

Financialization, Structural Power, and the Global Financial Crisis for Europe's Core and Periphery

In the aftermath of the Global Financial Crisis (GFC), European governments intervened to support domestic financial systems; several years later, peripheral European economies were at greater risk of having domestic financial crises transform into fiscal crises. While mainstream economic thinking predicts financial markets will punish risky bank behavior with higher interest rates and punitive resolution measures, in fact, banks in core European economies, which engaged in riskier activity in the subprime mortgage market, faced preferential treatment in the aftermath of the GFC. This paper argues that financialization, the increased structural economic power of financial institutions, increased the structural power of core members of the Eurozone to direct supranational policies after the GFC. It supports these claims with financial data from balance sheets for a sample of EU economies, as well as institutional analysis of the financial aspects of European integration, and the financial, monetary, and fiscal responses that followed the onset of the GFC. While banks in the Eurozone core were more likely to have engaged in risky behavior, they were more likely to receive liquidity assistance from monetary authorities like the Federal Reserve due to their activity in the US. As Eurozone governments consider how to respond to crises such as the Covid-19 pandemic going forward, policies that more equitably support governments rescuing domestic financial actors should be considered in tandem with broader financial regulations of structurally important economic institutions.

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Introduction

The 2008 Global Financial Crisis (GFC) revealed two divergences in Europe's financial architecture. First, it showed that banks in the European Union's (EU) core economies, particularly Germany, the UK, and France, were more likely to have engaged in risky financial practices linked with the subprime mortgage backed asset bubble that arose in the US, while banks in Europe's peripheral economies were more likely to have engaged in domestic activity. Second, it showed that banks in the core could access liquidity support from the Federal Reserve, which lowered the costs their governments faced when rescuing domestic financial sectors. Banks in the European periphery, less

likely to have engaged in international securities markets and foreign bubbles, received less expansive liquidity support from the European Central Bank (ECB), and increasingly relied on domestic government support. (Bayoumi, 2017; Schmidt, 2015) In response, private sovereign bondholders gradually rejected peripheral EMU government's bonds from general collateral used for bank funding. These sell-offs created sovereign funding pressures, and provided the basis for the subsequent Eurozone Crisis.

While orthodox economic theory argues that financial risk taking should be matched with higher interest rates and more punitive liquidity resolution measures during crises, peripheral Eurozone economies fared worse in the aftermath of the subprime mortgage crisis and Global Financial Crisis (GFC) of 2008 and 2009. (Freixas, Parigi, and Rochet, 2000; Davis, 2008) Though governments throughout Europe's economic and monetary union (EMU) increased fiscal deficits to bail out domestic financial systems, financial crises in core economies were less likely to turn into fiscal crises, because banks in those economies were more likely to receive support from the Federal Reserve. By contrast, less structurally important financial centers in the Eurozone periphery, which were less likely to have branches in the US, or to have participated in sub-prime lending directly or indirectly, were more reliant on the European Central Bank, which provided liquidity assistance more conservatively than the Federal Reserve did in the aftermath of 2008.

This paper argues that financialization and exorbitant privilege in core European economies' reinforced those economies' structural power. While banks in core European economies were more likely to have engaged in risky behavior that contributed to the buildup of the subprime mortgage crisis, those governments were not punished for bailing out domestic banks to the same degree that peripheral governments, which supported banks less-involved in the subprime mortgage bubble, were. Structural financial power in the European case was both revealed *ex post* by relative access to more expansive liquidity support, as well as by the relative willingness of private bondholders to hold or sell sovereign debt after government bailouts.

A growing literature in Post-Keynesian macroeconomics, economic history, and International Political Economy (IPE) has begun to consider the consequences of European financialization in the pre- and post-2008 global financial architecture. (Tooze, 20218; Bohle and Schelkle, 2021; Beck, 2021; Hardie and Thompson, 2021) This paper expands upon work by Tooze (2018) and Hardie and Thompson (2021) by considering how financial crises were more likely to turn into fiscal crises in the Eurozone periphery, despite those economies' limited engagement with the worst financial excesses of the subprime mortgage crisis. It combines the institutional history of European financial integration with a balance sheet analysis of how European banks' assets and liabilities became more entangled after 2000, while banks in the Eurozone core acquired higher-risk assets and increasingly adopted market-based financial practices. It also expands upon work by Kohler and Stockhammer (2020) and Bonizzi, Kaltenbrunner, and Powell (2020) to show how European financialization occurred in both the core and periphery of the Eurozone in ways that disproportionately cost peripheral economies. (Bayoumi, 2017; Tooze, 2018) Finally, it illustrates reciprocal forms of structural power discussed by Culpepper (2015): large banks in core economies prevailed for certain outcomes before and after the onset of the GFC, and then core economies' power within the Eurozone reinforced those claims as the GFC transformed into the Eurozone crisis.

This paper shows that highly financialized global banks in core European economies participated in a global asset bubble before 2008, increasing the risk of economic crisis if the subprime mortgage bubble burst. When private banks in structurally important markets receive easy liquidity support, their propensity to engage in similar measures or to minimize oversight may increase in the future. By contrast, peripheral European economies, less likely to have engaged in international asset bubbles like the sub-prime mortgage bubble before 2008¹, experienced more costly fallout after the GFC, due in part to their inability to access liquidity from the Federal Reserve, as well as private creditors' perceptions that their sovereign debt was riskier. When peripheral economies lack liquidity support available to larger economies in a highly integrated financial landscape, that exacerbates the costs of crises that may arise due to no action or fault of the economies themselves, and has the potential to entrench global inequality.

The next section of this paper discusses its theoretical framework, which combines theories of financialization with political economy theories of structural power. The third section shows how particular European economies disproportionately shaped the Eurozone's financial architecture, which broadly shifted members from bank-based financial systems into market-based systems, and uses balance sheet analysis to show the relative financialization of European economies over time. In core economies, financial firms' share of GDP grew while their assets grew riskier and more international; in peripheral economies, bank liabilities grew to include larger shares of international obligations. The fourth section discusses the aftermath of the Global Financial Crisis and the shift to the Eurozone Crisis, and the disparate consequences for the Eurozone core and periphery. The final section concludes with preliminary commentary on the significance of the GFC and Eurozone Crisis for the pandemic and its aftermath. While it is beyond the scope of this paper to adequately compare these crises, monetary and fiscal responses at the time of writing hint at potential breaks from the more austerity minded and atomized aspects of the Eurozone crisis.

Theoretical Context: Financialization, Risk, and Structural Power

This paper uses the theoretical frameworks of financialization and structural power to explain how certain financial sectors and economies in Europe shifted toward riskier accumulation strategies from the 1990s onwards, and how economies with less complicated financial activity bore more of the costs associated with that transition. This section outlines key elements of heterodox economic theories of financialization, and links them to both international political economy (IPE) and comparative political economy (CPE) theories of structural power. These two frameworks help explain the following dynamics: how banks in the EMU core engaged in progressively riskier financial activity in the lead-up to the GFC, how international obligations of banks in the EMU periphery grew between the implementation of EMU and the onset of the GFC, and how core governments in Europe benefited from structural power during the ensuing global crisis while peripheral governments bore disproportionate costs.

This paper relies on Epstein (2005) and Krippner's (2005) definitions of financialization as the increased structural importance of financial intermediaries, banks

¹ Banks in Iceland, Ireland, and Spain did, in fact, engage in fraud and exacerbate domestic real estate bubbles before 2008. (Lewis, 2011)

and non-banks, and financial assets in a given economy. (Epstein, 2005; Krippner, 2005) As financial intermediation grows as a share of GDP, financial institutions often lobby for and secure the deregulation of financial sectors in ways that blur traditional lines between traditional banks, commercial banks, savings and loans organizations, and non-bank financial intermediaries, including money market mutual funds, hedge funds, investment banks, and pension funds. (Ashman, Fine, and Newman, 2011; Sawyer, 2013; Culpepper, 2021) The blurring of lines may involve non-bank financial intermediaries' increased movement into direct lending to households and firms and deposit holding, as well as traditional banks' increasing shares of assets that are not traditional loans. It may also be accompanied by increasing complexity of financial assets. In the process, securities, traditional tools for hedging against price changes in markets for commodities and, increasingly, financial assets, become a potential source of profits and a means of evading regulation. (Bryan and Rafferty, 2006; Durand, 2017; Acharya, Schnabel, and Suarez, 2013) While the asset side of balance sheets tends to grow riskier through the process of financialization, the composition of liabilities may likewise acquire new sources of risk. (Beck and Knafo, 2020)

The rise in 'shadow banking' is another feature of a financialized landscape. (Braun and Gabor, 2020) Under shadow-banking, primary dealers lent US dollars to banks and other borrowers through repurchase agreements, under which borrowers pledge collateral in exchange for Treasury Bills worth a percentage of the collateral being pledged. (Grad, Mehrling, and Nelson, 2011; Gorton, 2012) At the end of the repurchase agreement, the party repurchases the collateral. (Gabor, 2016) European borrowers' primary incentive to use the shadow banking system and repurchase agreements to access US dollars was cost: for banks that could not borrow in the Federal Funds market, borrowing from primary dealers was cheaper than accessing US dollars at . (Mehrling, Grad, and Neilson, 2011) The fifty largest primary dealers in European financial markets included major banks across the Eurozone, especially concentrated in Germany and France. (European Commission, 2022) These developments introduce new sources of volatility and uncertainty into the financial sphere, with ramifications for the economy as firms', governments', and households' financial obligations are incorporated as collateral. (Adrian and Shin, 2009) They also increased the potential for European banks relying on primary dealers to be caught if the value of collateral used for US Treasuries were ever devalued.

The logic behind these changes are both banks' motivation for increased profits and changing political views about the relative tradeoff between financial profits and stabilization. (Lapavitsas, 2011; Boyer, 2000; Fine, 2013) These trends can be observed in changing balances of assets from more traditional practices like direct lending, in favor of more complex funding arrangements, the increased propensity to engage in securitization, and traditional banks' increased propensity to hold securities and other opaque assets. (Duménil and Lévy, 2004; Stockhammer, 2008; van Treeck, 2009) On the liabilities side, financialization may lead to increasing asset-liability mismatches. (Kohler and Stockhammer, 2020; Beck and Knafo, 2020; Bohle and Schelkle, 2021) These mismatches may refer to liabilities having a shorter or longer time horizon compared to assets, whether assets and liabilities are denominated in different currencies, or interest rate differentials between assets and liabilities. Pursuing profits and minimizing stability as an end may lead to riskier balances of assets with more volatile outcomes.

Policies linked with financialization that increase the scope of activity banks and other financial intermediaries may partake in generate new forms of risk in financial markets, while policies that eliminate capital controls and barriers to cross-border

financial activity increase the geographic range of contagion possible. (Guttman, 2009; Sawyer, 2013; Tooze, 2018) This dynamic can exacerbate competitive pressures in the real sector in ways that generate both financial and profit pressures with wider economic implications. (Crotty, 1993) The proliferation of derivatives, speculative products created by financial intermediaries like investment banks, create new sources of risk and uncertainty for unsuspecting holders. (Partnoy, 2009) Securitization processes hide layers of complexity that have the potential to increase risk throughout the system and increase the costs borne by workers in the capitalist accumulation process. (Bryan and Rafferty, 2006) The spread of complex securities in global asset markets increases the geographic range of volatility linked to complex assets, while the increased stake nonfinancial firms and households have in the performance of those assets widens the scope of losses. (Partnoy, 2009)

Structural Power is a concept with different implications in IPE and CPE work. In the IPE literature, structural power refers to how particular countries can dictate economic norms with international implications, while in CPE, the term refers more to sectoral interests, like financial or corporate institutions, at the global level. (Culpepper, 2015) This paper shows how financial institutions and financial practices by large UK, French, and German banks with global reach engendered greater instability at home and abroad for banks and economies less involved in those practices. As financial institutions have grown as a share of GDP in core European economies, financial risk has increased at the global level. However, particular economies have also demonstrated greater influence in fostering European financial deregulation prior to the GFC, as well as ensuring the interest of domestic financial actors in the aftermath of the GFC, to the detriment of peripheral European economies. This dynamic between financial interests and national interests worked broadly to the detriment of peripheral EMU economies after 2008.

The next section of this paper charts the institutional process of financial liberalization and financialization in Europe, with particular attention to the power of the core of the Eurozone in determining the financial architecture of the Eurozone. It also demonstrates the greater potential for financial risk that developed in the EMU core relative to the periphery prior to the onset of the GFC using national accounts and balance sheet data across the Eurozone.

European Economic Integration, Financial Liberalization, and Financialization

The determination of what would become the Eurozone's financial architecture reflected power disparities within the 15 original members of the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom). In order to join, members that had not yet liberalized domestic financial systems by the 1980s and early 1990s were required to open domestic financial systems to international capital flows, and expand the scope of economic activity that banks could perform. Despite rapid liberalization, members were not required to develop adequate institutional capacity to monitor increasingly complex financial activity with a wider geographic scope. From the 1980s onward, this legal architecture promoted rapid increase in gross financial flows across the EU which increased domestic and supranational vulnerability to financial risk and contagion. This section of the paper provides historic context for how structural power in the CPE and IPE senses was linked with European financialization, and how those changes increased the vulnerability of banks and economies across the Eurozone to crises originating elsewhere. It maps changes in European banking

practices in the EU-15 core and periphery, to compare the relative financialization observed across the future Eurozone, with strong contrast between the EMU core and periphery. Taken together, these dynamics show how monetary power and financialization have been linked in the Eurozone.

Five members of the core of the EU-15, Germany, UK, France, Luxembourg, and the Netherlands, particularly embraced financialization from the 1980s onward. These economies developed stronger financial sectors, emboldening financial institutions to behave in ways that increased relative risk. Financial institutions and governments of core European economies that had adopted more liberalized policies towards finance also lobbied for greater financial liberalization in the Eurozone. (Verdun, 2000; Mügge, 2010) European financial liberalization in both the core and periphery had the potential to increase risk, culminating in the GFC. However, since certain markets and economies would have differential access to liquidity from the Federal Reserve compared to the ECB, financial leaders in the Eurozone core were better able to insulate their banks from the international pressures that eventually created the Eurozone crisis. By contrast, peripheral economies in the Eurozone were less likely to embrace finance-led accumulation strategies. However, these economies rarely opposed financial liberalization measures that featured in the design of Europe's Economic and Monetary Union. (Verdun, 2000) The gradual adoption of more market-based liquidity structures opened more peripheral European economies to greater risk on the liabilities side of their balance sheets. Countries that had not embraced financialization but had opened capital markets up to cross-border flows experienced changes that increased potential volatility and exposure to crises in core European economies, and that resulted subsequently in financial losses and lack of liquidity as a consequence.

Following WWII, European finance was substantially regulated, with a high proliferation of public banks; in the decades that followed, economies across Western Europe gradually liberalized domestic financial institutions at different paces. Financial integration increased step-by-step from the Treaty of Rome through the Werner Report, the SEA, the Delors Report, and the Maastricht Treaty. (Story and Walter, 1997; Abdelal, 2007) Each plan proposed eliminating capital and trade controls, and required European willingness to liberalize to succeed. Changing global attitudes and bank lobbying increased public support for financial liberalization, leading to waves of liberalization in the Netherlands, UK, and Germany in the 1970s, and France and Scandinavia in the 1980s. (Van Apeldoorn, 2000; Story and Walter, 1997) The integration of the Eurozone facilitated transition from bank-based finance to market-based finance within Europe, especially for economies that had not already liberalized their financial systems. (Helleiner, 1994; Verdun, 2000) The EMU's integrated financial architecture opened markets to lending from the Eurozone core, increasing potential for European financial contagion. Creating the Eurozone took time; attitudes at the individual, industry, and country level changed over the late 20th century. Throughout that period, representatives consistently lobbied on behalf of banking interests in European negotiations in favor of financial liberalization. (Dyson and Featherstone, 1999; Thompson, 2015; Abdelal, 2007)

European financial liberalization emerged from myriad sources, including the private sector, domestic governments, and international coordination. (Helleiner, 1994) At the European level core economies, particularly France and Germany, played strong roles in facilitating the Eurozone's transition away from highly regulated financial systems to the liberalized architecture of the EMU. (Dyson and Featherstone, 1999; Quaglia, 2013) Southern Europe and Ireland had little say in determining these financial

standards; they primarily liberalized financial markets as a consequence of European integration, and their critiques of the Maastricht Treaty focused more on labor market provisions, pricing concerns, and social factors. (Verdun, 2000, 158-160) Two central financial policies that emerged from the Maastricht Treaty and the SEA were the Single Market Passport (SMP), which opened EMU borders to capital, and the Second Banking Coordination Directive (SBCD), which required governments to liberalize domestic financial markets. (Gruson and Nikowitz, 1988) These policies increased the scope of cross-border financial activity throughout EMU, magnifying systemic risk in the EMU's financial arena, encouraging member countries to liberalize financial systems, and destabilizing the EMU's economy by opening banks up to markets, financial instruments, and activities they were not legally equipped to regulate, and to theretofore destabilizing shocks.

From the 1970s through the 2000s, financial liberalization spread through Europe. As European financial markets liberalized and domestic profit margins shrank, banks exited markets, and merged with competitors. Consolidation threats motivated banks to increase profitability. (Walkner and Raes, 2005) As financial mergers accelerated within countries, banks had further incentive to cut costs while widening the scope of the services they provided, with the perverse consequence of declining bank profitability and higher risk activity. (Crotty, 2008) In the Eurozone, return on assets, net income relative to total assets, fell from roughly 3% in the 1980s, to 1% on average, and Eurozone returns on equity, net income relative to equity, fell from roughly 50% in the 1980s to roughly 30% on average in the 2000s before the GFC. (OECD Statistics, 2019) European securitization also rose, increasing the complexity of the EMU financial system. (OECD Statistics, 2019)

After signing the Maastricht Treaty and implementing the SEA in 1992, European financial deregulation increased regional volatility. (Hardie and Howarth, 2013) While governments in the Eurozone periphery had to quickly liberalize financial markets to accommodate the terms of the SMP and SBCD, core economies also faced deregulatory pressures. The SEA's regulatory structures came to undermine the protected status of public banks in Germany, while French officials conceded exchange rate interventions to the ECB. (Seikel, 2017; Dyson and Featherstone, 1999) German officials also deferred to French pressure to promote repurchase agreements as funding tools. (Gabor, 2016) These processes were facilitated by the European Commission and ECB's promotion of shadow banking to provide Eurozone liquidity. (Ban and Gabor, 2016)

Figure 1: Loans as a Share of Financial Corporations' Assets in the Core and Periphery of the EU-15

Market-based financial practices increased throughout Europe as total profits fell. After the SBCD, security acquisition increased for most core EMU economies, but not for most peripheral ones, with the exception of Ireland. Securities increased as an average share of core EMU economies' assets from 34% in 1995 to 40% in 2007; German holdings of securities over total assets, 38%, were lower than French (53%) and Dutch holdings (48%), but still contributed to higher core holdings of securities among assets than peripheral economies held. Average EMU periphery security holdings increased relative to total assets from 22% in 1995 to 39% in 1999; excluding Ireland, these holdings declined from 39% in 1999 to 35% by 2006. (OECD Statistics, 2019). By contrast, Irish financial corporations' securities were 52% of total assets in 2006, higher than all peripheral economies securities as a share of assets, and higher than

many core economies' holdings. As banks increased their security holdings and international connectedness, European risk of financial crisis rose, particularly if banks purchased US-issued mortgage-backed-assets. German financial intermediaries, especially international branches and subsidiaries, were more likely to acquire those assets; so too were banks based in France, the Netherlands, Switzerland, and the UK. (Kerl, 2018; Tooze, 2018) Non-bank financial intermediaries' share of financial assets increased among financial corporations, especially in the EMU core, where holdings only fell between 2008 and 2010. Peripheral EMU (excluding Ireland) assets held by non-bank financial intermediaries have held constant or declined over the same periods. (OECD statistics, 2020)

Figure 2: Relative Share of Financial, Insurance, and Real Estate Activity in GDP (Value Added)

Figure 3: Non-Bank Financial Intermediaries' Asset Holdings Relative to Banks' Asset Holdings

Figures 2 and 3 demonstrate the relative importance of finance in aggregate economic performance across the EU-15. Figure 2 maps the relative share of financial, insurance, and real estate activity (henceforth FIRE) in GDP measured as 'value added' in the EU-15 core and periphery. It is worth noting that the less financially oriented economies – Scandinavian economies, in particular, which tended to have more robust financial regulations after financial crises in the early 1990s – draw down core EU-15 averages in these figures. FIRE related economic activity accounted for marginally more economic activity among core members of the EU-15 – Austria, Belgium, Denmark, Finland, France, Germany, Luxembourg, the Netherlands, Sweden, and the UK – than in the periphery, consisting of Greece, Ireland, Italy, Portugal, and Spain. While these levels are close, they likely account for housing bubbles that developed in Ireland and Spain facilitated by European credit flows that increased in absolute terms and relative to GDP across the EU-15. Figure 3 maps the ratio of non-bank financial intermediaries' asset holdings relative to banks' holdings of assets in the total financial systems of these economies. Non-bank financial intermediaries held a larger share of total assets in the EU-15's core, and especially in those four core financial powers.

Figure 4: Bank Leverage Ratios in the EU-15, Before and After 2008

Bank leverage, a proxy for financial institutions' exposure to risk, is the ratio of the banking sector's assets to the market value of its equity; higher leverage ratios imply greater funding by debt. In expansions, these strategies may maximize financial profits, but in times of crisis can portend solvency problems. Figure 4 shows that before 2008, banks in core members of the EU-15 maintained higher leverage ratios than banks in peripheral members, implying a greater tendency to fund financial activity with debt, and greater potential exposure to funding problems if a lending conditions tightened or a financial crisis commenced. After 2008, leverage ratios spiked for banks in the EU-15 core and periphery, but those leverage ratios fell first for core members, while the Eurozone crisis exacerbated bank funding crises in the Eurozone periphery. Peripheral EU-15 bank leverage ratios fell below core EU-15 members' levels by 2012, though the spread has narrowed between those groups of economies in 2020.

European financial market integration encouraged cross-border financial activity, increasing the potential for contagion, sudden stops, and instability in a

downturn. German banks' international loans and securities increased relative to domestic assets before entering the EMU; financial internationalization accelerated for Germany and the EU-15 after the 1990s, only declining after 2008. Increased financial globalization exposed German banks to international instability, especially in opaque asset markets. BIS locational data show that core European claims and liabilities on European counterparts increased from 58% of GDP in 1992 to 316% in 2007, and that peripheral EMU claims and liabilities increased from 37% of GDP in 1992 to 121% in 2007. (BIS Statistics, 2019) These flows increased relative to net lenders' and borrowers' GDPs, indicating increased financial integration within Europe, and these rates accelerated over time, particularly after Euro notes and coinage went into circulation in 2002. As cross-border financial flows increased, the risk of financial contagion, sudden stops, and reversals of capital flows in the EMU followed.

Table 1: Cross-Border Capital Flows Between Germany, France, and the UK, with Core and Periphery EMU Partners

Asymmetric capital flows grew between Europe's core, the UK, Germany, and France, and Europe's newly liberalized periphery. Table 1 shows relative flows between Germany, France, and the UK, to core and peripheral EMU economies in 2000, 2006, and 2012. Disparities grew between capital flows relative to lenders' and borrowers' GDP. From 2000 until 2006, German lending to peripheral EMU economies relative to total lending grew from 39% to roughly 49%, with a parallel decline in its share of European lending to core economies. By 2012, these trends had reversed; German claims on peripheral economies fell to 38% of its lending within the Eurozone, while its lending to core economies increased from 40% to almost 49% of its total lending within Europe. The scale of these flows to smaller economies might have warned about crises later. French and UK capital flows to Europe's periphery relative to the core also increased from the early 2000s until the GFC; the share of French lending to peripheral counterparts often exceeded Germany's. At the same time, BIS figures indicate relatively low importance of lending to European counterparts among core EU economies' financial assets. German claims on European counterparts varied between 3.3 percent in 1999, to a maximum of 6.14 in 2008; French lending varied between 3.3 percent in 1999, to 9.1 percent in 2008. Both German and French claims on European counterparties were at least three times larger as shares of their financial assets as UK lending constituted.

Lending from sophisticated financial centers to peripheral EMU financial sectors laid foundations for capital flight. From 2009 onward, capital flows from all financial centers to the periphery decreased, reflecting the worsening Eurozone Crisis. (BIS Statistics, 2019; Thompson, 2015) That financial vacuum exacerbated subsequent liquidity problems for peripheral Eurozone governments, as their bonds were eventually excluded from bundles of collateral in private repo funding.

Table 2: International Shares of Liabilities, EU-15, and EMU Core and Periphery:

As EU-15 banks' asset shares grew riskier, their liabilities transformed. Private sector debt, especially financial sector debt, increased in Germany and the rest of Europe, overall and relative to GDP. Financial debt to GDP growth was greatest in core economies; the only peripheral EMU economy with a comparable ratio of financial debt to GDP was Ireland. In Europe, liability shares of currency and deposits decreased relative to loans, shares, and other securities. (OECD Statistics, 2019) Table 2 shows the

ratio of deposits to debt liabilities throughout EU-15 financial sectors. Smaller ratios imply a growing gap between the funding of assets with deposits and other kinds of liabilities, including bonds, borrowing, or new funding innovations. German liability gaps were lower than European averages. Sources of external funding varied. German banks have issued *Pfandbriefe*, covered bonds, long before integration; these bonds were liquid assets in European financial markets, though mostly purchased domestically. (Hardie and Howarth, 2013) Future work should explore sources of this external funding; it may be that the potential a liability has to destabilize a bank's balance sheet depends more on the issuing counterparty than on the mere fact that it is not a deposit. (Gabor and Vestergaard, 2016)

Table 2 also shows how the foreign composition of liabilities changed. International liabilities grew as a share for all peripheral economies, which relied more on international lending and sovereign bonds to fund gaps; German banks acquired larger portfolios of debt issued by other European states, and only decreased those holdings in 2010; German banks, branches, and subsidiaries with larger shares of US funded liabilities were particularly prone to funding crises. (Kerl, 2018) This owed to the spread of repo using sovereign debt as collateral, through the EMU, beginning in France, and gradually spreading to Germany, the UK, and the rest of Europe. (Gabor, 2016) From 2002 until 2008, the EMU repo market doubled to “€6 trillion outstanding, or around 65% of euro area GDP.” (Hördahl and King 2008, 39) German, Italian, and French collateral represented 25%, 13%, and 11% of the market respectively; 15% of the market was other European collateral. (Hördahl and King, 2008, 39) After Bear Stearns's rescue and Lehman Brothers's collapse, demand for government securities grew in the US and the Eurozone, meaning that banks could continue issuing sovereign bond bundles as collateral for repo finance. (Düwel, 2013)

Figure 5 – Financial Corporations' Debt/GDP

Figure 5 shows financial corporations' debt relative to GDP before and after 2008. Before 2009, financial corporations in the EU-15 maintained larger ratios of financial debt to GDP than did financial corporations in peripheral members of the EU-15. The gap between financial corporation debt as a share of GDP started narrowing in 2004-05 as housing bubbles took effect in several peripheral EU-15 economies. Between 2009 and 2010, peripheral EMU members' financial corporations' debt to GDP ratio surpassed core members' debt; this timing coincided with early waves of private creditors' rejection of debt from banks in peripheral members of the EU-15, as well as the receipt of direct and indirect liquidity support from the Federal Reserve to large banks in the EU-15. (Tooze, 2018)

Another dynamic that locked EMU members into financial crisis with the fall of Lehman Brothers was the proliferation of sovereign bonds from both core and peripheral members in collateral for repurchase agreements. Eurozone sovereign bonds, considered safe throughout the Eurozone before 2008, had not been subject to capital standards that other assets were. (Ban and Gabor, 2015, 620) Banks that used EMU government bonds as collateral increased counterparties' vulnerability to adverse changes in valuation of government debt assets, exposing governments to possible funding crises if their bonds were no longer included in collateral. (Ban and Gabor, 2015, 617) This worked as long as all EMU sovereign debt was valued as equivalently safe. Banks and private creditors ignored German and French governments' violations of the Stability and Growth Pact in 2004, trusting that those governments would not be held accountable by European Union officials, and declined to sell off those government

bonds. (Baerg and Hallerberg, 2016) However, private creditors did not extend the leniency they had to German and French governments that violated the deficit to GDP ratios mandated Stability and Growth Pact to peripheral economies like Greece, Ireland, Portugal, Spain, and Italy after the GFC. (Tooze, 2018)

Figure 6 – Government Debt/GDP

Figure 6 tracks government debt as a share of GDP before and after the GFC. Prior to 2008, peripheral members of the EU-15 maintained modestly higher government debt to GDP ratios than did core members; the difference hovered between 18% and 12% in the lead-up to 2008. The European Central Bank's decision to defer to national central banks in the resolution of funding crises that followed the failure of Lehman Brothers left governments with the decision about whether and how to extend liquidity to domestic financial institutions. Core and peripheral governments across the Eurozone increased absolute debt and the ratio of debt to GDP, as the chart shows. These relief efforts owed much to financial activity; we might expect that governments of countries with larger financial debt to GDP ratios might demonstrate larger government debt to GDP ratios as a consequence. However, peripheral EU-15 governments were at a double-disadvantage. While the Federal Reserve extended liquidity support to banks and financial intermediaries with branches in the US, and while credit facilities that the Fed implemented in 2009 and 2010 indirectly aided banks in those core economies, peripheral EU-15 governments bore a larger brunt of relief efforts in their more domestically oriented economies. Private creditors gradual rejection of collateral from banks in the EU-15 periphery exacerbated these dynamics because they increased the burden governments faced in bailing out domestic financial institutions. (Gourinchas and Rey, 2016, 11) Peripheral economies' inability to rely on demand for their bonds contributed to their rising costs of borrowing in private markets, and ultimate reliance on the largesse of the Troika, the European Commission, ECB, and IMF under the Eurozone Crisis.

This section has shown how banking practices changed throughout the EU-15 from the 1990s through 2008. Financial consolidation led to increased cross-border financial flows, and more sources of financial instability in assets and liabilities across Europe. Core EU-15 members' acquisition of sovereign bonds from the European periphery opened domestic interests to risks of sovereign debt crisis. In the moment of the collapse of the sub-prime mortgage backed asset bubble, these connections softened the financial and economic consequences in the Eurozone core, while worsening those effects in the Eurozone periphery.

The Global Financial Crisis and Its Aftermath

The financial crisis of 2008 and its aftermath revealed the consequences of European financial liberalization and securitization, but disproportionately punished peripheral economies less integral to the subprime mortgage boom that erupted in 2008. While banks in core economies like Germany and the UK had greater links to subprime mortgage backed asset market that fueled the GFC, banks in peripheral Eurozone economies engaged in more traditional financial activities, while also maintaining larger shares of domestic to international financial activity. The outsize influence of core members of the EMU in mediating the Eurozone Crisis favored strict enforcement of debt repayment and austerity measures, with little scope for debt forgiveness. Together, these policies increased the costs of the crisis, and displaced them on economies less

responsible for the crisis in the first place.

Banks in the Eurozone core lost more as a direct consequence of the failure of the subprime mortgage market than banks in the Eurozone periphery. US banks and financial intermediaries posted \$144.7 billion in write-downs related to the subprime mortgage crisis; on the other side of the Atlantic, UK banks and financial intermediaries wrote down more than \$47 billion dollars in losses, German banks posted write downs of \$26.9 billion dollars, and French banks posted write downs of \$10.42 billion. Though not a member of the EU-15, Swiss financial intermediaries also posted \$48.7 billion in losses. Banks based in the Eurozone core were widely exposed to subprime mortgage assets; by contrast, banks in the Eurozone periphery had largely refrained from direct activity in the subprime mortgage bubble before 2008. (Acharya and Merrouche, 2013; Brunnermeier, 2009)

Banks in larger Eurozone economies benefited from early liquidity provision by the Federal Reserve. Tooze (2018) has tracked how large banks based in Germany, Switzerland, the UK, France, and the Netherlands received funding from the Federal Reserve directly and indirectly as the Fed engaged in increasingly novel monetary easing measures. German banks were the largest European participants in shadow banking; unlike many European counterparts, the primary assets they sold were mortgage-backed securities that had originated in the US and bundles of European sovereign bonds. (Pozsar, 2018, 32; Düwel, 2013, 4; Kerl, 2018, 19) At the same time, banks based in core Eurozone economies were more likely to have established foreign branches and subsidiaries operating directly and indirectly in US financial markets. Foreign branches of German banks, compared to peer institutions in other core Eurozone economies, were particularly likely to engage in foreign asset acquisition and repo transactions, as well as international lending, to hold less capital as insurance against crisis, and to require liquidity support from their parent banks after the 2008 crisis. (Kerl, 2018, 4)

Larger banks were more likely to trade risky subprime mortgage backed assets, and to engage in repo funding strategies for domestic activity. (Tooze, 2018) These activities were linked with greater likelihood of needing rescue funding after the GFC, and a greater propensity to reduce lending in foreign markets. (Bremus, Buch, Russ, and Schnitzer, 2018) At the same time, the larger the parent bank of the foreign affiliates, the more likely it was to cut domestic lending activity in response to crises in international affiliates. (Kerl and Koch, 2015) These tendencies amplified foreign and domestic credit crunches. German sovereign debt eventually emerged as a safe asset throughout the Eurozone during the Eurozone Crisis while private bondholders sold off other European economies' government debt due to investors' worries about contagion. Private investors' confidence in German debt was partly a function of perceptions of German financial stability, owing in part to large German trade surpluses, though Seccareccia (2017) notes that German deficits were among the EMU's largest as shares of domestic GDP as 2006; yet, this confidence reinforced Germany's structural financial power thanks to German debt's prominent place in repo collateral. (Bellofiore and Halevi, 2011; Brancaccio, 2012; Naastepad and Storm, 2016) This had implications for the subsequent subprime-mortgage asset losses yielded throughout the financial system, and had repercussions for peripheral European governments' ability to sell bonds later on. German sovereign debt remained in high demand, while sovereign debt by peripheral economies became ever more expensive to service. (Ban and Gabor, 2015)

The transition in Europe from the GFC of 2008 and 2009 to the Eurozone Crisis of 2010 reflected fears of contagion. After the GFC, credit flows from the core to the

periphery declined, sometimes reversing direction. The ECB could have initiated a collective rescue of the EMU's banking system; its decision to leave bailouts to domestic governments and NCBs prolonged the funding crises faced by peripheral banks and eventually their governments. (Tooze, 2018) As fears of default increased, private creditors in global asset markets sold off sovereign bonds issued by peripheral governments, creating feedback loops that widened sovereign debt yield spreads. Rising spreads stoked greater fears of default, perpetuating the process until European sovereign yield spreads outpaced what might have been predicted given comparable debt-to-GDP and current account fundamentals in non-EMU states. (de Grauwe and Ji, 2012) Tooze (2018) contrasts the downgrades on peripheral Eurozone economies' sovereign debt with the lack of downgrades on sovereign debt issued by the Egyptian government in 2010 in the midst of violent protests, as well as with the US and Japan, where debt to GDP ratios were much higher in the same period.

Eurozone bailout provisions designed by the Troika benefitted creditors, and prioritized core EMU interests. (Cafruny, 2015) The earliest bailouts required structural adjustment including austerity and nonfinancial reforms. (Lane, 2012) The focus on resolving Europe's sovereign debt imbalances were an about face from the mid-2000s, when Germany and France violated the Maastricht Treaty's Stability and Growth Pact, which mandates that fiscal deficit to GDP ratios not exceed three per cent, without penalty. (Baerg and Hallerberg, 2016) By 2010, German and French policy-makers differed in attitude about how to rescue the Eurozone. French policy-makers wanted more active interventions by the ECB, while German political officials favored private restructuring, and broader austerity policies by the bailout recipients. (Tooze, 2018) German policy-makers prevailed in supra-national policy-making. (Schild, 2013)

Four features in the architecture of the EU/IMF bailouts benefitted lenders. The short timeframe of the bailouts kept peripheral states from structurally transforming their economies to minimize financial exposure or halt recession in the midst of panic about sovereign yield spreads, exacerbating the costs of crisis. (Acharya, Drechsler, and Schnabl, 2014) The penalty premium of 300 basis points was a penalty for states in crisis, given their obligations to privilege private debts to core EMU banking interests as they recapitalized banking systems. (Lane, 2012) Only in 2011 did the EU eliminate the penalty premium on its component of the bailout loans, despite peripheral states like Ireland's having paid off private debts by then. (Tooze, 2018) Finally, despite common IMF practice that mandates that bailout 'funding is only provided if the sovereign debt level is considered to be sustainable,' EMU architects of the bailout justified the bailouts on the grounds of the unsustainability of the EMU peripheral states' sovereign debt. When sovereign debt is unsustainable, the IMF requires private sector creditors to receive haircuts. (Lane, 2012, 59) Private creditors only accepted haircuts by 2011, despite their contributions to the imbalances that developed under EMU before the GFC. Bailout policies, at least in their first years, indelibly privileged financial interests in the EMU core at the expense of economic recovery in the EMU periphery.

By 2011, when Mario Draghi took over as head of the ECB, the risk of sovereign debt crisis had spread to larger and more systemically important economies, namely Spain and Italy. (Tooze, 2018) By 2012, private creditors were starting to sell off French debt on fears of contagion, and analysts at the time predicted problems for Germany in the near term; pundits discussed the likelihood of Greece, Spain, and other economies in crisis leaving the Eurozone. (Hugh, 2012) In July 2012, Draghi stated that he would do "whatever it [took]," to save the Eurozone; soon after his speech, he and other members of the ECB's Governing Council designed a plan, with the backing of major European leaders, to extend more comprehensive liquidity to peripheral members

in crisis. In order to qualify for Outright Monetary Transactions (OMT), a program in which the ECB would purchase peripheral members' sovereign debt from private creditors to backstop the market, the peripheral members would need to agree to austerity and labor market restructuring measures. (Tooze, 2018) The ECB's OMT program required Eurosystem NCBs to buy proportional shares of these assets; though Jens Weidman, the then head of the Bundesbank, opposed the plan, Draghi had enough political support to implement the policy. Alternately, if member states' sovereign bonds achieved the minimum credit rating necessary to be used as collateral, the ECB would authorize Eurosystem purchases of government debt through the Sovereign Bond Purchasing Program (PSPP), again requiring participating economies to adopt austerity measures as a quid pro quo. (Seccareccia, 2017)

Once the Eurosystem members began purchasing sovereign bonds of peripheral members, doom loop dynamics halted for peripheral members of the Eurozone that qualified. Italy and Spain were the chief beneficiaries of this program; Greece was denied access to PSPP on the grounds of not being credit-worthy, and Ireland and Portugal had already paid off their bailout debts in preceding years. (Tooze, 2018) This experience showed what could happen in Europe given the political will to implement it. When the financial costs and fiscal fallout from the Eurozone crisis gradually began to threaten core members of the Eurozone, the head of the ECB found a way to engage in measures similar to what the Fed had deployed to limit financial fallout for banks holding toxic subprime mortgage backed assets. Trichet's and the Troika's unwillingness to entertain similar policies in earlier years of the crisis prolonged the Eurozone crisis, worsened the economic fallout from the subprime mortgage crisis for economies less involved in its development before 2008, and manifested depressions in Eurozone members that implemented austerity as conditions for economic aid.

The GFC revealed fissures in financial and economic systems in Europe's core and periphery, prompting government intervention to shore up financial vulnerabilities. This section has shown how policy responses by the Troika reflected core European financial interests, and privileged private investors at the expense of peripheral EMU economies, punishing them for the consequences of the same sorts of bailouts core EMU governments gave financial systems. The about face in ECB policy in late 2012 demonstrated what could have been: if the ECB had engaged in quantitative easing measures similar to the Federal Reserve's, peripheral European economies less involved with the subprime mortgage bubble could have been spared the worst consequences of austerity and prolonged financial crisis.

Conclusion

This paper has discussed the financial, fiscal, and core-periphery dynamics of the 2008 GFC, which gradually transformed into the Eurozone Crisis. The Eurozone's financial and regulatory architecture enshrined deference to financial institutions, and enabled the nominally objective monetary authority of the ECB to hinder fiscal policy in the midst of crises. (Seccareccia, 2017) In 2008, the GFC revealed the scope of interconnectedness of the global financial system, as well as the risks of financialization both in terms of the assets created, banks' relative engagement in lending and securitization, and the potential for new forms of financial intermediation, particularly lending via repurchase agreements, to generate crises. In the earliest years of the crisis, financial failures occurred predominantly in financial centers in core economies that had liberalized in the 1980s and 1990s. These economies had embraced market-based banking measures including securitization, international lending and capital market

activity, and sub-prime mortgage backed assets, and financial intermediation had grown in structural economic importance in those countries. While banks in core economies were likely to receive indirect and direct liquidity support from the Federal Reserve early in the crisis, banks in peripheral European economies with more domestically oriented financial systems gradually experienced funding shocks, as large intermediaries affiliated with repo markets failed or ceased engaging in liquidity provision. (Gorton, 2012; Mehrling, Neilson and Pozsar, 2013) Peripheral European economies were unlikely to have received funding support from the Federal Reserve, which increased the burden their governments faced in rescuing domestic banks caught short by the decline in repo lending that accompanied the failure of Lehman Brothers. The combination of issuing relatively more sovereign debt and the rejection of their assets from general collateral from repo agreements after the GFC set the course for the doom loop that characterized the Eurozone crisis. As the governments of these peripheral economies faced mounting costs in the Eurozone Crisis, the Troika insisted on conditional austerity in exchange for bailouts that were largely devoted to paying back banks in foreign economies, until the terms of those debts were restructured years later to implement haircuts on private bondholders.

The aftermath of the GFC revealed the structural power of Europe's more financialized economies. Core economies in the Eurozone were more likely to have foreign bank branches in the US, and were more likely to have been involved, directly or indirectly, in the build-up of the subprime mortgage backed asset bubble. These economies were moderately insulated from the consequences of their banks' failures thanks to early and extensive liquidity support from the Federal Reserve, which made billions of dollars available in direct and indirect credit facilities to banks involved in the subprime mortgage backed asset market. Peripheral European economies were less likely to have branches in the US, and less likely to have participated in the global asset bubble that preceded the GFC, heightening the funding crises their banks faced after the failure of Lehman Brothers and the drying up of the private repo market. While the Federal Reserve assumed lender and dealer of last resort status for banks in core economies, the ECB was reluctant to provide such expansive liquidity assistance. As a consequence, governments in peripheral economies observed harsher consequences for addressing the aftershocks of the GFC in their domestic financial markets, while governments in core economies were protected from enforced austerity and doom loops by the mediation of the Federal Reserve, and their relative exorbitant privilege in global bond markets. Conditional austerity in exchange for bailouts triggered and worsened depressions in peripheral EMU economies, while banks in core economies benefited from the bailout funds cycling back to their systems.

The experiences of the GFC and its transformation into the Eurozone Crisis highlight several important lessons. Financialization increases the potential for instability in economies, especially after the embrace of repo finance. Governments will stabilize domestic financial sectors to the best of their abilities in the midst of broader crises, which are likely to have larger international consequences. Without the assurance of central bank support, governments may bear disproportionate costs of speculative activity on the part of banks, while they may also pay for private creditors' perceptions of the structural value of those economies, or their lack of exorbitant privilege. These dynamics are likely to discourage fiscal expenditure, which Seccareccia (2017) has noted that the EU economic architecture seems designed to inhibit. In the GFC, banks based in economies with greater exorbitant privilege benefited both from more expansive liquidity support from the Federal Reserve, and from private creditors' faith in the value of their sovereign debt. Peripheral European

economies, which were less involved or uninvolved in the subprime mortgage bubble, bore the brunt of crises not of their making, and were doubly punished by the ECB and by private creditors. Access to Federal Reserve support insulated core European powers from early instability in sovereign bond markets; in later years of the Eurozone crisis, the potential for private creditors to reject debt issued by core governments in the Eurozone spurred more expansive monetary policy by the ECB. Finally, the ECB's actions in 2012 to backstop sovereign debt markets showed quick results in the form of narrowed yield spreads.

The events discussed in this paper predate Brexit, the UK's decision to leave the EU, and the COVID-19 Pandemic. Future work may address whether these changes have changed the relative importance of financialization, or shifted a major hub of European finance to members of the EMU. (Howarth and Quaglia, 2018; Lavery, McDaniel, and Schmid, 2019; Dörry and Dymski, 2021) Similarly, policy makers responses to the COVID-19 pandemic have engaged in extraordinary measures to rescue domestic financial sectors, but have received broader support from the ECB and the Eurosystem in the course of their policy responses. (Tooze, 2021)

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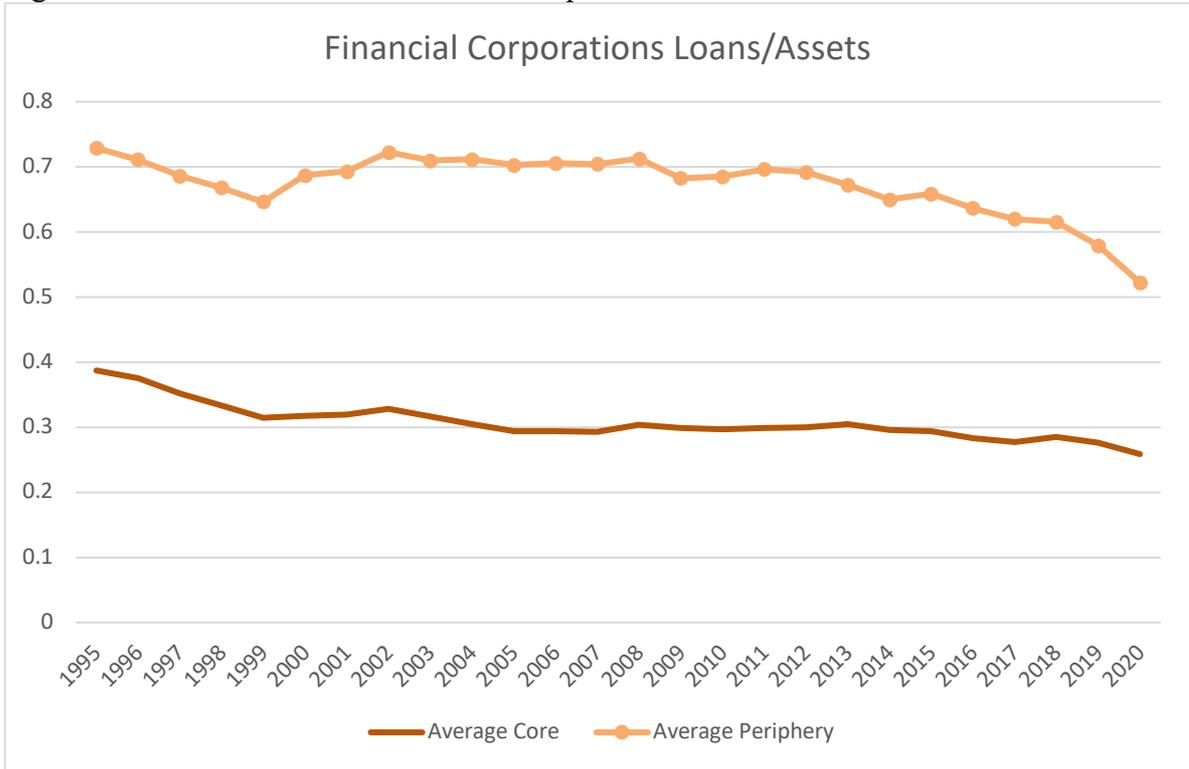
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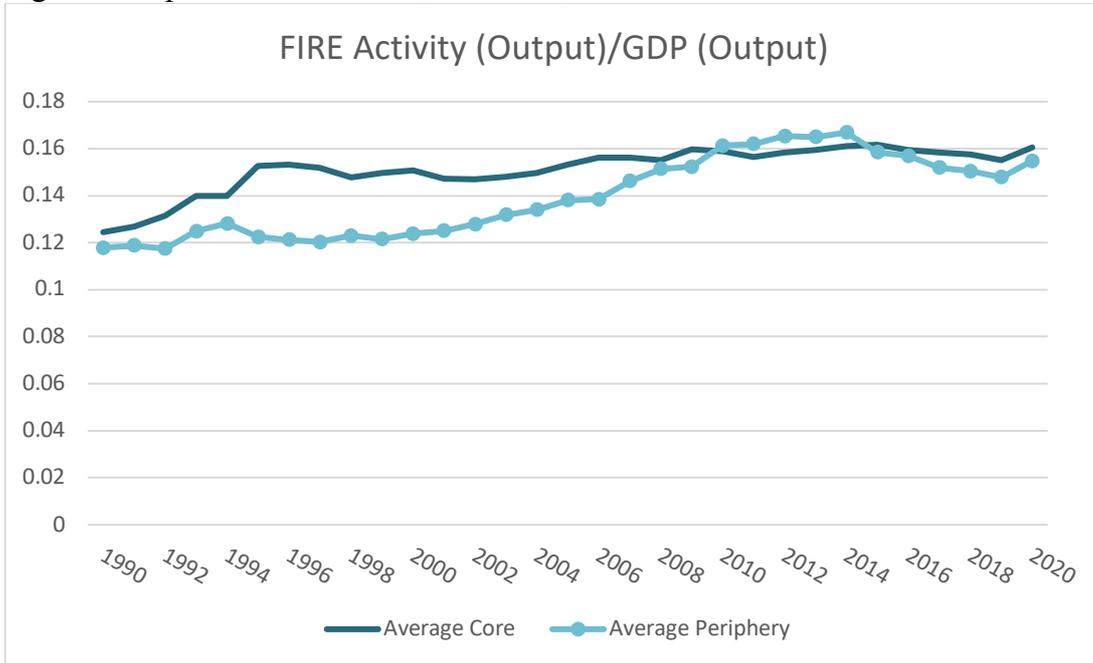
Data Appendix:

Figure 1: Loans as a Share of Financial Corporations' Assets



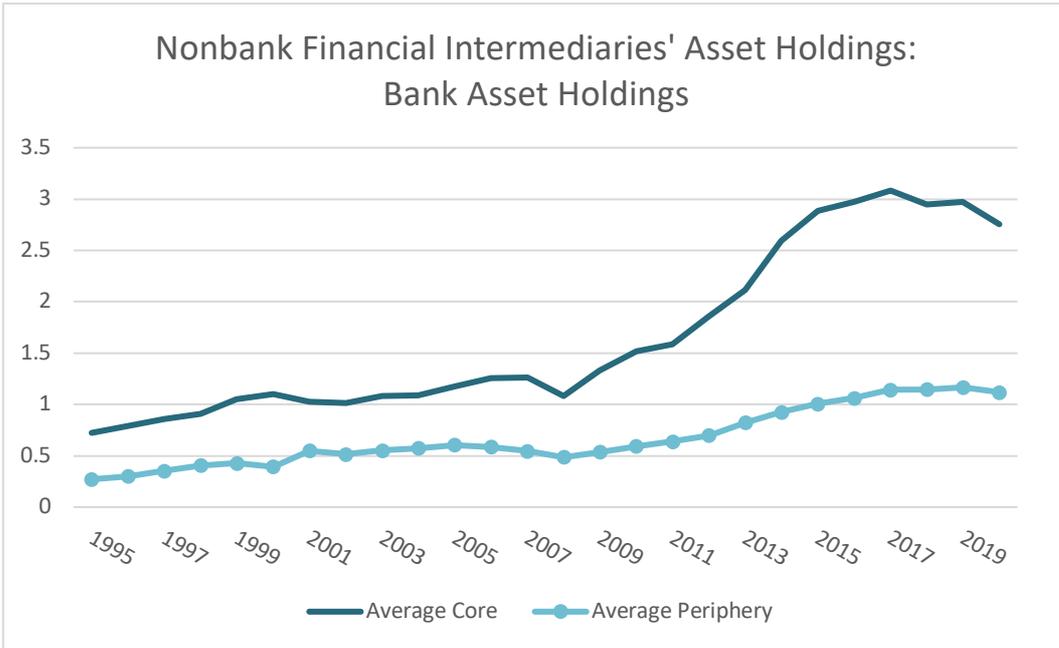
Source: OECD Data, 2021

Figure 2: Importance of Finance, Insurance, and Real Estate in GDP for the EU-15



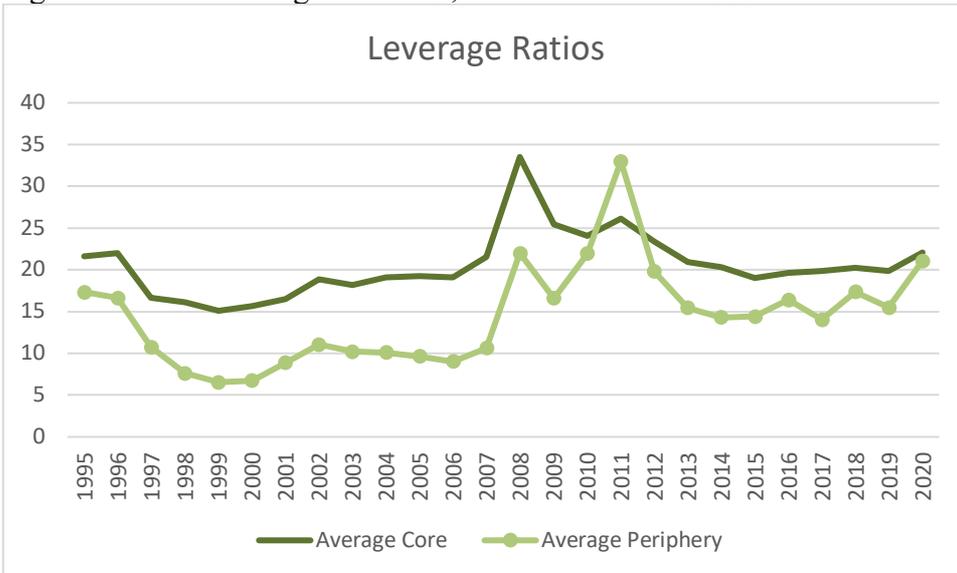
Source: OECD Data, 2021

Figure 3: Non-Bank Financial Intermediaries' Asset Holdings Relative to Banks' Asset Holding



Source: OECD Data, 2021

Figure 4: Bank Leverage in EU-15, Before and After 2008



Source: OECD Statistics, 2021

Table 1: Cross-Border Capital Flows between Germany, France, and the UK with Core and Peripheral EMU Partners; BIS Statistics, Author's Calculations

LENDER	COUNTERPART	2000	2006	2012
GERMANY	Core/European Claims	48.07	40.34	48.59
FRANCE	Core /European Claims	45.01	37.91	48.42
UK	Core /European Claims	54.35	53.08	63.75
GERMANY	Peripheral/European Claims	39.16	48.60	38.30
FRANCE	Peripheral/European Claims	42.89	53.25	42.55
UK	Peripheral/European Claims	35.12	37.31	25.21
GERMANY	Core/Financial Assets	4.08	3.94	3.36
FRANCE	Core /Financial Assets	3.66	3.88	5.31
UK	Core/Financial Assets	1.17	1.31	1.66
GERMANY	Peripheral/Total Assets	3.33	4.75	2.65
FRANCE	Peripheral/Total Assets	3.58	5.55	4.72
UK	Peripheral/Total Assets	1.07	1.50	0.95

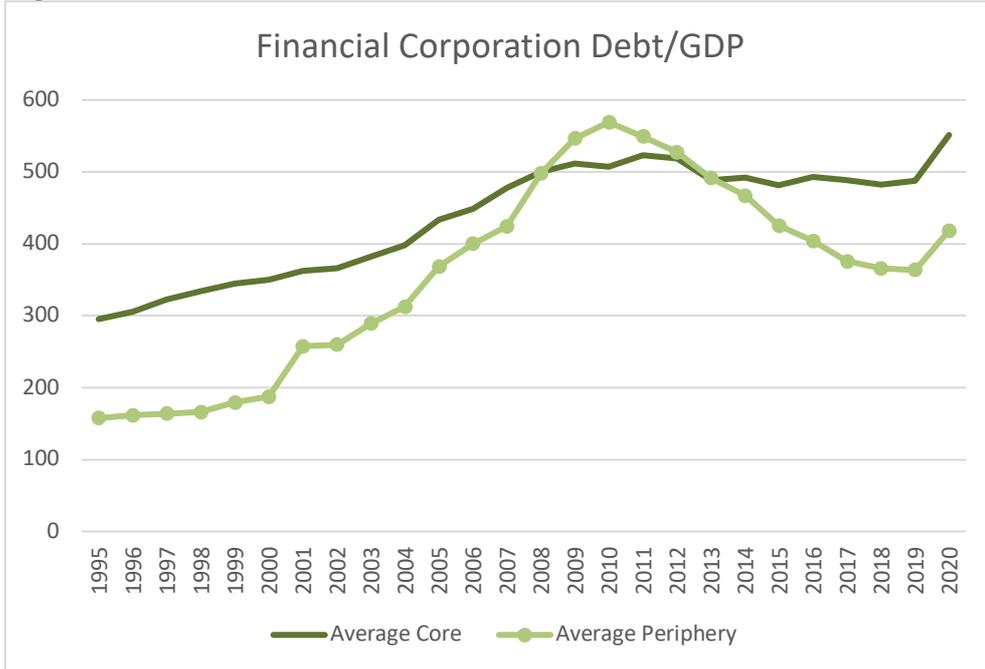
Source: BIS Statistics, 2020

Table 2: Liability Composition, EU-15 and the EMU Core and Periphery

<i>Variable</i>	<i>Entity</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>	<i>2009</i>
<i>International Share of Liabilities</i>	EU-15	29.0	30.2	29.6	28.4	34.5	38.0	32.3
<i>International Share of Liabilities</i>	EMU-Core	35.2	38.9	33.7	29.6	34.6	41.8	35.2
<i>International Share of Liabilities</i>	EMU-Periphery	10.5	09.8	11.3	25.8	34.4	30.4	28.4

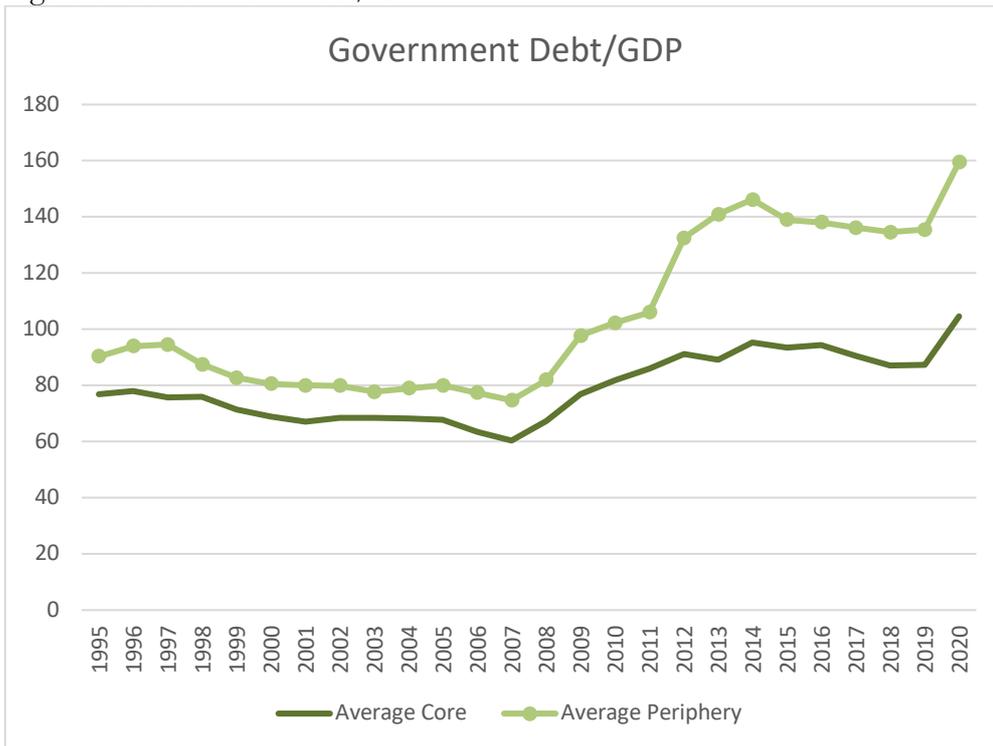
Source: OECD Statistics, 2021

Figure 5: Financial Firms' Debt/GDP



Source: OECD Statistics, 2021

Figure 6: Government Debt/GDP



Source: OECD Statistics, 2021