

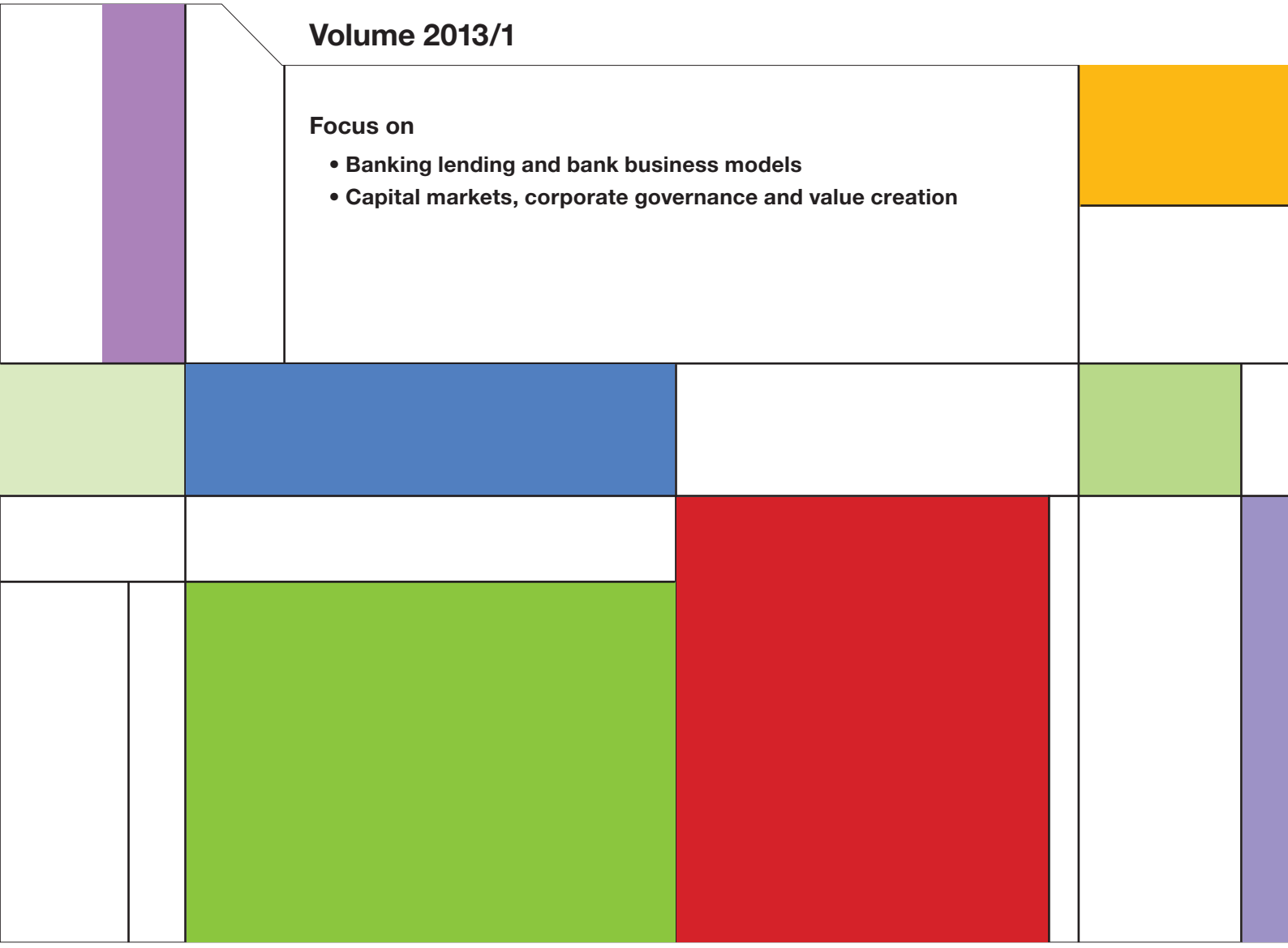
OECD Journal

Financial Market Trends

Volume 2013/1

Focus on

- Banking lending and bank business models
- Capital markets, corporate governance and value creation





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Foreword

Financial Market Trends *provides regular updates of trends and prospects in the international and major domestic financial markets of the OECD area and beyond. It provides timely analysis of and background information on structural issues and developments in financial markets and the financial sector. This issue of* Financial Market Trends *compiles the articles that have been released online over the past few months.*

The first article explores the business activities of banks with a special focus on their lending behaviour and their responsiveness to unconventional monetary policy. It shows that deleveraging has been mainly via mark-to-market assets falling in value and policy is now serving to reflate these assets without a strong impact on lending. It finds that GSIFI banks are least responsive to policy and that better lending is a result of safer banks and, against this background, discusses policies to improve lending.

The main elements of the French reform of the banking sector are discussed in the following article. The crisis has shown that there is no such thing as an optimal banking structure or model. The Liikanen report highlighted excessive risk taking and excessive reliance on short term funding not matched with adequate capital protection. The French reform of the banking sector builds on this insight, separating risky speculative activity from the rest of the banking sector. The reform also introduces a strong resolution framework and new macro-prudential powers.

Extremely low interest rates and the search for yield have driven an asset cycle that is helping banks to reduce hidden losses. Markets are assuming that a transition to higher rates can be handled smoothly by policy makers, but this may not be so and extreme volatility would risk new financial fragility problems. This is the backdrop of the next article that looks at the determinants of firms' capital expenditure and share buyback decisions via a panel analysis of more than 4 000 global companies. Noting that the current incentive structure – low interest rates together with tax incentives – works directly against long-term investment the paper makes some policy suggestions.

By pointing to fundamental changes in the functioning of equity markets the last article calls for a fresh look at the economic effectiveness of corporate governance regulations that impact the conditions for companies to grow and create value by accessing public equity markets. The lengthened and ever more complex chain of intermediaries may influence the efficiency of capital allocation and the willingness of investors to take an active long term interest in the companies that they own. Furthermore, regulatory initiatives to increase shareholder engagement may have unintended consequences that can render general policies or regulation ineffective.

An index of previous articles ("recent features") can be found at the end of this issue which we hope will again serve our readers with valuable information and analysis.

Comments and questions should be addressed to the Financial Affairs Division of the OECD Directorate for Financial and Enterprise Affairs (email: fmt@oecd.org*). Find out more about Financial Market Trends online at* www.oecd.org/daf/fmt.

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Bank lending puzzles: Business models and the responsiveness to policy

by
Adrian Blundell-Wignall *and* Caroline Roulet*

Banks are still dealing with historic losses buried in their balance sheets. As a result, the US economy is picking up only modestly and Europe is sinking further into recession, despite unprecedented low interest rates and policies to compress the term premium. The aim of this study is to explore the business activities of banks, with a special focus on their lending behaviour, and its responsiveness to unconventional monetary policy. The paper shows that deleveraging has been mainly via mark-to-market assets falling in value, and policy is now serving to reflate these assets without a strong impact on lending. A panel regression study shows that GSIFI banks are least responsive to policy. Non-GSIFI banks respond to the lending rate spread to cash rates, the spread between lending rates and the alternative investment in government bonds, and the distance-to-default (the banks' solvency). The paper shows that better lending in the USA is a result of safer banks and a better spread to government bonds – yields on the latter are too attractive relative to lending rates in Europe. Finally, the paper comments on the problem of using cyclical tools to address structural problems in banks, and suggests which alternative policies would better facilitate a financial system more aligned with lending, trust and stability and less towards high-risk activities and leverage via complex products.

JEL Classification: E50, E51, E52, E58, G20, G21, G24, G28.

Keywords: Bank Lending, Bank business model, deleveraging, structural policy, unconventional monetary policy, distance to default, spreads, bank separation, GSIFI.

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I. Introduction

The crisis was characterised by sharp increases in the leverage of financial firms. This was accomplished mainly via the increased holdings and values of securities and derivatives, particularly in jurisdictions where investment banking activities are important, and less so by loans to households and companies.[1] Dealing with the losses on securities and structured products is the reason why the financial system remains impaired, recession or very slow growth persists and lending by banks (large or small) is failing to support the recovery. The root causes of this problem from the late 1990's were the changing business models of banks, the under-pricing of risk and badly misaligned regulatory incentives. However, while there have been slow-track and modest attempts to reform the regulatory process, the main approach to avoiding total collapse of the financial system has been the direct support for banks, and monetary policies that are so unconventional that there is simply no adequate historic benchmarks against which to judge them. This approach risks pumping up leverage again via securities and derivatives values, leaving the structure of the financial system not significantly different from that which created all the problems in the first place. This paper explores this dilemma and offers an explanation of bank behaviour and the trade-offs between monetary policy and better structural and regulatory policies.

The US Federal Reserve, the ECB, and the Bank of England have conducted a policy of low interest rates and/or the unconventional policies of buying out along the yield curve to reduce the term premium in sovereign bonds. Most recently, announcements from the Bank of Japan suggest that they too will follow suit, and this has seen a sharp fall in the yen. A weakening yen, and a rising risk appetite for yield in emerging markets, also risks seeing quantitative easing spread beyond OECD economies to Asia. These policies are expressly designed to increase risk taking: to move banks away from cash and sovereign bonds in favour of lending to businesses; and to increase the relative attractiveness of corporate debt and equities. Risk taking by portfolio investors has indeed increased or, rather, they have been forced out of low-yield low-risk assets in the search for higher yields in equities and corporate bond markets. This has led to an extraordinary rally in higher yielding corporate bonds, and the equity market too has rallied strongly. But so far unprecedented low rates, quantitative easing and increased portfolio risk taking have not translated into a recovery even four years after the worst point in the crisis. The US economy is picking up only moderately, and unemployment remains stuck at high levels. In Europe, where banks play a more important role in funding companies, the recession seems to have gathered pace in early 2013, and banks continue to cut lending.

This unprecedented situation can only be due to the fact that the banking system still has not dealt with its historic losses, despite all the support being given to it, and that trust and confidence in the financial system has not been restored.

The aim of this study is to explore the influences on the business activities of banks, with a particular focus on lending behaviour, and to comment on policy alternatives that

might better align monetary and structural policies to facilitate a financial system balanced more towards lending and less towards high-risk securities and derivatives activities – a financial system less vulnerable to sudden losses and which engenders more trust. One puzzle analysed, that bears on this issue and from which some policy insights can be gained, is why lending remains so weak in Europe compared to the United States.

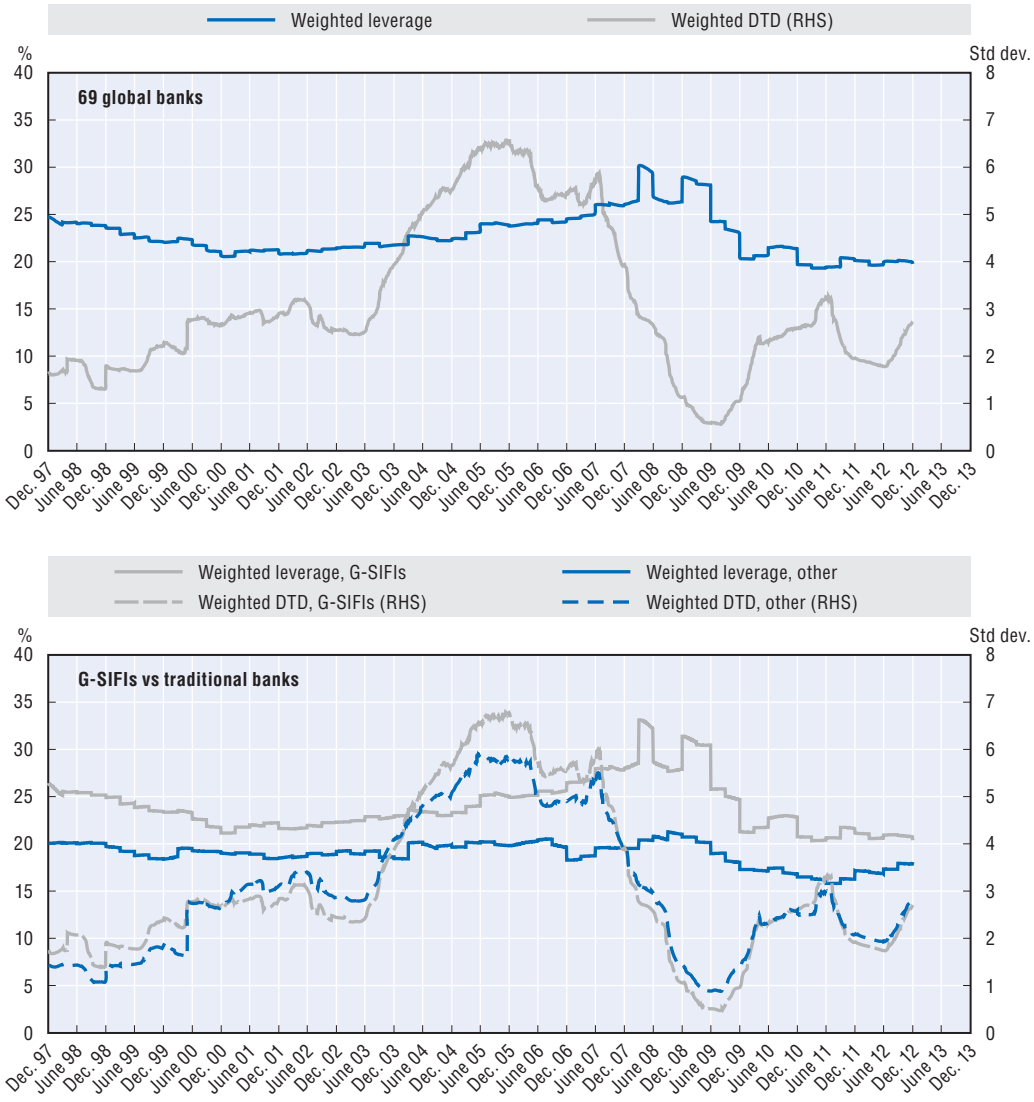
Section II examines bank leverage and misaligned regulatory incentives that undermined capital requirements. Deleveraging now appears to be getting back to 1990s levels, and banks report strong compliant capital positions, but lending still has not returned to normal. Section III then examines the very different balance sheet developments between loans, derivatives and other assets (securities) in Europe, the UK and the USA. Loans of the banks considered in the study are falling in Europe and improving in the USA. Deleveraging has mainly been via the falling fair value of securities, particularly in Europe. The risk is that the current stance of monetary policy will simply reflate these asset values and increase leverage without improving the share of lending in banks' portfolios to support the economy. This would leave the shape of the financial system not very different to what it was prior to the crisis. Panel regression techniques and a large amount of individual bank data are used in Section IV to provide some evidence on bank portfolio behaviour in a model dependent on relative lending rate spreads to cash rates and to sovereign bonds, macro demand-side features in the asset price cycle, a variable capturing business model characteristics, loan loss provisioning and financial fragility captured by the distance to default (DTD) variable. Section V uses the results of the panel regressions alongside some of the key developments in policy-related variables to explain some of the puzzles in bank lending behaviour: between GSIFI banks and traditional banks, and between the weak-lending European banks versus those in the USA. Much of this latter difference is attributed to unconventional monetary policy in the USA. Finally, some concluding remarks are made in Section VI, focusing on the likely causes of the failure of policy to translate into better economic performance, and what areas policy makers might look at to improve this situation. Macro policy, unconventional monetary policy, regulations, supervision and policies to separate banks according to their business model characteristics are considered.

II. Leverage and bank gaming of the regulatory rules

Figure 1 shows the asset-weighted simple leverage ratio of 69 global banks[2] from 1997 to 2012. The chart also shows the DTD of these 69 banks weighted by their share of assets. The DTD is the market value of assets (derived from the Black-Scholes formula) versus the book value of debt, measured in standard deviations from the default point of zero.[3] High numbers of the DTD are associated with a profitable well-capitalised banking system.

For the population of 69 banks, leverage rose from around 18-times in the late 1990s to a peak of 24 times bank capital on the eve of the crisis. The bottom panel of Figure 1 breaks out the leverage and the DTD calculations between the GSIFI banks and the more traditional banks. The growth of product innovation and the reduced control over leverage posed by official regulations saw the weighted GSIFI banks leverage rise from around 21-times capital prior to the removal of Glass-Steagall to 34-times on the eve of the crisis. The other large banks also raised leverage through the 2000s, though not to the same extent as the GSIFIs. The amplitude of the DTD calculations before the crisis is much greater for the GSIFI banks than for the more traditional banks – profitability and share prices rose more sharply – but after the crisis the DTDs are highly correlated in the downward direction.

Figure 1. **Global bank distance-to-default, and leverage**



Source: BIS, Bloomberg, OECD.

For the large GSIFI banks, innovations through capital markets securitisation of loans and the huge demand for structured products to arbitrage the tax system made possible large hitherto unexploited profit opportunities. More traditional banks, to the extent that they securitised assets and moved them off their balance sheets, did not see leverage rise as much compared to the GSIFI banks where derivatives and securities products and warehousing came to play a much larger role. The main policy maker thinking at this time favoured deregulation for better efficiency and growth, while banks took advantage of this to minimise capital costs and raise their ROEs. As the Basel Tier 1 ratio applies to risk-weighted assets (RWA), banks operate to reduce the ratio of RWA to total assets (TA) via a variety of sources, enabling leverage to rise even as regulations tried to ensure banks had stronger capital buffers:

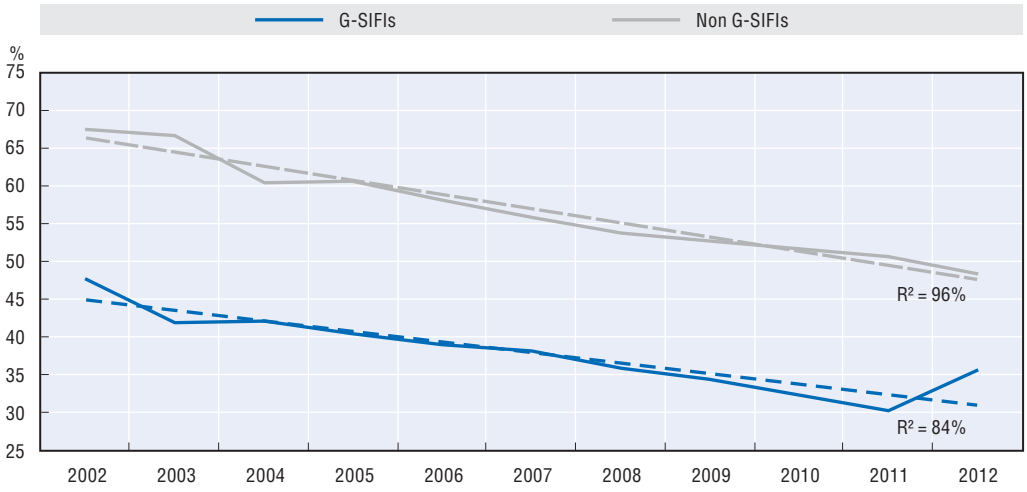
- Banks argued successfully for the repeal of US separation policies that limited their international business models. Just when European universal banks might have

benefitted from the separation of traditional and investment banking, the regulatory and business model trends were in exactly the opposite direction. The main drivers of bank lobbying in this regard were the profitability of leverage, high OTC derivative spreads, and the business model need to have sufficient diversity of market views and scale amongst derivative counterparties.[4]

- Banks consistently supported regulations under the Basel II "consensus" approach to regulation because it permitted them to keep capital requirements at low levels. The announcement of Basel II in July 2004 (to have been implemented by 2008), and the SEC's removal of leverage controls on investment banks, actually encouraged the rapid growth in leverage and the profitability of banks.[5]
- Banks carried out risk-weight optimisation to reduce capital costs by: biasing portfolio choices to assets carrying less capital requirements; valuing assets and their relative riskiness with their own models – no two banks having the same model system – and manipulating the outcomes;[6] transforming the riskiness of assets and shifting their ownership with derivatives; and securitisation and the creation of special purpose vehicles (SPVs) to move products off their balance sheets.
- The Basel rules also permitted banks to use broad concepts of capital to satisfy the numerator of the Tier 1 ratio (including subordinated debt, hybrids, etc.), instead of (costly) pure equity, with each jurisdiction seemingly allowing different rules that were best suited to the profitability of their own banks.
- Confidence to operate at high levels of leverage was also fostered by the too-big-to-fail (TBTF) phenomenon. Large global banks were prime beneficiaries of official funding mobilised by the IMF for the Latin America and Asia crises during the 1980s and 1990s – essentially bailing them out, which was to help banks and investors correctly anticipate the bailouts in the recent crisis. Similarly, the presence of the lender-of-last resort function for "banks" gives creditors confidence that they are unlikely to lose any money.[7] Both phenomena enhance confidence to trade in high-risk activities, including derivatives, facilitating the under-pricing of the risks and raising the volume of business compared to what it would otherwise be.
- Traditional banks were able to use most of the same techniques, if they were large enough to have model-based risk weighting. But even smaller banks were able to deal in assets that carried lower risk weights, and most importantly with other financial firms that carried low 20% risk weights. This raised interdependence (and hence risk) while simultaneously avoiding capital charges that applied to traditional loans and other securities. These banks were also able to securitise loans, insure them, obtain unrealistic credit ratings and keep them on their balance sheet but with lower risk weights.
- Finally, the entire Basel risk weighting framework and the proposed liquidity rules works to discriminate against non-bank enterprises – which typically carry higher risk weights and which are certainly not liquid.

Figure 2 shows the ratios of RWA/TA for 27 GSIFI banks (i.e. 21 GSIFI banks defined by the FSB and 6 former GSIFI banks that failed in the crisis),[8] and 564 non-GSIFI banks from 2002 to the end of 2012. The systematic gaming of the Basel system noted in earlier publications is evident in the downward trends. The traditional banks asset-weighted average ratio fell from 68% in 2002 to 47% in 2012. The GSIFI banks were able to reduce the average ratio from 48% in 2002 to 36% in 2012, with some individual large banks managing to reduce it below 20%.

Figure 2. **Ratio of RWA/TA for GSIFI and more traditional banks**



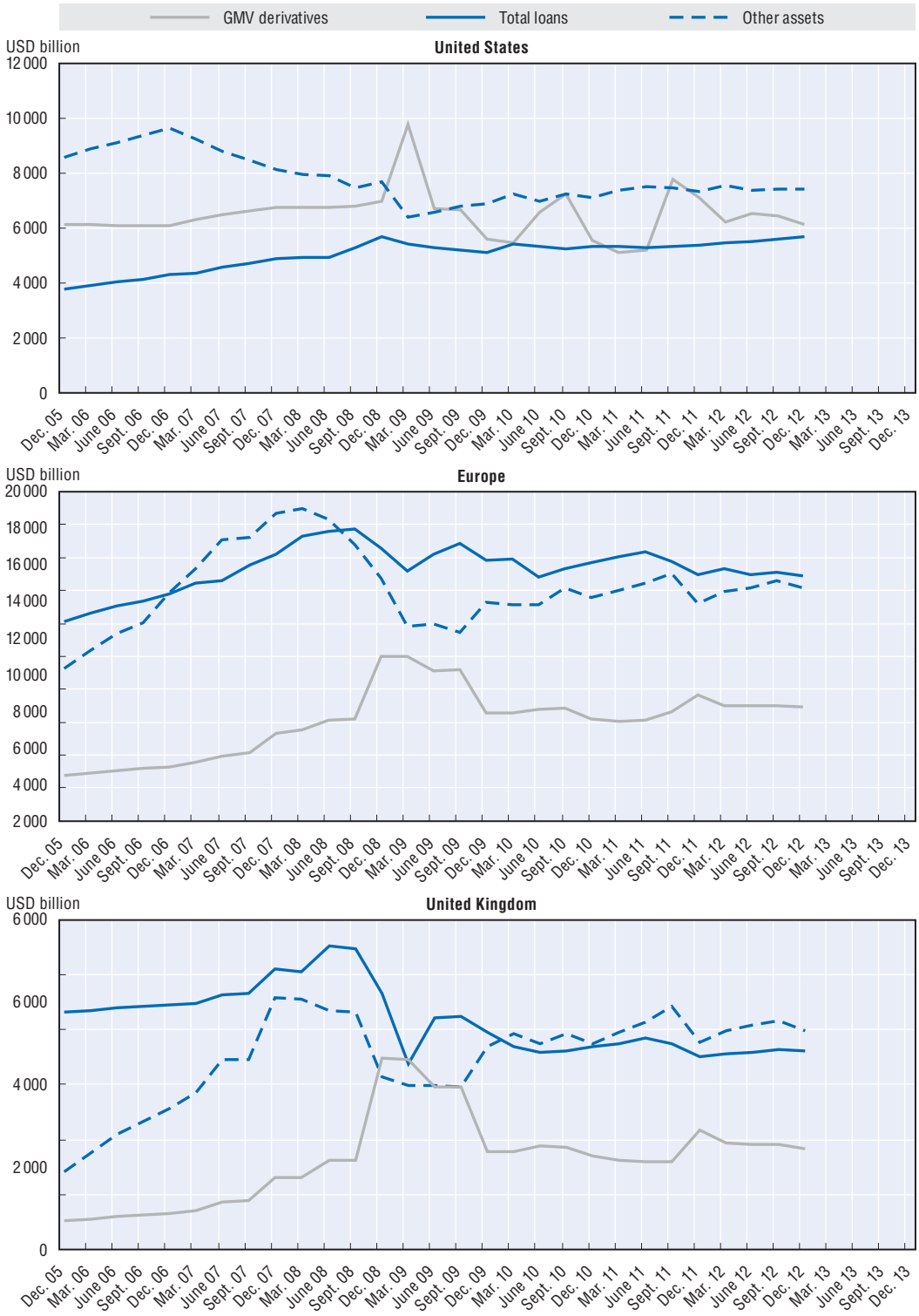
Source: Bloomberg, OECD.

III. Balance sheet trends: USA versus Europe and the UK

Figure 3 shows the balance sheet composition of 593 global banks in the USA (485), Europe and the UK (108) – where US banks' balance sheets are converted to a comparable IFRS basis. In 2005, total assets of these 593 banks stood at USD 42.6 tn, of which the GMV of derivatives was USD 8.8 tn, loans USD 15.9 tn and other assets (essentially securities and cash) were USD 17.9 tn. On the eve of the crisis, at the end of 2007, just two years later, total assets had grown to USD 60 tn, a 40% rise, dominated by other assets and derivatives, which grew by 50% and 36%, respectively. In 2007, loans were USD 21.1 tn, 35% of the business of those banks.

- At the worst point in the crisis, between the 4th quarter of 2008 and the first quarter of 2009, the value of the GMV of derivatives exploded upwards with volatility in prices to USD 19.8 tn (from USD 12 tn in 2007Q4), occasioning margin and collateral calls.
- The trend in derivatives (mainly the GSIFI banks) remains upwards, aside from the volatility spike, despite their damaging role in the crisis and the problems caused during 2008. This means that the next major bout of volatility – for example related to a sell-off in corporate and other high yield debt – will almost certainly cause some banks to have new margin call problems for which cash collateral will be required.
- "Other assets", comprising securities and structured products, collapsed and mostly in Europe (-USD 4.4 tn, from USD 26.8 tn to USD 18.2 tn, between 2007Q4 and the end of 2012). This has been the major avenue of deleveraging. Banks should bring such losses through to their income statements, if they are not ultimately recoverable. It is highly likely that some considerable portion of these assets are impaired and are still being worked through, particularly in Europe, crippling the ability of affected banks to lend.
- Loans are relatively lower in the USA, *vis-à-vis* other assets, because corporate bond markets play a bigger role for financing companies and because Fannie Mae and Freddy Mac are government-supported institutions that play such a huge role in the mortgage market. Loans overall have fallen in absolute terms from 2007Q4 to the end of 2012 (from USD 21.1 tn to USD 20.6 tn). Most of this decline in loans is concentrated in Europe (-USD 1.3 tn) and the UK (-USD 1.5 tn). Loans rose in the USA.

Figure 3. **Balance sheet composition of 593 banks in the USA, Europe and the UK**



Source: Bank balance sheets, Bloomberg, OECD. The numbers represent the sum of large numbers of banks' business activities in derivatives (GMV) (on an IFRS basis for the USA), lending, and all other (securities, etc.).

What is worrying about these trends is that the fall in leverage has mostly been via the value of securities, which may be easily "pumped up" again if monetary policy succeeds in reflating asset prices. This is already beginning to happen in the USA, where other assets are on an upward trend rising more quickly than for loans. This would leave the financial system much like it was before the crisis. The aim of policy should be to have leverage build up not through the securities businesses of investment banks, but instead via loans that support real economic activity and employment. The rest of this paper focuses on the determinants of the share of bank loans in their asset portfolios.

IV. Determinants of bank loans

To investigate the determinants of banks' supply of credit to the non-bank sector, a fairly standard model incorporating supply and demand features is postulated, following previous literature, but is augmented by a solvency measure based on a DTD measure.[9] The dependent variable is the share of total loans in banks total assets portfolio (LO_TA).

The explanatory variables

1. Relative returns: the bank lending rate to non-banks compared to the return on loans to other banks (interbank rate), and loans to government:
   - The lending rate to cash rate spread in the country location of the bank (BLR_CB) is the difference of average bank prime lending rate and central bank three months repo rate. The LO_TA is expected to have a positive relationship with the loan variable.
   - The lending rate to ten-year government bond yield spread in the country location of the bank (BLR_GBY) is the difference between average bank prime lending rate and the ten-year government bond yield. The LO_TA is expected to have a positive relationship with this variable.
2. The pressure banks might face in terms of potential write-downs of existing loans, through loan-loss provisions and overall inadequate capital that might lead to insolvency in the event of continued financial stress:
   - Loan-loss provisions related to the credit quality of loans (LLP_TA) is the ratio of loss provisions to total assets in the previous period. The LO_TA is expected to have a negative relationship with this variable.
   - Bank financial distress is measured by the distance-to-default (DTD). It is the number of standard deviations away from the default point based on a sophisticated measure described in Appendix 1. To derive the measure, it is assumed that a bank defaults when the market value of assets equals (or is lower than) the book value of debt. This measure uses the Black-Scholes model for capitalising equity to calculate the former. A bank defaults (or is bankrupt) when the distance-to-default equals 0 (or is negative). The LO_TA is expected to have a positive relationship with this variable.
3. Banks have quite different business models: at one extreme traditional banks focus on intermediating between stable depositors and borrowers, and at the other large GSIFI banks focus on securities businesses and derivatives. All banks tend to do some of each and there is a continuum of models in between the extremes. But the closer one moves towards the large GSIFI model, small business and household lending is more limited, and banks instead focus on syndicated lending and large corporate clients, which are less likely to be driven by the above relative price factors. Banks that are more focused on

lending will tend to have a higher RWA_TA ratio, will be better capitalised and their amortised cost accounting products are less vulnerable to risks of volatility of prices in capital markets.

- Bank business model (continuum) proxy (RWA_TA) measures the risk-weighted assets of each bank versus its total assets (see Figure 2). The LO_TA is expected to have a positive relationship with this variable.

4. Changes in real estate prices in the country location of the bank are included to capture both macroeconomic demand and supply-side conditions. Rising prices are associated with better employment and lower interest rate, and lead to speculative demand patterns as well as helping loan to value ratios from the collateral side.
   - Macro demand side proxy (HP_CHG) is the annual per cent change in the house price index of the country location of the banks. The LO_TA is expected to have a positive relationship with this variable.

The model

A panel regression approach is used to explain the differences in supply of loans as a share of the banks' asset portfolio. This econometric analysis is run on a sample of 468 US and European publicly traded commercial banks and broker dealers over the period 2005-11. Only listed banks are included in the sample because market data are required for the model. These banks encompass all of the main counterparties for capital markets products (particularly bonds and derivatives). The sample also encompasses the 21 G-SIFI banks which are listed in the USA and in Europe, as defined by the Financial Stability Authority in November 2011. In addition, banks that failed in the crisis that started in 2007, but which can be considered as GSIFIs, such as HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns are included. The sample consists of 27 GSIFIs, 89 European banks and 352 US banks.

Annual consolidated financial statements were extracted mainly from Bloomberg. Some other data were extracted from Datastream to compute our macroeconomic indicators. Table 1 presents the distribution of banks by country to illustrate the representativeness of the sample. This table shows: the asset share of banks included in the sample versus those for the whole banking system; the asset share of GSIFI banks; the loan share for GSIFI banks; and the loan share of more traditional banks. With one or two exceptions, the loan share of GSIFI banks is much lower than for other banks. Over the 2005-11 period, the sample of banks covers, on average, 69.3% of the total assets of US commercial banks as reported by the Federal Deposit Insurance Corporation (FDIC) and 53.1% of the assets of European commercial banks, as reported by the European Central Bank (ECB).

The dependent variable (LO_TA) at time *t* is regressed on the set of microeconomic and macroeconomic variables set out above that correspond to time *t-1*, to identify the main factors that drive the bank lending share.[10] The empirical model is specified in equation (1), where the subscripts *i* and *t* denote the bank and the period, respectively:

$$LO_TA_{i,t} = \alpha_{i,t} + \beta_1 * DTD_{i,t-1} + \beta_2 * LLP_TA_{i,t-1} + \beta_3 * RWA_TA_{i,t-1} + \beta_4 * BLR_CB_{i,t-1} + \beta_5 * BLR_GBY_{i,t-1} + \beta_6 * HP_CHG_{i\,t-1} + \varepsilon_{i\,t} \quad (1)$$

This equation is estimated using ordinary least squares (OLS). After testing for cross-section versus time-fixed versus random effects, and for the heteroskedasticity of error, the required cross-section and time-fixed effects were introduced into the regression, as was the White cross-section covariance method.

Table 1. **Some characteristics of the data**

	Banks included in the sample	Of which: GSIFI banks	Total assets of banks in final sample/total assets of the banking system (%)	Total assets of GSIFI banks in final sample/total assets of the banking system (%)	Average share of loans/total GSIFI banks' asset portfolio (%)	Average share of loans/total traditional banks' asset portfolio (%)
United States	365	13	69.3	56.0	25.2	59.8
Europe	103	15	53.1	23.9	42.8	58.4
Austria	5	0	36.9	0.0	-	57.4
Belgium	2	1	98.2	61.8	49.2	44.2
Denmark	4	0	55.3	0.0	-	58.4
Finland	3	0	9.1	0.0	-	42.6
France	6	3	79.1	68.3	28.3	33.2
Germany	7	2	42.3	38.3	25.5	47.7
Greece	7	0	75.5	0.0	-	67.4
Ireland	3	0	40.7	0.0	-	64.0
Italy	19	1	72.0	30.3	60.9	67.1
Netherlands	2	0	7.1	0.0	-	62.5
Norway	3	0	33.9	0.0	-	64.8
Portugal	4	0	49.8	0.0	-	70.6
Spain	9	1	82.2	34.2	61.2	67.9
Sweden	4	1	12.8	5.6	56.8	61.3
Switzerland	18	2	68.7	63.1	17.8	77.0
United Kingdom	7	4	85.6	81.4	42.5	48.0

Source: Thomson Reuters Datastream, Bloomberg. FDIC. This table reports the average value from 2005 to 2011 (country by country) of the ratio shown for a sample of 468 US and European publicly traded commercial banks and broker dealers.

The results

The multivariate regression is run on the full sample of banks. The banks are then separated, and the regressions are run for: i) the 28 GSIFI banks included; ii) the other banks not considered GSIFI's. The results are shown in Table 2.

For the full sample, most variables are significant and their coefficients have the expected signs. The loan-loss provision variable is significant at the 1% level: so when loan loss provisions have risen in the previous year, banks will likely be reducing their loan portfolio in the current period. However, more general problems of the state of a bank's solvency also affect a bank's ability to lend are best captured by the DTD variable. Because it uses market information, it is better able to look through un-transparent reporting and regulatory forbearance issues. This variable too has the correct sign and is significant at the 1% level. The two lending spreads, versus cash and government bonds, are significant at the 1% level. A higher lending rate relative to cash and bonds increases the incentive to lend. The bank business model proxy in the ratio RWA_TA is not supported by the full sample of banks. Finally, the macro demand control variable in house prices also finds support at the 5% level. An increase in real estate price tends to (pro-cyclically) boost the demand for and supply of loans.

The results for the GSIFI banks are quite different to those for the full sample. GSIFI bank loans tend to be a constant share of the asset portfolio, conditioned by the business model proxy RWA_TA, which is significant at the 5% level. GSIFI bank lending is not responsive to relative interest rates, which are presumably where monetary policy and other macro-prudential policies hope to have some influence, nor is the DTD term supported by GSIFI data. These banks are more focused on securities and derivatives businesses, from which the bulk of their profitability has traditionally been derived.

Table 2. **The determinants of banks' supply of credit**

	All banks	GSIFIs	Non GSIFIs
DTD	0.002***	0.002	0.002***
	(2.59)	(0.49)	(2.93)
LLP_TA	-0.32***	0.14	-0.37***
	(-5.44)	(0.55)	(-6.03)
RWA_TA	0.004	0.15**	0.004
	(1.37)	(1.95)	(1.45)
BLR_CB	1.15***	1.01	1.23***
	(4.11)	(1.16)	(4.16)
BLR_GBY	0.91***	0.47	0.89***
	(8.42)	(0.78)	(8.02)
HP_CHG	0.06**	-0.06	0.06**
	(2.13)	(-0.51)	(2.25)
C	0.62***	0.30***	0.63***
	(68.10)	(7.08)	(65.21)
R^2	0.91	0.77	0.88
Fisher Stat	48.49	72.30	36.69
P-Value F	0.00	0.00	0.00
Total Obs.	2 688	125	2 563

Note: This table shows the results of estimating single regressions for an unbalanced panel of 468 US and European publicly traded commercial banks and broker dealers over the 2005-11 period. The sample consists of 27 GSIFIs (the 21 GSIFIs as defined by the FSB (2011) and 6 banks that failed in the crisis that started in 2007, but which can be considered as GSIFIs, such as HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns) and 441 other banks. See Section IV for the definition of the explanatory variables. All explanatory variables are one-year lagged. Cross-section and time fixed effects are used in the regressions as is the White cross-section covariance method. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

The results for the more traditional bank subsample, i.e. those not considered GSIFI's, are much closer to those for the full sample. Lending by these banks is responsive to relative price signals (the two interest rate spreads), is heavily influenced by loan-loss risks and by the extent to which the bank diverges from the default point (the DTD). The macro house price cycle is very relevant to lending by traditional banks.

Model elasticities

Table 3 shows the first round effect on the rate of growth of lending from a policy change of the magnitude shown (without simulated feedback effects) for the case of a 50% loan portfolio share for a traditional bank and a 30% share for a GSIFI bank.

Table 3. **Model policy impacts on the growth rate of loans**

Policy measure (traditional bank 50% loan share; gsifi 30% loan share)	GSIFI % chg loans	Traditional % chg loans
Increase DTD 0 to 3 std deviations	0.00	1.20
Reduce LLP 1% of TA	0.00	0.74
Raise sprd to cash 100 basis points	0.00	2.46
Raise sprd to bonds 100 basis points	0.00	1.78
Raise house price 5%	0.00	0.60
Raise RWA/TA by 10 percentage points	5.00	0.00

Source: OECD. This table shows the 1st round effect on the rate of growth of lending from a policy change for an unbalanced panel of 468 US and European publicly traded commercial banks and broker dealers over the 2005-11 period. The sample consists of 27 GSIFIs (the 21 GSIFIs as defined by the FSB (2011) and 6 banks that failed in the crisis that started in 2007, but which can be considered as GSIFIs, such as HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns) and 441 other banks. See Section IV for the definition of the variables.

The model elasticities are very different for GSIFI versus traditional banks. The aim of easy monetary policy is to increase risk taking, and this includes the lending activities of banks: by reducing the cost of funding, and given the state of competition in banking, spreads will widen to a degree making it more attractive to lend. Banks could buy government bonds, so policies to compress the term premium, being followed in the USA for example, raise the lending rate spread to this risk free asset too – further encouraging lending.

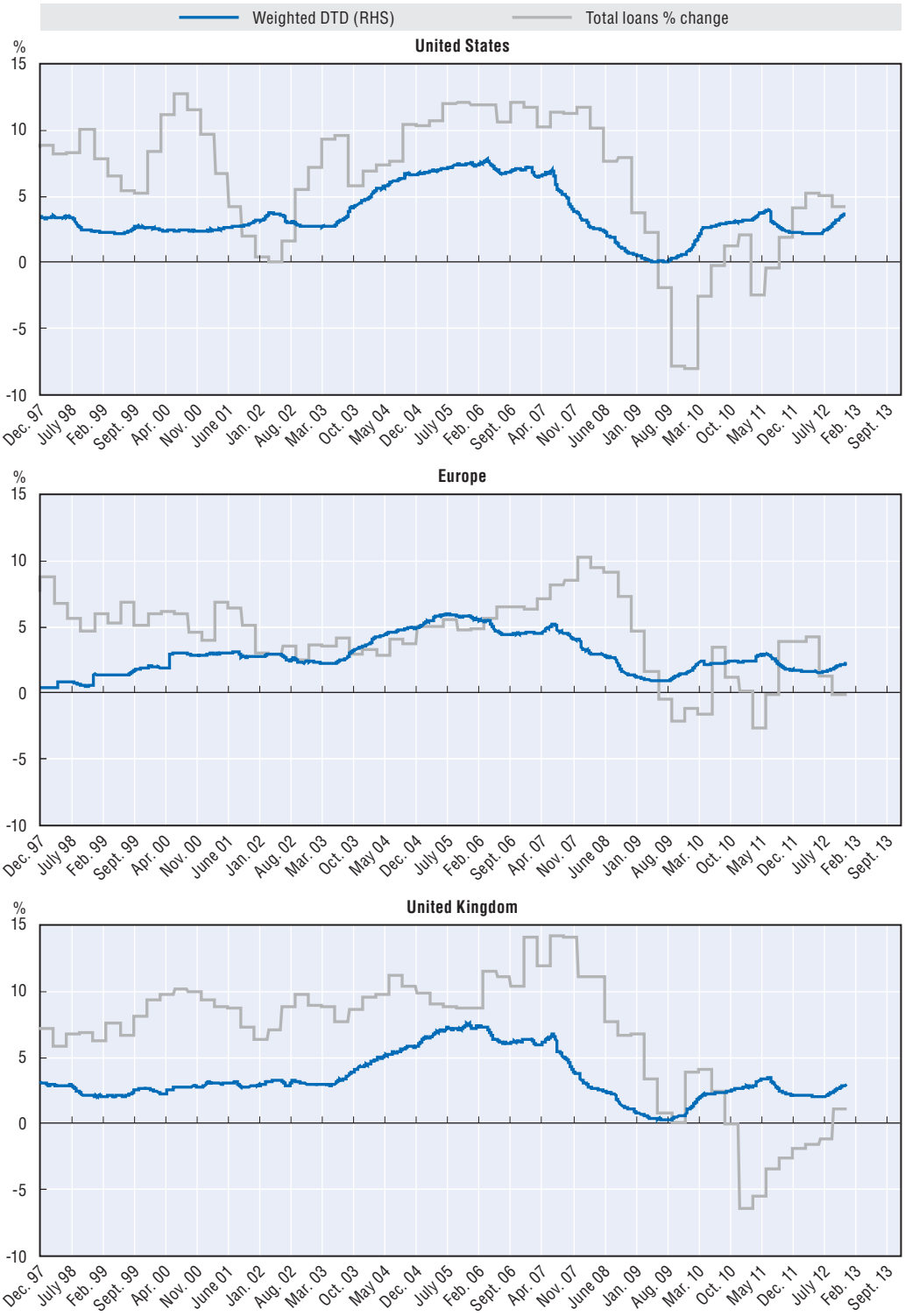
However, GSIFI bank lending is essentially impervious to policy measures on interest rates, and regulatory policies that make banks safer. The only significant factor for these very large banks, other than the constant term, is the RWA_TA variable. Each 10-percentage point rise in the ratio of RWA_TA would increase the lending share and, from a base of a 30% share, would increase average lending by sizeable 5%. A regulatory policy that placed a minimum level for the ratio RWA_TA, for example at say 50%, would limit the extent to which GSIFI banks could carry out the risk-weight optimisation strategies through the use of models and derivatives. This would be effective in forcing a rise in the share of lending. Under the Basel approach such a rule would ensure a larger asset base to which the Tier 1 ratio could be applied for capital/leverage purposes, so the bank would also be safer.

A policy of separating the GSIFI banks into retail and securities businesses would be helpful to increase lending and to improve the responsiveness to regulatory and monetary policies. Even if supervision could raise the DTD, for example by improving bank models and introducing more rules, it would not increase lending in a GSIFI bank unless it raised the RWA_TA ratio. On the other hand a traditional/retail bank, separated from the GSIFI group, would automatically have a higher RWA_TA ratio, as it would have much less scope to game the Basel rules via the channels discussed in Section III, by valuing illiquid securities with internal models and by using derivatives and netting procedures. Its capital base would be therefore higher. Furthermore, the separation approach would create more traditional banks of some size that would be safer and, hence, would lend more. These separated banks would also be much more responsive to interest rate regulation and supervision policy measures.

The traditional banks are much more responsive to monetary, regulatory and supervisory policy approaches:

- Safer banks make for better lending, as shown by the DTD calculations and the lending cycle of the related banks in Figure 4. A rise in the DTD from 0 to 3 standard deviations (a level which prevailed in the period well before the crisis) would on average, for a bank with 50% of loans in its total assets portfolio, increase lending by 1.2% p.a. compared to otherwise. Earlier research shows that the DTD is most strongly negatively related to the amount of derivatives (IFRS basis), wholesale funding and the un-weighted leverage ratio.[11] As traditional banks in the sample hold few derivatives on their balance sheet, the policy implication here is that a tougher simple leverage ratio and a reduction in wholesale funding (to make the DTD higher) would be the best approaches to improve lending attitudes. Certainly a business model based more on retail deposits would provide a more stable funding base, which would work to support lending.
- Were supervision measures and other rules able to improve underwriting standards sufficiently to reduce LLP_TA by a significant 1% of assets, this could be associated with loans rising a further 1.3% above where they would otherwise be (from a 50% base share on loans).

Figure 4. **DTD and lending from banks in the region shown**



Source: Bloomberg, bank balance sheets and OECD. Weighted DTD is calculated for the 69 largest publicly traded commercial banks in the USA and in Europe with total assets that exceed USD 50 bn.

- Traditional banks are certainly responsive to interest rate and unconventional monetary policy measures. A 100 bp rise in the spread to cash would increase lending on average by a very powerful 2-1/2% (from a 50% lending share).
- A 100 bp rise in the spread to government bonds, were policies of compressing the term premium to be effective (unconventional and "operation twist"-type policies), would increase lending by 1-3/4% on average.
- Finally, policies that influence the asset cycle and the demand-supply interaction are also important in influencing the lending share. A 5% rise in house prices, given an initial 50% share, would increase lending though this effect by 0.6%. The asset cycle would also likely affect the banks' total assets. While this scale effect might also improve the absolute size of loans, a 5% rise in house prices (and likely correlated with other asset prices) would flow through directly to the value of "other assets" in the banks' portfolio at a faster rate – securities values would rise more quickly than loans.

V. Explaining current bank lending puzzles

GSIFI versus traditional banks

GSIFI banks appear to be largely unaffected by lending spreads, and the only term of significance is the ratio of RWA to TA. In the above model, the two interest rate spread terms were very important as key determinants of the incentive to lend for non-GSIFI banks. The net interest income as a share of total assets of banks from the USA, Europe and the UK and traditional banks is shown on the right-hand scale of Figure 5, and the return on equity (ROE) is shown on the left scale. The first panel shows the cases for GSIFI and non-GSIFI banks.

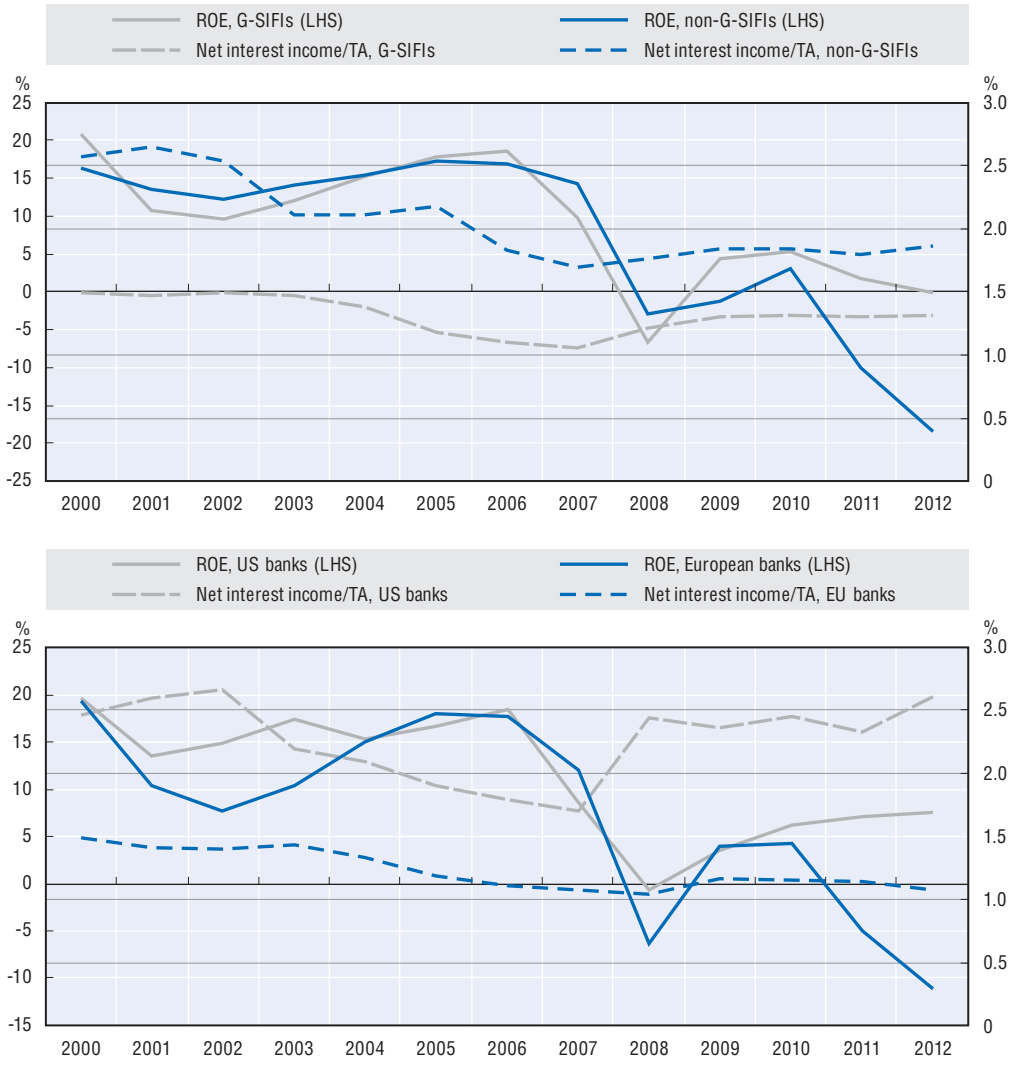
The net interest income of GSIFI banks fell from around 1.5% in 2000 to 1% during the crisis year of 2008, recovering to 1.3% by 2011, a 20 basis point fall overall. As total operating costs of these banks typically lie in the 2-3% of assets range, this decline put pressure on the banks other sources of income to make ends meet. Fortunately for them, the GSIFI banks depend less on net interest income for profitability, and have benefited from policies that led to a general rally in markets affecting their securities business in the past couple of years.

For the traditional banks, net interest income fell from 2.6% in 2000 to 1.7% in the crisis, and it has not yet recovered. These banks depend more on net interest income and, as competition drove this ratio down, their profits suffered more once their gain-on-sale income deriving mainly from their dealings with GSIFI banks dried up during the crisis. Their ROE fell from 16.3% in 2000, to -3% in 2008, apparently recovered moderately, and then collapsed to -10% in 2011 as the asset write-off process continued.

Misaligned incentives result in losses and unprofitable business models post the crisis

Misaligned regulatory incentives were present for traditional banks in equal measure to those discussed earlier for GSIFIs: they could sell newly-originated loans (typically mortgages) into SPVs and into the warehousing by investment banks for future securitisation, hence moving the assets off their balance sheets. Alternatively, these banks could securitise loans, buy a credit default swap, obtain a good credit rating, and thereby lower the capital requirements if securities were held on the balance sheet. While the "music was playing" traditional banks could profitably pay a higher price on mortgages (i.e.

Figure 5. **ROE and net interest income: Europe, UK and USA banks**



Source: Bloomberg, OECD. These figures are calculated for a sample of 593 global banks in the USA (485) and Europe and the UK (108). The sample consists of 27 GSIFIs (the 21 GSIFIs as defined by the FSB [2011] and 6 banks that failed in the crisis that started in 2007, but which can be considered as GSIFIs, such as HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns) and 566 other banks.

accept a lower yield) than the originators ultimately could accommodate within their cost structure. The regulatory savings were shared between the bank as the originator and their borrowers. The lower mortgage rates attracted more borrowers, and the "gain-on-sale" of mortgage assets sold into securitisation at first more than replaced the lost operating income, driving up the profitability of banks and mortgage institutions as long as the process could continue. Competition between banks in this process forced the adoption of similar business models, which magnified its systemic significance. From 10-12% in the recession of 2001, ROEs rose to around 18.5% in 2006 for both bank groups, but then fell into negative territory in 2008. Subsequently, by 2011, the GSIFI average ROE moved into positive territory, despite massive write-offs (particularly in the USA), whereas the traditional banks collapsed into even worse negative numbers. This difference has likely amplified further with the rally in markets in 2012.

For more traditional banks, while the return on equity was high prior to the crisis, operating spreads fell via competition for loans, which brought in more marginal borrowers and allowed house prices in many regions to become overvalued. Any halt to the growth of securitisation would leave banks with loans (at too low a spread) that were unprofitable leaving many with substandard assets to deal with and negative operating income (without the gain-on-sale business). This has left them in a poor position to write off bad loans and/or to rebuild capital.

Europe versus the USA

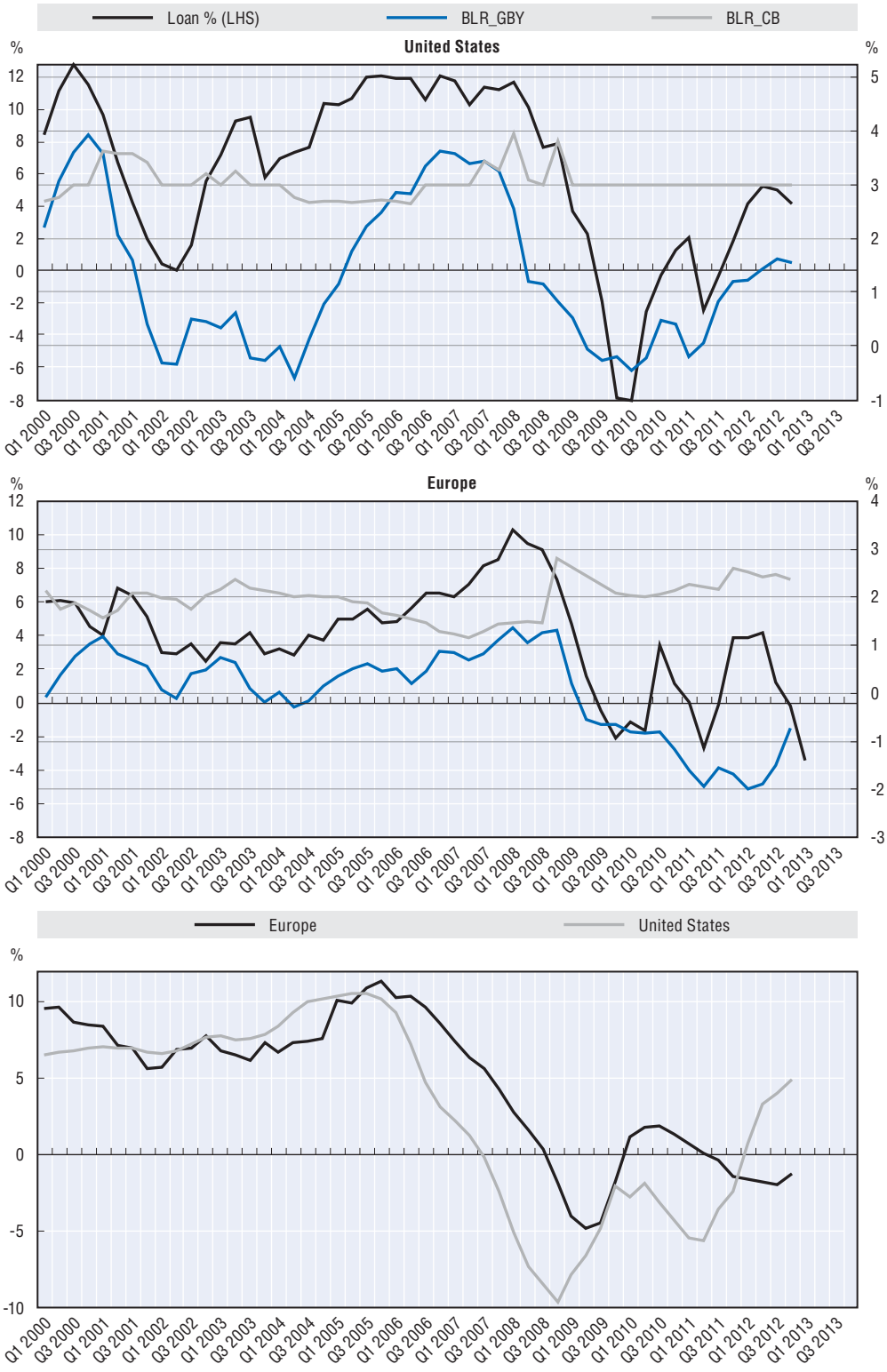
This problem of loss of gain-on-sale revenue has been particularly bad in Europe, and is very much a part of the problem that plagues, for example, the *cajas* in Spain and many other small and medium-sized banks. Currently, loans of the US banks analysed in this study grew by 3.75% over 2012, while in Europe it is fell on average by -0.5%, a difference of 4.21%. The second panel of Figure 5 shows the breakdown for the US and European banks' net interest income and ROEs. It is quite striking that US monetary policy and the state of competition in banking has led to a sharp recovery in net interest income back to around 2.3% of assets, while European banks' remains stuck at 1.3% of assets in 2011. On average, US interest margins are back closer to covering their typically higher cost base than is the case in Europe and, depending where they are in the writing-off of bad loans, are in a better position to be lending. The main reasons for this difference in lending, according to the model, can be seen from the macro policy variables shown in Figure 6:

- Over the past year the prime rate-cash rate spread in the first panel has averaged 300 basis points in the USA, versus 238 in Europe, a 62 point difference. According to the model, this is worth around 1.5% of the difference in lending between the two regions.
- The prime rate spread to government bonds has averaged a positive 145 basis points for the USA over 2012 and -40 basis points for Europe. This difference of 185 basis points is worth 3.3% difference in lending according to the model.
- House prices averaged 3.2% growth in the USA in 2012, versus -1.64% in Europe. This difference of almost 5% is worth 0.6% difference in lending according to the model.

These terms account for a lending difference of 5.4% p.a., more than sufficient to explain the observed gap in lending.

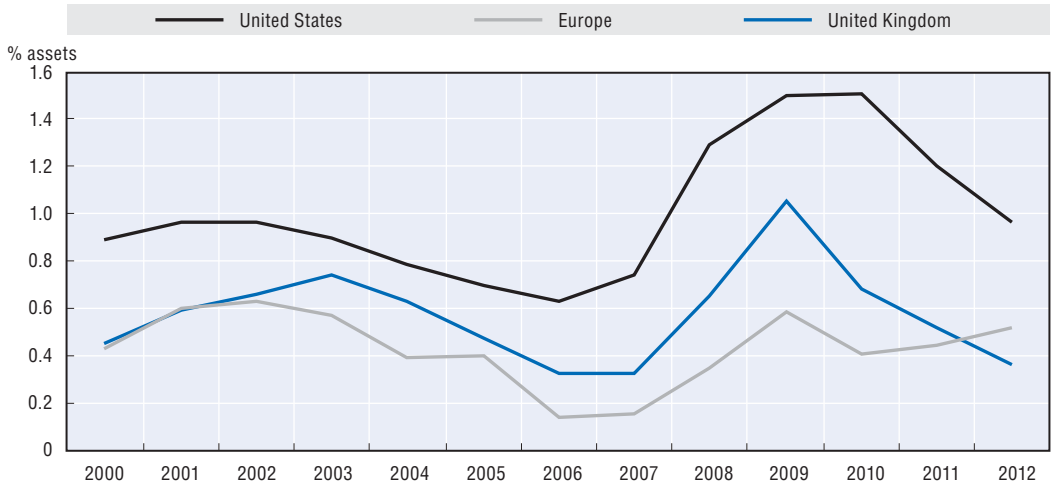
However, it is also necessary to examine where banks are in terms of the writing off of bad loans. Here, there are some differences in accounting procedures for loss provisions between the US and Europe. These differences would normally bias the US to reporting more loan losses, as there is a more forward looking aspect in the US rules.[12] The US banks covered in this study have much higher loan loss provisions than do European banks (see Figure 7), and the most likely reason is the under-reporting of loan problems to prevent it from flowing through to the income statement and to executive bonuses. This is symptomatic of lack of transparency and under-reporting of losses by European banks, which would normally require some form of regulatory forbearance on the part of supervisors. This point, along with the relatively poor capitalisation of European banks, is underlined by the fact that the asset-weighted average DTD for Europe over the past year was a low 1.7 standard deviations, compared to a somewhat safer 2.6 standard deviations for the USA. The bottom panel of Figure 4 shows how the weighted average DTD led the lending cycle down as the crisis approached in the USA, Europe and the UK. Subsequently,

Figure 6. **Interest spreads, house prices and lending**



Source: OECD, Thomson Reuters Datastream.

Figure 7. **Loan loss provisioning USA, Europe and the UK**



Source: Bloomberg, OECD. These figures are calculated for a sample of 593 global banks in the USA (485) and Europe and the UK (108).

the US DTD has risen more quickly than in Europe, and at the end of 2012 was at a level similar to that which prevailed in the 1990s.

The greater safety of US banks is due to the transparent and direct approach the USA took from the outset: *i)* its banks wrote off more bad loans early on; and *ii)* the authorities injected large amounts of capital forcibly into banks (good deleveraging). In Europe, under-reporting of loan losses, possible regulatory forbearance and the failure to inject sufficient capital into banks at the outset of the crisis are likely to be important influences on poor lending.[13] Provisions for loan loss was around 1.2% of assets for the USA in 2011, versus only 0.4% in Europe. The LLP_TA term in the above model would reduce lending in the US relative to Europe by roughly -0.5%, but this is largely offset by the lower DTD in Europe. As the markets monitor developments in the financial sector, much of the information concerning poor reporting in Europe is discounted in share price action, which enters the DTD calculation.

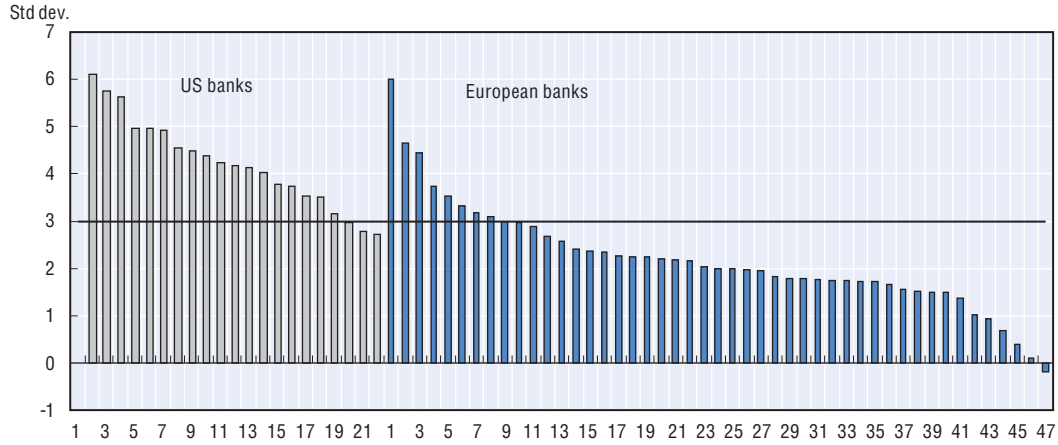
Figure 8 shows the DTD for the 69 banks (numbered but not identified) chosen for the above model. In the United States 19 of the 22 banks are safely above three standard deviations (a standard deviation of two implies a 5% chance of default, which is too high for the global financial system). In the case of Europe, no less than 39 banks are at a DTD of three standard deviations or below. These banks require recapitalisation and a more rapid treatment of potential loan losses.

VI. Some concluding remarks on policy

Macro policy

The above results suggest, while easy monetary policy can improve the bank lending rate to cash rate spread, only the US unconventional monetary policy has succeeded in making bank lending relatively much more attractive for a bank than owning government bonds in its portfolio. The euro crisis, the shortage of bank capital (favouring zero risk-weight securities) and the assumption that sovereign bonds are implicitly guaranteed, makes bond yields too attractive for European banks. The results suggest that the ECB could do much more if it wanted to get lending moving again by large scale policies to compress the term premium on sovereign bonds in much the same that the US has done.

Figure 8. **The distance to default distribution: US versus Europe 2012**



Source: Bloomberg, OECD. This figures show the estimated DTD in 2012 of each 69 largest publicly traded commercial banks in the USA and in Europe with total assets that exceed USD 50 bn.

However, there may be a fundamental problem with this type of monetary policy, nevertheless, when considered against the structure of the banking system. This is because unprecedented monetary ease is aimed at more risk taking and "pumping up" asset prices (house prices, equities and high-yield debt). Deleveraging at first sight appears to have returned to late 1990s and early 2000s levels (Figure 1); but while lending has been hurt in recent years, the main part of deleveraging has been achieved mainly by falling values of "other assets" (Figure 2). In the US, "other assets" are already rising more quickly than loans, and if this continues for too long, leverage could be returned to the high levels just prior to the crisis. This would leave the structure of the financial system much like it was before the crisis, increasing its vulnerability to a future risk event. This suggests that if some of the monetary support were to be withdrawn, other policies to help lending by structural policy changes should be considered.

Regulatory policy

The above results for GSIFI banks suggest that only one factor would be significant in changing their lending behaviour: raising the ratio of RWA to TA. If this ratio were raised to a minimum of 50% from a starting point of 20%, it would raise the lending by that institution by 15% (starting from a loan portfolio share of 30%). This policy would require a change to the Basel rules, which have nothing to say about this ratio at present – an oversight that permits the risk-weight optimisation problem discussed earlier. This policy is less relevant for non-GSIFI banks.

These observations raise the question as to why GSIFI banks should not then be separated into securities and traditional banking components – as the latter would automatically have a higher RWA_TA ratio anyway, and would certainly be more responsive to interest rate policies.

Supervision and accounting

There is clearly a payoff for lending behaviour in policies that make traditional banks safer in terms of the DTD. This is not the case for GSIFI banks. The difference undoubtedly relates to the TBTF issue. GSIFI banks not separated into their component parts, with each

business line firewalled against the other (to prevent the creditors of one subsidiary pursuing those of another), will not be resolved, so they have no incentive to follow policy signals and instead focus on taking more (under-priced) risks related to the value of securities. Smaller banks can be resolved, and there is a payoff for lending behaviour by making them safer. This again seems to make separation policies an attractive option.

The earlier discussion also suggests that it does not help to allow un-transparent accounting and the hiding of potential loan losses, which appears to affect European banks in particular. The market price of equities will adjust anyway, reducing the DTD, and this may lead to herd behaviour and liquidity problems, with markets wild with rumour about the state of the banks' solvency. This suggests that GAAP and IFRS accounting differences on loan loss provisioning need to be resolved quickly, in favour of more forward-looking behaviour for banks.

Bank separation

Table 4 sets out the main business model features of the GISIFI and traditional banks alongside some of the determinants of lending. The banks in each case are arranged by the loan-to-total-asset ratio (LO_TA) in the left had column in each case: the 10% of banks that are the smallest lenders by share of portfolio, the next 2 groups of 12.5% of banks, the next group of 32.5% of banks, a group or 22.5% and finally the 10% of banks that are the largest lenders.

If an additional aim of bank separation policy was to encourage banks to lend at least 50% of their balance sheet, in addition to financial fragility reasons for separation considered in an earlier paper,[14] then:

For the GSIFI banks:

- In this sample 79% of the GSIFI banks (the midpoint of the 5th panel) would certainly have to be split to be consistent with this (i.e. some 22 of the 28 banks considered). That is, split so that more banks with a naturally high lending share that are more responsive to monetary policy would be created.
- GSIFI banks which, if not separated, would still lend above 50% of their balance sheet, would be those with less than 29% of their portfolio in trading securities (the median value in this 5th group), and less than 10% in derivatives.

For the traditional banks:

- Some of the banks in the first 10% group of traditional banks might also be considered for separation, about 44 of the 440 banks.
- While all of these traditional banks do not deal in derivatives on any relevant scale, it appears that only banks with less than 29% of their assets in trading securities (the median of the second panel) would seem to be consistent with lending above 50% of their balance sheet.

However, the risk of bank failure remains the key reason for separating banks and the study cited earlier suggested that derivatives, leverage and wholesale funding were the key negative influences on the DTD, while trading securities have a positive influence. Separating most of the GSIFI banks and a few of the traditional banks that are securities focused would have the added benefit of encouraging a greater propensity to lend. The creation of more banks that are simultaneously safer, more focused on lending, more responsive to monetary policy, and not excessively focused or asset price speculation strategies, would be a welcome structural change, improving both trust and the functioning of the financial sector.

Table 4. **Bank Lending and Business Model Features**

	GSIFIs					Non GSIFIs				
	LO_TA	LLP_TA	RWA_TA	TD_TA	GMV_TA	LO_TA	LLP_TA	RWA_TA	TD_TA	GMV_TA
	Min.-10%									
Mean	**0.3**	**4.3**	**23.6**	**44.2**	**39.5**	**41.3**	**3.5**	**53.8**	**39.8**	**1.5**
Median	0.0	4.3	19.1	33.6	44.4	45.1	2.7	51.2	39.4	0.0
Max.	5.3	4.7	39.6	90.9	74.8	52.4	43.1	122.4	76.0	33.6
Min.	0.0	3.8	14.3	10.9	0.1	2.0	-33.6	8.6	0.8	0.0
Std Dev.	1.2	0.7	9.5	26.3	26.8	11.6	5.1	44.4	12.0	3.9
	10%-22.5%									
Mean	**7.2**	**5.4**	**36.9**	**58.4**	**31.2**	**57.4**	**2.7**	**60.4**	**28.6**	**0.7**
Median	6.8	4.1	36.3	59.3	30.0	57.8	2.4	59.4	29.7	0.0
Max.	11.1	11.2	44.9	61.1	85.2	60.8	15.1	163.2	43.2	16.2
Min.	4.6	1.0	25.2	52.4	4.0	52.5	-0.9	18.1	0.3	0.0
Std Dev.	2.1	4.0	6.9	3.5	20.6	2.4	1.6	18.9	6.9	2.1
	22.5%-35%									
Mean	**17.1**	**2.5**	**24.2**	**61.5**	**29.7**	**63.0**	**2.5**	**64.2**	**24.2**	**0.6**
Median	16.8	1.1	22.0	70.2	25.2	63.0	2.2	63.2	24.9	0.0
Max.	20.4	8.6	46.5	80.7	96.0	65.1	11.5	163.2	36.2	10.9
Min.	13.5	-0.4	13.1	18.9	7.6	60.8	-1.9	19.5	0.3	0.0
Std Dev.	2.2	2.9	9.5	19.6	23.7	1.3	1.6	16.0	5.3	1.6
	35%-67.5%									
Mean	**32.2**	**4.4**	**34.9**	**41.1**	**26.8**	**69.9**	**2.3**	**70.5**	**18.0**	**0.4**
Median	33.1	3.1	33.1	46.7	22.4	70.0	1.9	65.4	18.2	0.0
Max.	42.5	18.5	77.5	67.7	86.4	74.4	12.4	174.3	39.4	29.5
Min.	20.8	-0.2	15.7	3.7	4.4	65.1	-1.5	23.1	0.0	0.0
Std Dev.	6.0	4.4	13.5	19.0	16.7	2.6	1.4	60.3	5.2	1.8
	67.5%-90%									
Mean	**52.5**	**2.2**	**40.7**	**29.3**	**16.1**	**78.2**	**1.8**	**72.3**	**11.6**	**0.2**
Median	54.0	1.5	36.8	29.5	10.6	77.9	1.6	70.0	11.6	0.0
Max.	62.0	10.0	62.9	43.7	49.3	82.6	8.3	134.6	33.2	4.9
Min.	42.6	0.3	13.9	13.9	1.6	74.4	0.0	42.8	0.2	0.0
Std Dev.	6.4	2.0	11.1	8.2	13.6	2.5	1.0	13.5	4.2	0.6
	90%-Max.									
Mean	**65.4**	**2.3**	**55.6**	**19.8**	**6.6**	**86.0**	**1.4**	**75.2**	**6.6**	**0.2**
Median	64.0	1.8	53.3	22.2	6.6	85.4	1.4	71.5	6.1	0.0
Max.	73.2	5.7	80.6	27.3	14.0	94.0	8.5	183.8	19.9	1.7
Min.	62.0	0.0	12.0	8.7	0.3	82.6	-0.2	48.8	0.5	0.0
Std Dev.	3.6	1.6	20.7	6.4	3.8	2.6	1.1	33.7	3.1	0.3

Source: Bloomberg, SNL Financials, authors' calculations. This table reports the average value from 2005 to 2011 of the ratio shown for a sample of 468 US and European publicly traded commercial banks and broker dealers. The sample consists of 27 GSIFIs (the 21 GSIFIs as defined by the FSB [2011] and 6 banks that failed in the crisis that started in 2007, but which can be considered as GSIFIs, such as HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns) and 441 other banks. See Section IV for the definition of the variables.

Notes

1. Though some countries had housing booms, which did see rapid house price increases and strong mortgage lending.
2. This sample includes the largest publicly traded commercial banks in the USA and in Europe with total assets that exceed USD 50 bn. The GSIFI banks comprise 21 of the GSIFI banks in the USA and Europe, as officially defined by the FSB in November 2011 (excluding Asian banks and non-listed banks).
3. See Blundell-Wignall and Roulet (2012). The default point is where the market value of assets equals the book value of debt. See Appendix 1.
4. When an agent buys a derivative, another agent has to sell a derivative, normally requiring an opposite market view to the buyer, and/or a very different business objective.

5. Basel II permitted sophisticated banks to model the riskiness of their own portfolios to calculate risk-weighted assets (RWA) to which the capital rules were applied – an approach that continues under Basel III. By reducing the ratio of RWA to total assets banks are able to minimise the capital required to conduct their activities and hence to expand leverage. The change in SEC rules in 2004 allowed investment banks to be supervised on a consolidated entities basis, in place of the strict SEC limitations on leverage. This was equivalent to the regulatory minimum that US banks would need to operate in Europe. The huge problems with the move to Basel II were at the heart of the problem. See Blundell-Wignall and Atkinson (2008, 2010, 2011, 2012); Blundell-Wignall, Atkinson and Roulet (2012); and Blundell-Wignall and Roulet (2012).
6. Though not referencing the prior OECD work and commentary on this very issue in numerous publications since 2008, the BIS has started to look at risk-weight manipulation via modelling and to take it more seriously; see BCBS (2013), "Regulatory Consistency Assessment Program (RCAP)".
7. Losses incurred in the Lehman Brothers' bankruptcy and in Greek debt restructuring may, in time, be seen as important positive steps in encouraging more prudent behavior in global financial markets.
8. These banks that failed in the crisis, but which can be considered as GSIFIs are: HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns.
9. See for example, Calza et al. (2003); Gambacorta and Marques-Ibanez (2011).
10. From this perspective, a simple Granger causality idea helps to mitigate potential endogeneity issues.
11. See Blundell-Wignall and Roulet (2012).
12. See Financial Stability Board (2009). Under GAAP, banks are required to disclose an accrual to income for estimated credit losses, provided 2 conditions are met: 1) is it probable that an asset has been impaired; and if so 2) can it be estimated. IFRS reports only actual loan events.
13. As argued in Blundell-Wignall and Atkinson (2012).
14. Blundell-Wignall and Roulet (2012).

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APPENDIX 1

Distance-to-default

The distance-to-default indicator DTD_t is the number of standard deviations away from the default point. To derive the measure, it is assumed that a bank defaults (or is bankrupt) when the market value of assets equals (or is lower than) the book value of debt ($V_t = D_t$). The formula to calculate the distance-to-default is derived from the option pricing model of Black and Scholes (1973) and is as follows:

$$DTD_t = \frac{\log\left(\frac{V_t}{D_t}\right) + \left(r_f - \frac{\sigma_t^2}{2}\right).T}{\sigma_t\sqrt{T}}$$

where:

V_t: Market value of bank's asset at time t,

r_f: Risk-free interest rate,

D_t: Book value of the debt at time t,

σ_t: Volatility of bank's asset at time t,

T: Maturity of the debt.

However, the market value of assets (V_t) and its volatility (σ_t) have to be estimated. Equity-holders have the residual claim on a firm's assets and have limited liability. As first realised by Merton (1977), equity can be modelled as a call option on the underlying assets of the bank, with a strike price equal to the total book value of the bank's debt. Thus, option-pricing theory can be used to derive the market value and volatility of bank's underlying assets from equity's market value (VE) and volatility (σ_E), by solving:

$$V_t = \frac{VE_t + D_t e^{-r_f T} N(d2)}{N(d1)}$$

$$\sigma_t = \frac{VE_t}{V_t}\frac{\sigma_{E,t}}{N(d1)}$$

where:

$$d1 = \frac{\log\left(\frac{V_t}{D_t}\right) + \left(\frac{\sigma_t^2}{2}\right).T}{\sigma_t\sqrt{T}}$$

$$d2 = d1 - \sigma_t\sqrt{T}$$

VE: Value of bank's equity,

N: The cumulative normal distribution,

σ_E: Equity's volatility.

A bank defaults (or is bankrupt) when DTD_t equals to 0 (or is negative). All data are extracted from Bloomberg. The total annual debt liabilities (i.e. annual total assets minus annual total equity), is interpolated using a cubic spline to yield daily observations (D_t). The volatility of equity (σ_E) is the standard deviation of daily return multiplied by $\sqrt{252}$ (i.e. 252 trading days by year). The expiry date of the option (T) equals the maturity of the debt. A common assumption is to set it to 1. The risk free interest rate (r_f) is the 12 months interbank rate.

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Structural reform and supervision of the banking sector in France

by
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The crisis has shown that there is no such thing as an optimal banking structure or model. The Liikanen report highlighted excessive risk taking and excessive reliance on short-term funding not matched with adequate capital protection. The French reform of the banking sector builds on this insight as well as the agreement reached by the Basel Committee on Banking Supervision and the European CRD 4 to foster financial stability. Risky speculative activity will have to be separated from the rest of the banking sector while taking into account the assets of the universal banking model. Further, the reform introduces a strong resolution framework and new macro-prudential powers.

JEL Classification: G18; G38; G33; G32.

Keywords: Banking system; bank supervision; bankruptcy; liquidation; systemic risk; macro-prudential policy.

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I. Introduction

The crisis has shown that there is no such thing as an optimal banking structure or model. Some pure investment banks (e.g. Lehman Brothers or Bear Stearns), some pure retail banks (e.g. Spanish *Cajas*, Irish banks, Northern Rock), and some universal banks (e.g. ING or RBS) alike either failed or were absorbed or required exceptional government support. Accordingly, the European High-Level Expert Group chaired by Erkki Liikanen came to the conclusion that no particular business model fared particularly well, or particularly poorly, in the financial crisis, but the Group rather pointed out excessive risk taking as well as reliance on short term funding, not matched with adequate capital protection.[1] To address these weaknesses many key reforms have been adopted at the international level over the last years or will be finalised in the coming months.[2] Most notably, the agreement reached by the Basel Committee on Banking Supervision (BCBS, 2011) on the new bank capital and liquidity framework will raise the quality, quantity and international consistency of bank capital and liquidity, constrain the build-up of leverage and maturity mismatches, and introduce capital buffers above the minimum requirements that can be drawn upon in bad times. Systemically important financial institutions (SIFIs) will also be required to have higher loss absorbency capacity. These multi-pronged reforms lay down much stricter rules for banks within a short timeframe. However, in addition, there is a broad consensus that the regulatory framework needs to be complemented in new directions through structural reforms regarding, in particular, recovery and resolution on the one hand, mandatory separation of purely speculative risky financial activities from deposit-taking banks on the other hand. Such a reform of banking structure must be very thoroughly designed as it has to smoothly articulate with the already quite comprehensive overhaul of banking and market regulation. French authorities support the view that a well-designed structural reform should complement on-going regulatory reforms by insulating banking activities that are useful for the financing of the economy from risky speculative trading ones.

After thorough discussion by lawmakers, the French reform of the banking sector has been adopted in July 2013 and will be fully implemented by July 2015.[3] Of course, some consider that the reform goes too far, giving the French prudential supervisory authority (*Autorité de contrôle prudentiel*; ACP) too extensive resolution powers, while others view the reform as too mild regarding mandatory separation. In the remainder of this article, the next Section (II) shows that the separation of risky speculative activity in the reform is important, well-balanced and implementable within a short timeframe. But focusing exclusively on separation would be missing the point and one key aspect of the reform consists in reducing vulnerabilities of the financial sector by introducing a strong resolution framework and new macro-prudential powers that are described in Section III. Some concluding remarks are provided in Section IV.

II. Separation of risky speculative trading activities as main goal

The first part of the bill implements a structural reform of large banking groups which is relatively close in spirit to the proposal put forward in Liikanen (2012). This reform aims at:

- reducing the market risks that banks may take to the minimum level needed to conduct the trading activities that are necessary to finance the economy;
- protecting customer deposits from the risks incurred in proprietary trading activities; the goal of the reform is to drastically limit the risk of taxpayer and deposit insurance money to be used to cover losses incurred by trading activities;
- enhancing the prudential supervision of trading activities within credit institutions and investment firms.

In drafting the bill due account was taken of the weaknesses but also the strengths of the French banks during the crisis. A remarkable point is that, in contrast to the proposals of Liikanen (2012) which do not attempt to separate pure "speculative" driven proprietary trading from market making (both would have to be ring-fenced), the reform considers, more in line with the Volcker approach,[4] that it is possible and necessary to draw a line between those activities. It rests upon the overarching principle that the distinction should be made on whether or not activities are effectively client driven and contribute to the financing of the real economy.

1. The structural reform will preserve universal banks

The universal banking model seems to have been somewhat resilient, although it was not true in all countries. For example, two banking systems which have historically shared common features, namely those of France and Canada, have solidly weathered the crisis. A reform of the banking structures should therefore not put into question the genuine strengths of this model. The French universal banks predominantly rely on retail banking, including specialised finance, which accounts for nearly two thirds of net banking income and provide steady revenues as well as a stable funding basis. Corporate finance, investment banking and asset management contributions make up for the rest and are well balanced. Drawing the lessons from the financial crisis, French banks have already massively reduced, and often closed, their pure proprietary trading activities. The aim of the new segregation regime is thus building closely on the experience of these past years, to stave off growth of volatile proprietary trading revenues in a next cycle.

All in all, French clients – corporations as well as households – benefit from a banking system that provides a broad range of various of financial services. The universal banking model has indeed some synergies and economies of scale to offer. A universal banking group is able to appropriately diversify its risks portfolio between business lines and products and is therefore able to mitigate a negative shock that may affect one of its activities. A reform of banking structures should not hamper those positive externalities – while a sensible and reasonable separation of risky activities may contribute to anticipating and facilitating resolution in cases of stress.

2. Necessity of a separation between trading and retail activities

The French reform of the banking sector aims at separating activities that contribute to funding the economy from speculative activities

Above a specific threshold[5] the bill requires trading activities or unsecured financing to hedge funds to be conducted within a separated trading entity, which would be

regulated and supervised as an investment firm or as a credit institution. This trading entity would neither be allowed to collect deposits nor to offer payment services to retail customers, nor to benefit from group guarantee or liquidity support beyond exposures that fall within a restrictive large exposure limit: the trading entity will be treated for the purposes of this internal limit as if it were not part of the group. In other words, retail client deposits will not be used to finance proprietary speculative activities.

More specifically, market making activities are considered as necessary to preserve liquidity capacity, but the Minister of the Economy may set thresholds above which market making activities would have to be contained within a separate entity. Moreover, the dedicated trading entities are prohibited from high frequency trading or derivatives trading on agricultural commodities for speculative purposes.

Market activities that could be useful for the financing of the economy are authorised within the entity that collects deposits

Some trading activities will not have to be ring-fenced provided that they have a significant role in financing the economy. These trading activities, specified in the bill, are:

- Trading positions involved in customer-driven investment services, such as providing hedging or other investment services to customers, with revenues being generated by customer fees and prudent handling of the related exposures; hedging positions for own purposes, which must be demonstrably related to a credit or market exposure.
- Market making activities as defined in EU regulation 236/2012 and already mentioned previously.
- Liquidity management activities or any other within group transaction that does not affect the consolidated prudential balance sheet.
- Investment in securities with the intention of holding them over the long term.

Banks will have to build and disclose a mapping of their trading activities

The law also aims at enhancing the prudential supervision of trading activities by forcing banking groups to establish and communicate to the prudential supervisory authorities a mapping of their trading activities jointly with a set of mandates and rules of conduct provided to their desks. The internal controls of the banks will have to ensure the implementation of these mandates. Supervisory authorities will assess the adequacy of theses mandates and rules of conduct *vis-à-vis* the constraints set by law. The regulation on internal control was already strong in France but the new bill thus provides additional specific requirements concerning banks' internal control systems of market activities.

This reform is well balanced between reducing risks from speculative proprietary trading and preserving useful market activities for the economy

The first part of the reform project – after the consultation period and parliamentary work – has slightly evolved from the initial version but the core principles have remained untouched. The text is well balanced in the sense that it draws the line between purely speculative activities that should be ring-fenced or prohibited, and all other activities that either contribute to the financing of the economy or are carried out on behalf of clients and that should be allowed. As a consequence, and in contrast with Liikanen (2012) where market making has to be assigned to the trading entity, it was acknowledged during the consultation and the debates in Parliament on the French reform that market making

activities play a crucial role in providing liquidity to markets. Market making is also closely linked to the underwriting of securities so that it would make little sense to artificially disconnect those two activities, ultimately impairing services delivered to corporate clients given the close links between trading on the secondary market and underwriting on the primary market. Indeed, banking intermediation is still important in Europe, especially for smaller companies. While Basel III aims at preventing banks from building up excessive leverage, banks have all the more a crucial role to play in organising and facilitating market financing for larger corporations. The preservation of market making is therefore essential to prevent unintended consequences of the implementation of the new regulatory framework.

To conclude with this part, the French universal bank model has demonstrated a great resilience during this exceptionally deep financial crisis. The aim of this reform it to keep the strengths of the French financial system while improving the protection of depositors and the long-term financing of the economy by isolating the speculative part of the banking activity. This is an important element to appropriately channel capital towards its effective use and thereby achieving financial stability and sustainable financing of the economy. But the banking reform goes further than segregating speculative activities. It builds a new framework to prevent future systemic disruptions and reduce the cost of financial crises.

III. Strengthening the supervisory framework

The reform of the banking sector strengthens the supervisory framework by giving new powers and responsibilities to the supervisory authorities

The law undertakes a comprehensive review of the French banking system and supervisory framework, both nurturing a better governance of the industry and shaping supervisory powers to improve financial stability and manage bank failure resolution.

1. *Improving governance under the supervision of the ACP*

Preventing defaults is the most straightforward way to nip in the bud interconnections-driven systemic disruptions

For this purpose, the Basel framework sets up not only quantitative requirements but also rules for sound governance, risk monitoring and market discipline. Sound governance involves primarily equity holders as well as – to a lesser extent – subordinated debt holders. Meanwhile, risk monitoring is frequently delegated to management boards. The recent crisis demonstrated how bad governance and risk monitoring leads to failures, such as the bails-out of Northern Rock in the United Kingdom, MPS in Italy or SNS Reaal in the Netherlands.

In the light of this experience, the new French banking law reinforces the ACP's ex ante intervention tools

During the financial crisis, evidence suggested that the quality of the board was absolutely crucial to prevent the failure of a bank. New powers are vested in the French banking supervisor to assess the suitability of board members. Notification for the fit-and-proper test – previously carried out only for managers – will be extended to board members. It will ensure greater effectiveness of the control of their reputation and professional competence. The French supervisor will be able to oppose a nomination and suspend a member if conditions are no longer met. The supervisor will indeed check

whether the collegial bodies' members abide by the rules throughout their mandate. This way the bank should enjoy advice from more suitable stakeholders in its choice of the right business model.

Governance monitoring tools thereby should help preventing organisational failures. From an institution-level perspective, such tools reduce *ex ante* the probability of a default that could spur a systemic event.

2. The ACP will be granted resolution powers

Following initiatives of the G20, the Financial Stability Board and the European Commission, the ACP will be granted resolution powers and becomes Autorité de Contrôle Prudentiel et de Résolution (ACPR),[6] to reduce moral hazard and protect the tax payer

During the financial crisis, some public authorities were forced to bail out troubled banks that were identified as systemically important financial institutions (SIFIs) and "too big to fail". From such experience, banks' equity and shareholders may consider they benefit from an implicit guarantee by governments, covering all activities, as the deposit guarantee scheme protects the depositors. This expectation lowers their incentive to assess the risk they bear. This makes a default both more likely – since market discipline is weakened – and more costly – since the resolution is complex.

To stem this behaviour, the new French banking law will require banks to define their "living wills". A recovery plan will detail preventive actions to be undertaken in case of significant deterioration of the situation. A resolution plan will organise and ease the supervisor's intervention in case of crisis. The supervisor may require reorganisation of the bank's structure if deemed necessary, including the possibility to isolate or segregate some activities.

Within the new ACPR, a devoted board will be in charge of resolution measures in case of default

This board has the power to change managers, designate provisional ones, and transfer or sell the whole or part of the institution. Most importantly, the new French banking law establishes that losses are to be borne by equity holders and subordinated creditors. A write-down and conversion mechanism could affect share and subordinate bond holders, in accordance with their seniority. An EU directive will complete these measures, which adapt the liquidation process to properly strengthen the institution's capital base. Risks and risk bearers are thus explicitly defined, withdrawing the expected implicit guarantee enjoyed by equity and shareholders and promoting a cautious management.

At the same time, it improves the protection of depositors and the stability of the financial system at large by increasing the size of the existing guarantee scheme, thus enhancing its potential to contribute to the rescue or the resolution of an institution.

3. The law introduces the concept of macro-prudential supervision

Financial fragility is also a result of banks' interactions. The banking activity is inherently cyclical, with financial cycles potentially exacerbating business cycles. Furthermore, banks are exposed to common macroeconomic shocks, weakening them all simultaneously. Their organisation in a network structure spurs contagion in case of a default. These risks threaten the public good of financial stability. This is the reason why the 2009 de Larosière report[7] called for the implementation of macro-prudential supervision to complement the micro-prudential approach.

In France, the institutional set-up is a board named the *Conseil de la Stabilité Financière* (Financial Stability Board) gathering representatives from the ministry of finance, the central bank, the bank and insurance supervisor, the financial markets supervisor and the accounting standards authority. The *Conseil* could publish notifications and recommendations deemed necessary to the preservation of financial stability. It will be in charge of setting the counter-cyclical and the systemic buffer[8] and tightening lending standards.[9]

The counter-cyclical buffer is a 'lean against credit' tool. This additional requirement becomes stricter along the upward phase of the credit cycle and is released in a downturn. It makes banks more resilient by strengthening their capital buffers. It has the interesting side-effect of curbing credit growth by making it more expensive for banks in the expansion phase.

If the counter-cyclical buffer anticipates the sector-wide build-up of systemic imbalances, systemic capital surcharges target systemically important banks. These institutions are sizeable enough to be sources of contagion. Their status makes them key contributors to systemic risk. Consequently, they have to be even more resilient than their smaller counterparts. Monitoring lending standards limits the development of speculative bubbles. In a bubble, credit counterparties are not adequately screened. Investigating credit standards hampers drifts towards excessive credit growth.

Macro-prudential instruments thus handle systemic risk both *ex ante* by decreasing the probability of the event to materialise (leaning against the financial cycle) and *ex post* by minimising the loss if it does take place (higher capital). Failure management tools enhance their action at the institution's level.

IV. Concluding remarks

In conclusion, several directions have been explored to address the issue of necessary structural reforms of the banking sector: The Volcker rule in the United States, the Vickers Proposal by the Independent Commission on Banking (chaired by Sir John Vickers) in the United Kingdom,[10] and the Liikanen Report by the High-Level Expert Group (chaired by Erkki Liikanen) in Europe. The French reform builds upon their in-depth analysis and conclusions but also considers the hurdles that still have to be overcome. In France the reform is a change of paradigm in the sense that it introduces – in a coordinated manner – preventive and curative measures by giving legal force to the principle of separation and by strengthening macro-prudential and resolution tools.

The separation part is well suited to keep the advantages and resilience of universal banking while diminishing the risks, with implementation proposed already by 2015. It constitutes a promising venue also at the European level. Indeed, German authorities are also considering moving in a very similar direction. It would be a real chance if a common framework could emerge in Europe so as to prevent fragmented national legislations.

The new set of tools is well suited to handle systemic risk and to tackle individual and sector-wide sources of systemic disruptions, lowering the probability of their materialisation and decreasing their costs. If a systemic event cannot be avoided, it ensures that costs will not be borne primarily by the taxpayer[11] but that risk-takers duly take their part in the resolution process.

Notes

1. Liikanen (2012).
2. See G20 (2010a) and G20 (2010b).
3. The French banking reform dated 27 July 2013 was adopted by the French Parliament on July 18, 2013. See the documents and procedure at the link provided in Assemblée nationale (2013). While the reform is now in force, some measures still require the publication of some implementing regulation. Regarding implementation, by 1 July 2014 banks must identify, and by 1 July 2015 they must actually transfer, activities that require ring-fencing. By 31 December 2014 the Government must report to the Parliament the impact of the reform on French banks' competitiveness and the size and nature of ring-fenced operations.
4. Section 619 of the Dodd-Frank Act (US Congress, 2010).
5. Threshold specified by decree from the Conseil d'État (Council of State). The Conseil d'État is the French highest administrative jurisdiction. It advises the government on the preparation of bills, ordinances and certain decrees.
6. Supervisory and Resolution Authority.
7. See High-level Group on Financial Supervision in the EU (2009).
8. The systemic buffer is a flexible capital surcharge, not to be confused with the systemic capital surcharges for Global Systemically Important Institutions (GSII) or Other Systemically Important Institution (OSII) proposed at EU level.
9. The *Conseil de la stabilité financière* will also acknowledge capital requirements imposed on French institutions due to exposures to other EU member states.
10. ICB (2011).
11. The taxpayer is also protected by various measures ensuring an improved transparence and functioning of the French insurance and banking markets (better information about insurance prices, removing obstacles to insurers' offers comparison, easing access to bank services and defining a limit to bank account charges for individual customers).

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Long-term investment, the cost of capital and the dividend and buyback puzzle

by
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The paper argues that interest rates are at extremely low levels to support banks, and the search for yield has pushed the liquidity driven speculative bubble from real estate, derivatives and structured products markets into the corporate debt market. Equities have rallied strongly too. This asset cycle is certainly helping banks reduce hidden losses on illiquid securities and could also help reduce the cost of equity. But for this to occur at current bond yields would require an unrealistic bubble in equities. Markets are assuming that this transition from low to higher rates (more in line with nominal GDP) can be handled smoothly by policy makers, when in fact this may not be so. Extreme volatility would risk new financial fragility problems. The paper presents a panel model using more than 4 000 global companies and shows that the Capex decision in general depend on the cost of equity, the accelerator and uncertainty, whereas buybacks are driven mainly by the gap between the cost of equity and debt. Right now the incentive structure implied by very low interest rates, which may be sustained for a long time, together with tax incentives, works directly against long-term investment. Debt finance is cheap, while the cost of equity capital needed for risky long-term investment is still high. This combination provides a direct incentive for borrowing to carry out buybacks (de-equitisation). Noting that weak investment reduces potential GDP, the paper makes some policy suggestions.

JEL Classification: G15, G32, G28, E52.

Keywords: Long-term investment, interest rates, de-equitisation, cost of capital, dividend and buybacks, monetary policy.

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I. Introduction

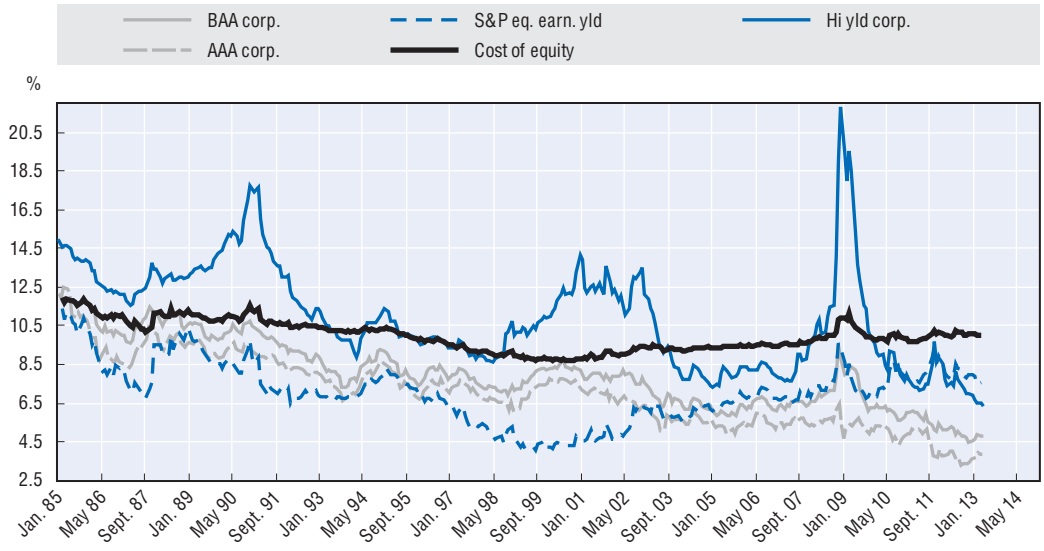
The US Federal Reserve, the ECB, and the Bank of England have conducted a policy of low rates and/or unconventional policies of buying out along the yield curve to reduce the term premium. Most recently, announcements from the Bank of Japan suggest that they too will follow suit, and this has seen a sharp fall in the yen. A weakening yen, and a rising risk appetite for yield in Asia, also risks seeing quantitative easing spread beyond OECD economies to Asia. These policies are expressly designed to help banks recover and deal with bad loans and to help the economy by encouraging risk taking: to increase the relative attractiveness of corporate debt and equities, both of which may be used to finance long-term investment. Portfolio investors have indeed taken more risk, forced out of low-yield low-risk assets in the search for higher yields in equities and corporate bond markets. This has led to an extraordinary rally in higher yielding corporate bonds, and the equity market too has rallied strongly. But so far this increased portfolio risk taking has not translated into a surge of capital spending at the company level. The US economy is picking up only moderately, and unemployment remains stuck at high levels. The traditional job-producing cycle that is created by new net investment has not materialised as in past cycles. In Europe, the recession seems to have gathered pace in early 2013, banks continue to cut lending and there is certainly no sign of any pick-up in business investment.

At the same time corporate borrowing has been strong, equity issuance weak, and companies have frequently decided to return cash flow to shareholders in the form of dividends and buybacks. The aim of this study is to explore this puzzle in more detail. It does so by using microeconomic data on cash flow, capital expenditure, dividends, and buyback decisions of thousands of observations from non-financial companies included in the MSCI global stock index. Section II looks at some of the economic indicators of the distortionary responses to the financial crisis that may be distorting investment decisions. Section III then looks at some of the microeconomic characteristics of the data and the capital expenditure, dividend and buyback outcomes. It hypothesises that the high level of uncertainty, the low cost of corporate debt and the high cost of equity funding is favouring dividends and buybacks at the expense of investment. Panel regression techniques are then used to explore whether this hypothesis is supported by the data in Section III. Finally, some concluding remarks are made in Section IV on the likely causes of the failure of policy to translate into better economic performance, and what areas policy makers might look to improve this situation.

II. Macroeconomic influences on the investment incentives

The effect of unconventional monetary policy, including the compression of term premium and risk premiums by buying out along the curve is shown for the United States in Figure 1. The search for yield on the part of investors has led to a rally in non-Government paper, as the risk-free sovereign yield has declined to record low levels (the USA 10-year bond rate is below 2% in early April 2013). While the financial crisis began with excess leverage on

Figure 1. **The US bond bubble and the incentive for de-equitisation**



Source: Thomson Reuters Datastream, authors' calcuations.

the part of banks and households, currently being unwound in a massive deleveraging, that bubble is being transferred to the securities markets and the corporate sector, which is now issuing debt to lock in low rates. In Asia as well, corporate issuance is in a bubble phase, with many low-quality and even unrated issues being many time over-subscribed.[1]

1. Extremely low interest rates do not provide an incentive to invest[2]

With respect to bond financing, the interest rate on corporate debt (i) must be consistent with the bond investor's required return (r) given the personal tax rate (t):

$$r = i * (1 - t) \tag{1}$$

The cost of equity (k) to the company is the dividend yield (d) plus the ex-dividend nominal return for a dollar invested (g):

$$k = d + g \tag{2}$$

For the equity investor the cost of the company retaining that dollar for investment is reduced by the dividend tax (td) not paid on the dollar (not distributed) but evaluated at the amount net of the capital gains tax (tg) that will be paid (for simplicity assumed to be paid on an accrual basis), so the cost of a dollar invested for the shareholder is:[3]

$$c = \frac{1 - td}{1 - tg} \tag{3}$$

The dividend and growth (ex-dividend nominal return) must be consistent with the equity investor's required return on the retained dollar invested ρ: i.e. the after tax dividend paid divided by cost of that retained dollar c plus the growth arising from the investment taxed at the capital gains tax rate:

$$\rho = \frac{(1 - td) * d}{c} + (1 - tg) * g \tag{4}$$

And substituting for c:

$$\rho = (1 - tg) * (d + g) \tag{5}$$

Finally, capital market arbitrage requires that the investor's return on both debt (the investor can invest in the risk free asset) and equity, adjusted for the equity risk premium σ, must be equal,

$$r = \rho - \sigma \tag{6}$$

so that substituting for ρ and r renders:

$$i*(1-t) = (1-tg)*k - \sigma \tag{7}$$

Notice that dividend taxes drop out, implying they are neutral for a dollar of earnings retained for investment. Taxes on dividends are taxes on profits generated and distributed; only taxes on the dollar invested are relevant in the case of a dollar retained for investment. The cost of equity capital for a retained earnings investment is:

$$k = \frac{i*(1-t)}{1-tg} + \frac{\sigma}{1-tg} \tag{8}$$

Figure 1 shows an empirical calculation of the cost of equity k.[4] Since 2000, the US cost of equity has drifted upwards from 8-3/4%, spiking at 11-1/4% at the end of 2008, and is currently around 10%. This occurred at the same time as the cost of corporate debt trended downwards for the past two decades in one of the greatest bull markets in fixed income of all time, so the cost of debt-financed investment is now very low. The Moody's AAA US corporate bond average is sitting at 3.9% currently, from 7.75% at the start of 2000. The BAA corporate bond rate fell from 8.3% in 2000 to 4.9% at present, and the Merrill Lynch-BoA below-investment grade high-yield average index fell from 11% to 6.4%. For the first time in history, the high-yield bond in the USA is less than the earnings yield on equities in the S&P 500. The wedge between the cost of debt and the cost of equity has widened sharply since 2000, i.e. the risk premium σ has risen sharply. This has greatly increased the incentive to issue debt and retire equity.

The cost of a dollar of debt to the firm is simply (1 + cr) (1 – tc), where cr is the credit risk premium and tc is the corporate tax rate. The equity risk premium is:

$$\sigma = (d+g)*(1-tg) - i*(1-t) \tag{9}$$

Table 1 shows a hypothetical example of some of the sheer extent of the incentive to do buybacks. In the first column of Table 1 the risk premium for something like the current situation is 6.5%, assuming a normal earnings growth of around 6%, a dividend yield of 3%, an extremely low risk free rate of 2%, a 15% capital gains tax and a 40% personal rate. In the second column, if the bond market returned to a more normal level in line with nominal GDP of 4.5%, the risk premium could fall to 5%, without any impact on the cost of capital at 9%. In the third column, with bonds at 2%, there is an enormous incentive to carry out share buybacks to boost share prices and returns to investors and, ultimately, to reduce the cost of retained earnings for investment. In this example, the share price rally needed to return the risk premium to the normal level of 5% would be 240%, an extreme bubble on any criteria. This would have the advantage of reducing the cost of capital, but at the cost of financial fragility concerns arising out of the bubble (excess leverage) and of a sharp reversal in equity prices when interest rates did rise. Such exuberance could be avoided by raising taxes (loose monetary plus tight fiscal policy), as shown in the fourth column, to keep the risk premium low alongside low interest rates. But this seems hardly sensible, as it raises the cost of equity and works against capital spending.

The current policy of extreme low interest rates does not provide an incentive to borrow to invest. The company can retain earnings, invest them at the risk free rate, and drive up the share price to the point where the risk premium is normalised. At this point

Table 1. **Hypothetical examples of the risk premium, cost of equity and taxes**

Variables	Current	With equil bond	With buy back rally	Raise cap. gains tax
Tax rate				
Personal (t)	0.400	0.400	0.400	0.400
Capital gains (tg)	0.150	0.150	0.150	0.310
Corporate (tc)	0.300	0.300	0.300	0.300
Perpetual earnings growth	0.060	0.060	0.060	0.060
Risk free interest rate (i)	0.020	0.045	0.020	0.020
Credit risk premium (cr)	0.022	0.022	0.022	0.022
Corporate rate after company tax	0.029	0.047	0.029	0.029
Share price (par value 1.0)	1.000	1.000	2.429	1.000
Dividend (cents per 1 dollar)	0.030	0.030	0.030	0.030
Dividend yield (d)	0.030	0.030	0.012	0.030
Cost of equity (k)	0.090	0.090	0.072	0.090
Equity risk premium	0.065	0.050	0.050	0.050

Source: Authors' calculations.

– provided the low rate of interest is sustainable – the firm would invest again to grow earnings and share prices in line with trend growth. From the investors' point of view, the buyback strategy has the added advantage of capital gains tax deferral for the investor. The above equations and example are based on the assumption of the taxation of accruals, but taxes are typically collected when capital gains are realised. The boosting of share prices does not incur taxation until the shares are actually sold.

If the extremely low bond rate is not sustainable, this strategy to reflate the economy is flawed and carries with it new financial risks: the improvement in the values of structured products, margin finance products, ETFs, bonds and equities will only help banks, investors and the economy for a temporary period of time. The reversal of bond yields will affect all of these assets in a negative way.

2. Company buybacks and borrowing trends in the global economy

The MSCI companies and the USA

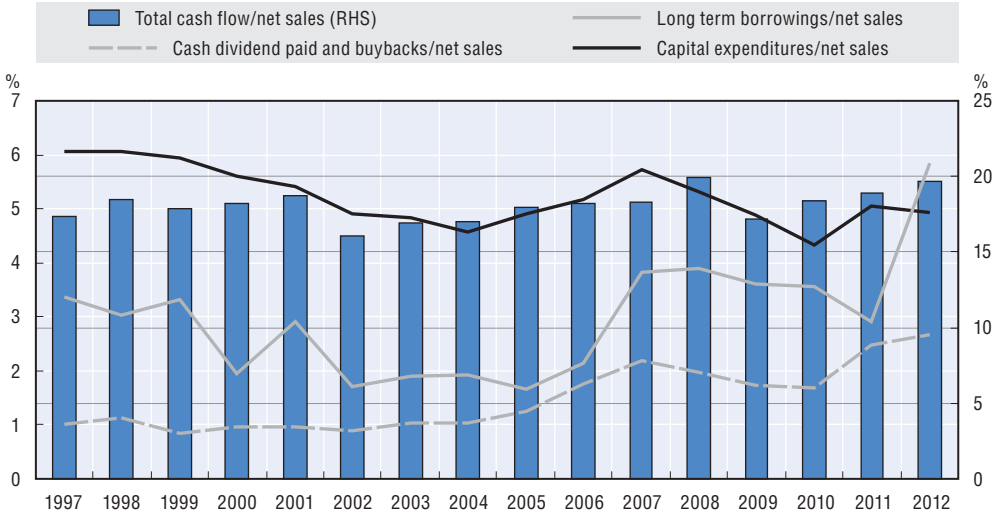
Figure 2 shows cash flow on the right hand vertical axis, and on the left hand side capital expenditure, long-term borrowing and the sum of dividends and buybacks, all expressed as share of net sales, for the 4 981 non-financial companies in the global MSCI stock index. The median firm values are shown. These key outcomes of the board room decisions show the following median characteristics:

- Capital expenditure in the MSCI companies fell from 6% of sales in 1997 to around 4.5% 2 years into the crisis, before recovering slightly to 5% by 2012.
- From 2005 dividends and buybacks rose from around 1% of sales to 2-3/4% in 2012. In contrast to investment, borrowing rose from 1-3/4% of sales in 2005, accelerating to 5-3/4% of sales in the latest year 2012.

Figure 3 shows the same variables for only the US companies in the MSCI global index.

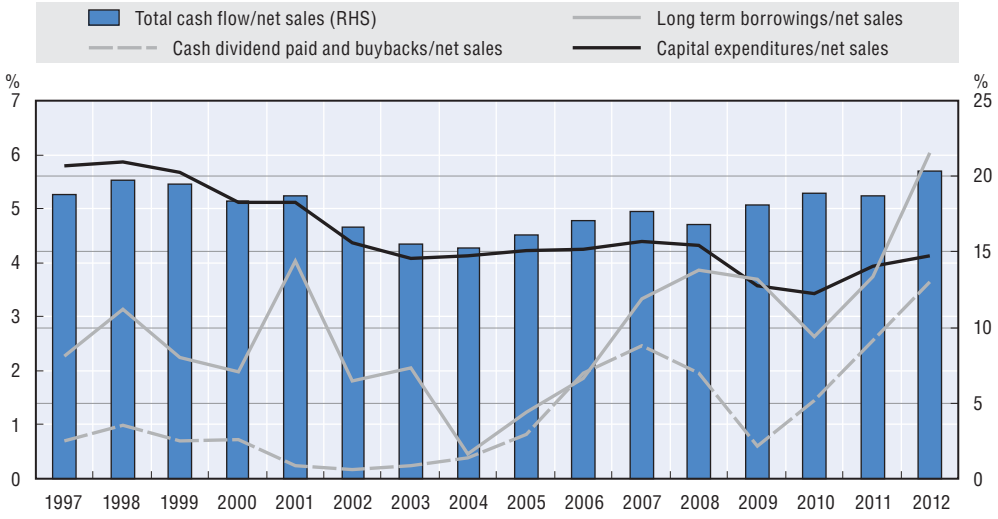
Consistent with the price bubble in corporate debt markets, shown in Figure 1, US corporate borrowing has accelerated strongly since 2004. From 0.5% of sales in 2004, it rose to 4% of sales in 2007, dropped back to 2-3/4% in the two years following the crisis and, responding to the search for yield, rose to 6% of sales in 2012. In contrast to this, US companies have seen investment in a trend decline as a percentage of sales since 1997, with only a modest pickup along with corporate cash flow in 2011 and 2012.

Figure 2. **MSCI companies: Cash, borrowing, capital expenditure and buybacks**



Source: Thomson Reuters Datastream, authors' calculations.

Figure 3. **US companies: Cash, borrowing, capital expenditure and buybacks**



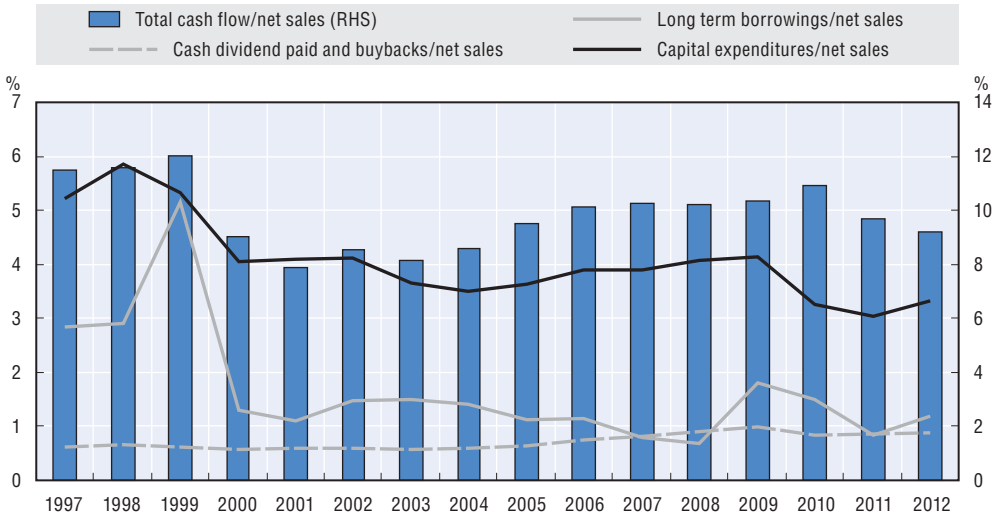
Source: Thomson Reuters Datastream, authors' calculations.

The case of Japan

The case of Japan in Figure 4 shows a very weak picture of investment – which has essentially halved as a share of sales since 1997. Cash flow is very low compared to international peers, only 9% of sales in 2012 compared to 20% for the USA. While the effects of the business cycle are evident, the unusual pattern of corporate behavior in Japan highlights a number of structural factors that other countries should take note of:

- Decades of low interest rates will not stimulate private investment following a period of chronic over-investment, excessive borrowing and banking crises in the 1980s and 1990's.
- The keiretsu structure which includes cash flow sharing, while reducing idiosyncratic risk at the firm level, increases the correlation of firms whith respect to market and global risks.[5]

Figure 4. **Japanese companies: Cash, borrowing, capital expenditure and buybacks**



Source: Thomson Reuters Datastream, authors' calculations.

- External forms of finance are weak in bank dependent industrial groups. When banking crises arise, investment is directly constrained. The failure to deal with the bad loan problems in banks, keeping "zombie" companies alive instead of cutting them off has contributed to the poor investment situation. The hope that banks would recover via operating profits and gradual write-offs – implying regulatory forbearance – has not been a successful strategy.

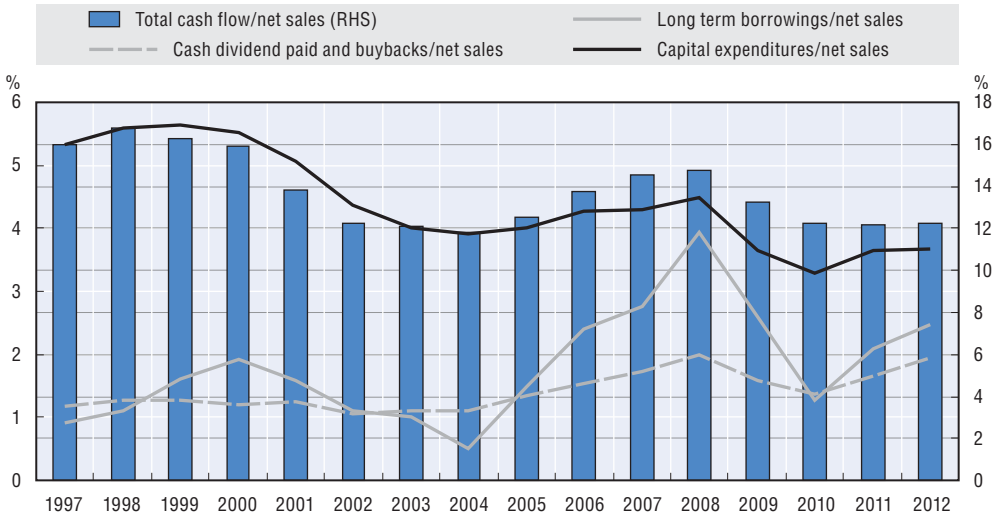
Europe

Europe, while more dependent on banks than the USA, does have a developed corporate bond market. Cash flow is a little stronger overall than for Japan, but less than for the Unites States. There is a strong correlation between cash flow and capital expenditure, and the fall in both following the tech bust in the early 2000s is notable. Subsequently, both cash flow and long-term borrowing picked up from 2004 until the eve of the financial crisis. Dividends and buybacks rose during this period. Subsequently, borrowing fell sharply between 2008 and 2010, as did buybacks, cash flow and investment. Investment of companies has fallen as a share of net sales from 5-3/4% in the late 1990's to 3-3/4% of sales by 2012.

Developed Asia

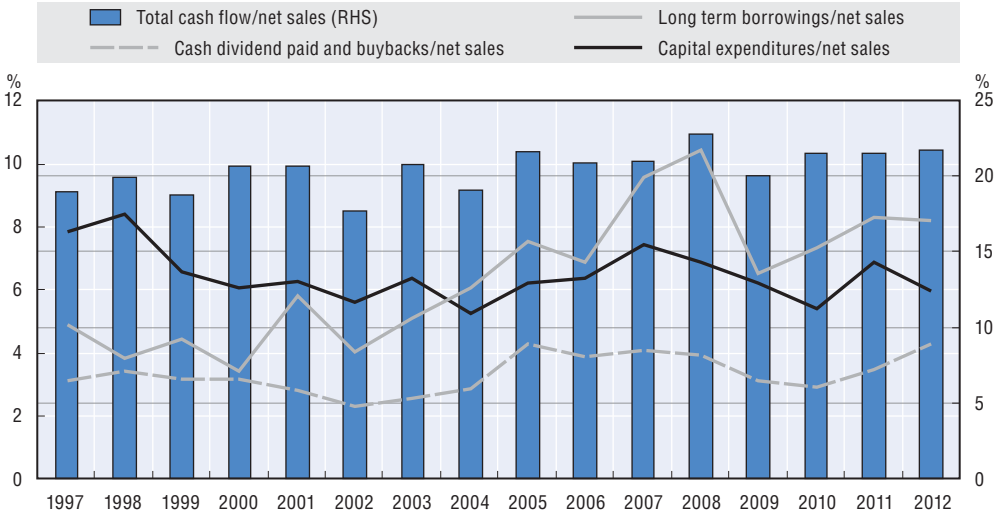
This group, which includes Hong Kong (China), Singapore, Australia and New Zealand, is shown in Figure 6. It is notable that investment is overall higher, within the range of 6-8% of sales (versus the 3-1/2% to 6% range in the advanced countries) and it has shown no sign of any trend decline. Long-term borrowing picked up markedly since 2002, rising from 4% of sales in 2000 to over 10% in 2008, and there is a clear correlation with both capital expenditure and buybacks since the mid 2000s. Cash flow is more robust than in the other developed countries and regions, at a stable 20% of sales (versus 15% to 20% in the USA, 12%-16% in Europe and 10%-15% in Japan).

Figure 5. **European companies: Cash, borrowing, capital expenditure and buybacks**



Note: This includes the UK and Switzerland.
Source: Thomson Reuters Datastream, authors' calculations.

Figure 6. **Developed Asia: Cash, borrowing, capital expenditure and buybacks**

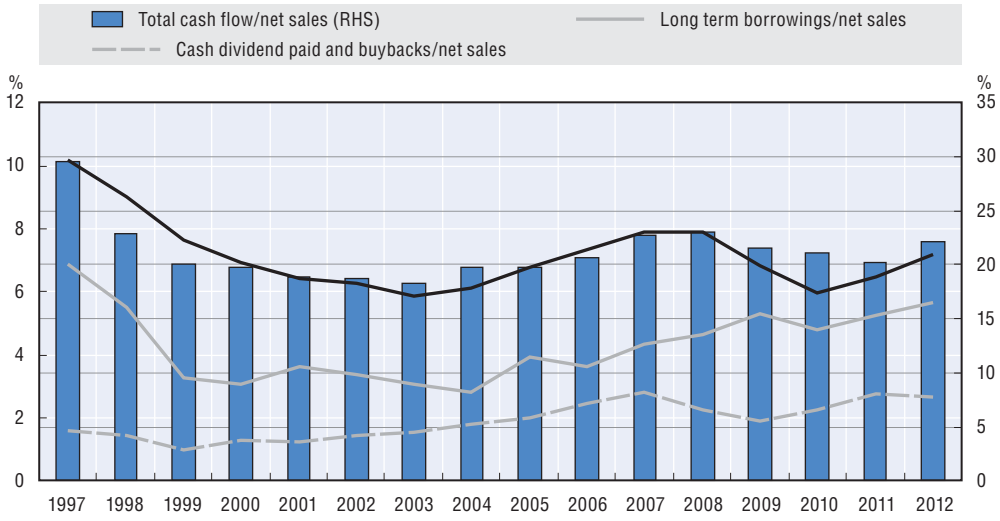


Note: This includes: Australia, New Zealand, Hong Kong (China) and Singapore.
Source: Thomson Reuters Datastream, authors' calculations.

The emerging market countries

The emerging market countries' firms in the index exhibit a very close correlation between cash flow and investment. This group consists mainly of the BRICS, South Korea, Chinese Taipei and some smaller countries. Long-term borrowing in debt markets is relatively small, collapsing after the Asia crisis from 7% of sales in 1997 to 3-1/2% in 2000. Subsequently, there has been a slow recovery back to around 6% of sales in 2012. Buybacks have picked up somewhat, but to a modest level of 2-1/2% in 2007 and 2012.

Figure 7. **Emerging: Cash, borrowing, capital expenditure and buybacks**



Note: This includes the BRICS, Taiwan, Korea, Mexico.
Source: Thomson Reuters Datastream, authors' calculations.

Summary

In sum, the buybacks and borrowing trend is a phenomenon mainly in North America and Europe. Japan shows very low cash flow and investment is in a trend decline. Developed Asia has the strongest investment with long-term borrowing playing a role in investment, with only moderate buybacks. Cash flow and moderate borrowing drives the investment in emerging countries.

III. Determinants of long-term investment

The board room decisions concerning capital expenditure, dividends and buybacks are complex, involving the cost of borrowing, the cost of equity, tax and risk premium issues. To investigate the determinants of firms' (excluding financials) long-term investment and cash returned to shareholders, two fairly simple independent equations are estimated, incorporating microeconomic and macroeconomic variables.[6] In the investment equation, the dependent variable is the share of capital expenditures in firms' total sales (CAPEX_Sales). In the dividends-buybacks equation, the dependent variable is the share of cash dividends paid plus cash spent on buybacks in the firm's total sales (DivBB_Sales).

1. *The explanatory variables*

For the CAPEX_Sales equation, the explanatory variables are those referred to in Section II. In the above discussion, the difference between the cost of equity based on retained earnings and the cost of debt was argued to be a major determinant of in the incentive to engage in both long-term borrowing and share buyback strategies – currently at quite an extreme point in the USA and Europe:

- The cost of equity (k) which is measured as the dividend yield for the national benchmark plus the trend rate of growth of earnings.[7] A higher cost of equity discourages firms to retain earnings for the purpose of capital expenditures. CAPEX_Sales is expected to have a negative relationship with this variable.

- The cost of debt (i_AAA) is the yield of an AAA-rated corporate bond index of the country location of the company. A higher bond yield discourages firms from borrowing to increase their capital expenditures. CAPEX_Sales is expected to have a negative relationship with this variable.
- In the above discussion, buybacks and borrowing trends are quite different in the USA, Europe and Japan compared to emerging countries. Computing the cost of equity and measuring the bond yield at the country level controls for possible heterogeneity across countries in the regressions.
- The accelerator effect on private long-term investment caused by economic growth is also a key determinant of long-term investment.
- Economic growth is measured by GDP growth in the home country (GDP). It is the annual per cent change in gross domestic product of the country location of the firms. The CAPEX_Sales is expected to have a positive relationship with this variable. Table 2 divides all of the companies into quartiles, with the lowest investment/sales group in the top panel, and the highest in the bottom. There is a clear positive relationship between GDP growth and the propensity to invest.
- Finally, uncertainty is measured by the firm's own stock price volatility.
- Uncertainty (σ) is the annual standard deviation of the firm's daily stock price. This is a firm-specific variable that proxies uncertainty about the longer-term outlook for the firm CAPEX_Sales is expected to have a negative relationship with this variable.

Table 2. **Some characteristics of the data**

	Capital expenditures/ total sales (%)	Cost of equity (%)	Earning yield, average by sector	Stock price annual volatility (%)	Annual GDP growth rate (%)
	Min.-25%				
Mean	**1.3**	**9.51**	**4.92**	**28.71**	**1.55**
Median	1.40	9.17	5.27	27.04	1.88
Std. Dev.	0.7	1.34	1.71	9.78	3.00
	25%-50%				
Mean	**3.4**	**9.50**	**5.01**	**29.04**	**1.86**
Median	3.41	9.12	5.30	27.44	2.14
Std. Dev.	0.6	1.33	1.59	9.80	2.86
	50%-75%				
Mean	**6.3**	**9.48**	**5.00**	**28.86**	**1.93**
Median	6.06	9.12	5.26	27.49	2.11
Std. Dev.	1.2	1.39	1.62	9.54	2.94
	75%-Max.				
Mean	**21.1**	**9.80**	**5.14**	**29.75**	**2.47**
Median	15.35	9.57	5.40	28.26	2.48
Std. Dev.	15.3	1.46	1.81	10.23	3.21

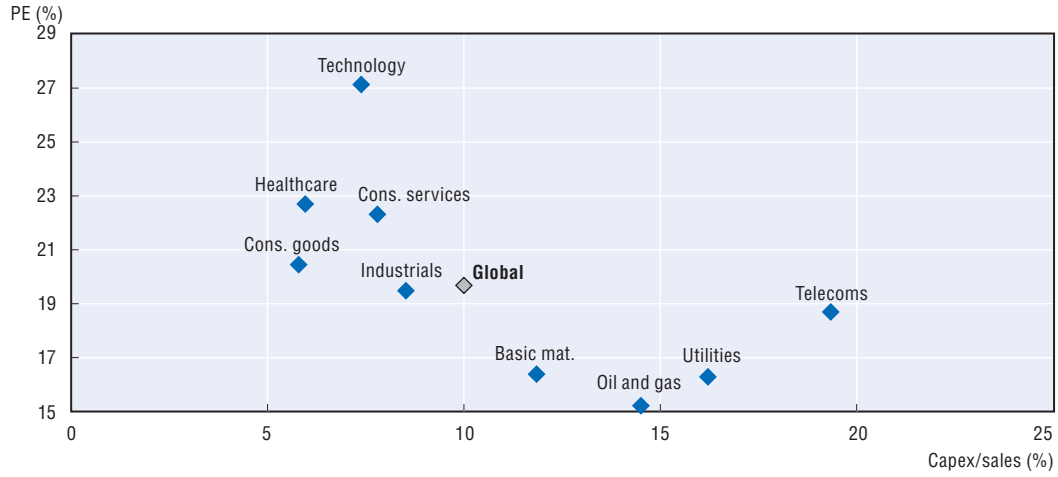
Note: This table reports the average value from Q1 1997 to Q4 2011 of the ratio shown.
Source: Thomson Reuters Datastream, authors' calculations.

For the dividends and buybacks equation, the explanatory variables are:

- The relative cost of equity versus debt (k – i_AAA), which is the cost of equity as defined above minus the corporate bond rate defined above. DivBB_Sales is expected to have a positive relationship with this variable. If the cost of retaining a dollar to invest is high and a firm can borrow very cheaply, it can reduce its costs by borrowing to pay dividends and to buy back shares.

- The average earnings yield by sector (EARN_YLD), which is the ratio of the last twelve months' earnings per share to the current market price for the sector. Companies in low-growth sectors with a high earnings yield (low PE), such as utilities, telecommunications, oil and basic materials sectors (see Figure 8) pay higher dividends than high-growth high-PE companies. This variable controls for possible heterogeneity across sectors in the regressions. DivBB_Sales is expected to have a simple positive relationship with this variable.

Figure 8. **Average PER and capital expenditures (to sales) by sector over the period 1997-2011**



Source: Thomson Reuters Datastream, authors' calculations.

2. The data and the model

The econometric analysis is run on a global sample of 4143 publicly traded companies from 31 countries[8] and 10 sectors[9] over the period Q1 1997- Q4 2011. Quarterly market and macroeconomic data were extracted from Datastream. Company data were also extracted from Bloomberg. Table 2 provides some descriptive statistics of the sample.

In the investment equation, the dependent variable (CAPEX_Sales) at time *t* is regressed on a set of microeconomic and macroeconomic variables described below that correspond to time *t-1*, to identify the main factors that drive the board room decisions concerning capital expenditure, dividends and buybacks.[10] In the dividend equation, the dependent variable (DivBB_Sales) is regressed on the one-year lagged value[11] of microeconomic and macroeconomic variables identified in the previous literature.

The empirical model is specified by the following equations:

$$\left.\begin{aligned} CAPEX_Sales_{i,t} &= \alpha_{i,t} + \beta_1 * k_{i,t-1} + \beta_2 * i_AAA_{i,t-1} + \beta_3 * GDP_{i,t-1} + \beta_4 * VOL_{i,t-1} + \varepsilon_{i,t} \\ DivBB_Sales_{i,t} &= \gamma_{i,t} + \beta_5 * (k_{i,t-1} - i_AAA_{i,t-1}) + \beta_6 * EARN_YLD_{i,t-1} + \vartheta_{i,t} \end{aligned}\right\} \quad (10) \text{ and } (11)$$

Both of these equations are estimated with least squares on the panel. After testing for cross-section and time-fixed versus random effects, both found to be significant, both sets of effects were included in the regressions.

3. The results

Regressions are run on the panel of MSCI companies for the years 1997 to 2011, involving some 21 632 observations. The results are shown in Table 3.

Table 3. **Long-term investment and buybacks (excluding financials)**

Capital expenditures equation	
Cost of equity (%)	-0.18***
	(-4.65)
AAA corporate bond yield (%)	0.01
	(1.13)
Stock price annual volatility (%)	-0.01**
	(-1.94)
Annual GDP growth rate (%)	0.07***
	(6.62)
Dividend and buybacks equation	
Cost of equity – AAA corporate bond yield (%)	0.03***
	(4.89)
Earning yield, average by sector	0.002***
	(12.52)
Total obs.	**212 632**

Note: This table shows the results of estimating an equation system for an unbalanced panel of 4 143 publicly traded companies from 31 countries and 10 sectors over the period Q1 1997-Q4 2011. See Section III for the definition of the explanatory variables. Cross-section and time fixed effects are used in the regressions as is the White cross-section covariance method. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.
Source: Authors' calculations.

For the investment equation:

- The cost of equity variable is significant at the 1% level, thus when the cost of equity rises, there is strong evidence that firms are likely to be reducing their long capital expenditure programs. The rate of interest on AAA corporate debt variable is not supported by the data. This may suggest that the AAA corporate bond rate is not a representative borrowing rate for the corporations in each country when considering their investment decisions. However, all corporate bond rates are correlated, and it would be surprising to obtain this result if long-term corporate borrowing was systematically negatively related to investment. An alternative hypothesis is that the use of long term-debt is related to tax and interest rate incentives. For example, in current low rate environment it makes sense for firms to lock in low rates, carry out buybacks to boost share prices up to the point where the risk premium and the cost of capital are reduced back to normal, and investment via retained earnings becomes more attractive. M&A activities, privatisation and de-equitisation accompany very low rates, rather than incentivising investment projects.
- Uncertainty, as captured by the volatility of the firm's stock price, is of the correct negative sign and strongly supported by the data.
- Finally, the accelerator effect in the growth rate of the economy is also supported by the data at the 1% level. An increase in annual GDP growth boosts companies' long term investment relative to sales.

For the dividend and buybacks equation:

- The cost of equity versus the AAA corporate bond rate is of the correct sign and is strongly supported by the data, with significance at the 1% level. This provides strong support for the above views: that a high cost of equity and a low borrowing rate (see Figure 1 for example) encourages firms to carry out buybacks and to pay higher dividends to shareholders instead of investing.
- In addition, the average earnings yield by sector is significant at the 1% level.

IV. Concluding remarks

- Interest rates are at extremely low levels to support banks, and the search for yield has pushed the liquidity driven speculative bubble from real estate, derivatives and structured products markets into the corporate debt market. Equities have rallied strongly too, as investors are forced out of low-yielding cash and bonds. This asset cycle is certainly helping banks reduce losses on illiquid securities market products hidden on their balance sheet. In principle, the equity rally could also reduce the cost of equity making retained earning investment projects more attractive.
- However, as shown in Table 1, equities would have to rally to unrealistic levels to restore even normal equity risk premia at current bond yields. This should not be allowed to happen. Bonds will have to move back in line with nominal GDP trend growth before it is safe to invest for long-term growth. But this will not happen smoothly. Markets are assuming that this transition from low to higher rates can be handled smoothly by policy makers, when in fact this assumption may not be validated. In that case, bond volatility would likely be large, and banks that dominate derivatives businesses have not been separated to reduce the riskiness of a sharp rise in bond yields and renewed falls in asset prices. New fragility problems may arise in banks at this point in time.
- The paper presents a panel model using more than 4 000 global companies and shows that the Capex decision in general depend on the cost of equity, the accelerator and uncertainty, whereas buybacks are driven mainly by the gap between the cost of equity and debt. Right now the incentive structure implied by very low interest rates, which may be sustained for a long time, together with tax incentives, works directly against long-term investment. Debt finance is cheap, while the cost of equity capital needed for risky long-term investment is still high (unaffected by low rates). This combination provides a direct incentive for borrowing to carry out buybacks (de-equitisation), shown to be at record levels in Section III.
- In an environment of weak sales growth and high uncertainty, companies (particularly in Anglo-Saxon countries) are keeping their capital expenditure contained, and they are taking advantage of cheap corporate borrowing rates to issue debt and build up cash flow. This cash flow is used for paying dividends and carrying out buybacks of shares. Many companies that embark on investment now are punished by the selling down of their shares. This makes it difficult for policy to feed into normal recovery patterns – for investment to pick up, create jobs, and eventually cause the consumer to follow.
- Weak investment reduces future potential growth, and this in turn creates inflation and growth bottlenecks.
- The best way to improve long-term investment are policies that return interest rates to normal levels, and reduce the distorted incentives for buybacks and low investment.

Notes

1. For example, China Rail 10 year BBB+ was 16 time over-subscribed, and the unrated Agile Property from China was 10 times oversubscribed.
2. See Cohen, Hasset and Hubbard (1999). This paper ignores inflation, given the sample period explored later on.
3. This may be double taxed if there is no company tax credit at the company tax rate tc and the personal rate t, so that (1-td) is (1-t-tc-tc * t). Notice that if the capital gains tax and the dividend tax were aligned, the cost would just be the one dollar retained.
4. The 10-Year US government bond yield plus the equity risk premium equals the dividend yield plus expected trend earnings growth of the S&P 500.
5. Hoshi et al. (1991) and Shin and Park (1999) find that non Keiretsu/Chaebol group firms in Japan and Korea exhibit positive sensitivity of investments to cash flows. Hoshi et al. find that firms that tried to leave bank structures in the 1980s were financially constrained. This of course worked against these firms in the long-running bank crisis.
6. Further work could look at systems estimation of more complex models. This work is provided to give a general indication of the tendencies in more than 4 000 global companies.
7. In other words, the 10-Year government bond yield plus the equity risk premium equals the dividend yield plus expected trend earnings growth of the national equity benchmark.
8. The sample comprises firms from North America (United States, Canada), Europe (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom), Asia-Pacific (Australia; Japan; New Zealand; Hong Kong, China; Singapore), and emerging economies (Brazil, China, India, Mexico, Russian Federation, South Africa, South Korea, Taiwan).
9. These sectors are: oil and gas, basic materials, industrials, consumer goods, healthcare, consumer services, telecommunication, utilities, financials and technology.
10. From this perspective, a simple Granger causality idea helps to mitigate potential endogeneity issues.
11. The aim is to identify the main factors that have contributed to impact the long term investment strategy or dividend payment policy of firms.

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Equity markets, corporate governance and value creation

by
Mats Isaksson *and* Serdar Çelik*

This article provides both an analytical framework for the role of public policy in corporate governance and a description of the empirical context that influences the conditions for that policy. It underlines the importance of focusing on the overall economic outcome and, in particular, how rules and regulations impact the conditions for companies to grow and create value by accessing public equity markets. In terms of the empirical context, we point to fundamental changes in the functioning of equity markets that may call for a fresh look at the economic effectiveness of corporate governance regulations. Among other things, we document a dramatic shift in listings from developed to emerging markets over the last decade, which means that concentrated ownership at company level has become the dominant form of ownership in listed companies worldwide. We also discuss whether the lack of new listings of smaller companies in developed markets is related to excessive regulatory burdens and unintended consequences of a decade of profound stock market deregulation. The discussion about listings illustrates that corporate governance rules and regulations do not only affect companies that are already listed. From a policy perspective, it is equally important to assess the implications for unlisted companies that may, in the future, require access to public equity markets for growth and job creation. We also document how the lengthened and ever more complex chain of intermediaries between savers and companies may influence the efficiency of capital allocation and the willingness of investors to take an active long-term interest in the companies that they own. It is shown that institutional investors are a highly heterogeneous group and that their willingness and ability to engage in corporate governance primarily depend on the economic incentives that follow from their different business models, investment strategies and trading practices. We provide examples of how regulatory initiatives to increase shareholder engagement may have unintended consequences, and note that the diversity and complexity of the investment chain can render general policies or regulation ineffective.

JEL Classification: G30, G32, G34, G38

Keywords: capital and ownership structure, corporate governance, initial public offerings, institutional investors, shareholders

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I. Corporate governance and public policy

Corporate governance is not carried out in a vacuum. The incentives and abilities of owners, intermediaries, board members, managers and stakeholders depend on the environment in which they and corporations operate. Of particular importance is the functioning of the equity market, which is the place where cash flow rights and voting rights in the form of corporate shares are acquired. As equity markets change in terms of structure, participants, investment strategies and trading practices, so do the conditions for exercising corporate governance. To be effective, policy makers need to recognise these changes, consider their impact and understand their consequences for the design of rules and regulations.

While corporate governance is a hot policy topic, little attention has been given to formulating the appropriate role that public policy plays in it. Why does public policy matter and what is it expected to achieve? Without a coherent answer to these questions, any interventions made by policy makers risk being random and even contradictory. A second prerequisite for effective policy is a proper understanding of the reality in which rules and regulations are to be implemented. Which rules will the actors use, what are their incentives and how do they interact? Both corporations and investors come in many different shapes and forms. Without knowledge about their relative significance and the nature of their businesses, regulation will be ineffective and most probably tainted by costly unintended consequences.

Among other things, we document a dramatic shift in listings from developed to emerging markets, which means that concentrated ownership at company level has become the dominant form of ownership in listed companies worldwide. We also discuss whether the lack of new listings in developed markets is related to excessive regulatory burdens or unintended consequences of a decade of profound stock market deregulation. Importantly, our discussion about listings also illustrates that corporate governance rules and regulations do not only concern companies that are already listed. From a dynamic perspective, it is equally important to assess the implications for today's unlisted growth companies – which seldom participate in the public debate – that may, in the future, require access to public equity markets for growth and job creation. We also document how the lengthened and ever more complex chain of intermediaries between savers and companies may influence the efficiency of capital allocation and the willingness of investors to take an active long-term interest in the companies that they own. We also examine how regulatory initiatives to increase shareholder engagement may have unintended consequences and note that the diversity and complexity of the investment chain can render general policies or regulation ineffective.

The first stage of the investment process is the ability and willingness of savers to invest in equity: to provide entrepreneurs and growth companies with risk capital that they can use for innovation, job creation and growth. A number of provisions are required for savers to come forward, such as a secure means of registration, the transferability of shares, the right

to receive corporate information and assurances that the contractual rights that come with the ownership of equity are well defined and enforceable. From the entrepreneur's perspective, this requires a regulatory environment that makes it attractive for the founder of the company to open up and share ownership with outsiders. Considering the great variety of savers and companies, successful matching between the two requires, almost by definition, a certain degree of enabling legislation and contractual freedom.

The second stage of the investment process is about effective allocation. It is not just the total amount of capital that is important to economic growth. It is equally important that the capital is allocated to its best possible use. Here, the efficiency of the equity market depends on the willingness and ability of shareholders to identify the full long-term economic potential of corporate activities. This requires that shareholders have access to all available information about the company. But it is not enough that all shareholders act on the same information. It is also essential that individual shareholders have incentives to independently gather and evaluate unique information about corporate prospects. To ensure this, the corporate governance framework contains a range of different provisions, including disclosure requirements and procedures related to changes in corporate control.

In the final stage of the investment process, corporate governance rules enable shareholders to monitor boards and managers that exercise the daily use of the money that the shareholders have invested. For this purpose, the corporate governance framework identifies a broad range of means for shareholder voice and a number of different issues on which they can express their opinion, including board composition, remuneration practices and relations with stakeholders.

Considering the fundamental importance of investment for sustainable growth and the pivotal role of corporate governance in this process, the remainder of this article has been structured to explore the relevance of corporate governance at each of the three phases of the investment chain, namely *access* to capital, *allocation* of capital and the *monitoring* of capital employed in individual companies.

II. Access to capital and primary equity markets

II.1. Primary equity markets

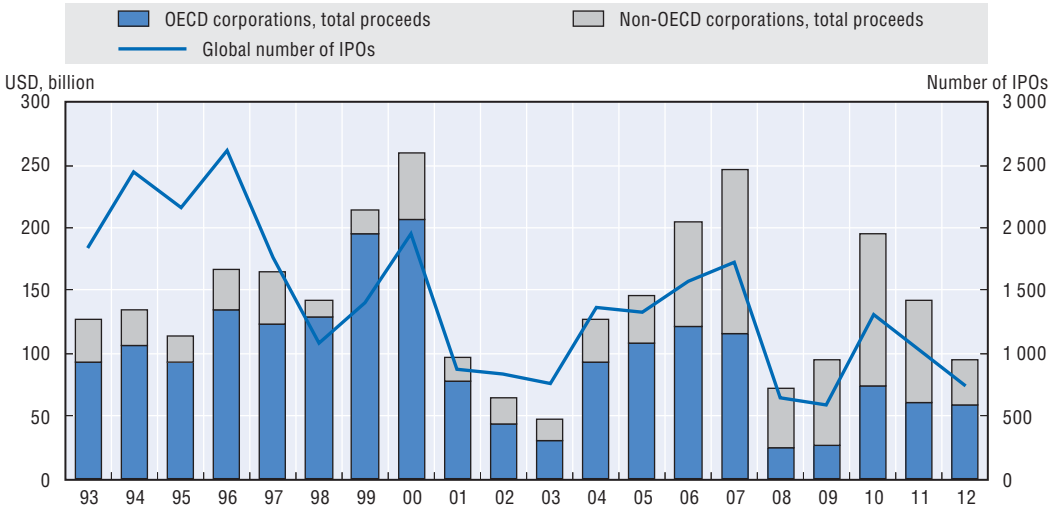
Figure 1 shows the long-term development of IPOs globally, tracking both the total *number* of offerings each year and the *amount* of equity that companies raised from them.

In terms of the number of IPOs, the data suggest a downward trend that began as early as 2000 across the OECD markets. A period of "recovery" can be noted in the years leading up to the 2008 financial crisis, followed by a sharp decrease in the number of new companies raising capital in the public equity market. Comparing the two decades reveals that during the period 1993-2000, the OECD annual average was about 1 170 IPOs. During 2001-12, this number fell to about 650. It is worth noting that even during the "recovery" period before the financial crisis, the annual number of IPOs never reached the average number of IPOs during the 1990s. The decrease in the number of new firms listing in OECD markets has been accompanied by a decrease in the *amount* of equity that companies have raised in OECD markets. The total value of capital raised decreased from an annual average of USD 134.3 billion between 1993 and 2000 to an annual average of USD 69.8 billion during the period 2001-12.

Figure 1 also shows that throughout the 1990s, companies from OECD countries dominated the global IPO scene by receiving about 82% of all of the risk capital that was

Figure 1. **Global trends in primary equity markets**

Number of initial public offerings worldwide and the amount of equity raised by OECD and non-OECD corporations (2012 USD, billions)



Note: Data excludes investment funds, REITs, banks, insurance companies and other financial sector corporations. Covers a total number of 30 221 IPOs from 87 different countries.

Source: Based on data from Thomson Reuters *New Issues Database*, Datastream, stock exchanges' and companies' websites.

raised in public equity markets worldwide. This dominance ended quite dramatically by the turn of the century, when the absolute amount of capital raised by OECD companies was cut in half compared with the annual average of the previous decade. This resulted in an increased share of capital going to companies in non-OECD countries, which in 2003 was about 35%, compared to 20% in 2000.

During the subsequent IPO "recovery" between 2004 and 2007, the relative amount of equity raised by companies from non-OECD countries continued to increase. During this phase, however, their increased share is not explained by a fall in equity raised by companies based in OECD countries. Rather, it is the result of a faster absolute increase in equity raised by companies from non-OECD countries. In 2003, non-OECD companies raised a total of USD 16 billion of equity worldwide, which in 2007 had risen to USD 130 billion. As a consequence, during the four "recovery" years before the 2008 financial crisis, non-OECD companies received almost 40% of all equity raised in the world. This share has increased even further in the period following the financial crisis. Between 2008 and 2012, almost 60% of all new risk capital raised worldwide went to companies from non-OECD countries.

From a corporate governance perspective, one important consequence of the changing IPO and stock market landscape worldwide is the impact on ownership structure in individual companies. Most of the corporate governance debate is focused on situations with dispersed ownership, where the battle for wealth is a zero-sum game between dispersed owners on the one hand, and incumbent management on the other. This "agency" approach has its merits, but it also has important limitations, since a very large, if not dominant, part of listed companies around the world actually have a controlling (or dominant) owner. It is reasonable to assume that on a worldwide scale, developments in terms of new listings towards emerging markets have increased the dominance of controlled companies.

Broadly speaking, the decline in IPO activities, the increase in delistings and private equity activities, and the shift towards emerging markets have all been in favour of controlling ownership structures. These developments have resulted in a decrease in the number of locally listed companies in countries that are usually characterised as having a predominantly dispersed ownership pattern, namely Australia, the United Kingdom and the United States (IOSCO, 2007).[1] In 2000, locally listed companies in these three countries (excluding investment funds) represented 22.5% of the world's listed companies. In 2011, they only represented 16.3%. One could argue that the predominance of the dispersed ownership perspective in the public policy discussion is based on their high share in total market value rather than the number of corporations. However, the share of global market capitalisation of "dispersed" markets has decreased by some 30% – from 56% to 40% in the same period.

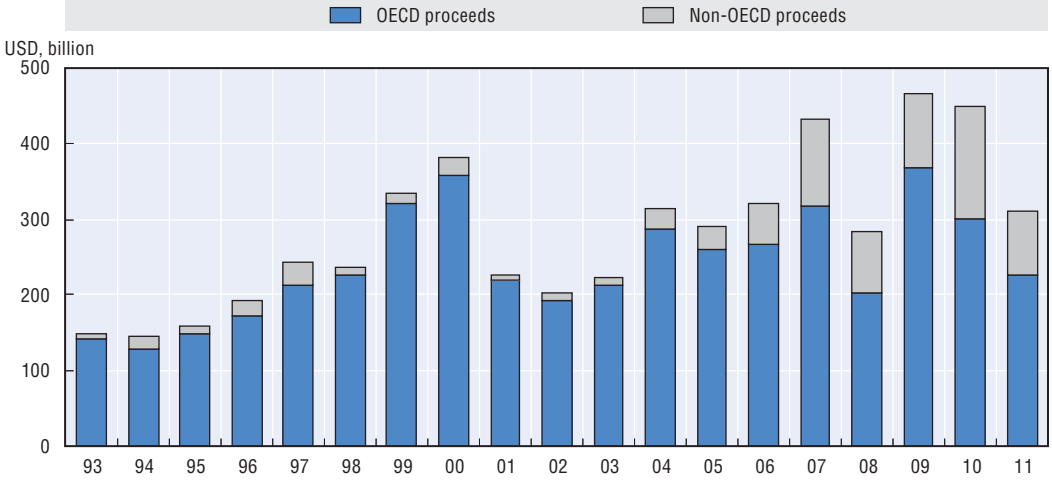
Another indication regarding the change in ownership concentration in listed corporations is the relatively low level of free float in emerging equity markets. For instance, while the average free float ratio for US and UK listed companies is about 90%, it is less than 35% in China, India and the Russian Federation (Goldman Sachs, 2010). In sum, the global change in IPO activities described above suggests a considerable reinforcement of concentrated ownership as the dominant "ownership structure" at company level in listed companies worldwide.

II.2. Secondary offerings

The role of public equity markets in providing new risk capital is not limited to IPOs. Equity markets should also serve already listed companies that can raise equity through a so-called secondary public offering (SPO). Figure 2 illustrates SPOs in OECD and non-OECD economies during the period 1993-2011. It demonstrates that in every year for the last decade, SPOs by non-financial companies based in OECD countries exceeded the proceeds from IPOs. In 2007, the amount of equity raised through SPOs was more than double that from IPOs. In 2009, the amount of equity that companies in OECD countries raised through SPOs was more than 14 times the amount that they rasied through IPOs.[2]

Figure 2. **Global secondary public offering trend**

Total amount of equity raised through secondary public offers (2011 USD, billions)

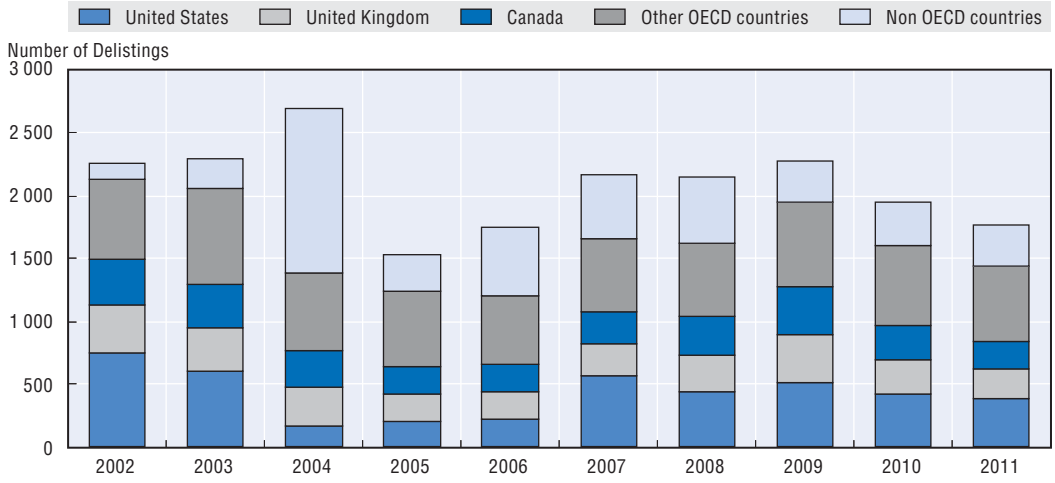


Note: This figure does not cover financial corporations or investment funds. It covers all share issues of listed companies after the initial offer. After consolidating duplications into one single SPO and removing SPOs without sufficient information, the total number of unique SPOs covered is 74 015 for the period 1993-2011.
Source: Based on data from Thomson Reuters *New Issues Database*.

II.3. Delistings and share buybacks

The total number of listed companies is not affected uniquely by the number of IPOs. It is also influenced by the number of corporations that, for different reasons, are leaving the public equity market. Since 2002, an annual average of 2 000 companies have delisted from stock exchanges worldwide. This means that almost 41% of the listed companies in 2002 have delisted over the last ten years.[3] Figure 3 shows that between 2002 and 2011, 78% of the delistings were from stock exchanges in OECD countries. Although some companies left the stock exchanges voluntarily through mergers, others delisted due to backruptcy or were forced to by the stock exchanges on which they are traded as they failed to meet continuining listing criteria (Macey et al., 2008). It is important to note that delisting from a stock exchange does not necessarily mean that the company becomes privately-held. In the case of dual listings, for example, a company may be delisted from one exchange but remain listed on the other exchange(s), or a company may just change its trading venue and move to a new exchange or the OTC market.

Figure 3. **Number of delistings**



Note: Unlike IPO and SPO data, delistings also cover financial sector corporations.
Source: World Federation of Exchanges.

Just as listing may be a natural step in the lifecycle of a company, voluntary delisting may also be appropriate and economically efficient at a certain stage. Voluntary delistings can be classified into two broad categories: going private, including delistings due to merger and acquisitions (M&A), and "going dark". In going private, a listed companies' insiders or outsiders buy existing shares from the company's investors and make the company privately held. In a going dark transaction, however, there is no tender offer or share buybacks to make the company private; instead companies delist from a regulated market and move trading to an OTC market (Marosi and Massoud, 2007).

In many countries, delistings have been coupled with a trend of share buybacks. Depending on the technique that is used, a share buyback can, in some cases, be seen as an inverse public offering by reducing the companiy's equity base (European Central Bank, 2007). Many explanations for the use of share buybacks have been provided and as early as 1966, Bierman and West argued that tax advantages of capital gains over dividends is the dominating motivation for companies to repurchase their own shares. The tax

advantage still appears to be a commomly accepted explanation today, but other reasons have also been suggested, including the argument that buybacks give discretion to shareholders to opt in or out and to signal that the company is undervalued (OECD, 2007b).

In 1999, the share buyback volume in the United States exceeded the total dividends paid by non-financial companies for the first time and has since then remained a common way of returning money to shareholders rather than paying dividends (ECB, 2007). Share buybacks have been allowed or facilitated in other countries as well. In Japan, for example, the 2001 revision of the Commercial Code abolished restrictions on companies aquiring their own shares, allowing them to repurchase any number of shares for any purpose. After the regulatory change, share buybacks increased from USD 18 billion in 2001 to USD 52 billion in 2006 (Teng and Hachiya, 2011).

II.4. Explanations for the recent trends in primary equity markets

A number of explanations for the trends in primary equity markets have been offered in the public and academic debate. In this section, we divide these explanations into three main groups: *i)* factors that affect the demand for equity; *ii)* factors that affect the supply of equity; and *iii)* cyclical and market structural factors. They may also differ in relative importance between countries, over different periods and for different company sizes and sectors.

II.4.1. The demand for equity

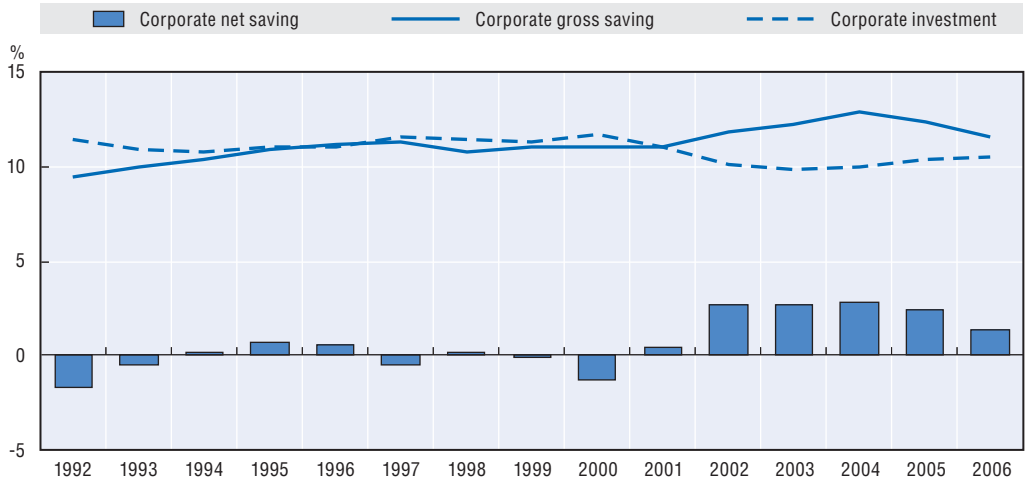
Companies' demand for equity capital is obviously one of the most important determinants of primary market acitivity (Lowry, 2003). Simply put, the need for external funding is determined by the difference between the level of investment and the amount of a company's savings. Once the need for external funding has been determined, the entrepreneur or the company will seek the best source of funding based on their analysis of the relative cost and conditions of the different sources.

Before the 2008 financial crisis, the global economy experienced important changes in both the level of business investment and corporate savings. Figure 4 indicates that after 2002, both corporate gross savings and investments moved to decrease the need for external funding. Across the OECD, the corporate sector as a whole moved from a net borrowing position to a net savings one.

Several explanations have been offered with respect to the trend in corporate savings, including: increased profitability in both the financial and non-financial sectors, low levels of corporate investments relative to GDP, a relative decrease in the price of investment goods and increased investments outside the OECD area (OECD, 2007b). It has also been observed that while operating profits do not appear to have been abnormally high during the period, overall profits were elevated due to low interest rates and a reduction of corporate taxes. Other explanations that have been offered for the increase in corporate savings include a decline in nominal interest rates and uncertainties associated with unfunded corporate pension liabilities, as defined benefit pension plans are estimated to be significantly underfunded (IMF, 2006). It has also been argued that there is a liquidity motive caused by an increase in the volatility of net income over time (Boileau and Moyen, 2010).

Modigliani and Miller's Proposition I in their influential study from 1958, which states that in perfect market conditions and without corporate taxes, the value of a company is independent of its debt/equity ratio (capital structure). This theorem has given the composition and cost of capital a central role in financial theory. But it has been widely

Figure 4. **Corporate saving and investment in OECD economies (% of GDP)**



Note: Data include Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, the United Kingdom and the United States. Net saving is not equal to the difference between gross saving and investment as it is also affected by changes in inventories and capital transfers.
Source: OECD (2007), *OECD Economic Outlook*, Vol. 2007/2, OECD Publishing, *http://dx.doi.org/10.1787/eco_outlook-v2007-2-en*.

misunderstood, and as stated by Miller (1988) 30 years after their seminal work, the "nothing matters" interpretation of the theorem is a grave misinterpretation of its conclusions. Rather, what their model intends to do is to help understand how *deviations* from perfect market conditions influence corporate finance decisions. Such deviations obviously include taxes and other financial and non-financial conditions, such as regulations, that are associated with different sources of funding – all with their specific characteristics. This also includes equity, which in itself is not a homogenous instrument. For example, are the conditions (and costs) associated with equity that is provided through a purely private deal different from equity that is provided through an initial public offering, which is associated with a number of expenses before, during and after the introduction? The ambition to minimise the cost of capital (thus maximising the value of the company) will take such differences into account and, for example, influence attitudes towards listing. As a consequence, if conditions are such that the relative cost of equity capital, for whatever reason, increases in public markets, companies are more likely to stay private (Bharath and Dittmar, 2006).[4]

At the same time that the cost of debt financing has decreased over the last decade, it is also argued that an increased regulatory burden on listed companies and higher intermediation costs have pushed up the relative cost of public equity financing.

The Sarbanes-Oxley Act of 2002 is usually at the centre of the regulatory burden discussion. In response to major corporate scandals of large public companies, the act was introduced in the United States *to protect investors by improving the accuracy and reliability of corporate disclosure*.[5] However, it has been argued that in the process of trying to restore public confidence, the act has also created a regulatory burden for public companies that has discouraged foreign and domestic companies from going public (Grant Thornton, 2010).[6] The Sarbanes-Oxley Act was followed by other regulatory initiatives around the world, particularly in countries which experienced corporate scandals, such as the Financial Security Law of 2003 in France and the Law on Savings of 2006 in Italy.

Against this background, today's policy discussions have come to focus more on the costs and efficiency of reporting and compliance requirements. For example, respondents to the interim report of the *Kay Review* (2012) indicated that *quarterly reporting and interim management statements fell into the category of useless and misleading information*. There was also a common claim that it had led to a focus on *making the numbers* at the expense of long-term growth and development of the business. Following the *Kay Review*, the UK government has put forth a draft regulation for comments that aims at removing several reporting requirements from all or some companies (Department for Business, Innovation & Skills, 2012).

The *Kay Review* also addresses institutional factors that may have increased the cost of equity capital. The review concludes that there was wide agreement among respondents to its call for evidence that the cost of equity capital for companies is high by historical standards, while expected returns to equity investors do not appear to be abnormal. One of the two explanations[7] provided for this difference between the anticipated costs to companies and the returns to investors is the rising cost of intermediation, which decreases the ultimate return to savers on their investments and widens the gap between the cost of capital for the company and the returns to savers.

It has sometimes been argued that the demand for equity raised in public markets has been substituted for an increased reliance on so-called private equity funds, which in turn are highly leveraged through the use of relatively inexpensive debt. Recorded assets under private equity management did experience a spectacular surge until 2007.

However, in order to assess the role of private equity in replacing equity raised in public markets, we must look at the amount of equity that private equity firms actually supply to companies. The total value of assets under management by private equity firms was estimated to be USD 3 trillion at the end of 2011 (Preqin, 2012). However, about one-third of this capital (USD 927 billion) is in the form of so-called "dry powder", which is capital that is not invested (Bain & Company, 2012). The remaining USD 2 trillion is invested in different asset classes, including real estate. As a result, and excluding dry powder, the total global investments of private equity firms in 2011 is estimated to be about 4% of global market capitalisation.

One could argue that since private equity is a relatively new phenomenon, the accumulated investment value of private equity firms should be expected to be fairly low compared to total market capitalisation. However, flow figures indicate a relatively modest role of private equity as a source of equity funding. Despite the sharp increase in private equity volumes and a decrease in IPOs, the average global buyout deal volume between 2001 and 2011 was considerably lower than the amount raised through primary markets in the same period (USD 259 billion compared to USD 450 billion worldwide).

Unlike equity raised in public markets, the private equity investment model does not necessarily imply the injection of long-term risk capital to companies. A large part of private equity transactions can be classified as trade activities in secondary markets rather than a primary supply of risk capital. For instance, more than 50% of the buyout transactions in Europe in 2011 were private equity to private equity transactions (Bain & Company, 2012).[8]

Another explanation of why companies may demand less equity from public markets is offered by Gao et al. (2012). After studying more than 7 400 IPOs in the United States between 1980 and 2009, they suggest that there has been a fundamental change in

corporate growth strategies. They argue that an increased importance of bringing products to market quickly has resulted in lower profits for independent small firms relative to the potential profits generated as part of a larger organisation that can realise economies of scope. The result has been a strategic re-orientation of small companies away from organic growth with the help of an IPO to a strategy of mergers or acqutisiton.

Another important factor that has been claimed to erode the incentives for entering the public equity market is the lack of visibility in today's equity market environment. The dominance of short-term trade practices, indexing and exchange-traded funds (ETFs) are criticised for moving liquidity to large companies and leaving the stocks of the remaining small companies illiquid (Bradley and Litan, 2010). Together with the lack of long-term focus, the emphasis on short-term trading has also resulted in a decrease in analyst coverage, which is argued to have further undermined the incentives of growth companies to enter the public equity market (Doidge et al., 2011).

II.4.2. The supply of equity

The willingness of savers and intermediaries to supply corporations with equity through primary markets depends on a range of factors that influence the relative risk-adjusted rate of return on equity compared to other investment opportunities. While it may be hard to quantify, that assessment also includes the investor's perception of trust (or confidence) in market mechanisms and market institutions.

As a consequence, it is no surprise that explanations for a change in equity supply by savers and intermediaries include a decrease in investor confidence, which was supposedly eroded both by corporate scandals, not least in the financial sector, and perceived failures in the way equity markets are supposed to function. The Chicago Booth/Kellogg School Financial Trust Index, which measures trust in financial markets, reports that only 15% of the respondents in mid-2012 had trust in the stock markets. This is the lowest level among all of the elements included in the index and barely half of the trust reported for the banking sector (Sapienza and Zingales, 2012).

Factors that are suggested to contribute to a decrease in trust include developments in terms of the equity market structure and trade practices. Particular attention has been given to the effects of market fragmentation and the growth of dark pools that may distort the quality of the price discovery process (IOSCO, 2011a; European Commission, 2010). High frequency trading (HFT), where certain traders may obtain privileged access to market information through dedicated data feeds, has also been subject to discussion (Linton and O'Hara, 2012). In terms of market failures, the US Securities and Exchange Commission (SEC) recorded that the so-called Flash Crash event was followed by a fairly substantial withdrawal of equity from equity markets by some traditional institutional investors, such as mutual funds (Schapiro, 2010).

A report by Grant Thornton entitled *Market Structure is Causing the IPO Crisis – and More* (Grant Thornton, 2010) argues that the decline in IPO activities is caused by unintended consequences of uncoordinated regulatory changes and inevitable technological advances. The report claims that the new market structure promotes speculative and complex trading practices at the expense of long-term investing based on corporate fundamentals. It has also been claimed that market developments have reduced trade in the shares of smaller companies (Friederich and Payne, 2011), which provides less liquidity and fewer incentives to go public (Bradley and Litan, 2010).

Another explanation for a structural decrease in the supply of equity in primary markets is the ageing population in some major economies, especially in Europe and Japan, which is supposed to influence the balance of asset allocation from equities to fixed-income securities. The McKinsey Global Institute (2011) has estimated that European investors 30-65 years old allocate 35% of their savings to equities, while persons over 65 only allocate 20%. Together with possible regulatory restrictions on the asset allocation of institutional investors, such as pension funds and insurance companies, it is argued that we will experience a successive decrease in the appetite for equity.[9]

II.4.3. Cyclical and structural factors

Trends in IPO developments have also been explained by cyclical variations that are driven by the relationship between the volume of IPOs and intial returns. A study by Lowry and Schwert (2002) indicates that IPOs that are followed by high and increasing initial returns tend to be followed by an increasing number of companies going public, which in turn leads to periods of lower initial returns. This pattern, they claim, was repeated several times in the US market between 1960 and 2001. One explanation for such cycles is that in their evaluations, underwriters seem to be biased in favour of the recent IPO valuations relative to corporate fundamentals (Lowry and Schwert, 2002). Another, fairly straightforward, explanation for variations in the number and size of IPOs is the influence of general market conditions. When market conditions worsen, stock prices drop and companies stay private to wait for more favorable conditions before going public (Pastor and Veronesi, 2005).

The "catch-up effect" refers to the tendency of countries that start at a lower level of economic activity to grow faster than those that have already obtained a high level of economic activity (IMF, 2012). This phenomenon may help to understand the global shift in primary markets towards non-OECD countries. Today, most countries have an established stock market infrastructure and have adopted regulatory frameworks that make it possible for companies to raise funds domestically. Since initial public offerings by non-OECD corporations in OECD markets as a whole has always been limited (4.5% between 1995 and 2003), the decline in IPO activities in OECD markets cannot be explained by a shift of non-OECD corporations fundraising from OECD to non-OECD markets. On the contrary, as shown in Figure 1, there has actually been a substantial absolute increase in non-OECD primary markets since 2005.

III. Efficient allocation and developments in the secondary equity markets

While the economic relationship between capital formation and growth is well established, it is not only the *absolute* amount of investment that is important. Equally important for innovation and growth are the conditions under which capital is made available and the efficiency with which the market can allocate capital among different possible uses. With respect to equity, the degree of allocative efficiency will, to a great extent, depend on the incentives and ability of shareholders to actively seek and use information about the long-term prospects of the companies in which they invest.

This is why the *OECD Principles of Corporate Governance (OECD Principles)* assign considerable importance to the quality of disclosure and transparency that will help shareholders perform this task by having equal and timely access to information.

But information that is made publicly available is not enough. Genuine value creation in society also requires that shareholders have the incentives to individually, and at their own expense, seek, analyse and use information that they gather themselves. The constant search for such idiosyncratic information can be seen as an investment by the shareholder, and fills the socially important function of bringing new and unique knowledge to the economy. This does not necessarily mean that shareholders themselves engage in entrepreneurial activities. But it does imply that they take a genuine interest in understanding the full long-term economic value of such activities among the plethora of investment opportunities that are available to them in the economy. When the shareholders' interests are aligned with the long-term performance of the company, seeking and using this knowledge will contribute to identifying and supporting long-term value creation. Obviously, it may in some cases also generate information on how to make better use of corporate resources in a way that other shareholders and the incumbent managers do not understand or want to exploit.

Since legal and economic doctrine assumes that shareholders actually have the incentives to seek information about the long-term prospects of the corporation, they are also given a set of rights to act on this information by influencing the direction of corporate activities. These rights are mainly formulated in Section II of the *OECD Principles*. To make informed use of these rights and thereby support the corporation's long-term performance is a key shareholder function that is essential to the effective allocation of capital.

Needless to say, collecting, analysing and using information (be it publicly available or self-generated) is associated with costs – sometimes considerable – for the shareholder. In order to motivate these costs, shareholders must be able to expect corresponding private gains from this socially beneficial "generation of new knowledge". These private gains can come from different sources and range from simply buying a stock that is expected to rise in value to more discretionary gains associated with a complete takeover aiming at realising unexploited values and business opportunities.

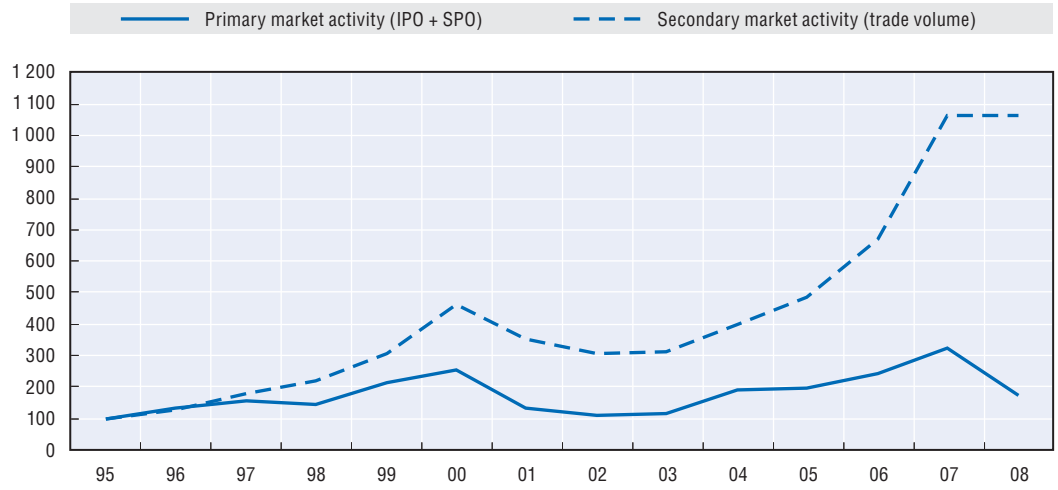
III.1. Changes in market structure and trading practices

The last decade has seen some fundamental changes in the structure of equity markets. These changes have been driven by both technological advancements and regulatory initiatives such as NMS in the United States and MiFID in the Europe. Trade practices have become more sophisticated, markets have become fragmented and new equity-based instruments have increased in importance.

Even if we limit ourselves to data from the "traditional" stock exchanges, trading in equity has increased much faster than the supply of new equity capital through initial and secondary public offerings. Particularly during the pre-crisis period, between 2004 and 2007, the increase in trade volume was three times the increase in primary market volume.

For a long time, services of stock exchanges were seen as similar to public utilities and often protected by a legal monopoly status which prevented the emergence of competitors (Di Noia, 1998). However, the integration of financial markets accelerated by technological advancements made it increasingly difficult for traditional stock exchanges to perform this important and "straightforward" function.[10] Like in many other industries, technological advancements also streamlined the quality of services in terms of market infrastructure. For instance, at the beginning of the competition era nearly all European stock exchanges were using the same trading mechanism (Steil, 1996 cited in Di Noia, 1998).

Figure 5. **Evolution of trade and the supply of new equity**



Source: Based on data from Thomson Reuters *New Issues Database*, DataStream, stock exchanges' and companies' websites. Trade volume data are from World Federation of Exchanges.

The first demutualisation of the Stockholm Stock Exchange has been followed by an international trend towards demutualisation with incorporated exchanges being listed on their own markets. During this process, the stock exchange industry has also experienced a considerable degree of consolidation both at a national and international level, such as the merger of the NYSE and Euronext in 2006, NASDAQ's acquisition of the OMX and the London Stock Exchange's merger with Borsa Italiana in 2007 (Christiansen and Koldertsova, 2009).

While the "registered" stock exchange industry has experienced consolidation, the "dark" part of the equity market has moved in the opposite direction. The result is that equity markets today are highly fragmented into traditional organised stock exchanges and non-exchange trading venues, such as alternative trading venues (ATS) in Canada and the United States, multi-lateral trading facilities (MTFs) in Europe, and broker networks (IOSCO, 2011a).

The fragmentation is not only between traditional stock exchanges and new venues for trading but also between so-called dark and lit markets. Table 1 indicates that in September 2009, 74.6% of US trade was executed in the registered exchanges (NYSE, NASDAQ and others) and five electronic communication networks. The remaining 25.4% was traded in 32 different dark pools and in more than 200 different broker-dealer networks that do not display "best-price orders" (SEC, 2010a). Although the use of dark pools has not reached the same levels as in Japan, there is still an upward trend. A study by IOSCO shows that during the last week of 2010, no less than 9.2% of total trade by value in Japan was executed in dark pools (IOSCO, 2011b).

One of the most important changes in trading practices over the last decade is the dominance of algorithmic trading, which means that orders are executed by computer-based systems according to a pre-designed set of rules and procedures. The characteristics of algorithmic trading are defined very broadly from agency activities (on behalf of clients) to proprietary trading (with own money), aggressive strategies (liquidity-consuming) to passive strategies (liquidity-supplying), and informed (try to predict very short-term returns) to uninformed (not trying to rebalance portfolios based on very short-term variation in returns) traders (Friederich and Payne, 2011). However, the current public

Table 1. **Estimated share of trade volume in the United States**

%, September 2009

Registered exchanges	63.8
Electronic communication networks	10.8
Total displayed trading	**74.6**
Dark pools (32)	7.9
Broker-dealer internalisation (>200)	17.5
Total undisplayed trading	**25.4**

Source: US Security and Exchange Commission (SEC) (2010), "Concept Release on Equity Market Structure", SEC, Washington, DC, *www.sec.gov/rules/concept/2010/34-61358.pdf*.

discussion focuses primarily on one particular type of algorithmic trading, namely so-called high frequency trading (HFT), which also represents the largest and increasing share in trade volumes in some OECD markets.

Although there is no commonly accepted definition, the main features of HFT can be identified as proprietary trading, using extraordinarily high-speed computers with sophisticated software, applying co-location services and the use of individual data feeds that are offered for a fee by stock exchanges. HFT is also characterised by very short timeframes for transactions, cancelation of orders shortly after the submission and ending the trading day with a maximum flat position (SEC, 2010a). In 2009, HFT accounted for nearly 60% of the total trading volume in the US equity market (Lash and Spicer, 2009). In Europe, it represented some 38% of total trade volume in 2010 with an upward trend (IOSCO, 2011a).

From a corporate governance perspective, it is important to note that HFT is more than a technological advancement allowing high-speed computer trading. It can also be seen as an investment strategy with a very short-term focus. The ambition is not to assess and trade on genuine information concerning the long-term performance of any individual company. Rather, the strategy is heavily based on short-term arbitrage opportunities that are often obtained by unique and fast access to trading information.[11]

Although technological advancements that make it possible to develop and adopt sophisticated and rapid computerised trading practices were the critical factors behind the increase of HFT, changes in the regulatory framework, trading rules and practices have also contributed to this rapid transformation. This includes regulatory reforms such as NMS in the United States, MiFID in Europe and Marketplace Rules in the Canada, that aimed at promoting competition in trading services (IOSCO, 2011a), decreasing the tick sizes[12] that make it easier for investors to engage in speculative activity (Grant Thornton, 2010) and the possibility of co-locating the computer servers of trading firms within the stock exchanges to gain faster access.

The increase of intermediary ownership has for a long time been coupled with a rise of passive investment strategies that are based on a closely pre-defined set of criteria. The most obvious example is various forms of index tracking, which has become an important "strategy" for a broad spectrum of investors (Rey and Seiler, 2001). Already in the beginning of the 1990s, many pension funds allocated more than half of their investments in equities to indexes. In the mid-1990s, the use of indexing was taken to yet another level by the development of exchange-traded funds (ETFs). Since then, ETFs have emerged as alternative investment vehicles for both passive and active investment strategies. ETFs share the common characteristics of mutual funds but are also tradable like shares on exchanges (Ramaswamy, 2011). As a result, investing in ETFs makes it possible to both decrease the transaction costs and diversify the portfolio for passive investors, and at the same time

follow an active strategy for holding and trading different ETFs. The total market value of assets under ETFs has grown dramatically during the last decade and, after a slight decrease in 2008 during the global financial crisis, reached USD 1 351 billion in 2011 (Blackrock).

III.2. Issues and policy reactions

The developments in terms of institutional ownership, equity market structure and trading practices have all been discussed in relation to their impact on the incentives and ability to exercise long-term corporate governance. This section discusses four of the main concerns that have been raised, namely: *institutional ownership and misalignment of incentives; erosion of investor incentives and market trust; crowding out of long-term ownership; and decreased interest in using primary equity markets*. Brief examples of policy reactions or responses are provided for each of the areas.

III.2.1. Misalignment of incentives

In most OECD countries, the majority of traded shares are held by intermediaries, such as pension funds, mutual funds and insurance companies, that basically invest the money of ultimate savers for a fee. While intermediation in itself lengthens and weakens the link between savers and corporations, the presence of proxy advisors, asset managers and other service providers in the investment chain also make the corporate governance process more complex. With every additional actor, there is a risk that the ultimate saver's objectives becomes misaligned. This misalignment may not only be in terms of investment strategy but in terms of corporate governance priorities as well.

Since intermediary investors themselves differ in terms of their business models, their incentives and priorities in terms of exercising long-term corporate governance also differ. In the pursuit of effective policies, it is essential that policy makers develop a better understanding of the role and incentives of intermediaries. Such a taxonomy would go a long way in understanding the effectiveness and rationale for individual corporate governance rules and regulations.

The move away from the traditional individual direct shareholders who experience a direct link between corporate performance and their own income, is recognised in the *OECD Principles* and makes "[…] the effectiveness and credibility of the entire corporate governance system and company oversight […] to a large extent depend on institutional investors". However, the common expectation of *increasing demand for a voice in corporate governance* (OECD, 2004) due to the rise of professional investors has not always been met. One of the most straightforward explanations is simply that a great majority of intermediary investors actually lack the incentives to exercise their ownership functions.[13]

In some countries, the response has been to introduce institutional investor codes to promote engagement in corporate governance and align institutional investors' interests with the ultimate savers. The key principle is that institutional investors should monitor their investee companies (UK Stewardship Code) and decide in a careful and transparent way whether they wish to exercise their shareholder rights (Dutch Corporate Governance Code). Despite such attempts, it has been argued that the 2008 financial crisis highlighted the problem of misaligned interests and that shareholders' lack of interest in corporate governance raises questions about the effectiveness of existing corporate governance rules (European Commission, 2010). The *Kay Review* (2012) also noted that the growth of intermediation has increased the potential for misaligned incentives, and together with the erosion of trust, is a major source of economic short-termism.

III.2.2. Lack of confidence, crowding out and the use of primary markets

Before the financial crisis, developments such as market fragmentation, HFT, ETFs, co-location practices, indication of interests (IOI) and direct electronic access were generally welcomed. They were primarily seen as means to increase competition, drive down transaction costs, facilitate the execution of large-scale transactions and make trade faster and more accessible.

In recent years, however, concerns have also been raised that these developments in terms of equity market structure and trading practices have had an adverse impact on the incentives and behaviour of both investors and corporations. It is *sometimes* claimed that developments have eroded not only confidence in equity markets as a level playing field where all investors have the same opportunities but also the incentives to engage in long-term corporate governance. *Second*, it has been argued that current market conditions tend to crowd out long-term investors and strategies that focus on a fundamental analysis of corporate prospects. *Third*, it has been suggested that developments have made entrepreneurs and growth companies more hesitant to use primary equity markets as a source of funding. These issues are discussed below.

The complexity of today's equity markets means that the effects of different developments such as fragmentation and HFT on the incentives and ability to pursue long-term corporate governance practices cannot be analysed in isolation. Several different developments may simultaneously influence, for example, market confidence or investor incentives. There may of course also be counter-veiling forces. The complexity of the issues as well as the increased public scrutiny of market structures and trading practices, can be illustrated by the debate that followed the so-called Flash Crash in May 2010.

The Flash Crash was the largest price decline and reversal since 1929 in the US market; market indexes dropped more than 5% in 5 minutes and recovered almost entirely in the next 90 seconds; 324 company shares suffered price moves of more than 60% and exchanges cancelled more than 20 000 trades (Schapiro, 2010). The size and the complexity of the event made the Flash Crash somewhat of a defining moment in the discussion on market structure and trading practices.

The Flash Crash received additional public policy attention by the fact that it coincided with the end of the comment period for a Concept Release on Equity Market Structure issued by the SEC in January 2010 (SEC, 2010a). The Flash Crash was immediately followed by a critical address[14] by the SEC Chair, which, with references to "clear market failures",[15] moved the issues of market structure and trade practices to the top of the policy agenda.

Following the Flash Crash, a joint report by the US Commodity Futures Trading Commission (CFTC) and the US SEC (2010) concluded that one of the key lessons to be learnt from the event is that the interaction between automated execution programmes and algorithmic trading strategies can quickly erode liquidity and result in disorderly markets. Especially in times of significant volatility, such as 6 May 2010, high trading volume is not necessarily a reliable indicator of market liquidity. A report from the Kauffman Foundation (Bradley and Litan, 2010), confirms not only the complexity of the event, but that of the current market structure as well. It noted that the Flash Crash was the first electronic market crash and claimed, contrary to the SEC report, that although HFT has dramatically increased in importance, it is not to blame for the equity market problems. Instead, the Kauffman Report argues that policy makers should pay far more attention to the increased importance of ETFs, which introduce systemic risk in the market

while discouraging investor interest in public offerings. In sum, and considering the findings of other studies, the impact of market structure, trading practices and new equity instruments is not always straightforward, and since certain trading practices require or benefit from certain market structures (such as dark pools and co-location), developments are also likely to be mutually reinforcing.

The Flash Crash has been followed by a number of other national initiatives, notably the UK Foresight Report on the future of computer trading in financial markets and the European Commission's proposal on MiFID, which address issues regarding electronic trading and dark pools. The Australian and Canadian securities commissions have also published consultation papers on the new market structure and are conducting reviews of the current regulatory framework.

Eroding incentives and investor confidence. Together with providing liquidity, price discovery is one of the important functions of a well-functioning equity market (O'Hara, 2003). Defined as the search for an equilibrium price (Schreiber and Schwartz, 1986), the price discovery process plays a central role in the allocation of equity capital. During the formation of an equilibrium price, the individual investor compares the relevant information, including publicly available company information and available market prices of equities, with his/her own idiosyncratic information. Differences in expectations compared to the available market price then serve as the basis for the investors' investment decisions, which in turn will influence the market price and the move to a new equilibrium price.

This key role of price discovery in the allocation of capital in secondary markets makes efficient and fair price formation critical; not only for efficiency, but also for investors' confidence in the integrity of the markets and their incentives to identify and invest in long-term performance. While recognising the usefulness of dark pools for executing large trade orders, both IOSCO (2011a) and the European Commission (2010), emphasised the regulatory concerns related to them, as they may ultimately affect the quality of price discovery.

Weaknesses in price discovery may also have a negative effect on secondary public offerings, since the functioning of the secondary public offering markets relies on the efficiency of the price discovery process.

One reason why dark pools generate unequal access to market data is that they do not publicly display orders. To compensate for this, as required in the MiFID, for example, prices in the dark pools should be determined by reference to a widely published price generated by another system and regarded generally by market participants as a reliable reference price. However, as dark pools are getting larger and lit pools are shrinking in terms of trade, the question arises as to where the breaking point is for using prices in small lit pools as the reference for the majority of trading taking place in dark venues.

Equal access to accurate market information is also a problem in relation to HFT, since high frequency traders generally use dedicated data feeds that provide them with information before consolidated information is delivered to the public (Linton and O'Hara, 2011). Another important aspect of the HFT price discovery process relates to order cancellations. Today, more than 90% of the total trade orders are cancelled by high frequency traders immediately after they are placed.

It is claimed that the increasing complexity of equity markets and experienced market failures have undermined investor confidence. In addition to dark pools, the general fragmentation of equity markets also makes it harder and more expensive for market

participants to monitor markets. It has also led to widespread criticism from individual investors and, according to some, resulted in pull backs from the equity market (Shapiro, 2010).

Crowding out of long-term investment. While the effects of HFT on market liquidity are still under discussion,[16] its contribution to short-termism is quite clear, at least in terms of the decrease in the average holding period of shares. Krugman (2009) discussed HFT by underlining the social function of markets to efficiently allocate equity capital. He questions the role of high frequency traders in promoting this function by placing their orders one-thirtieth of a second faster than anyone else does.[17]

High frequency traders mainly base their trading on market information rather than analysis of corporate fundamentals and analyst research. Because of its rapid increase and dominance in the market, fewer resources are in aggregate spent on fundamental analysis of the long-term value creation potential of corporations. In addition, HFT requires expensive investments in technological infrastructure and human resources devoted to programming, which highlights the issue of a level playing field between high frequency traders and investors that do not have the possibility or need to invest in that technical and human capacity (IOSCO, 2011a). This is claimed to force institutional investors who consider themselves disadvantaged in the current market structure to leave the market or to adapt their trading strategies to HFT, which further diminishes the portion of equity investors with a long-term strategy supported by corporate fundamentals. Institutional investors' share in the global equity market has fallen by 5% after 2008, but, there is no evidence that this decrease has been caused by new market structures and trading practices. The only indication is the outflow of equity capital from mutual funds in the United States after the Flash Crash (Schapiro, 2010).

Hampering the use of primary equity markets. Concerns have also been raised that new market structures and trading practices impact the willingness of new companies to enter public equity markets and as well as that of already listed companies to raise additional funds through secondary offerings. As discussed above, these concerns are partly based on the lack of reliable price discovery mechanisms.

Moreover, it is argued that high frequency traders pay less attention to small and growing firms, focusing their trading instead on the liquid shares of large corporations. When institutional investors follow this pattern, the shares of small companies face an illiquidity problem (Economist, 2009). Evidence from the United Kingdom confirms a decrease in that trading in small companies, which coincides with the increase in ETFs and HFT during the second half of the last decade (Friederich and Payne, 2011).

Also, ETFs are criticised for reducing the liquidity in the shares of small companies. The likelihood of ending up as part of an ETF, but with an illiquid stock, thus discourages new companies from entering the market (Bradley and Litan, 2010a). In addition, it is argued that the disappearance of a long-term focus in favour of short-term trading makes the use of analyst reports superfluous (particularly for smaller companies), increasing the risk of mispricing and further undermining the willingness of new companies to enter the public equity market (Doidge et al., 2011).

IV. Developments in shareholder monitoring and engagement

In addition to influencing the conditions for access to and allocation of equity, the corporate governance framework also decides how shareholders can monitor and engage

in the corporate decision-making process. The possibilities for such monitoring and engagement cover a vast number of means and issues, including the ability to sell the stock, which may signal dissatisfaction, as well as more direct ways of engagement, for example in shareholder meetings, through board representation or even a takeover.

All of these rights are given to shareholders under the assumption that they, as residual claimants, have a unique incentive to care and inform themselves about the long-term success of the enterprise. It is assumed that there is a direct link between the performance of the corporation and the shareholder's income. On these grounds, attention has not only been given to what rights shareholders actually have, but also to their ability – and even willingness – to exercise those rights.

In most OECD countries today, there are few objective obstacles for shareholders to exercise their rights. There are few restrictions on buying and selling stocks in listed companies, the quantity and quality of corporate information is constantly growing and through information technology, the organisation of and participation in shareholder meetings has been greatly facilitated. This is manifested in relatively high participation ratios at shareholder meetings, even in countries with a predominantly dispersed ownership structure such as the Netherlands, the United Kingdom and the United States.

Instead, the corporate governance policy discussion has come to focus on the actual *quality* of shareholder monitoring and engagement, and questions whether today's shareholders actually have the incentives to use their rights in an informed way and thereby serve the long-term interest of the economy. To what extent do different categories of shareholders actually perform their fundamental role to bring new and independent information about corporate prospects to the market? Has the fundamental incentive for active and informed ownership – on which so much of the corporate governance doctrine rests – simply disappeared for large or dominant groups of shareholders?

The empirical basis for this question has little to do with the equity instrument itself. Instead, explanations are typically sought in a more complex chain of intermediary investors and the *incentives* that follow from the business models, competitive situation and investment strategies of institutional investors.

IV.1. Different types of shareholder monitoring

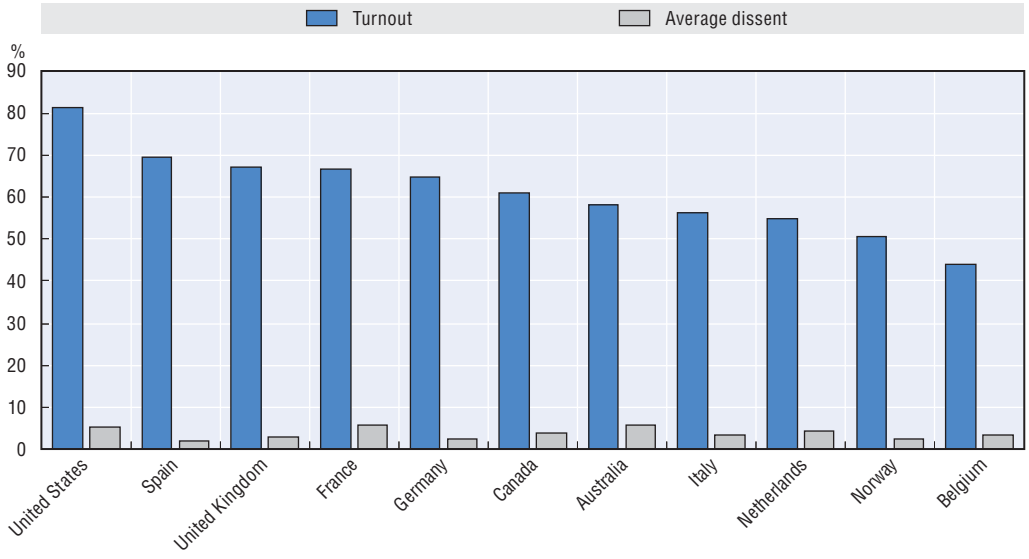
The European Commission's *Green Paper on Corporate Governance* (2011) defines shareholder engagement as actively monitoring companies, engaging in a dialogue with its management and using shareholder rights, including voting and co-operation with other shareholders, to improve the governance of the investee companies in the interest of long-term value creation. This approach provides a broad spectrum of shareholder means, from selling and buying shares to expressing their views on a large number of issues from board composition to major transactions and takeover bids (Gillan and Starks, 2007).

The basic legal and economic doctrine behind the *OECD Principles* is that shareholders have the incentives to obtain sufficient and reliable information about their investee companies so that they, in an informed fashion, can look after their own interests. This assumes that shareholders not only make rational use of any information that is disclosed by the company itself, but that they also – at some cost – gather information from other sources that are not necessarily public. This plurality in terms of information gathering and independent assessments about corporate prospects by a large number of different shareholders is the very basis for a well-functioning market economy, effective price

formation and capital allocation. The information can be used either to trade the stock of a particular company or as the basis for influencing corporate practices through the corporate governance process.

One way to measure the degree of shareholder monitoring and engagement is the participation and voting patterns at shareholder meetings. Figure 6 shows the average shareholder turnout and average level of dissent in shareholder meetings in some OECD countries. In line with other studies (Institutional Shareholder Services, 2011; European Parliament, 2009), it illustrates the relatively high level of shareholder participation. In all of the surveyed countries, turnout was above 50% of all issued shares. Notably, among the countries with the highest turnout are the United Kingdom and the United States, two countries with predominantly dispersed ownership at the corporate level. In the United Kingdom, the average turnout was almost 70% and in the United States it was no less than 80%. While we do not have access to data, turnout levels in many emerging market companies can be expected to be fairly high, primarily due to a relatively limited free float or otherwise concentrated ownership structure.[18]

Figure 6. **Shareholder turnout and average dissent, 2010 (%)**



Note: Turnout is the percentage of the issued shares represented at the shareholder meeting. Dissent is the percentage of votes cast against the recommendation of company's management on a resolution.
Source: Hewitt, P. (2011), "The Exercise of Shareholder Rights: Country Comparison of Turnout and Dissent", *OECD Corporate Governance Working Papers*, No. 3, OECD Publishing, *http://dx.doi.org/10.1787/5kg54d0l1lvf-en*.

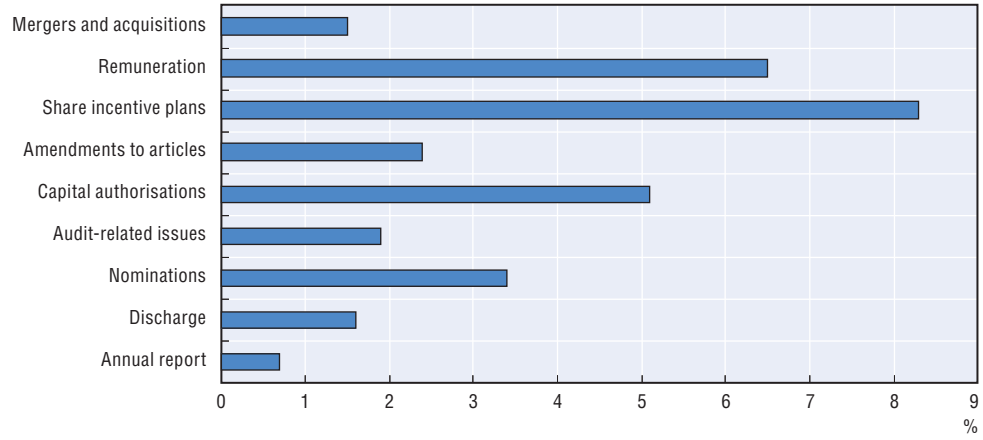
Another measure of engagement is the the degree of dissent and the number of shareholder proposals that are tabled. Figure 6 shows that the degree of dissent is quite low among the surveyed countries, varying between 2-6%. One explanation could be that shareholders find management (or board) proposals to be well aligned with their own interests (Institutional Shareholder Services, 2011). However, it may raise questions about shareholders' awareness and conformity in opinions.

Even in the controversial case when the Royal Bank of Scotland and Fortis proposed a takeover of ABM Amro, which was subject to extensive and vivid public debate before the shareholder meeting, dissent among shareholders was only about 5%. The acquisition was generally considered as a failure and was followed by the bankruptcy and subsequent

nationalisation of the two acquiring banks (OECD, 2009). Another indication of the degree of discretion in shareholder voting is provided in Cai et al. (2009), which found that for board elections in the United States, even for underperforming directors and companies, almost 94% of votes were cast in favour of the proposed candidates.

As shown in Figure 7, on average, remuneration policies and the introduction of share incentive plans received the largest number of dissent votes in Europe in 2010, while dissent votes for issues related to mergers and acquisitions were much lower. One explanation could be that both remuneration proposals and share incentive plans typically include a fairly direct element of current or future pay-outs and share dilutions, whereas the consequences of mergers and acquisitions are harder to foresee and require much more time and resources to analyse.

Figure 7. **Average dissent in Europe, 2010**



Source: Institutional Shareholder Services (2011), *Voting Results Report: Europe*, ISS, available at *www.issgovernance.com/files/private/VotingResultsReportEurope2011.pdf*.

An even less common expression of shareholder engagement is to propose a resolution to a shareholder meeting (Hewitt, 2011). Again, one explanation may be that they may require substantial time and resources to prepare and pursue. Also, experience has shown that resoutions are most often unsuccessful and may send negative signals to the market about the performance or the governance of the company, which in turn could result in a negative reaction of the stock market (European Parliament, 2009).

An important explanation for the high turnout, particularly in the United Kingdom and the United States, is the use of proxy voting. In both countries, proxy voting has become the principal way in which shareholders exercise their voting rights; voting occurs almost entirely by the use of proxies that are solicited before the meeting (SEC, 2010b). With the help of information technology, proxy voting is a cost-effective means for shareholder participation. The process of proxy solicitation is also a means to influence decisions and verify the outcome before the formal shareholder meeting.

A less formal way of monitoring is through dialogue with the board or the management of the company. In a survey by IRRC and ISS (2011), more than half of the asset owners, asset managers and issuers reported such engagement activity in 2010. The engagement practices vary from campaigns to persuade a company to change its behaviour to a routine email exchange or telephone call. It is worth noting that that 76% of asset owners and 56% of asset

managers stated that they had five or less staff members devoted to engagement with investee companies. This number should be related to the hundreds or perhaps thousands of companies that these institutions may hold in their portfolios. Against this background, it is not surprising that limited staff was identified to be the main impediment to engagement.

An ex post form of monitoring is shareholder suits. According to Securities Class Action Clearinghouse data, nearly 200 class action lawsuits were filed annually between 1997 and 2011 in the United States.[19] While it is argued that the vast majority of shareholder suits settle without a trial (Black et al., 2006), this does not make them less efficient in terms of shareholder engagement. Depending on the legal framework, ownership structure and investment culture, the role of lawsuits as a way of engaging shareholders varies across countries. A study by Girard (2009) on French shareholder activism between 1989 and 2008 found that although shareholder activism was limited compared to the United States and the United Kingdom, lawsuits do play an important role. In nearly 50% of the total shareholder activism cases (100 out of 203) identified in the study, a lawsuit was part of the process. Suitors were often investors associations.

IV.2. Shareholder incentives for monitoring

While some obstacles may remain, there is a general consensus that shareholder rights in OECD countries have been substantially strengthened in the last decades and that there is a general trend to empower the shareholder meeting in the corporate decision-making process, particularly with respect to board nomination and remuneration policies. Nevertheless, the OECD's analysis of the financial crisis (OECD, 2010) concluded that "*shareholders have been largely passive and reactionary in exercising their rights, in many cases voting in a mechanical manner relying on proxy voting advisers and generally failing to challenge boards in sufficient number to make a difference*."

The degree and quality of shareholder engagement can mainly be explained by *understanding the incentives* for their engagement that follows from the business model, the competition environment and the investment strategies of the institutional shareholders. Today, many shareholders are themselves profit-maximising corporations acting in highly competitive markets where their main income is the fees that they charge for capital under management. This, together with the challenge to meet the market, has often led to investment strategies based on broad indices that may include holdings in hundreds, and often thousands, of companies.

The widespread use of indexing, with small holdings in a very large number of companies, obviously increases the total costs of engagement with portfolio companies. It also decreases the incentives to do so, either for competitive reasons as explained above, or through the mere fact that the absolute expected returns from engagement are too small relative to the costs that are associated with informed monitoring and engagement.

In light of this development and the experiences from the financial crisis, a number of initiatives have been taken to overcome what is often seen as a *passive, reactive and mechanical* attitude to shareholder engagement among institutional investors. The most prominent example is probably the UK Stewardship Code.

For such codes or recommendations to be effective, however, it is necessary to understand the intrinsic incentives for engagement among the many different kinds of institutional investors. It is not adequate to refer to "institutional investors" in general. As we have shown, institutional investors is a concept that covers a very diverse group of

entities and legal forms, ranging from public pension funds and mutual funds to hedge funds and investment banks, each with its own business models, profit-maximising objectives and competitive circumstances that will influence its investment strategies' trading practices and its incentives for monitoring and engagement.

Moreover, the actual management of the equity portfolio is (like voting) often outsourced to specialised service providers. This makes the ownership landscape increasingly complex and often decreases the precision of any generic regulation or recommendations with respect to stewardship. Particular interest has been given to the concept of so-called fiduciary duty, which is discussed in some detail below.

In order to design effective regulation or recommendations with respect to shareholder monitoring and engagement, it would be useful to first have a detailed understanding of the different business models, competitive circumstances and investment strategies of the many different institutional investors, and the resulting incentives.

IV.2.1. The concept of fiduciary duty

When the *OECD Principles* address the role of institutional investors in corporate governance, they are focused on the responsibilities of institutional investors that invest in their own name and have a fiduciary duty to the ultimate beneficiaries. The fiduciary concept for institutional owners generically means that the institutions shall serve the interest of the beneficiaries, rather than their own immediate interest. A common and implicit interpretation of this fiduciary duty is that institutions should monitor and engage with investee companies.

It is important to understand, however, that a fiduciary obligation in itself does not imply any particular investment strategy or any specific degree of governance engagement by the institutional investor. If the fiduciary duty is generically defined as maximising the financial returns to the ultimate beneficiary, and if engagement costs exceed the engagement benefits, the way to meet the fiduciary duty obligation may in current equity markets very well be to invest in expensive computer capacity and engage in algorithmic HFT. Meeting the fiduciary duty may not even – again, depending on the context – imply any obligation to vote the stocks of portfolio companies. When voting costs are high and returns are low, it is mainly an empirical matter what strategy and type of engagement (if any) best serves the institution's ultimate beneficiaries.

Of particular interest has been the outsourcing of asset management and governance functions to independent asset managers, which, according to some commentators, has made the interpretation of fiduciary duties in the investment industry increasingly dysfunctional (FairPensions, 2012), particularly if asset managers do not consider themselves as fiduciaries (*Financial Times*, 2012)[20] but rather as a specialised service provider.

Globally, independent asset management firms are estimated to have more than USD 32 trillion under management, including assets managed on behalf of mutual funds, pension funds and private investors. This amounts to almost half of total assets held by the investment industry and points to the scale of outsourcing from traditional institutions (TheCityUK, 2012). The asset management industry is not only large, it is also quite profitable. In 2011, the pre-tax profit margins in the US asset management industry was an impressive 28% (McKinsey, 2012). In the United Kingdom, it was even higher, amounting to 34% of revenues (TheCityUK, 2012). As a comparison, the average pre-tax corporate profit margins (including the financial industry) globally in 2010 were estimated at less than 17% (BlackRock, 2011).

Considering the magnitude of outsourcing to asset managers, the UK Stewardship Code's definition of institutional investor also includes asset managers with a day-to-day responsibility of managing investments on behalf of other institutions such as pension funds. While noting that the stewardship responsibilities of asset owners may be different from asset managers, the UK Stewardship Code defines institutional investors' main duty to act in the interests of their clients or beneficiaries.

The *Kay Review* also addressed the importance of asset managers and the potential conflicts of interest that arise from the differences in business models between asset managers, institutional asset owners and their ultimate beneficiaries. In a report by the European Commission (2010), it is argued that performance evaluation structures for asset managers, and therefore compensation structures, contribute to a short-termism in equity markets. Many asset managers are selected and compensated based on short-term performance, which naturally encourages them to have a short-term focus, while the liabilities of the asset owners that pay for their services are often long-term.

Beyond the "traditional" institutional investors, there are also a number of institutions for which the concept of fiduciary duty and beneficial owner are ambiguous or absent. One example is private equity firms, where the general partner and investment advisor co-invest with the limited partners for a contractually agreed remuneration that is based on both capital under management and performance. Similar issues concerning the concept of fiduciary duties may also arise for hedge funds.

In general, it is not evident that reliance on fiduciary obligations in itself will have a positive impact on the degree and quality of monitoring and engagement by institutional investors.

IV.2.2. The "market" for shareholder co-operation

Another avenue to improve institutional investors' engagement has been to encourage or facilitate their co-operation. Most "traditional" institutional investors diversify their portfolios and the active monitoring of many thousands of portfolio companies becomes excessively expensive.

The *OECD Principles* and many national frameworks point to co-operation among institutional investors as a way to resolve this problem. The *OECD Principles* state that institutional investors should be allowed, and even encouraged, to co-operate when they take action to improve corporate governance in investee companies.

The question arises, however, how such co-operation is carried out in practice. There are certainly examples of co-operation between investors that may be driven by specific events, for example, a major takeover or a merger: situations that can lead to discussions and solicitations where institutions exchange different elements of information, assessments and perspectives.

The most common form of co-operation, however, seems to be based on a "market" solution based on outsourcing and driven by cost sharing, where institutions either set up their own joint advisory functions or make use of independent commercial service providers, such as proxy advisors.

While the demand for such services in some cases may be genuine, it is also driven by regulatory requirements or informal expectations. If regulation requires institutions to vote their shares who otherwise would not do so, a logical response from the institution would be to minimise the cost by sharing it with other like-minded institutions through an

external service provider. Likewise, if co-operation is encouraged or expected, using a common co-ordinating and advisory body seems like a plausible and efficient way to share the costs of co-ordination.

The question, however, is whether these outcomes achieve what the regulation or recommendations actually aimed for, namely to strengthen the independent and pluralistic monitoring of corporate performance which is so important for a well-functioning stock market. This debate has been most salient with respect to proxy advisors. As described before, the proxy advisory industry is highly concentrated which may lead to herd behaviour in terms of voting rather than the market-driven diversity of independent assessments and opinions that is so important for a well-functioning economy. Questions have also been raised with regard to the quality of the analytical models that are used and the correlation between the commercial corporate governance ratings and firm performance (European Commission, 2011; ESMA, 2012).

From a regulatory perspective, it would be important to analyse the effects of these "market" solutions with regulatory requirements and voluntary initiatives. It would be of particular interest to ascertain if they are compatible with the original intention of regulations, codes or guidelines with respect to informed, value-adding and engaged participation through shareholder voting and co-operation among institutional investors.

Notes

1. A recent study showed that among S&P, 1 500 companies in the United States, the number with a controlling owner has increased over the last decade, from 87 to 114. Moreover, the study notes that the issue of control receives a lot of attention since some large companies that recently went public have a controlling structure, such as Linkedin Corp, Zynga Inc., Groupon Inc. and Facebook Inc. (IRRC and ISS, 2012).
2. It is worth noting that record levels were reached in the two years following the financial crisis. The tightening of corporate credits after the 2008 crisis seemed to result in an increase in secondary offers in equity markets. This may indicate that the aggregate amount of liquidity held by listed companies does not exclude a need for external equity finance for the corporate sector as a whole.
3. In 2002, there were 50 086 listed companies worldwide. Between 2002 and 2011, 20 347 companies delisted from stock exchanges. Some of the delisted companies were companies that had also listed in that period (World Bank and WFE data).
4. A tax advantage of debt financing over equity financing significantly affects the relative cost of debt and equity financing. However, this is a long-standing "problem" rather than a recent change. And, if anything, the decreasing trend of corporate tax rates globally have probably reduced the advantage of debt tax financing.
5. Sarbanes-Oxley Act, *www.gpo.gov/fdsys/pkg/PLAW-107publ204/pdf/PLAW-107publ204.pdf*.
6. The report notes that market structural changes, such as online brokerage and decimalisation (decreasing the smallest increment for a stock price movement), were significantly more damaging to the IPO market than the regulatory burden caused by the Sarbanes-Oxley Act.
7. The *Kay Review*'s second explanation for this difference is the divergence of companies' perception of their cost of capital and investors' perception of their returns, which is also a result of the lengthening of the investment chain that comes with intermediation, together with the growth in the complexity of the modern corporation.
8. The recent regulatory initiatives in Europe, such as Solvency II, are claimed to cause a decrease in the private equity investments of some financial groups and significant offloading of long-held stakes in private equity funds (Pignal, 2012).
9. The regulatory changes related to insurance and pension funds are sometimes criticised for reducing the supply of equity (Kay Review, 2012). Solvency II, which is likely to be applicable from 1 January 2014 and will regulate the European insurance sector's capital adequacy requirements, has raised particular concerns (Rolet, 2012).

10. The United States' Securities Exchange Act of 1934 defines an exchange as "[…] which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities […]".

11. Beside general characteristics, HFT covers a wide number of financial strategies with different market impacts, such as: market-making strategies, arbitrage strategies and directional strategies (IOSCO, 2011a).

12. The smallest increment for a stock price movement.

13. In some countries, the response has been to introduce institutional investor codes to promote engagement in corporate governance and align institutional investors' interests with the ultimate savers. The key principle is that institutional investors should monitor their investee companies (UK Stewardship Code) and decide in a careful and transparent way whether they wish to exercise their shareholder rights (Dutch Corporate Governance Code). Despite such attempts, it has been argued that the 2008 financial crisis highlighted the problem of misaligned interests and that shareholders' lack of interest in corporate governance raises questions about the effectiveness of existing corporate governance rules (European Commission, 2010). The *Kay Review* (2012) also noted that the growth of intermediation has increased the potential for misaligned incentives, and together with the erosion of trust, is a major source of economic short-termism.

14. "I recognise that there may be a variety of reasons for reduced participation in the equity markets, but the trend is troubling, particularly if concerns about equity market structure are playing even a small role in investor decision-making […]. Less than 50% of the buy-side respondents, for example, expressed confidence in the current market structure. When these professionals […] express concern in the US equity market structure, we must listen closely" (Schapiro, 2010).

15. Chairperson Mary L. Schapiro's interpretation on the Flash Crash event. Examples of recent market glitches, problems confronted in the IPO of Facebook in May, Knight Capital Group's loss of USD 440 million owing to a software problem in August and the cancellation of orders for Kraft Foods Group shares in October 2012 (Reuters, 3 October 2012).

16. Linton and O'Hara (2011) claim that as measured by bid/ask spreads and other metrics, the liquidity in markets has improved over the last decade. They also point out periodic illiquidity, as the speed of trading and interconnectedness of markets make it possible for high frequency traders to transmit disruptions almost instantaneously across markets. The US CFTC and SEC's joint report (2010) also pointed out the potential short-term liquidity problems caused by HFT, especially in times of significant volatility.

17. "It's hard to imagine a better illustration than high-frequency trading. The stock market is supposed to allocate capital to its most productive uses, for example by helping companies with good ideas raise money. But it's hard to see how traders who place their orders one-thirtieth of a second faster than anyone else do anything to improve that social function." (Krugman, 2009)

18. With limited data availability, Hewitt's (2011) study also indicates a high turnover in some emerging markets, such as Brazil (77%), Turkey (69%) and Poland (66%).

19. Stanford Law School Securities Class Action Clearinghouse, *http://securities.stanford.edu/litigation_activity.html*.

20. UK FSA Chairman: "In some of my meetings with portfolio managers I have been surprised to see how little interest they have shown in vital issues like strategy and risk management".

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