

University of Leeds, School of Business

The political economy of cross-border
financialisation and financial stability:
Essays on European experience

Submitted in accordance with the requirements for the degree of PhD
in Economics

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List of abbreviations

ABCP	Asset-backed commercial paper
ABS	Asset-backed security
CDO	Collateralised debt obligation
EMS	European monetary system
FICC	Fixed income, currencies, and commodities
GIIPS	Greece, Italy, Ireland, and Spain
HFT	High-frequency trading
MBS	Mortgage-backed security
MMMF	Money market mutual fund
NFC	non-Financial company
OFI	Other financial institution
SIFI	Systemically important financial institution
S&L	Savings and loan
VaR	Value-at-Risk

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Chapter 1: Introduction

1.1 Overview

This dissertation is an investigation of a number of themes in financialisation and financial stability in a European and cross-border context. Continental European countries are the primary objects of interest, though the US and the UK are also considered given the relationship and similarities between the different regions. The PhD follows a three essay structure but with several unifying threads. Among them are financialisation as a demand-led process (that is, the growth of finance has been driven by factors external to financial markets), comparative and cross-border dynamics, interactions between institutional investors and the banking system, and housing market dynamics. In particular, the thesis examines the transformation and growth of banking activities, the nature and financial stability consequences of the expansion of financial trading generally and also proprietary trading in particular, and the determinants of cross-border debt flows in Europe in the 2000s. From these a number of diverse policy implications emerge. Common among them, and a unifying theme of the PhD, is that financialisation needs to be managed as opposed to reversed.

The PhD adds to existing research on financialisation in a number of ways. The chapter on the growth of banking identifies the aggregate growth of investment banking as driven by the increase in scale and scope of modern capital markets. Deregulation and/or disintermediation processes have not been the driving force. The imposition of the first Basel Accord is found to be the largest single factor in the rise of mortgage lending over the past four decades or so. A capital market-led view of investment banking is a novel approach, whereas the invocation of the Basel agreements in this study is one of greater emphasis compared to existing literature.

The following chapter finds that in the post-Bretton Woods landscape Europe graduated from recurrent currency crises to repeated credit-based housing crises. Financial trading has recently played a more indirect role in financial instability through the provision of liquidity to the banking system. Proprietary trading is largely dependent on the institutional investor-led increase in trading volume and, while important, has not posed the

same threat to stability as housing market dynamics have. These points have not been adequately appreciated in the financialisation literature to date.

The final content chapter develops this point further. It finds that institutional investors were the principal driving force in the expansion of debt-based capital flows in Europe in the 2000s. This point has not been appreciated thus far. Position taking by large banking groups was important, but banks largely availed of opportunities for gain as they arose. Institutional investors, in contrast, had a structural need for those instruments that were central to the expansion of flows.

This dissertation utilises institutional and historical political economy analysis with frequent use of descriptive statistics. While aspects of the social world occasionally exhibit relatively stable relationships and forms (for example, lognormal distribution of income, Pareto distribution of city size, and so on), this is not the norm. Typically in quantitative social science and economics such forms are assumed a priori, and quantitative techniques such as regression then applied. However, there are reasons to be doubtful of this approach in general, which leads us to favour institutional analysis. For one, free-will imparts on economic agents behaviour that eludes capture by a formal deterministic or stochastic model. A deterministic (or stochastic) view of human agency violates our everyday intuitions that we have control over our actions and lives. The fact that people in general try to influence some outcome in their lives rather than just stay in bed because it has already been determined implies they believe their actions have the capacity to affect their world. Second, the social world is highly complex. Independent of free-will, the conditions under which a deterministic or stochastic model can be applied are highly circumscribed outside of laboratory conditions. Lawson's (1997) example of a leaf blowing in the wind is a case in point. The problem of complexity applies, writ large, to human action. Further, institutional reasons include distortions arising from model-induced bias reinforcement, publishing bias, and issues surrounding the cleanliness of data. It is for such reasons that quantitative modelling is deemed inappropriate. Institutional and historical analysis also allows the examination of contextual factors which enable interpretation of events, processes, and so on.

Some of the dissertation's findings complement existing research. Others entail a difference in emphasis while others still are minority positions and contrary to a number of

presuppositions held in the financialisation literature. The next section provides substance to that claim. The following section outlines the content of the chapters and describes the overall layout the thesis.

1.2 Financialisation: Issues and conceptual underpinnings

Financialisation is a term that has perhaps been around for some time but which has come into more frequent use since the 1990s (Sawyer, 2013). As a phenomenon, it has been subject to extensive investigation across a broad range of disciplines (see, for instance, Lapavitsas, 2011; van der Zwan, 2014). Possibly the earliest definition of the term is offered by Phillips who in 1994 defined financialisation to be ‘a prolonged split between the divergent real and financial economies’ (quoted in Sawyer, 2013: 6) The most commonly-cited definition is given by Epstein (2005) who defines it to be ‘the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies’ (Epstein, 2005: 3).

However one defines it, within the critical political economy and heterodox economics literature financialisation has invariably been viewed as a negative development. The more noted aspects of financialisation include a rise in wealth and income inequality, a slowdown of accumulation, greater frequency and severity of financial crises, a narrowing of the democratic space, and a marketisation and permeation of financial calculus into social services and everyday life. Though these processes are highly interconnected and mutually interacting, some developments are more fundamental, from which other trends derive. One is the development of financial and capital markets. Another is the commodification and financialisation of housing.

The primacy of capital market development can be seen when one considers other celebrated aspects of financialisation. For instance, the rise of shareholder value maximisation among non-financial companies (NFCs) derives from the need of institutional investors to have a set of uniform metrics against which firm performance can be evaluated. Shareholder value maximisation has, in turn, been associated with weak investment performance and the slowdown of accumulation. Strip away the development of capital markets and the concomitant growth of institutional investors, and shareholder value maximisation, financial asset-based wealth inequality, and other ills are significantly

diminished. The converse, though, is not true. A financial asset wealth tax, for instance, does much less to alter the size of capital markets.

Similarly, as we shall see, the frequency and severity of recent financial crises, non-financial wealth inequality, and other processes originate in housing market developments, particularly the expansion in mortgage lending. With appropriate interventions, it is possible to greatly diminish the likelihood of housing bubbles. But it is difficult to envision how the large increase in frequency and severity of housing crises could have happened had there not been a corresponding increase in mortgage lending. Both capital market developments and the growth in mortgage lending are subject to enquiry in the following chapter, and form the basis for the rest of the thesis.

Regarding the former, Lysandrou (2016) notes how the starting premise in much of the financialisation literature is to view the expansion of financial markets through the lens of speculation, or as a dysfunctional divorce from the real economy. As such, he notes, some of the colourful adjectives ascribed to the increased size of the financial sector include ‘bloated’, ‘inflated’, among others. This has been facilitated by financial deregulation wherein financialisation ‘was made possible’ (Stockhammer, 2015a). Deregulation allowed financialisation to develop as it ‘unleashed speculation in financial assets’ (Tomaskovic-Devey and Lin, 2011: 545) or ‘set the financial sector free’ (Kotz, 2008: 8).

When financialisation is viewed in cross-border terms, again there is an emphasis on financial deregulation and liberalisation. The period of analysis here has often involved a contrast between the Bretton Woods era of restricted international transactions and the post-Bretton Woods breakdown and expansion in capital flows (Lapavitsas, 2013). For Stockhammer (2010; 2015b), liberalisation of international flows has been a key enabling factor in financialisation. International liberalisation was key in the lead-up to the financial crisis as it allowed countries to run large current account deficits (*ibid*). Much of the cross-border financialisation literature also focuses on the deleterious effects capital flows have on developing countries (see, for instance, Kaltenbrunner, 2010).

A somewhat different approach has emphasised financialisation as emerging from processes linked to the real economy (Dos Santos, 2009a; 2009b; Lapavitsas, 2009; 2012; 2014; Lapavitsas and Powell, 2013). The withdrawal of non-financial firms from credit

markets as firms increasingly use internal funds and capital markets for their financing needs has put pressures on the traditional source of banking income, lending to business. Coupled to this has been an integration of households into financial markets. Through neoliberal restructuring, households have come to rely on financial markets for social needs, such as pension funds for the provision of retirement savings. In response to declining income from lending to business, banks have reoriented their activities towards households and financial markets.

We are in agreement that financialisation has had an overwhelmingly negative effect on advanced capitalist and European countries, the units of concern in this study. Our point of departure from the prevailing literature is that among advanced countries the growth of financial markets should not be viewed primarily through the lenses of speculation, deregulation, and/or withdrawal of non-financial firms from credit markets. Neoliberal restructuring and greater entanglement of households in financial markets gets closer to the mark, but still misses. As we outline in the following chapter, the expansion of financial markets is attributable to a number of developments, only some of which can be attributed to neoliberalism. For instance, demographic forces have put upward pressure on government spending which has led to an expansion of sovereign debt markets. Similarly, along with neoliberal privatisation, a major component of the growth in scale of equity markets arises from a desire of firms to expand. More generally, the growth in capital markets has put pressures on the banking system to expand its investment services. This, more than deregulation, speculation, or a 'turn' of the banking system towards financial markets explains the growth of investment banking. That is to say, financialisation is a demand-led process.

In terms of cross-border aspects of financialisation, we agree that capital flows have been central to the development of financial instability across the world. That said, we refine the common dichotomy between pre- and post-Bretton Woods. Since the breakdown of Bretton Woods two periods are discernible in terms of the scale of international financial transactions; the period since the 1970s, and the period since the early 1990s. The first period was characterised by a large growth in the scale of transactions, including a large increase in short-term currency trading. The increase in transactions in the subsequent period has been even larger. Elaborating on Grahl and Lysandrou (2006) to an international context, we argue in Chapter 3, but also Chapter 4 that the expansion in flows in this period

has been due to the rise of institutional investor-led financial trading. Both of these chapters also develop how bank proprietary and speculative trading is dependent on institutional investor trading to take positions. To date, the critical literature on proprietary trading has been underdeveloped and fragmentary. Thus, while we do not deny that speculation is a prominent feature of financialisation, it ought not to be the main lens through which capital market developments are viewed.

The second defining feature of financialisation we address relates to the development of housing. The transformation of housing can, in principle, be approached from several angles. For one, along with the expansion of capital markets, a major reason for the growth in size of the financial sector has been an increase in mortgage lending. Second, house prices in many advanced countries have exhibited a steady upward trend for over two decades now. As well as having large adverse socioeconomic and distributional effects, the expansion in assets prices further inflates the size of the financial sector. Finally, boom-bust cycles in housing markets have been a major factor in heightening the instability of the financial system in recent years.

A number of approaches to the financialisation of housing can accordingly be discerned in the literature. First, the expansion of mortgage credit and the rise in property prices may be seen as part of a broader process of the financialisation and commodification of housing (Aalbers, 2016; Ryan-Collins et al., 2017). Especially prominent within the economic geography literature, deregulation of credit, financial innovations such as securitisation, liberalisation of property markets, and privatisation of social housing have been among the factors which have inflated property prices and/or led to an expansion in credit. Second, just as banks have turned towards financial markets in the face of declining returns from traditional intermediation activities, they have also sought new revenue streams by turning towards households. Thus, a central facet of the expansion of lending to households, and of mortgage lending in particular has, it is argued, also been developments among non-financial firms. As before, neoliberal restructuring and commodification have been important elements, but the driving force has been the ‘turn’ by the banking system towards households. Finally, a related literature looks less at mortgage lending per se as it does household indebtedness in general. Distributional dynamics are said to have played a central role in the expansion of lending to households (Barba and Pivetti, 2009; Cynamon and Fazzari, 2008; Kus, 2012; Perugini et al., 2016; Stockhammer, 2012; 2015b). Increased

dispersion of incomes implies that households are required to take on more debt to keep up with historically and socially-determined expenditure and consumption norms.

In terms of stability, it is universally acknowledged that financialisation has inaugurated an era of more frequent and more severe financial crises. In this regard, the financialisation of land and housing literature has emphasised the contribution of property bubbles. Though the broader financialisation literature has shied away from pronouncements that investment banking poses a greater threat to financial stability than commercial banking or conversely, it has been the former that is assumed to pose the threat to the latter. Crotty (2008), for instance, highlights how non-interest and trading income has increased volatility of earning among banking groups. Hardie and Howarth (2009) argue that ‘commercial banks have become more market-based’ which for them ‘represents a central explanation for the financial crisis’ (Hardie and Howarth, 2009: 9). More generally, calls for the separation of banking functions or proprietary trading restrictions are predicated on the belief that it has been investment banking and trading that has made commercial banking more fragile, and not the converse. This certainly coheres with the view of investment banking as a casino, as outlined previously.

Chapter 2 examines the determinants of the growth in mortgage lending. Just as we find the reorientation of banking activities towards financial markets to be an unconvincing account of the increase in scale and scope of investment banking, we similarly find a ‘turn’ of the banking system towards households to be an underwhelming explanation of the increase in scale of mortgage lending. Distributional dynamics are further found to be of only secondary importance. Neoliberalism in the form of deregulation of credit and the commodification of housing has played an important role. But where we differ from existing literature is the importance we give to ‘standardisation’ as opposed to deregulation per se. In particular, the imposition of capital adequacy rules and the first Basel Accord has been the key policy shift in mortgage markets over the last number of years. While the Basel agreements have often been mentioned as one among a host of factors, to our mind their significance has not been grasped. We also unpack the relationship between house prices and credit expansion. It is found that they mutually interact but that it has been the latter than has generally been the initial driver the former.

Chapter 3 takes a position on the relative contributions of the growth of commercial and investment banking to financial instability. Though the landscape has shifted, housing booms have been at the centre of most financial crises in recent decades. Capital market developments have fed booms through the provision of liquidity to banks. Investment banking practices have also become riskier, including through proprietary trading. It is thus not incorrect to state that investment banking has made commercial banking and the financial system more fragile. However, the converse is true to a greater extent; commercial banking and housing markets have made investment banking even more instable. Our reading of the global financial crisis confirms this.

Chapter 4 develops the points made by the previous chapter further by examining debts flows in Europe in the 2000s. It details how bank trading in debt instruments were crucially dependent on a demand for those instruments from institutional investors. The trajectory of flows was not driven by banks' desire to assume ever more risk through leverage, but rather the undertaking of risk and the growth of leverage in the sector were manifestations of a search for yield among long-term investors.

Thus, two central themes run through the thesis. One is the centrality of capital market growth and the associated rise of institutional investors. The other is the importance of housing market dynamics in financialisation. As before, both processes are fundamental, from which others derive. Both are explainable in terms of the framework developed in the following chapter based on neoliberalism, accumulation, and standardisation. That said, as argued in later chapters the policy implications of these two processes, especially in terms of their reversibility, differ somewhat. Because the development of capital markets perhaps predominantly arises from demographic pressures, themselves a result of advances in health and medicine, it is neither reversible to a substantive degree nor desirable to do so. Because mortgage lending has arisen to a large extent as an unforeseen by-product of international banking regulation, it is in principle reversible. In practice, it may be unfeasible given the likely coordination problems and path dependencies embedded in global agreements and institutional forms. No country, aside perhaps the US, can go it alone. Thus, whether referring to housing or capital markets, as before, a unifying theme is that financialisation needs to be managed, not reversed. As will be discussed in the case of Germany, for instance, it is not inevitable that mortgage lending must lead to some of the worse effects associated with, namely large undulations in property and housing markets.

In sum, financialisation is a multifaceted phenomenon but which entails a number of central processes. This dissertation challenges the often-made supposition that the expansion of financial markets is predominantly a dysfunctional divorce of the financial from the real economy. From that a number of inferences are made about the growth of investment banking, the nature of cross-border and proprietary trading, and on the relationship between large banks and institutional investors. The thesis gives significantly more emphasis than previous research to the imposition of capital adequacy regulation in the trajectory of mortgage lending and housing markets. It also accords housing market dynamics centre stage in debates on advanced-country financial stability.

1.3 Outline

Chapter 2, in particular, examines the determinants of the growth in both mortgage lending and investment banking activities. Two core European countries, Germany and France, and two peripheral/semi-peripheral countries, Italy and Spain, are considered along with the US and the UK. As before, existing analyses of financialisation are found to be unsatisfactory accounts of why banking has been transformed along these two dimensions. Neither the disengagement NFCs from bank lending (through greater uses of internal finance and capital markets), nor competition for deposits in the guise of investment funds led to a decline in intermediation income, with the exception of France. As such banks did not reorient their business lines towards households or financial markets to compensate for lost income. We also find deregulation of financial service activities to be of limited explanatory power in the expansion of investment banking, and distributional dynamics to be of secondary importance in the rise in household indebtedness.

As existing explanatory models in financialisation have typically given empirical centrality to one or some combination of disintermediation, deregulation of financial service activities, or distribution, we correspondingly develop our own analytical framework. Our claim is that the three processes of neoliberalism, accumulation, and standardisation are central to understanding developments in the banking system. Based on Marxian insights, particularly historical materialism, we understand neoliberalism in class terms, and accumulation as expansion of economic entities. In terms of the growth of mortgage lending neoliberalism has been important in the form of privatisation of social

housing and deregulation of property and credit markets, and standardisation in terms of the imposition of the Basel Accords. The growth of investment banking has been a result of demand pressures placed on the banking system for increased investment services as capital markets have developed. The expansion of capital markets, namely equity and debt markets, in turn, can be attributed to neoliberalism in terms of privatisation of both state-owned companies and social welfare. The rise of capital markets is also a result of accumulation pressures through the expansion of companies and public listing leading to greater issuance of equities. It is further traceable to the expansion of government services resulting from demographic and other pressures, which led to an expansion of sovereign debt markets. Expansionary or accumulation pressures have played a more indirect role in the growth of mortgage lending as the Basel Accords arose out of the internationalisation of banking. Standardisation has been important in more recent developments in investment banking, such as the expansion of proprietary trading.

Chapter 3 similarly addresses two questions and focuses on Europe and also the US as a necessary comparator. First, what contribution has financial trading made to the development of systemic financial instability? Second, what is the nature and systemic implications of bank proprietary trading? With regards to the first question, it is argued that financial trading has been a major reason for the heightened instability of the financial system among European countries. In the early post-Bretton Woods era, financial trading had direct systemic implications as Europe was plagued by repeated currency crises, a necessary condition for which were large positions in currencies. Since then, financial trading has had more indirect systemic implications through the provision of especially cross-border liquidity to banks, the availability of which has contributed to credit and housing-based banking crises. The emergence of institutional investor-led cross-border trading has been an important factor in the graduation from repeated currency to repeated banking crises.

The emphasis on deregulation and/or an ever-growing appetite for risk-taking among major banking groups is misplaced with respect to understanding proprietary trading. Like the expansion of investment banking broadly, the growth of proprietary trading should be seen in terms of developments in capital markets. As institutional investor-led capital market trading has expanded, so too have opportunities for proprietary trading. Though banks can earn trading income in a variety of ways, importantly the growth in trading

volume and the absence of a commensurate growth in securities markets has created disruptions in pricing relationships and opportunities for position-taking. Though the risk of bank proprietary trading has grown, it does not pose the same systemic implications as the expansion of property-based lending. Compared to property/mortgage lending, proprietary trading is more diversified, less concentrated across the financial system as a whole, and because of the complexity and/or leverage embedded in a given allocation of capital, likely to be well-hedged. As before, our reading of the global financial crisis does little to convince us otherwise.

Chapter 4, as mentioned already, applies some of the insights accumulated in previous chapters to examine the determinants of cross-border debt flows in Europe in the 2000s. In particular, debt flows emanating from core Eurozone countries to the US and UK securitisation markets are considered on the one hand, and portfolio bank flows into the periphery (for instance, bonds issued by peripheral banks and bought by core investors) are considered on the other. Based on a dissatisfaction with bank-centred approaches to global financial dynamics, we develop an institutional investor-led framework. Specifically we argue that long-term institutional investors have a structural need for dated fixed income securities that banks do not. This is so because of the need for institutional investors to match assets with their longer-term liabilities, whereas banks have mostly short-term liabilities and long-term assets.

As applied to European debt flows we argue that the role played by institutional investors has not been sufficiently emphasised. Though bank-centered approaches are well-equipped to explain a significant portion of cross-border debt dynamics through carry trades, there is little evidence this constituted the central mechanism for channelling flows. As per Chapter 3, bank proprietary strategies are extensively shaped by the actions of institutional investors. The expansion in debt flows from the Eurozone is explained by depressed returns on fixed income instruments and the ensuing asset-liability mismatches. This led institutional investors to move into financial sector debt and yield-producing securitised assets.

Chapter 5 concludes. The findings of the dissertation are summarised and followed by a discussion of their applicability to regions and contexts outside the scope of this study. Other avenues for future research are also explored.

Chapter 2 : Financialisation and the transformation of banking reconsidered

2.1 Introduction

The last three decades or so have witnessed an enormous growth in financial markets and processes, the phenomenon known as financialisation. Starting in the early 1970s with the breakdown of the Bretton Woods system, and accelerated through the 1980s to the present with deregulation, liberalisation, and innovation of financial systems, advanced capitalist economies have undergone major structural transformations. This has manifested itself in a number of ways. Among the more documented changes have been a slowdown of accumulation (Stockhammer, 2004), a rise in income inequality (Kus, 2012; Lin and Tomaskovic-Devey, 2013), more frequent and severe financial crises, and the overall permeation of financial processes into everyday life (Lapavitsas, 2009).

A central feature of financialisation among advanced capitalist countries relates to the transformation of banking. In particular, the expansion of lending to households, and of commercial banking activities into investment banking has been noted in several studies (Erturk and Solari, 2007; Dos Santos, 2009a; 2009b). The expansion of credit to households in the form of mortgage lending has increased the vulnerability of housing markets to boom-bust cycles. The preponderance of major banking crises over the last number of years have originated in housing markets, as the most recent global crisis demonstrates. The increase in investment banking activities has been associated with greater volatility of earnings, conflicts of interest within financial groups, and greater fragility of the financial sector generally. The financial crisis as it developed in France and Germany, for instance, emerged from major trading losses on mortgage and structured finance securities, and eventually sovereign debt instruments.

This chapter explains the transformation of banking in terms of the growth of mortgage lending and the expansion of investment banking. Two core European countries, Germany and France, two peripheral/semi-peripheral countries, Spain and Italy (whose status as a peripheral or semi-peripheral country is admittedly debatable), and the US and UK as comparators are analysed. It finds that existing research on the transformation of

banking and financialisation inadequately explains both mortgage lending growth and the expansion of investment banking. In particular, neither disintermediation of non-financial firms nor innovation in the guise of investment funds was the major reason for declining intermediation returns over the period considered, with the partial exception of France. The idea, then, that banking transformed itself due to declining returns in traditional business lines is false. Financial deregulation, also, has only partial explanatory power.

Theoretically, we find existing approaches to financialisation to be inadequate to explain the development of banking. We forward a materialist view of the financial system anchored in the concepts of neoliberalism, accumulation, and standardisation. Thus, we find the growth of mortgage lending to be attributable to the imposition of Basel I and associated capital adequacy regulations in conjunction with domestic liberalisation and deregulation – that is, neoliberalisation – of housing and credit markets. Basel I and capital adequacy regulations have been particularly important in continental European countries, where as broader neoliberal reforms have been more important in the US and especially the UK. The increase in scale and scope of investment banking activity arose initially from the growth of capital markets, and developed further due to the rise of asset management and institutional investors. The growth of capital markets is attributable to neoliberal restructuring and accumulation/expansionary pressures.

The outline of this chapter is as follows; the next section reviews some literature on financialisation and the financialisation of banking, after which it forwards a conceptual framework based on the three themes mentioned previously: neoliberalism, accumulation, and standardisation. The following section examines empirical evidence in support of the leading explanation of banking transformation, disintermediation, and finds it wanting. The section after that draws on the conceptual framework outlined before to explain the growth of mortgage lending and the expansion of investment banking activity. The penultimate section discusses the findings and some policy implications. The final section concludes.

2.2 Financialisation and the transformation of banking

2.2.1 Theorising financialisation

Several views exist on the emergence of financialisation. The Marxian tradition generally

attempts to link financialisation with underlying dynamics in the real economy. Brenner (2002; 2006) and Callinicos (2010) focus on the classic notion of falling rates of profits. For Brenner growing international competition in particular led to a profit squeeze. Financial and credit expansion enabled a restoration of prosperity. Dumenil and Levy (2004) see financialisation in terms of a restoration of the power of a financial class, restored through the advent of neoliberalism. Magdoff and Sweezy (1987) and Magdoff and Bellamy-Foster (2014) argue that in capitalism monopolistic enterprises tend to generate large surpluses. Through the latter part of the 20th century the sphere of production increasingly had difficulty absorbing the expanding surplus, which led to stagnation. Financialisation emerged to support accumulation such that capital was channeled into speculative and financial circulation.

The strength of such traditional Marxian literature is that it links financialisation to underlying processes in the real economy. It also keeps class dynamics to the forefront, a point which we return to. But empirical anomalies can be found that undermine each strand. Brenner's emphasis on trade in declining profitability has been convincingly attacked (see Crotty 1999), and profits have recovered as financialisation has continued to deepen. Dumenil and Levy's work implies, erroneously, that neoliberalism preceded or co-existed the advent of financialisation (see Kotz, 2011), though more recent writing inverts the timeline (Dumenil and Levy, 2014). As for Sweezy and Bellamy-Foster, many of the key features of financialisation almost certainly inhibit rather than augment accumulation. This is particularly true of the non-financial corporation, which plays a key role in their monopoly capital theory (see Stockhammer, 2004).

Arrighi (1994) likewise sees financialisation as an inherent tendency within capitalism. The current incarnation of financialisation is the culmination of historical events that began in the late 19th century. Financialisation represents the autumn of the period of US hegemonic expansion as it falters relative to Asian strength under its lagging productive structures. Through their decline, hegemons become creditors to emerging powers through which a financial expansion emerges. As well as the obvious empirical failures given the status of the US as a debtor nation, it raises important methodological questions that apply equally to other Marxian long-wave historical analyses. As Pollin (1996) alludes, the problem with such an analysis is that economies are complex systems, and correspondingly

subject to a complex array of interlocking forces. Outcomes in a given period are, as such, indeterminate, but path dependent. Trajectories of development, though, are subject to persistent resetting through socioeconomic upheaval. To trace the lineage of the current phase to a previous period since which several epochal shifts have taken place underscores the difficulty of explaining current events with long-wave historical narratives.

The regulation school seeks to map-out the key institutional features of ‘modes of accumulation’ as they exist in the economy. Boyer (2000) views the rise of a finance-led growth regime in terms of the decline of Fordist production structures. For Kotz (2011), the neoliberal mode of accumulation and its tendency towards liberalisation set the stage for financialisation. Financialisation, however, is an inherent tendency within capitalism and so is not simply an outcome of neoliberalism. This is so as gains from technical innovation within industrial capital are constantly under threat from competition and new entry. To escape such risks capital prefers to hold wealth in a form that can be exited easily, namely financial capital (*ibid.*).

Stockhammer (2008; 2015a), a post-Keynesian, similarly uses the language of ‘mode of accumulation’ in describing the emergence of financialisation. Like the regulation school, but somewhat more policy-oriented than theoretical, the importance of financial deregulation is emphasised in the generation of financialisation. Leaving aside the relationship between income distribution and financialisation which is addressed in the following section, the post-Keynesian approach also highlights the unleashing of a parasitic financial capitalist class or ‘rentiers’ through financialisation (Dunhaupt, 2012; Pollin, 2007). Similar to Marxian approaches, a key feature of financialisation in this approach is the detachment of the finance sector from underlying production as financialisation “elevate(s) the significance of the financial sector relative to the real sector” (Palley, 2016: 106). *À la* Keynes, euthanasia of the rentier through effective reregulation is necessary to rebalance the economy.

In our view these approaches correctly identify financialisation as part of broader neoliberal restructuring. Both approaches, though, have important conceptual shortcomings. For the regulation school, the holding of wealth in liquid financial assets as opposed to concentrated industrial holdings does diversify risk, but financialisation is multifaceted. How does the emphasis on industrial capital relate to the expansion of household debt, for

instance? As for the post-Keynesian emphasis on deregulation, the financial sector, like any other, requires not only a stable institutional base in which to operate, but also a system of goods and services in which to transact. Just as it is amiss to speak only of the deregulation of airspace or the invention of airplanes, and not the demand for transportation services to explain the growth of commercial aviation, financial sector growth must similarly be explained in such terms. That is to say, though correctly identifying deregulation as a major phenomenon, the post-Keynesian approach does not provide an account of where the demand for financial goods and services has come from.

Two further approaches are worthy of mention which provide a useful segue into our own paradigm. Beginning from the centrality of commodity exchange within capitalism (Lysandrou, 2005), Lysandrou (2016) sees financialisation and the growth of the financial sector as assisting state and other socio-economic institutions meet the growing burdens placed on them by society. Accordingly, the size of the financial sector is not necessarily bloated relative to the underlying economy. As financial securities represent claims on entities due at a future date, akin to globalisation representing a form of colonisation in a geographic sense, financialisation represents a form of colonising the future.

Also drawing on Marx, Fine (2014) sees financialisation in terms of the increasing presence of ‘interest bearing capital’. Interest bearing capital is money lent for the expansion of accumulation. In ‘extensive forms’ interest bearing capital is the permeation of financial capital to new forms of activities and provision such as, for instance, social housing. In ‘intensive forms’ it relates to the detachment of finance from the production of commodities. For Fine, moreover, it appears neoliberalism and financialisation mutually interact as financialisation ‘underpins’ neoliberalism (ibid.: 47), though neoliberalism is also ‘associated with sustaining financialisation’ (Fine, 2009: 53). The state plays a key role in restructuring financialisation and accumulation (ibid.: 64).

As for Lysandrou, we are in agreement and endeavor to show throughout that the commonly-held view of the financial sector as having grown out of proportion is much too simplified. But while Lysandrou’s view provides a useful way to think about capital markets, we feel ‘colonising the future’ is not quite flexible enough to incorporate another key feature of financialisation, the expansion of household lending. Fine’s distinction between extensive and intensive interest-bearing capital potentially allows for such a

generalisation, though as before the perceived divorce of finance from production is in our view a misunderstanding. We also argue that while there is mutual interaction between neoliberalism and financialisation, it has more been the former that has preceded the latter. The challenge then is to provide a framework that is sufficiently broad so as to capture financialisation's central features, but also avoiding the limitations of existing literature.

2.2.2 Rethinking financialisation

According to orthodox or classical historical materialism as outlined by Marx in the preface to *The Critique of Political Economy* (1977) and later elaborated by Cohen (1978), history develops in stages. Stages are characterised by sets of relationships of control and ownership of the economy, the 'relations of production', and by the development and technical capacity of the economy, the 'forces of production'. The level of the forces of production at a given juncture gives rise to the relations of production which, in turn, give rise to the legal and political 'superstructure'. As the forces of production have an inherently dynamic character, a level in the economy may be reached such that the current configurations of the levels and forces of production are incompatible. When the breaking point is reached, a rupture or reconfiguration of relations comes about so that they no longer impede the forces. A new set of relations emerges that harnesses and optimises the new productive structure. Capitalist arrangements are but one set of relations, and feudal and hunter-gatherer are examples of others.

Importantly economic processes impose a certain directionality on the trajectory of history. As developed by Wright et al. (1992), this is true for several reasons. For one, knowledge of productive techniques persists through time, unlike physical assets. More, once a given level of economic development is reached, human needs become entangled in maintaining that development. Finally and crucially, all elements of a society have an interest in improving the productivity of labour, *ceteris paribus*. Under capitalism this need arises from competition and the profit motive whereas before it may have arisen from a desire to reduce the working day. These tendencies render social change directional in the sense that once a given level of development is reached progression is much more likely than regression.

If directionality of history is a feature of political economies broadly, a distinguishing feature of capitalism is that it is a 'commodity system' (Lysandrou, 2005). In this sense it is an economic system in which commodities are produced for exchange but, contra previous systems, it is also one in which the capacity to produce them are bought and sold. When a firm hires a worker, for instance, it is not so much her direct labour that is sold but the promise or the capacity to produce labour. The increasing commodification of capacities for production implies the increasing separation of agents from their own production. That is to say, production is no longer geared towards subsistence in which a person produces for their own or kin's consumption, but for exchange in the mass market. The more agents are separated from production the greater the opportunities, and indeed necessity there is for mass production for exchange. Thus, while market processes have been a feature of societies throughout history, the current commodity system is characterised by the widespread separation of agents from the means of production.

The growth of the commodity system is not merely the organic result of initiatives among private actors, but requires the helping hand of the state to underpin the process. The commodification of goods and services requires a set of standards or mark of quality if they are to be accepted in exchange on a mass scale. The dissemination and enforcement of such standards is most suitably undertaken by the state. Similarly, the commodification of the capacity to produce goods and services bears the hallmarks of state intervention. That the enclosure movements, in which the state lay the foundation for mass production by driving peasants off their land into factories, is often taken to be a foundational moment in the beginning of British capitalism speaks to our point made previously that a defining feature of the current system is the commodification of the capacities to produce goods and services.

Historical materialism is clearly a highly simplified account of historical change and fails to account for innumerable other processes that affect the course of history. First, and on its own terms, it is questionable that such explanatory primacy should be accorded to the forces over the relations of production. This is especially the case if one considers change over an intermediate period as opposed to long-term and large-scale epochal shifts. Unless relations are taken to serve forces by construction, class dynamics, for instance, may have a powerful causal presence that operate relatively autonomously of accumulation or

productive forces.¹ Moreover, few if any of even the most loyal adherents to historical materialism would today embrace its encompassing economic determinism. Insofar as the two can be detached from economic processes, gender and racial dynamics similarly have powerful impacts on the course of history. So too do moral understanding, randomness, religious and autonomous cultural development, and other phenomena.

However, economic and by extension financial dynamics are distinct from other processes in their ability to affect change. Most importantly class dynamics, for instance, always and everywhere have an institutional imperative towards class conflict. The mentioned forces of competition and the profit motive systemically lead toward ever greater forms of domination in a way that other structures of oppression and change do not. Even in a country such as Saudi Arabia, one of the most gender unequal societies in the world, it can be argued that the trajectory of change is more driven by class dynamics as other, comparable or more severe structures of oppression lay dormant. Whether class structures are necessarily the most important in a given context cannot be answered a priori but, as we have outlined, there are reasons to believe class forces are dynamic. In issues of economic import such as the emergence of financialisation, this is true to an even greater extent.

The identification of capitalism as a commodity system giving rise to standardisation is but one of the myriad of ways in which states intervene in the economy. As production expands so does the need for state intervention to govern, facilitate and often mitigate that production. This may come in the form of industrial policy so as to promote capital accumulation, welfare spending so as to promote social stability in the face of market-produced inequalities, or the regulatory apparatus more generally. But financial markets in particular are characterised by unusually large informational and positional asymmetries among self-interested participants who earn returns through creating money,

¹ There are circumstances under which class or ‘relations’ may overwhelm ‘forces’ or accumulation. Kalecki (1943), for instance, noted that “discipline in the factories and political stability are more appreciated than profits by business leaders”. It may be argued that these conditions are highly contingent and/or merely a means to achieving longer-term profitability so that accumulation retains primacy. Under conditions of fundamental uncertainty it is impossible to say whether such forgoing of short-term profitability ultimately serves longer-term stability. We thus find it analytically useful to separate the two so as to unpack more precisely the causal mechanisms underpinning financialisation.

managing wealth, trading often complex products, among other means. A set of common standards and metrics is essential for their governance.

We thus find it useful to theorise financialisation in relation to the transformation of banking as per Figure 2.1 below. Neoliberalism, accumulation, and standardisation all have explanatory power in accounting for financialisation and the transformation of banking. Neoliberalism here is understood to be the reaction of the capitalist class to the labour-empowering and redistributive tendencies of post-war or ‘Golden Age’ economic arrangements (see, for instance, Glyn, 2007). As Harvey puts it, it is a political-economic project ‘to achieve the restoration of class power’ (Harvey, 20005: 16). As such, neoliberalism as a class project entails a set of policy prescriptions that reorganises market and state structures according to corporate and investor prerogatives. A central feature of this has been the roll-back of the power of organised labour. But insofar as the driving force behind policies is the transfer of income and wealth to economic elites, it also includes privatisation, financial deregulation, and so on.

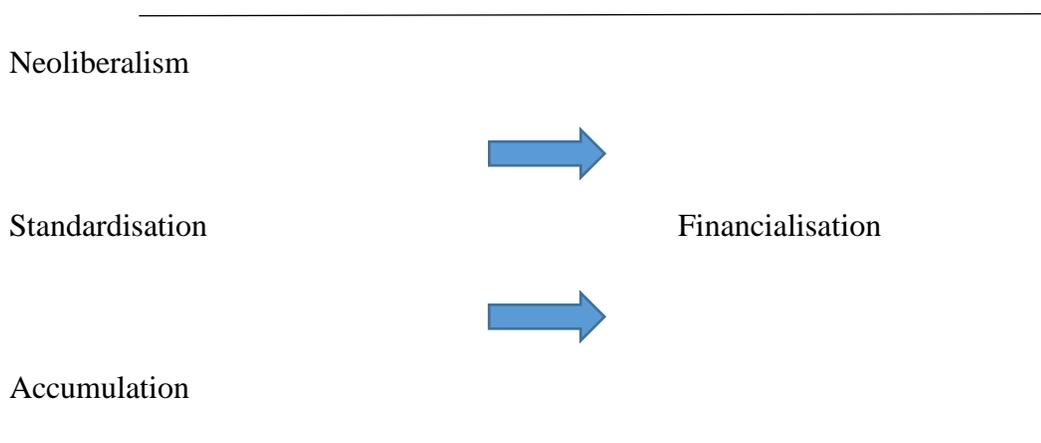


Figure 2-1: Understanding financialisation.

Accumulation is taken to mean the process whereby an economic entity expands. It includes the expansion of capitalist firms but as states are major economic actors, accumulation also includes the expansion of the state through public investment or through growing its services. In both cases accumulation/expansion is driven by production forces in two senses; innovation/knowledge creation and technical change on the one hand, and investment in capital goods on the other. For instance, as firms invest, they expand. But due

to technical change, particularly the large R&D and other resources required of the major firms to remain competitive, implies size is a prerequisite if economies of scale are to be realised. Technical change has had a major effect on the expansion of the state as well. Progress in medical knowledge and accompanying behavioural changes (Mathers et al., 2015) have increased the demand placed on both the welfare system and public health as populations age. More generally, the state provides services, whose price tends to rise over time as innovations in production lead to falls in the price of manufactured goods, putting upward pressure on the monetary value of state outlays.

As before, standardisation is the implementation of common metrics and rules such that it leads to new forms of financial behaviour or the growth of existing practices. It is often related to neoliberal deregulation/liberalisation in that it reflects the distribution of power among financial actors (see Dymski, 2011) or is concurrent with broader liberalising reforms. The difference is that it need not be public or legal regulations but could be industry standards. It should also be understood as adding to existing rules, regulations, and other arrangements. That is, it is the common adoption of new rules rather than the deletion of old ones.

Our contention is that the financialised period is a distinct phase in the history of capitalism. As well as adding standardisation as a distinct analytical category, our framework obviously provides a somewhat different interpretation to socioeconomic change than that enunciated by classic historical materialism. Given the precedence of forces over relations, neoliberalism would likely be seen as determined by accumulation pressures. While competition and the profit motive ultimately shape class dynamics under capitalism, as before, it is useful to separate our categories as above so as to unpack the causal mechanisms of financial change more precisely. The key distinction between neoliberalism and accumulation pressures for instance, is that the former is driven by class considerations over and above what is necessary for the continuation of growth, investment, stability, and so on.

There nevertheless remains mutual interaction between the different processes at the causal, if not the conceptual level. Neoliberalism has facilitated expansion or accumulation through, for instance, external liberalisation. International expansion in turn has fuelled standardisation. Financialisation has deepened neoliberalism and has arguably led to a

slowdown of accumulation. It is our contention, though, that causal or explanatory significance runs primarily in the direction above. Before that claim is substantiated, we consider literature on financialisation and the transformation of banking.

2.2.3 The transformation of banking

Marxian analysis offers a comprehensive and ambitious theory of banking transformation (see Dos Santos, 2009a; 2009b; Lapavitsas, 2009; 2014; Lapavitsas and Powell, 2013). Drawing on Hilferding's analysis of finance capitalism, financialisation and the transformation of banking derive from the social relations of production, and between the real and financial sectors, with the retreat of the former from the latter. Concretely, the transformation of banking activities is primarily attributed to the growing disengagement of NFCs from the financial system in general, and the banking system in particular. The increased tendency of NFCs to finance themselves through the 1980s and beyond using internally-generated funds on the one hand, and through capital markets as opposed to loans on the other led to a decline of banks' traditional activity, lending to firms. As a result of reduced income or profitability from traditional lending, banks, it is argued, reoriented their activities towards household credit in the form of mortgage lending, and investment banking activities. Extra-banking processes such as the rise of institutional investors and privatisation of social housing played an enabling role, but the reorientation of bank income streams has been the driving force. As Lapavitsas (2009) argues:

“Commercial banks have been greatly transformed in the course of financialisation. The driving force of this transformation has been declining reliance of large corporations on bank finance ...This fundamental trend presupposes increasing involvement of workers with the mechanisms of finance in order to meet elementary needs, such as housing, education, health, and provision for old age. Only then would banks be able to extract significant profits directly from wages and salaries” (Lapavitsas, 2009: 126-29).

A variant of the above theme emphasises the impact of the rise of various forms of institutionalised savings on banking. Demographic changes, marketisation of social security systems, but particularly financial innovation have found institutional expression in the expansion of ‘money managers’. This has led to a shift of savings away from deposits to

various forms of institutional investor savings and investment vehicles. The resultant increase in competition for savings constituted a decline in the profitability of traditional intermediation activities. Banks have had to pay higher rates to entice depositors and charge lower rates to businesses on loans in order to prevent them from migrating to institutional funds and sources. This has stimulated the rise of non-traditional, investment banking activities and mortgage lending as banks seek to maintain profitability (see Davis, 2004; Hackethal, 2004).²

While many analyses of financialisation and the financial system do not deploy an overarching or explicit Marxian framework as above, it is fair to say that traditional banking decline and/or disintermediation constitutes the leading explanation of the reorientation of banking activities across the social sciences. For instance, Davis (2004), a neoclassical economist, Hackethal's (2004) historical-institutional analysis of Germany, Rethel and Sinclair's (2012: 51-70) international political economy examination in relation to Europe, and Seccareccia (2012) analyses the transformation of Canadian banking using a post-Keynesian circuitist framework all put disengagement on the part of non-financial firms as central to the transformation of commercial banking. An exception to this trend is the work of Hardie and Howarth (2013) who document the rise of 'market-based banking' and the growth of financial asset trading. They point out that the extent of disintermediation is often overstated. They do not, however, systematise an explanation for the rise of market-based finance and investment banking activities.

Deregulation plays a central role in the understanding of the growth of investment banking as well. This is particularly the case of post-Keynesian approaches as evidenced by the emphasis given to rentiers as before, and the repeal of Glass-Steagall in the US (see Epstein and Montecino, 2016; Pollin, 2000). A focus on the regulatory framework is not limited to the post-Keynesian school as Hager (2012) develops the growth of investment banking in the framework of neoliberal regulation and monopoly capital theory. Seccareccia (2012) also observes deregulation as a major reason for the transformation of Canadian banking in his circuitist framework, along with other factors as mentioned. Thus,

² That this is a variant of the previous paragraph can be seen when one considers that as deposits are swept from the banking system to investment funds, the latter has a pool of cash which it must invest. This allows NFCs to access capital markets. The loss of deposits may also (arguably) make banks more reluctant to lend, which further pushes firms towards capital markets.

the issue is one of emphasis and a single factor or cause is rarely identified. But it is reasonable to assert that financial deregulation as probably the major theme in post-Keynesian understandings of banking financialisation.

More germane to the growth of mortgage lending, post-Keynesian, sociological, and other approaches also highlight the role of income distribution in the deepening of financialisation in a voluminous literature (Barba and Pivetti, 2009; Cynamon and Fazzari, 2008; Kus, 2012; Perugini et al., 2016; Stockhammer, 2012; 2015b). The relative stagnation of incomes for the preponderance of the workforce during the neoliberal era, in conjunction with historically and socially-determined consumption norms renders debt increasingly important as households attempt to maintain their desired living standards. Debt-fueled consumption, moreover, was a key source of aggregate demand as it substituted for real wage growth. These approaches also usually highlight feedback mechanisms whereby asset price inflation leads to further indebtedness through, for instance, home equity withdrawal, which can lead to asset price inflation, and so on.

Krippner (2011) offers a policy-centered narrative in her comprehensive study of financialisation in the US. In this view, the rise of financialisation is the outcome of unintended regulatory decisions taken by administrators. The growth of bank credit was the culmination of decisions by monetary authorities to abdicate responsibility for control of monetary variables to the market. Fernandez and Aalbers (2016) identify a number of variables that characterised those countries with housing-centred financialisation cycles. It includes high loan-to-value ratios, tax incentives, openness to capital inflows, and, so on. Thus the expansion of household and mortgage lending is seen as part of a broader package of credit market and financial liberalisation.

To sum the literature, disintermediation is seen as the leading cause of the growth of investment banking across a wide range of schools of thought. Other variables play important facilitating roles such as the emergence of institutional investors, though an emphasis on deregulation features particularly prominently in post-Keynesian understandings. Disintermediation also features prominently in the expansion of mortgage lending, especially in certain Marxian renderings. But there are a number of accounts which do not draw on disintermediation such as the inequality-debt literature, credit market liberalisation, and the commodification of housing.

A priori, though, there are a number of anomalies in all these accounts of the transformation of banking. One is the extraordinary degree of synchronicity across countries in the expansion of mortgage lending. Disintermediation is quite varied in its scope and timing across locales (Schmidt et al.: 1999). Similarly, housing market reform is the domain of national policymakers and is variegated temporally and spatially. The contemporaneous nature of banking and particularly mortgage development is at odds with these facts. Second, the mechanisms through which the banking system can, in aggregate, ‘turn’ or engage in greater levels of investment banking activities are somewhat opaque. Lapavitsas (2009) points to commercial bank mergers with investment firms as an entry point into new revenues streams. It is certainly the case, in the US and France at least, that disintermediation has encouraged banks to consolidate and for commercial banks to move into fee and investment services (see, for instance, Dymski, 1999; 2000; Kregel, 1998). But Lapavitsas et al. and Dos Santos go further in that they analyse trends at the aggregate level. While the overall growth of financial markets is remarked on (Lapavitsas, 2009: 133), in this view the turn towards privatised personal income has been enabled primarily by the rise of pension funds and other savings vehicles. But the privatisation of social welfare services only creates a demand for institutional saving. Institutional savings must also have a ready supply of securities in which to invest. That is to say, if we are to fully apprehend the expansion of investment banking, rather than being a mere aside, the growth of capital markets merits our undivided attention.

Regarding the inequality-debt nexus, while it is no doubt true that debt-fueled consumption maintained demand under neoliberalism, we find the mechanisms through which it has been posited to emerge unconvincing. Indebtedness has overwhelmingly been driven by mortgage not consumer debt, which is not always acknowledged (for example, Perugini et al., 2016). The determining factor in lower income groups’ indebtedness is largely banks’ and other agents’ willingness to lend (see Coibion et al., 2014), itself shaped by regulatory-based evaluations of credit-worthiness such as debt-to-income and loan-to-value ratios, and other metrics. Further, in many European countries the state withdrew from housing provision, which tends to increase mortgage indebtedness

independent of increases in inequality.³ This is recognised by the credit market liberalisation/geography literature and the commodification of housing literature. But as above this literature has difficulty explaining the simultaneity in the expansion of mortgage lending.

This chapter thus reassesses the transformation of banking through the rise of household/mortgage lending and investment banking in Germany, France, Spain and Italy, and the US and the UK. We first examine how well existing theories conform to the experiences of the four countries through an exploration of the process of disintermediation. Having ruled that out as the central cause, we then put forward our own analysis of the expansion of mortgage lending and investment banking based on neoliberalism, accumulation, and standardisation. In so doing we address and critically analyse other explanations of banking transformation: distributional dynamics in the case of mortgage lending and deregulation in the case of investment banking.

With regards to disintermediation, non-mortgage lending, essentially lending to NFCs, has demonstrated little decline, and there is little evidence that bank intermediation income was under pressure as banks expanded mortgage lending. Likewise competition for deposits through the institutionalisation of savings is not the major reason for the decline in intermediation income. An exception is France (and likely the US before the period under consideration) where the growth of investment funds appears to have significantly eroded intermediation returns. Even then, we do not find this to be the most compelling account of aggregate banking transformation. In general, the expansion of mortgage lending **initiated** the decline in intermediation income. Similarly, the expansion of investment banking bears little relationship to disintermediation and the decline of traditional business lending. This, of course, follows from above as the decline in intermediation income is a result of the expansion of mortgage lending.

The evident growth in mortgage lending is instead explained by the imposition of

³ We do not discount the potential for emulation-based consumption in housing, but dispute the importance accorded to it in explaining the increase in indebtedness. Societies did not suddenly become unequal during neoliberalism, but rather became more unequal, albeit significantly so. Much of the increase in inequality, however, has been driven by gains of the super-rich. This leaves less scope for debt-based emulation which, as discussed, is constrained by bank and regulatory limits. Insofar as emulation processes may become apparent as such limits are eased, a major component must be latent consumption desires that predate the advent of neoliberalism-induced income inequality growth.

the Basel Accords and associated capital adequacy rules, in conjunction with domestic neoliberalisation of housing and credit markets. As banking became increasingly internationalised through internationalisation of production and the removal of barriers to cross-border investment under neoliberalism, a set of globally-agreed international standards was required for its operation. The Basel standards in turn created the single strongest incentive for banks to expand mortgage lending in continental Europe in particular, and the process was deepened by liberalisation of credit and property markets. Distributional dynamics have played a secondary role while reference to mere credit market liberalisation lacks precision, especially outside of the US and UK.

The increase in the scale and scope of investment banking is the result of the growth of capital markets, itself a result of neoliberalising forces and accumulation pressures. The marketisation and privatisation of social security and state-owned enterprises, the growth of equity issuance, and growth in government indebtedness have been among the factors responsible. The growth of capital markets has put demand pressures on the banking system for greater investment services, which it has provided. Institutionalised savings such as the emergence of pension funds is a concomitant of capital market growth (as explained later), and has reinforced the demands placed on financial intermediaries. But ultimately it has been capital market expansion per se and not deregulation or disintermediation that is the basis for the growth of investment banking.

2.3 Financialisation and the transformation of banking

This section shows that existing accounts based on disintermediation or a ‘turn’ towards households do a poor job empirically in explaining the transformation of banking in the six countries. While households increased their indebtedness and parked their savings in institutional funds, and greater recourse to internal finance and capital markets by NFCs is also evident, this, in general, did not initiate a decline in margins or reduce bank lending to business. Lending to business remained robust. Mortgage lending was thus not a response to disintermediation. In fact, mortgage lending likely initiated the decline in margins. France is a partial exception in the sense that there is evidence of a decline in lending margins, but a ‘turn’ or reorientation towards households is not the most convincing account of banking transformation.

2.3.1 Households savings and non-financial firms

Recall the mechanisms through which disintermediation is posited to give rise to the transformation of banking. Increased resort to internal finance by NFCs on the one hand, and greater use of cheaper (debt-based) capital market funding in external finance on the other led to a decline in banks' traditional source of earnings, lending to NFCs. As a consequence banks reoriented their activities towards households and financial markets. Moreover, the flipside of greater use of capital markets in external financing of NFCs is the existence of capital market investors who desire and need to invest in NFC securities. The competition for household savings between banks (held as deposits) and institutional investors further drives down the profitability of traditional bank income, and increases the reorientation of banks towards household lending. The emergence of institutional savings and/or privatisation of welfare is typically⁴ seen as an enabling factor.

We show here that consistent with the consensus in financialisation literature and elsewhere, households have indeed simultaneously incurred greater levels of debt from the banking system and increasingly parked their savings with institutional vehicles. Firms have also been resorting to greater use of internal finance and capital market in external in a relative sense. We are skeptical, though, as to how powerful an influence this has had on transforming banking activities in aggregate.

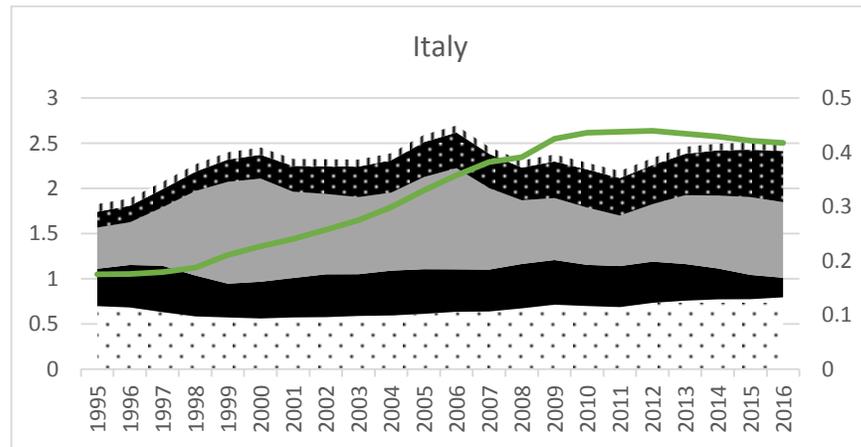
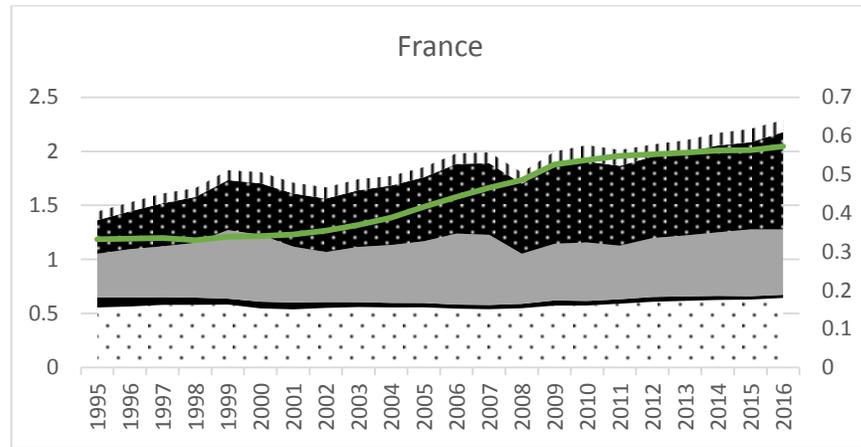
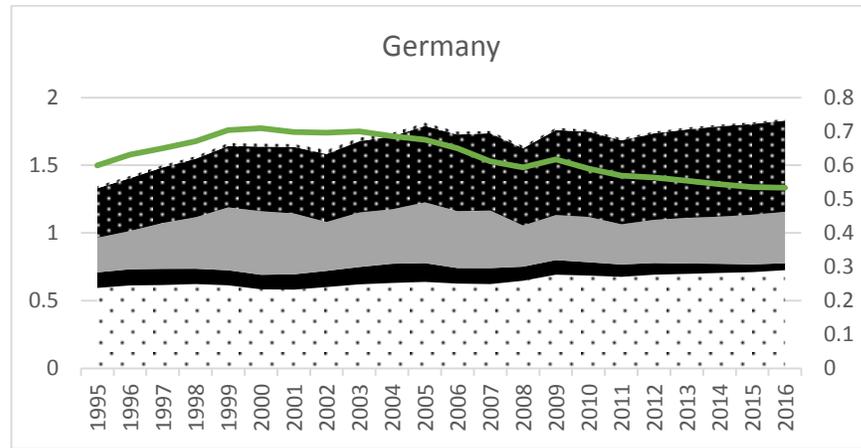
In relation to households, the large-scale holdings of financial assets and institutionalisation of savings is a relatively recent phenomenon. The post-war period was one of large tax-funded expansions of social provision, and savings held in deposit form. The system of limited finance began to unravel the 1980s. Households became engaged in financial markets and institutionalised forms of savings as can be seen in Figure 2.2 below. In all six countries, household ownership of financial assets has increased over time. Financialisation is, however, uneven across regions in that households in Germany and Spain show lower levels of financial accumulation. In the former, starting in the mid-1990s household accumulation of capital market-based assets accelerated. Initially greater equity holdings was a significant factor but as the 2000s progressed institutionalised forms of

⁴ We say typically as this is not always the case. Hackethal (2004) merely states that 'Declining interest margins have caused banks to seek alternative sources of income' (Hackethal, 2004: 23). But no reference is made to the potential facilitating role of financial market growth. Given that it is all but impossible for investment banking to grow without, for instance, more securities to underwrite (and may just be an omission on Hackethal's part), we focus critical attention on the stronger thesis that the turn towards households has been enabled as above.

savings began to dominate. Except for the post-crisis period, commensurate increases in deposits did not occur. Household liabilities in the form of loans increased in Germany in the 1990s too, but fell back to initial levels during the late 2000s and early 2010s. In Spain and the US, accumulation of financial assets, driven by equity and mutual fund purchases, similarly began to grow in the mid-1990s. Interestingly, the absolute level of deposits (relative to GDP) declined overall in the 1990s in the US and the 2000s in Spain, reflecting the reliance on market-based funding in these countries' banking systems. Only in the case of the UK did households not switch their savings into financial assets, though this may be due to the short timespan of the series. Institutional holdings of securities are somewhat less developed than in Germany.

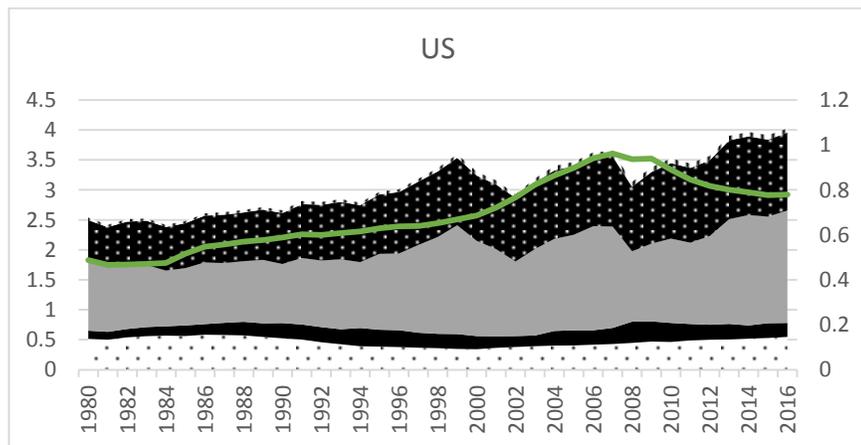
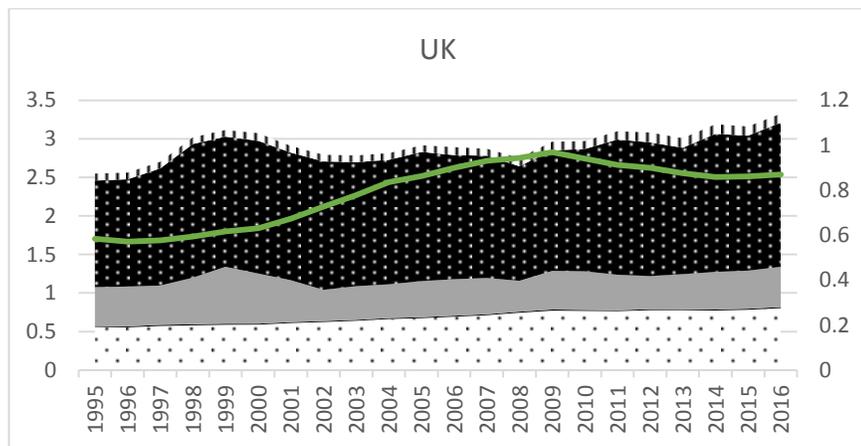
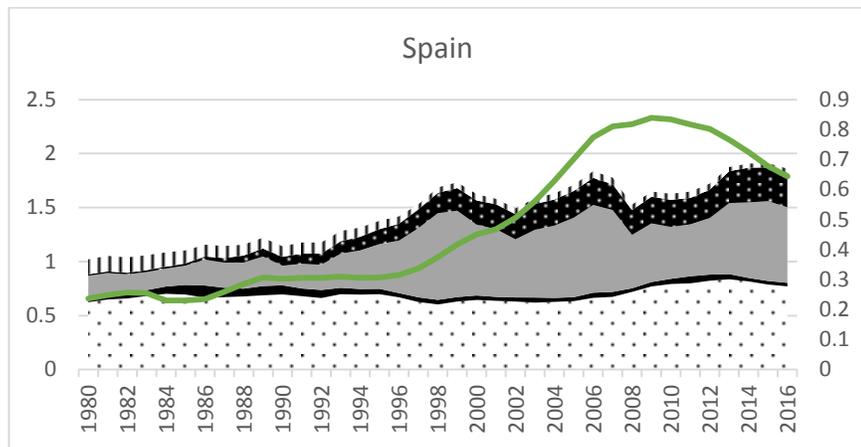
Less data is available in the cases of Italy and France than for Spain or the US. Nevertheless a pattern of expansions in the mid-1990s followed by post-dot-com bubble declines, and further expansions in the 2000s is apparent. In France, as in Germany and the UK, long-term institutional holdings are the primary vehicle through which households channel their savings. This reflects the strength of the insurance sector in this region. Direct securities holdings also expanded relative to deposits. Italy follows a comparable path except that institutional holdings are lower, and direct debt as opposed to just equity and mutual fund holdings are also important. This, no doubt, reflects the high level of domestic holdings of sovereign debt instruments both historically and presently. Household loans as a share of GDP increased gently but steadily in both countries over the series.

A process of financialisation of households is thus evident across all countries. The share of deposits in household financial assets fell in favour of greater reliance on financial markets. While equity holdings grew in all regions except the UK, this was matched or exceeded by institutional holdings, especially in France and Germany. Except for Germany, households increased their financial liabilities in the form of loans. Thus, a process of increased marketisation and institutionalisation of savings on the one hand, is coincident with an expansion of lending to households on the other. At first glance it appears that banks have turned towards households through greater provision of credit, while opportunities for managing institutional savings have also risen.



Currency and deposits
 Debt securities
 Equity and mutual funds
 Pension and insurance
 Other
 Loans

Figure 2-2a: Household assets (LHS) and loans (RHS) (% GDP).



. . . Currency and deposits ■ Debt securities ■ Equity and mutual funds
 ■ Pension and insurance ||||| Other — Loans

Figure 2-3b: Household assets (LHS) and loans (RHS) (% GDP).

Source: OECD Financial Balance Sheets.

In terms of disintermediation of NFCs, Table 2.1 below shows that the share of internal finance in total external finance has been growing. In all countries except Spain and the UK, from the 1970s to the beginning of the 1990s NFCs increasingly utilised internally-generated finance to source funding for investment. The primary reason being a small need for external funds as advanced economies slowed after the post-war boom. The oil crisis of the 1970s and the shift away from expansionary macroeconomic policy in the 1980s dampened investment and lessened the need for external finance (Galizia and Steinberger, 2001).⁵ Much of the 1990s, in contrast, were boom years. In Germany and Spain, the overall share of internal finance remained stable from the mid-1980s through the 1990s. In the UK it fell, though apparently recovered. Another exception is the first half of the 1990s where reunification in Germany resulted in large borrowings. In Italy, the 1990s

	1970-79	1980-84	1985-89	1990-94	1990-99
Germany	75.7	79.7	89.3	71.8	86
France	64	67.9*	84.7	92.1	98
Italy	38	69.9	98.2	17.1	73
Spain	-	-	96**	-	96
UK	100.2	115.4	81.2	81.2	98
US	83	89.6	103.7	109.8	

Table 2-1: Internal finance as a share of overall finance in NFCs.

Sources: Cobham et al. (1999), Cobham and Serres (2000), and Corbett and Jenkinson (1997). Spanish figures and 1970-79 and 1990-99 are based on Galizia (2004).

Notes: *1978-84. **1980-89. Galizia (2004) uses the so-called ‘savings gap’ approach which is methodologically different from the others.

⁵ Much debt issuance is likely due to refinancing, rather than financing (Toporowski, 2002). More generally we would expect firms to favour internal finance over external funding as exclusive reliance on the latter would potentially link a firm’s solvency with the vagaries investment returns (ibid:23-28).

constituted a large shift away from internally-generated funds. This was particularly dramatic in early part of the decade as many state-owned banks and firms were privatised, which created a large demand for external funds (Galizia, 2004). Buoyed by strong corporate savings, only in France is a continued trend of disintermediation away from external finance apparent in all periods. Since the 1990s corporate reserves have been growing as large profits imply large retained earnings. De Souza and Epstein (2014) present aggregated data on Germany, France, the UK and the US and find a continuing trend away from external finance in the 2000s. Thus, with the exception of Spain and perhaps the UK, an overall shift away from external finance is apparent.

In terms of the composition of external finance, Figure 2.3 depicts the evolving liability structures of NFCs in the six countries. From the beginning of each series to the 2000s, in all six countries the share of loans in total liabilities decreased significantly as securities issuance has grown. In the 2000s in Spain and the UK, and to an extent in Italy, the share of loans rebounded whereas in the three other countries the share remained stable or declined further. The relative strength of loans in Italy and Spain may in part be due to the unusually large number of small and medium-sized enterprises there. In the case of Germany and particularly France, Schmidt et al. (1999: 50) present data that the increasing share of securities on the liability side of NFC's balance sheets began at least in the early 1980s. Corporate bond issuance did takeoff in the mid-to-late 1990s in the major European countries (Deeg, 2009: 557). But with the partial exceptions of France, the UK and the US, as can be seen from Figure 2.3 debt has not been a major component of NFC's liabilities overall. The declining share of loans in all six countries is overwhelmingly attributable to greater recourse to equity issuance. Other liabilities, comprising mostly trade receivables and other payments due, has been an important component through the series, but has not grown to extent that equity liabilities have.

With the exception of the UK, there is thus clear evidence of greater recourse to internal finance and a growing inclination towards capital markets in the external financing operations of NFCs. But two qualifications are necessary which cast doubt on the relevance to the transformation of banking. In relation to internal finance, while idiosyncratic factors have been important, the most significant driver pre-2000s has been cyclical downturns. This provides a peculiar setting for the expansion of either mortgage lending or investment

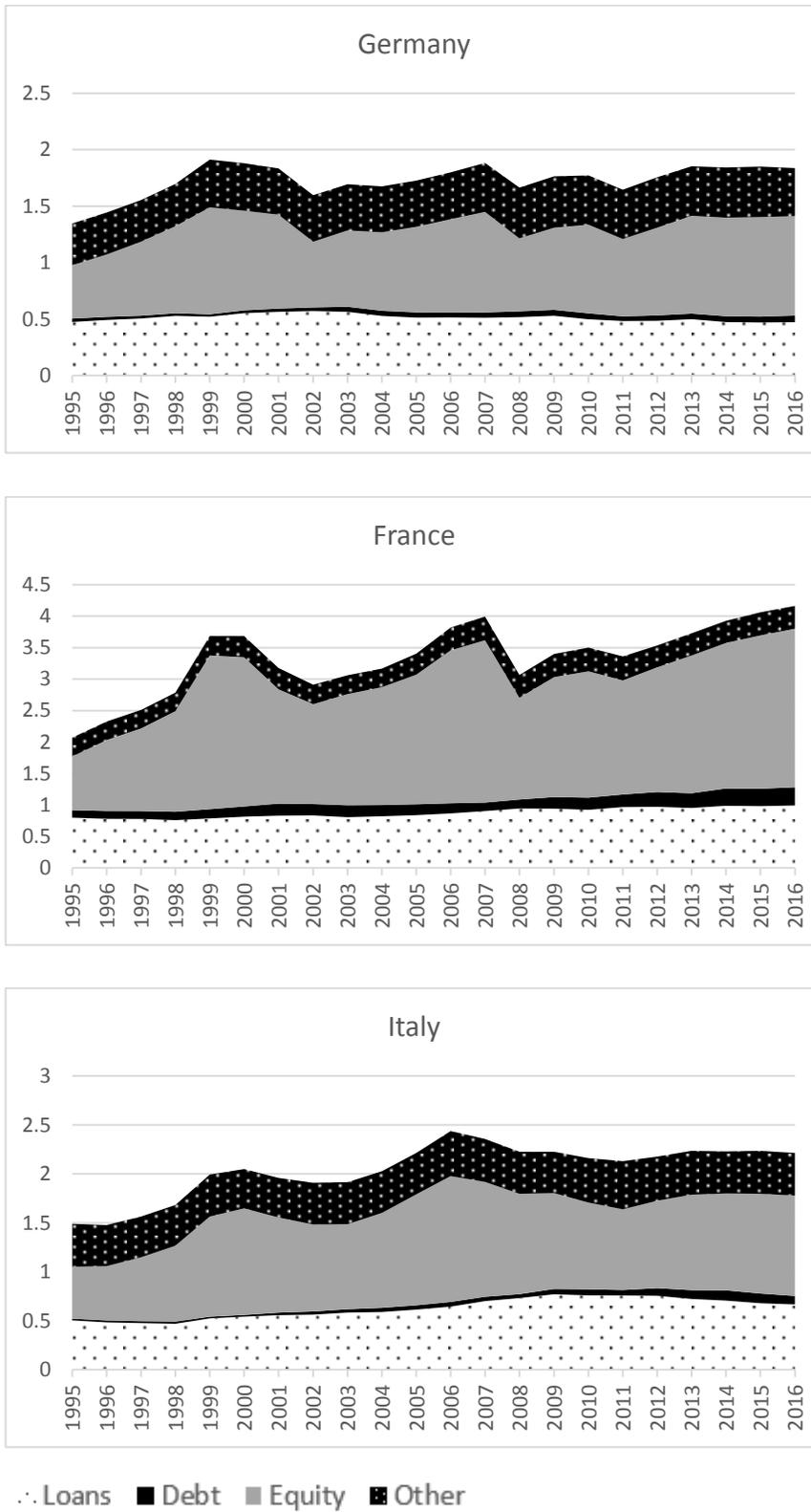


Figure 2-4a: Non-financial company financial balance Sheets (% GDP).

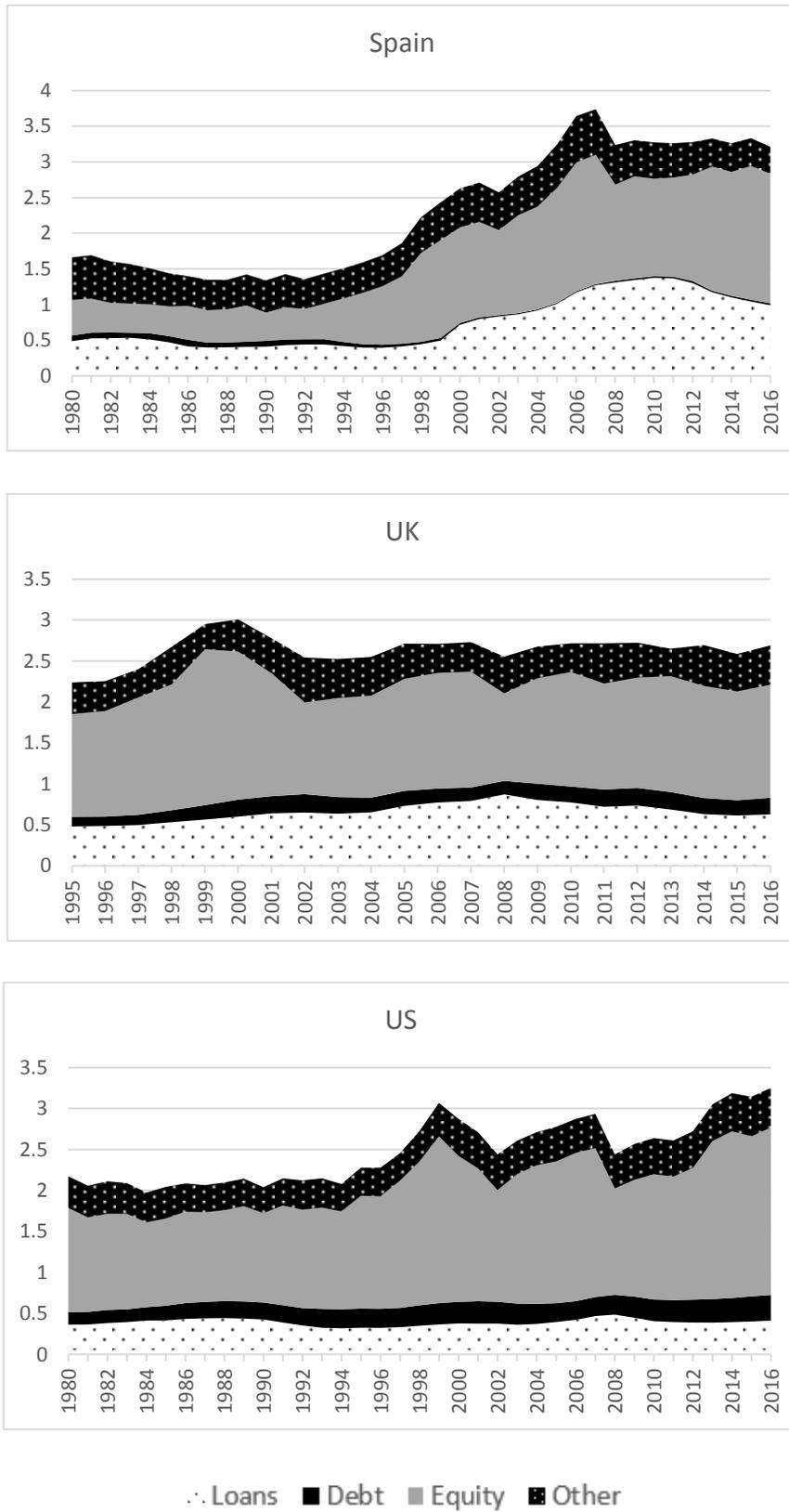


Figure 2-5b: Non-financial company financial balance sheets (% GDP).

Source: OECD Financial Balance Sheet.

banking. In relation to external finance, firms' greater use of capital markets has been primarily driven by the growth of equity markets, as noted. It is questionable, though, to what extent this truly represents a substitute form of finance to bank lending, rather than initial public offerings, privatisation, and funding financial operations. The level of NFC loans to GDP generally held firm, or increased as in Italy, Spain and the UK. The more likely candidates to compete with bank lending, commercial paper and debt markets, exhibited little signs of growth, with the partial exception of France and the Anglo-Saxon countries.

At this juncture, we summarise two key developments as they relate to disintermediation. First, households have shifted a large component of their savings into market-based and institutionalised sources while at the same time incurring greater amounts of debt through bank loans. Second, there is also evidence of greater use of internal finance and capital market finance relative to bank lending among NFCs. The conditions under which banks both desire to, and are capable of reorienting towards households appear to have been met. Contrarily, a disengagement of firms from the banking system in absolute terms is not observable. Greater reliance on internally-generated funds and the growth of equity markets appears to have complemented rather than substituted for bank lending. Except for France, within continental Europe there is little evidence of recourse to market-based sources driven by institutionalised savings vehicles. The following section assesses whether these developments have been responsible for a decline in lending income.

2.3.2 Transformation of banking and intermediation returns

We now turn to the expansion of mortgage lending and investment banking activities. A central claim in much of the financialisation literature is that these activities should be seen in the context of a reorientation of bank priorities due the decline of traditional intermediation activities. It is argued that withdrawal of NFCs or, more commonly, disintermediation instigated a decline in the profitability of business lending such that banks responded by increasing mortgage lending and investment banking (Dos Santos, 2009a; 2009b; Hackethal, 2004; Lapavitsas, 2009; 2014; Lapavitsas and Powell, 2013).

We examine this claim and find little evidence for it except for in France. While we find little evidence for it in the case of the US, given that disintermediation has been a widely-studied and accepted explanation of the decline in lending income, this is most likely a function of our analysis beginning in the 1980s. We examine both interest income as a proportion of credit (relative intermediation income) and interest income relative to GDP (absolute intermediation income). The former captures changes in the margins from lending while the latter captures changes in the overall level of interest income. Non-interest income is used as a proxy for investment banking activities.

In confirmation of our previous belief based on sectoral data, bank level data show that mortgage lending complemented business lending (proxied by non-mortgage lending), which remained stable over the series. Rather than being a response to depressed returns, we find mortgage lending growth to either be independent of or to have precipitated a fall in intermediation income relative to the amount of credit. It is the case that despite the large growth in bank lending overall, a commensurate increase in intermediation income relative to the GDP is not apparent. This weak growth and stagnation, however, occurred subsequent to the growth of mortgage lending. Mortgage expansion was not a response. While the enhanced ability of NFCs to access cheap market funding and institutional sources may have contributed to the decline in intermediation income, it has not been the driving force. Rather than being a result of the decline in lending margins, the evidence points to mortgage lending initiating the decline, along with a host of other factors. Only in the case of France is there evidence that non-traditional activities acted as bulwark against sluggish returns from business lending. However, this relates to the expansion of investment banking, not mortgage lending. Moreover, as we show in the next section the aggregate expansion of investment banking activity is more plausibly seen as a response to the growth of capital markets, not to a decline in intermediation activities.⁶

Figure 2.4 below illustrates the trajectory of different types of lending, and relative and absolute intermediation income. As a general observation, a sharp increase in mortgage lending is apparent since the mid-1990s in the three countries with the exception of France,

⁶ In terms of aggregate activity, financial intermediation is still the most important source of income for the banking system as a whole. This, of course, masks compositional trends in which investment banking-related income is more important for large, systemically important mega-banks, which we deal with in the following chapter.

the US and the UK. France began its expansion in the early-2000s around the same time mortgage lending in the US began its secular (as opposed to cyclical) climb. The expansion of mortgage lending in the UK was steadier over the series, with a large and steady expansion in the 1980s, stagnation for much of the 1990s, and acceleration again in the 2000s. These patterns are consistent with the rising share of mortgage and household lending identified in much of the financialisation literature (Lapavitsas, 2009: 14-15; Lapavitsas and Powell, 2013: 370). Moreover, consistent with the rise of investment banking, non-interest income increased in all six countries, increasing sharply in the late-1980s in France and in the 2000s in the UK, but more gradually since the 1990s elsewhere.

More specifically in Germany, we see an expansion of mortgage lending starting around 1992 and continuing until the early 2000s, after which it stabilised. The growth in non-interest income followed the expansion in mortgage lending by some five years. The increase in mortgage lending coincided with an initial increase in non-mortgage lending and a subsequent decline around the turn of the century. In contradiction to claims of the unprofitability of intermediation, the large expansion in total lending increased absolute intermediation income.

Detzer et al. (2013) present evidence that the decline in interest margins in Germany was a result of the growth of investment funds. We see that the expansion in mortgage lending relative to non-mortgage lending coincides with a secular decline in interest income relative to credit created (except for the early 1990s when the expansion overlaps with an increase in relative intermediation income). It is important to emphasise that this decline is apparent only after the expansion in mortgage lending. Thus, the expansion in mortgage lending was not a response to declining intermediation margins. While it may be the case that the growth of investment funds contributed to the squeezing of margins, the timing more plausibly indicates the expansion of mortgage lending actually initiated the squeeze as opposed to being a response to it. The secured nature of mortgage lending compared to non-mortgage lending implies that an expansion of the former is likely to reduce aggregate lending returns. Overall, there is little evidence to support the view that either reduced profits or declining margins in intermediation income caused or substantively contributed to the growth of German mortgage lending.

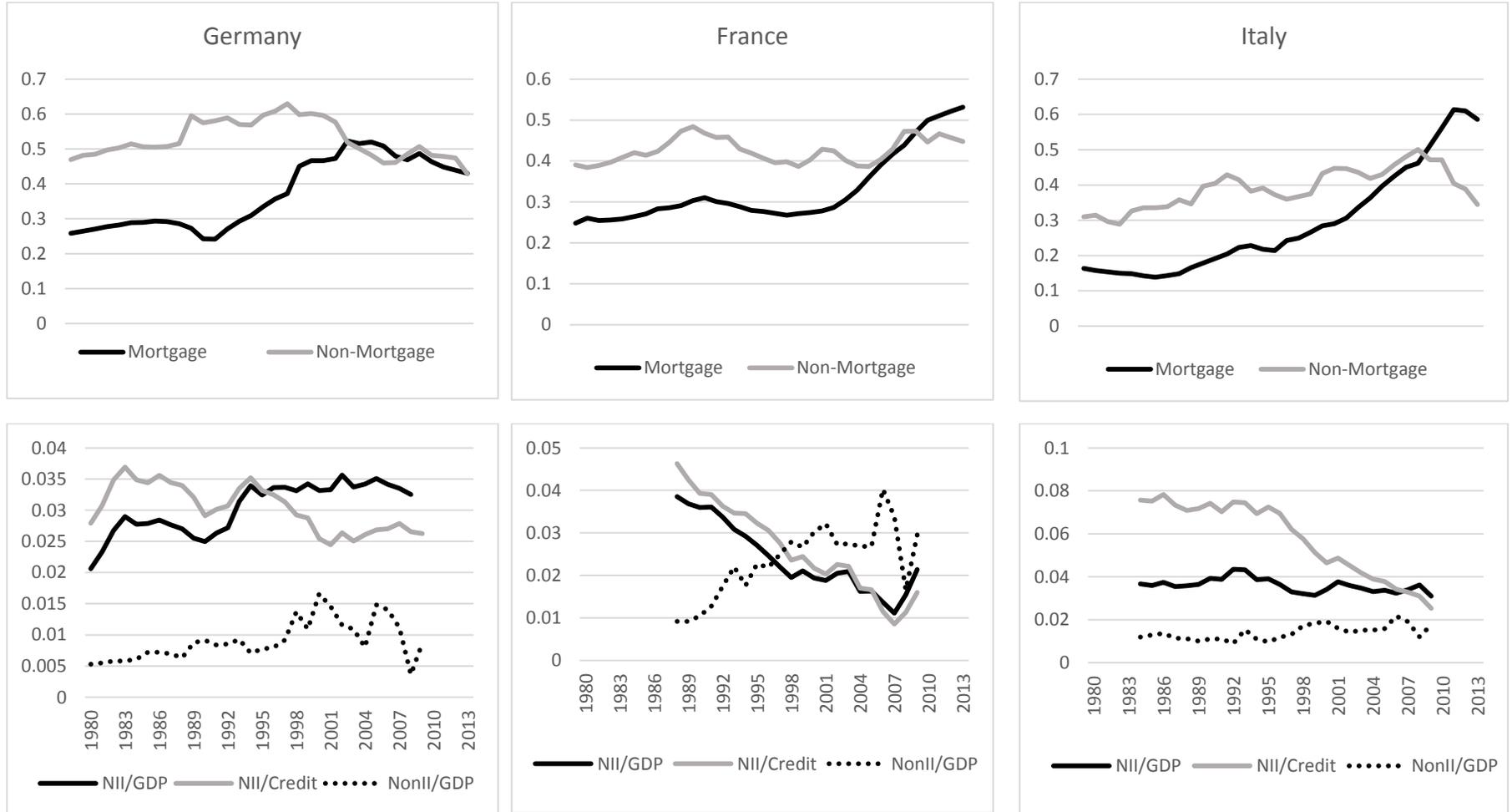


Figure 2-6a: Bank credit and income.

Notes: Mortgage and non-mortgage lending expressed as a percentage of GDP. NII denotes net interest income.

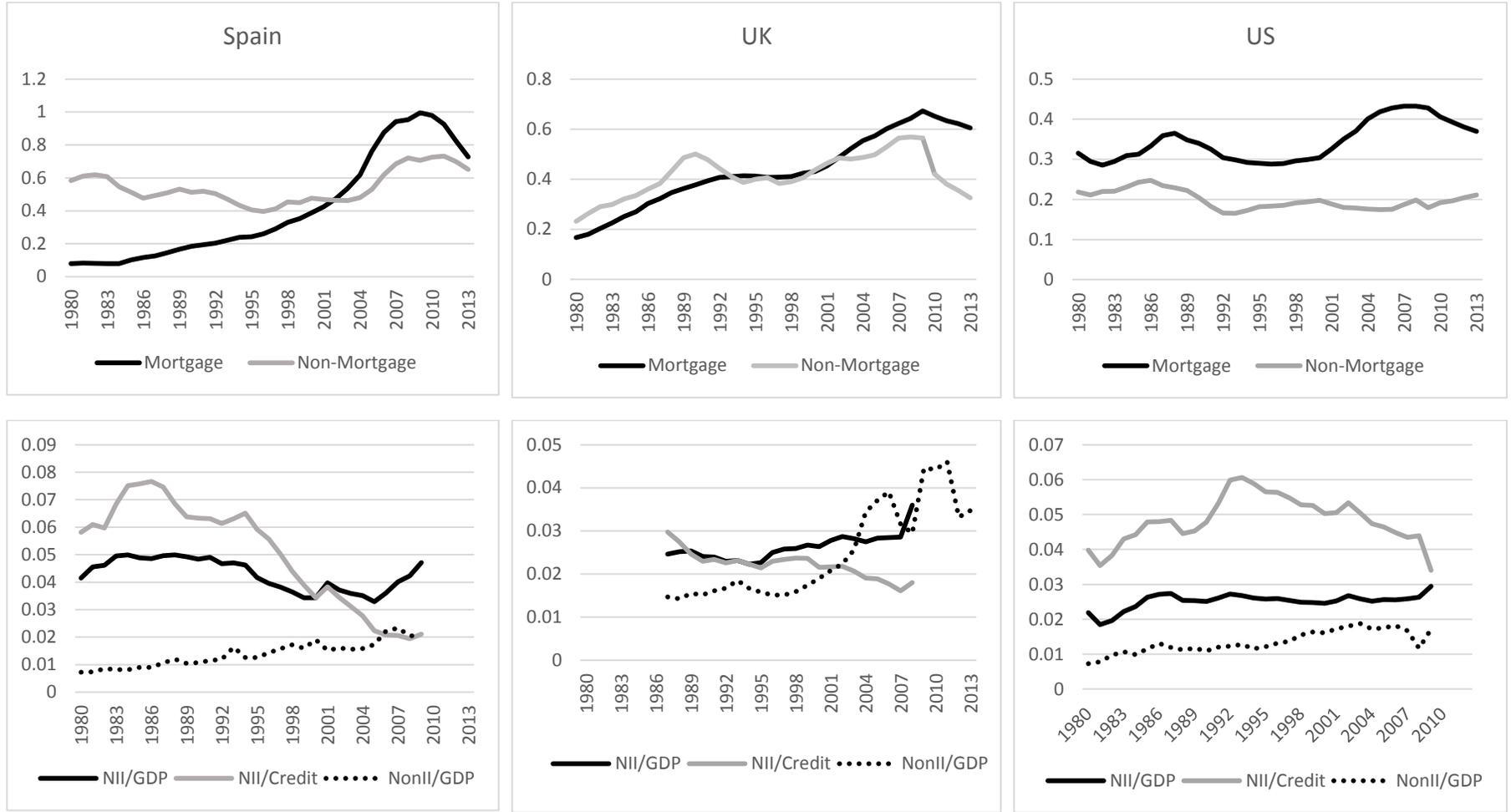


Figure 2-7b: Bank credit and income.

Sources: Upper panel kindly provided based on Jorda et al. (2017). Bottom panel based on OECD Bank Profitability Statistics.

Notes: Mortgage and non-mortgage lending expressed as a percentage of GDP. NII denotes net interest income.

Non-interest income exhibits a steep growth period from the mid-1990s to the turn of the century after which it fluctuates and declines post-crisis. Thus, it could be argued that the expansion of investment banking was a response to sluggish intermediation returns, which witnessed declines relative to credit created around the same time. But as argued above, the major reason for the decline appears to be the expansion of mortgage lending. Overall intermediation income actually increased. The expansion of investment banking in Germany is therefore not plausibly attributable to a decline in traditional banking activities.

The French case is somewhat different. Here we see both relative and absolute intermediation returns in steep decline over the entire series up until the crisis. As described by Kregel (1998), the major reason for this was the growth of investment funds which offered consumers attractive returns relative to deposits and also enabled companies to borrow cheaply in commercial paper markets. This is consistent with the point made earlier that NFC debt issuance in France has been greatest. It is certainly plausible and likely that individual banks grew their investment banking activities in the face of declining lending returns. Consolidation and perhaps more aggressive sales are likely mechanisms to this end.

But how can it be that banks, in aggregate, engage in more fee-producing income? The turn toward intermediating household savings, whose increasing institutionalisation is posited as an enabling factor, is problematic in this regard. For the increasing institutionalisation of savings presupposes the existence of large capital markets as portable stores of value. But larger capital markets require more underwriting services, market-making, and so on. In other words, the existence of household institutionalised savings through, for instance, pension funds necessitates, a priori, an expansion of fee-income and investment banking services. Accordingly, there is an incoherency in saying that banks' turn towards mediating financial market, enabled by institutionalised household savings, can explain the expansion of investment banking activities. For to say this implies the sector must already have grown.

The only alternative would be that both asset management (such as mutual fund management) and investment banking functions were both previously the domain of the non-bank financial system, perhaps finance companies. Then, insofar as certain functions have been previously performed outside the banking system, a disintermediation-induced 'turn' (through consolidation, for instance) toward financial market intermediation can

explain an aggregate rise in banking non-interest income. While there is some evidence that mutual funds and asset-management functions were brought into the French banking system (Creel and Viennot, 2013), to our knowledge it has not been argued that the same applies to market-making, underwriting, and so on. Thus, the point remains that a ‘turn’ of the banking system towards households and their savings is at best a partial explanation of the overall the growth of the sector.⁷

As for mortgage lending it began its secular rise in France only in 2002/03. It appears to have had the effect of inducing a decline in absolute and relative intermediation income, whose declines had apparently levelled off. The fall in absolute intermediation income is particularly counterintuitive given the large expansion in total lending. It may point to the historical difficulty the French financial system has had in implementing competition without inducing large declines in profitability. Overall, while it is the case that large declines in intermediation income preceded the expansion in mortgage lending, it seems unlikely this was a response by the banking system. The decline in intermediation had stabilised, and mortgage growth failed to generate growth in relative or absolute interest income. In fact, as noted the expansion of mortgage lending coincides with a second phase of decline in intermediation income.

Turning to Italy, we see that the growth in mortgage lending began to accelerate in the mid-1990s. This was not initiated by declines in intermediation income. Both absolute and relative interest income had hovered around trend up to the middle of the decade despite an intensification of geographical and operational competition in the 1980s and 1990s (see Gabbi and Matthias, 2014: 122). More than in France and Germany, the large increase in mortgage lending precisely coincides with a decline in intermediation income per unit of credit. A slight curiosity is why the increase in both mortgage and non-mortgage lending from the mid-1990s onwards served only to maintain rather than increase absolute intermediation income at its trend level. Part of the reason is likely explained by competition for deposits from the growing institutionalisation of savings. Investment funds in

⁷ Disintermediation is likely to be associated with an aggregate increase in non-interest banking income, independent of a reorientation of bank business functions. As deposits are swept into mutual funds, asset management fees rise. As NFCs issue debt instead to borrowing from banks, the demand for underwriting services rises. NFC debt and indeed private debt markets generally have traditionally comprised a relatively small portion of European debt markets, especially under the period in question. These demand channels are thus likely to constitute only a limited share of the overall increase in investment banking income.

particular experienced large growth from the early 1990s to about 2000. Note, though, that this follows by a number of years the initial growth in mortgage lending around the 1980s, and the subsequent acceleration and decline in relative intermediation income in the mid-1990s. Much of the poor performance in intermediation income is attributable to the recession and financial crisis of the early 1990s as well as common factors such as declining interest rates, a flattening of the yield curve, and between 1993 and 1997 large banking losses due to household defaults (BIS, 2006: 1). Thus, rather than being a result of declining intermediation income, in Italy mortgage growth triggered its decline.

A gentle growth in non-interest income is also evident, coinciding with the development of mortgage-based lending and the decline of relative intermediation income. The same comments, though, apply as in the case of Germany. That is, the decline in relative intermediation income is most plausibly seen as having been triggered by the expansion of mortgage lending. The fact that absolute intermediation income remained stable over the period also undermines the hypothesis that investment banking activities grew in response to declining intermediation activities.

Spain follows an intermediate path with similarities to both Italy and to a lesser extent France. A trend increase in mortgage lending is apparent from the early 1980s. Mortgage growth accelerated in the mid-1990s and again in the early 2000s in particular. Consistent with a reorientation-based explanation, the initial expansion does appear to have substituted for declining non-mortgage lending. That said, over the entire series non-mortgage lending rebounds and grows along with mortgage lending in the second half. It is important to note that the early period in which the two forms of lending appear to be substitutive, neither absolute nor relative intermediation income changed much overall. Thus the 'decision' to expand into mortgage lending appears less to have been driven by ailing business lines than it may be an outcome of external conditions.

The liberalisation of the Spanish banking system in the 1980s gave rise to greater competition for liabilities. Money market funds in particular experienced massive growth from the early-to-mid-1990s, after which they fluctuated and declined (Altuzarra et al., 2013: 48). But relative intermediation income began a sharp decline only around 1994-95. If the institutionalisation of savings in money market funds was a central cause of the decline in intermediation income, we would expect the impact to be felt through the period

of strongest growth, rather than a period of continuity. While we do not discount some contribution, like most European countries (except France) the fact that asset management activities take place within the banking system in Spain may temper competition for liabilities.

The decline in relative intermediation income in Spain coincides with the acceleration in mortgage lending (and decline in business credit) approximately, though the sharp decline in relative intermediation income does appear to precede the acceleration in mortgage income by one year. However, it is certainly not the case that a trend decline in relative intermediation income led to an expansion of mortgage credit. Mortgage lending growth may be independent of the initial decline in relative intermediation income. Or, more plausibly given the experience of other countries, it may have contributed to it, along with a range of other factors. Similar to Italy, Spain experienced a recession in the early-1990s. Thus, while mortgage and non-mortgage lending display some substitutive properties, there is this little evidence this constituted a reorientation of activities based on declining income from intermediation as opposed to, for instance, external or demand conditions.

Non-interest income displays a gentle trend increase over the entire period, but with little correlation with the trajectory of intermediation income. Moreover, similar comments apply to Spain as in Germany and Italy in terms of the role of mortgage lending in the decline in margins. Aggregate non-interest income growth was not a result of a reorientation on the part of banks.

In the UK, overall intermediation income increased through the series. Relative intermediation income may have been in decline before the series began, but over the course of available data went into a secular decline from 1999. This predates the initial expansion in UK mortgage credit, but coincides with the second expansion in lending. This is similar to the Spanish case in which the initial growth in mortgage lending was not correlated with intermediation margins, but the pick-up in the 1990s coincided with a decline. It could be that the pre-1990s (that is, pre-Basel I) expansion in mortgage lending did not put pressure on lending margins, but subsequent lending did. In any event, it is clear in the UK that mortgage lending growth was not a response to the decline intermediation returns. Furthermore, neither was non-interest income growth, which began its acceleration

in the mid-1990s, well before the decline in margins around the turn of the millennium.

In the US, overall intermediation income expands over the entire series. Relative intermediation income is steady but volatile. After expanding in the 1980s, relative income then declines from 1992, the year Basel I was implemented. Both relative and absolute intermediation income may have been in decline before the series began, which would be consistent with evidence presented by others on the effects money market funds on lending margins (Kregel, 1998; Dymski, 1999). There is little evidence, however, that the aggregate growth of either mortgage lending, which fluctuated but began a secular increase in the late 1990s, or non-interest income, which grew predominantly from the mid-1990s was a response to declining income from traditional lending.

In sum, there is little evidence to support the contention that either the increase in mortgage lending or the expansion of investment banking activities arose as a response to declining intermediation income from lending to business. The fact that the apparent disengagement of NFCs from the banking system is driven by cyclical and structural declines in investment demand, and also the growth of equity markets should in any event sit uneasily with disintermediation being the driver of banking change. Though the share of business lending declined, the absolute level (relative to GDP) remained robust in all countries. With the partial exception of Germany, relative intermediation income did exhibit a decline in all countries. Insofar as a decline in intermediation is evident, it tended to coincide with the expansion of mortgage lending, especially since the 1990s.

Despite the large increase in all types of lending overall, absolute intermediation income generally did not increase. Competition for savings from institutionalised vehicles have thus contributed to the squeeze in intermediation incomes but have not been the driving force. Dynamics in intermediation income bear only limited correlation to investment banking activities. There is no relationship between the growth of non-interest income and the overall levels of intermediation income, which remained stable. The expansion of investment banking activities does tend to coincide with declining relative intermediation income. But as we have argued declining relative intermediation income was first and foremost a result of the expansion in mortgage lending rather than due to declining business lines. Finally, the idea that disintermediation has been responsible for the transformation of banking activities in France is at best a partial explanation as it

presupposes an expansion in services in the case of investment banking. The expansion of mortgage lending in France was, moreover, much subsequent to the trend decline in returns, and appears to have reinitiated a squeeze in margins.

2.4 Transformation of banking: An alternative story

This section explains the expansion of mortgage lending and investment banking by invoking our framework of neoliberalism, accumulation, and standardisation. We find that the expansion of mortgage lending is attributable to standardisation in the form of the imposition of Basel I and associated regulations, in conjunction with domestic (neo)liberalisation of housing markets. The growth of investment banking reflects the expansion of capital markets. The increase in the scale of capital markets in turn has been driven by both neoliberalism and accumulation/expansionary pressures on firms and states.

2.4.1 Expansion of mortgage lending

The level of credit in an economy is of course shaped by a host of macroeconomic, demographic, and domestic institutional factors. But to understand how mortgage credit has expanded to its current levels across a range of institutionally distinct entities we appeal to a more generalisable set of processes, as outlined previously. Most countries have at some stage implemented a range of credit market restrictions such as interest rate controls and directed credit. Credit market restrictions were gradually lifted under neoliberal reforms and pressure from the EU such that by the 1980s in France and by the 1990s in Italy and Spain credit markets were fully liberalised based on quantitative metrics (see Abiad et al., 2008). In Germany, such controls were either never in place or were lifted by the early 1970s.

Housing markets continue to be shaped by a variety of domestic institutional factors. Among them, rent and, historically, price controls are and have been an important feature of the landscape of European property markets. Embedded in a variety of legal and institutional structures rent controls are strongest in Germany and France, and relatively less strong in Spain and Italy (Cuerpo et al., 2014). More specifically in Spain, liberalisation helped erode the dominance of regional banks (*cajas*) and allowed commercial banks to enter the mortgage market in force (Altuzarra et al., 2013: 133). In

Italy, Nobili and Zollino (2012: 9) point to the introduction of tax incentives for house purchase in the 1990s. The BIS (2006: 2-3) also identifies an expansion in the range of products and mortgage providers as an important driver of the property market in the 1990s and 2000s. Despite the apparent absence of credit restrictions and the large privatisation of social housing, Germany has a heavily regulated property sector. Liberalisation, moreover, has been limited since the 1980s (Geiger et al., 2016: 2). Mortgages in Germany require large down payments (30-35%) and tenant associations strive to make rents affordable, which weakens commodification (Monnery, 2011).

In France the trajectory of mortgage lending compared to the other continental countries is quite distinct so it is worth dwelling on more. Despite abolishing interest rate controls and directed credit in the 1980s, France's property market did not experience growth until the 2000s. Since then, tax incentives and a relaxation of lending standards have reportedly been important drivers. Extension of mortgage maturities and resultant increases in the loan-to-income ratio have expanded the pool of borrowers (Levasseur, 2014: 251), while at the same time maintaining their repayment capacity (Avouyi-Dovi et al., 2014). Third party credit guarantees have also been an important development (ibid.). Thus while France's development is not hugely different to other countries, some of its liberalisation and deregulation happened later. All four continental countries have therefore undergone neoliberalisation of their credit and property markets to varying degrees.

Among Anglo-Saxon countries, rent controls were a feature of the British landscape for most of the 20th century, only fully abolished in 1989 (Ryan-Collins et al., 2017). Aside from its strict controls on land use (see Cheshire et al., 2015), today the UK property market is one of the most liberalised in Europe (Cuerpo et al., 2014). During the 1980s, for instance, Thatcher embarked on privatisation of social housing to encourage home ownership. On the financial side, this complemented the liberalisation and, in the case of housing mutuals, the privatisation of credit institutions in the 1980s (Ryan-Collins et al., 2017: 133).

The US housing market is characterised by a high degree of diversity and regional variation. Accordingly state intervention has varied with rent controls, for instance, often being a feature of the landscape in major urban areas. Public ownership of the housing stock has historically been limited, though the state has actively supported home ownership.

This came in the form of various funding and guarantees provided to savings and loan (S&L) institutions, local thrift institutions that provided mortgage loans (Monnery, 2010: 34-35). It also came in the form of setting up government sponsored agencies (GSEs), which securitise and guarantee the loans of a range of banks and other mortgage originators. Over time, however, GSEs became more privatised (Pollin and Heintz, 2013: 164-174), while S&L institutions were deregulated in the 1980s.⁸

The major structural change in our view entails neither disintermediation nor national dynamics, but rather comprises the imposition of the first Basel Accord and associated capital adequacy measures. A series of bank failures in the 1970s following the breakdown of the Bretton Woods system and the growing internationalisation of the sector necessitated a coordinated international regulatory framework. Basel I began negotiations in the 1980s and formally came into effect in the EU in 1993 with the first Capital Adequacy Directive. The synchronicity in the expansion of mortgage lending here and elsewhere at precisely or approximately the time of its implementation points to its importance as a stimulant to domestic mortgage markets.

Under Basel I, banks were required to hold a minimum of 8% of capital against risk-weighted assets. Corporate, commercial, and retail lending carried risk weights of 100% whereas residential mortgage lending carried a weight of only 50%. That is to say, in lending to business and consumers banks were required to hold capital of 8%, but only 4% needed to be held against mortgage lending. The Basel Accords are furthermore so-called portfolio invariant in that risk is evaluated on the basis on an individual asset, rather than the marginal change in risk to a portfolio. Thus, it fails to reward diversification and to penalise concentration (Blundell-Wignall and Atkinson, 2010: 4). Basel II, agreed upon in 2004, and the recently-agreed to Basel III provided more nuanced risk weight categories, but in effect expanded the advantage to mortgage lending. Mortgage lending risk weights under Basel II and III could be as low as 35% whereas except for consumer lending, non-mortgage lending risk weights remained at 100%. Larger banks were able to apply

⁸ Another important move was the phasing out of regulation Q in the early 1980s which limited the rates payable to deposits (see Gilbert, 1986). While this and the deregulation of the S&L industry arose mostly due to competition from money market funds (and the Eurodollar market), our concern here is with the trend rise in mortgage lending, not the fluctuation in mortgage and non-mortgage lending that characterised the US in the 1980s. The level of mortgage lending-to-GDP stood at the same level around 2000 as it did in 1975. So we maintain our contention that disintermediation is of only secondary explanatory importance.

their own risk weights using internal weighting models, but the point stands that Basel penalises non-mortgage lending more. Some asset categories similarly carried low risk weights under Basel I such as government bonds, which had a risk weight of 0%. Other types of fixed-income categories carried different weights, but were generally significantly lower than non-mortgage lending.

Figure 2.5 illustrates the shift in bank portfolios, including holdings of government and fixed-income securities. These are adjusted for the overall level of fixed income securities in the economy in the case of Germany, France, and Spain. We see most clearly in the case of Germany that the expansion of adjusted bank holdings of government debt as a proportion of the total balance sheet coincided with the growth in mortgage lending relative to GDP. The contemporaneous growth of the two series in the 1990s is strongly indicative of a common underlying dynamic. As the 1990s progressed government debt experienced a secular decline in returns and likely explains relative disengagement in the 2000s.

Up to the mid-1980s Spain had a largely closed financial system after which it began to liberalise as part of the process of joining the EU. Mortgage credit began to increase in 1985, the year Spain implemented a Basel-like risk-based capital accord. Interestingly, partly a response to a recent banking crisis, the introduction of risk-based capital adequacy rules were an addition to the existing ruleset and were seen as necessary to enhance financial stability. Like Basel it penalised non-mortgage lending relative to mortgage lending (Carbo, 1993: 58-105). The 1990s witnessed an acceleration of mortgage credit growth that coincides with the actual implementation of Basel I.

Italy similarly introduced a raft of reforms in its 1985 Bank Directive which, *inter alia*, was to prepare the banking system for the introduction of Basel I (Consolando et al., 2013: 25). Capital adequacy reforms were to be completed by June 1987 (Reuters, unknown). Again we can see that mortgage lending began to accelerate after 1986. Mortgage growth was briefly interrupted during the early 1990s recession, after which it continued to grow.

France and the US are somewhat different cases, but still point to the importance of Basel I. In France, the expansion of bank holdings of government debt did not coincide

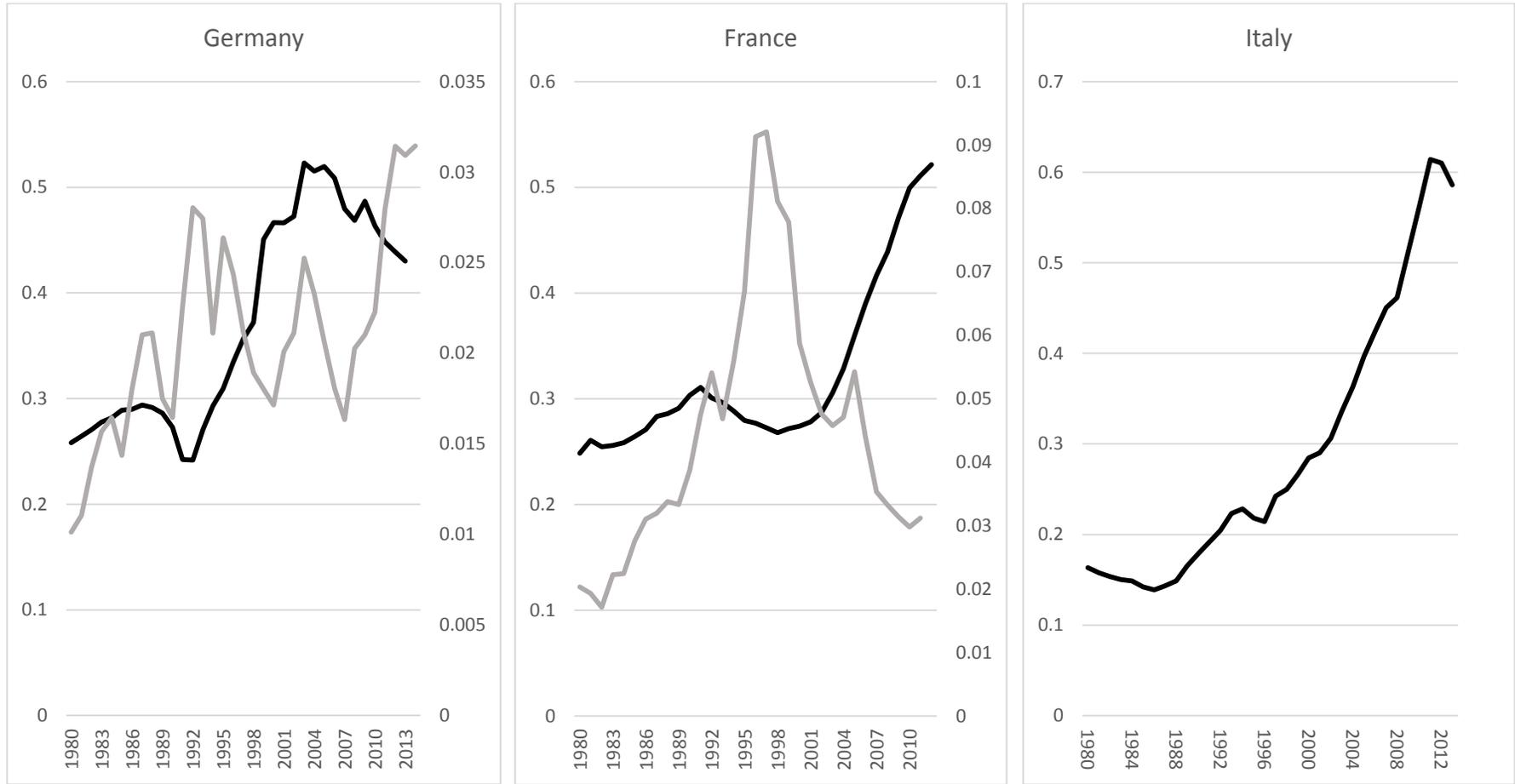


Figure 2-8a: Mortgage lending (% GDP) and bank holding of government bonds (% bank assets). **—** Mortgage **—** Bonds

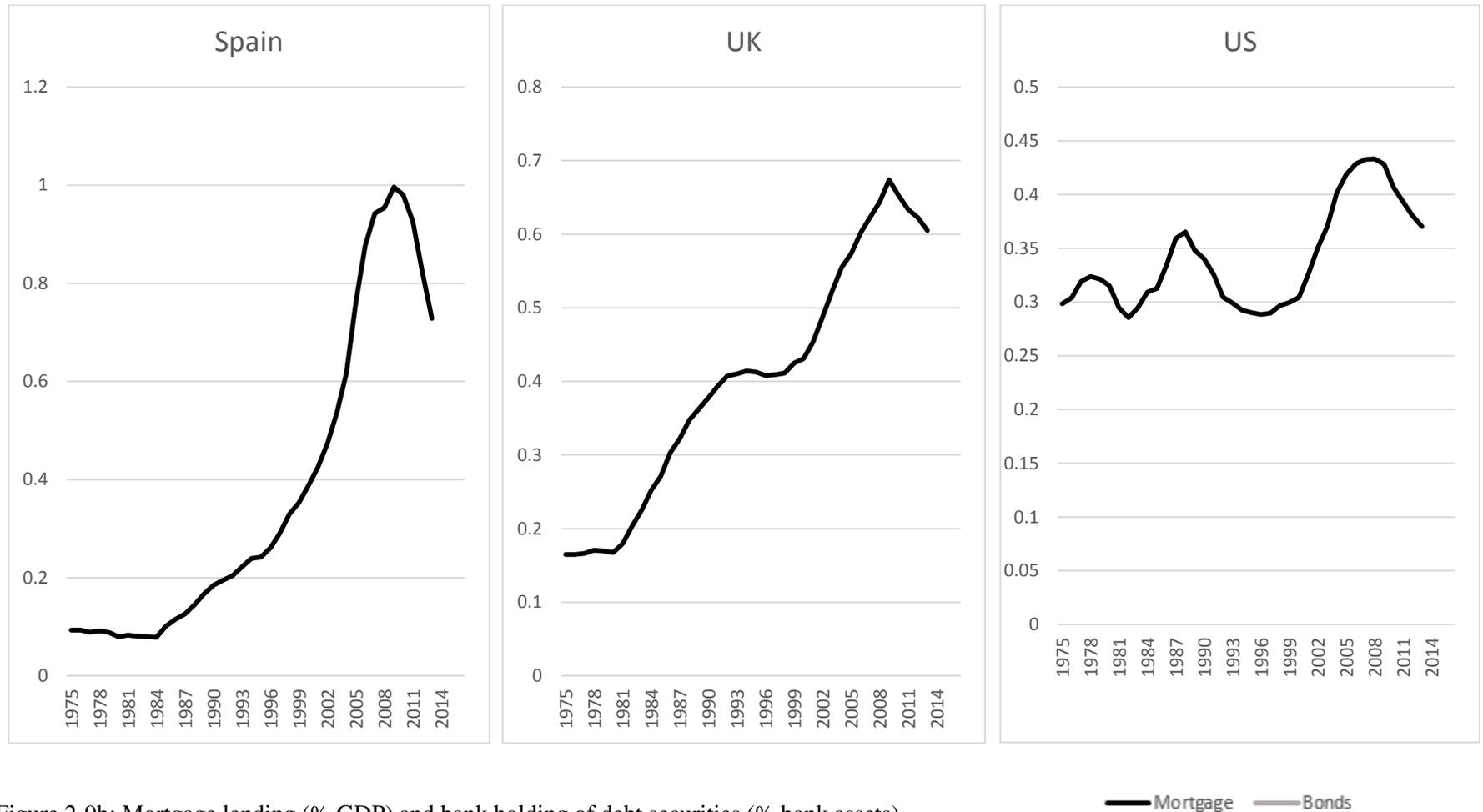


Figure 2-9b: Mortgage lending (% GDP) and bank holding of debt securities (% bank assets).

Sources: Mortgage Lending based on Jorda et al. (2016) as before. German and French bank holding of government debt based on national central bank figures. Deflation figures for Germany based on national central bank statistics. For France pre-1990 deflation based on IMF World Economic Outlook general government gross debt. Post-1990 figures are based on World Bank Financial Structure outstanding public debt securities. Notes: To control for the overall amount of debt securities in the economy, bank holdings of debt securities are deflated by growth of government debt (base = 1980).

with an increase in mortgage lending. Nevertheless the large increase in government debt holdings underlines the powerful allocative impact of the Accord. As mentioned, though, France engaged in liberalisation of its housing market only in the 2000s. Similarly in the US, mortgage lending, having fluctuated significantly in the 1980s, did not begin its secular climb until the turn of the millennium. Hall (1993) shows a strong compositional shift towards mortgage lending (as a proportion of total assets) among US banks under Basel I, even if a large, absolute increase was absent in the prevailing recessionary conditions. As well as the scale of lending, an additional difference between the US post-2000 expansion and the 1980s is that mortgage lending in the earlier expansion correlated well with non-mortgage lending as Figure 2.4b illustrates. Although mortgage lending boomed in part due to deregulation of S&L institutions, it appears that a general loosening of or appetite for credit was responsible for the increase in mortgage growth. Given the importance of Basel I in other countries, the compositional shift in the US, and the historically unprecedented expansion a few years after its implementation, it is reasonable to infer that Basel I has had a major, if relatively delayed, effect on mortgage lending in both the US and France. The differing trajectories in these countries nevertheless points to the importance of interactive dynamics between international regulation and domestic institutional and macroeconomic factors. The imposition of the Accords, on their own, is not sufficient to explain the growth of mortgage lending.

The UK experience is similar to the US and France but that it experienced an even larger expansion in mortgage lending pre-Basel. This may be a result of the fact that pre-Basel the Bank of England already required its banks to set minimum capital requirements with the ratios being set on a bank by bank basis (BIS, 2004: 51). As mentioned, the Thatcher government undertook a program of privatisation of social housing and liberalisation of credit markets in the 1980s. This led to a large expansion in both mortgage and non-mortgage lending as per Figure 2.4b. After a recession of the early 1990s, mortgage lending plateaued, after which it resumed its upward growth in the 2000s. Again this suggests an important role for Basel I in addition to, as elsewhere, favourable macroeconomic conditions, such as the decline in long-term interest rates for instance. That said, general neoliberal policies appear to have played a relatively larger role than standardisation in the UK.

It could be argued that the expansion of credit whether due to deregulation or standardisation is not the central driving force, but rather responds to underlying fundamentals. A comprehensive historical analysis of housing markets in the six countries is, needless to say, beyond the scope of this chapter. Instead Figure 2.6 explores the extent to which mortgage credit may have been driven by real house prices or whether credit has been the preeminent force. In Germany, real house prices display little change over the entire series, perhaps reflecting the willingness of the state to restrict upward price movements. Thus, the expansion in mortgage credit has been driven less by housing market dynamics than it has by financial considerations. In Spain, house prices track the expansion of credit, but the latter precedes the former in both the 1980s and 1990s expansions. In Italy, house prices fluctuate considerably but, as in Spain, the trend increase in prices during the 1990s comes after the expansion in credit. Naturally, there is a strong element of mutual causation and interaction between house prices and mortgage credit. A rise in house prices necessitates an expansion of credit to support that increase. It may also encourage further lending as collateral values become inflated. It is clear, though, that the initial push originated in credit markets, and that that push can be traced to the imposition of the Basel Accords.

France, the UK, and the US are again somewhat of exceptions to the general continental experience. In all three of these countries house prices fluctuated, but began their secular expansion in the in the mid-to-late 1990s. Here we see that mortgage credit follows rather than initiates the increase in prices that began in the late 1990s, reinforcing the earlier point of mutual interaction between the two series. Official reports in France, for instance, highlight the sluggishness with which supply responds to demand in France (Tresor, 2010). The UK similarly has highly restrictive planning regulations. Supply-demand imbalances, an endemic feature of fixed-supply land and property markets, are also suggested by the fact that the beginning of the expansions in house prices coincides with the economic recovery in the mid and late 1990s. That is to say, an improvement in the economies appears to have led to an increase in house prices (and confidence), which necessitated an expansion in mortgage lending, beginning the chain of mutual interaction. But under the Basel Accords (and prevailing macroeconomic conditions of the 2000s), the lending-price dynamic sustains itself for much longer. It is more a secular increase than it is a cyclical one.

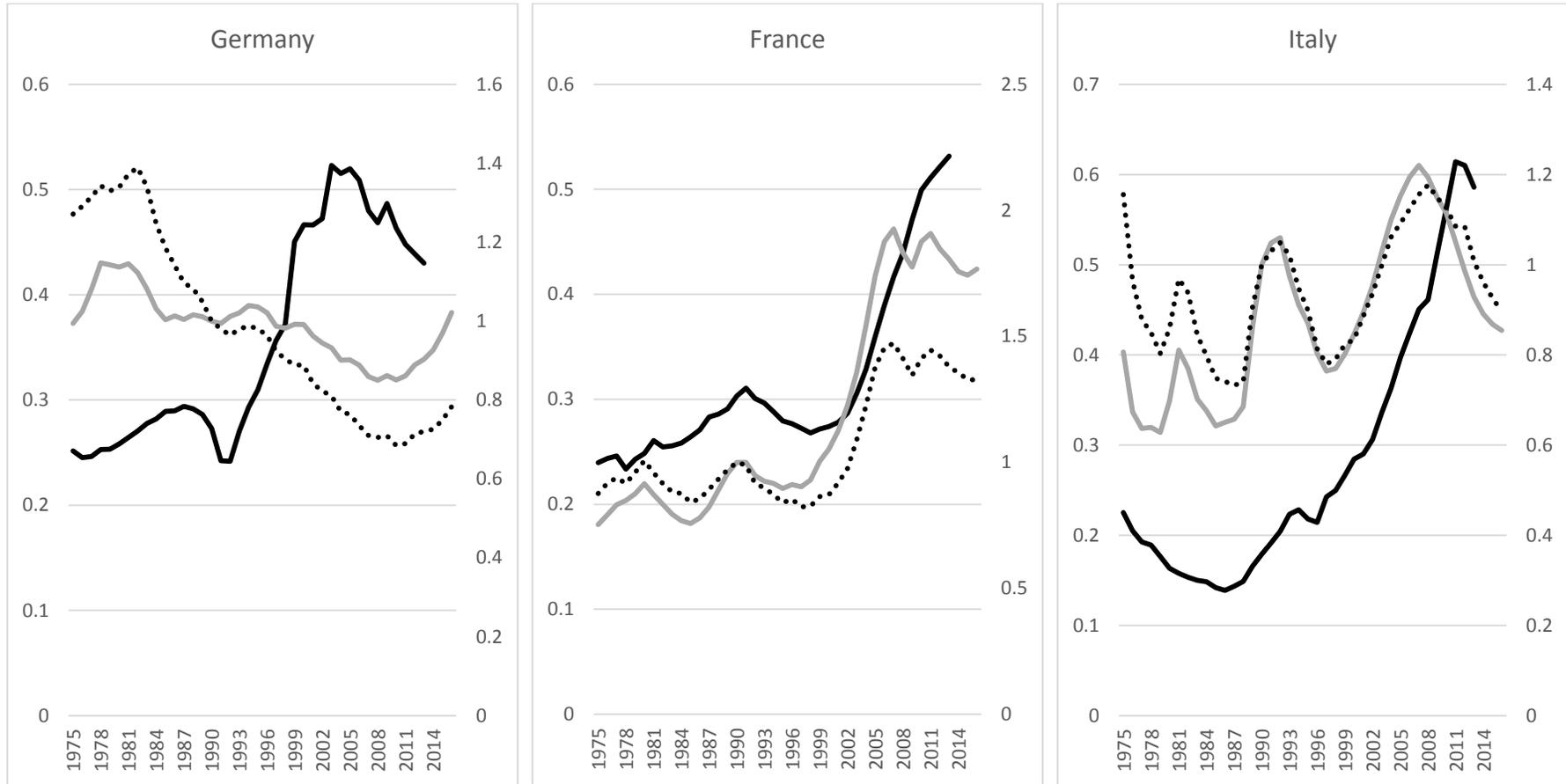


Figure 2-10a: Mortgage credit (% GDP), house Prices, and price-to-Income. — Mortgage — House Price Price to Income

Notes: Mortgage credit depicted on right axis. House price is an index figure. Price-to-income shown in percentage terms.

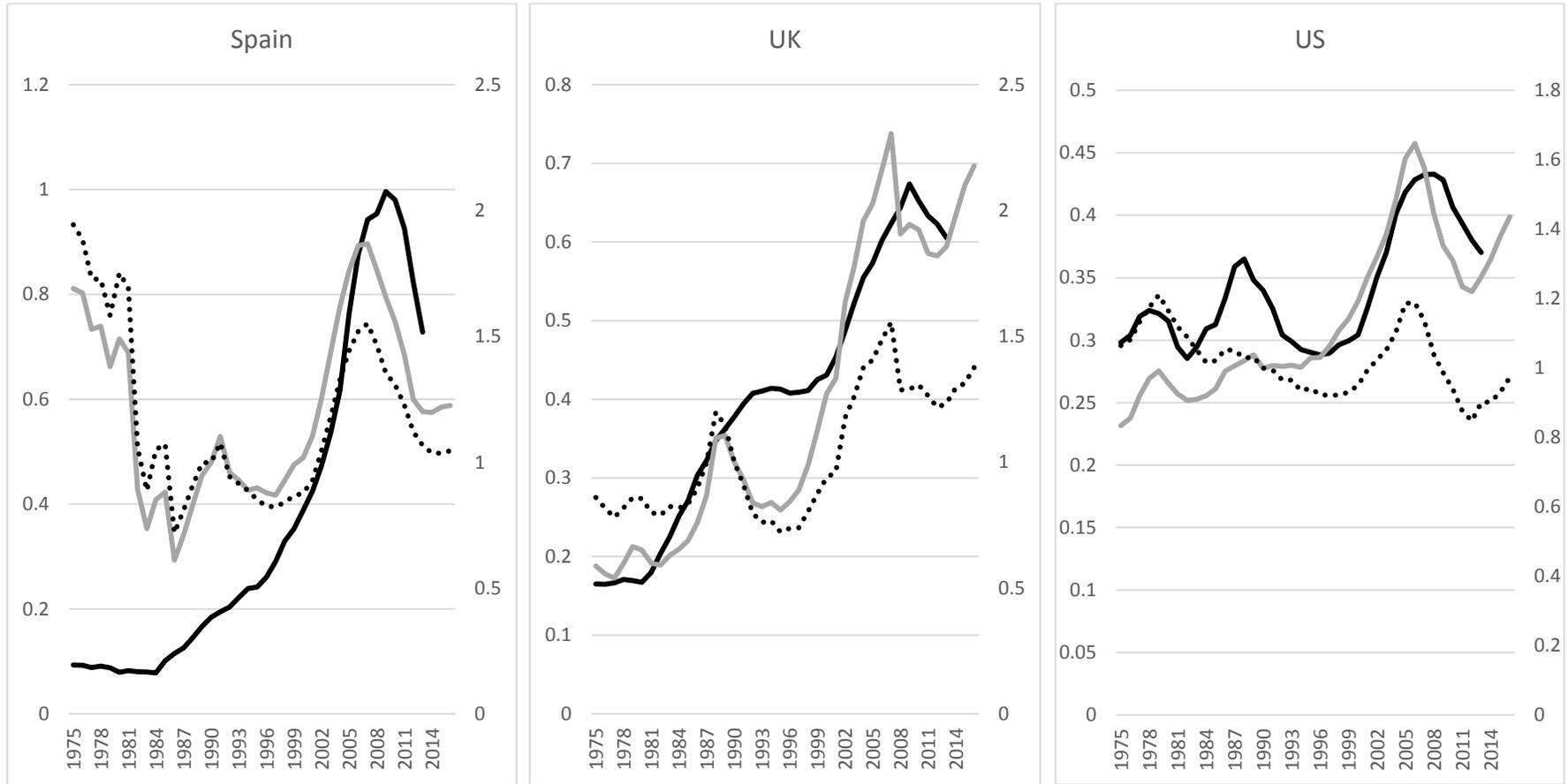


Figure 2-11b: Mortgage credit (% GDP), house Prices, and price-to-Income.

— Mortgage — House Price Price to Income

Sources: Mortgage credit as per Figure 2.5. House prices and price-to-income taken from OECD.

Notes: Mortgage credit depicted on right axis. House price is an index figure. Price-to-income shown in percentage terms.

Such developments point to insights into role of liberalisation and deregulation, that is neoliberalism. As we have seen, neoliberalism played an especially large role in the UK. Furthermore, neoliberal reforms such as the removal of price controls are a prerequisite to rising prices. But much of the credit-based liberalisation of the 2000s supported and reinforced as opposed to initiated the upswing in prices. This is strongly indicated by the fact that house prices closely mirror the price-to-income ratio in the continental European countries in particular. As well as indicating banks' greater willingness to lend to households multiples of their income, it necessarily implies a broader relaxation of lending standards such as an extension of loan maturities. Thus, credit reforms are to a significant extent endogenous with respect to prices. As prices have increased, a progressive loosening of lending standards has been necessary to support further expansion. Thus, the neoliberal package of policies have both facilitated and sustained the expansion in mortgage lending.

These trends also point to distributional factors playing a relatively secondary role in the *expansion* in mortgage credit.⁹ The close relation between house prices and the house price-to-income ratio as the former fluctuates indicates it is house prices rather than incomes that has driven the ratio. Given that the house price-to-income ratio is but the ratio of nominal house prices to nominal income per head – that is, per capita or average income – even for an 'average' earner, whose income reflects overall increases in output, a mortgage comprised a growing share of his/her income. That is, independent of the distribution of income the average earner would have to incur increasing indebtedness to afford a mortgage given the rise in prices. While inequality may have exacerbated this trend for some, it is worth noting that mortgage lending caters to more middle income groups who can, for instance, afford to pay deposits. Notwithstanding the fact that middle income groups would have experienced a large increase in indebtedness anyway, the importance of inequality in the expansion of mortgage debt then hinges on to what extent their incomes have stagnated (counterbalanced by the reduced indebtedness of upper income groups

⁹ Expansion is the key word. In circumstances of perfect income equality a desire for larger, more sophisticated housing, and hence indebtedness, is likely to be diminished. In a situation of a perfectly equal distribution of housing assets, there would be no need for the acquisition of further housing, and hence incurrence of indebtedness. The point is not that distributional factors are unimportant, but that they fail to explain the growth of indebtedness in recent times.

through upward redistribution).¹⁰ In any event, with the exception of Germany most of the increase in credit occurred from the late 1990s on and into the 2000s. In Germany, Gini-measured inequality stagnated in the 1990s as credit expanded, whereas in Spain inequality fell in the 2000s as the economy boomed and credit accelerated. In France there is a gentle increase in the 2000s coinciding with credit growth, whereas inequality was flat in Italy over the decade, despite some fluctuation (OECD, 2011: 25). On this measure the relationship is ambiguous at best. As we have seen, the initial push was driven by the imposition of the first Basel Accord which then stimulated price increases, which lay the foundation for further credit expansion, and so on.

In sum, the imposition of the first and subsequent Basel Accords incentivised banks to reallocate their portfolios towards putative low-risk assets. The expansion in mortgage lending led to upward pressure on prices in several countries, which has, in turn, stimulated greater mortgage lending. Early neoliberal reforms of credit and property markets have been essential in enabling the process, after which credit expansion and house-price growth have created pressure for further reforms through credit market liberalisation and deregulation.

2.4.2 Expansion of investment banking

Given the relative stability of overall intermediation income and the fact that the decline in relative intermediation income was not due to declining business lines as discussed, the growth of investment banking activities is similarly difficult to explain in terms of a reorientation of activities in the face of an ailing lending sector. Though arguably more invoked in a US context, we nevertheless explore the possible effects of financial services deregulation and find it to be of limited explanatory power (see introduction, Kotz, 2008; Tomaskovic-Devey and Lin, 2011). We instead explain the rise of investment banking in terms of development of capital markets more generally. The enormous growth in securities, and the consequent rise of institutional investors created a need for financial goods and

¹⁰ This is so if we consider income groups to be divided into lower, middle, and upper groups. Given lower income groups are excluded from mortgage markets (outside the US) any redistribution from lower to middle or lower to upper income groups should lower mortgage indebtedness or at least be neutral, *ceteris paribus*. For a rise in inequality to result in increased indebtedness it must then be driven by redistribution from middle to upper income groups.

services which the investment banking sector has met.

Looking at the regulatory landscape, continental European banking systems have to varying degrees subscribed to the universal banking model in which commercial and investment banking activities take place under the same entity. The classic example is Germany in which banks were set up with few restrictions on business lines, and with the express intention of providing long-term funding to large industry. Banks were empowered to offer the full range of financial services, without having to set up a separately capitalised subsidiary. Similarly, in Spain banks historically kept and traded large holdings of industrial stocks, and also public securities. Despite unsuccessful forays into separating industrial and commercial banks by the authorities, Spain retained a universal banking model (Perez, 1997).

In contrast, and most famously, the US instituted a separation of investment and commercial banking activities in the wake of the Great Depression, the Glass-Steagall Act. This was gradually eroded, especially in the 1980s and finally abandoned with the 1999 Gramm-Leach-Bliley Act in 1999. Italy instituted a Glass-Steagall-type separation of banking activities with its 1936 *Banking Act*. Formal separation was gradually eroded with a series of developments in the 1980s and especially the 1990s (Howells and Bain, 2008: 151). The 1990 Amato Act and the 1993 *Banking Code* in particular enshrined the ability of intermediaries to operate as universal banks (Gabbi and Vozzella, 2014: 72; Gabbi and Matthias, 2014: 122-123). France likewise instituted separation of commercial and investment banking in the post-war period. The system came under pressure through international openness, the international debt crisis of the early 1980s, and, as discussed, competition from non-bank funds for deposits (Creel et al., 2014: 12-14; Howells and Bain, 2008: 136). This culminated in the 1984 *Bank Act* that instituted a wave of deregulatory reforms, including an end to separation. The UK move to universal banking was probably the most sudden, being as it was part of the ‘Big Bang’ wave of deregulation in the 1980s. The 1986 *Financial Services Act* was a key bill in paving the way to a universal banking model (Shabani et al., 2015).

Figure 2.7 below re-examines the trajectory of investment banking activity, proxied by non-interest income. We see that non-interest income is least important in Germany, comparatively speaking. An important qualification is that this relates to the economy as a

whole, rather than large individual institutions. An analysis of the large (so-called) commercial banks in Germany may reveal quite a different picture, which we deal with in the following chapter. Despite a highly permissive institutional environment towards investment banking, non-interest income fails to reach 2% of GDP over the entire series. In Spain, surprisingly, the level of investment banking activity is relatively higher than in Germany. Data for France and the UK extends only to the post-liberalisation period. Nevertheless, although banking activities were only very recently liberalised, the level of investment banking-related income at the beginning of the series was around 1% of GDP in France and 1.5% in the UK, comparable and in fact greater than the level in Germany at the same period. Certainly, as the series progressed the level of investment banking-related income in France and the UK far surpasses that of Germany and Spain. But in the UK at least, non-interest income did not take off until the late-1990s, well after its deregulation.

The US and Italy are the only countries for which we have data on investment banking-related income before and after separation of activities. The expansion of

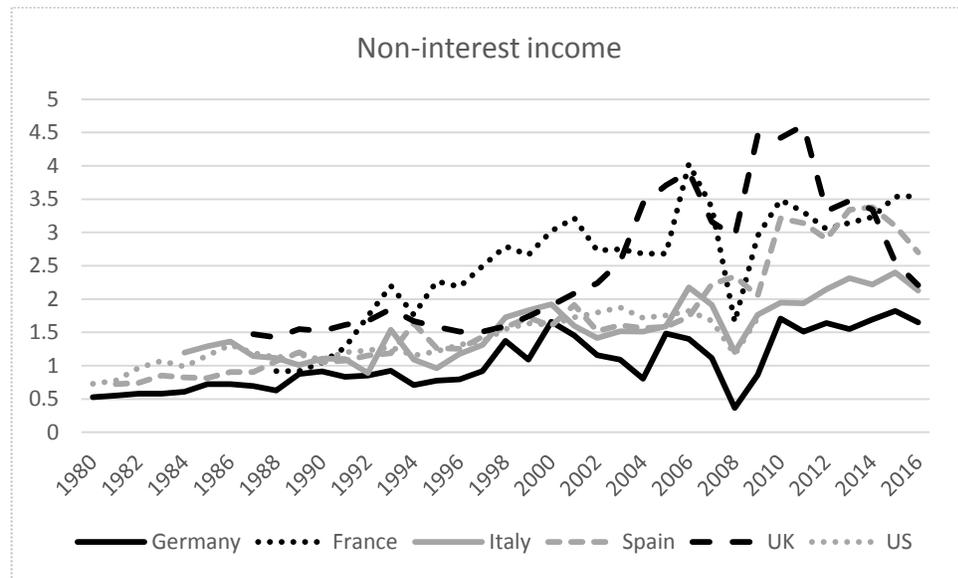


Figure 2-12: Non-interest Income (% GDP).

Sources: Non-interest income taken from OECD Bank Profitability and ECB post-2009.

Notes: ECB data for 2009 set equal to OECD data for 2009 for ease of display. Thereafter the ECB series is unchanged.

non-interest income is unremarkably gradual in the US, with the level not particularly high relative to other countries. In Italy, a sharp increase in non-interest income is apparent since the early 1990s, the period in which it liberalised its banking activities. This may point to the importance of the regulatory framework in structuring its bank operations. Liberalisation, however, is not sufficient to explain the rise of investment banking. Germany, for instance, exhibited a very similar trend to Italy.

The growth of investment banking should instead be seen in terms of the expansion of capital markets more broadly. As capital markets develop so does the need for an increase in the scale of financial services to support that development. For instance, as firms issue more equity or governments issue more debt, the demand for underwriting, market making, and other services necessarily grows. While deregulation may increase the ability of investment banking groups to extract more income from other intermediaries or take on greater risk, the current scale of activities implies the secular expansion of the industry must arise from the growth of capital markets.

A question arises as to what has driven the growth of capital markets. In the case of equity markets, both neoliberalising forces and accumulation pressures are apparent. The privatisation of state-owned enterprises was a major boon to European stock markets in the 1990s. As that process has slowed or been completed, the continued growth of equity markets is the result of the drive to expand as firms accumulate. Public listing not only opens up avenues to equity finance, but also facilitates debt issuance as investors have a set of publically available metrics against which to gauge creditworthiness. The largest debt markets, though, are government debt markets. Historically governments may have incurred debt to finance war or other large projects, but since World War II a major component of public disbursements has related to large capital spending projects, and particularly welfare spending. The former can be seen in terms of the pressures placed on governments in a modern globalised context and is likely to result in preference for debt issuance over taxation or loans (Lysandrou, 2017). But it is the latter that has been the single biggest reason for the expansion of government services. Particularly in European countries retirement provision and healthcare costs continue to escalate as populations grow older due to advances in healthcare. If European countries proceed to emulate a US-style

health system, much of the increased cost will be due to bureaucratic inefficiencies associated with marketisation. Suffice to say, similar to equity markets, the growth of debt markets and indeed capital markets generally is attributable to a constellation of accumulation pressures and neoliberalising dynamics.

In recent decades governments have been increasingly reluctant to fund the mentioned programs. Again this is partly due to class interests as capital resists ever increasing taxation. The degree to which revenue raising burdens can be passed onto more middling classes is similarly limited. It should also be acknowledged that a non-trivial debate exists in a country such as France with public spending of 56% of GDP in 2016 as to when further taxation becomes burdensome, especially in a globalised world.¹¹ The more important point regarding the reluctance of the state to provide welfare is that it raises the salient question of how and for whom the increased supply of securities has been managed. As a matter of logic, the increase in the supply of securities must be met by a corresponding increase in demand for securities. The banking sector has historically been a major investor in home-country government debt and, along with households, the major investors in equity as alluded to. But for contemporary banks financial liberalisation has to a large extent severed the bank-state nexus. More, capital charges are likely to limit holdings of equity and investment in debt must also be considered against the effects of adding to maturity mismatches that mortgage lending has brought. The abdication of welfare responsibilities by the state implies that the latter, households, can and must take up demand as they increasingly provide for their current and future welfare needs. Thus, whether due primarily to class dynamics or expansionary/accumulation pressures placed on the state it is ultimately households, including high-net worth households, that demand the increase in supply. As most individuals lack the expertise and scale to effectively manage all but the smallest portfolios, the increased demand for capital market instruments provides the basis for the rise of institutional investors and the growth of professional asset management.

The emergence of institutional investors places additional demands on the banking system, over and above those placed on it by the expansion of capital markets. For as long

¹¹ Of course, it could also be acknowledged that there has been less debate as to whether France's level of military spending is justified, or whether such large redistributive actions would be required if there were higher levels of 'market' income equality.

as securities are held by retail investors, namely households, securities are likely to be merely held and infrequently traded. But as a larger and larger share of securities becomes institutionally held, securities are more frequently traded as investors seek to maximise risk-adjusted returns (within the confines of their investment mandate). In addition to asset management services, the growth of institutional investors creates a need for the provision of market making and hedging services by investment banks. As we shall see in the following chapter, with market making and derivatives trading comes opportunities for proprietary trading.

These themes are self-reinforcing. A trend increase in supply government securities, for instance, is likely to be associated with an increase in demand insofar as the growth in supply relates to welfare obligations that the state only partially fulfills. The increase in demand then encourages entities to issue securities as issuance can be conducted more cost effectively. The rise in demand also changes the composition of supply. Casey and Lanoos (2005: 20-25) report how institutional investors have stimulated the development of long-dated public debt markets to lock-in cheap funding in European countries.¹² Public debt instruments, in turn, play a central role in repo markets which, in turn, are a key funding mechanism for dealer banks and hedge funds, and so on. Although some element of mutual interaction exists in that a willingness of the banking sector to provide, for instance, market making services to investors may encourage the latter to issue securities, ultimately it has been the growth of capital markets that has provided opportunities for banks to earn income from non-traditional sources.

Note the difference in causal processes operating in a demand-led view compared to a disintermediation-led view. Under the latter, household institutionalised savings enable banks to turn towards investment services. Thus, insofar as there may be evidence of NFC withdrawal from the banking system inducing a decline in intermediation returns (as in France), privatised, now institutionally-held household savings play the central role in enabling an aggregate expansion of investment banking. Capital market growth per se, or the various socioeconomic trends underpinning it, is not the centerpiece. Here, under a demand-led view, institutionalised savings is a concomitant to capital market development, especially in Europe. As above, an expansion in government debt is also likely to entail

¹² Concurrent to our work Lysandrou (2016) also makes this point.

more asset management as public provision only partly meets social needs, be they welfare, health, or otherwise. As asset management grows, so do the opportunities for households to substitute managed capital market securities for deposits. The ensuing indebtedness of the banking system to institutional investors may encourage the former to issue debt instruments to the latter, further encouraging capital market growth, and so on. For sure, professionally-managed institutional savings places demands on the banking system for investment services over and above mere capital market growth, but capital market growth is a *sine qua non*, the lynchpin from which the process derives.

This is evident in Figure 2.8. In all six countries we see a significant correlation between non-interest income and the level of securities outstanding in the economy. The relationship is strongest in the historically more closed financial systems of Spain and Italy, but generalises for the six countries. The relationship weakens somewhat in the early 1990s in the UK, and the mid-2000s in Germany and France. For the former, this is mostly likely due to the internationalisation of the UK banking system then as it became a global centre. For the latter two, the 2000s coincides with the internationalisation of European megabanks as detailed in subsequent chapters. Large international investments (in US and British securitised products, for instance) will weaken the link between investment banking income and capital market expansion at the individual country level. That said, the relationship is weakened only somewhat and will continue to hold at the aggregate global level.

This then points to explaining differences between national investment banking structures not in terms of differing bank (de)regulatory frameworks or disintermediation, but in terms of historical and institutional factors as they relate to the development of capital markets. For instance, Germany's adroit adherence to a bank-based financial system for decades implied that firms resorted to credit as opposed to the market for finance. The unusually strong dedication to price stability on the part of the Bundesbank further nullified one of the main appeals of equity investment over other securities, inflation-adjusted returns. Coupled with low levels of public indebtedness, the low levels of capital market activity more generally explain the low level of investment banking income. Low public indebtedness is also a feature of the US, but this is partly compensated for by strong equity and private debt markets. Similar comments apply to the UK, but as before dynamics are clouded by its hosting of international financial institutions. France has both steadily

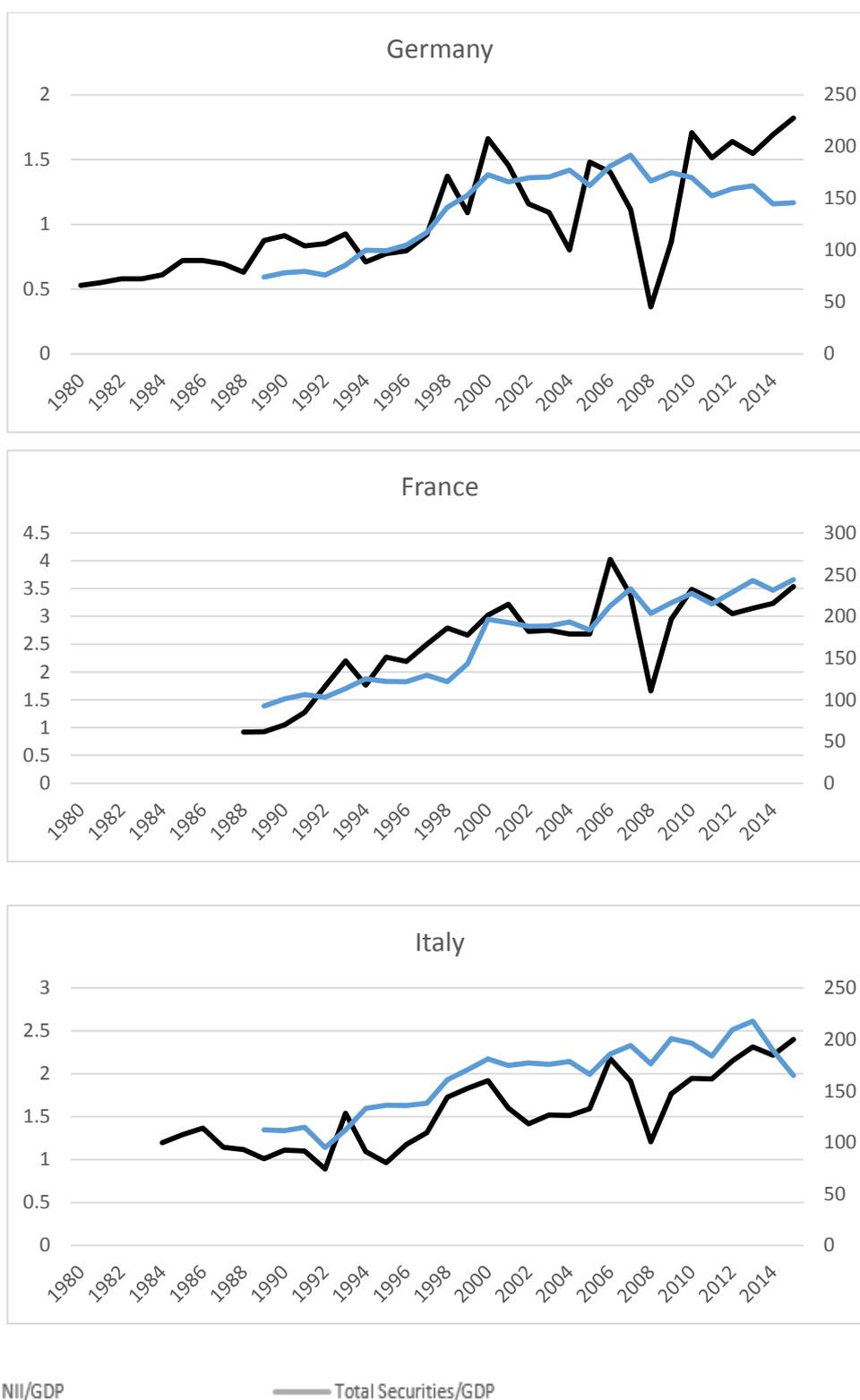


Figure 2-13a: Non-interest income (% GDP) and financial market development (% GDP).

Notes: Non-interest income shown on left axis. Total securities = Stock market capitalisation + resident issued debt outstanding.

expanded its public indebtedness and cultivated capital market development since the 1980s. It is both a powerhouse of European insurance and a center of mutual fund activity. Consequently, France witnessed stronger growth in investment banking activity. The unusually high number of small and medium-sized enterprises in Spain and Italy undoubtedly retarded the development of financial markets there. The overall levels of investment banking activities are still significant though, possibly a result of large public debt markets.

In sum, having established the limitations of disintermediation-oriented explanations previously, we find the framework of neoliberalism, accumulation, and standardisation to be a useful heuristic in understanding the transformation of banking. For household lending, the six countries examined here implemented a series of liberalising reforms to housing markets since the 1980s, and indeed before. The synchronicity in the expansion of mortgage credit points to a common dynamic. The imposition of the first Basel Accord and associated capital adequacy regulations created incentives for banks to switch their portfolios towards putative safe assets, such as mortgage loans. The ensuing expansion of credit precipitated an upward trend in real house prices, reinforcing the expansion of credit and promoting further liberalisation. In relation to the increase in scale of investment banking, the timing of financial liberalisation in Italy (but probably France and UK as well) and the adherence to universal banking in Germany and Spain point to factors others than financial liberalisation/deregulation in its growth. A constellation of accumulation pressures on firms and government to expand and neoliberal class dynamics have led to the growth of capital markets. This, combined with the associated development of institutional investors and asset management, has created a demand for a variety investment services which the banking system has fulfilled.

2.5 Discussion and policy implications

Based on a dissatisfaction with existing theoretical approaches as being either too narrow or misconceived, this chapter has advanced an understanding of financialisation based on the concepts of neoliberalism, accumulation, and standardisation. Up to now the expansion of household lending has been explained in terms of neoliberalism and standardisation, whereas our account of the growth of investment banking has relied more on neoliberalism and accumulation. It is certainly the case, though, that an

understanding of accumulation pressures is central to understanding the growth of mortgage lending and that standardisation plays an integral role in the development of investment banking activities, especially market making and proprietary trading. We discuss both here, though a more complete discussion of market making and proprietary trading takes place in the following chapter.

The growth of domestic mortgage lending is paradoxically attributable to the growth and standardisation of cross-border banking, among other factors. The impetus for the first Basel Accord arose from a number of developments. First, the breakdown of the Bretton Woods agreement in 1971 and the liberalisation of capital accounts in the major countries shortly after greatly expanded the potential for cross-border financial transactions and instability.¹³ The 1980s was one of continued expansion of international banking, a large portion of which related to the increasing cross-border expansion of production. As described by Kregel (1994), internationalisation of production requires internationalised banks to act as FX clearing houses so that firms that engage in international trade can transact in their home country currencies. Once established, multinational banks often provided traditional commercial banking services to their clients as well. In addition, a large portion of the expansion of banking across borders was due regulatory arbitrage. Goodhart (2011: 96-126), for instance, describes the demise of Italy's then largest bank through large loan losses in a subsidiary as a backdrop to the first accord. But it was the growing competition between US banks less capitalised Japanese banks (which also had a different definition of capital) that accelerated the 1987 US-UK agreement on capital adequacy, the basis of the 1988 Accord. In other words, though liberalisation and opening up of markets has been an important component of and precipitating factor in the internationalisation of banking, accumulation pressures have also been a central driving force. Neoliberalism and standardisation are then most directly implicated in the expansion in mortgage lending,

¹³ A key event occurred in 1974 with the failure of New York's largest commercial bank, Franklin National Bank, as a result of a series of speculative foreign exchange transactions with a small German bank. Coupled with skyrocketing oil prices, the first meeting of the Basel Committee took place in 1975.

but it has been accumulation dynamics that drove standardisation.¹⁴

In terms of market making and proprietary trading among investment banks, we again turn to developments in capital markets. As discussed, the increase in supply of capital market instruments has been accompanied by an associated increase in demand. This increase in demand for securities has in turn engendered the development professional asset management and institutionalised forms of savings. One issue that has arisen is how best, and upon what principals are such pools of savings to be managed? This is so as it is notoriously difficult to beat the market and returns of a typical index tracking fund have traditionally outperformed the majority of comparable active management strategies. In light of such failures, so-called core-satellite investment strategies emerged in which the majority or core of a portfolio is invested conservatively (Welch, 2008). The core portfolio may, for instance, be passively managed, or if not managed according to an outright passive strategy, the degree to which it can stray from benchmarks is limited by investment mandates. Investment mandates are typically shaped by regulatory factors as well, though prescribed requirements are not the norm given the complexity involved in managing individual portfolios.¹⁵ The satellite section of the portfolio is more devoted to yield and is more actively managed. The standardisation of asset management through the widespread adoption of core-satellite investment strategies has been the major driving force in the expansion in trading volume in capital markets as funds intensively trade the most liquid instruments to abide by investment mandates (Grahl and Lysandrou, 2006). As we detail in the following chapter, this expansion in trading volume has greatly increased the demand and opportunities for market making and proprietary trading

¹⁴ It might be argued that the Basel Accord is just code for neoliberal (de)regulation. The submerging of the regulatory framework under the rubric of neoliberalism or material interests, though, comes at the cost of significant explanatory power. The first Basel Accord, unlike subsequent editions, was not designed as a comprehensive framework for banking regulation. As above, it was intended as a device to level the playing field among internationally active banks and prevent regulatory arbitrage. For countries such as Spain capital adequacy ratios were an addition rather than a loosening of the existing policy framework, which admittedly was also being deregulated. But the complete absence of liquidity and interest rate provisions as the accord stimulated a massive increase in maturity transformation indicate its effects were largely unforeseen. Standardisation, therefore, has its own logic and causal force, related but not to be conflated with neoliberalism or deregulation.

¹⁵ As discussed more in a later chapter, duration, for instance, is a net present value-weighted measure of maturity. For long-term institutional investors the duration of liabilities cannot drift too far from that of assets. An OECD study notes: "investment regulations can put restrictions on the maturity or duration matching of assets and liabilities. It is rare to find, either in insurance or in pensions legislation, prescribed maturity matching requirements for assets and liabilities. This is because it is difficult to detail within legislation such a complex requirement. Nevertheless, even though it is not specified formally within the legislation, it is a recognised duty of regulators to monitor any significant mismatching of assets and liabilities, since such mismatching is a central aspect of the investment risks faced by life insurance companies and by pension funds." (Dickinson, 2001: 8).

among investment banks. Thus, while accumulation pressures and neoliberal reforms have ultimately been responsible for growth of investment banking, standardisation has greatly expanded and deepened that process.

The identification of accumulation pressures and standardisation as central processes in the emergence of financialisation has important policy implications. Interventions designed to reduce the size of the financial sector are likely to fail insofar as such interventions focus primarily on the banking sector. As the growth of investment banking reflects the expansion of capital markets it is only by curtailing the latter can the size of the former be reduced. And this is no easy task. A reduction in the size of equity markets would require either renationalising and/or delisting large swathes of industry. A reduction in the size of debt markets would require large declines in public expenditure. Some of this is desirable in and of itself, through, for instance, reductions in military expenditures. As previously mentioned, large increases in pre-tax income equality would also mitigate the need for large social transfers. Even then, given that much of the expansion of capital markets is relatively independent of class struggle, a larger investment banking sector appears to be a permanent feature of the new economic landscape.

Reducing the scale of mortgage lending may be more feasible in principle given that much of its growth is an unforeseen result of banking regulation. In practice, aside from perhaps the US, countries cannot 'go it alone' and withdraw from international agreements without large adverse consequences. Coordination problems in global agreements, moreover, militate against easy reform of the international financial architecture. Despite the huge upheaval caused by the global financial crisis, the incentive structures embedded in the Basel Accords to create mortgage credit have changed little, if at all. Coupled with the time it would take for existing mortgage holders to pay off their debt, somewhat larger mortgage markets are likely to be around for some time.

That said, one means of reducing the size of the financial sector is to reduce house prices. This would, in turn, reduce the level of indebtedness and contribute to reducing, but not eliminating the current size of mortgage markets. The experience of Germany demonstrates that the trend of rising property prices is not an immutable economic law. Its system of rent controls, willingness of the state to stimulate supply when needed, and comparatively empowered tenants go some way toward explaining

the relative price stability of its property market. Price stability may not be sufficient as Germany again demonstrates with its large expansion in mortgage lending despite stagnant property prices. A possible reason for Germany's continued credit growth in the face of flat property prices has been its steadily increasing homeownership rates during the 1990s (see Jorda et al., 2016: 121). Large-scale social housing programs would thus complement and indeed be made more affordable by efforts to reduce property prices. As well as aiding efforts to reduce of the size of the financial sector, this, as we shall see in the following chapter, would also have beneficial financial stability implications.

The Basel agreements and the salience of standardisation highlight a further issue of note when it comes to effective policy design. The amorphous nature of the financial system in conjunction with the importance of rules in governing financial behaviour give rise to large uncertainties in policy outcomes. That the imposition of Basel I would lead to a massive expansion in mortgage lending and large increases in property prices is a case in point. The problem of unforeseen consequences is probably more acute in financial markets than in property markets. Financial markets are both more opaque, and the transactions and instruments decidedly more complex. While a 'de-financialisation' of advanced economies may not be entirely feasible for reasons already outlined, some interventions and curtailing of market mechanisms may be desirable, not least so that policymakers do not have to constantly play catch-up. Social housing and rent controls have already been mentioned in the case of commercial banking. In the case of asset management, much of it undertaken within investment banks, as well as the large fees already in existence, one wonders whether the proliferation of different types of funds serves consumer choice or merely furthers fee incomes even more (see Judge, 2012; 2015). Investment banks also cream income from institutional investors through a variety of mechanisms, as we show in the following chapter. Addressing such abuses would not only serve households well but might also go some way towards mitigating destabilising reaches for yield.

2.6 Conclusion

This chapter has considered a defining feature of financialisation, the transformation of banking. It has been our contention that existing theories of financialisation suffer conceptual and empirical shortcomings, or can only explain certain aspects of banking

transformation. Building on existing research, we have forwarded an alternative materialist view of financialisation based on neoliberalism, accumulation, and standardisation. We have found a framework anchored in these processes to be both an accurate depiction of how financialisation develops and sufficiently encompassing to capture its essential features.

There is little evidence to support the view that disintermediation of NFCs was the main cause of the decline in intermediation income, except for in France (and likely the US before our series begins). For one, bank lending to business remained robust over an extended period, as did overall intermediation income. The decline in intermediation margins has tended to coincide with the expansion of mortgage lending, which is a secured form of lending. The squeeze in margins was more an outcome than a cause of mortgage lending. Again, France is a partial exception, but we find other explanations more compelling. Neither the ascendancy of mortgage lending nor investment banking can be attributed to a decline in traditional bank income.

The expansion in mortgage lending is instead due to the imposition of the Basel Accords and associated capital adequacy regulations, which has been facilitated and deepened by liberalisation of property and credit markets. As firms and banks expanded through internationalisation in the context of increasingly open markets, a global framework of standards became necessary. By incentivising certain types of asset holdings over others, the agreements have had a powerful impact on the allocative decisions of banks, and have been the single largest factor in the growth of mortgage credit. The expansion of credit, in turn, has put upward pressures on house prices. The upward trend in house prices has then stimulated further credit expansion and liberalisation. Distributional factors have played only a secondary role. The UK is somewhat of an exception in that like the US and France the effects of Basel I did not manifest until later, but also neoliberalism rather than standardisation played a larger role..

The increase in the scale and scope of investment banking is in the first instance an outcome of the growth of capital markets, and then the associated rise of asset management and institutional investors. As securities markets expanded through neoliberal restructuring of the economy and also through expansionary pressures, an array of investment services was required to support that growth. The effects of neoliberal restructuring on capital markets is evident through privatisation of public

services and the increasing abdication of welfare responsibilities by the state, whereas accumulation and expansionary pressures are evident in the desire of companies to go public as they expand, and through rising government indebtedness due to demographic factors, themselves a result of advances in the provision of healthcare. Regulatory factors may have reinforced the growth of investment banking, and the system is one of constant evolution and change, but ultimately the expansion of the sector is a result of the rise of capital markets.

The multitude of processes that impinge on financialisation and banking poses difficulties for policymakers in designing effective systems of governance. As we have seen, though neoliberalism and standardisation have been most directly implicated in mortgage lending, whereas accumulation pressures and again neoliberalism have been more prominent in the ascendancy of investment banking, neither standardisation can be excluded from the latter, nor accumulation dynamics from the former. The prospects for large-scale de-financialisation of the economy are accordingly slim, which then raises the difficulty of intervening without creating contradictions or pressures for change elsewhere in the system. An alternative solution may involve less use of market mechanisms and greater consideration of financial services as public utilities. Regulators would then not have to constantly try to align public and private goals as the financial system inevitably evolves.

Chapter 3 : Institutional investors and the geography of financial trading instability

3.1 Introduction

3.1.1 Main thesis

This chapter asks two seemingly innocuous but big questions. First, what role has financial trading played in the development of systemic financial instability among advanced countries? Second, what is the nature of bank proprietary trading and what role has it played in the development of said instability? The first question is of general economic interest and is intended to clarify a sometimes muddled debate. The second question follows from the first and is motivated by the recent regulatory moves to restrict proprietary trading in a number of regions and countries. It is also motivated by the fact that the nature of bank proprietary trading has been largely misinterpreted. Financial trading is understood to be the purchasing and selling of financial assets such as currencies and securities.¹⁶ The emphasis here is on European countries, especially major European countries. As required by data constraints the US is considered as a comparator when needed.

We argue that the growth of financial trading has greatly contributed to the increase in systemic financial instability among advanced countries over the last number of years. Specifically, financial trading exhibits a phased pattern of financial instability. In the post-Bretton Woods era, European countries were plagued by repeated currency crises. Financial trading instability therefore arose from positioning in currencies, mainly by banks. Since the early 1990s international financial transactions began to expand rapidly due to the rise of institutional investors. Given this, the adoption of the euro, and domestic reforms as per the previous chapter the pattern of financial instability shifted from repeated currency crises to repeated banking crises. Financial trading has since played a more indirect in the propagation of instability, now endangering the system more through the provision of liquidity by investors to bank-led

¹⁶ International financial trading is the cross-border purchases and sales of financial assets. Capital flows, including what are misleadingly labelled gross capital inflows or outflows, are aggregated or netted measures of international financial trading. Most countries do not keep disaggregated data on cross-border financial trading, but instead record capital flows. When we refer to international financial trading we mean non-netted purchases and sales, whereas capital flows refer to the commonly-used measure. We use the term international financial transactions in a general sense, referring to either. See section 3.2.3 for a fuller description.

property and credit bubbles, rather than positioning in assets per se. The nature of this shift has not been adequately appreciated in the literature (see, for instance, Brunnermeier et al., 2013; Kohler, 2014; 2015).

In terms of bank proprietary trading we also make number of assertions. One is that the common characterisation of bank proprietary trading as underpinned by ever greater risk taking (see, for instance, Erturk, 2016) and/or fostered by a wave of deregulation or speculation is misconceived (Epstein and Hubbard, 2011). Just as is the case with international financial trading, institutional investor-led trading has been responsible for the observable increase in proprietary trading. A second observation we make is that the contribution of proprietary trading, as understood to be risky bets placed by banks, to systemic financial instability in recent times has been limited as compared to say credit-based asset inflation. Insofar as proprietary trading has been responsible for the heightened instability of advanced capitalist and European countries, it too has been geographically contingent. Careful reading of the recent global crisis shows that at first large trading losses were attributable to losses in property markets and also to the ceding of political-economic control to supranational institutions. The policy implication is that rather than investment banking having made commercial banking more unstable, we argue that the converse is more accurate.

3.1.2 Literature review

Systemic risk is a widely-used but difficult-to-pin-down concept. Sometimes viewed as a ‘know it when you see it’ phenomenon, it can and has been approached from a variety of angles (Benoit et al., 2017). Within mainstream economics and finance, it has been analysed in terms of sources of risk-taking such as leverage and liquidity risk, propagation and contagion, and amplification through market freezes, runs and so on (ibid.). An alternative way is to distinguish between risks that accumulate over time versus risks that have a cross-sectional dimension (Caruana, 2010). What it is not is ‘normal’ risk-taking that a financial institution might engage in or risk-taking that does not lead to widespread fragility. That is, the system as a whole ought to be affected.

There are similarly several ways to measure and assess systemic risk. Central banks and policymakers typically keep a watchful eye on aggregate macroeconomic indicators such as credit growth and capital inflows, as well as bank-based individual

and aggregate indicators. These include the balance sheet compositions, currency mismatches, market data such as credit default swap spreads, and simulations of stress conditions (Cerutti et al., 2012; Gerlach, 2009). Systemic risk can also be approached at the institutional level in terms of systemically important financial institutions (SIFIs) or at the sectoral level by examining the asset management industry, for instance (Elliot, 2014). Several attempts have been made to construct single index measures of systemic risk based on value-at-risk (VaR) and other metrics (Brunnermeier et al., 2013; Laeven et al., 2016). In terms of financial trading, non-interest and trading income among banks is invariably found to increase systemic risk (see, for instance, Brunnermeier et al., 2013). This echoes the finding among several institution-level studies that investment banking income is more volatile or unstable than traditional intermediation income, especially for larger entities (Stiroh, 2006; Kohler, 2014; 2015).

There are several drawbacks with such approaches. One is the age-old problem of correctly specifying a quantitative model of social reality in a complex, ‘open’ world. VaR in particular has a number of problems (see Crotty, 2009). Relatedly, it is methodologically individualist in that it attempts to decompose risk into its constituent parts whereas causal power often only emerges at the more aggregate level. This applies as much to econometric inferences about different sources of bank income risk as it does to assertions about the stability implications of the asset management industry. For instance, based on interconnectedness, investment horizon, and liability structure compared to banks, it has been argued that long-term institutional investors pose relatively low systemic risk implications (Geneva Association, 2010). This view, however, neglects the fact that such institutions are part of a system and have the ability to affect risk-taking among banks, the foci of the financial system, through demand for securitised products, for instance.¹⁷ Finally, such approaches to systemic risk are ahistorical and provide little context with which to assess claims about the significance of some event, institutional formation, or entity.

There is of course no shortage of theories of systemic financial instability grounded in institutional understandings of capitalism from Smithsonian to Marxian to

¹⁷ That is not to say radical holism is to be embraced. Judgements can be made about the relative contributions of subcomponents of a system in explaining some phenomenon. Rather, we are sceptical of attempts to isolate and quantitatively measure that contribution. For instance, we cannot reduce or quantitatively measure the contribution of player A and then her teammate, player B, to winning the football game. With reference to overall team performance, we can, however, make contextual and qualitative judgements about their respective contributions and relative importance. The same applies to subcomponents of the financial system and systemic risk.

more contemporary theories (see Toporowski, 2005). Veblen, for instance, developed ‘the first financial cycle theory’ (Toporowski, 2005: 45). For Veblen, borrowing enabled firms to secure better control of industry, rather than to increase output. Borrowing against collateral may inflate collateral values which, as a result, stimulates further industrial borrowing. More recently and more famously, Minsky developed his financial instability hypothesis. His famous taxonomy of increasingly unstable balance sheet structures comprising hedge, speculative and Ponzi units is key. As expectations of gains increase and an economic boom proceeds, payments increase, along with rising interest rates. Debts accumulate and hedge units turn into speculative units, and speculative into Ponzi. As markets slow Ponzi units are forced to sell which brings about a fire sale. Importantly for Minsky financial fragility emerges not through policy errors or accidents but ‘from the normal functioning of our economy’ (Minsky, 1976: 3).

The emphasis on industrial borrowings in both Veblenian and Minskian (and many other classic) analyses makes their application in original form inappropriate in a modern context. There is, of course, no shortage of contemporary research on waves of risk appetite, periodic financial cycles, and co-movements in capital flows, credit, and financial asset/housing markets (Claessens et al., 2012; Rey, 2015; Adrian and Shin, 2010). Minskian theory has similarly been updated to include developments in investment banking (Wray, 2015), cross-border financial transactions (Dymski and Shabani, 2017), and also, incidentally, housing dynamics (Dymski, 2010). While such analyses necessarily provide a richer understanding of systemic instability, our concern here is financial trading per se, with housing as a systemic comparator. Given the large changes trading and the financial system have undergone in the last fifty plus years and also more recently, following critical-minded chronologies influenced by the breakdown of Bretton Woods (Block, 1977; Eatwell and Taylor, 2001; Helleiner, 1996; Strange 1986; 1998), we feel that only a historically-minded analysis provides the necessary context with which to assess the contribution financial trading has made to the development of systemic instability.

We find that financial trading, particularly cross-border trading, has been a major cause of the heightened instability of the financial system. As mentioned, this may be of no surprise to observers of capital flows for a variety of reasons. Among them are a tendency and ability of cross-border transactions to disrupt established lender-borrower relationships (Allegret et al., 2003), an inability of recipient entities to

effectively absorb global financial flows so that existing assets are bid-up rather than new ones created (Dymski and Shabani, 2017), and so on. What is less recognised is how the international financial system has changed since the 1970s to the present. As well as having grown enormously since the the breakdown of Bretton Woods, cross-border financial transactions began another rapid expansion beginning in the early 1990s. The failure to appreciate and understand this shift has, in turn, inhibited our understanding of how global flows have contributed to and reinforced the changing patterns of financial instability. As we will see institutional investors emerged as the major force in capital markets and cross border transactions, and have played an important role, along with the adoption of the euro, in the graduation from repeated currency to repeated banking crises among European countries.

The nature and stability implications of bank proprietary trading have been studied less intensively, not least because of financial system opaqueness. Erturk and Solari (2007) note the ‘reinvention’ of bank income from interest to fee-based and trading income. They juxtapose this transformation with the transformation of household assets, though it is not clear as to whether they view banks as having transformed themselves or whether banks are responding to external pressures. Though capital markets have played a facilitating role, Dos Santos (2009a) sees the growth of proprietary trading as part of the broader reorientation of bank activities away from interest income discussed in the previous chapter (see also Lapavitsas et al.). Epstein and Hubbard (2011) note that ‘financial speculation is associated with the rise of global financial conglomerates’ and highlight deregulation and other trends against this backdrop.

The global financial crisis beginning in 2007/08 is sometimes seen as a culmination of events that have manifested themselves in related and repeated trading crashes. O’Brien and Keith (2009), for instance, see the global financial crisis as ‘belonging to the same lineage’ of previous trading crashes such as Long-Term Capital Management of the late 1990s and Enron of the early 2000s. Erturk (2016) similarly sees the JP Morgan Chase ‘big whale’ trading losses as part of the broader risk-based business models. In Erturk’s reading banks ‘re-locate risks according to conjunctural market and regulatory arbitrage conditions’ and through the requirement to sustain persistently high returns on equity (ibid.: 60). The framework of risk-based business models and an emphasis on financial trading (especially derivatives) also informed a series of OECD papers (Blundell-Wignall et al., 2014a; 2014b). This, in turn, has

informed the OECD advocacy of separation of investment and commercial banking activities. In fact, to our knowledge all proposals in advocacy of separation of banking functions have been premised on the belief that it is investment banking that poses the risk to commercial banking, and not the converse. While there is a large literature on how lending has been transformed under financialisation, especially as it relates to housing (for instance Aalbers, 2016), insofar as both commercial and investment banking have been considered, it has generally been assumed that it has been the latter that poses greater risk. Thus, a la more quantitative measures, institutionally-minded analyses emphasise the risks of proprietary trading rather than conventional intermediation.

The major shortcoming of the literature on cross-border financial transactions is the failure to identify how the financial system has changed since the 1970s to the present. As is universally recognised, cross-border financial transactions have grown enormously since the breakdown of Bretton Woods. What is less or only occasionally recognised, and never convincingly explained, is that cross border flows began another rapid expansion beginning in the early 1990s. This failure to appreciate and understand this shift has, in turn, inhibited our understanding of how global flows have contributed to, and reinforced the changing patterns of financial instability. As we will see, institutional investors emerged as the major force in capital markets and cross border transactions, and have played an important role in the graduation from repeated currency to repeated banking crises among European countries.

There are two principal shortcomings of the proprietary trading literature as we see it. One is the failure to understand why proprietary trading has grown. This stems from the failure to understand the growth of financial transactions since the 1990s, which as well as having expanded in a cross-border context, have also grown domestically. That is, as we shall argue, bank proprietary trading has grown as a result of the institutional investor-led expansion in financial trading. The second misunderstanding is the belief, implicitly or explicitly stated, that (investment) bank trading and associated activities pose greater risks than traditional intermediation activities. As will be argued, though bank trading has certainly become riskier, it is more the case that commercial banking has made investment banking more unstable. Insofar as proprietary trading has had systemic implications, it too has been shaped by processes of geographic import.

This chapter fleshes out our core two points relating to the effects of (cross-border) financial trading on the development of financial instability on the one hand, and on the nature and stability implications of proprietary trading on the other. The next section examines the post-war and post-Bretton Woods history of financial crises and the emergence of institutional investors. In the following section, the growth and consequences of bank proprietary trading are considered. The penultimate section explores the policy implications of our findings, after which we conclude.

3.2 A modern history of financial crises

This section examines the history of financial and banking crises since World War II, especially since the breakdown of Bretton Woods. The post-war period constitutes a phased pattern of financial fragility in which different varieties of financial crises feature more prominently than others through time. The initial expansion in financial flows accompanied a series of currency and inflation crises. The global system then graduated to episodes of banking and also stock market crises through the late 1980s and 1990s, and to the major banking collapses of the recent global crisis. Cross-border financial flows have grown enormously during this period, particularly since the early 1990s as institutional actors have emerged as a major investor class. This, along with the adoption of the euro, has reinforced the trend away from currency crises towards banking crises.

3.2.1 1946-1980s: Post-war stability and the breakdown of order

To chart the trajectory of financial stability we construct a series for European countries and the US based on Reinhart and Rogoff (2011), but extended to the current period. Á la Reinhart and Rogoff an inflation crisis is defined to be a period in which the annual rate of inflation is 20% or higher. A currency crash is a period in which the annual depreciation of the country's currency with respect to its anchor (typically the dollar or euro/deutsche mark) equals or exceeds 15%. A stock market crash is a cumulative decline in real equity values of 25% or more. More qualitatively, a country is deemed to have a banking crisis if there is a bank run and/or sections of the banking system are merged, taken-over, or provided with large-scale government assistance. A sovereign default arises when a government fails to meet its obligations through either outright default or through debt rescheduling. The countries series represents the number of countries experiencing a crisis.

Figure 3.1 below shows the development of financial crises among our selected countries. The immediate post-war period entailed triplets of crises for many countries in the form of currency, inflation, and stock market crashes. But as economies began to recover from war the Bretton Woods system of fixed exchange rates and capital controls inaugurated an era of relative financial peace. Financial crises were comparatively rare events from the beginning of the 1950s to the beginning of the 1970s, the so-called Golden Era of Capitalism. But the unravelling of the Bretton Woods system in 1973 ushered in a period of global financial turbulence.

The countries series is particularly revealing in that it demonstrates the synchronicity of financial crises across countries. 1971 represented record year in terms of the low incidence of financial crises in the post-war period.¹⁸ But the sharp spike from 1971 to 1973 in the number of countries in crisis and the continuation of this trend

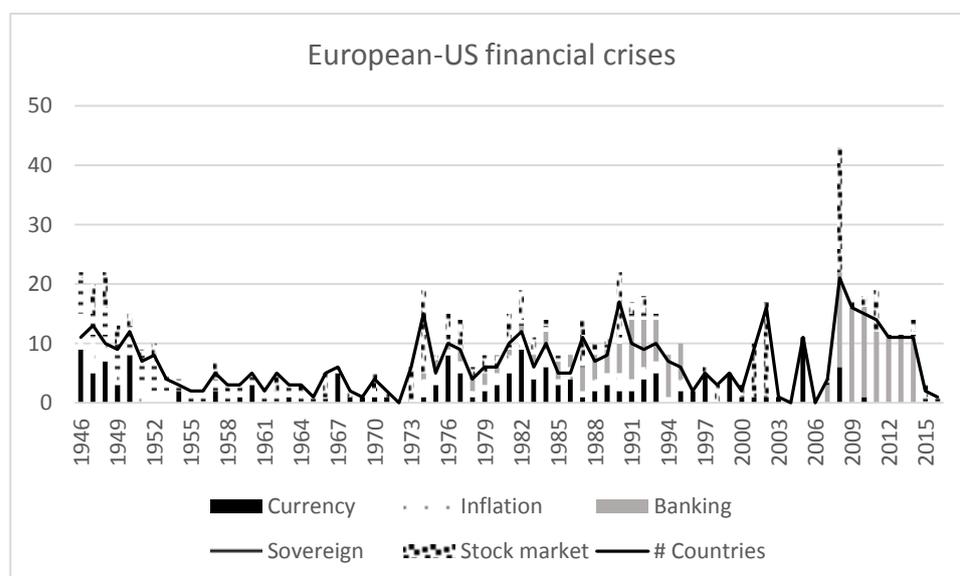


Figure 3-1: European-US financial crises.

Sources: Currency and inflation crises based on Reinhart and Rogoff (2011) to 2010, after which data is based on XE and Trading Economics. Remaining crises based on Behavioral Finance and Financial Stability database.

throughout point to the centrality of common, global factors in the propagation of fragility.

¹⁸ In fact, though not shown here, the limited historical record reveals such a period of extended tranquillity to be unprecedented in the history of advanced country capitalism (Reinhart and Rogoff, 2009: 252-254).

Those common factors of course can be traced to the growth of cross-border financial flows, which Table 3.1 below depicts for the period from 1970-89. Whereas cross-border financial flows were heavily restricted in the Bretton Woods era, the two decades or so after experienced large levels of cross-border financial transactions among the major European countries and the US. With the exception of Spain, which did not fully liberalise its capital account until the early 1990s¹⁹, the major category of capital flows were mediated by the banking system. Of the major European countries, where bank flows are more pronounced, these were dominated by bank loans in France and Germany. For instance, in France bank inflows from 1970-89 were 3.2 in that French or French-domiciled banks incurred net cross-border (mostly) loan liabilities of

	FDI in	FDI out	Portfolio in	Portfolio out	Bank in	Bank out	Loans & credits out	Loans & credits in
France	0.5	0.8	1.1	0.4	3.2	3.5	0.1	0.1
Germany	0.2	0.7	0.8	0.9	1.3	3.6	0.3	1.0
Italy	0.3	0.3	0.2	0.4	2.4	0.4	0.4	1.2
Spain	1.2	0.2	0.5	..	0.3	0.7	1.0	1.0
UK	1.6	2.6	2.4	2.2	8.5	6.1	0.3	1.4
US	0.6	0.5	1.0	0.2	1.4	1.2	0.1	0.2

Table 3-1: European country and US capital flows (% GDP): 1970-89

Sources: IMF BOPS. GDP data from World Bank WDI database. Deflated using CPI from Macroeconomic History and New Business Cycle Facts database.

Notes: Figures relate to total real capital flows for the period expressed as a proportion of total real GDP for the period. Bank flows denote the sum of currency and deposit transactions, and banks loans from the 'other' category of historic balance of payments data. Loans and credits is the residual of 'other' flows after banks flows have been extracted. FDI and portfolio flows are as per normal IMF BOPS classification. Figures for Spain and France are only available from 1975 and for Germany from 1971. Figures are rounded to the nearest 0.1% so that blank entries imply that capital flows were less than 0.05 % of GDP.

¹⁹ The leading countries vacillated in their use of capital controls through the 1970s. Full capital account liberalisation, for instance, can broadly be dated to 1974 in the US, 1979 in the UK, and 1981 in Germany (see Bakker and Chapple, 2002; Roy et al., 2006: 6).

3.2% of GDP. At the same time, French-based investors (be they banks or non-banks) incurred net claims on foreign banks amounting to 3.5% of French GDP from 1970-89.

The figures of 8.5% and 6.1% for the UK are particularly revealing. Unlike in France, Germany, and the US, bank flows in the UK were dominated by currency and deposit transactions. The large figures of 8.5% and 6.1% reflect London's status as an international banking centre generally, and its status as the centre of foreign exchange transactions in particular. That said, given the netting involved in capital flow statistics, the figures actually understate the true scale of trading. For instance, by 1985 daily turnover in the foreign exchange market in London was estimated to be \$45 billion (cited in Strange, 1986: 9), which, if scaled would equal many multiples of the figures presented in Table 1.

The growth of capital flows and international financial trading helps explain the pattern of fragility observable in Figure 3.1. Though some of the growth in capital flows and international currency trading can be attributed to the internationalisation of production and international diversification of securities portfolios (see Kregel, 1994), the vast majority of currency transactions were between banking entities, mostly in spot markets. As described by Andrews (1984), the liberalisation of exchange controls entailed large increases in exchange rate volatilities, and consequently opportunities for position taking through so-called 'in-and-out' spot trading. The post-Bretton Woods landscape in Europe was thus one of repeated attempts, and repeated failures to sustain coordination of exchange rates in the face of increasingly mobile cross-border capital and episodic inflation crises due to spikes in energy prices. German-led attempts to insulate European currencies from international financial turbulence through the so-called 'Snake-in-the-tunnel' (1972-73) and then the European Monetary System (EMS) (1979-92) succeeded at times, but ultimately proved illusory. As detailed by Toporowski (2009), and as is evident in Figure 3.1 above, currency crises were an endemic feature of European financial systems through the 1980s, and up to the collapse of the EMS in 1992.

It is worth pointing out that the emergence of hedge funds renders the emphasis on banks in the perpetuation of financial instability during this period somewhat anachronistic. It is true that the size of the hedge fund sector was relatively limited up until the 2000s. And hence, though accounting for a relatively high share of total funds

then, the size of macro ‘directional’ funds²⁰ associated with foreign exchange speculation was also small in the 1980s (see Lysandrou, 2017). But it is the ability of hedge funds to rapidly deploy capital as opportunities for gains arise that is one of their defining features compared to, say, the more regulated banking sector. For instance, it was George Soros’ Quantum Fund that famously broke the pound and dealt the death knell to the EMS in 1992.

Thus, the growth of financial trading constituted probably the major single reason for the heightened instability of the financial system in the post-Bretton Woods period. But it has not been the growth of trading per se that has upset the financial order – though there were several stock market bubbles – but the ability of financial capital to cross borders. Financial crises come in waves and thus have international underpinnings. Though banks have led the way, the emergence of nimble speculative players outside of, and unburdened by the conventional regulatory system adds an additional layer of complexity. This is all the more so today as such flows are regulated at the institutional as opposed to geographic level.

3.2.2 Late 1980s to the present: banking crises and the continuing importance of cross-border flows

Patterns of financial fragility began to change from the late 1980s on. Aside from the stock market crashes of the early 2000s, the most prominent feature of this change was an evolution from repeated currency and inflation crises to a system in which recurrent credit-based and capital flow-led banking crises have been the norm (see BIS, 2004; Reinhart and Rogoff, 2008). Figure 3.2 below depicts systemic banking crises in Europe and the US since 1970 based on Laeven and Valencia (2012; 2013). While a series exists for banking crises based on Reinhart and Rogoff’s methodology as per Figure 3.1, Laeven and Valencia’s series focuses on banking crises and contains more detail for our purposes. Laeven and Valencia describe a banking crisis to be systemic when there are both significant signs of financial distress in the banking system and when there are

²⁰ A global macro fund is one that places bets on the overall direction of an economy.

significant policy interventions in response to losses in the banking sector.²¹ The cost of a crisis is taken to be the sum of lost output (estimated based on deviation from trend), fiscal outlays to the banking sector, and the increase in public indebtedness (estimated from the difference between pre and post-crisis projections). The parenthesised ‘cl’ indicates whether the banking crisis was associated with non-performing loans greater than 20% of assets, and ‘cb’ indicates if there was a credit boom in the lead-up to the crisis.²² As with the cost of crisis, data are taken from Laeven and Valencia’s database. Additionally, we identify whether a banking crisis was associated with a boom in house prices a year or less prior to the start of a crisis based on Goodhart and Hofmann (2008).²³

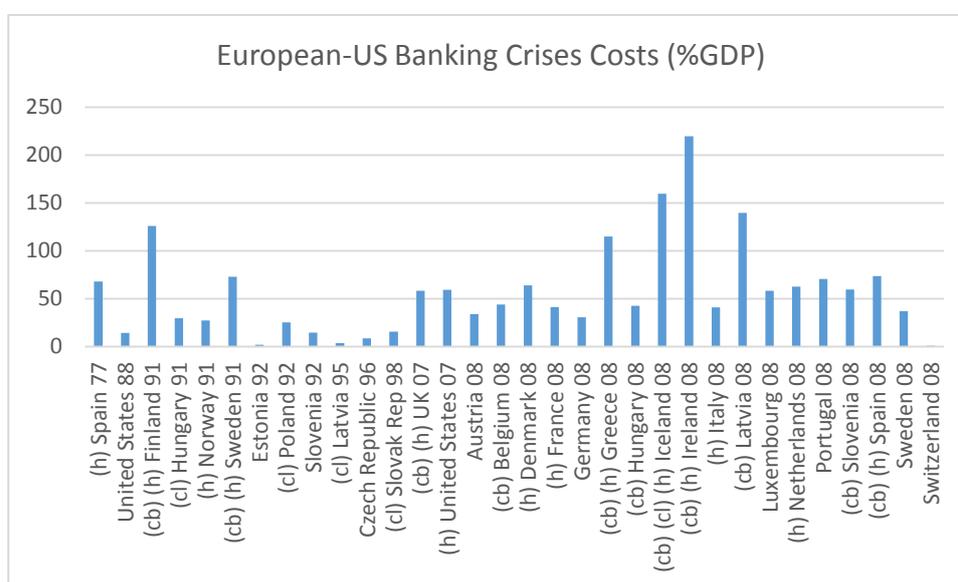


Figure 3-2: European-US banking crises costs.

Sources: House price data based on OECD Analytical House Price database. Otherwise data is from Laeven and Valencia’s Systemic Banking Crises database.

Notes: Data is patchier for Eastern/former Soviet block countries, especially for costs and house prices in the 1990s. Costs should therefore be interpreted as minimums during this period.

²¹ Signs of distress include bank runs, losses, and/or liquidations. Policy interventions are significant when three of the following six criteria are met: deposit freezes and/or bank holidays, significant bank nationalisations, bank restructuring gross costs of at least 3% of GDP, liquidity support of 5% or more to non-residents, significant guarantees in place, and asset purchases of at least 5% of GDP. Exceptions to the three of six criteria apply when closures, losses, or fiscal costs are particularly high (see Laeven and Valencia, 2013: 228-230).

²² Defined as a period in which the deviation of credit-to-GDP is greater than 1.5 times its historic standard deviation and its annual growth exceeds 10% of GDP, or its annual growth rate exceeds 20% of GDP.

²³ A house price boom is 12 consecutive quarters or more in which house prices deviate by greater than 5% from a Hodrick-Prescott smoothed trend (parameter = 100,000).

Consistent with Figure 3.1, we see that the frequency of banking crises in Europe and the US began to accelerate from the late 1980s on. The incidence of banking crises is heavily concentrated around the early 1990s and late 2000s with a smattering of crises in the mid-to-late 1990s as well. We see that 22 out of 32 banking crises entailed either a credit boom/large credit losses or a housing price boom. If we put aside the rather unique transitions of former communist countries to capitalism, the proportion increases to 18 out of 25. Of the banking crises with a total cost of over 50% of GDP 13 out of 15 had either a housing boom or major credit event, and 11 of them had house price booms. That is, housing and credit market dynamics have been deeply implicated in the most severe banking crises that have taken place in Europe and the US over the last number of decades.

There are, though, many distinctions to be made between the various types of credit and housing banking crises. For instance, Denmark experienced a boom in its housing market, a boom that the central bank at least considered to be a bubble (Arne Dam, 2011). When the crisis hit in Denmark, credit losses were not as severe as in other countries. Part of the reason lay with Denmark's welfare institutions, with unemployment rising less than in other countries and with high automatic stabilisers better able to sustain payments (Gyntelberg et al., 2012). Spain's two banking crises similarly point to difference. The first, associated with a housing boom, was not driven by a major credit boom or credit losses. Instead, liberalisation and deteriorating macroeconomic conditions have been implicated (BIS, 2004).²⁴ The 2008 boom was instead associated with a credit boom, large losses, and a housing bubble. In general we see that it is credit booms rather than large cross-sections of banking assets not performing that are associated with the worst crises, perhaps indicating the importance of concentration effects. That is, it is lending booms, especially into the property sector, that engender and coincide with large macroeconomic swings that have the greatest potential to inflict harm.

The above distinctions suggest inherent problems in identifying especially banking crises based on quantitative measures given the arbitrariness of cut-off points and the importance of contextual factors. In contradiction to Figure 3.2 the US S&L crisis of the 1980s was associated with large real estate losses whereas the French and

²⁴ As discussed in the previous chapter, mortgage lending did not begin its secular rise in Spain until the 1980s. For BIS (2004), though, the Spanish banking crisis was associated with a rapid expansion in lending. This suggests that the lending may have been concentrated in certain sectors, rather than a large, macro-level credit expansion. The UK small banks crisis is a similar phenomenon (ibid).

other crises were not. Banking losses among core-European countries, notably Germany and France, were associated more with trading losses from financial vehicle investments in US mortgage securities than classic credit losses. Other countries suffered on sovereign debt losses as the Eurozone crisis developed and the ECB refused to 'do what it takes'. Thus for many countries it was not collapse of the domestic housing market, but stresses in mortgage and asset markets elsewhere that precipitated losses.

Despite these qualifications it remains the case that whether imported from abroad and/or domestically-induced most of the major banking crises over the last number of decades have manifested themselves in credit and, particularly, housing markets. As with financial crises previously, Figure 3.2 reveals banking crises to be driven by common, international and/or regional factors. The clustering of crises in Scandinavia in the early 1990s, then in Eastern Europe, and finally the recent outburst of crises during the global crash are cases in point. Though governance failures at the state level have been a reality, a more causally powerful argument is that it is the failure of global and international institutions to regulate global and international financial dynamics that is the ultimate reason for the frequency of banking crises. But, as previously, for the early post-Bretton Woods era currency crises were most directly implicated, and hence currency-based financial trading, that is no longer the case. Financial trading now provides the liquid fuel, rather than being the centre of the fire.

In sum, the data presented is consistent with the findings of earlier research of advanced-country banking crises. For instance, the BIS (2004) in a study of the major banking crises up until then found that it had been credit and particularly real estate, as opposed to market losses that had been the main fracture point. While we analyse the role of proprietary trading more fully later on, our analysis suggests that this trend has continued for European countries and the US. A la Reinhart and Rogoff (2008) (and many others), the synchronic and episodic nature of crises indicates cross-border financial transactions have played a key, albeit indirect role. That is, (cross-border) financial transactions have been central in the provision of liquidity to banks as opposed to precipitating crises directly through position taking. In other words, whereas before the trading activities of (mostly) banks heightened the risk of currency crises, now it is bank-led credit and housing booms that pose the greatest threat. Such booms are increasingly funded through banks' securities issuance and other non-deposit sources, a perquisite for which is the existence of investors that trade and invest in those securities.

To further probe its systemic implications, the following section explores the nature of global financial trading in the current period.

3.2.3 Early 1990s to the present: The rise of institutional investor trading and its stability implications

That institutional investors are a major force in international financial flows is not, in itself, a controversial statement. That institutional investors are responsible for the secular increase in cross-border transactions that began in the early 1990s has, however, not been recognised. Table 3.2 below shows the development of capital flows, a measure of international financial trading, from the 1990s up until the beginning of the crisis. We can see a dramatic shift in the scale and composition of capital flows as compared to the previous period, both of which point to the growing importance of institutional investors. In terms of composition, whereas before it was bank-based transactions which was the largest category in all countries, that is no longer the case. With the major exception of the UK and the minor exception of Germany, portfolio flows – that is, cross border purchases and sales of equity and debt securities – is the largest category of capital flows. This is true to an even greater extent if we examine FDI flows, a major component of which is also purchases and sales of equities.²⁵ And it is institutional investors that are the largest holders of securities worldwide in general, and for advanced-country securities in particular (see Lysandrou, 2013).

	FDI in	FDI out	Portfolio in	Portfolio out	Bank in	Bank out	Loans/credits out	Loans/credits in
France	2.4	4.2	5.3	6.6	5.6	0.7	..	2.5
Germany	1.4	2.2	4.9	3.9	3.2	7.2	..	2.0
Italy	0.8	1.5	4.1	2.6	2.3	2.3	..	0.1
Spain	3.1	4.5	6.5	3.3	5.9	1.0	0.2	2.4
UK	3.7	5.3	7.8	4.8	15	13.5	..	0.8
US	1.4	1.5	4.3	1.3	2.1	1.0	..	0.6

Table 3-2: European country and US capital flows (% GDP): 1990-08

Sources: As per Table 1

Notes: Categories as per Table 1

²⁵ When a foreign entity purchases (or sells) more than 10% of a company's equity, it is deemed to be FDI. FDI, of course, also includes greenfield investment.

Reference to mere capital flows, however, does not fully capture the transformation in the scale of international financial transactions, and the role of institutional investors therein. Recall that capital flows, including so-called gross inflows and gross outflows, are aggregated measures of international financial transactions. More formally, the relationships is as follows:

$$\text{In} = \text{PD}_f - \text{SD}_f \quad (3-1)$$

where In , PD_f , and SD_f denote (so-called) gross capital inflows, purchases of domestic assets by foreign agents, and sales of domestic assets by foreigners. Similarly, the following holds:

$$\text{Out} = \text{PF}_d - \text{SF}_d \quad (3-2)$$

where Out , PF_d , and SF_d denote ‘gross’ capital outflows, purchases of foreign assets by domestic agents, and sales of foreign assets by domestic agents. Finally, as is well-known:

$$\text{Net} = \text{In} - \text{Out} \quad (3-3)$$

where Net denotes net capital flows, or the current account balance. International purchases and sales/trading of securities, denoted by PD_f , SD_f , PF_d , and SF_d is therefore not synonymous with capital flows, including gross capital flows. The vast majority of countries only record gross capital flows and not the total trading in securities that underpins it. Germany (and the US), fortunately, is an exception. Table 3.3a and 3.3b develops the point further in relation to international debt transactions.

	PD_f	SD_f	$PD_f - SD_f$	Gross inflows (IMF)
1992	57.7	48.5	9.2	3.8
2000	66.0	62.3	3.5	3.5
2008	69.2	69.2	0.0	2.6

Table 3-3a: International debt trading and capital inflows (%GDP)

	PF_d	SF_d	$PF_d - SF_d$	Gross outflows (IMF)
1992	30.5	30.0	0.5	0.2
2000	66.5	63.3	3.2	3.3
2008	67.8	67.4	0.4	0.7

Table 3.3b: International debt trading and capital outflows (%GDP)

Sources: International debt trading statistics taken from the Bundesbank. Capital flows data taken from IMF BOPs.

As can be seen from the table, overall purchases and sales of securities/trading volume, by both domestic and foreign agents dwarf the respective capital flow statistics, sometimes by two orders of magnitude. $PD_f - SD_f$ should equal gross inflows and $PF_d - SF_d$ should equal outflows, but owing to the different data sources some discrepancies arise in relation to IMF statistics. Note also that over the series a large increase in international trading volume relative to GDP is observable both by domestic agents investing in Germany and by German agents investing in foreign securities. This coincides with the large increase in capital flows observed since the beginning of the 1990s, as discussed previously. Thus, what has driven international trading volume has driven the expansion in capital flows.²⁶

²⁶ Of course, this need not be the case. It is possible that capital inflows could increase without any overall increase in trading volume. For instance, if foreign purchases of domestic securities stayed the same and sales decreased.

Standard explanations of capital flows based on portfolio balancing, or financial integration and development provide little guidance as to why capital flows have grown so precipitously since the 1990s (see, for instance, DeSantis and Gerard, 2009; Coeurdacier and Guibaud, 2011; Hau and Rey, 2008). As discussed more in the following chapter, while portfolio balancing explains some of the expansion in capital flows within the Eurozone due to the advent of the euro, the proposition flounders once it is observed that the US witnessed a comparable increase in cross-border flows. Similar comments can be made with regard to financial openness and development. While European countries and the US opened up to external flows and developed their capital markets at different times, as we shall see, the surge in capital flows and international financial trading began in the 1990s. Modern literature on cross-border index tracking by funds is much closer to the mark (for instance, Didier et al., 2013), but has said little about the timing and expansion of flows.

The subject can be broached, though, through examining the extent to which international trading volume, which underpin capital flows, mirror the expansion in domestic trading volume and turnover, which has been studied. As described by Grahl and Lysandrou (2006), financial markets of advanced countries experienced a steady increase in trading volume from the mid-1990s on. Within bond and equity markets the growth continued up to the mid-2000s, after which it accelerated in equity markets. The initial growth in equity volume was attributable to large-volume block trades in liquid, high-capitalisation, well-known stocks. In bond markets the preponderance of trading has been similarly concentrated in the most liquid segment, on-the-run treasuries. As argued by Grahl and Lysandrou, and as confirmed by asset manager surveys and industry reports (see, for instance, BIS, 2003; EDHEC, 2008; Laipply and Woida, 2011), the reason for doing so is that trading the most liquid segment is the most cost-effective means of abiding by investment mandates and tracking benchmarks. As asset management grew and catered to an increasing mass of households in the 1990s, a need arose to professionalise and standardise the sector. For equity managers this means minimisation of tracking errors whereas for fixed income managers this also means regular immunisation of portfolios.²⁷

²⁷ Tracking error measures how closely a portfolio follows an index. It is most commonly measured as the standard deviation of the difference between portfolio and index returns. Immunisation refers to how a portfolio hedges interest rate risk through, for instance, matching the duration of assets and liabilities.

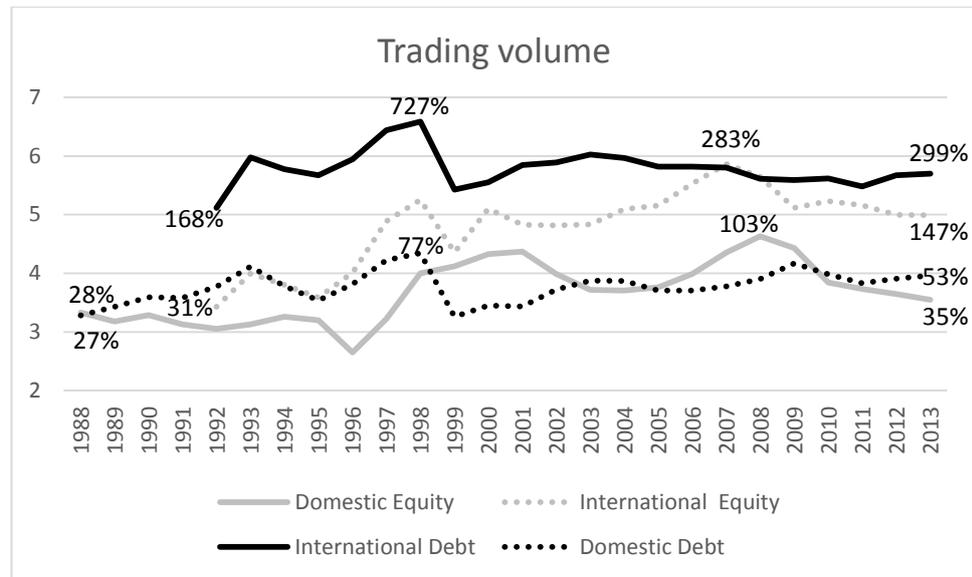


Figure 3-3: Natural log of trading volume as a proportion of GDP in Germany.

Sources: International equity and debt, and domestic debt volume taken from Bundesbank database. Domestic equity volume based on World Bank Global Financial Development database. GDP from WDI.

Notes: Starting, maximum, and end points are shown in non-log format. Domestic equity volume appears to be based on domestic exchanges. Unclear, but it may include some foreign agents and non-domestic asset transactions. If the domestic equity series included a large component of international then the former should never be greater than the latter, which is not the case.

Figure 3.3 below shows the development of securities trading volume as a share of GDP across domestic and international markets in Germany. International trading volume is taken here to be the sum total of purchases and sales of domestic and foreign assets by foreign and domestic agents respectively ($PD_f + SD_f + PF_d + SF_d$). A natural log scale is used because of the well-known significantly higher turnover in international trading and for comparability of different series of somewhat different magnitudes on a single scale. As is apparent, the four series display marked similarities in their development across time. We see that in terms of timing, the growth of domestic equity is most similar to international equity volume, and domestic debt volume is most similar to international debt volume. But in terms of the magnitude of the growth, domestic equity is most similar to domestic debt volume, and international equity volume is most similar to international debt volume. A plausible explanation for the

higher volume in international securities, which has much puzzled the economics profession (Tesar and Werner, 1995; Warnock, 2002; Hnatkowska, 2010), is that international holdings are more likely to be institutionally held whereas retail investors account for a larger domestic share. Like domestic trading, Didier et al. (2013) observe (to their surprise) that trading in international equities is concentrated in a relatively small number of securities. Despite the much larger pool of investable assets available to global mutual funds, for instance, the number of stocks cross-border funds invest in is no higher than a specialised fund. Moreover, the composition of stocks changes little even as the money entering the fund rises over time (*ibid.*).

International debt trading shows a quantitatively similar trajectory to equity trading, though levels off in the 2000s. That is to say, while the absolute increase in percentage point trading volume was much greater in international debt than domestic debt markets, the proportionate increase was similar. These trends are strongly indicative that the growth in international trading volume has been driven by the same forces that drove the growth in domestic volume, and that those forces lie in the trading needs of institutional investors.

It could be argued that the growth in institutional investor-driven international trading volume is not a definitive explanation of the expansion of capital flows. For one, an expansion of international trading need not necessarily translate into an increase in capital flows if, in the case of inflows, for instance, an increase in foreigners' purchases of domestic assets is matched by foreigners' sales of domestic assets. Conversely, an increase in measured capital flows is in principle possible without any increase in volume if purchases, for example (of domestic assets by foreigners in the case of inflows), remain constant and sales decrease. Moreover, the expansion of trading volume could be due to a growth in securities outstanding, rather than more intensive trading of existing assets.

This, however, is not the case. Figure 3.4 below shows the trajectory of German portfolio equity and portfolio debt inflows alongside their respective international turnovers. In both cases turnover expanded significantly meaning that the increase in international trading volume was not merely due to the growth of capital markets, but also due to more intensive trading of existing securities. As can be seen, equity inflows began to expand in the mid-1990s, after which they fluctuated widely with successive busts and booms of equity markets. The initial expansion, though, was accompanied by

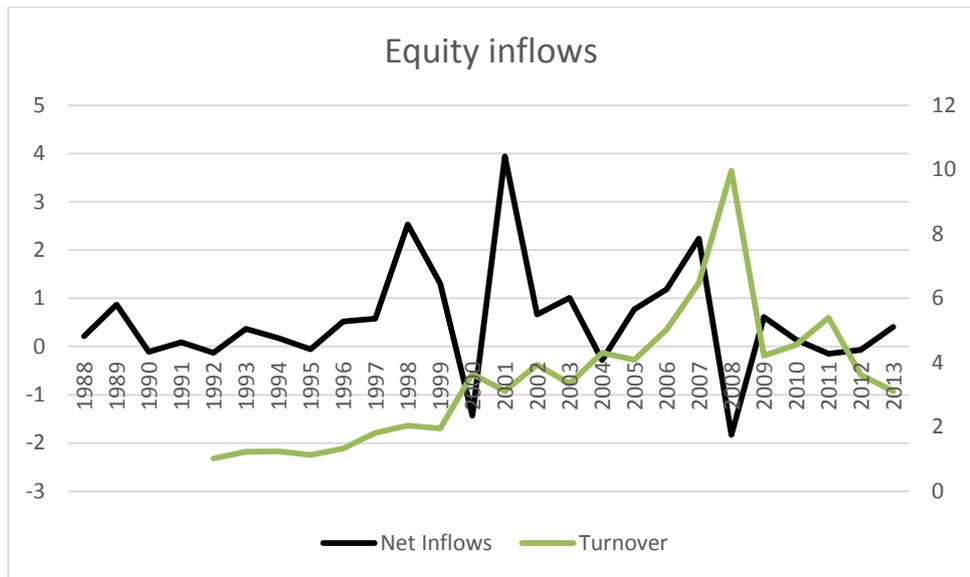


Figure 3-4a: Germany equity inflows and international turnover of equity (% GDP).

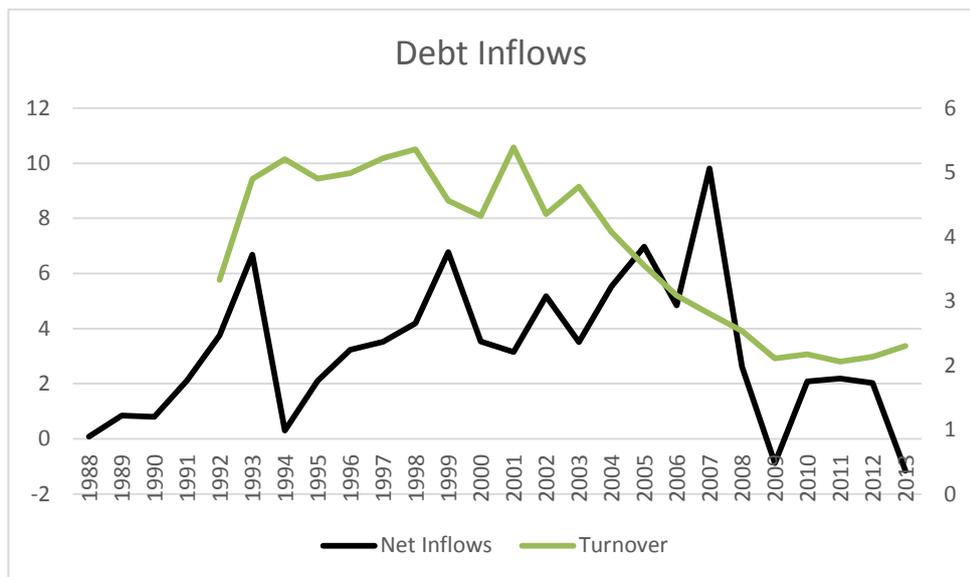


Figure 3.4b. Germany debt inflows and international turnover of debt (% GDP)

Sources: International trading volume as per Figure 3.3. Stocks of international securities from IMF BOP data on international investment positions. Capital flows as per Table 3.1.

Notes: Capital flows are measured on the left scale. Turnover measured on the right scale.

a gradual increase in international turnover. The correlation between the increase in capital inflows and international turnover shows the expansion of the former has been driven by the latter, which rules out the theoretical possibility above that the increase in

capital flows may have occurred without an increase in trading volume. During the 2000s the relationship between international turnover and trading on the one hand, and capital flows on the other becomes more unstable. The most plausible explanation is that the expansion of international equity trading in this period was driven by the emergence of hedge funds and high-frequency traders which buy and sell rapidly, but do not take sustained positions in markets. In their presence, turnover and trading volume are likely to be poor guides to measured changes in capital flows.

In the case of debt flows the relationship is more stable. Although the turnover series does not date back far enough to observe the beginning of the growth of inflows, it is apparent that the sharp increase in debt inflows at the beginning of the 1990s coincided with a sharp increase in trading volume relative to the stock of debt outstanding. Turnover then declined sharply in the 2000s. As will be discussed more fully in the following chapter, investors during this period began to shift towards corporate financial debt and securitised instruments relative to scarce and low-yielding government debt. Whereas the latter is traded intensively as a cost-effective means of abiding by investment mandates, the former are infrequently-traded, illiquid instruments that are associated more with yield-based strategies. Thus, while Germany was not a production centre of securitisation, the decline in turnover is consistent with private debt inflows substituting for public inflows during the 2000s. The fall in turnover was halted post-crisis, perhaps as German sovereign debt became a safe-haven asset.

The graduation from repeated currency crises to persistent credit and housing-led banking crises becomes more readily apparent in this light. For the rise of global institutional investors necessitates a supply of safe, long-term assets to store value and match assets with liabilities. And as deposits migrate from the banking system to institutionalised savings funds, the former becomes structurally indebted to latter. As we show in the next chapter, in an environment of scarce and low-yielding government debt investors will seek yield in close alternatives such as AAA-rated securitised debt instruments or bank bonds. In so doing, a housing bubble may be stoked. Banks belonging to countries which, for historical and institutional reasons, utilise longer-term capital market instruments as funding may become especially susceptible.

That very scarcity of government instruments also makes currency crises less likely. For if investors have nowhere else to go, they have little choice but to park their

pools of cash in whatever US government and, to a lesser extent, German government debt is available. As argued by Kaltenbrunner and Lysandrou (2016) demand from institutional investors is among the major reasons for why the US can run persistent balance of payments and budget deficits without incurring the threat of an attack on its currency. With the advent of the euro, the Eurozone as a whole is similarly insulated from currency crises. Though currently not rivalling the dollar, the growth of Eurozone capital markets implies that its securities are increasingly held for safety and stores of value for global investors. Thus, the growth of institutional-led international portfolio trading has significantly altered the balance of financial stability through a demand for safe assets. And the advent of the euro implies smaller countries can piggyback on that demand as they become linked to a German-led currency.

In sum, financial trading has played a central role in the propagation of systemic fragility, a role that has changed over time. The liberalisation of cross-border financial transactions in the post-Bretton Woods era inaugurated the breakdown of global financial peace. The ability of financial flows to rapidly traverse space and national boundaries led to repeated currency crises, which also magnified extant inflationary pressures in the 1970s and 1980s. Patterns of financial fragility began to shift in the late 1980s and early 1990s from currency to housing and credit-based banking crises. The large increase in cross-border financial transactions has magnified this shift through the provision of funding to banks. That this increase in international trading and hence capital flows has been driven by institutional investors has solidified the shift from currency to banking crises in an additional sense; not only positively through the provision of liquidity to banks, but also by diminishing the likelihood of currency crashes. The identification of institutional investors in the growth of trading has crucial implications for how we conceive of proprietary trading among banks.

3.3 Bank and proprietary trading

This section examines and explores the growth of trading activities among large banking groups in light of recent initiatives to curb proprietary trading. It argues the (sometimes tacit) assumption that investment bank trading has grown in aggregate as a result of a desire to take on more risk represents a fallacy. Rather than being a self-aggrandising dependent through which greater instability is engendered by ever more risky business models, the growth in trading income among major banking groups

reflects the wider growth in institutional-led financial transactions. The major risk factors in trading losses have, to date, originated in credit markets. At the systemic level, it has been more credit-based property expansions than it has been positioning in assets through financial trading that have been the immediate cause of instability. Within national borders geography continues to play a key role.

3.3.1 Bank and proprietary trading

As we saw in the introduction, the level of proprietary trading that banks currently engage in is often seen as part of a broader pattern of a liberalised, risk-taking financial sector. Whatever the risks of proprietary trading may be, few would argue that it does not overlap with market making, and the boundaries between the two are often blurry. When dealers make markets they are often required to hold inventories of illiquid securities, sometimes for quite extended periods. This necessarily entails the assumption of risk. And it is that access to large inventories of securities that also provides opportunities for more discretionary risk-taking. But as we saw in the previous chapter, whether we invoke financial deregulation or disintermediation, existing research on the growth of investment banking activities leaves something to be desired.

If, on the contrary, we view investment banking as responding to pressures external to the financial system rather than transforming itself from within, a different picture emerges. We may then view the level of market making and proprietary trading as originating in processes which are relatively external to the banking system. If such a picture is correct, then we would expect to see bank trading income growth mirror the overall growth in financial trading in the economy. Figure 3.5 below shows such a picture using OECD bank ‘net profits on financial operations’ as a proxy.²⁸ As we saw, the institutional-led growth in financial trading began in the early-to-mid 1990s. As per the figure, for majority of countries bank trading income indeed begins a secular increase from the early 1990s on. The series is most striking in the cases of France and Switzerland, a major banking centre (shown also because of an absence of data for the UK). Up to the early-1990s bank trading income was relatively modest, after which it began a secular increase. A similar process is observable in Spain, though the series is more erratic. Again, an expansion of trading income from the early 1990s is suggested

²⁸ This understates true profits from financial trading as it excludes large components of interest income on securities such as those relating to hedging (for example, interest rate swaps) and interbank claims (see, OECD, 2011).

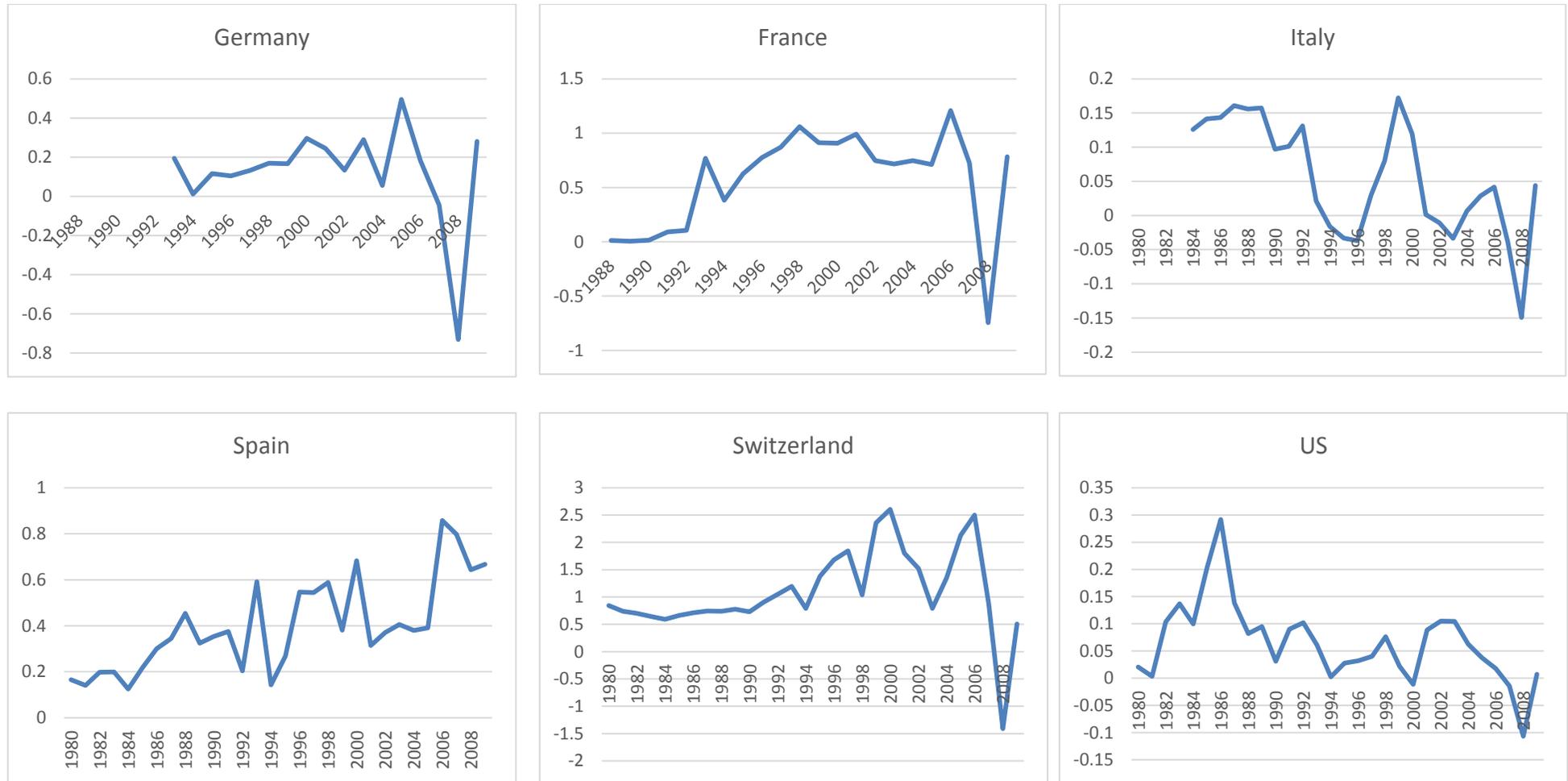


Figure 3-5: Evolution of bank trading income (%GDP).

Sources: Bank income taken from Bank Profitability statistics, OECD. GDP taken from OECD national accounts.

in Germany, but not enough data exists to be definitive. The downturn at the beginning of the series in Germany is observable in the other series and reflects the recession of the early 1990s.

In Italy, trading income expanded rapidly from the mid-1990s but merely returned to levels that had prevailed in the 1980s. The major apparent exception to the trend, though, is the United States. Here we see a progressive decline in trading income from a peak value of the 1980s, to some rebound from the mid-1990s onwards, to large losses once the global financial crisis began. One possible explanation is that US banks were able to reap large gains during the 1980s which they were never able to recover. US banks funnelled large amounts of capital to developing countries during this period. Fortunately, Greenwood and Scharfstein (2013) provide a detailed breakdown of the components of financial revenue in the US. They show that while general trading revenue growth in the US was modest in the 1990s, 'other broker-dealer activities' revenues began to accelerate rapidly from 1993 on. They venture that the growth of this category to be fixed income market making and derivatives trading. Thus, whether net trading incomes are compressed in the US due to higher costs, or whether OECD data lack granularity, trading revenue among large dealer banks in the US began to accelerate, as in other countries, at precisely the same time as the overall growth in institutional financial trading.

The precise mechanisms through which banks earn profits from trading are tightly guarded and remain rather opaque. As mentioned, the initial expansion in trading volume was driven by intensive trading of high-capitalisation stocks in equity markets and by liquid, on-the-run treasuries in fixed income markets. The prices of both sets of securities are dependent on publicly available knowledge; company information in the case of equities and macroeconomic news in the case of bonds. The potential for trading gains based on superior knowledge is accordingly limited. Certainly the greater volume of capital market transactions would imply, *ceteris paribus*, greater trading revenues through market making operations. But the trend has been one of falling bid-ask spreads in both equity and bond markets and progressively lower profits from market making (Jones 2002; Casey and Lanoo, 2005: 42-44). SIFMA data on US dealer

banks indeed shows that the bulk of trading revenues arises from non-market making categories, namely proprietary debt trading and derivatives trading.²⁹

The astronomical growth of derivatives markets and the central role played by major banks in intermediating such markets may point to the primacy of these institutions in an ever-expanding global casino. Such a view is misleading according to Grahl and Lysandrou (2003). For the massive growth in financial trading is but a huge growth in transactions. From another perspective, the ratio of deposits-to-financial securities has shrunk and, what is more, the turnover on those instruments has expanded. This, they argue, has led to the massive growth of money markets in which money is recycled at greater and greater speeds to support the growth of financial trading. A key money market instrument is the FX swap, the largest derivative market in terms of trading volume. Indeed as they point out, FX swaps cannot be used to take FX positions, which puts paid to the idea that the growth in FX trading volume represents speculation. Again, data compiled by Greenwood and Scharfstein (2013) show that short-term money market instruments began their secular expansion in the mid-1990s.

How then do banking groups earn their income from trading? A major channel is through the information that dealers acquire from clients on the general trading environment. As Gravelle (2000: 6) explains, major dealer banks are unlikely to have superior information on the fundamental value of fungible, highly-traded securities. Through their ability to straddle several markets simultaneously and the brokerage and market making facilities they provide to clients, major dealer banks do, however, have information on the order flow and trading propensities of investors. Thus, it is less the underlying fundamental value of securities they infer, but the intervening values and how pricing relationships might be temporarily bumped off course by prevailing order flow. Generally, the fact that the large increase in demand for securities has not been met by a commensurate increase in supply, as indicated by the increase in turnover, suggests the potential for price disruptions to be high. This is ever more the case when one considers the concentrated nature of financial trading, driven as it has been by institutional investor large block and jumbo orders.

²⁹ Among US broker-dealers while commissions from exchange traded equities were high (7.7% of total revenue in 2001) but now declining (5.6% in 2010), market making during the same period went from just 1.5% of total revenue and 12.4% of trading revenue to 0.3% of total and 3.3% of trading revenue. Debt trading went from 60% in 2001 to 24.0% in 2010 of trading revenue whereas 'other' trading went from 27.7% to 69.8% (SIFMA, 2011).

Again, the trajectory of the derivatives market suggests such a trend. The massive expansion in money market flows brought about by the growth in institutional transactions implies a concomitant need for, and growth in, hedging to manage the risk of those flows. The interest rate swap market is by far the largest derivative market in terms of the notional value of transactions outstanding, and the second largest after FX swaps in terms of daily turnover. The interest rate swap market expanded rapidly in the early 1990s, with the growth in the market increasing rapidly from about 1992 onwards among Europe countries, and indeed globally (ISDA, 2006). This coincides precisely with the expansion of money markets and of capital market trading generally. But it is difficult to attribute its continued growth and modern size to simple hedging. For anywhere between one third to four fifths of interest rate derivatives volume comprises so-called package trades (Brush, 2017). These are trades in which interest rate swaps and derivatives are overlain with two or more (and sometimes as many 20) contracts (such as government bonds or futures) and are used to hedge and speculate on interest rates. The access to order flow information and large computing power that catalogues correlations and scans for disruptions in pricing relationships positions dealer banks to capitalise on trading opportunities. But while it may be the case that even a majority of trading volume in interest rate swaps constitutes position-taking, the timing of the growth of the market indicates it is not inordinately large relative to the scale of capital market transactions. That is, bank proprietary and dealing income are dependent on the growth of institutional trading.

Figure 3.6 below shows the breakdown of trading income in fixed income, currency, and commodities (FICC) and equity markets among major European and US investment banks. Not surprisingly given the size of swaps and related interest rate markets, G-10 rates is the largest single source of trading income. Another thing to note is that so-called FICC trading on the left of the figure is considerably greater than equity based trading income represented on the right. This might seem curious given that revenues from equities trading was reportedly twice as large as FICC as recently as 2000, as reported by the financial press (The Economist, 2013). And that since then debt trading volume growth has stagnated relative to equity trading volume, which has continued to grow. However, the greater transparency of equity markets has two consequences (Gravelle, 2000: 5-7). One is that transactions are consummated at the best available price, which is not necessarily the case in decentralised fixed income markets. Given that market making income has been a declining source of revenue

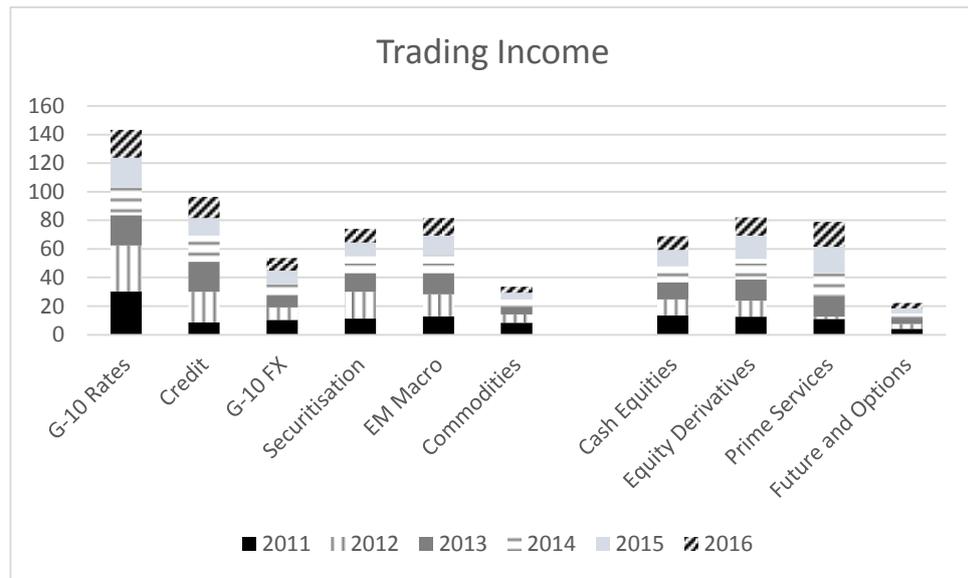


Figure 3-6: Trading income of major US-European investment banks (\$ billions).

Source: Coalition (2017)

Notes: The 12 largest investment banks are included in the series.

(though commission income in equities remains high), the more convincing argument is that the greater transparency in equity prices and order flows has traditionally made it more difficult to profit from market information.

Of course, the precise channels remain opaque and we cannot push the point too far. There are clearly a myriad of ways in which banks earn trading income and not all of them can be reduced to profiting from order information. Securitised products, which are lightly traded and illiquid, are a case in point. During the 2000s securitisation markets grew enormously. As detailed more in the following chapter, European banks were able to avail of regulatory loopholes and earn carry trade profits by borrowing low in US money markets and investing in higher yielding securitised instruments. In particular, no regulatory capital needed to be held against securitised products if they were held in off-balance sheet vehicles. US banks, namely Goldman Sachs, infamously shorted the market as it sold products on to investors. Post-crisis European banks then availed of the ‘greatest carry trade ever’ by positioning in nominally risk-free, but high-yielding peripheral government debt. Investment banking entities are thus able to exploit opportunities for trading gains as they arise through a variety of means

including, but not limited to regulatory arbitrage, carry trading, arbitrage, and order information. It is worth pointing out, though, that the major source of demand for securitised products during the 2000s originated from institutional investors, and hedge funds in the case of structured finance (that is CDOs). The point then remains that the expansion in bank trading income has only grown since the expansion in capital market volume.

Finally, as with cross-border flows many of the proprietary and trading functions previously under the purview of the banking sector are now also or, in many cases, primarily carried out by smaller, more speculative entities. These smaller players contribute significantly to equity trading volume and revenues in investment banking. Their actions are shaped by capital market trading. Hedge funds in particular have experienced massive growth since 2000, and, along with more risk averse mutual and other institutional funds, are major players in equity cash and derivatives markets. The large prime services revenue in Figure 3.6 is largely prime brokerage services to hedge funds. Capital injections from high net worth individuals, the traditional base, along with corporate cash pools and endowments have contributed significantly to hedge fund growth since 2000. The largest change has come from institutional sources, and as of 2010 institutional money comprised 47% of hedge fund capital (Stowell, 2013: 226).

In terms of market making and trading, high frequency trading (HFT) firms, which overlap with hedge funds, have garnered significant attention. As noted previously, whereas trading volume levelled off in debt markets in the 2000s, it continued to expand in equity markets, and has also expanded recently in spot FX markets. HFT firms and hedge funds and, to a lesser extent, banks are largely responsible for this growth.³⁰ Anywhere between 40 to 60% of trading volume in equity markets (Finance Watch, 2012) and 30% of spot FX markets (BIS, 2011a) is accounted for by HFT. Technological advances have enabled nimble investors to profit from first access to market information through geographical proximity to trading venues (see Zook and Grote, 2016). While many of the trading techniques associated with HFT are not new (Gomber et al., 2011), the ability to extract handsome revenues from 'lit' equity and electronic spot markets is. This, in turn, has led to a game of

³⁰ As well as being widely acknowledged in the literature, it is evident in that the increase in cross-border equity trading did not translate into an expansion in equity capital flows in the 2000s. High frequency traders are known for high-volume, intra-day positions which are closed at the end of the day. Because no net position is sustained in an asset, the cross-border transaction does not give rise to a measured capital flow.

cat-and-mouse with institutional players in particular, who resort to a variety of means to shield their large orders through ‘slicing and dicing’, use of parallel markets which only large players have access to, dark pools, and so on. As the BIS notes, HFT firms rely on dealing banks to take large positions and “The reverse is not true: dealing banks do not need HFT firms to conduct their business” (BIS, 2011a: 9). As we have seen, the growth in bank trading income has ultimately depended on the growth of institutional-led capital market trading.

In sum, prevailing accounts of bank trading that centre on risk-based business models (or disintermediation) fail to account for the timing of its development. Bank trading income and the derivatives and money markets that surround it began to expand in the early 1990s as capital markets grew. Thus, the ability of banks and other entities to extract proprietary trading incomes must ultimately be seen in terms of trends in capital markets, and the investors that shape them. The following section examines the systemic implications of bank trading and compares it to the growth of property lending.

3.3.2 Bank trading: Comparative systemic implications

There are multiple channels through which bank trading incomes may pose systemic implications. Bank trading is often viewed as part of non-traditional income, which is more volatile than interest income, as noted previously (see De Young and Rice, 2004). Lending, at least traditionally, has required and fostered relatively stable relationships between banks and their customers and accordingly entails high switching costs. Fee and trading-based transactions in contrast are often not relationship-based. Especially pre-crisis, certain trading activities required little regulatory capital, or had capital regulations that could be easily circumvented. They could therefore be funded by debt to greater extent, which increases financial leverage and hence earnings volatility.

Adrian and Shin (2008; 2010) show pro-cyclical leverage to be more pronounced among broker dealers and investment banks than for commercial banks and holding companies. Part of the greater resort to leverage among dealers is no doubt due to the fact that margins in making markets are thin, so leverage is needed to compensate. But more importantly, it is because investment and dealer banks primarily hold financial assets on the balance sheet which are marked-to-market that they are susceptible to

pro-cyclicality and fluctuations in leverage use. Asset price changes translate into changes in book equity values and hence leverage. Investment banks then adjust their leverage by expanding balance sheets so as to maintain equity levels proportional to the VaR of their assets (*ibid.*). Thus, an increase in financial asset prices tends to increase leverage among investment banks and broker dealers, which can magnify the original increase asset values. For commercial banks loans comprise the lion's share of assets, which are priced at book value. This dampens the pro-cyclicality of leverage in traditional intermediation.

The use of short-term funding instruments adds an additional layer of instability through maturity transformation. Dealers and investment banks naturally gravitate towards shorter-term market liabilities by necessity of not having access to deposit funding. Of course, this is mitigated to the extent to which an investment and/or dealer bank also engages in commercial banking activities. But as financial assets are marked-to-market, nimble funds that can keep up with price swings are needed which necessitates the use of various short-term instruments, especially repos. When things go south and asset prices decline, debts cannot easily be rolled over and margin calls may be triggered. This can lead to fire sales of assets, in turn depressing prices. This may lead to further margin calls and need for funding, and so on. Rapid and destabilising price spirals are a structural feature of financial market-mediated banking.

That said, it is worth asking to what extent bank trading of financial assets is likely to lead to a systemic chain of events, and to what extent such a chain of events is an outcome of other systemic processes. Aside from the recent financial crisis which we discuss shortly, bank proprietary trading has not been responsible for the series of financial crises and systemic events that have plagued the financial system over the last number of decades. As discussed, the BIS in its 2004 review of major advanced-country banking crises was explicit in that it was credit, as opposed to market risk that was responsible for major crashes up until then (BIS, 2004). Our analysis also showed the importance of credit losses in banking crises has continued. Contrary to what is sometimes assumed, investment banks are not in the habit of sustaining large open or unhedged trading positions.³¹ To be sure, the frequency and severity of bank (and other institution) trading losses has grown since the 1990s. These losses have often involved

³¹ This can be seen in the size of the swaps market and timing of its growth as discussed. It is also apparent from the fact that one financial transaction gives rise to a series of offsetting transactions, a point made by Goodhart (2013). See Mende and Menkhoff (2003) for empirical evidence on the unwillingness of dealers to sustain open positions in FX.

large ‘directional’ bets or highly leveraged positions on asset relationships using derivatives (see Laurent, 2015). Of the 50 largest inflation-adjusted trading losses listed by *Wikipedia*, 24 of the top 25 have occurred since 1993. Three of the top five have been among the major banking groups listed in Figure 3.6, with the remaining two being hedge fund losses. Certain types of trading strategies are high-risk propositions and as such are perhaps more potent than a given amount of lending. But almost without exception, the larger financial system has not been threatened by trading losses. One exception was the losses incurred by Long-Term Capital Management, a hedge fund, in which the Fed organised a private bailout (Laurent, 2015). As pointed out by Persaud and others (2015: 33), a few people doing things they do or do not believe to be risky is unlikely to threaten the financial system. However, many people doing things they believe to be safe but are in fact risky is the recipe for disaster. Insofar as proprietary trading involves complex and ostensibly risky positioning, it is likely to be strictly hedged and/or limited to an individual institution. Paradoxically, then, it has less been complex proprietary and/or derivatives-based trading, but the more mundane credit losses that have been responsible for the heightened instability of the financial system among advanced countries.

Table 3.4 below develops the point further. It displays the balance sheet structure of banks currently or previously labelled as SIFIs by *Bankscope*, and also consolidated national balance sheets for all banks (inside parentheses). Both trading assets and loans are given as a proportion of total assets. What we see is that loans continue to be the major asset class for the banking system as a whole ranging from 59.5-70.2% of total assets in 2016, down somewhat from 2001. For the four countries for which data is available in both periods, we see that on average loans declined somewhat from 70.6% in 2001 to 65.7% of total assets in 2016. Trading assets account for between 18.3-37.7% of total bank assets in 2016, which constituted an increase from 2001. For the four countries, we see that average trading assets remained remarkably stable over the two periods (21.1-21.9% in 2016). Thus, at the system-wide level loans continue to be the most important asset class.

For SIFIs, loans went from 23-56.4% of total assets in 2001 to 29-59.1% in 2016, and the average figure across countries stayed more or less the same as well (37.2% in 2001 to 38.8% in 2016). SIFI trading assets ranged between 15.8-53.1% in 2001 to between 19.9-45.3% in 2016. The average figure for trading assets also stayed more or

	Trading 2016	Loans 2016	Trading 2001	Loans 2001
France	34.8 (18.3)	29.2 (64.8)	25.1 (23.8)	23.0 (65.3)
Germany	26.4 (18.3)	30.0 (70.2)	48.3 (22.2)	37.9 (74.8)
Italy	36.7 (25.5)	45.4 (64.6)	15.8 (17.6)	56.4 (70.0)
Spain	19.9 (25.4)	58.1 (63.2)	26.4 (20.7)	52.0 (72.3)
UK	39.9 (37.7)	36.0 (59.5)	37.7	24.7
US	45.3	34.5	53.1	29.0

Table 3-4: Bank balance sheet structures: Loans and trading assets (% total assets).

Sources: Individual bank data taken from Thompson database. National level data based on ECB and Bank of England.

Notes: Figures outside parentheses based on aggregate balance sheets of banks that have at some point been listed as global systemically important financial institution. Based on Ayadi et al. (2016) trading assets are taken to be the residual of the balance sheet once loans and cash are taken out. We also remove fixed assets such as goodwill, buildings etc. ECB statistics do not separate cash/deposits from derivatives and other assets so national data may understate bank holdings of trading assets, but not substantively so. Figures in parentheses are aggregate national level data of monetary financial institutions.

less the same for SIFIs (from 34.4% in 2001 to 33.8% in 2016). As with the consolidated national level data, these trends do not show the intervening years, though the overall picture does not change substantively.³² Thus, even for major global banking groups loans, on average, constitute an asset class equal in importance to trading assets.

For SIFIs and banks in general, it also must be acknowledged that trading incomes are substantially more diversified than loan income. As we saw in Figure 3.6 there were a full 10 categories of trading incomes from fixed income to currencies to equities to commodities. Jorion (2007: 52) shows that trading revenues across these four asset classes among dealer banks ‘behave relatively independently of each other’, though fixed income and currencies display significant co-movement. Loan markets vary from country but, as we saw in the previous chapter, for most advanced countries mortgage lending now comprises the major loan class for banks. For historical and

³² At the height of the global bubble in 2006, for SIFIs loans were 36.5% of total assets on average whereas trading assets were higher at 45.4%. At the system level, little change is discernible from 2001. In 2006 loans were 70.5% for the four countries whereas trading assets were 21.3%.

institutional reasons cross-border transactions are much more limited in loan markets and the scope for diversification within a country is limited. That is, the degree of homogeneity in lending far exceeds that in bank financial trading.

It is also the case that mortgage markets have become much more volatile in the last number of decades. For the vast majority of advanced countries for which data is available, real house prices barely changed for a 100 years. During the 1960s and 1970s prices began to veer off historical trends, and prices began to accelerate rapidly in the 1990s (Knoll et al., 2017).³³ Swings in property prices, estimated to be mostly due to swings in underlying land values (Knoll et al., 2017; Ryan-Collins et al., 2017), typically fall by 70% from the peak of a bubble (Kelly, 2007). The availability of cheap credit in an open economy system implies that a fixed-supply, difficult-to-short, and increasingly commodified asset such as property/land is subject to large price swings. Being the major store of wealth for most people, undulations in land and property markets can lead to a cascade risk-taking throughout the macroeconomy (Goodhart and Hoffman, 2008; Jorda et al., 2015; 2016). The fact that mortgage and property-based lending is the major single asset class for the banking system as a whole reinforces the point, and particularly its propensity for systemic risk-taking compared to, say, complex financial trading suggests that it has been commercial banking that has made investment banking more unstable, and not the converse.

Our reading of the global financial crisis does little to dissuade us of the primacy of credit over trading in the stability of the banking system. It is true that proprietary trading losses were a major component of the crises in both the US (Crotty et al., 2010) and Europe (Hardie and Howarth, 2009). Even then, credit-based losses rather than trading losses have still shouldered the lion's share of write downs. Though still of course very large, only about one fifth in the UK and one third of write downs in the US among banks over 2007-10 were securities losses (IMF, 2010). The remainder were loan losses. In the Euro Area, securities losses were higher at two fifths of total, but still not as large as loan losses.

Moreover, the major securities losses related to credit losses in the form of write-downs on mortgage-backed and other securitised products. In the US these were tied to its domestic housing market. As we detail in the following chapter, in Europe

³³ In Amsterdam, for instance, using a repeat sales series, and thus avoiding the vagaries of adjusting for size and quality, the level of real house prices in 1992 has been found to be the same as in 1646! As has happened elsewhere, prices have since exploded (Monnery, 2011: 75-92).

bank losses on securitised products entailed a large cross-border component, especially based on the US and UK property markets. It is undoubtedly the case that major investment banks knowingly sold dubious securities on to investors and earned large fee revenues from structuring them. In doing so they were a key link in the financial chain and helped to ignite the bubbles which, after collapsing, rendered many of the securities worthless. That said, large loan/credit losses are and were a precondition for large losses on mortgage securities, but the opposite is and was not the case. In the countries that experienced the largest housing bubbles such as Ireland and Spain, securitisation played a role, but was less prominent than in the US and the UK, which experienced smaller property bubbles. It is also the case, as we have already said and detail more later, that the ultimate demand for securitisation came from institutional investors. Large banks, as they do, benefited and earned trading revenues from dynamics that emanated elsewhere in capital markets. Thus while proprietary trading among major banks heightened the financial crisis, losses on those securities originated in loan markets. The genesis of those loan losses, moreover, is ultimately traceable to property and land markets, and their interaction with cross-border financial flows and domestic credit.

As the crisis unfolded, European banks began to invest heavily in peripheral sovereign debt. Peripheral-country debt was high-yielding and risky but continued to be applied the same haircuts in ECB refinancing operations, and incurred the same capital charges as if it were no different from debt of more stable countries. By borrowing in short-term money markets European banks thus availed of ‘the greatest carry trade ever’ (Archarya and Steffen, 2015), and subsequently suffered large losses on that carry trade as those countries came under stress. This is an apparent example of large trading losses with systemic implications. But two things are noteworthy. One is that the primary reason for European bank holdings of sovereign debt from the periphery was liquidity management through, for instance, its use as collateral in repo financing operations (Gabor and Ban, 2016). Carry trade holdings emerged as the crisis developed but always comprised a smaller part (*ibid.*). Second the systemic implications and pressures in sovereign debt markets arose primarily from ECB policy actions (see Weisbrot, 2015: 20-55). Bank losses did not arise from relative value, swap spread, or other types of trades one would associate with bank positions in government instruments.³⁴ While banks no doubt made positional trades in government instruments once they owned

³⁴ A relative value trade is a trade on the relationship between securities or on the relationship between securities and the yield curve. A swap spread is the difference between the rate on the fixed leg of an interest rate swap and a government bond of the same maturity.

them, the fact that the major reason for their holdings was repo-based liquidity management implies those losses would have been suffered independent of any bets that were made. It is therefore misleading to attribute most of these losses as being due to proprietary trading. Historically there has been a close relationship between government debt markets and the state (Goodhart, 1998). It is therefore inconceivable that had governments retained control over monetary policy that they would have allowed their paper to incur such stress. In turn banks would not have suffered losses on government bonds. Rather than being an example of losses on financial assets due to proprietary trading, it is more an example of losses due to the ceding of national policy control. Given the growth of repo markets is but a component of the larger growth in capital market volume-led expansion of money markets, the debacle is also, incidentally, another example of how bank trading dynamics are mediated and shaped by institutional investors.

In sum, the conception of investment banking and proprietary trading as a self-aggrandising casino that has expanded through deregulation and ever greater risk-taking does us little service if we desire to understand the intricacies of the financial system. While bank trading has no doubt become more risky, and of course the regulatory framework plays a crucial role, bank proprietary and other actors' trading is ultimately underpinned by capital market actors. Despite the large growth in trading, loans, of course, continue to be the major asset class of the system as a whole, and for many global banks as well. Financial trading and transactions, especially cross-border, play a crucial role in the provision of liquidity and in stimulating credit cycles. Thus, it is important to recognise but not exaggerate risks posed by bank proprietary trading as doing so may detract from other sources of financial instability.

3.4 Policy implications

The post-crisis regulatory landscape has taken the issue of financial trading seriously. All of the major advanced countries and blocs most deeply implicated in the crisis have introduced or are introducing initiatives aimed at curbing risky trading practices, especially as they relate to the banking system. In the US this has taken the form of the Volcker restriction on proprietary trading as part of the larger Dodd-Frank reforms. In the UK the 2013 'Financial Services (Banking Reform) bill' builds on the Vickers

Commission's proposal of ring-fencing retail and wholesale/investment banking activities (see Krahnert et al., 2017).

In 2011 the EU set up a 'High-level Expert Group' chaired by Erik Liikanen to evaluate structural reforms of the EU banking sector. Like Vickers but unlike the Volcker Rule the Liikanen report calls not for a ban on proprietary trading per se but for a conditional separation of retail/commercial banking from trading activities. One of the conditions for separation is if the volume of trading activities is considered significant (greater than EUR100 billion or 15-25% of total bank assets)³⁵ from a financial stability perspective. The Liikanen proposals then formed the basis for the January 2014 EU Commission Barnier proposal. The Barnier proposal calls for conditional separation of trading activities for big banks combined with a ban on proprietary trading in which the sole purpose is profit making (see Krahnert et al., 2017). Its implementation has varied from country to country with France ring-fencing speculative proprietary trading, but not banning it. In Germany, it is only certain forms of proprietary trading (such as HFT and credit trading) and trading that does not serve clients that are to be separated (Goto Grant, 2014: 1256-1260).

These reforms in conjunction with closing regulatory loopholes on securitisation, restrictions on performance-related pay, Basel III provisions on leverage and liquidity, and other policies are likely to diminish the risks associated with proprietary trading. Restrictions on hedge funds' ability to undertake leverage are also helpful, albeit they do not go far enough (Johnston, 2015). Ring-fencing trading into a non-depository separate entity is further likely to reduce too-big-to-fail subsidies. But they are premised on a misunderstanding of bank proprietary trading as arising from risk-loving investment banks. By its own admission the Liikanen report notes 'no particular business model fared particularly well, or particularly poorly in the financial crisis' (Liikanen et al., 2012: 99). While trading generally tends to be highly concentrated, it is noteworthy that in Germany it was not the largest most sophisticated banks that were hit hardest but smaller, medium-sized banks investing in AAA-rated securities (Hardie and Howarth, 2009). Banks, in aggregate, have not just grown their trading divisions based on a decision to expand, but have been able to do so because of the expansion in institutional-led trading. The emphasis on large-bank thresholds and risky trading

³⁵ In particular bank assets 'held for trading and available for sale' must exceed such thresholds (Liikanen, 2011: 101). This is a narrower definition of trading assets than in Table 3, which for SIFIs includes financial assets held for asset-liability management and securities obtained through (reverse) repo agreements.

strategies, moreover, may serve to limit the frequency of large trading losses at large institutions (though even here the evidence is debatable), but is unlikely to prevent trading losses of a more systemic nature.

To prevent systemic losses, one needs to address the incentive structures that result in financial actors to act systemically, that is concertedly. This applies as much to financial trading as it does to credit creation. As well as emulation and competitive effects (Alves Jr. et al., 2008), the core reason for homogeneity in financial market behaviour is the similarity in the types of models participants use in calculating what assets to hold, what not to hold, and how much capital to hold against them (Persaud, 2015). Thus if one actor deems an asset to be undervalued, others will too, and its value may quickly become inflated. The converse is true if an asset is deemed to be undervalued. This, more than complex or risky proprietary trading strategies needs to be the forefront of regulatory initiatives to curb the level of systemic risk. Reducing homogeneity in financial markets is no easy task and interventions utilising capital charges based on the degree of correlation with the rest of the financial system have been proposed, for instance (Goodhart and Wagner, 2012).

Whether such a policy would work in practice is anyone's guess. Rather than (or as well as) trying to cajole financial market participants to act in more financially sustainable ways, a more 'geographic fix' may be in order. This may operate on a number of levels. The tendency for capital flows to stimulate asset bubbles and financial instability when it crosses borders in an uneven world implies that focusing on curbing trading at the investor level, be they banks, hedge funds, or some combination misses the mark. The spatiality of financial trading requires appropriate policy levers so that the use of capital controls need not in principal be the preserve of developing countries. The fact that the core of modern financial trading is crucially underpinned by institutional investors that manage household savings implies that, at this juncture, a full reversion to a Bretton Woods style management of capital is unfeasible. Institutional investors require a mix of safe and higher-yielding asset classes to invest in. In a world of low interest rates and a globalised and Europeanised context, that implies some cross-border diversification. Selective use of controls as and when necessary to stave off asset bubbles and manage stability is justified. This may require temporary and contingent relief from EU strictures given its dedication to free movement of capital.

Another geographic fix may come in the form of wresting back monetary control from the ECB. The deterritorialisation of political-economic authority from the national to the European level has engendered an arbitrariness to how financial instability develops. This is all the more so given the commitment of said authorities to neoliberal restructuring. European bank losses on sovereign debt are a classic example. Much of the European sovereign debt crisis was thoroughly avoidable had the ECB acted more responsibly. Leaving the euro is a drastic step, but may well have saved peripheral countries from a lot of unnecessary suffering (Weisbrot and Montecino, 2012). It should be noted, though, that monetary sovereignty did not prevent housing bubbles from forming in the US and UK. As well as instigating a currency crisis immediately, leaving the euro also puts back on the table the spectre of currency crises going forward. Small peripheral countries such as Greece or Portugal, or even Spain do not have sufficiently large capital market or histories of institutional stability for their securities to be considered safe assets in the mould of, say, German bunds. Global investors would simply have more exit options during spates of uncertainty and periodic changes in sentiment.

As economies bounce back from the crisis the case for leaving the euro weakens, not least politically. The final and probably the most feasible geographic fix is to address underlying problems in land and property markets. Basel III does little to contain the prospect of housing bubbles per se. The so-called 'portfolio invariance' embedded in Basel Accords evaluates risk on the basis of individual asset risk, and not the marginal contribution to the risk of the portfolio. As mentioned in the previous chapter, it thus fails to penalise asset concentration (Blundell-Wignall and Atkinson, 2010: 4). While the exact policy mix will vary depending on the local context, countries such as Germany with robust systems of affordable housing are far less susceptible to large swings in property prices than the more commodified Anglo-Saxon systems, for instance. If the market is unable or unwilling to meet supply, then, as also argued in the previous chapter, the state should step in. This would not only provide an essential service, but promote financial stability. Of course, Germany was not insulated from the financial crisis as it imported house-price instability from abroad. This points to the importance of limiting both direct credit risks and credit risks embedded in other financial assets. Germany, for instance, has listed credit guarantees (along with HFT) among the proprietary trading practices to be banned.

3.5 Conclusion

This chapter has asked two important questions. First what contribution has financial trading made to the development of systemic financial instability among advanced countries? Second, what is the nature of bank proprietary trading and what has its contribution been to said instability. These questions have been posed with respect to Europe and with the US as a necessary comparator.

The answer to the first question is that overall financial trading, broadly defined, has been central to the development of systemic instability among European countries and also the US. In particular, it has been cross-border financial trading that has been key to the propagation of financial fragility. In this respect the effect of financial trading on stability has been geographically contingent. In the early Bretton Woods period this came in the form of currency trading and manifested itself in repeated currency crises. As cross-border financial trading evolved through the emergence of institutional investors, and through economic liberalisation and unity in Europe, Europe graduated from repeated currency to repeated banking crises. Thus, in the latter period the role of trading has been more indirect through the provision of funding. Institutional investor-based financial flows in particular have the potential to engender instability in housing markets, which have been the main focal point of instability in recent years.

With regards to proprietary trading, we find that existing accounts based on a liberalised, risk-loving sector fail to capture its essence. The growth of proprietary trading has been crucially intertwined with the expansion of institutional-led capital market trading. Up until the global financial crisis, major trading losses (among advanced countries) had generally not led to systemic events. Given the greater diversity of income sources in bank trading, its potential for complexity, and the continued importance of loans in the banking system, we find that the risks associated with proprietary trading have sometimes been overstated. Our reading of the financial crisis leads us to believe that it has been more the commercial banking sector that has made investment banking more unstable than the converse. While recent reforms around proprietary trading are likely to improve financial stability, a more pointed reading of economic and financial history would lead to a 'geographic fix'. In particular, the most pressing need is to dampen the large swings in property and land prices that have plagued advanced and European financial systems in recent years.

Chapter 4 : Global banks or global Investors? The case of European debt flows

4.1 Introduction

This chapter examines the determinants of European cross-border debt flows in the 2000s. As such, we apply and develop further what we have learned so far in terms of salience of institutional investors in cross-border dynamics, the relationship between banks and institutional investors, and financialisation as a demand-led process. Specifically, this chapter explains the trajectory and drivers of cross-border portfolio debt flows emanating from core Eurozone countries in the 2000s and beyond. It critiques bank-centered approaches as applied to the Eurozone and elucidates an alternative, investor-based paradigm. We consider two main lines of analysis motivated by patterns of financial fragility. Cross-border debt flows emanating from the core countries into both US and UK securitised markets are considered on the one hand, and bank inflows into the periphery are examined on the other. Core Eurozone denotes Eurozone-12 excluding the peripheral countries Greece, Italy, Ireland and Spain (GIIPS). Additionally, we also examine public debt flows into the periphery post-crisis.

We find bank-centered approaches provide an incomplete account of the growth of debt flows since the 2000s. Though bank actions explain a significant portion of securitised-based transactions, and public debt flows post-crisis through arbitrage, there is little evidence that this constituted the central mechanism for channelling debt flows overall. While the importance these analyses attach to agents and actors is welcome, we argue they place too much emphasis on banks without due regard for the range of investor types that exist in modern financial markets. The expansion of debt flows is instead explained by the need of long-term institutional investors and investment funds for dated fixed income instruments and the losses suffered by such funds after the bursting of the late 1990s technology bubbles. Coupled with secular declines in the supply of, and yields on government bonds, this culminated to produce long-term asset-liability mismatches for particularly long-term investors. One consequence was greater allocations towards financial sector bonds. These disproportionately originated in the periphery, and offered higher returns and enhanced asset-liability matching. A second consequence was demand pressures on the part of institutional investors for the

creation of yielding instruments which found expression in the growth of securitised products, and drove flows into the US/UK.

The chapter thus challenges the consensus that it is large banking groups that are central to understanding global financial processes, a view that has garnered support within and outside the mainstream (Cerutti et al., 2014; Shin, 2012; Gabor, 2014; Tokunaga and Epstein, 2014). This chapter is instead related to the work of Caballero (2010), Pozsar (2015), Lysandrou (2011), Lysandrou and Nesvetailova (2015), and Lysandrou and Shabani (2015) which sees the growth of fixed income imbalances arising from pressures from cash pools for yielding products. We cast our net more widely and explain investment in on-balance sheet bank bonds as well. This enables us to explain debt flows into the periphery, which existing research cannot. Moreover, unlike existing work on cash pools which lack explicit theoretical grounding, we also forward an analytical framework that centres on institutional investors, and highlights how these groups differ from banks in how they engage in fixed income markets.

The outline of the chapter is as follows. Section 4.2 gives an overview of trends in debt flows within and outside the Eurozone and how they have been interpreted in the literature. The following section offers a critique of bank-centred analyses in relation to fixed income markets and emphasises the importance of global investors. Section 4.4 examines the empirical limitations of bank-centred approaches to global financial processes as applied to (core) Eurozone-centered debt flows. Section 5 advances an explanation of cross-border debt flows in terms of asset-liability mismatches and the demand for yielding instruments. The penultimate section discusses some policy implications before we conclude.

4.2 Accounting for debt flows: Trends and the importance of banks

Standard explanations of euro area capital flows examine the importance of convergence phenomena and the opportunities the monetary union provided for diversification. A single exchange rate obviated currency-matching requirements for many portfolio funds and reduced exchange rate risk, and thus allowed the expansion of intra-Eurozone flows (De Santis and Gérard, 2009; Lane, 2013). The imposition of a single monetary policy and the apparent backing of all EMU members by the ECB led to convergence of interest rates in public and private debt markets. A key initiative was the encouragement of the use of peripheral debt as collateral in euro-wide repo markets (Gabor and Ban, 2016).

That said, while integration within the Eurozone no doubt fostered the level of flows there, a simple convergence story belies the fact that these processes were absent in the US and UK, which experienced similar cross-border debt trajectories.

Focusing on outflows from the core Eurozone-12 and inflows into the other regions, we can see from Figure 4.1 below that both the US/UK and the periphery experienced a surge in debt inflows in the 2000s, coincident with a large expansion of outflows from core countries. These can be disaggregated based on the issuing institution, but not the investor. Thus, much of the outflows from the core Eurozone-12 went into debt securities of ‘other financial institutions’ (OFIs), which comprise a variety of non-bank institutions including various financial vehicle corporations central to securitisation processes. Inflows into the periphery were dominated by bank flows, meaning banks located in the periphery issued debt securities that were bought by non-residents. To avoid clutter we have not disaggregated, but bank flows overwhelmingly comprise long-term bank debt pre-crisis.³⁶ Post-crisis, public inflows substituted for private inflows, which often turned negative as investors repatriated capital. US data provide little in the way of breakdown of debt flows except to note that the trajectory of debt flows indeed followed a similar pattern to the other regions. In the UK, the major issuers of cross-border debt were OFIs and banks. This may reflect the UK’s large securitisation market and its status as a financial centre in that both British and British-based banks were major issuers of long-term debt.

The leading paradigm through which these flows have been interpreted and which accounts for the contemporaneous spread of flows across regions centres on global banks and their leverage and investment cycles as developed by Shin and others (Shin and Adrian, 2008, 2010, 2013; Bruno and Shin, 2014). Banks actively manage their balance sheets through adjustment of leverage. Balance sheet slack arises during periods of calm as assessments of risk decline, during, for instance, a period of loose monetary policy. A decline in the perceived level of risk leads to a fall in risk weights in internal models. As a result banks hold less capital against assets. Through an economic expansion, bank asset values may increase though proportionately not as much as equity

³⁶ Over the period 2000-07, long-term bank inflows into the periphery comprised over 80% of annual bank inflows on average (IMF balance of payments database).

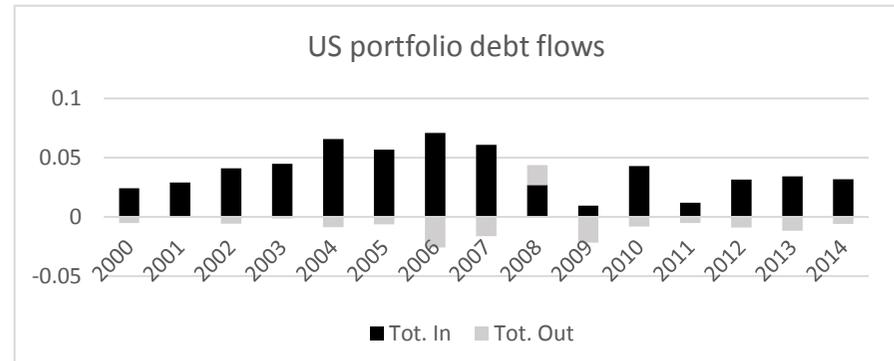
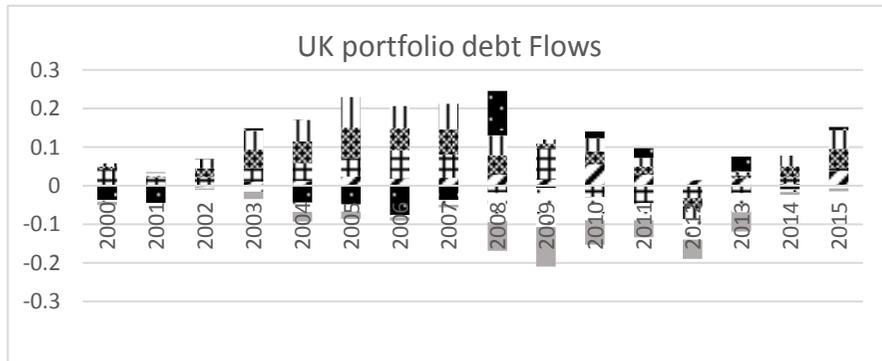
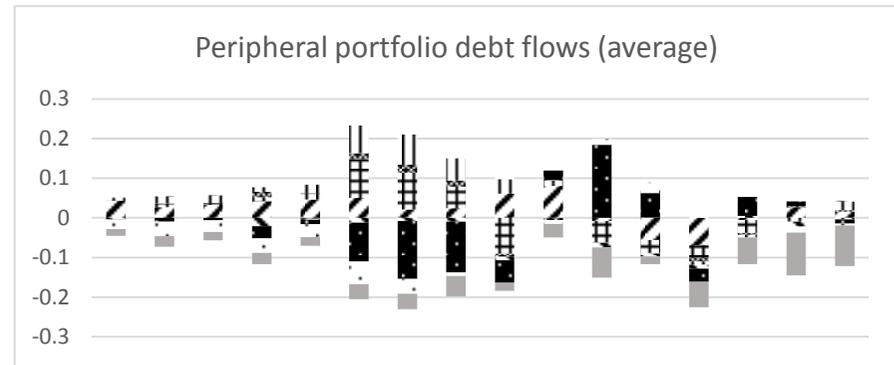
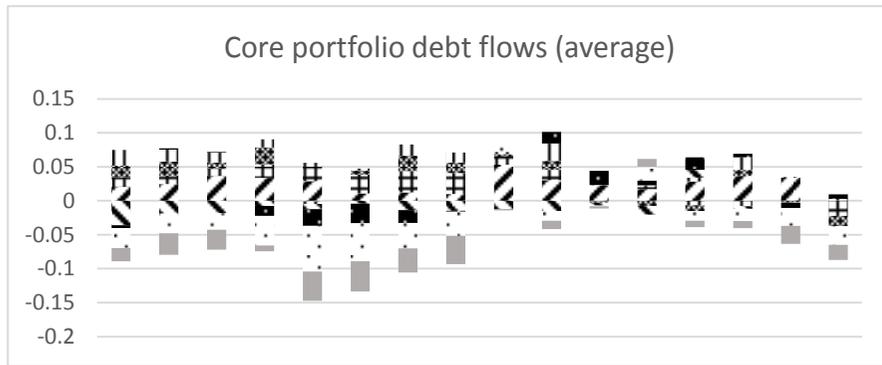


Figure 4-1: Trends in portfolio debt flows (% GDP).

Source: IMF Balance of Payments and World Bank.

Upper left figure excludes Luxembourg as it distorts averages.

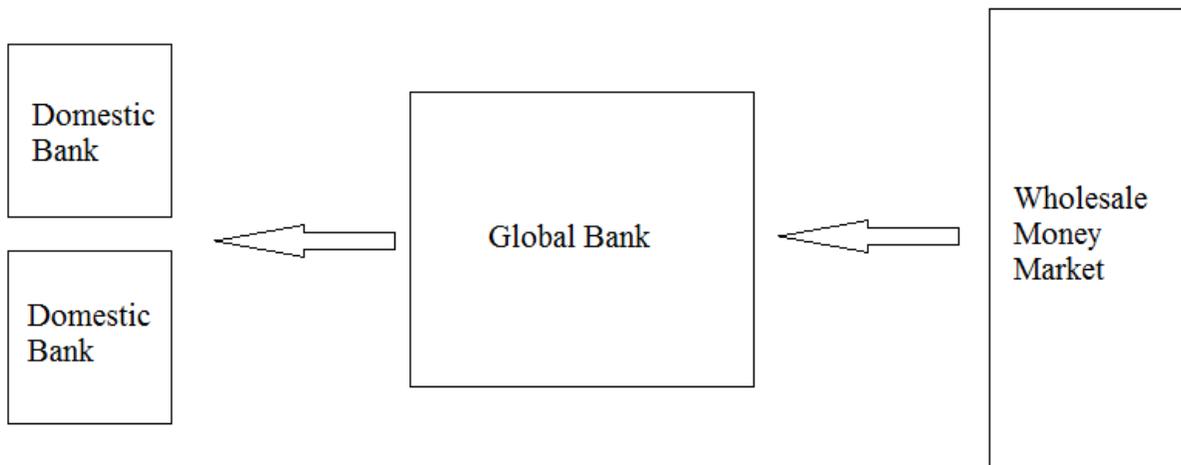


Figure 4-2: The Global Bank framework.

values.³⁷ This creates additional slack on the balance sheet, which facilitates further asset expansion, and so on.

Banks expand their balance sheet using debt instruments as shown in Figure 4.2. In particular, the rapidly changing profile of bank balance sheets in a mark-to-market context requires the use of nimble funding devices such as repos, and other short-term debt instruments. Non-bank entities play a facilitating role down the chain in providing leverage through acquisition of debt instruments from the banking system. But it is banks that are the central agents in the initiation and propagation of financial cycles.

Insofar as either the wholesale funding markets from which banks draw or the subsequent destinations into which they invest are located across borders, bank leverage cycles give rise to significant capital flows. As can be seen in Figure 4.3 below, core Eurozone-12 entities drew finance from the rest of the world and funded positions in debt securities of GIIPS, and also the US and UK on aggregate. Consistent with Figure 4.1, the process began in the early 2000s and accelerated through the mid-2000s with the largest increases in debt holdings occurring during the years 2004-06. Post-crisis, while the level of core indebtedness vis a vis the rest of world remained relatively stable, core holdings of

³⁷ In a simplified, static context $A - D = E$, where A, D and E denote assets, debt and equity respectively. Assuming D to be constant, E changes proportionately more than A for a given change in A. A given rise in A implies a fall in A/D such that banks have spare capacity on their balance sheets (see Adrian and Shin, 2010; 2011).

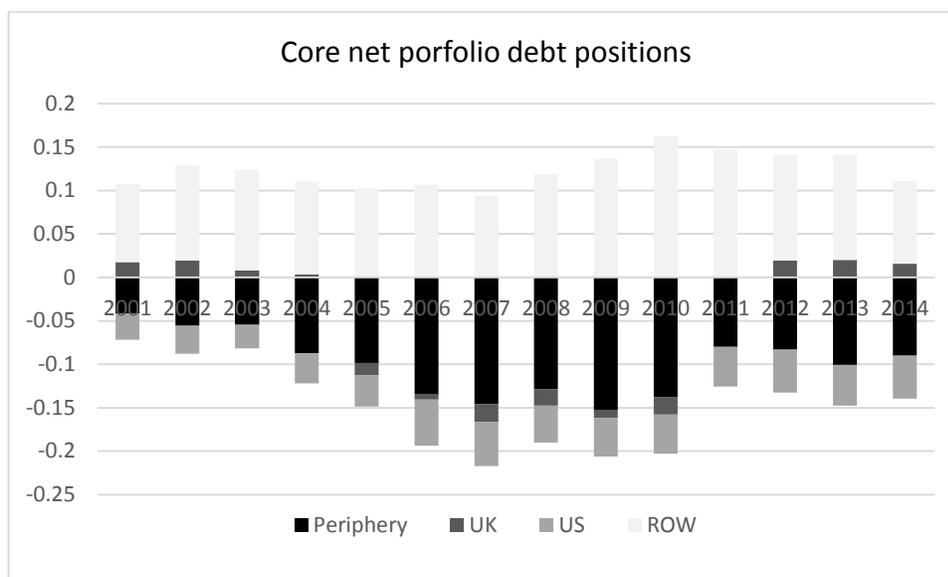


Figure 4-3: Core net portfolio debt positions (% GDP).

Source: IMF Coordinated Portfolio Investment Survey and World Bank.

As per Figure 4.1, positive figures indicate borrowing/inflows, negative represent investment/outflows.

peripheral debt contracted markedly. Though investments in the US and the UK appear to have been relatively limited, it is important to note that net data (and indeed both gross debt and capital flow data) reveal little about the nature of the flows, omit derivative transactions and may misstate ultimate positions between countries due to routing through, for instance, financial centres. It may be the case that core-US/UK transactions were quantitatively comparable to or even greater than core-periphery flows.³⁸ This points to the need for detailed analysis of multi and bilateral cross border financial relationships.

Bertaut et al. (2012) detail how debt flows from the core to the US/UK grew to a significant degree through acquisitions of asset-backed securities as well as other corporate debt products. A major component was through off-shore conduit and other shadow banking entities sponsored by banks in principally Germany, but also France and the

³⁸ For example, according to figures by Blommestein et al. (2011) US securitisation issuance in 2006 was approximately \$3 trillion, of which perhaps one quarter was held in Europe (Bertaut et al., 2013). This is quantitatively similar to the total long-term debt securities outstanding (excluding securitisation) of peripheral banks which stood at around €900 billion in 2006 (ECB, 2016). About half of this is accounted for by banks in Italy, whose financial system is known to have high levels of home bias.

Netherlands. As securitisation peaked (around 2005/06), issuance of collateralised debt obligations (CDOs) expanded, the most toxic of the securitised products. Shin (2012) details that European banks and investors raised dollar funding through a variety of means to buy securitised products primarily originated in the US, but also the UK (and to a lesser extent peripheral countries). Most directly, shadow banking entities issued asset-backed commercial paper from US money market funds (Acharya and Schnabel, 2010), but dollar funding was also obtained through US-based subsidiaries (Noeth and Sengupta, 2012) and through FX swaps (McGuire and von Peter, 2009).

Regarding flows into the periphery, long-term bank inflows dominated portfolio flows into that region pre-crisis. Core investors borrowed heavily through subsidiaries located in financial centres such as the UK and extra-EU markets (Hale and Obstfeld, 2016). The proceeds were then deployed to debt products of peripheral banks such as unsecured and covered bonds (and securitised debt). While aggregated data is not publicly available that decomposes various instruments according to country, Le Lesle (2012) does so at the European level. Unsecured debt (~60-70%) and covered bonds (~20-30%) were the dominant forms of on-balance long-term funding for banking systems in the major European countries. After the initial stages of the crisis, public flows substituted for the long-term private flows, again funded through money market borrowings (Archarya and Steffen, 2015).

On a more explanatory level, Shin's leverage framework has been directly deployed in a broad European crisis context (O'Connell, 2015), in European investment in the US shadow banking system (Shin, 2009, 2012), as well as case study analysis of the peripheral crisis (Everett, 2015). Often extending the leverage framework, a related literature focuses on carry trade possibilities available to core European banks. For Archarya and Schnabel (2010) and Bertaut et al. (2012), the core bank borrowings from US markets deployed back into US securitised products constituted carry trade positions. Lax regulation in Europe enabled proprietary gains as minimal to no capital charges needed to be held against bank holdings of assets in off-balance sheet vehicles. Similarly, for O'Connell (2015) and Hale and Obstfeld (2016) cheap extra-European borrowing among core banks for investment in higher-yielding peripheral debt products constituted a carry trade. Core banks' comparative advantage in lending to the periphery was facilitated by ECB loose monetary policy and reduced transaction costs through harmonisation and liberalisation of regulations (ibid.).

Within public debt markets, perhaps the major stimulus to core investment in peripheral markets during the 2000s was the creation of European repo markets. Debt from peripheral countries was increasingly used as collateral for funding operations by core banks (Gabor and Ban, 2016). Post-crisis in the context of collapsing state revenues, governments across Europe borrowed heavily. Sovereign peripheral debt had varied ratings and yields, but continued to be applied the same collateral haircut as other Eurozone debt by the ECB, and also carried zero risk weights in capital charges (Hale and Obstfeld, 2016).³⁹ Funded using cheap money market liquidity, core banks were able to expand their holdings of sovereign peripheral debt and avail of the ‘greatest carry trade ever’ (Archarya and Steffen, 2015).

In sum, the convergence of interest rates within the Eurozone and obviation of exchange rate risk provides a useful framework for understanding the level of debt flows, but fails to account for the simultaneity of flows across regions. The US experienced largely the same trajectory of flows as the Eurozone but where for the former a single monetary policy prevailed long before 1999. Bank-centered approaches put leverage operations and collateral-based funding as central to the propagation of financial cycles in this respect. Shin’s leverage framework has been explicitly deployed in the context of European and core-bank engagement in the US securitisation market as well as the crisis within the Eurozone. A related and overlapping literature also focuses on banks and their leverage operations, and emphasises arbitrage and carry trade positions. Such approaches have significant explanatory power in analysing securitised flows and public flows post-crisis, but as we shall see have both conceptual and empirical weaknesses in their ability to explain what drove especially private debt flows overall.

4.3 Global investors and conceptual limitations to bank-centred approaches

One problem with the bank-based analyses is their focus on income through asset expansion using leverage. Banks adjust their balance sheets according to several risk criteria, and their motivations for holding securities are accordingly multifaceted. According to one industry survey in the 1990s (BAI quoted in Tschampion et al., 2007), banks hold securities first to manage interest rate risk, second to manage liquidity risk, then

³⁹ In August 2010, the ECB applied haircuts to sovereign collateral rated BBB+ and lower (Gabor and Ban, 2016: 629).

produce yield and finally to mitigate credit risk. The massive level of maturity transformation modern banks engage in implies a heightened sensitivity to liquidity and interest rate risk. Thus, banks' intrinsic demand for longer-term fixed income securities is somewhat limited. And, as noted, it is primarily longer-term instruments that have dominated cross-border debt flows within and across the Eurozone.

As banking groups have consolidated and financial markets have expanded the opportunities for larger entities to provide market-making services and take proprietary positions have grown. As we have seen, the access to wide networks of customers that dealers have confers on them access to a wide array of products and the information and expertise to trade on them (see also Stigum and Crescenzi, 2007: 416). Using repo-funded books to minimise inventories, large dealer banks make markets but also avail of a variety of trading strategies to profit from their strategic insertion in financial markets (see, for example, Euroclear, 2009: 15-20). Banks, though, do not only position on relationships between securities. To take one relevant example, Mehrling (2011: 79-82) describes how banks can circumvent the regulatory framework and produce yield through swap-based synthetic fixed income exposures. Were a bank to hold a bond directly it would have to hold capital against it. But using an interest rate swap, the same exposure can be replicated but without incurring a capital charge. This raises the important point that the degree to which banks engage in or hold dated fixed income securities for position taking is strongly associated with their ability to circumvent prudential and other rules. That is, bank trading income is associated with regulatory arbitrage.

Non-bank institutional investors on the other hand have a structural need for longer-dated securities, especially highly-rated, safe assets. Insurance companies and pension funds have long-dated liabilities which come due as policyholders retire, die or incur some other life event. Equity holdings provide yield and inflation protection, particularly for schemes that offer retirement income flows as some proportion of earnings, though equity values are volatile over the short-term. Large allocations to dated bonds provide stability for matching purposes through a steady stream of income flows. Consequently, changes in the macro environment, especially interest rates, change the present value of the assets and liabilities. Institutional investors therefore need to trade regularly so as to avoid mismatches. But the maturity of their liabilities is largely determined by demographic factors for most funds. Given the general increases in life

expectancy, the maturity of their liabilities and hence the need for longer-dated assets is actually increasing.

Due to the uncertainty involved in longevity calculations and the limited availability of appropriate instruments, perfect matching of the cash flows of assets and liabilities is unfeasible in practice. It may also be suboptimal, assuming investors desire greater returns than those offered through risk-minimisation. So-called core-satellite portfolio management provides a solution, and accounts for two thirds of institutionally managed investment portfolios in Europe (Lysandrou, 2009). It is a so-called contingent optimisation technique that allows access to a desired level of risk, but subject to the liability constraints that a fund may face (Amenc et al., 2004).

As we have seen previously, the core portfolio comprises a large passively managed share, including investment-grade debt and liquid equities. The selected benchmarks are chosen on the basis of the fund's goals, and may change over time as the liability structure evolves. For fixed income funds management or 'immunisation' of interest rate risk is key. The satellite section is devoted to producing yield or alpha, and may entail large allocations towards alternative investments. That said, portfolios are managed in an integrated regime using complex algorithms and trading strategies such that clean assignment of securities into core or satellite is not always possible. Broadly, though, institutional investors can be seen as structuring portfolios into a section of relatively safe assets and a yield-producing section, subject to liability constraints.

Fixed-income mutual funds are similarly constrained in the types of instruments they invest in. Like long-term institutional investors, they are subject to performance appraisal. A commonly used metric is tracking error, which, to as before, measures the standard deviation of the portfolio's return with respect to the benchmark they track. Such funds accordingly mimic their benchmark so that the degree to which they can deviate in terms of the maturity profile of their portfolio is limited. Empirically, investment funds occupy an intermediate position between long-term institutional investors and banks in their need for long-term bonds (Domanski et al., 2015: 22).

In contrast to institutional investors, banks' allocation to fixed income and securities markets has varied more through time and according to local conditions. In the post-war period banks were 'stuffed' with government debt, after which holdings were necessarily

reduced (Goodhart and Perotti, 2015). Basel I encouraged banks to hold more debt, though to this day bank holdings of securities as a proportion of their total assets displays remarkable heterogeneity across banking groups and business models (Ayadi et al., 2016).

Moreover, banks' mark-to-market valuations, short-term funding and thin capital buffers render them more susceptible to pro-cyclicality, and their presence vis a vis institutional investors is found to be associated with higher bond yields (Andritsky, 2012). Banks tend to enter and exit fixed income markets more, whereas institutional investors favour buy-to-hold strategies so as to match assets with liabilities. Many banks reportedly have tighter position limits on their proprietary holdings of longer-maturity bonds given the greater price risk and the inherent difficulties in predicting long-term interest rates (Stigum and Crescenzi, 2007: 424-430). Indeed, a repeated finding during the 2000s was that demand from institutional investors was the central force in shaping the slope of the yield curve (ECB, 2006). In short, purge the financial system of institutional investors, and one purges much of the demand for dated fixed income instruments. With it the preponderance of income banks derive from dealing and positioning such securities vanishes.

An apparent exception is public debt in which banks have historically been central players, though often strong-armed into investing by their respective governments.⁴⁰ As discussed, banks demand government (and other long-term) securities to use as collateral in repo agreements, a key financing tool for larger banks and their leveraged trading strategies. Adrian and Shin (2010) show repo usage to be strongly correlated with asset growth among US investment banks. But insofar as this derived from securitised investments, for instance, the growth of such income is traceable to demand pressures from institutional investors (Lysandrou and Nesvetailova, 2014).⁴¹ More generally, as a form of substitute, or near money, the growth of repos and other short-term money market instruments is a function of the growth of transactions, namely financial trading. As per Chapter 3, the growth in

⁴⁰ It could be argued banks' demand for government debt through the need for high-quality liquid assets imposed by Basel III. While we acknowledge banks need for public securities for liquidity management, this is distinct from holdings for investment purposes. Choudry (2012: 627-629) reports that many banks may actually lose on instruments held for liquidity purposes. While banks may be inclined to hold longer dated bonds to produce yield, the key criterion is liquidity and longer term bonds entail greater price risk (ibid). Our contention is that banks' intrinsic demand for dated instruments is relatively limited, but that they make markets and position in them as opportunities arise.

⁴¹ In Europe large banks similarly dominate the repo market (Gabor and Vestergaard, 2016: 12-13). For banks this may be an inexpensive source of funding as institutional and other investors use it to park stocks of cash (Poszar, 2013).

trading volume, in turn, has been driven by standardisation of asset management and the imposition of core-satellite investment mandates (Grahl and Lysandrou, 2003; 2006). Recent years has witnessed a growth in trading volume in equity and FX spot markets from high-frequency traders. Such firms, though, depend and piggyback on the orders of institutional and other investors (Grahl and Lysandrou, 2014). The above point thus remains that modern banks' reliance on repos and hence government and other longer-term debt-based funding cannot be detached from ultimate pressures placed on the banking system from institutional investors.

Rather than a global bank framework, as per Figure 4.4 above we put forward a global investor paradigm which views institutional investors as central participants, not passive players in debt cycles. To the extent that cross-border long-term debt instruments are driven by international factors, demand is primarily driven by the presence of institutional investors and their structural need for dated, safe securities. Banks, of course, have a demand for fixed income securities and may demand longer-term assets in a low-yield environment. But their engagement in modern fixed income markets is ultimately shaped by demand from institutional investors.

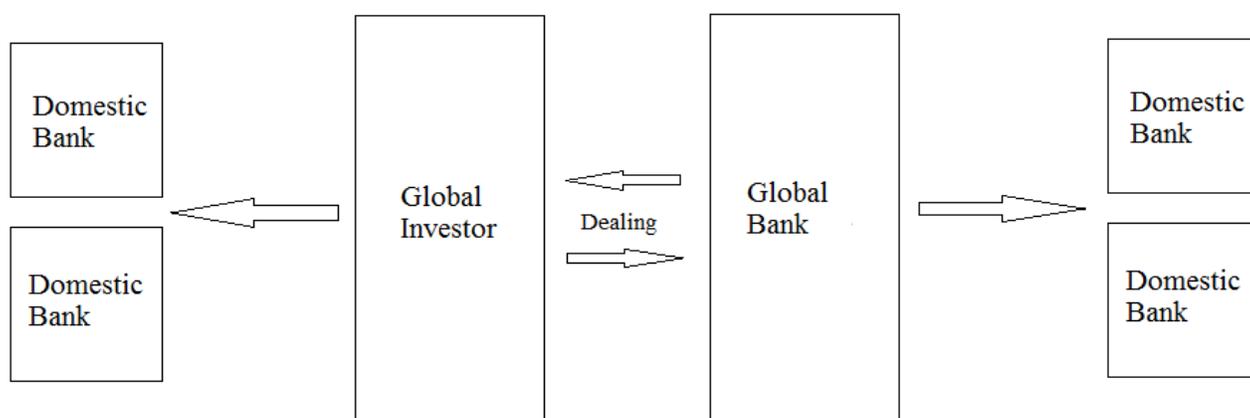


Figure 4-4: The Global Investor framework.

Banks do occupy a central node in relation to investors in the global financial architecture. As mentioned, they provide market-making services, have access to central bank financing, and are the production factories for many of the instruments that other investors use. In providing many of the key infrastructures in the global financial system, they are strategically placed to exploit opportunities for gain as they arise. Thus, as opportunities for carry trades and regulatory arbitrage arise, for example, so does the saliency of banks in fixed income markets.

In sum, banks do not have a structural demand for dated fixed income securities the way institutional investors do. Institutional investors require fixed income securities for asset-liability matching, but also generate yield through a variety of riskier investments. Insofar as regulatory arbitrage and income considerations arise in the context of cross-border debt flows, banks are likely to be key in their propagation. This Chapter argues that bank and public inflows into the periphery constituted an asset-liability matching device, whereas investments in securitised products in the US/UK also entailed a yield-seeking strategy.

4.4 Global investors and the empirical limits of bank-centred approaches to European debt flows

4.4.1 Empirical limits

Bank-based approaches have a number of empirical limitations in the context of Eurozone debt flows. For one, banks were generally not the main movers of those fixed income markets most central to debt flows from the core countries. Second, the notion that carry trade operations among banks explains securitised flows is weakened by the fact that securitisation accelerated as interest spreads narrowed between the Eurozone and the US (Bertaut et al. 2012), and also, incidentally, within the EMU (Lane, 2013). Finally, regarding flows to the periphery core banks' engagement in cross-border portfolio bank debt appears to have declined at precisely the time debt flows accelerated.

Table 4.1 shows the breakdown by investor type of the major debt instruments in intra and extra-Eurozone debt flows in terms of ownership and trading volume among European investors. We see that in the case of investment grade debt, a large proportion of which is accounted for by unsecured bank debt, banks' share of the market is

approximately one third in both trading volume and ownership terms. IMF figures show banks' ownership share of Eurozone private bonds to be almost one half, excluding vehicles (IMF, 2016: 8). Figures for covered bonds and asset-backed securities (ABSs), broadly defined as a range of mortgage and other asset-backed instruments, slightly favour banks in ownership terms but are otherwise even. A 2009 survey shows institutional funds'/institutional investors' ownership share to be twice that of banks in covered bonds (SIFMA, 2009). Government bond markets are evenly split between banks and institutional investors in ownership terms, though the latter dominate in terms of trading volume. Structured finance volume (such as CDOs) is dominated by banks in ownership terms, but by hedge funds in volume. Thus, a mixed picture emerges with banks somewhat more prominent in securitised markets and institutional investors somewhat more prominent in government and corporate markets.

	Investment grade debt (2005)	Covered bonds (2007)	Asset-backed securities ^a (2004-07)	Structured finance (2007)	Government bonds (2005)
Bank/Vehicles	(33) 31	(45) 45	(48) 49	(19) 80	(19) 48
Institutional funds	(57) 46	(47) 37	(43) 42	(19) 18	(67) 52 ^b
Hedge funds	(7) 9	(2)	(8) 6	(58) 2	(5)

Table 4-1: European market movers by investor type.

Figures inside parentheses indicate percentage of non-interdealer trading volume for 2014 among European investors and are based on Greenwich Associates (2014a-d) (cited with permission). Outside parentheses indicate ownership percentage among European investors. The survey year is indicated below the security type.

Source: AFME (2012), Caouette et al. (2008), Casey and Lannoo (2005), Greenwich Associates (2014a-d), IMF (2016), Packer et al. (2007).

^aABS ownership figures based on primary issues over entire 2004-07 period.

^b This figure includes OFIs which we assume includes only asset management funds and not financial vehicles in the case of government debt.

While non-bank engagement in debt instruments is high, particularly in volume terms, Table 4.1 says little about whether securities are held domestically or otherwise. It not easy to precisely gauge the contribution of institutional investors and funds to cross-border flows relative to banks in these figures alone. Home bias in bank holdings of debt securities issued by other euro area banks is lower than for long-term institutional investors.⁴² This is very likely not the case for investment/mutual funds which are overwhelmingly domiciled offshore and are major participants in European bond markets (IMF, 2016: 94). Moreover, the vast majority of on-balance sheet bank debt such as unsecured and covered bonds is issued internationally (ECB, 2011: 83).⁴³ We thus argue the salience of institutional funds in European fixed income markets presented in Table 1 translates into cross-border flows.

Regarding the timing of flows, the focus on risk appetite and sentiment of banks allows bank-based analyses to be somewhat arbitrarily deployed always and anytime to account for the beginning of a financial expansion. But a number of anomalies exist in relation to the timing of securitised flows. Securitised flows from Europe to the US began to take off around 2003, and growth continued thereafter (Bertaut et al., 2012). ECB rates did decline in 2003, but this coincided with a narrowing of interest rate spreads vis a vis the US, from which core banks drew much of their funding. Bertaut et al. point that the spread between highly-rated corporate debt and short-term funding costs had flattened in 2005, mysteriously a peak year for the creation of subprime mortgages and core acquisitions in US debt (ibid.). Similarly, within the Eurozone a convergence of interest rates is observable and thus confounds why investors would increasingly hold large levels of cross-border financial debt for carry trades (Lane, 2013). We return to this mystery later.

Thieman (2012), based on interview evidence, makes the crucial point that the low arbitrage margins in core banks' holdings of securitised instruments implied that any requirement to hold capital against them would have rendered them unprofitable (Thieman,

⁴² Home bias in European bank holdings of bank debt ranged from over 70% in the early 2000s to 50% pre-crisis to around 60% currently (ECB, 2015: 22). Home bias similarly increased in the insurance sectors post-crisis (ESRBa, 2015: 9). In France and Germany a recent survey indicates overall home bias in bank debt to be just under 80% (ERSBb, 2015: 5).

⁴³ An important reason for doing so is to appeal to a wider range of investors. After issuance, fixed income securities are typically traded frequently before being held to maturity, often by long-term investors such as pension and insurance companies. Home bias among long-term institutional investors can thus not be assumed to preclude capital flows but may entail round-tripping as securities are issued off-shore but ultimately held by domestic investors due to informational, regulatory and other advantages.

2012: 44). Capital alleviation-based gains may have been present in the case of covered bonds too, but to a lesser degree unsecured debt (Packer et al., 2007: 46). It stands, though, that a major component of non-securitised debt flows such as bank inflows into the periphery were driven by factors other than carry trades. Indeed, the investment share of banks in these markets appears to have declined as debt flows accelerated.

Figure 4.5 displays an estimate of core holdings of debt securities issued by non-core BIS reporting banks. This series is disaggregated on an investor basis between unallocated investors, banks and non-banks, which we take to be institutional investors.

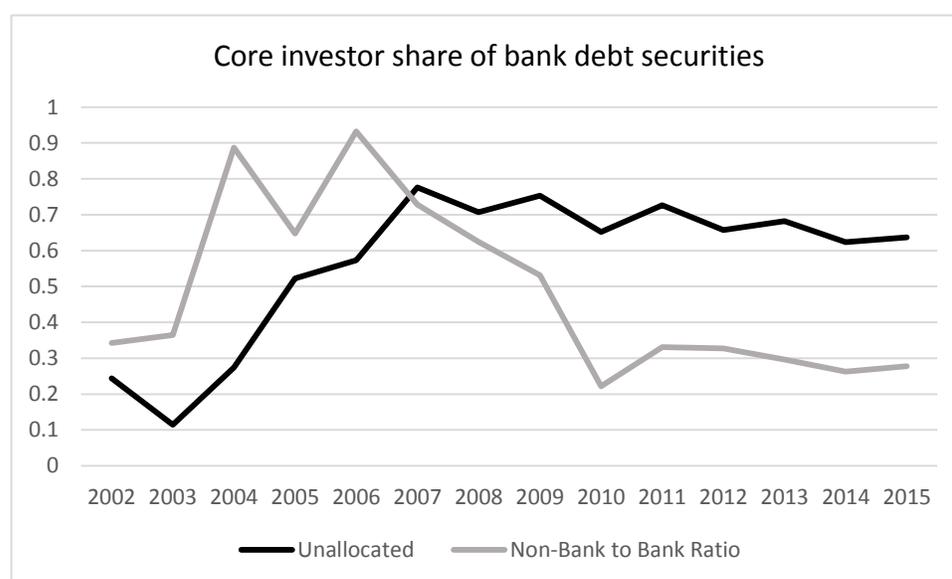


Figure 4-5: Core EZ-12 investors' share of cross-border non-loan/deposit liabilities of BIS reporting banks.

Source: Calculated using BIS Locational Statistics.

Disaggregated liabilities by counterparty type are not available at the country level. The series is estimated on the basis of the liability holders or counterparties of BIS-reporting banks located in the core countries. The series was computed by using banks' non-loan and non-deposit liabilities as a proxy for debt securities. Counterparties can be identified according to banks, non-banks or unallocated. Data before 2002/03 is highly sensitive to the low-levels of non-deposit/loan liabilities and so was not included.

Looking at the ratio of bank to non-bank holdings, the share of non-banks grew markedly relative to banks from about 2003 on. This is precisely the time when capital flows began to accelerate.⁴⁴ Moreover, the correlation between the unallocated share and the non-bank to bank share suggests that unallocated holdings proxy for non-bank holdings.⁴⁵ ⁴⁶ Overall, the evidence indicates that among investors in the core, institutional funds increased their share of those debt markets most central to flows in the periphery at precisely the time that debt flows in that region grew.

4.4.2 Financial system opaqueness: What do we know?

An obvious riposte to our critique of carry trading as the central explanatory tool and the apparent disengagement of the banking system from cross-border bank debt is that the banking system is opaque and as such definitive conclusions cannot be drawn. It might be reasonably argued that banks engage in complex trading strategies in which synergies and conflicts are created through various client-related activities and proprietary operations. It may be that large banks' engagement with institutional investors in, for instance, covered bonds and unsecured debt is part of a broader proprietary strategy so that analytical focus should remain on banks. Indeed, any fixed income holding necessarily constitutes a view on the direction interest rates and the yield curve. Leveraged trading strategies that utilise repos and hypothecation may also point to the need to focus on banks over institutional investors. Given, though, the heterogeneity and illiquidity of many private bonds, it is sovereign debt that dominates the private repo market (Gabor, 2012: 11). In terms of fee generation from institutional investors securitisation was a major generator of revenues for banks. This can be most clearly seen in the case of structured finance in which the banking system extracted large fees from hedge funds which trade in high volumes. But there is less evidence to support this view in the case of non-securitised debt products. Crotty (2008) reports that large banks barely broke even on brokerage activities, the traditional domain of

⁴⁴ Of course, counterparties located in core countries do not invest exclusively in, for instance, long-term peripheral debt instruments, but have positions in bank debt in countries around the world. However, peripheral countries (along with the UK) experienced the greatest surge in bank inflows.

⁴⁵ Because of data unavailability, unallocated counterparties comprise a very large share. BIS (2010) looks at international liability holders of developed country BIS banks more generally and finds that the share held by non-banks increased during the 2000s. They attribute this to increasing reliance on wholesale funding (BIS, 2010: 12-15), which is principally due to institutional investors.

⁴⁶ Note the unallocated share was very low when the identified share of banks was high, but grew along with the identified share of non-banks (though the relationship breaks down during the crisis).

asset management. Underwriting fees in European bond markets, moreover, fell markedly with introduction of the euro (Casey and Lannoo, 2005: 35).

Without detailed access to trading records, the precise reason for holding certain securities is impossible to verify. As discussed, for banks bond holdings are motivated by a variety of factors, including liquidity management. Traditionally, liquid assets are held in the form government bonds but the low yields during the 2000s rendered them unattractive. Financial sector securities, which were also increasingly used as collateral in ECB liquidity operations, offered an attractive alternative. A distinction should be made, though, between holdings of these instruments for a variety of purposes, and the explicit moving of large amounts of securitised fixed income products into off-balance sheet conduits for carry trade positions.

In terms of analytical focus, there is evidence of investors pushing banks, as opposed to banks pushing investors to hold products. Due to increased demand for long-term instruments from pension funds and insurance companies, long-term interest rates began to fall around late 2004/early 2005 (see ECB, 2006). This process continued through 2006 on as the yield curve continued to flatten (up until economic stresses began to manifest before the crisis broke). This explains why despite policy rates rising during the mid-2000s bank long-term debt issuance expanded so as to lock-in long-term funding. It is also consistent with a rising share of institutional investor engagement in bank debt as suggested in Figure 4.5. Rather than being passive vessels into which banks shovel products, causality to a significant extent runs in the opposite direction. Institutional investors created the conditions under which regional and other banks, mediated by larger banking entities through their market making and warehousing operations, expanded their long-term debt issuance.

In sum, institutional investors are the central players in many European fixed income markets, though banks are particularly prominent in securitised markets. The narrowing of interest spreads through the 2000s indicates bank-based arbitrage analyses provide an incomplete account of core-to-US/UK securitised flows. Regarding inflows to the periphery, core institutional investor and fund engagement in cross-border bank debt markets increased precisely the time that bank inflows into the region expanded. This points to the need to pay attention to institutional investors.

4.5 Institutional investors and the demand for yielding products

4.5.1 Enhanced matching

To explain the move into cross-border bank and financial debt in the early 2000s, we examine the constraints investors faced in this period. The collapsing of equity values and depressed yields on government bonds led to reallocation towards higher yielding bank debt. This strategy best explains flows into the periphery, which we label risk-enhanced matching. Funds also sought yield-seeking and alternative investments which the growth of securitisation met, and explains flows into the US/UK.

Figure 4.6 shows the asset allocation of long-term institutional investors among core Eurozone-12 investors for which data are available. As shown, pension and insurance funds had a quarter of their total assets directly allocated to equities as of 2000. Unfortunately, we cannot see the split between government and corporate bonds in terms of asset allocation except to note that debt securities directly accounted for a fifth of total assets for the pension

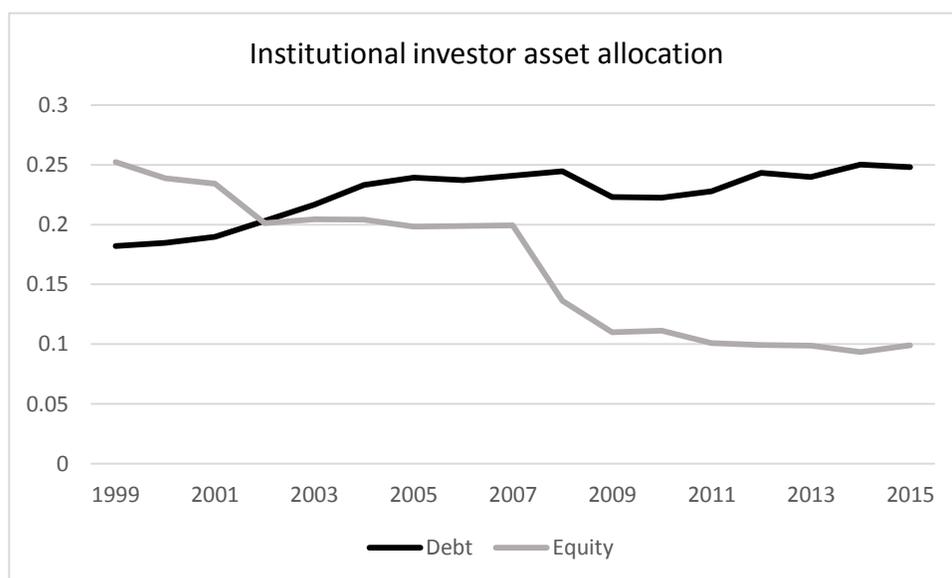


Figure 4-6: Core European institutional investor asset allocation (% total assets).

Total direct allocation based on Belgium, Finland, Germany, and the Netherlands.

Source: OECD Institutional Investors Database.

and insurance sector, with considerable variation between countries.⁴⁷ These figures stand in contrast to banks for which loans constitute the bulk of assets. Euro area banks had just 5.2% exposure to equities and held 7% of their assets in government debt in 2000 (BIS, 2001).

Pension funds and insurance companies experienced large losses on these equity investments through the bursting of the equity bubble. In the three years after the peak in late 1999/2000 the Euronext 100 index lost over half its value. Moreover, a combination of factors also led to poor returns on fixed income generally and government debt in particular. This included low policy rates, increased demand due to the rise of cash pools from corporate reserves and high-net worth individuals, and, in an era of austere macroeconomic budget management, a reduced supply of public debt (see Pozsar, 2015). The consequent depressed returns and asset-liability mismatches necessitated an alternative investment policy.⁴⁸

One option is greater duration matching. This is achieved through extending the duration of assets so as to match the duration of liabilities. In so doing, funds can squeeze more yield from their core asset portfolio and immunise it from interest rate risk.⁴⁹ This has been cited a major response on the part of institutional investors to depressed returns, and as an attractive alternative to a pure yield-type movement into volatile equities or sub-investment grade securities, for instance (IMF, 2011). Indeed, the institutional investor demand for longer dated securities implied by duration matching may help explain the progressive lengthening of bond maturities in Europe since the 1990s, a point suggested by Casey and Lannoo (2005: 17).

Bank debt was attractive given its investment grade rating, yield pick-up and tendency to be better spread over the maturity spectrum than non-financial corporate debt, which facilitates asset-liability matching (ECB, 2001). The range of new and existing

⁴⁷ In particular, due to unusually large allocations towards investment funds direct debt allocation in German insurance and pension funds is only 10% of total assets whereas the other countries allocate 30-60% towards debt. Figure 4.6 therefore significantly understates overall allocations towards debt (and equity). Also, ECB data available for the post-crisis period show pension and insurance share of allocations to both financial sector and government debt has increased.

⁴⁸ Pozsar argues that leveraged mutual bond funds reached for yield. Aggregated OECD data show that mutual funds did not experience a shift towards debt securities overall, so we focus on longer-term institutional investors.

⁴⁹ As well as being a weighted measure of maturity, duration measures the responsiveness of a bond to changes in underlying yields or interest rates. Thus, with a duration-matched portfolio the change in the value of assets matches the change in value of liabilities, for a given change in interest rates.

instruments brought to the market during the 2000s enabled return-enhanced matching capabilities in the context depressed returns. Overwhelmingly investment grade senior unsecured bank debt, whose yield depends largely on the rating of the issuing institution, offered a considerable margin relative to the benchmark sovereign rate (IMF, 2013). While unsecured debt tends to be issued more by large, established banks (von Rixtel et al., 2015), yields on peripheral bank debt were particularly attractive (IMF, 2013). Covered bonds also offered a margin over government debt. Moreover, their known, bullet payment schedule is also suitable for matching.⁵⁰

Similarly, asset-liability matching is a major reason for institutional investor interest in government debt. This is illustrated in the development of ultra long-dated public bonds during the 2000s as demographic pressures posed rising longevity risk. Post-crisis, while banks were clearly incentivised to increase peripheral holdings arising from regulatory arbitrage, the share of institutional investors funds in euro area public debt markets was the same 2016 as it was in the mid-2000s (IMF, 2016: 94). That is, over an extended period of time institutional investors' ownership of public debt has been stable. As Table 1 showed, moreover, in volume terms institutional investors dominate European sovereign bond markets. This is because their high levels of liquidity enables funds to cost effectively mimic benchmarks through constant trading (Grahl and Lysandrou, 2006). As soon as the peripherals were downgraded or in danger of being, though, institutional investors likely exited.

Thus, much of the growth in cross-border debt transactions from the core to the periphery in the 2000s was driven by reallocations by institutional investors.⁵¹ In the context of asset-liability mismatches created by the bursting of the IT-bubble and depressed sovereign returns, bank debt offered greater yield and enhanced matching capabilities. Though large carry trade opportunities existed for banks in sovereign peripheral debt post-crisis, institutional investors maintained significant positions in these markets. Institutional investors, though, not only need to match assets and liabilities or track

⁵⁰ A bullet bond is one in which the face value is redeemed all at once rather than amortised.

⁵¹ Regulatory developments through fair value accounting also discouraged pension funds to allocate towards equities (BlackRock, 2014). For insurers, solvency requirements penalise equities through higher capital charges, while fixed income securities receive favourable treatment (BIS, 2011b).

benchmarks, but attempt to create yield. The 2000s thus also saw a range of leveraged and yield-based strategies into US/UK securitised products.

4.5.2 Securitisation and the search for yield

Securitized instruments are one such mechanism through which funds generate yield, as well as facilitating matching. A classic satellite strategy is indirect exposure to securitisation through leveraged mutual and hedge funds, which allocate towards the higher risk, shorter maturity securitized tranches (Langley, 2006: 295). Hedge funds in particular are a favoured alternative investment class and are the central players in trading CDOs, as seen. Pension and insurance funds account for up to 35% of capital invested in hedge funds (Aglietta and Rigot, 2009). As shown in Figure 4.7, long-term institutional investors greatly increased their exposures to investment funds more broadly, which of course includes a variety of asset classes. Nevertheless it is illustrative as the process accelerated around 2004, which coincides

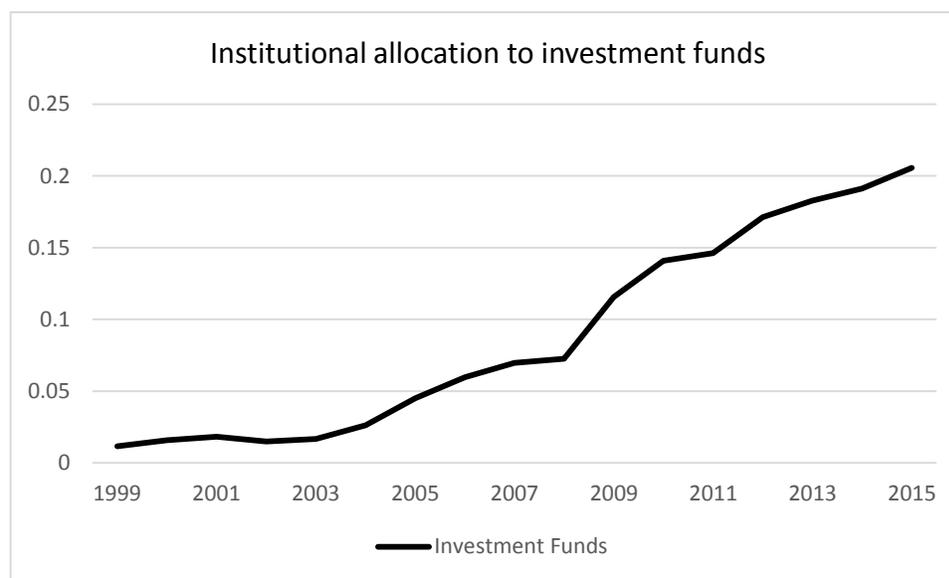


Figure 4-7: Pension and insurance funds allocation to investment funds (% total assets).

Countries as per Figure 4.6.

Source: OECD Institutional Investors Database.

with a flattening of the yield curve. That is, institutional investors' allocations to higher-yielding assets accelerated as long-term rates and returns declined.

Longer-term institutional investors are also major direct investors in securitisation. ABSs are typically of higher credit quality than the originating bank as the assets backing the securities are 'bankruptcy remote'. Unlike a regular bond, the credit quality of a securitised bond depends only on the loans/assets on which it is secured, rather than on bank solvency more broadly. But because mortgages in particular are subject to prepayment risk, the value of a mortgage-backed security (MBS) is less subject to rise when, for example, interest rates fall. As rates fall, more mortgages, and hence cash flows to the security get prepaid, but at lower rates than would otherwise be the case had interest rates remained unchanged. Coupled with the difficulty in their valuation, their relative illiquidity, and the systematic risk associated with mortgage markets, investors are compensated with higher yield, while still being highly-rated. Theoretically, they thus have a yield margin compared to covered bonds, and often have a higher rating than an institution's unsecured debt.⁵²

In practice, securitisation markets during the 2000s were rife with conflicts of interest. The fact that ratings agencies were in receipt of large fee incomes from the banking groups whose securities they were supposed to independently rate is a case in point. Banks actively solicited ratings companies on how to structure the products so as to receive the highest ratings. Investors in turn were provided with little information as minimal disclosure meant they too had to rely on ratings companies. MBSs thus provided further yield as they had sub-quality mortgages but 'carried the same imprimatur from the credit rating agencies' as AAA-rated securities (Wilmarth, 2009: 1028). The same is true to an even greater extent of structured finance CDOs.

We believe the presence of institutional investors provides a plausible explanation for the trajectory of securitised flows as spreads between the core countries and the US narrowed. For longer-term institutional investors a major appeal of securitisation is the ability of products to be tailored to meet investor-specific demands in terms of duration,

⁵² The uncertainty of their cash flows and the non-standard discount rates applied to them renders securitised instruments less suitable for asset-liability matching than government or corporate instruments. Many investment brochures locate ABSs as part of the satellite investment portfolio strategy. However, ABSs are included in many benchmarks and are clearly investment rated fixed income products such that clean assignment into core or satellite is not possible.

risk and yield. The peak of securitisation issuance in Europe and the US combined was 2006. This coincided with the mid-decade flattening of the yield curve such that long-term interest rates were further depressed. It is noteworthy that the expansion of securitised products also coincides with long-term institutional investor allocations to investment funds from the mid-2000s as shown in Figure 4.7. That is, securitisation peaked as the search for yield was greatest.

While it is the case that a flatter yield curve squeezes banks' interest margins, and in so doing can encourage greater leverage and hence investment in securitised products, the development of securitisation indicates otherwise. The two types of securities that experienced the largest relative growth were MBSs and CDOs. MBSs are more associated with the generation of fee income, as opposed to arbitrage holdings. The longer duration of MBSs compared to other securitised products renders them attractive for institutional investors. A significant chunk of CDOs remained within banking conduits for arbitrage purposes, as reflected in the large share of banking entities as primary investors. But CDO growth during this period was driven by so-called synthetic and index tranche CDOs. And the major investors in these were non-banks, primarily hedge funds (Lysandrou and Nesvetailova, 2014).

The expansion of cross-border securitised instruments is therefore strongly indicative of demand pull pressures on banks from funds to create safe high-yield fixed income securities. The relative expansion of MBSs and CDOs particularly indicate pressures for yield but for which insufficient materials were available from the prevailing pool of securities. This may help explain why banks increased their investments in arbitrage conduits and how capital flows from the core to the US peaked as interest differentials between the two regions declined. Interest rates began to rise in the US mid-2004, but the ECB held rates flat until 2006. Moreover, as noted long-term yields lowered further in the Eurozone (and elsewhere) as the yield curve began to flatten. Thus the narrowing of rates between the regions did little to abate the reach for yield, and hence the flow of capital from the core. Despite this narrowing, the flows of securitised products necessitated by pressures within funds enabled banking groups to continue to reap income from securitised investments, but in larger volumes.

Another possible, but related explanation emphasises developments on the funding side. The key instrument used by the various shadow banking vehicles and conduits was asset-backed commercial paper (ABCP). Shabani and Lysandrou (2015) argue the development of this market, especially during the years immediately before the crisis, points to a search for yield among institutional investors. For instance, the composition of asset holdings among US money market mutual funds (MMMF), the major purchasers of ABCP issued by European shadow banking entities, shifted away from corporate and financial paper and towards ABCP. The composition of the collateral backing ABCP began to shift as well, away from credit loans and towards securities, presumably securitised assets. This, according to Shabani and Lysandrou, is indicative of pressures from institutional investors (MMMFs in this case) in which it was the search for yield in the ABCP market that drove European banks continued investment in US securitised assets as interest rates between the two continents narrowed. The point remains that whether driven by developments on the funding side MMMFs or by longer-term institutional investors as above, bank engagement in these markets has been crucially shaped by developments outside the putative banking system.

In sum, the expansion of debt-related flows in the 2000s should be seen in terms of investor reallocations in the context of depressed sovereign returns and large equity losses at the turn of the century. This entailed greater allocations towards peripheral bank bonds as investors sought return-enhanced matching. Allocations towards US/UK securitised products constituted a search for yield. While arbitrage investments among banks were undoubtedly a central component, the timing and composition of the production of securitised products points to the driving force being demand pull pressures on the part of institutional investors.

4.6 Policy implications

Much of the post-crisis regulatory response (such as Basel III) has focused on the banking sector. This is understandable given the immediacy of the banking sector in the various crises that began in 2007/08. It is also true that financial crises in which the banking sector is insulated from tend to be far less severe, as demonstrated by, for instance, the relatively modest socioeconomic effects of the IT bubble crash of the early 2000s compared to the

recent global crisis. That said, it has been our contention that the institutional investor and fund sector has been central to the propagation of destabilising debt flows through the demand for return-enhancing and yield-producing debt products and strategies. The identification of institutional funds and long-term institutional investors as opposed to banks requires a somewhat different menu of policy prescriptions.

In terms of where policy reform should ultimately lie, it is contestable to what extent global versus domestic forces encouraged excessive debt issuance on the part of domestic banks in various countries. Notwithstanding the undoubted importance of distribution in affecting aggregate demand, and hence debt accumulation, as we saw in Chapter 2 income inequality slowed among advanced countries in the 2000s. This does not sit well with accounts that give primacy to distributional dynamics in precipitating the demand for credit that debt-based capital flows met (see, for example, Stockhammer and Onaran, 2011; van Treeck and Sturn, 2012). Moreover, approaches to domestic-global credit dynamics that focus on deregulation and financial innovation have difficulty explaining the timing of credit growth. Covered bonds and unsecured debt products, and many of the legal infrastructures surrounding them are not new, but they began to grow rapidly around 2003/04. Part of the reason is a desire among banking groups to lock-in low rates over a long-term horizon. In the case of securitisation, however, such a domestic focus is less convincing. While Acharya and Schnabl (2010) document that legislation for conduits clustered around the early 2000s consistent with a regulation-centric approach, is the timing of such simultaneous regulatory initiatives chance? The coincidence of debt expansion with large asset-liability mismatches implies pressures from internationally-active institutional investors as the key driving force, and necessitates a corresponding international policy response.

Given the myriad of ways nations finance long-term savings and retirement plans, regulation of long-term institutional investors at the European level has been until recently relatively underdeveloped. The major post-crisis reform is Solvency II, the EU directive for European insurers.⁵³ By imposing capital charges on riskier investments, it may indeed reduce the risk characteristics of various funds. It does not, however, address the underlying problem which led investors to take on more risk in the first place – depressed returns and

⁵³ Regarding investment funds, the Alternative Investment Fund Managers Directive has been introduced at the European level.

large asset-liability mismatches in the context of a low return environment. To the extent that funds are allowed to take on more risks, financial stability is threatened. According to a recent IMF financial stability report, low interest rates are ‘eroding the viability of business models’ and ‘threatening solvency over the medium term’ for European and advanced-country insurance and pension funds (IMF, 2016: 24). In the Eurozone there is evidence that ECB asset purchases are leading long-term institutional investors to further extend the duration of their portfolios, which compresses long-term rates more, and may then magnify the original mismatch (Domanski et al., 2017). But to the extent that funds are prevented from taking on risk, which current initiatives attempt to do, returns on savings and retirement incomes may suffer. This is in a context of already large strains put on European social safety nets in recent years.

Such problems are only exacerbated by the drive towards more restrictive macroeconomic policies by the EU and ECB. On the one hand, putative fiscal prudence has a deflationary impact on the economy, which in turn creates the need for monetary stimulus. But it also reduces the supply of government debt, which further encourages a search for alternative investments. The response of many national governments, spurred on by the EU, has been to introduce various measures aimed at shifting the burden onto savers. This has included increases in the retirement age and a greater tendency towards defined contribution pensions. This constitutes a further reliance on market mechanisms at precisely the time various forms of social safety provision have become more precarious. It is also the case that greater marketisation of social security is not particularly cost effective. Private and occupational-based schemes tend to have significantly higher administrative costs than public schemes given the large economies of scale of the latter (see Grahl, 2009).

It could thus be argued that a move towards deinstitutionalisation of savings and large cash pools may be desirable from a financial stability perspective. Deinstitutionalisation of savings or a move towards public provision constitutes a significant departure from the current direction of EU policy. According to a recent EU Commission ageing report, though, the required increase in public pension expenditure ranges from 0.4% to 11.7% of GDP for the period up to 2040, followed by comparable declines in spending for the period to 2060 (EU Commission, 2015: 74). Of course there is much variation between countries and it is also assumed that various eligibility criteria are to be restricted. In France, for instance, current expenditure is 15% of GDP (*ibid.*). Greater

public funding of long-term savings may therefore be quite feasible. Nevertheless, national retirement and savings systems have developed over decades and exhibit high degrees of path dependence. This is despite the considerable influence of social democratic and left-oriented parties in the post-war period, and converging forces in the neoliberal era. A comprehensive move towards, for instance, pay-as-you-earn systems is thus unlikely.

A more sensible policy would entail shifting the burden of macroeconomic management back onto fiscal policy and away from monetary stimulation alone, which would contribute to alleviating mismatch imbalances in financial markets. On the cash pool side improvements in employment and wage growth are likely to reduce inequality and the supply idle funds, so that a growth strategy would complement a more expansionary fiscal stance from a stability perspective. This would create the context in which policies aimed at diminishing destabilising debt flows through various fund and financial regulatory initiatives are likely to be effective.

4.7 Conclusion

This Chapter has argued that the emphasis accorded to banks in understanding global fixed income processes is misplaced. Using Europe as an example, we have argued that institutional investors play a central role in the propagation and dynamics of cross-border debt flows. We analysed debt flows emanating from the core Eurozone-12 countries in the form of long-term bank and public flows into the periphery, and securitised flows into the US and UK. Bank-centered approaches plausibly explain a large portion of cross-border bank and public debt flows and much cross-border securitised flows as opportunities arose for income-based strategies.

There are, though, a number of anomalies with bank-based approaches. Banks are generally not the main movers of those European fixed income markets most central to cross-border debt flows. Bank analyses fail to account for the timing of flows. Core banks' engagement in cross-border bank securities appears to have declined precisely as bank inflows in the periphery accelerated. Securitised flows into the US and UK peaked as spreads narrowed between the Eurozone and the US, and also within the Eurozone. While the precise reasons for bank investment in fixed income securities may be unknowable without access to trading records, the coincidence of fixed income expansions with

asset-liability mismatches among institutional investors indicates the driving force in core-centered debt flows lay outside the banking system.

In the context of collapsing equity markets and depressed yields on government debt, large institutional investors began to adopt return-enhanced and yield-seeking strategies. Institutional investors were able to avail of peripheral banks' desire to issue long-term debt instruments for extra yield and enhanced asset-liability matching. Moreover, the search for yield created pressures for the production of yielding instruments that securitisation met. These developments have strong implications for public policy in that financial stability is difficult to reconcile with long-term savings strategies if the current policy of low interest rates is continued. Of course, low rates are justified in the context of sluggish growth which points to other domains such as fiscal expansion to lighten the burden on monetary policy in promoting recovery.

Chapter 5 : Conclusion

This dissertation has examined a variety of topics in financialisation and cross-border financial stability in Europe, and also the US. It has utilised institutional and political economy analysis, and developed an analytical framework grounded in historical materialism as elucidated in Chapter 2. This informed and provided a basis for work in later chapters. The thesis has addressed a number of issues about the nature of financialisation, financial trading, housing dynamics, and on the roles and relationships between institutional actors in financial markets. It made several claims about what the true nature of financial change has been. Many of the central propositions of the thesis can be generalised to other and non-European contexts, and some of them can not. In concluding we summarise our findings, evaluate their generalisability, explore avenues for future research, and integrate our policy conclusions.

Chapter 2 challenged the consensus on the transformation of banking, especially in relation to disintermediation. It developed a materialist framework based on neoliberalism, accumulation, and standardisation. It argued that neither the withdrawal of non-financial firms from the financial system nor competition for deposits from non-bank investors had been responsible for the decline in intermediation returns over the period considered, with the exception of France. The idea, then, that banks transformed themselves, in aggregate, through reorienting their activities towards more profitable endeavours is false. The growth in mortgage lending was instead a result of the imposition of the Basel Accords and associated capital adequacy rules, and neoliberalisation of domestic property and credit markets. Distributional dynamics have played only a secondary role. The increase in scale and scope of investment banking activities was seen to be a result of the growth of capital markets, itself to a considerable extent traceable to advances in medical knowledge. This then created a demand for investment banking activities. Deregulation of financial service activities has played a relatively minor role in terms of the scale and size of the overall sector.

The idea that disintermediation has not been responsible for the decline in intermediation returns among banking systems is context dependent. Disintermediation has

been an important determinant of banking change for some countries, especially operating at the micro level. As before, Dymski (1999; 2000) and Kregel (1998) provide convincing accounts (in the US before the period under consideration and France) of how disintermediation contributed to a decline in lending income and encouraged, along with other factors, consolidation and acquisition of fee-generating entities. As mentioned, we found evidence of this in France, but less so in Germany, Italy, Spain, and the UK where mortgage lending, not disintermediation processes, initiated the decline in lending returns. Whether countries follow a US/French model or whether they conform to the experiences of Germany et al. is an avenue for future research. Given the experience of the US, data on the countries examined here before the 1980s might also produce some interesting results.

That the neoliberalisation of domestic credit and property markets has been a major factor in the expansion of mortgage lending is quite uncontroversial. It is equally applicable to countries other than the six studied here. That the imposition of the Basel Accords has been the major precipitating factor in the expansion of credit cannot be universally assumed given, the experience of especially the UK. The somewhat delayed secular growth of housing and mortgage markets in the US and France compared to the other countries also merits further probing. But it seems likely to be the case that capital adequacy agreements have had a powerful effect elsewhere as indicated by multiple-country/aggregate credit data (see Jorda et al., 2016). Our critique of distributional factors as a major explanatory mechanism in the increase in indebtedness is, in our view, likely to be applicable outside our six countries. As mentioned, lower income groups tend to be excluded from mortgage markets and inequality decreased in several countries during the 2000s as economies boomed. An exception, of course, was US subprime lending, but with regard to the overall expansion in property lending, the quantitative contribution of lower-income groups' inclusion in mortgage markets needs to be established.

The connection between the growth of capital markets and the rise of investment banking is a logical one. As we have repeatedly stressed, more financial market activity necessitates more investment banking services. It comes as no surprise, therefore, that the relationship holds across all six countries. The relationship may be more difficult to discern in financial centres such as Luxembourg or Ireland, as it was in the UK. Capital markets there have grown out of all proportion to the local economy, and are not serviced by the domestic banking system. As well as continued internationalisation of banking, greater

competition or consumer protection in the sector may alter fee structures and disrupt the relationship. Though it may not always be readily revealed in the data, the relationship can be generalised. Consequently, deregulation of financial service activities has not been the driving force behind the aggregate growth of investment banking, though it has facilitated the growth in size of financial institutions.

Chapter 3 posed two questions. First what contribution has financial trading made to the development of systemic financial instability in Europe and the US? Second what are the nature and financial stability implications of proprietary trading? It was argued that financial trading, especially cross-border trading, has had a major impact on the development of financial instability. In the early post-Bretton Woods period this came in the form of repeated currency crises as investors took positions and availed of exchange rate volatility. As Europe graduated to repeated housing and credit-led banking crises, the role of trading became more indirect. Institutional investors in particular provided liquidity to financial intermediaries. It was further argued that proprietary trading has been driven by the institutional investor-led expansion in trading as banks have availed of opportunities for gain. We found that proprietary trading has not posed comparable financial stability implications as the expansion of property lending has. The latter has been more frequently associated with systemic crashes.

The generalisability of these findings is a more complex question than it is for Chapter 2. Our region of interest was Europe and the US so the findings are unlikely to be applicable to most other regions given the wide disparities in development. It is highly unlikely that Africa is about to be beset by a series of housing bubbles. The spectre of currency crises has not vanished from Latin America either. Within Europe the size and stability of capital markets will have a large effect on the susceptibility of countries outside of the euro to currency attack. The continued growth of capital markets relative to lending would also increase the susceptibility of banking systems to trading losses. The degree of commodification of housing, along with bank funding mechanisms, are among the determinants of a country's vulnerability to housing bubbles.

Similar to the growth of investment banking more generally, the connection between capital market trading volume and proprietary trading was a logical one. However, scale effects are likely to be especially important in market-making, and hence proprietary

trading. As a result, proprietary trading is more regionally concentrated. This may help to explain why the relationship between bank trading income and capital market volume is not as strong as the connection between the size of capital markets and investment banking income generally. First-mover advantages, the size of financial intermediaries, and other historical and institutional factors are likely to shape the scale of trading. The expansion in capital market volume is, though, the driving force. Credit and housing market developments are likely to be of even greater consequence for financial stability outside of the major countries that were the subject of Chapter 3. This assertion, though, needs to be established.

Chapter 4 examined the determinants of debt flows emanating from core European countries into the periphery and the US and UK securitisation markets. Contra the global bank framework, Chapter 4 forwarded an explanatory paradigm which posited that institutional investors shape the trajectory of long-term fixed income markets. A la Chapter 3, major banking groups avail of trading opportunities when they arise, but ultimately they do not shape markets in the sense that institutional investors do. This proposition was then substantiated empirically. It found that existing research on European capital flows had put too much emphasis on bank position taking. Due to asset-liability mismatches, institutional investors reallocated towards peripheral debt instruments, and US and UK securitised products.

The salience of institutional investors in financial markets and cross-border transactions is an insight that can be applied elsewhere, but needs to be modified according to local conditions. As outlined in Chapter 3 and reinforced in Chapter 4, when opportunities for short-term trading gains arise due to, for instance, currency speculation or cross-border carry trades banks have historically featured prominently. More recently, though, hedge funds have emerged as major players in short-term speculative markets, all the more so since the weakening of bank own-account trading in the post-crisis landscape. But when financial transactions are more associated with investment in capital market securities, namely debt and equity instruments, institutional players are likely to be the driving force. Financial flows between developed countries are thus likely to be driven by longer and medium-term investors such as insurance, pension, and mutual funds. Developed-country institutional investors are important in portfolio flows to developing

countries as they search for yield, and hedge funds feature prominently there too. In both instances banks may take large positions but, as before, are unlikely to lead proceedings.

Outside of generalisability claims per se, the PhD leaves a number of questions unanswered and opens up avenues for future research. One is why did France but not the remaining countries experience a decline in intermediation returns? What is it about those financial systems that insulated them from declines in profitability arising from competition for deposits. Was this merely a result of the timeframe of the study as is surely the case in the US? A historical institutional comparison of France with the US, or a contrast between France and the US on the one hand, and Germany and co. on the other may be revealing. Similarly, why was the effect of the Basel Accords and associated capital adequacy rules delayed in some countries but immediately manifest through greater mortgage lending in others? The Basel Accords clearly had an important allocative effect on the French banking system, for instance, as indicated by increased holdings of government debt. This may call for a more in-depth study of the French, UK and US housing markets and/or detailed examination of their banks' asset portfolios during the period in question.

Chapter 3 similarly poses a number of questions. In terms of proprietary trading, the mechanisms through which banks earn income from own-account positions need to be more fully fleshed out. For instance, some historical data comparing the swap spread – the difference in yield between the fixed leg of an interest rate swap and a government treasury – before and since the early 1990s could prove informative. If the relationship has grown more unstable over time, then that would be further evidence that the expansion in institutional investor demand for treasuries (or swaps) created opportunities for position taking. More generally, the enormous growth in the interest rate swap market needs to be mapped-out and chronicled more fully.

With regards to cross-border transactions, Chapter 3 and Chapter 4 raise similar issues. There is a significant body of research on the domestic institutional conditions that increase the likelihood that capital inflows will destabilise the economy. This sits alongside a lack of awareness of how the expansion in capital flows and cross-border transactions since the early 1990s has been driven by institutional investor benchmarking and the standardisation of asset management. And then during the 2000s, debt flows in Europe were driven by searches for yield among investors. These insights, then, need to be

incorporated into an understanding of domestic processes. For instance, to what extent does greater use of deposit and/or short-term money market instruments versus longer-term debt instruments in bank funding insulate an economy from cycles of financial flows? Interestingly the Scandinavian housing bubbles of the late 1980s and early 1990s predate the recent expansion in cross-border transactions. They were more associated with international interbank flows.

As for policy implications, Chapter 2 considered the possibilities of reducing the size of the financial sector going forward. It argued that reducing the size of mortgage markets is difficult in the medium run given the institutional inertia embedded in, and coordination problems in changing, international agreements. There is little reason to suppose, though, that the growth in mortgage lending necessarily leads to large swings in land and property markets. Reducing the size of the commercial banking sector is, however, more feasible than large reductions in the scale of investment banking. This so as investment banking derives from the expansion of capital markets, where the latter's current size and scale is likely to be a permanent feature of advanced countries going forward. Chapter 3 similarly concluded that the most pressing financial stability need given available tools is the mitigation of large undulations in housing and land markets. Reducing swings in property prices and the size of the commercial banking sector through policy reversals is, as mentioned, difficult given the adherence to market openness and capital adequacy agreements by the EU. A range of macro-prudential tools are also available to policymakers such as stricter loan-to-value ratios or debt service-to-income caps. Leverage caps and levies on non-core liabilities have also been proposed and incorporated into Basel III in one form or another (Shin, 2013). Such tools are more associated with preventing bubbles and, as such, require policymakers to correctly identify a bubble is emerging. Their efficacy is also strongly dependent on timing as they may do little to deflate a bubble that is in its latter stages, when it is more likely to be spotted. More generally, aside from capital adequacy reform, macro-prudential regulation does little to reduce the size of, or rebalance the economy away from finance. This underscores the importance of interventions on the real side that give rise to outcomes on the financial side. As before, this may be achieved indirectly through stronger regulation of tenant-landlord relationships, rent controls, social housing programmes, and other interventions.

The difficulties associated with large reductions in the size of the investment banking sector do not obviate the need for other interventions. Chapter 2 also made the point that reducing the large fees the sector extracts from consumers and investors is desirable. We saw in the following chapter that US investment banks earn very large fees through equity transactions, for instance. Chapter 3 more generally examined in some depth how the sector extracts income from investors through proprietary trading. Though proprietary trading has not posed the same financial stability problems as property lending according to recent economic history, these risks are far from negligible as the recent crisis demonstrated. Threats to the payments system can still arise as in Germany, France and other European countries through trading in ‘toxic’ securities. Initiatives aimed at curbing and greatly reducing such practices are desirable. This is especially true of banks’ trading of securities that embody credit risks such as credit guarantees, which have been restricted in Germany. As always, regulations, such as those on proprietary trading, must be counterbalanced against the possibility that banks may withdraw from market making operations. But insofar as the rise of speculative trading involves unacceptable transfers of income between entities, and restrictions on bank trading merely result in such practices migrating to hedge funds, more needs to be done. Much more heavy-handed consumer protection in investment services is in order as is seriously scaling back the power of hedge funds. This is another avenue for further research in financialisation.

As Chapters 3 and 4 developed, the risks posed by financial trading is less to be found in large, speculative positions as it is centred on the provision of liquidity to the banking system. As noted already, provision of liquidity cannot be reduced to institutional investors, but they are the driving force in cross-border financial flows today. Low interest rates in a context of fiscal tightening can engender destabilising searches for yield. The shortage of ‘safe’, government instruments can, as we have seen, lead to reallocations toward banking system liabilities, with possibly disastrous consequences. As outlined in Chapter 4, a redistributive growth strategy would have a number of welcome side-effects. Greater use of fiscal expansion would ease the burden on monetary policy to stimulate the economy. As the economy recovered, a stronger case could be made for raising interest rates. The increased supply of, and higher returns on government debt would greatly mitigate the need for shifting into alternative asset classes. Redistribution, especially away from the super-rich, would diminish the supply of idle cash pools. Combined, these two,

incidentally, would also diminish the need for speculative vehicles such as hedge funds. Addressing imbalances in the fund sector, then, complements attempts to make the banking system more stable and less prone to housing and credit boom-bust cycles. It also helps efforts that address problems arising from speculative and proprietary trading.

In sum, this PhD has found financialisation to be a multifaceted phenomenon. It is variegated across locales though homogenising trends are also apparent. Many of the findings of the thesis are applicable to other contexts, whereas some are not. The question of to what degree this may be true provides avenues for future research. The expansion of capital markets was found to be a fundamental process, from which others derive. Rather than trying to reduce the size of the financial sector in this domain, the issue is managing it and its consequences. This includes risk-taking within investment banking and asset management, with the latter in particular directly linked to macroeconomic policy. Interventions that have been subject to discussion in policy circles, such as proprietary trading, have also been discussed here. We are not opposed to more far-reaching interventions such as greater public ownership in the financial sector. This seems especially pressing in the case of commercial banking. Large expansions in property lending, another key feature of financialisation, have been implicated in most systemic events over the last number of decades. Interventions could take the forms of greater public ownership of the housing stock which, if implemented, would help mitigate large undulations in land and property markets. Such initiatives would serve to limit the adverse effect of capital market growth; for instance, cross-border debt flows inflating asset bubbles. The precise policy mix would, of course, depend on local circumstances.

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