Research Statement

Hormoz Ramian[1]

My research studies how joint macroprudential policies provide welfare gains to society. Understanding the interdependencies among regulatory policies remains an open area of research with welfare implications. Conflicting effects among policies may lead to over-regulation and disruptions in the credit flow to the real economy. Alternatively, policies decided in isolation may lead to under-regulation, heightened default risk with possibly failures with socially undesirable outcomes. My research agenda is focused on providing a framework to understand policy interdependencies and show how a comprehensive financial regulation collectively advances the efficiency of the financial system.

In my job market paper, I focus on a specific cross-dependency and raise the following question: how does the effectiveness of a risk-weighted capital requirement on the liabilities of the banking system depend on reserve management directives of the monetary authority? I set forth two key findings: first, this interaction matters for welfare analysis. This is because as the monetary authority lowers the interest rate on voluntary reserves, with the intention of channeling out idle reserves into the real economy, the equilibrium interest rate on deposits falls almost proportionally (Schnabl et al. (2017)). Because the proportion of deposits within the liabilities always exceeds that of the reserves on the asset side of the balance sheet, the overall interest expenses of the banking system falls faster than interest incomes from voluntary reserves. This result shows that the banking system's solvency enhances, given any lending level. Nonetheless, the risk-weighted capital requirement fails to consider this effect and hence remains unchanged and becomes socially costly. I show that a looser capital constraint, given any lending level, together with falling voluntary reserves interest rate provides welfare gains. This finding establishes that the credit flow to the real economy expands, while the bank's default likelihood remains constant, as a result of a jointly determined policy by the financial regulatory authority and the monetary authority.

This finding is economically important because of the role of the banking sector within the financial system but also the size of the voluntary reserves relative to the balance sheet size of the central banks in charge of 40% of the world economy (including the Federal Reserve System, the ECB, the Danish National Bank, the Swiss National Bank, the Sveriges Riksbank, and the Bank of Japan).

Second, I show that the direction of this cross-dependency reverses when the interest rate on voluntary reserves becomes very low, or possibly negative. In general equilibrium, as this interest rate approaches or falls below the zero bound, the equilibrium deposit rate remains always above zero because the depositors always require positive compensation to forgo consumption. As a result, the bank's interest incomes fall faster than the fall in

[1]Imperial College London, Email: h.ramian@imperial.ac.uk

its interest expenses and the overall solvency within the banking sector worsens. The ongoing risk-weighted capital regulation fails to consider this effect. This finding shows that a stricter capital requirement by the financial regulatory authority that is a negatively correlated with the policy decision of the monetary authority provides welfare gains to the society.

The economic significance of this finding matters for the current and possibly forthcoming decades, with prolonged and declining interest rates and low productivity. Given, the negative interest rates on bank reserves in over 25% of the financial systems around the world (Eurozone, Switzerland, Sweden, Denmark and Japan), a clear understanding of the implications of lower or negative interest rate policies is very important in analysing effective financial regulation and performing welfare analysis.

In an ongoing research, I further these findings by raising the following question: How does this comprehensive regulation of the financial system matter for wealth distribution? Welfare analysis establishes that optimal financial regulation provides an overall gain to the society, nonetheless, I show that this gain happens at the expense of an exacerbated wealth distribution. I show that when capital markets are segmented, financial regulation leads to a transfer of wealth from depositors to equity investors. An integrated monetary and financial regulatory policy achieves welfare gains due to a credit flow expansion to the real sector, while default likelihood within the banking sector remains fixed. Nonetheless, this constrained equilibrium allocation is associated with lower deposit rate while dividends increase, leading to a wealth transfer across market segments. I provide sufficient conditions under which optimal financial regulation leads to welfare gains without exacerbating wealth heterogeneity.

My future work focuses on numerous open questions within the macro-finance and financial intermediation research. More specifically, many studies since Diamond & Dybvig (1983) to present day, have examined how the behaviour of the banking system is affected, given the deposit insurance scheme. I take a different approach and ask: how is the behaviour of the deposit insurance affected, given that of the banking system? An under-funded deposit insurance is unable to provide compensation for depositors in full when failures are widespread. Nonetheless, putting aside large quantities of funds in anticipation of unlikely widespread failures is socially costly.[2] This trade-off relates to the original question in my job market paper where idle funds become abundant and socially undesirable. An effective policy that provides welfare gains sits in the intersections among financial regulatory and government institutions.

[2]Recent studies (Dávila & Goldstein (2016), Allen et al. (2018)) review this question and provide an optimal deposit insurance funding level that is socially desirable.

References

Allen, F., Carletti, E., Goldstein, I. & Leonello, A. (2018), 'Government guarantees and financial stability', *Journal of Economic Theory* **177**, 518 – 557.

Dávila, E. & Goldstein, I. (2016), 'Optimal deposit insurance', *New York University, Working Paper* .

Diamond, D. W. & Dybvig, P. H. (1983), 'Bank runs, deposit insurance, and liquidity', *Journal of Political Economy* **91**(3), 401–419.

Schnabl, P., Drechsler, I. & Savov, A. (2017), 'The deposits channel of monetary policy', *The Quarterly Journal of Economics* **132**(4), 1819–1876.