

European Capital Flows: An Investor-led Approach

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This paper examines the determinants of cross-border debt flows in Europe in the 2000s from the perspective of international investors. It examines both core and peripheral regions. It finds that the emerging global bank paradigm and an arbitrage framework explain only a portion of overall debt flows. Specifically, it fails to account for key aspects of the timing and composition of debt flows. We instead put forward an explanation based institutional investment funds. Due to depressed yields on government debt and losses from the bursting of the dot-com bubble investors suffered large asset-liability mismatches. As a result investors instead moved into financial bonds for enhanced matching and leveraged and yield-seeking securitised products.

Keywords: Europe, capital flows, institutional investors, global banks

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Introduction

The centrality of capital flows in the European crisis is by now widely recognised. Large cross-border debt transactions played pivotal roles in the appearance of crises in both core and peripheral regions. In the core, the subprime crisis quickly spread to Europe as large banking entities in the major counties suffered losses on investments in the US shadow banking system. In the periphery, cross-border debt flows played central roles in fuelling and magnifying asset bubbles. Since the crisis period, public flows partly substituted for collapses in debt flows, while equity flows remained relatively resilient.

The crisis has thus brought a number of issues to the fore. The reliance of core banks on US-based dollar funding for their US investments, and the fact that core financial entities were also the major investors in the peripheral banking systems reinforces the global dimension of the crisis. More generally, the complex cross-funding patterns entailed by these transactions has brought into question the relevance of traditional metrics such as net capital flows and the current account balance. Perhaps the major non-US investor in the US shadow banking system were UK-based, which ran current account deficits during the 2000s. Similarly, Irish banks borrowed heavily in the European interbank market from, among others, UK-based entities and deployed much of the proceeds back into the British property market, which is neutral from a net flow perspective.

Rather than focusing on just aggregate macroeconomic variables, the global bank framework thus pays attention to key institutions that are said to dominate the global financial landscape. This is perhaps the major paradigm to emerge since the crisis and has garnered support within and outside the mainstream (Cerutti et al., 2014; Shin, 2012; Gabor, 2014; Tokunaga and Epstein, 2014). As we describe later, the central tenet of this approach is that one needs to focus on the actions of global banks in order to understand global financial processes and transactions. Cycles of leverage among large global institutions are transmitted to local intermediaries. Through a waxing and waning of appetite for risk, easy monetary environment, propitious macroeconomic conditions in recipient countries, and possibly arbitrage opportunities global banks in core countries fund local entities which then expand their balance sheets in domestic economies.

This paper explains the trajectory of European cross-border debt flows in the 2000s by focusing on changes in international investor practices. Our focus is on debt dynamics in both core and peripheral regions. Because of the centrality of the UK, it is not possible to focus just on Eurozone countries, so our baseline is EU-15 countries and European countries more generally depending on data availability. At the individual country level, capital flows may be best conceived as mutually determined by global and domestic factors. Given, though, the tendency of capital flows to come in waves, whose impact is temporally specific but spatially diverse, the focus here is on global factors. We find the so-called global bank paradigm to be an unsatisfying account of the growth of credit-related flows since the 2000s. Though, an arbitrage-type framework is well-equipped to explain a significant portion of securitised-based transactions, and public debt flows post-crisis, there is little evidence that this constituted the central mechanism for channelling debt flows overall. While the importance this paradigm attaches to agents and actors is welcome, we argue it places too much emphasis on banks without due regard for the range of investor types that exist in modern financial markets and their different prerogatives. The expansion of credit flows is instead explained by the losses suffered by institutional funds after the bursting of the late

1990s technology bubbles. Coupled with secular declines in the supply of, and yields on government bonds, and buoyed by regulatory changes, this culminated to produce long-term asset-liability mismatches for investors. One consequence was greater allocations towards financial sector bonds. A second consequence was demand pressures on the part of institutional funds for the creation of yielding products which found expression in the growth of securitised products. In this sense part of this paper is related to the work of Caballero (2009) Pozsar (2015), and Lysandrou and co-authors (2011; 2015; forthcoming) which sees the growth of shadow banking arising from pressures from cash pools and within the institutional fund sector for yielding products.

The outline of this paper is as follows. Section 2 outlines trends in and the geography of cross-border debt flows. The following section outlines and critically examines the global bank framework as it relates to the European crisis. Section 4 advances an explanation of cross-border debt flows in terms of asset-liability mismatches and the demand for yielding instruments. Section 5 discusses some policy implications while Section 6 concludes.

Trends in Capital Flows

The geography of debt flows both to the core and periphery is quite well established at this stage. Debt inflows into the core countries grew to a significant degree through investments in US asset-backed securities as well as other corporate debt products (Bertaut et al., 2012). A major component of this was through conduit and other shadow banking entities (located offshore in Ireland and Luxembourg) sponsored by banks in principally Germany and the UK, but also France and the Netherlands. Though large gaps in the data exist (see, for instance, Shin, 2012), European banks raised dollar funding through a variety of means to buy securitised products primarily originated in the US, but also the UK. Most directly, shadow banking entities issued asset-backed commercial paper from US money market funds (Acharya and Schnabel, 2009), 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, 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. As will be shown, the vast majority of these instruments were themselves issued offshore.

As shown in Figure 1, we see that both core and peripheral regions experienced a surge in debt inflows which began in the early 2000s. In particular the expansion of private flows commenced after 2002 and peaked in 2006. In core countries the expansion of debt flows was dominated by long-term bank inflows to a greater extent than in the periphery, though the relative size of the expansion was less impressive. It is noteworthy, though, that a large change in the composition from public to private bank flows is evident. For the periphery, the expansion of cross-border debt constituted somewhat of an explosion given the relatively small base. Other debt flows, which include non-financial and non-bank financial debt, were relatively more important here than the core. That said, once the crisis hit bank flows showed much sharper reversals and as such merit greater attention from a financial stability viewpoint. Moreover the post-crisis landscape witnessed the re-emergence of public flows as exchequers in both regions came under pressure.

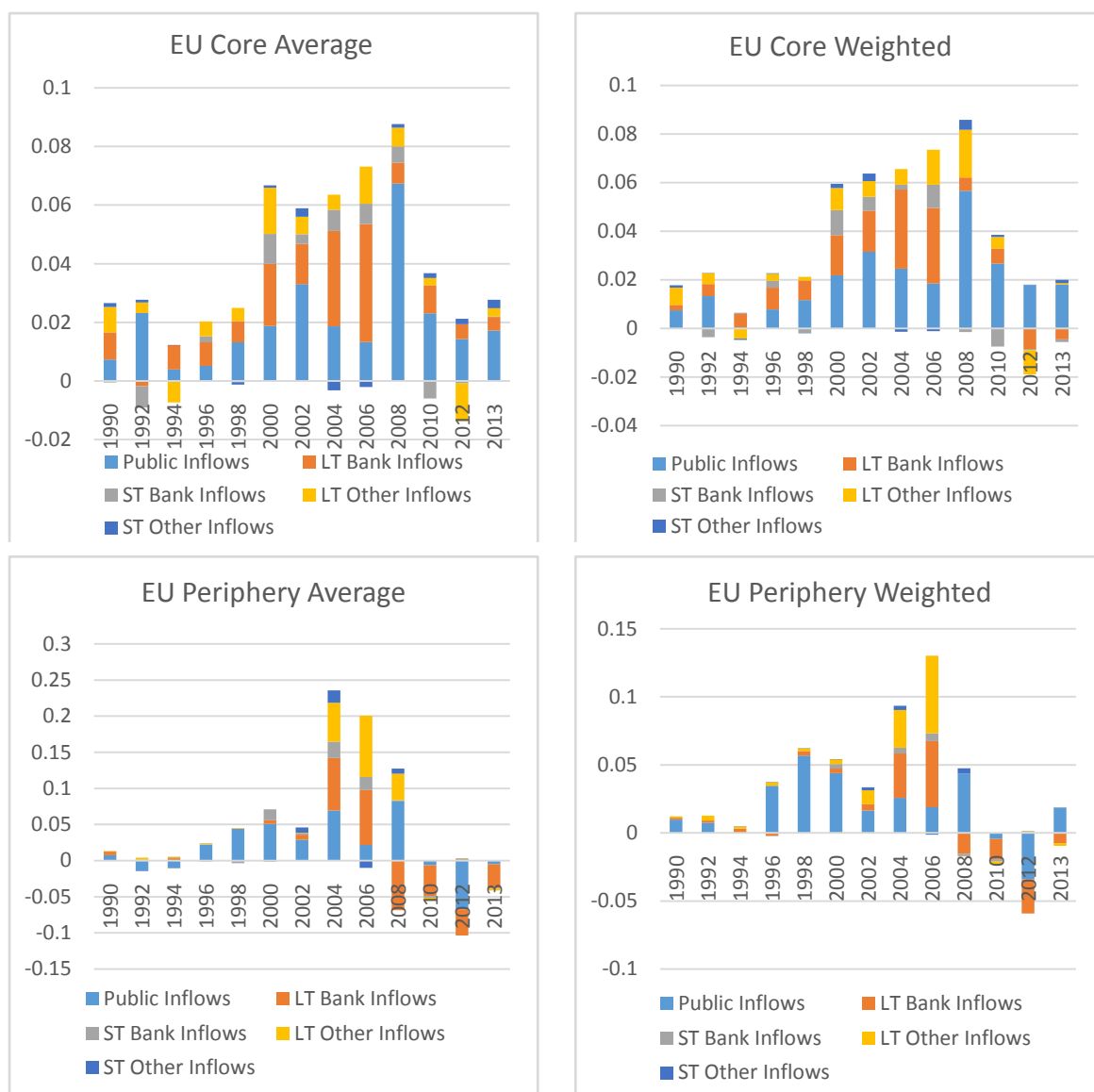


Figure 1: EU-14 Capital Flows (EU-15 excluding Luxembourg)

Source: IMF BOPs Statistics

Notes: Periphery comprises GIPSI countries. Weighted denotes GDP weighted.

The above trends point to the centrality of private debt flows in both the core and periphery with bank flows playing a particularly important role from a stability perspective. As noted, a major portion of European inflows into the core was from US-originated securitised products. Except for 2003, which was dominated by mortgage agency issuance, consistent large inflows into the core shown in Figure 1, 2006 was the peak year of issuance of US securitisation, a year in which CDO issuance showed particularly impressive growth (Blommestein et al., 2011). This is also true to a lesser extent of collateral originating in Europe as shown in Figure 2 below. The mortgage-backed security market, though, has been the primary driver of European securitisation in the 2000s pre and post crisis. Mortgage collateral originating in the UK accounts for the largest share of the market, with the Netherlands, Italy, and Spain being important too (see, for instance, AFME, 2015: 10). The cross-border implications of this can be seen from the fact that at the peak of the market pre-crisis, 70% of UK mortgage securities were sold to foreign investors (Wainwright, 2010: 6).

The other major component of cross-border debt flows in Europe was various on balance sheet funding instruments. Figure 3 below shows the issuance of the two major sources of long-term on balance sheet funding for European banks, unsecured and covered bonds. While aggregated data is not publicly available that decomposes various instruments according to country ECB MFI statistics give provide a glimpse. Rixtel et al. (2015) note that among the major countries, issuance of long-term bank debt through the 2000s fell sharply for Germany, stagnated or somewhat increased for France and the UK, and increased sharply for Spain and Italy (and also the Netherlands). Moreover, during the growth of years of debt issuance, almost all covered bonds from peripheral countries were issued internationally and far exceeded the international issuance percentage of core countries, though the figures are comparable for general bank bonds (ECB, 2011). Evidence thus points that on-balance sheet cross-border debt issuance growth to be driven to a significant extent by the peripheral countries.

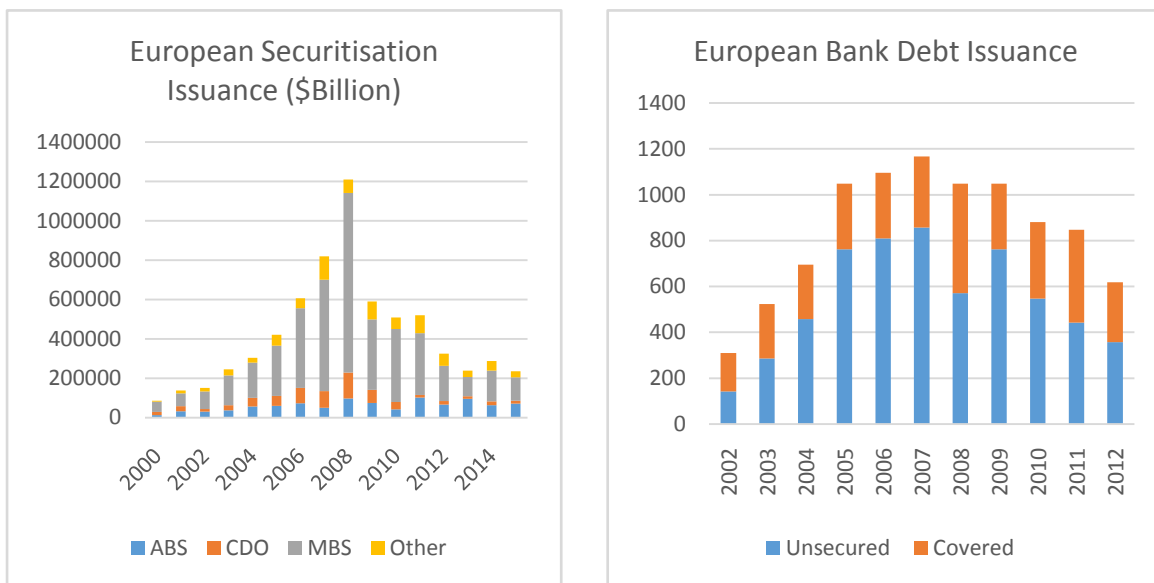


Figure 3: European Bank Funding

Sources: AFME and Dealogic taken from Le Lesle (2012)

In sum, the expansion of debt flows can be seen in terms of three different funding sources of quantitatively similar magnitudes: US securitised products,¹ European securitised products, and on-balance sheet long-term funding. Publicly available data does not exist on identifying the holders of securities on a product, and investor type basis. As mentioned core countries were major investors in both securitised and on-balance sheet long-term funding, with inflows into the core driven by securitisation whereas on-balance sheet funding was relatively more important for the periphery. Moreover, as we argue it is the institutional investor sector that are key to understanding these developments. Among European countries the largest institutional investor sectors are located in the UK, Germany, France, the Netherlands, and, for mutual funds, Luxembourg. Since the crisis, public inflows have become the dominant source of cross-border debt flows.

¹ According to figures by Blommestein et al. (2011) US securitisation issuance in 2006, for instance, was approximately \$3 trillion of which perhaps one quarter was held by in Europe (Bertaut et al., 2013).

Accounting for Capital Flows in the 2000s

In this section we critically analyse one of the major paradigms to emerge since the crisis, the global framework. After outlining its main features relating to the European crisis, we then critically analyse it. In particular it is argued that the global bank framework fails to adequately account for the timing of capital flows. We show that banks are not the main movers of most European fixed income markets and non-bank engagement appears to have increased at precisely the time when capital flows peaked.

Global Banks, Regulation, and Distribution

Most generally, the impetus for investment on the part of banks arises from cycles of leverage 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. The resulting fall in risk weights in capital requirement assessments and loose monetary policy facilitates expansion of assets through issuance of debt instruments, thus increasing leverage. Through an economic expansion, bank asset values may increase though proportionately not as much as equity values, which facilitates further expansion, and so on. This framework has been directly deployed to analyse European banks' investment in the US shadow banking system in particular (Shin, 2009, 2012), as well as the peripheral crisis through case study analysis (Everett, 2015). In both cases, increases in leverage among the banking sector has been the central theme.

Often extending the leverage framework, a related literature focuses on arbitrage possibilities available to core European banks. For Archarya and Schnabel (2009) and Bertaut et al., (2012), the core bank borrowings from US markets deployed back into US securitised products constituted arbitrage positions. Lax regulation in Europe enabled proprietary gains as minimal to no capital charges needed to be held against 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.).

This line of reasoning is well-equipped to explain much of capital flow growth in the 2000s. The global nature of large banks gives rise to contemporaneous cross-border flows across regions. As we show below, among European investors, large banks were the primary direct investors in US securitised products and overwhelmingly the case in CDOs, the most speculative of securitisation products (Citigroup cited in Caouette et al., 2008: 523). This is consistent with the realisation of large arbitrage profits through off-balance sheet vehicles as per Archarya and Schnabel and others. Similarly, post-crisis in the context of collapsing state revenues, automatic stabilisers, and initial stimulus packages among several countries, governments across Europe borrowed heavily. With the perception and reality of the crisis being more severe in the peripheral countries, sovereign spreads began to widen around 2008/09. As described by Archarya and Steffen (2015), this encouraged both core and peripheral banks to borrow heavily in the short-term money markets and increase their holdings of peripheral debt and to pocket the carry.

Problems with the Global Bank Framework

These approaches, though, have a number of limitations. For one, Banks (except in interdealer terms) are not the major movers of financial markets, including international markets. Table 1 below shows the breakdown by investor type of the major debt instruments in European capital flows in terms of ownership and trading volume among European investors.

	Investment Grade Debt	Covered Bonds	Asset-backed Securities*	Structured Finance
Bank/Vehicles	33 (31)	45 (32)	48 (49)	19
Institutional Fund	57 (46)	47 (59)	43 (42)	19
Hedge Fund	7 (9)	(2)	8 (6)	58

Table 1: European Market Movers by Investor Type

Sources: AFME (2012); Casey and Lannoo (2005); Greenwich Associates (2014); SIFMA (2009)

Notes: Figures outside parentheses indicate volume and are based on Greenwich Associates. Within parentheses indicate ownership. *ABS ownership figures based on primary issues 2004-07.

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 volume and ownership terms. The figures for covered bonds are higher, and higher still for bank engagement in asset-backed securities. Structured finance trading volume (such as CDOs) is dominated by hedge funds. Thus, for most debt markets institutional investors and asset managers are the primary movers, and this is true to a greater extent when hedge funds are included. Only in the case of asset-backed securities can banks justifiably be the primary analytical focus. That said, it is noteworthy that post-crisis data, which are based on secondary market figures, indicate bank and vehicle allocation to be only 25% (AFME, 2012: 14).

Regarding securitised products, a number of anomalies exist in relation to the timing and expansion of flows. The focus on risk appetite and sentiment of global banks allows the approach to be somewhat arbitrarily deployed always and anytime to account for the beginning of a financial expansion. Securitised flows began to take off in both the US and Europe around 2002-03, and growth continued thereafter, four years after the imposition of the monetary union. Interest rates did decline in 2003 in Europe, but this coincided with a narrowing of spreads vis a vis the US, from which European banks drew much of their funds. Bertaut et al. (2012) 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 EU debt inflows. Similarly, within the Eurozone a convergence of interest rates is observable and thus confounds why investors would wish to hold large levels of cross-border financial debt for arbitrage (Lane, 2013).

This may be partly explained by the fact that securitised debt products formed only a portion of European cross-border financial flows, with unsecured debt and covered bonds accounting for the remainder. Securitised products were attractive proprietary investments as they were not only high-yielding but their ability to be moved off-balance sheet implied that no capital needed to be held against them. Thieman, based on interviews of bank officials, makes the crucial point that their low arbitrage margins implied that any requirement to hold

capital against them would have rendered them unprofitable (Thieman, 2012: 44). An exception is sovereign peripheral debt which had varied ratings and yields, but was 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). These, though, comprised only a portion of capital flows, except for post 2007/08 when public flows became the central mechanism in channelling cross-border finance to the periphery (and core). Other types of highly-rated assets may be either too low yielding or too expensive to hold for carry trades. Data presented by Acharya and Schnabl (2010) on one entity confirm that investments in corporate and other types of bonds comprised only a minor portion of conduit investments, the primary vehicle for bank arbitrage investments in ABSs.

At the aggregate level, the main drivers of pre-crisis capital flows in the 2000s, bank liabilities, are shown in Figure 4. Banks' share as major holders of bank liabilities has been declining among European investors. Disaggregated liabilities by counterparty type are not available at the country level. Figure 4 shows the non-bank share of non-loan and non-deposit bank liabilities among BIS reporting banks for European counterparties. That is, among investors in bank liabilities located in the given region, the investment share of non-banks grew markedly from about 2003 on, with the partial exception the UK. In Germany, whose banks were the largest investors in both peripheral and US shadow banking debt (see, for instance, Deutsche Bank, 2010), non-bank investment shows the sharpest increase, precisely when bank-led capital flows began to take off. The process reversed during the crisis as various bank securities were downgraded.

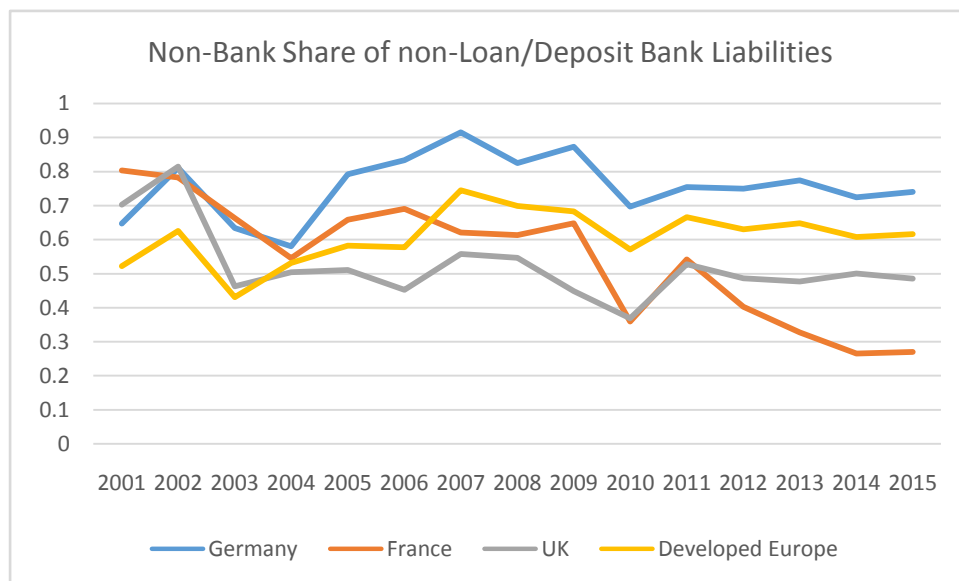


Figure 4: European Countries' Share of non-Loan/Deposit Liabilities of BIS Reporting Banks

Source: Calculated using BIS Locational Statistics

Notes: Non-banks include unallocated liabilities. Data before 2002/03 is highly sensitive to the low-levels of non-deposit/loan liabilities and so should not be interpreted as a shift.

It might also 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 funds in, for instance, covered bonds and unsecured debt is part of a broader proprietary strategy so that

analytical focus should remain on banks. Without detailed access to trading records, however, this cannot be verified. This argument could equally be deployed for giving primacy to institutional investors over banks. That said, while any fixed income holding necessarily constitutes a view on the direction of the yield curve, holdings of bank bonds generally form part of banks' liquidity management.

In any event, available evidence points to insufficient attention being given to institutional investment funds in the global bank literature. While banks are major holders of a variety of private non-securitised debt products in their fixed-income books, the absence of off-balance sheet strategies and the narrowing of interest spreads precludes arbitrage as a plausible explanation for their cross-border growth that began around 2003. 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 funds, securitised investments, as discussed, were likely major generators of revenues for banks. 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 asset management, while Erturk (2007) also reports the declining importance of traditional investment banking activities, including underwriting. Thus, available evidence does not point to the analysis of the bulk of cross-border debt flows in terms of revenue generation and proprietary strategies of global banks.

In sum, except for asset-backed securities, institutional investors are the central players in European fixed income markets. Moreover, non-bank engagement in cross-border debt flows appears to have increased precisely at the time that bank debt capital flows expanded. A significant component of debt flows may be explained by arbitrage and proprietary investments on the part of banks, but the fact that cross-border flows peaked as spreads began to narrow undermines the primacy of this explanation. Arbitrage is also less plausible in the case of private and non-securitised flows. This points to the need to pay attention to institutional investment funds.

Institutional Investors and the Demand for Yielding Products

Enhanced Matching

To gauge the move into cross-border bank and financial debt in the early 2000s, we examine the circumstances and constraints investors faced in this period. Using primarily OECD data, we concern ourselves here with the decline in equity values and the poor return on the mainstay device for asset-liability matching among many institutional investors, government bonds. We identify two different strategies that emerged and resulted in greater bearing of risk: yield-seeking alternative investments which we consider in the following section and enhanced matching in the form of financial sector debt.

Figure 5 shows the asset allocation of institutional investors among European investors. As shown, both pension and insurance funds, and investment funds, primarily mutual funds were significantly exposed to equities as of 2000, with large differences between fund types. Pension and insurance funds had a third of their total assets directly allocated to equities, while the exposure of investment funds was about 50%. These figures understate the true exposures given that investors also invest in other types of particularly mutual funds, which is not shown to avoid clutter (about 10% for pension and insurance

funds – see Figure 7). 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 and insurance sector, with the average-total discrepancy indicating large variations between countries.² Investment funds also had major exposures to debt in the form of 40% asset allocation at the turn of the century.

While investment funds initially increased allocations to debt in the early 2000s, unlike pension and insurance funds (up until the crisis), these reallocations were partly temporary. It is also noteworthy that investment fund data include allocations from pension and insurance funds. Thus, while investment fund assets are comparable to pension and insurance funds individually, collectively it is the latter that account for the majority of portfolio assets in most European countries. Moreover, the investment fund sector entails greater exposure to developing country and higher-yielding bonds than institutional investors, rather than developed country long-term financials such as, for instance, covered bonds.

These above figures stand in stark contrast to banks in 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. The corresponding figures for UK banks are 3% equity exposure and 0.3% for government debt (BIS, 2001).

Pension funds and insurance companies, but also mutual and hedge funds experienced large losses on equity investments at the beginning of the 2000s through the bursting of the equity bubble. As shown in Figure 6, institutional funds, after experiencing asset growth in the late 1990s, suffered heavy losses once the IT bubble burst. In the three years after the peak in late 1999/2000 both the Euronext 100 and the FTSE 100 index lost over half of their values (Yahoo Finance, 2015). 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). For long-term institutional investors in particular, the consequent asset-liability matches, in turn, necessitated an alternative investment policy.

Much of the reduced supply of, and lower yields on government bonds found expression in the form of greater investment in other fixed income products. In the context of funding shortfalls greater allocations towards non-government fixed income allows enhanced duration matching – that is, greater matching of interest rate sensitivities of assets and liabilities through maturity lengthening of assets. That is to say, the overall duration of the assets are extended to match the duration of the liabilities. 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, for instance (IMF, 2011). Indeed, the institutional investor demand for longer maturity securities implied by duration matching may help explain the progressive lengthening of bond maturities in Europe since 1990s, a point suggested by Casey and Lannoo (2005: 17).

² Post-crisis ECB figures show pension and insurance share of allocations to both financial sector and government debt has increased. Though we must note that the post-crisis period has been characterised in large expansions of public balances.

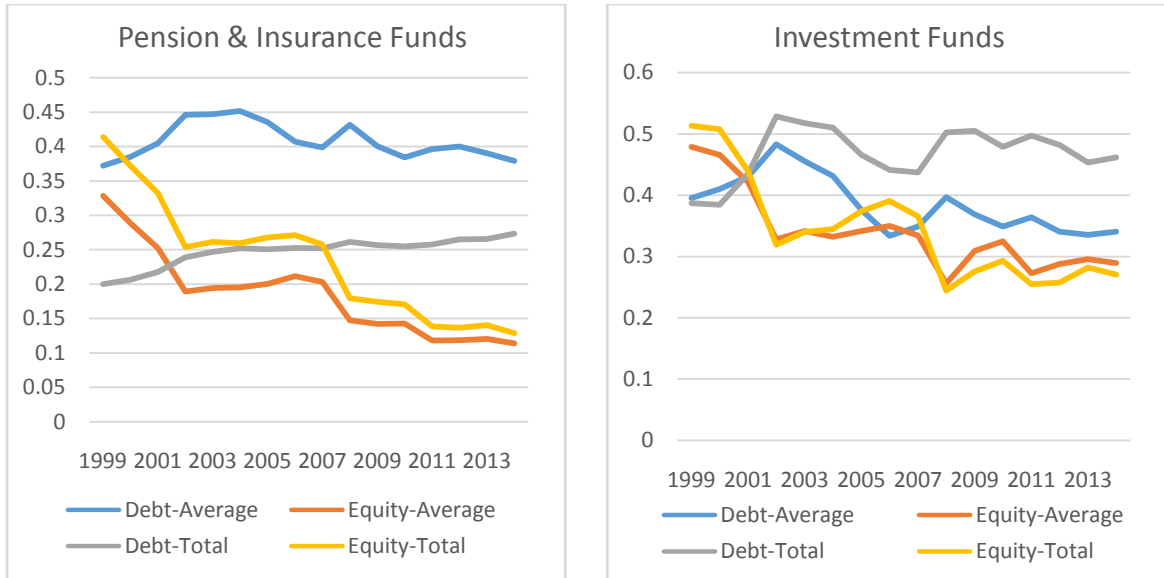


Figure 5: European Institutional Investor Asset Allocation.

Notes: Pension and insurance fund data based on Belgium, Finland, Germany Hungary, Netherlands, Norway, Spain and Sweden as a proportion of total assets. Investment fund data excludes Netherlands, Norway and Spain.

Source: OECD Institutional Investors Database

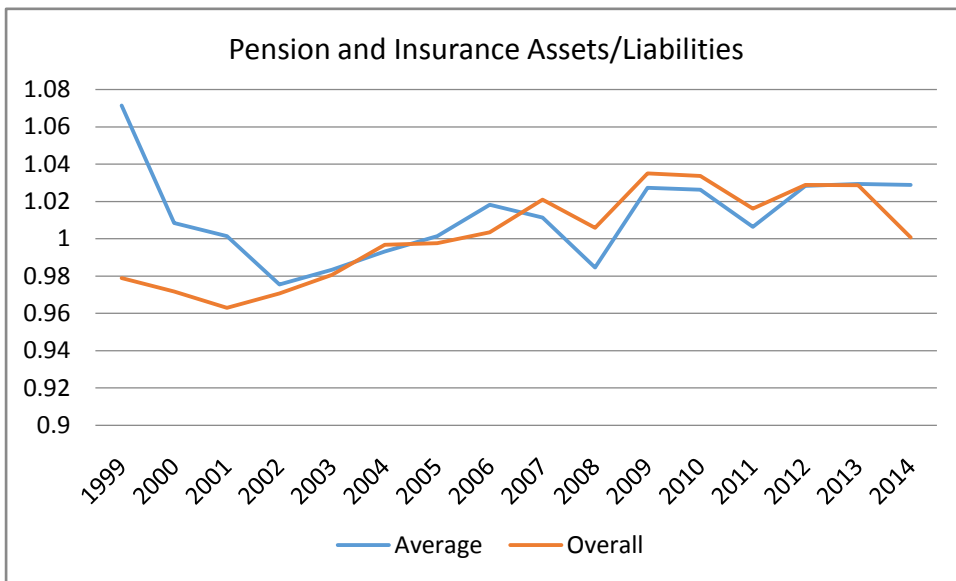


Figure 6: European Pension and Insurance Funds Assets/Liabilities.

Notes: Countries as in Figure 5.

Source: OECD Institutional Investors Database

Such techniques, however, are not easily implemented for many funds, especially defined benefit pensions whose liabilities may be linked to salary growth (Antolin et al., 2011). Insofar as higher yielding products such as financial and bank debt are utilised, as has been the case among European funds, it is difficult to disentangle such a strategy from a desire for enhanced returns through greater risk. According to the IMF survey of global asset

managers, yield enhancement and growth returns are together the primary concern among institutional funds (though diversification as a single category parallels growth concerns) in cross-border investment since the mid-2000s (cited in IMF, 2011). Financial and bank debt is 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 allows asset-liability matching (ECB, 2001). The range of new and existing instruments brought to the market during the 2000s enabled return-enhanced matching capabilities in the context of collapsing equity markets (and declining yields on sovereign debt). Overwhelmingly investment grade senior unsecured bank debt, whose yield depends largely on the rating of the issuing institution, offered a considerable pick-up relative to the benchmark sovereign debt (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).

Thus, much of the growth in cross-border transactions in this period were driven by reallocations of institutional investors to higher-yielding bank debt in the context asset-liability mismatches created by the bursting of the IT-bubble and depressed sovereign returns. This was also buoyed by a number of regulatory initiatives. Remaining restrictions on investment in cross-border investments continued to be relaxed (OECD, 2008). The moves towards fair value accounting and risk-based solvency requirements are also especially noteworthy in this regard. According to new accountancy standards pension funds discount liabilities using corporate bond and swap yields, which has discouraged the use equities (BlackRock, 2014). Under solvency requirements equities are also penalised through higher capital charges, while fixed income securities such as covered bonds receive favourable treatment (BIS, 2011). The result has been that long-term institutional funds have been allocating significant investments to perceived-to-be riskless fixed-income investments. But to produce returns in such a low-yield environment requires these to be deployed more and more aggressively. The 2000s thus saw a range of leveraged, securitised, and derivatives-based strategies in fixed-income portfolios.

Securitisation and Leveraged, Synthetic, and Derivative-Based Exposures

Though much of the slack from the reduced supply of government bonds was mitigated by allocations to financial institution debt, large funds also increased synthetic exposures in the guise of greater use of swaps, especially interest rate swaps. The interest rate swap market experienced massive growth in Europe in the 2000s, far outstripping the growth of other derivative markets. Institutional investors, especially pension funds, (along with banks) are the dominant players in the swap market with close to half of overall trading volume in Europe (Greenwich Associates, 2014). Entering into the fixed leg of the contract enables the purchase of an exposure to an interest rate. If, for instance, interest rates fall, the present value of future liabilities rises, along with the value of the swap if the fixed leg is being held. Through transacting and tailoring to investor specific needs in the highly liquid market, the present value of the contract thus moves in tandem with a funds' liability structure. While yield enhancement may also be possible through shorting the variable leg, and the absence of a security mitigates price fluctuations from supply-demand imbalances (see BIS, 2001), it is the fact that much less capital needs to be allocated for liability management than, for instance, a bond that makes them attractive. This freeing up of funds has, in turn, enabled institutional investors to allocate more capital to return-seeking activities (Insight Investment, 2015).

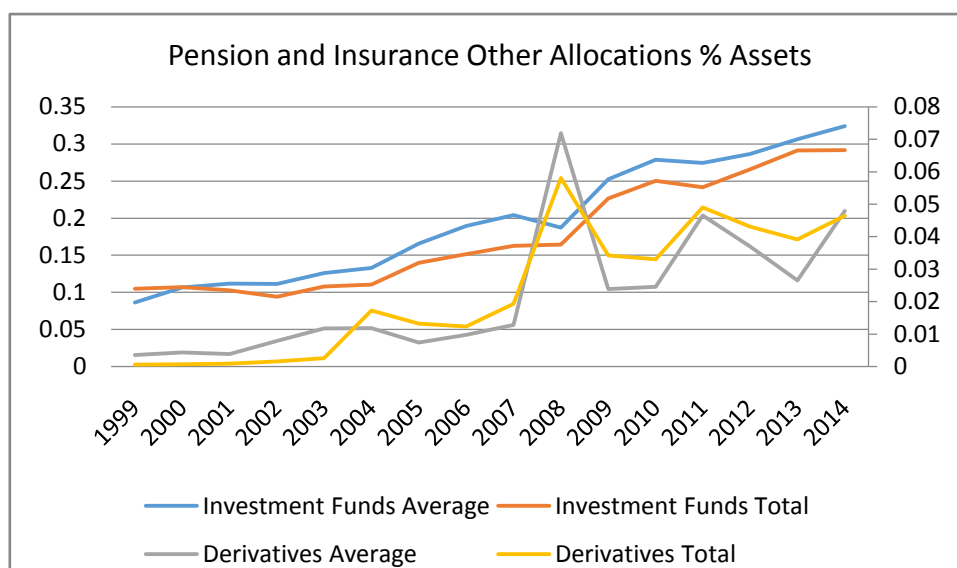


Figure 7: Pension and Insurance Funds Non-Traditional Allocations

Notes: Countries as per Figure 5. Investment funds on left axis, derivatives on right axis

Source: OECD Institutional Investors Database

As shown in Figure 7, long-term institutional investors greatly increased their exposures to investment funds, a process that began in the early 2000s and has continued until today. The above figure is only indicative as it relates primarily to mutual funds, though allocations to hedge funds have been increasing. According to one estimate pension and insurance funds accounted for 35 percent of capital invested in hedge funds, though other estimates are lower (Aglietta and Rigot, 2009). In terms of assets under management, though, mutual funds are the overwhelming recipient of institutional reallocations. Pozsar (2015) describes the rise of leveraged bond portfolios as an attempt of institutional investors to overcome their funding shortfalls through a variety of aggressive fixed-income strategies. This is evidenced by the fact that the volume of collateral and securities lending activities that flows through the prime brokerage desks of large dealer banks is now only a fraction of the overall amount. Traditionally conservative investors such as long only mutual funds are also leveraging-up in search of ‘equity-like returns with bond-like volatilities’.

The increasing exposure to derivatives is shown above, but vastly understated given modern accounting conventions such as reporting the exposure to the security as opposed to the underlying derivative contract, and the leveringing-down that occurs during reporting periods. As well as using interest rate swaps, bond and equity total return swaps are used to gain exposures without the underlying outlay (see BlackRock, 2015), while repos are increasingly used to lever a fund. In times of low interest rates it is more profitable to borrow cash through collateralising sovereign debt in a repo than to lend. The proceeds may then be deployed in commercial paper and floating notes of large banks (Pozsar, 2015: 11). The reallocations to bank and financial debt described earlier may thus understate the true exposures.

The yield enhancement technique with the greatest capital flow implications is securitisation. As discussed, European engagement with securitisation has been impressive in both domestic growth and engagement with the US shadow banking system. While the role of banks in securitisation in Europe is undoubtedly larger than in the US (Segoviano et al., 2015: 23), institutional funds are major participants. We believe provide a plausible explanation for the trajectory of securitised flows as spreads narrowed.

For European banks, in conjunction with arbitrage, a major reason for their investment in securitisation was the various fee-producing activities that they generated from investors. Off balance sheet entities such as special purpose entities and special investment vehicles in particular generated fees through the respective production and sale of ABSs and CDOs to a variety of institutional investors (see, for example, Lysandrou and Nesvetailova, 2014; Crotty et al., 2010). The high volume of hedge funds in structured finance suggests they rather than banks are central to understanding the CDO market. Lysandrou (2011) argues that CDOs were attractive instruments for hedge funds to invest in not only because of their high yield but because they enabled funds to lever up through posting collateral in (reverse) repo and other transactions with dealer banks. The peak of securitisation issuance in Europe and the US combined was 2006, a year in which CDO production jumped dramatically in both regions. This is strongly indicative of demand pull pressures on banks from funds to create yielding securities but for which insufficient materials are available from mortgage extensions. While CDOs constituted a relatively small share of overall securitisation issuance, the demand pressures argument is likely to generalise at least partly to other products. The fact that capital flows peaked as differentials declined then becomes less mysterious.

In sum, the expansion of credit-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 bank bonds as investors sought return-enhanced matching. Moreover, greater leveraged and synthetic exposures facilitated yield-seeking positions. A central aspect of this was securitisation. While arbitrage investments among banks was undoubtedly a central component, the timing and composition of the production of securitised products points to the demand pull pressures on the part of institutional investors.

Policy Implications

Much of the post-crisis regulatory initiatives (such as the banking union) have 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 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 capital flows through the demand for return-enhancing and yield-producing debt products and strategies.

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, 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 (see, for example, Stockhammer and Onaran, 2011; 2012; van Treeck and Storn, 2012). Moreover, approaches to domestic-global credit dynamics that focus on deregulation and financial innovation have difficulty explaining the timing of credit growth. Covered bond and unsecured debt products, and many of the legal infrastructures surrounding them are not new, so why is that they began to grow enormously 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 suggests investor dynamics as a significant source of demand pressure of internationally-active institutional funds, and corresponding cross-border 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 is relatively underdeveloped. Insofar as supranational debate has taken place, much of this has focused on the solvency and transparency characteristics of funds through the implantation of fair value accounting and solvency requirements, rather than their collective ability to affect markets. The implementation of Basel III and other prudential measures is likely to discourage investment in certain bank debt, and this is reportedly what has happened since the crisis (BIS, 2011). While these measures may indeed reduce the risk characteristics of various funds, it does not address the underlying problem which led investors to take on more risk in the first place – 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. To the extent they are prevented from doing so, which current initiatives supposedly do, returns on savings and retirement incomes suffer. This is difficult to justify given the already large strains European social safety nets have been subject to in recent years.

At the European level, insofar as fund regulatory initiatives have been forwarded, the most prominent has been in the area of alternative investments. The introduction of AIFMD, was introduced in the context of the inability of previous legislation, UCITS, to prevent leveraged and risky strategies among investors.³ It requires, among other things, that alternative funds (such as hedge funds) to report the types of leveraged strategies they engage in to national authorities. National authorities may as a result impose limit or sanction, in conjunction with supranational bodies if necessary. If successful, which is questionable given the tendency of alternative funds to be domiciled in amenable jurisdictions, it may enhance stability through preventing excessive investment in risky strategies, such as structured finance investments. This may, in turn block an avenue through which more longer-term institutional investors threaten stability – allocations to yield-seeking alternative investments. But the same point made previously still holds – the ultimate asset-liability mismatches and funding shortfalls remain.

Such problems are only exacerbated by the drive towards more restrictive macroeconomic policies at the EU. 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 mechanism at precisely the same the various forms of social safety measures 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

³ UCITS: Undertakings for Collective Investment in Transferable Securities. AIFMD: Alternative Investment Fund Managers Directive.

savings or a move towards public provision constitutes a significant departure from the current direction of EU policy. According to the most recent EU Commission ageing report, though, the average change in public pension expenditure is just a 0.4% GDP increase for the period up to 2040 to 11.7%, and 0.2% decline for the period to 2060 to 11.1% of GDP (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 savings systems have developed over decades and exhibit high degrees of path dependence so that a comprehensive move towards, for instance, pay-as-you-earn systems is unlikely to be feasible politically.

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 of 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 cross-border financial flows through various fund and financial regulatory initiatives are likely to be effective.

Conclusion

This paper has examined the development of cross-border debt flows in Europe from the perspective of international investors. It has analysed inflows into the core in the form of securitised flows from the US and European shadowing banking systems. It also examined long-term bank inflows into the periphery originating in the core and public debt flows post-crisis. Regarding the latter, the global bank paradigm that focuses on leveraged, proprietary, and carry-trade type strategies plausibly explains cross-border public debt flows. It also explains much cross-border securitised flows, though it fails to account for the timing in that flows peaked as spreads narrowed between Europe and the US and also within Europe. In addition, it has difficulty explaining on-balance sheet flows comprising covered bonds and unsecured debt.

In this regard, we argue for the saliency of institutional investor and fund sector for a number of reasons including: (i) the centrality of this investor class in terms of ownership engagement and volume terms in debt markets (ii) the apparent declining engagement of banks and increased engagement of institutional funds in these markets at precisely the time that capital flows took off (iii) the lack of available evidence linking many of these markets as integral to bank investment strategies, and (iv) the coincidence of the previous point with large asset-liability mismatches.

Thus, we have argued that 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. This created the pressure for yielding products and for the creation of securitised instruments, which have been central to the growth of cross-border flows as well the expansion of derivatives-based and leveraged strategies among different funds. Additionally, institutional funds were able to avail of European banks' desire to issue long-term debt instruments for enhanced asset-liability matching. 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 are continued. Of course, low rates

are justified in the context of sluggish growth which points to other domains such as fiscal policy to lighten the burden on monetary policy in promoting recovery.

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