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The Capital Markets Union Project:

Policy Priorities

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1 Motivation[1]

Ten years after the onset of the global financial crisis, many important issues are on the international policy agenda. What is the future of globalisation? How disruptive is the digital revolution? How do global political risks affect economic and financial stability? And how can societies ensure continued democratic support for sound policies?

Given the wide range of issues at stake and their importance, it is easy to forget that the reform agenda for financial markets remains incomplete. And here I am not talking about ongoing discussions in international fora such as the Basel Committee or the Financial Stability Board. What I am talking about, rather, is an important European project that was launched two years ago: the Capital Markets Union (CMU).

The Capital Markets Union is a very tangible project which allows Europe to demonstrate its ability to act and develop joint projects – projects which will potentially deliver major benefits for European citizens. Well-functioning financial markets can yield a double dividend in terms of growth and stability. They can contribute to efficient resource allocation, innovation, and growth, and they can allocate risks to those who have sufficient buffers to bear them. This enhances stability.

In this talk, I would like to briefly explain what generates this "Double Dividend" and how it relates to equity finance, how Europe is faring with regard to some key indicators, and what should be the priorities for policy.

2 What is the Double Dividend?

The structure of financial systems differs significantly across countries. No system clearly outperforms the other in terms of growth and stability. Globally, financial systems that are highly competitive and host a number of financial institutions coexist alongside oligopolistic systems in which only a few players interact. In Europe, for example, the five largest credit institutions have market shares ranging from 31% of total assets in Germany to

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97% in the case of Greece. The EU average is 46%.[2] Financial systems that are dominated by banks coexist with financial systems in which the bulk of external finance is provided by financial markets. In Europe, the average ratio of assets of monetary financial institutions to GDP is 3.2, but this number ranges from 19.5 in Luxembourg to 0.7 in Lithuania.[3]

These differences persist even though the global financial system has become significantly more integrated over the past decades and even though there are fewer formal barriers to the cross-border movement of capital. This suggests that deep-rooted preferences and institutions shape the structure of financial systems. Moreover, strong complementarities prevail, and thus no system outperforms the other.[4]

Still, equity finance plays a special role in the overall funding mix, and a well-designed Capital Markets Union has the potential to yield a “Double Dividend” in terms of growth and stability.

First, firms’ demand for external equity increases in parallel with their need to finance research and development (R&D).[5] Start-ups, which do not have an established track record, typically receive capital from informal sources, such as family, friends, or their own employees. When firms leave the seed stage, they start using bank finance or venture capital to fund growth and investments. Public debt and equity instruments, which come at substantial fixed costs, are used primarily by large and more established companies. Hence, there is a “pecking order” of financing sources. In the United States, external equity finance contributed substantially to the rise in R&D activities in the 1990s,[6] and private equity has also stimulated R&D activities by European firms.[7] Thus, private equity investments can play a particularly beneficial role for young firms, both for their own innovative activities and also by spilling over to encourage innovation at other firms.[8]

Second, in an uncertain world, equity capital provides a buffer against unexpected losses and events. Investments and innovations are drivers of growth. But they are also, by their very nature, risky. Whenever risks materialise and a firm experiences a negative shock, the value of equity adjusts, and dividend payments can be suspended. Thus, equity investors are exposed to both upside and downside risks. Sufficient equity buffers ensure that

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viable businesses can withstand larger shocks without going out of business or cutting investment.

Equity capital thus provides an ex ante insurance mechanism. Standard debt contracts, by contrast, are insensitive to the borrower's situation. If risks materialise, the amount of outstanding debt remains the same. Creditors' claims are protected from losses; risks are not shared unless the debtor enters insolvency proceedings, and risk sharing occurs through haircuts. Insolvency proceedings, however, are often ineffective, may create distortions if investments are postponed, and may lead to the liquidation of viable parts of businesses. These factors can be particularly prevalent for smaller and relatively risky firms. [9]

Third, the benefits of equity finance are not confined to the domestic market. Rather, higher cross-border equity holdings can contribute to improved risk sharing across countries. If a certain region or country is hit by a (local) macroeconomic shock, cross-border equity holdings induce an immediate sharing of losses among investors. This smoothens the impact of the shock on income and consumption. Cross-border debt contracts do not permit equally effective risk sharing. At the same time, efficient and effective risk sharing requires risks to be widely spread and held by those investors that are best suited to manage them.

3 How Have European Financial Markets Developed?

There is no optimal financial structure that holds across countries, firms, and over time. But equity finance has positive features in terms of promoting growth and stability. The continued increase in the levels of debt globally, which was barely interrupted by the financial crisis, thus remains a cause for concern. Recent data provided by the Bank for International Settlements show that, although private sector debt relative to GDP has declined, corporate debt is higher than it was before the crisis.[10] Moreover, low levels of interest rates may lead market participants to underestimate debt sustainability. So where does Europe stand?

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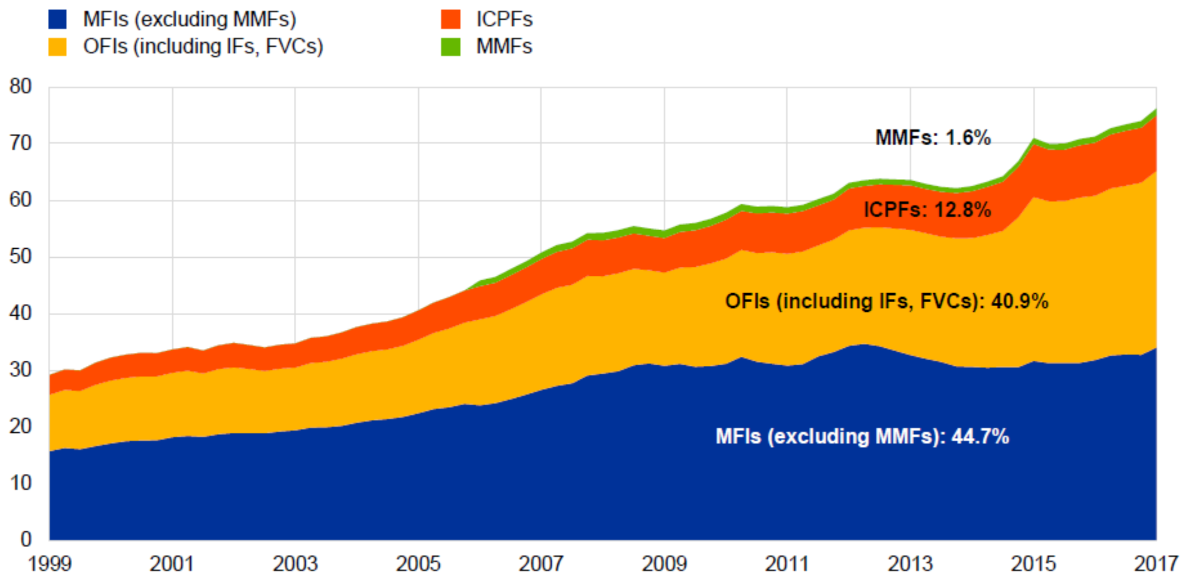
As regards corporate financial structures, bank credit and thus debt finance remains a key source of external corporate finance in Europe. Banks hold the majority of assets in the European financial sector. Yet the sector of "other financial institutions", which includes investment funds that are not money market funds or financial vehicle corporations, has almost caught up in terms of importance (Graph 1). European non-financial firms continue to rely mostly on bank loans rather than on corporate bonds, although the gap has been narrowing.[11] Overall, loans contributed most to the stock of external finance for non-financial corporations in the euro area in 2016, with a share of 52%, followed by listed shares (13%) and securities (9%).

Graph 1: Assets of Financial Sectors in the Euro Area

OFIs = non-monetary financial corporations excluding ICPFs. Non-money market investment funds and financial vehicle corporations are included in the OFI sector. Non-financial assets are excluded.



Source: ECB, "Report on Financial Structures 2017", Chart 1.1.

The important role of bank debt in Europe may have magnified the negative effects of the global financial crisis of 2007-09 on economic growth. More developed and more integrated markets for debt and equity could have provided valuable funding alternatives to the real economy when banks reduced their lending during the global financial crisis.[12] Before the crisis, about half of new external financing of European corporations was provided by banks. The total volume of outstanding loans contracted in the post-crisis years.

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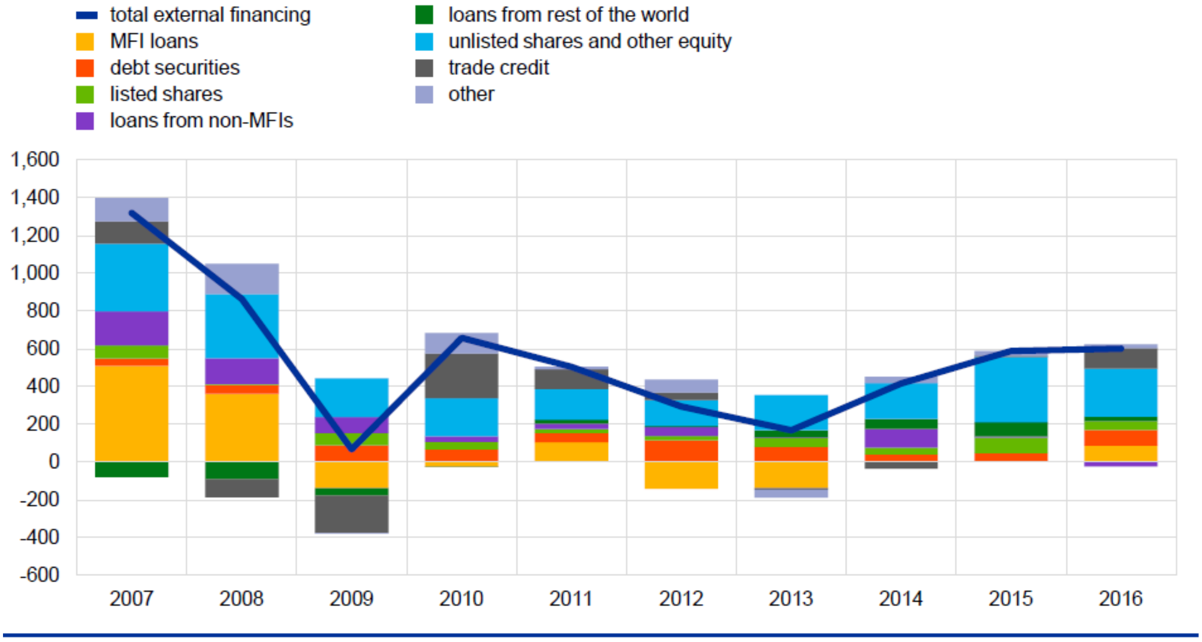
New finance from other sources, eg shares and debt securities, by contrast, remained stable throughout the crisis (Graph 2).

Graph 2: Sources of external financing (flows) provided to euro area non-financial sector corporations



Source: ECB, “Report on Financial Structures 2017”, Chart 1.4.

At the current juncture, high stocks of non-performing loans on banks’ balance sheets in some countries can hamper the efficient allocation of capital in the real economy, thus potentially dampening investment, innovation, and growth.[13] Banks with a high share of non-performing loans (NPLs) on their balance sheets need to make two choices. First, they need to decide whether or not to actively address NPL issues. This choice crucially hinges on the capitalisation of a bank. A bank with unrecognised losses in its NPL portfolios exceeding its (economic) capital faces a “debt overhang”. That bank might follow a “wait and see” strategy rather than actively resolving the NPLs. Second, and given that banks are sufficiently capitalised to address NPLs, the decision needs to be taken whether to do this internally by engaging in the active management of NPL portfolios or externally by selling those portfolios. This decision, in turn, depends on the availability and depth of a secondary market for non-performing assets.

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Dealing with NPLs is also important from a macroeconomic perspective. Banks have a stronger tendency than investors in capital markets to roll over debt and to postpone balance sheet restructurings in times of financial crisis. [14] Evidence for Japan documents the importance of bank-firm linkages for the sectoral allocation of credit. In the 1990s, undercapitalised banks continued to lend to weak Japanese firms, thus retarding the recovery in the real economy.[15] Direct comparisons between Japan and Europe are difficult. Nevertheless, there is a growing body of evidence suggesting that evergreening and distress lending are also features of European banking markets.[16] Moreover, the finding that weaker banks tend to lend to weaker firms is not confined to countries experiencing economic stress.[17]

Consequently, recent policy initiatives deal with the issue of non-performing loans on banks’ balance sheets. According to supervisory data, non-performing loans of significant banking institutions decreased to 800 billion euro in mid-2017 from 937 billion one year earlier. Relative to total assets, the ratio of NPLs dropped from 6.6% to 5.5%.[18] This decline reflects a variety of factors, including an improved macroeconomic environment, banks’ own efforts to restructure their portfolios, or improved conditions on secondary markets for loans. The improved aggregate numbers notwithstanding, non-performing loans remain elevated in some European countries.

In July 2017, the Council of the European Union thus published an Action Plan on how to tackle non-performing loans.[19] According to the Council, action is needed in the area of supervision, and to reform insolvency and debt recovery frameworks, develop secondary markets for distressed assets, and move towards fostering the restructuring of the banking system.

As regards the structure of cross-border capital flows, capital market integration in the euro area progressed rapidly but has partially gone into reverse since the financial crisis.[20] Before the financial crisis, cross-border capital flows in Europe occurred primarily through debt contracts. Risks that materialised were thus borne primarily by borrowers. Since the financial crisis, the share of debt finance in external financial assets has declined (Graph 3).

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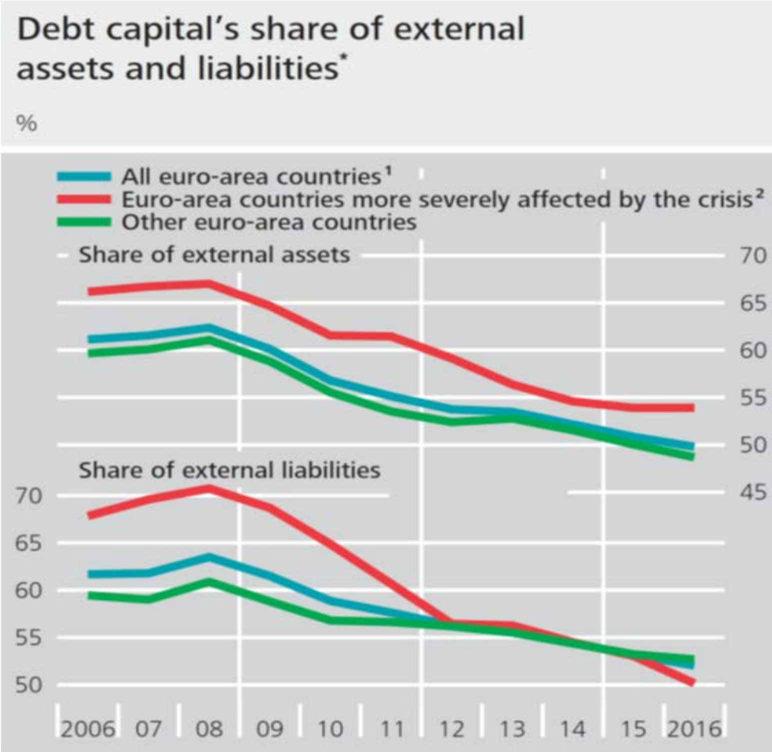
Graph 3: Share of debt finance in external financial assets (stocks)



Sources: ECB, Eurostat, IMF and Bundesbank calculations.

During the crisis, there was a "sudden stop" in cross-border bank lending. Likewise, cross-border investments into bond markets within the euro area increased until 2007-08 but receded in the aftermath of the crisis. In contrast, cross-border equity investments in stock markets within the euro area grew steadily over the past 15 years and remained stable even during the financial crisis. A similar shift from debt to equity could be observed at the global level. Post-crisis, capital flows across borders have increasingly shifted away from debt instruments towards FDI and portfolio investment in the form of equity (Graph 4).[21] At the same time, there are market segments, such as the market for venture capital, that remain highly fragmented, and cross-border investments such as mergers and acquisitions (M&A) are being impeded by institutional barriers.[22]

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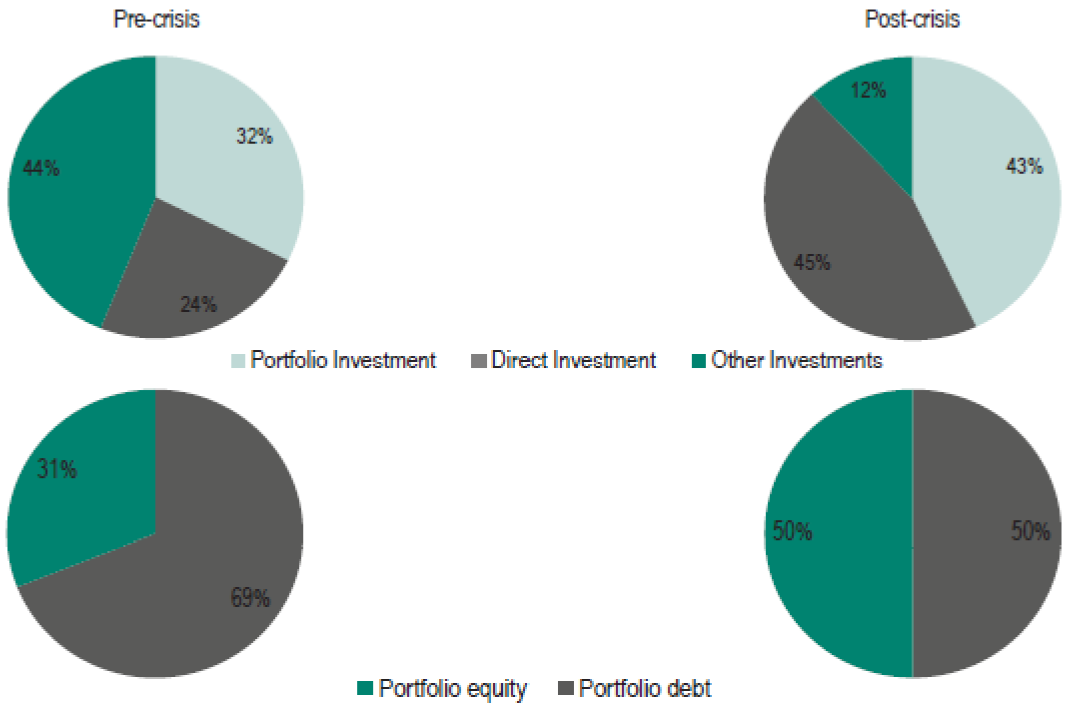
Graph 4: Structure of global capital flows pre-and post-crisis



The upper panel presents the composition of global capital flows between the three reported categories, the lower panel the share of global equity and debt flows within the portfolio flow category. The pre-crisis-period is defined as Q1 2005 – Q2 2007, and the post-crisis period as Q1 2012 – Q4 2014. The charts are based on IMF Balance of Payments data for 40 advanced and emerging market economies.

Source: Bussière, M., J. Schmidt and N. Valla (2016): "International Financial Flows in the New Normal: Key Patterns (and Why We Should Care)", CEPII Policy Brief No 10 – March 2016, Chart 8.

The fragmentation of capital markets in Europe that remains implies that there are unexploited gains from risk sharing through financial markets. The bulk of shocks to GDP in the euro area is not smoothened through financial markets, fiscal policy, or price adjustments, thus affecting the volatility of consumption (Graph 5). Previous research on risk sharing through financial markets has shown that financial markets in the US contribute more to risk sharing than in Europe – and that risk sharing during the financial crisis in Europe has been limited.[23]

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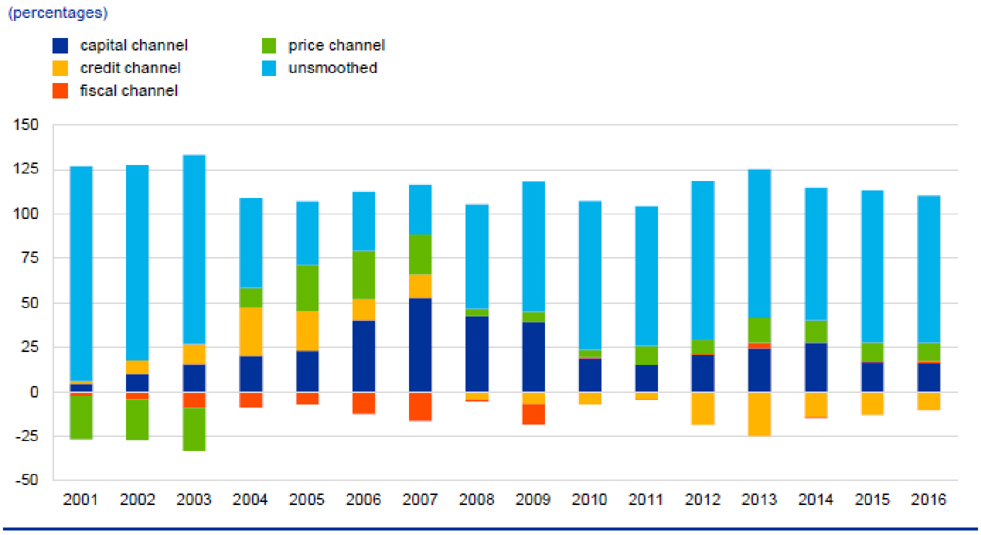
Graph 5: Channels of consumption risk sharing in the euro area



This graph shows the contribution of capital markets, credit markets, fiscal tools, and relative prices to the smoothing of country-specific shocks to real GDP growth, following the methodology developed by Asdrubali, P. and S. Kim, "Dynamic risk-sharing in the United States and Europe", Journal of Monetary Economics, Vol 51, 2004, pp 809-836

Source: European Central Bank, "Financial Integration in Europe 2017", Chart B.

In sum, capital market development and integration in Europe remain incomplete. The financial crisis has contributed to a fragmentation of financial markets. External corporate finance and cross-border capital flows tend to be dominated by bank debt. Dealing with the debt overhang in some Member States has been cumbersome. Key policy areas that affect financial structures remain under the discretion of national legislators and can constitute a source of market fragmentation.

This suggests that there is potential for the Capital Markets Union project to further develop and integrate European capital markets. In particular, a higher share of equity in finance and in cross-border capital flows has the potential to generate a "double dividend" by enhancing innovation and growth and improving risk-sharing.

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4 What is the Role of Policy?

Acknowledging the role of financial markets in growth and stability has been a cornerstone of the European integration process. Several initiatives have been launched to establish the free movement of capital as a key element of the European Single Market. The removal of capital controls was initiated in 1988;[24] the Financial Services Action Plan (FSAP) was adopted in 1999 and implemented in the 2000s.[25]

The Banking Union has closed important gaps in the supervision of banks. Detecting risks in banking systems earlier, and dealing with those risks that have materialised are the key goals of the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM), respectively. Through the bail-in tool, private sector risk sharing should become the rule rather than the exception.

The Capital Markets Union project aims to complement the Banking Union and deepen the Single Market for capital. The project thus encompasses all 28 Member States and is not confined to the euro area. There are three main priorities for reforms:

First, dealing with the stock of non-performing assets is important, as these can impede structural change and distort credit allocation. Yet the restructuring of private sector debt is in many cases constrained by a lack of effective insolvency legislation in some Member States. In order to improve how legacy assets are dealt with, a reform of national insolvency laws should be envisaged. Such reforms should allow for a quick recovery of viable businesses and the liquidation of unviable ones in a predictable and transparent manner. This would facilitate debt restructurings, allow the legacy assets on banks' balance sheets to be dealt with, and clarify the rules for the distribution of losses among creditors and debtors.

At the same time, the institutional set-up of the European Union constitutes a natural boundary to the harmonisation of national legislation. The European Union is a union of sovereign states. Ultimately, national policymakers can change the rules ex post in order to alter the distribution of losses among creditors and debtors in times of crisis. Greater harmonisation of insolvency legislation may contribute to capital market integration, risk sharing, and help address the issue of non-performing loans. Yet it remains a matter of

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national discretion how to apply or how to alter rules in times of crisis. Preventing changes in insolvency regimes by national governments may thus be more important than harmonising legislation.

Second, as regards the flow of new funds into firms, barriers to the development and integration of European capital markets should be removed. To reduce frictions for market-based financing in the EU, greater harmonisation of frameworks for securitisation and loan funds could be envisaged. Changes in domestic regulations may be needed to foster the development and integration of European equity markets in the form of equity crowd investing, venture capital, private placements, public stock markets, or M&A. These include company laws, takeover rules, and aspects of insolvency laws and tax systems which affect the structure and integration of financial markets. For example, national tax systems usually allow for the tax deductibility of interest expenses, thus providing incentives to finance investments via debt rather than equity.

Third, takeover rules and corporate governance structures can be impediments to (cross-border) investments and M&A transactions. The supervisory M&A reviews are usually complex and involve challenging procedures and processes for all parties involved, which may come at a substantial cost to investors.[26] These costs may outweigh the potential benefits of cross-border consolidation and discourage cross-border bank mergers. Impediments to M&As may also arise from ownership concentration and large block holdings.[27] These block holdings increase the cost of takeovers, as the acquirer usually has to pay a premium for the loss of the private benefits of control the seller enjoys.[28] Large shareholders can also prevent the acquirer from taking full control of the target.

In order to support growth and financial stability, the CMU should avoid creating additional distortions. The political importance of, for example, long-term infrastructure projects and environmentally-friendly and climate-friendly forms of investment for society at large can hardly be questioned. But steering investments into particular asset classes by means of financial regulations may lead to a misallocation of resources and create incentives to engage in excessive risk taking. For instance, changing risk weights in order to encourage the development of specific market segments or asset classes sets the wrong incentives.

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In a similar vein, the need to revive and promote markets for securitised financial assets has been discussed in the context of the Capital Markets Union. It has been argued that some post-crisis regulatory reforms of the European securitisation market have been overly restrictive. However, the inherent incentive problems of the originate-to-distribute business model remain valid. Simpler products, which remain tradable even in difficult market conditions, do not face such problems.

The potential benefits of securitisation are currently being explored in the relatively liquid government bond market segment. The Commission considers putting forward a legislative proposal in 2018 to enable the development of sovereign bond-backed securities: a pool of member states' sovereign debt would be split into at least two tranches.[29] The senior tranche of the securitisation could facilitate the diversification of banks' sovereign risk exposures. But, under current regulation, these instruments would be treated as securitisation instruments. Therefore, capital requirements for banks and insurers would be higher than if the underlying bonds were held directly.

However, introducing a specific product regulation in order to incentivise diversification would not address the underlying issue that the current regulatory requirements are not proportionate to the actual default risks of these bonds. Hence, the current regulatory treatment of sovereign exposures is not a good starting point. Instead, addressing risk concentrations of euro area banks vis-à-vis their domestic sovereigns requires removing the different treatment of risks in the private and public sectors by removing zero risk weights and introducing large exposure limits for sovereign holdings as well.

Having said that, let me also stress what I do not see as a priority or the goal of the Capital Markets Union.

First, full harmonisation of national regulations may not be needed or desirable. Financial markets are embedded in a set of institutional frameworks, cultural norms, and deep-rooted preferences. These change at no more than a slow pace and are not easily affected by regulations and policies. Very different corporate governance structures and financial systems can, in fact, lead to similar economic outcomes. While national policies can have a significant impact on financial markets, the EU can play an important role by en-

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hancing transparency about the national regulations that constitute explicit and implicit barriers to the contestability of financial markets and the free flow of capital.

Second, promoting the financing of small and mid-sized enterprises (SMEs) should not be a policy goal per se. Rather, creating a competitive landscape for firms to contest markets and to promote innovations should be a priority. Firms might be small because they are at the initial stages of their development, meaning that they require financing that is tailored to suit the needs of an innovative start-up. But firms might also be small because of their low productivity. Empirical evidence suggests that, on average, smaller firms are less productive than larger ones. The strength of this relationship varies considerably across countries and industries. For instance, in the services sector, smaller firms may outperform larger ones, partly reflecting activities with a high intellectual property content and the intensive use of information technology.[30] SMEs thus constitute a very heterogeneous group of firms with differing financing needs. Which type of barrier matters most and for which type of firm is, ultimately, an empirical issue.

In a similar vein, low levels of investment in some EU countries are not necessarily caused by a lack of funding opportunities. Weak investment and expansion into new domestic and foreign markets can also be driven by low productivity, too little innovation, or the absence of profitable investment opportunities. These issues do not require financial sector reforms but different, structural reforms. Initiatives aimed at relaxing financial constraints for a particular subset of firms or a particular area of investment thus might not only distort resource allocation but also be ineffective.

5 Improved Policy Evaluation

Many reform initiatives aimed at the functioning of European financial markets are already underway. The aim of the reforms agreed upon at the G20 level is to enhance the resilience of the financial system, ending too-big-to-fail, reforming derivatives markets, and transforming shadow banking into resilient sources of finance. These overall reform objectives also form the basis for many important European initiatives. The effects of recent reform initiatives, however, are often not well understood. Before delving into new initiatives,

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it is important to set up a structured process of policy evaluation to obtain greater insights into the causal effects of policy reforms and possible unintended consequences.

To this end, the Financial Stability Board (FSB) has developed a framework for the post-implementation evaluation of the G20 financial regulatory reforms.[31] The framework was developed during the German G20 presidency and was supported by the G20 Leaders at the Hamburg Summit in July. The framework guides analyses of whether the G20 financial regulatory reforms are achieving their intended outcomes, and help identify any material unintended consequences that may have to be addressed, without compromising on the objectives of the reforms.

To achieve this goal, the framework places special emphasis on estimating private and social costs and benefits as well as on the distinction between temporary effects and permanent ones. Withdrawing implicit subsidies for financial institutions is a case in point. While the private costs of issuing debt might increase because investors cannot count on being bailed out, the reforms benefit society as a whole because public subsidies are reduced.

Ultimately, deciding "what works" in terms of enhancing the efficiency and integration of financial markets requires proper impact assessments. A sufficient amount of time needs to elapse so that reforms can work their way through the financial system and, ultimately, affect the real economy. In 2015, the European Commission initiated a Call for Evidence to solicit feedback on the effects of the EU regulatory framework.[32] Evidence-based policymaking in Europe can build on the Commission's "Better Regulation Guidelines", which set out key principles for evaluations with a requirement for qualitative, and where possible, quantitative assessments of regulations and policy measures taken.[33]

* * *

[1] This speech is based on the Deutsche Bundesbank's response to the European Commission's public consultation "Building a Capital Markets Union" (2017) https://www.bundesbank.de/Redaktion/EN/Downloads/Press/2015_05_21_statement_capital_market_union_background.pdf?__blob=publicationFile

[2] See ECB Report on Financial Structures 2017, Table 11, https://www.ecb.europa.eu/pub/pdf/other/reportonfinancialstructures201710.en.pdf.

[3] See ECB Report on Financial Structures 2017, Table 1.1, https://www.ecb.europa.eu/pub/pdf/other/reportonfinancialstructures201710.en.pdf.

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[4] Schmidt, R. H. and G. Spindler (2000): "Path Dependence, Corporate Governance and Complementarity", *Working Paper Series: Finance & Accounting*, Johann Wolfgang Goethe-Universität, Frankfurt a. M., No 27; Heinrich, R. P. (2002): "Complementarities in Corporate Governance", *Kiel Studies. Springer Science & Business Media*; Saillard, A. and T. Url (2012): "Measuring Complementarity in Financial Systems", *CES Working Paper*, No 2012.39, Université Paris Pantheon-Sorbonne; and Song, F. and A. V. Thakor (2010): "Financial System Architecture and the Co-Evolution of Banks and Capital Markets", *Economic Journal*, 120(547), pp 1021-1055.

[5] Aghion, P., A. Klemm, S. Bond and I. Marinescu (2004): "Technology and Financial Structure: Are Innovative Firms Different?", *Journal of the European Economic Association*, 2 (2-3), pp 277-288.

[6] Brown, J. R., S. M. Fazzari and B. C. Petersen (2009): "Financing Innovation and Growth: Cash Flow, External Equity, and the 1990s R&D Boom", *Journal of Finance*, 64 (1), pp 151-185.

[7] Popov, A. A. and P. Roosenboom (2009): "Does Private Equity Investment Spur Innovation? Evidence from Europe", *ECB Working Paper No 1063*.

[8] Lerner, J., M. Sorensen and P. Strömberg (2011): "Private Equity and Long-Run Investment: The Case of Innovation", *Journal of Finance*, 66 (2), pp 445-477; and Watzinger, M. and M. Schnitzer (2014): "Measuring Spillovers of Venture Capital", *Beiträge zur Jahrestagung des Vereins für Socialpolitik 2014*.

[9] Bergthaler et al. (2015): "Tackling Small and Medium Sized Enterprise Problem Loans in Europe", *IMF Staff Discussion Note No SDN/15/04.*

[10] See BIS Quarterly Review September 2017. https://www.bis.org/publ/qtrpdf/r_qt1709.htm?m=5%7C25

[11] ECB Report on Financial Structures, October 2017, p 11.

[12] Adrian, T., P. Colla and H. S. Shin (2012): "Which Financial Frictions? Parsing the Evidence From the Financial Crisis of 2007-9", *NBER Macro Annual Conference*, 20-21 April 2012; and Becker, S. and V. Ivashina (2014): "Cyclicality of Credit Supply", *Journal of Monetary Economics*, 62, pp 76-93.

[13] Liu, Y. and C. B. Rosenberg (2013): "Dealing with Private Debt Distress in the Wake of the European Financial Crisis", *IMF Working Paper No 13/44*.

[14] Gambacorta, L., J. Yang and K. Tsatsaronis (2014): "Financial Structure and Growth", *BIS Quarterly Review March 2014*, pp 21-35.

[15] Cabellero, R. J., T. Hoshi and A. K. Kashyap (2008): "Zombie Lending and Depressed Restructuring in Japan", *American Economic Review*, Vol 98, No 5, pp 1943-77; and Peek, J. and E. S. Rosengren (2005): "Unnatural Selection: Perverse Incentives and the Misallocation of Credit in Japan", *American Economic Review*, Vol 95, No 4, pp 1144-66.

[16] See McGowan, M. A., D. Andrews and V. Millot (2017): "The Walking Dead?: Zombie Firms and Productivity Performance in OECD Countries", *OECD Economics Department, Working Papers 1372*, Paris, for evidence on OECD countries; Acharya, V. V., T. Eisert, C. Eufinger and C. W. Hirsch (2017): "Whatever it takes: The real effects of unconventional monetary policy", *SAFE Working Paper*, No 152, Frankfurt a. M., and Storz, M., M. Koetter, R. Stetzer and A. Westphal (2017): "Do We Want These Two to Tango? On Zombie Firms and Stressed Banks in Europe", *IWH Discussion Paper*, No 13, Halle (Saale), for European countries; and Schivardi, F., E. Sette and G. Tabellini (2017): "Credit Misallocation During the European Financial Crisis", *Center for Economic Policy Research (CEPR)*, Discussion Paper 11901, London, and Calligaris, S., M. Del Gatto, F. Hassan, Ottaviano, G. I. P. and F. Schivardi (2016), "Italy's Productivity Conundrum: A Study on Resource Misallocation in Italy", *European Commission Discussion Paper 030*, Brussels, for evidence on Italian firms.

[17] See Storz, M., M. Koetter, R. Setzer and A. Westphal (2017).

[18] ECB (2017): Supervisory Banking Statistics, second quarter 2017, p 84. https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.supervisorybankingstatistics_second_quarter_2017_201710.en.pdf

[19] See Council of the European Union, Action Plan for Non-Performing Loans, July 2017 http://www.consilium.europa.eu/en/press/press-releases/2017/07/11/banking-action-plan-non-performing-loans/

[20] ECB (2015): "Financial Integration in Europe 2015", April 2015.

[21] Hopt, K. (2014): "Takeover Defenses in Europe: A Comparative, Theoretical and Policy Analysis", *Columbia Journal of European Law, 20 (2)*, pp 249-282; and Jones, A. and J. Davies (2014): "Merger Control and the Public Interest: Balancing EU and National Law in the Protectionist Debate", *King's College London Dickson Poon School of Law Legal Studies Research Paper No 2015-12*.

[22] Bussière, M., J. Schmidt and N. Valla (2016): "International Financial Flows in the New Normal: Key Patterns (and Why We Should Care)", *CEPII Policy Brief No 10* – March 2016.

[23] For a recent review of the literature, see Bremus, F. and R. Stelten, (2017): "Capital market integration and macroeconomic stability", *Deutsches Institut für Wirtschaftsforschung (DIW)*, Berlin, Round up – Politik im Fokus No 116. Berlin.

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[24] See Council Directive 88/361/EEC of 24 June 1988.

[25] The Markets in Financial Instruments Directive (MiFID) aims to develop and integrate European equity and debt markets. For an initial review of all the elements of the FSAP, see CRA (2009): "Evaluation of the economic impacts of the Financial Services Action Plan", *Report prepared for the European Commission*.

[26] For an overview of the obstacles to cross-border M&As in the banking sector, see ECB (2017): "Cross-border bank consolidation in the euro area", *Financial Integration in Europe*, May 2017, pp 41-64.

[27] Ownership structures vary due to differences in the legal protection of minority shareholders. In common law countries (eg US and UK), where the rights of minority shareholders are better protected, ownership is usually dispersed. In civil law countries (eg Germany and France), shareholder rights are less protected and ownership concentration is used to exercise control over management (La Porta, R., F. Lopez-De-Silanes, and A. Shleifer (1999): "Corporate Ownership Around the World", *Journal of Finance*, 54(2), 471-517). Thus, ownership is more concentrated in banks from continental Europe than from the UK (Köhler, M. (2012): "Ownership Structure, Regulation and the Market for Corporate Control in the EU Banking Sector", *European Journal of Law and Economics*, Vol 34(1), 173-196).

[28] The premia differ widely across countries, depending in part on investor protection and takeover regulation (Nenova, T. (2003): "The Value of Corporate Voting Rights and Control: A Cross-Country Analysis", *Journal of Financial Economics*, 68(3), 325-351).

[29] See http://europa.eu/rapid/press-release_MEMO-17-3722_en.html

[30] See Leung, D., C. Meh and Y. Terajima (2008), "Firm Size and Productivity", *Working Paper*, Bank of Canada, 45, 2008, for evidence in Canada and the United States; and OECD (2017), "OECD Compendium of Productivity Indicators 2017", *OECD Publishing*, Paris, for evidence in OECD countries. Bartelsman, E., J. Haltiwanger and S. Scarpetta (2013): "Cross-Country Differences in Productivity: The Role of Allocation and Selection", *American Economic Review* 103(1): 305-34 suggest that policy-induced distortions may also be a source of the observed variation between size and productivity. They develop a model where the variations in the distribution of distortions allow the observed cross-country moments to be matched.

[31] Financial Stability Board (2017): "Framework for Post-Implementation Evaluation of the Effects of the G20 Financial Regulatory Reforms", July 2017.

[32] http://ec.europa.eu/finance/consultations/2015/financial-regulatory-framework-review/index_en.htm

[33] This includes the causal identification of effects of policy interventions: "*Evaluation looks for evidence of causality – i.e. did the intervention bring about the expected changes or were there other unintended or unexpected changes.*" (European Commission 2015, p 50).

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