidity (Menkveld and Zoican, 2014) The second chapter turns to the design of equity markets. Do exchanges get better when trading platforms reduce their latency? On the one hand, a faster market allows high-frequency market makers to update their price quotes faster on incoming new information. On the other hand, high-frequency speculators are also able to act faster on this new information and profit by trading against potentially stale quotes. A faster market essentially makes the trading game in each (shorter) interval more of a game between markets makers and speculators. Market makers need to raise the bid-ask spread to recoup the increased adverse selection costs against speculators. The impact on liquidity is negative. A NASDAQ-OMX
system speed upgrade is used to empirically test the implications of the model. Following this upgrade, adverse selection cost for high-frequency market makers increased significantly by 2.11 basis points.

**Central clearing and market quality (Menkveld, Pagnotta, and Zoican, 2013)** The design of market infrastructure is the focus of the third chapter. The introduction of central clearing in Sweden, Denmark, and Finland in 2009 serves as a quasi-experiment to investigate the link between clearing and trading quality. We find that mandatory central clearing reduces volatility. Following the reform, daily squared returns for Nordic stocks decreased by 21 basis points: a 9.21% decline. Lower volatility is not associated with better market efficiency, as in Foucault, Sraer, and Thesmar (2011). Also, turnover drops by 11.27% – effect which is primarily driven by volatility. As in Lo and Wang (2000) and Rytchkov (2014), lower volatility leads to lower portfolio re-balancing needs and hedging demand. The volatility decline is significantly stronger for stocks with higher margin requirements.