Research Statement

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My primary research interests lie in macroeconomics, monetary economics (specifically monetary policy), inequality, and the political economy of central banking in both its domestic and international dimensions.

Since undergrad, I have had a deep interest in understanding the monetary system, how it could break down so dramatically as it did during the Global Financial Crisis, and the role of the central bank. If I had to sum up my research throughout my graduate career, it would be to understand the socioeconomic impact of monetary policy and the conditions under which the transmission mechanism breaks down. My research with Gerald Epstein at the Political Economy Research Institute addresses the former, while my dissertation research is on the latter.

My current research agenda continues to follow these two tracks of inquiry. Below, I will elaborate on the research I have conducted so far and my ideas and plans for future research.

I. Current work on the political economy of central bank swap lines:

In 2019, I read *Crashed*, the historian Adam Tooze's comprehensive book about the Global Financial Crisis (GFC). In the book, Tooze credits the Federal Reserve's currency swap line program with saving the global financial system. These currency swap lines were lending facilities in which the Fed provided billions in short-term loans to foreign central banks around the world. This was the first time I had heard of them, despite studying economics since 2013.

The swap lines were an enormous program: I calculated that between 2007 and 2010, the Fed provided over ten trillion dollars to foreign central banks, which they, in turn, loaned to commercial banks in their jurisdiction. Yet, prevailing explanations for this program—by Tooze and other scholars—left me puzzled. In the literature, there seemed to be ambiguity about their purpose and the problem they were ultimately intended to solve. Were the swap lines instituted to protect U.S. banks from their cross-border credit exposure? Or was the Fed assuming the role of international lender-of-last-resort out of "enlightened self-interest." Understanding the purposes of this international liquidity mechanism seemed important for Fed accountability.

My investigation into this topic has led me to the conclusion that the dominant consideration of Fed officials in establishing swap lines is the loss of monetary control due to the pervasive use of LIBOR in the U.S. financial system. LIBOR, or the London interbank offered rate, is an offshore benchmark rate based on foreign banks' dollar funding costs. This rate was used to price billions of dollars in adjustable-rate contracts, e.g., business loans, credit cards, and the adjustable-rate mortgages that were the approximate cause of the subprime mortgage crisis. The Fed's influence over LIBOR was limited. During the GFC, the LIBOR spread over the federal funds rate—the Fed's policy rate—widened to over three percentage points, drastically spiking U.S. household mortgage interest payments at the height of the subprime mortgage bust.

My dissertation is structured in the conventional three-essay format. Below, I give an overview of each essay and touch on some additional research avenues I'm exploring.

The first essay, titled "Federal Reserve Swap Lines and the LIBOR Threat," posits that the primary motivation behind the Fed's swap lines was to exert influence over LIBOR, aiming to enhance monetary

policy transmission. To achieve this, the Fed had to supply international liquidity to the offshore banks that played a pivotal role in determining LIBOR. My arguments are supported by qualitative evidence—drawn from primary sources like FOMC meeting minutes—and econometric analyses. I delve deeper into the significance of LIBOR, its impact on the Fed's monetary policy transmission to consumers and businesses, and its role in intensifying the subprime mortgage crisis. By estimating a probability model, I assess the likelihood of a foreign central bank securing a swap line from the Fed. My model incorporates various factors that represent US-specific interests, including the financial exposure of U.S. banks to other nations. My findings indicate that the LIBOR spread over the Fed funds rate, a measure of liquidity stress in offshore money markets, combined with a dummy variable indicating whether a central bank domiciled a LIBOR panel bank in its jurisdiction, alone can account for 53% of the variation in which central banks received Fed swap lines. Notably, variables representing U.S. interests didn't hold significance in my model, a finding that contrasts with other studies. This insight is crucial for discerning the Fed's priorities in providing dollar liquidity to foreign central banks. It reinforces my argument that the Fed aimed to restore monetary policy transmission in offshore markets, especially for entities with LIBOR-indexed interest payments.

Some researchers have argued Fed swap lines were to effectively intervene in foreign exchange markets by placing a ceiling on covered interest parity (CIP) deviations. While this may be a beneficial side effect of swap lines, I argue it is not the primary consideration. In my second essay, "What Drives Central Bank Swap Lines Use?," I use an instrumental variable regression approach to address this question. Regressing swap line drawings of five central banks with continuous access to Fed swap lines since 2008 on CIP deviations and LIBOR spread over the Fed funds rate, I find little empirical support for swap line drawings from the Fed by foreign central banks being responsive to CIP deviations. However, I do find statistically significant evidence that Fed swap line use responds to the LIBOR-Fed funds rate spread, providing further empirical support for my hypothesis in the first essay.

The primary takeaway from my first essay is the importance for policymakers to monitor the benchmark interest rates used by financial institutions in credit products, as these can hinder effective monetary policy transmission. Recognizing this, U.S. policymakers have already advocated for reforms in benchmark interest rates. In my dissertation's concluding essay, titled "Benchmark Interest Rate Reform: Cooperative Redistribution, Decentralization, and Monetary Control," I delve into the strategies and motivations of U.S. agencies aiming to phase out LIBOR. This led to the global transition from LIBOR, a privately regulated benchmark, to new risk-free rates overseen by central banks in most jurisdictions. This shift from the City of London's control to individual central banks has profound implications, enhancing their monetary influence over international financial conditions in their own currencies. The Federal Reserve, in particular, benefits from this change due to LIBOR's deep integration into the U.S. financial system. Moreover, the widespread adoption of USD LIBOR's successor, the Secured Overnight Financing Rate (SOFR), further amplifies the Fed's influence over both onshore and offshore dollar financial conditions.

Plans for future research on swap lines and the international lender-of-last-resort:

1. I argue the end of LIBOR may undermine the Fed's interest in stabilizing the offshore dollar market. However, the emergence of SOFR as the replacement dollar benchmark rate—based on the treasury repo market transactions—strengthens the case for new mechanisms of international liquidity, like the Foreign and International Monetary Authority (FIMA) repo facility, that can stabilize the treasury market in times of turmoil.

2. What about swap lines for emerging and developing market economies (EDMEs)? Brazil, S. Korea, Singapore, and Mexico are EDMEs that received limited swap lines during the 2008 GFC and 2020 COVID-19 pandemic. However, Fed officials have shown a deep aversion to extending dollar swap lines beyond this cohort, opting instead for more collateralized lending mechanisms such as the FIMA repo facility. The future of the global financial safety net (GFSN) in terms of direct swap lines is likely to evolve through secondary network nodes such as the Bank of Japan, which has a permanent and unlimited swap line with the Fed but also acts as a conduit of dollar liquidity to several countries in Asia including India, a country which the Fed rebuffed for a direct swap line. This emergent secondary network will likely enhance the Japanese yen's key currency status. So far, other central banks have not followed suit in extending dollar swap lines. However, such secondary networks, for example, Brazil in Latin America, could become the future swap line component of the GFSN.
3. How have central bank swap lines affected the longer-term borrowing costs of emerging market countries that received them versus those that did not? How have middle-income countries benefited from the swap line backstop by the Fed?

II. Current work on central bank monetary policy and the income and wealth distribution:

In addition to my dissertation research, I am a research assistant to Prof. Gerald Epstein, co-director of the Political Economy Research Institute (PERI). Our research project investigates the effects of monetary policy and inflation on wealth distribution. This collaborative project has resulted in two working papers.

The first paper, co-authored with Prof. Epstein and titled "Federal Reserve Anti-Inflation Policy: Wealth Protection for the 1%?," is set to be published in an edited volume by Esteban Perez and Matías Vernengo. This volume, *Debt Dynamics, Financialization and Shared Prosperity: Essays on Structural-Keynesianism*, will be released by Edward Elgar. The paper examines the impact of inflation and monetary policy on U.S. wealth from 1970 to 2012. We employ a double instrumental variable approach, using local projections, to analyze how inflation and the Fed's contractionary measures influence the real net worth of the top 1%, top 10%, and bottom 50% wealth brackets. Our findings suggest that high inflation disproportionately impacts the wealth of the top 1%, especially when the Fed doesn't intervene to curb inflation. Simulating the inflation scenario of 2021-2022 and the Fed's subsequent tightening response, we estimate that a sustained 6% inflation rate could reduce the real wealth of the top 1% by approximately 30% after five years. However, if the Fed steps in with a 3.75 percentage point hike in the Federal Funds Rate, aiming to reduce inflation to their 2% target, this intervention could preserve about 14% of the top 1%'s real net wealth. Our research indicates that the Fed's anti-inflationary actions help shield the wealth of the top 1% during high inflation periods. This protection can come at the cost of broader economic growth and employment. Given the current trajectory of the Fed's rate adjustments to address transitory inflation, there's a risk of exacerbating wealth inequality and hindering the post-pandemic economic recovery.

The second is my job market paper, titled "Federal Reserve Monetary Policy and Wealth Inequality: An Instrumental-Variable Local Projections Approach," which is the result of independent research. In this paper, I examine the impact of conventional monetary policy on the U.S. wealth distribution from 1976 to 2012. I employ an instrumental variable method, using local projections, and base my analysis on two established monetary policy shock instruments from existing literature, Romer and Romer (2004) and Gertler and Karadi (2015). My primary data sources for wealth distribution are Realtime Inequality and the Federal Reserve's Distributional Financial Accounts (DFA). Contrary to some findings in the literature, my

research indicates that conventional monetary policy does influence wealth distribution over a medium-term period of five years. Specifically, a 1 percentage point reduction in the Federal Funds rate boosts the wealth share of the top 10% and 1% while diminishing the share for the bottom 50% and middle 40%. Consequently, wealth inequality, represented by the Gini coefficient, sees an increase of 0.005 on a scale of 0 to 1. Two additional important findings with policy implications from my results are: firstly, the effects of monetary policy on wealth distribution have intensified since the 1980s, and secondly, these effects are more pronounced during economic expansions.

I will also be seeking the publication of this paper imminently.

***Plans for future research on monetary policy and inequality*:**

1. The existing literature presents varied perspectives on the link between inequality and monetary policy. A valuable addition to this topic would involve a comprehensive analysis comparing outcomes based on different income and wealth data (such as Realtime, DFA, and Census Bureau data) against various methodologies (like local projections and structural vector autoregression). This would be helpful for isolating how much differences in results are due to differences in methodological approaches to estimation of the relationship versus the methodological approaches to estimating income and wealth distributions.
2. The Fed's Distributional Financial Accounts offer detailed data on assets, allowing for an in-depth examination of household asset portfolios and their potential reactions to monetary policy shifts. Surprisingly, this aspect has not been extensively explored in existing studies.
3. Insights from my job market paper indicate that the impact of monetary policy on wealth distribution has grown both in intensity and duration since the 1980s. This trend aligns with significant policy shifts in areas like taxation, labor rights, welfare reforms, and homeownership rates. This leads to a pivotal research question: Under varying structural scenarios, such as changes in union strength, capital gains tax rates, fiscal policy, and homeownership rates, how does monetary policy amplify (or mitigate) income and wealth disparities? A potential empirical approach to address this question is the conditional impulse response functions estimated from a structural VAR model (or local projections) with interaction terms to investigate the determinants of the magnitude and duration of monetary policy's effects on wealth and income inequality metrics. This approach is inspired by an IMF paper by Saborowski and Weber (2013) titled "Assessing the Determinants of Interest Rate Transmission Through Conditional Impulse Response Functions."