

AUGUR

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ABSTRACT

This deliverable provides insight into the future of financial markets and regulation in order to define what would be the best strategy for Europe. First we define the potential changes in financial markets and then the tools available for the regulator to tame them. Finally, we build five scenarios according to the main evolutions observed on the financial markets and on the tools used by the regulator to modify these trends. Amongst the five scenarios we defined, two present highly unstable features since the regulator refuses to choose between financial opening and independently determining how to regulate finance in order to preserve financial stability. Three of them achieve financial stability. However, they are more or less efficient or feasible. In terms of market efficiency, the multi-polar scenario is the best and the fragmentation scenario is the worst, since gains of integration depend on the size of the new capital market. Regarding sovereignty of regulation, fragmentation is the best scenario and the multi-polar scenario is the worst, because it necessitates coordination at the global level which implies moving further away from respective national preferences. However, the more realistic option seems to be the regionalisation scenario: (i) this level of coordination seems much more realistic than the global one; (ii) the market should be of sufficient size to enjoy substantial benefits of integration. Nevertheless, the "European government" might gradually increase the degree of financial integration outside Europe in line with the degree of cooperation with the rest of the world. Foresight studies on financial markets and regulation are quite rare. This may be explained by the difficulty to anticipate what will be their evolution in the coming decades, not least because finance is fundamentally unstable. This deliverable provides a framework to consider what could be the best strategy of regulators in such an unstable environment.

Key words: Financial Stability, Supervision and Regulation, Financial Integration

JEL Classification: E44, F36, G18, G28

Introduction

The recent financial crisis, which is not over yet, has shown that finance matters a lot and exerts a powerful influence on the world economy. The increasing importance of finance, both private and public finance, is particularly true in Europe. Finance plays an essential role for the (mis)allocation of capital amongst sectors and countries. It is also a major factor of instability, both for the financial and the real sectors of the economy, at all levels: national, regional and international.

A priori, it seems difficult to anticipate what will be the evolution of financial markets in the coming decades, not least because finance is fundamentally unstable! Nevertheless, it is crucial to define what could be the future of finance due to its central importance for the world and European economies.

The first deliverable of WP2 previously identified the major regulatory and supervisory challenges and considered the early European initiatives to reform financial regulation. The second deliverable focussed on three main tasks: a critical approach to Basel III in its original form, the identification of the fundamental economic and institutional factors inducing financial instability, and a first proposal of the possible evolution of financial markets and regulation under the AUGUR scenarios. The third deliverable pursues this prospective research.

Anticipating the evolution of finance is needed for regulation purposes: there is a need to adapt the rules to the transformation of financial markets in the future. This study is an attempt to analyse the wide array of possibilities in the future, as they range: (i) from a reform based on micro-prudential regulation to a strong state-controlled macro-prudential regulation; (ii) from regulation at a national level to regulation at a global level; and (iii) from strong capital controls between economic areas to strong financial integration.

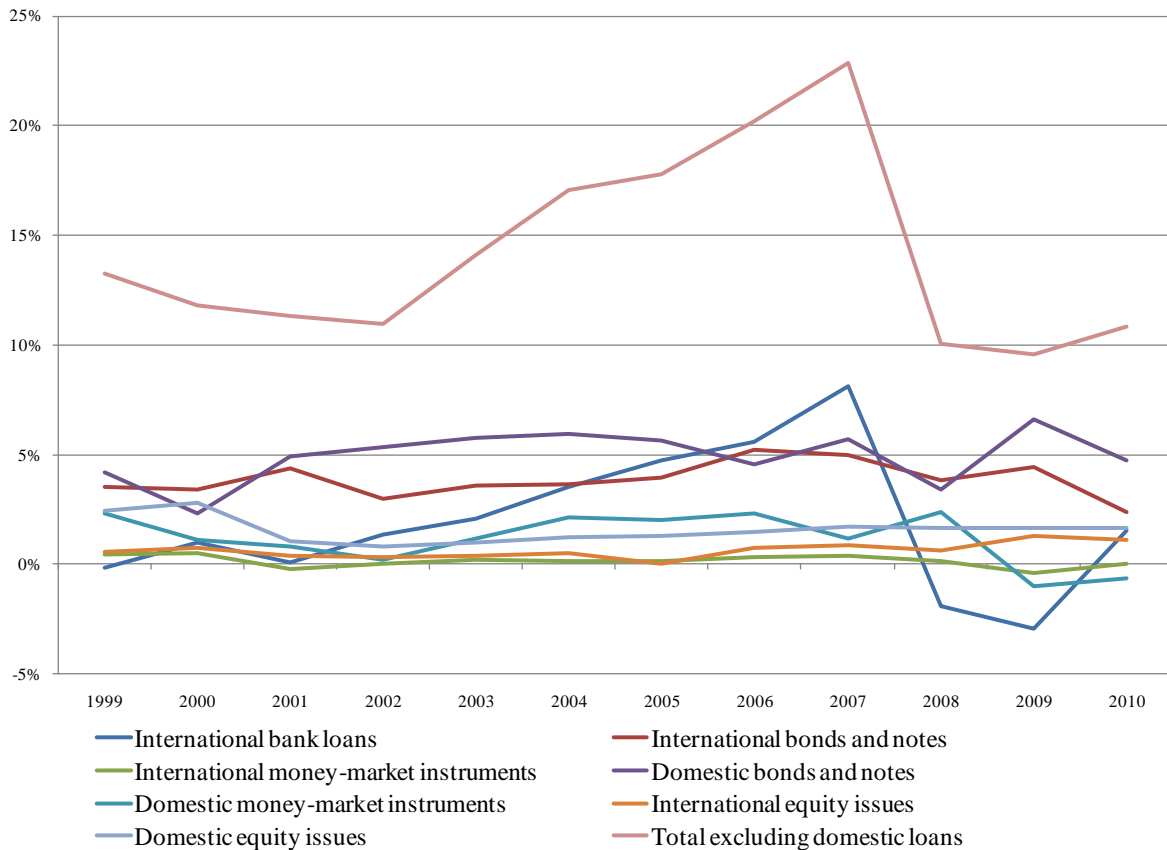
The methodology of this study will consist in building contrasted scenarios in order to allow for strategic thinking about the evolution of finance up to 2030. The scenarios will be built around the strategies of the major actors, public and private, of the world economy and financial markets, including the interrelated role of financial regulation and financial innovation. This third deliverable will also focus on the role of Europe as concerns financial markets and the impact of finance on Europe in 2030.

The study is composed of five sections. Section I is a brief overview of the recent evolution of global financial markets. Section II provides a description of the potential changes of financial markets, with a focus on major players. Section III builds on the evolution of the financial system depending on the different types of regulations implemented in the future decades. Section IV details the main points of the reform of financial regulation and reports the progress in its implementation. Finally, Section V provides a panorama of five alternative scenarios based on different assumptions as to the strategies and the role of major players. These scenarios provide a framework for the analysis of the future of Europe in the world economy.

I- A brief overview of the recent evolution of global financial markets

In this first part we propose a brief overview of the recent evolution of global financial markets in order to capture their dynamics. Figure 1 provides a very clear picture of their evolutions in the last decade. We observe the massive increase in the amounts raised in financial markets from around 11% of world GDP in the early 2000s to 23% in 2007. Then, they declined sharply and are around 10% in the late 2000s. The fluctuations of total capital market financing result for a large part from the development of the international bank loans. The five main countries responsible for this increase are, from the largest to the smallest, the United Kingdom, the United States, Germany, France and Switzerland. This fact is in line with some recent studies pointing out the role of European global banks in the US credit conditions that led to the financial crisis (Shin, 2011; Borio and Disyatat, 2011).

Figure 1. Amounts raised in financial markets (% of global GDP, net of repayments)



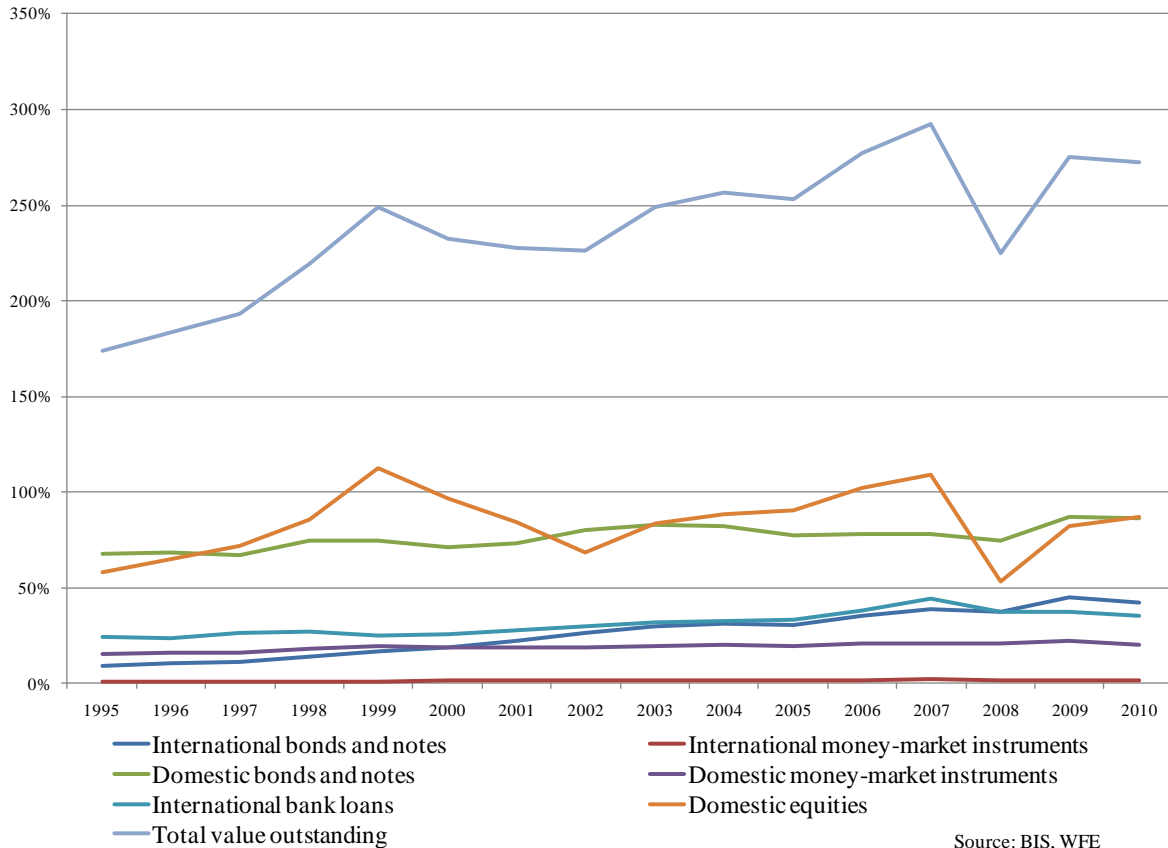
Source: BIS, WFE

*This figure does not account for the domestic bank loans.

The size of the world's financial markets has increased significantly during the last 15 years. Representing 175% of world GDP in 1995, they now account for 275% of world GDP (Figure 2). This fast growth can be explained by the combination of the equity markets variations – we can observe that the bursting of the two financial bubbles in 2000 and 2008 had deeply impacted the total value outstanding –, the rapid increase of the size of bonds and notes markets (in particular the international markets) and the augmentation of bank loans in the 2000s. It is worth noting that, at the same time, the

money markets remained quite stable. Although the international money market has progressed, it is still very small in comparison to the others.

Figure 2. The world's financial markets (% of global GDP, at year end)



In order to measure the temporal dispersion of the different markets' sizes, we calculate the coefficient of variation of each financial market at the global scale. As Table 1 shows, the dispersion is higher in international markets than in the domestic ones, except the domestic equity market which is the second most dispersed.

Table 1. Coefficients of variation of the global financial markets

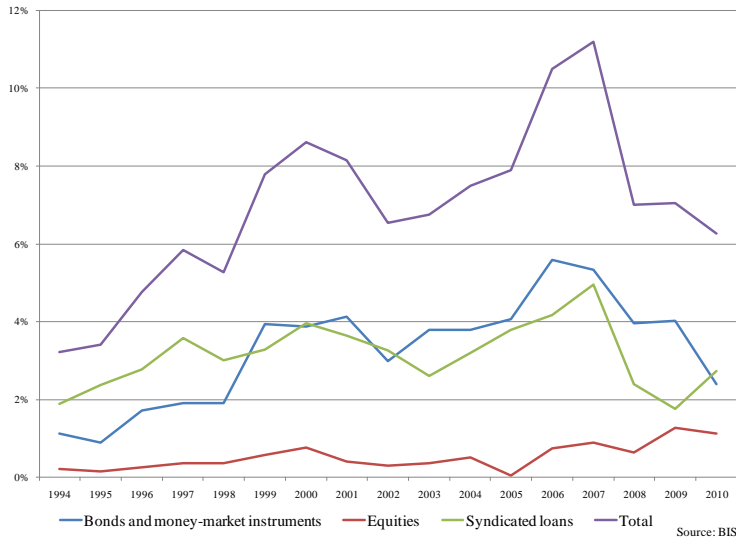
	Standard deviation	Mean	Coefficient of variation	Change from 1995 to 2010
International bonds and notes	9%	26%	35	366%
International money-market instruments	0%	1%	19	184%
International bank loans	6%	31%	18	46%
Domestic equities	16%	84%	20	50%
Domestic bonds and notes	5%	76%	7	28%
Domestic money-market instruments	1%	19%	5	32%
Total value outstanding	23%	238%	10	56%

Source: BIS, WFE

Note: standard-deviation and mean are calculated on annual data from 1995 to 2010. the coefficient of variation is defined as the standard-deviation/mean ratio times 100.

The financing on international capital markets has doubled from 1994 to 2010 (Figure 3). It is interesting to note that we observe a decline in the size of international financial markets following the Asian, the internet and the subprime crises.

Figure 3. Financing on international capital markets, by type of instrument (% of global GDP)



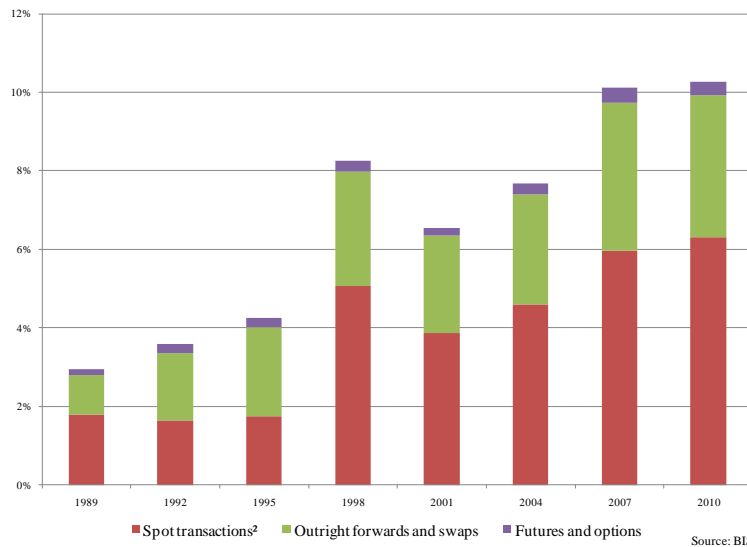
They are more strongly affected than domestic markets as shown on Figure 4. It may indicate that following a crisis, it is easier to finance on domestic markets than on international ones. Although the financing on equity markets progressed rapidly, the two main sources of funding on financial markets are still bonds, money instruments and syndicated loans.

Figure 4. Funding on domestic and international markets (% of world GDP)



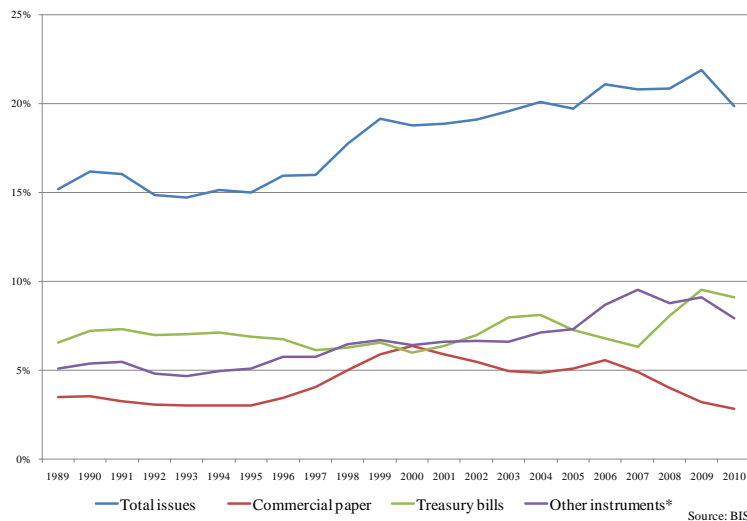
The foreign exchange markets became four times bigger in 2010 than what they were 20 years before (Figure 5). Outright forwards and swaps and spot transactions represent the main part of exchange transactions and the size of futures and options markets remains marginal in 2010.

Figure 5. Foreign-exchange markets (daily averages, in % of global GDP)



The growth of the domestic money market instruments worldwide is mostly due to the augmentation of treasury bills and other instruments markets, which are mainly constituted of certificates of deposit (Figure 6). At the same time, the commercial paper market declined.

Figure 6. Domestic money-market instruments worldwide (% of global GDP)



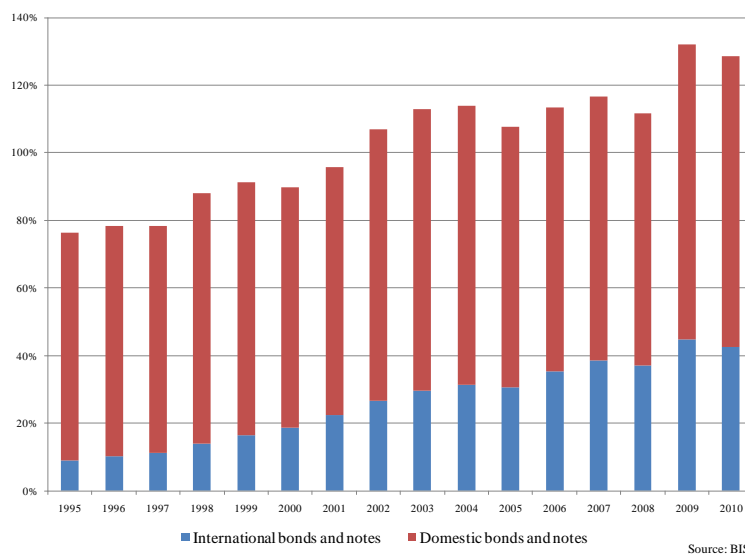
The market of domestic debt securities developed during the last two decades from around 70% to 105% of world GDP (Figure 7). This increase is particularly remarkable after 2008. This may be explained by the augmentation of government debts which resulted from the effect of the financial crisis on the real economy.

Figure 7. Amounts outstanding of domestic debt securities (% of world GDP)



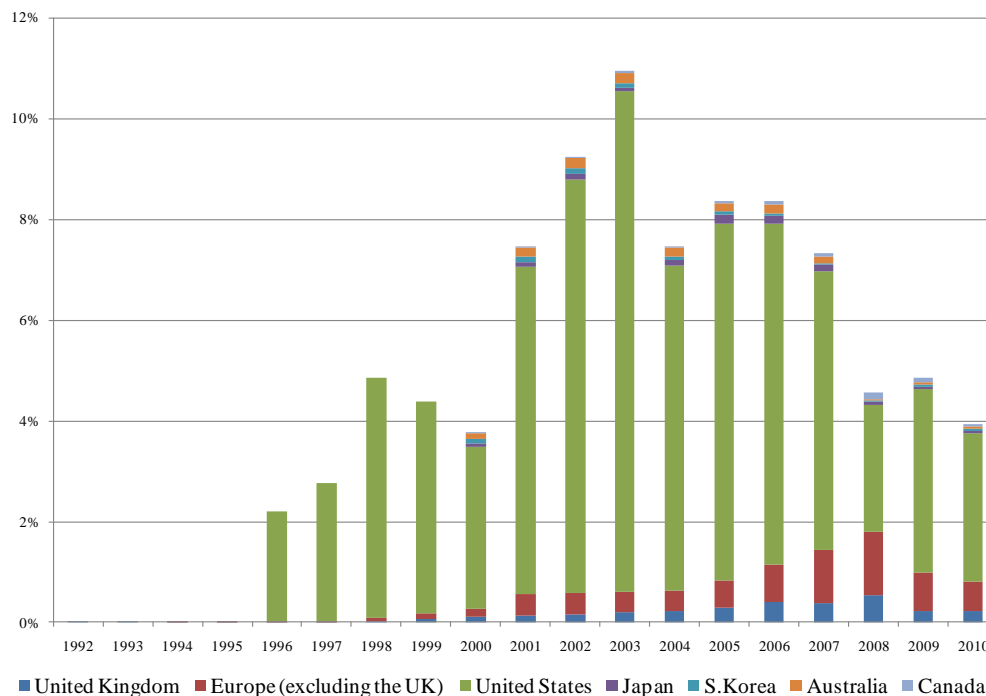
The market of bonds and notes grew fast during the last 15 years from 75% to 130% of world GDP (Figure 8). The growth is due for a large part to the development of the international market from 10% to more than 40% of world GDP.

Figure 8. Outstanding amounts of bonds (% of world GDP)



The issuance of mortgage and asset-backed securities was very strong in the 2000s in the US and, to a much lesser extent, in the other developed countries (Figure 9). Following the subprime crisis, the issuance of such assets sharply declined from around 8% before the crisis to 4% of global GDP after the crisis.

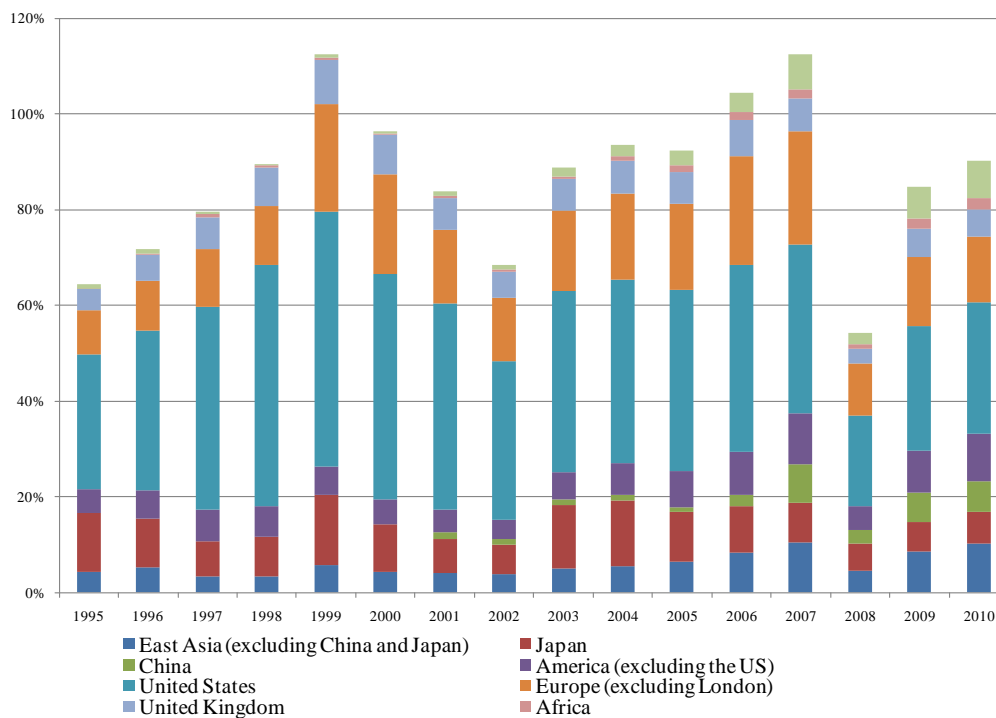
Figure 9. Issuance of mortgage-backed securities and asset-backed securities (% of global GDP)



Sources: AFME & SIFMA Members, Bloomberg, Thomson Reuters, prospectus filings, Fitch Ratings, Moody's, S&P, AFME & SIFMA

As shown in Figure 10, equity markets fluctuate a lot, developing with the bubbles and decreasing everywhere in the world following the financial crises started in the US in 2000 and 2008. It is interesting to remark that in the last five years, the equity market capitalisations in both China and East Asia became as important as in Japan.

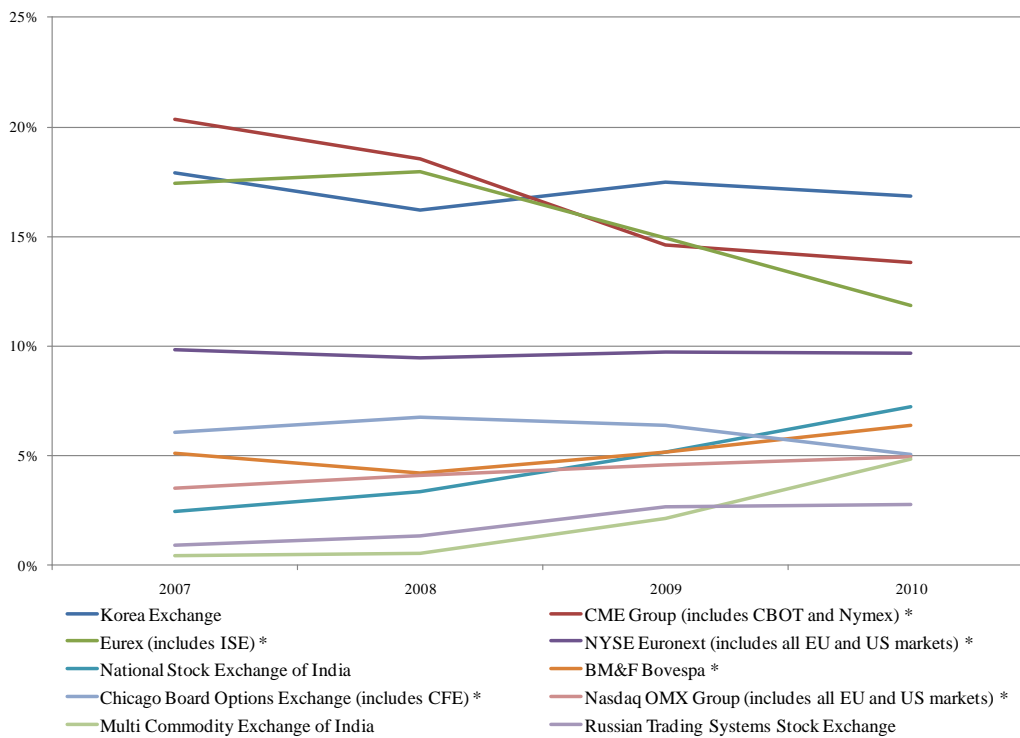
Figure 10. Equity market capitalisation (in % of global GDP)



Source: World Federation of Exchanges

The data available concerning the global futures and options markets are quite limited (Figure 11). Nevertheless, we notice that following the subprime crisis, the market shares of more economically developed countries sharply declined (CME and Eurex) or stagnated (NYSE Euronext, Chicago Board Options Exchange, Korea Exchange). At the same time, market shares of emerging countries increased rapidly, especially in India (national Stock Exchange of India and Multi Commodity Exchange of India) and Brazil (BM&F Bovespa). Thus, in 2007 North American and European markets represented 63% of global listed derivatives and now represent only 52% of them. The explanation is the fast growth of futures and options markets in Asia-Pacific region from 28% to 40% of market share.

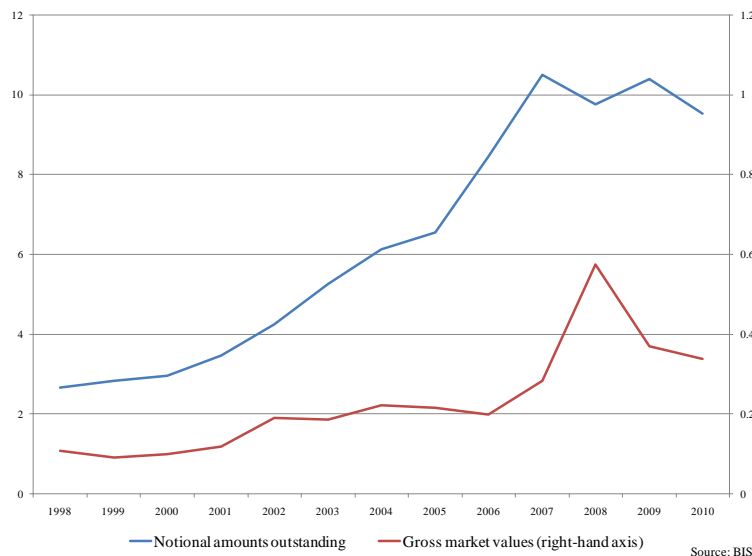
Figure 11. Market shares of the top 20 futures and options exchanges (representing 84% of the global market)



Source: World Federation of Exchanges

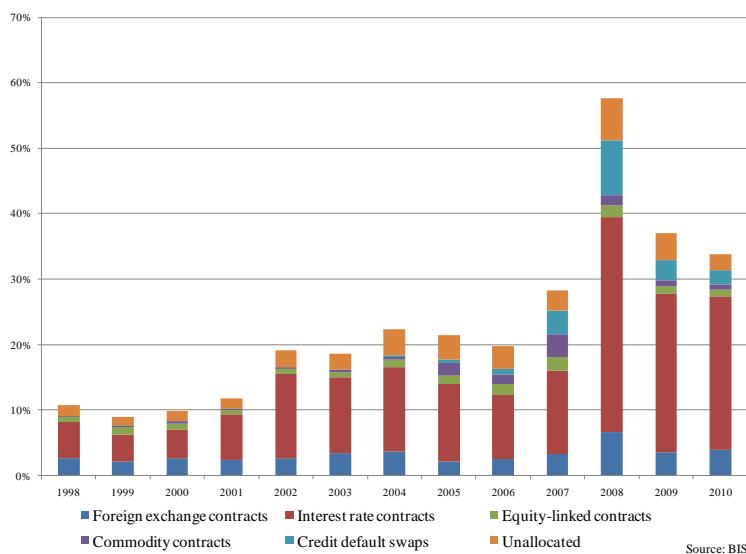
When we look at the OTC markets, it is necessary to distinguish gross market values and notional amounts outstanding. The latter are defined as the nominal value of all deals concluded and not yet settled. This variable provides an interesting broad measure of the market size. The size of notional amounts outstanding increased fast until the subprime crisis and then stagnated (Figure 12). However, the gross market value is more accurate to measure the scale of financial risk transfers. This variable peaked in 2008, when the crisis started, and then remained much bigger than its pre-crisis level, around 35% of global GDP.

Figure 12. Size of global OTC markets (in % of world GDP)



As Figure 13 shows, the OTC markets are mostly made of interest rate contracts (58% of total market). CDS contracts were particularly high in 2008, at the height of the crisis. Commodity contracts played a very important role in 2007 when commodity prices started to sharply increase.

Figure 13. Total amounts outstanding of OTC (gross market values, amounts outstanding in % of world GDP)



This brief overview of financial markets enables us to observe several major trends in financial markets during the last two decades. Firstly, the increasing influence of financial markets on the global economy. Secondly, the funding on international markets grew very fast and was more strongly affected by financial crisis than domestic markets. Thirdly, the growth of financial markets was accompanied by the development of securitisation and international banks loans which both play a role in the outbreak of 2008's crisis. Fourthly, we observe a decline in the latter activities after the crisis. We also note a fast growth of government debt and treasury bills emissions which can be explained by the decline in tax revenues and the increase in public spending when the

financial crisis hit the real economy. In the meantime, the sudden growth in OTC and futures markets result from the higher demand for risk protection after 2007.

II- The potential changes of financial markets

In this part, we define the potential changes of finance in order to pinpoint what could be the future strategies of operators, the future locations of financial centres, the most promising markets, and the new major players.

Future strategies of financial operators

The financial operators' view is determinant in shaping future finance, since they will take strategic decisions inside banks and financial institutions. According to European bank managers and financial executives¹, the main challenges are (i) the improvement of risk management, (ii) the adaptation to changing regulation, (iii) the intensification of price competition, (iv) the concentration of financial markets, and (v) the standardisation of financial operations to facilitate automation, replacing workers with machines. Thus, financial institutions will try to increase their size and to reduce costs of financial transactions to deal with stronger competition in more globalised financial markets. Furthermore, while financial operators seem to have realised, at least partially, the shortcomings of their own risk management in the past, they now worry more about new regulatory constraints. To put it in a different way, they would prefer to deal with financial instability at the firm level rather than be closely controlled by state supervisors and regulatory authorities.

One of the problems stems from the fact that bank risk management is centralised at the group level, not in the jurisdiction or country where the banking group operates its subsidiaries and branches. The disjunction between risk management at the global level and regulation, supervision and enforcement, mainly at the nation state level, creates overlaps and inefficient regulation of financial markets.

Future locations of financial centres

The future locations of financial centres will probably be rebalanced with the emergence of deeper markets in the emerging market economies. Firstly, the development of Islamic finance could help centres to thrive in the Middle East and in Asia². Secondly, if commodities became major safe havens for investors, some new centres in emerging countries – which produce them – could play a growing role³. Thirdly, the opening of financial markets in the emerging countries would undoubtedly change the situation greatly. For example, in 2010 China decided to make the Renminbi convertible for non-residents, paving the way for Honk Kong to become the most important financial centre in Asia.⁴

¹ For more details, see Engstler and Welsch (2008), KPMG, (2008), and Ernst & Young, (2009).

² According to *International Financial Services London* (2010), the countries which could benefit from the development of Islamic finance are: Iran, Saudi Arabia, Malaysia, Kuwait, UAE and Bahrain.

³ The BM&F Bovespa (Sao Paolo) or the National Commodity and Derivatives Exchange (Mumbai), which grew rapidly in the last years, may have a stronger role in the future. We can also mention the brand new Dubai Multi Commodities Centre.

⁴ Nevertheless HSBC became the first company in the world to launch a *renminbi*-denominated bond outside Chinese sovereign territories in April 2012. This evolution could lead to the development of large euro-renminbi markets.

Promising markets

It is rather difficult to identify promising markets for the next 20 years. There are some emerging new markets such as ethical and green finance which could be destined to play an important role in the future, but it is too early to assess their future importance.⁵ This depends crucially on future innovations, which are closely linked to regulation. According to both specialists and practitioners, the strategic markets should be derivatives. Otherwise, over-the-counter markets could grow fast to avoid organised markets which could be much more regulated in the future. But this evolution may be stopped by new regulation, under study today, about the obligation of all actors on OTC to register with clearinghouses.

Players

The major players of financial markets will be both public and private entities. In the first place, the growth in the number of sovereign wealth funds⁶ could increase the exposure of government-controlled investments. Whereas central bank purchases of safe assets reduced the global interest rate in the 2000s, the growth of risky investments made by sovereign funds may lead to an increase in asset prices. At the same time, private actors such as hedge funds and private equity are called upon to play an increasing role. It is difficult to define what would be their activities in the future, because those depend on the regulatory reforms that will be put in place. Nevertheless, speculative activities of hedge funds imply important systemic risks and may create contagion effects in the banking system. Public actors – regulators, states, central banks, and international organisations – are also bound to play an important role if the instability of financial markets is to be persistent. It may be that in some emerging countries – such as China – public authorities will play a dominant role, while the influence of private players is more important in countries where the market economy is more developed, as is the case in the US and in Europe. At the international level, civil society (meaning non-governmental organisations defending the general interest) is also bound to play an increasing role. International organisations, such as the IMF, may also have a growing influence, depending on the nature of the likely reforms of the international monetary system.⁷

Financial innovation vs. regulation

The development of financial innovation has been motivated for a long time by the desire to avoid taxes or government regulation. We can therefore expect that new regulatory constraints will be circumvented by financial innovations to come. We can distinguish two ways of avoiding regulatory constraints. On the one hand, financial operators can escape regulators by transferring their capital to offshore financial centres with a high degree of

⁵ As mentioned in WP5, the mobilisation of private savings could be a major source of funding for low carbon projects in the following decades (Hourcade et al., 2011). The development of green finance may also be favoured by the emergence of climate investment funds such as the Clean Technology Fund and the Strategic Climate Fund which are funded by 14 donor countries (Australia, Canada, Denmark, France, Germany, Japan, Korea, Netherlands, Norway, Spain, Sweden, Switzerland, the UK and the US).

⁶ Most of the sovereign wealth funds are in China, Russia and the OPEC countries which are major exporters of, respectively, manufactured goods and oil.

⁷ As noted in WP8, a first multilateral discussion on the International Monetary System was held the 31 March 2011 in China (Para, 2011).



financial secrecy. On the other hand, institutions can create some new financial products and develop a “shadow banking system” or a “shadow financial market” in order to steer clear of regulation and supervision. As mentioned in deliverable 3 of WP3, it is likely that innovation will be concentrated in a small number of countries in 2030. The United States and the United Kingdom should continue to play a leading part in this activity.

III- Tools to regulate financial markets

The two dimensions of financial regulation: micro- and macro-prudential regulations

The role of prudential regulation is to prevent bank failures and financial crises. The reason for preventing financial crises is that the costs to society are more important than crises in other sectors and exceed the private cost to individual financial institutions. Prudential regulation aims at internalising these externalities in the behaviour of such institutions. Prudential regulation has two dimensions: micro-prudential and macro-prudential. Micro-prudential regulation concerns itself with the stability of individual entities and the protection of clients of these institutions. Macro-prudential regulation concerns itself with the stability of the financial system as a whole. Micro-prudential regulation consists of such measures as (i) the certification of those working in the financial sector; (ii) rules on what assets can be held by whom; (iii) how instruments are listed, traded, sold and reported; (iv) measures of the value and riskiness of assets. The Basel Committee on bank supervision has played a major role in defining the rules and instruments of micro-prudential regulation. One of the main tools put forward by the Basel Committee is that of capital adequacy requirements.

Until recently, the Basel approach rested on the principle that the purpose of regulation is to ensure the soundness of individual institutions against the risk of loss on their assets. The Basel Committee doctrine was based on the false assumption that actions enhancing the soundness of a particular institution should also promote overall stability (Larosière, 2009). However, ensuring the safety of each individual institution is not a sufficient condition for the soundness of the system as a whole. It is possible, indeed often likely, that attempts by individual institutions to remain solvent can push the system to collapse. The recent crisis was caused by banks transferring risky toxic assets to other financial unregulated financial institutions. One of the major causes of the crisis has been the deficit of macro-prudential regulation (Bank of England, 2009).

Micro-prudential regulation examines the responses of individual banks to exogenous risks. By definition, it does not incorporate endogenous risk. It also ignores the systemic importance of individual institutions as defined by their size, the degree of leverage they use, and their interconnectedness with the rest of the system. This is why we need to complement micro-prudential regulation with macro-prudential regulation. The macro-prudential approach to regulation considers the systemic implications of the collective behaviour of banks (Brunnermeier et alii, 2009).

A major source of financial instability is the so-called herd effect caused by mimetic behaviour – everyone selling or buying at the same time. Invariably, market participants start off being heterogeneous but a number of factors – such as the use of similar techniques of risk measurement by banks – drive them to take similar decisions. In this regard systemic risk is endogenous, and macro-prudential regulation is about identifying those endogenous processes which turn heterogeneity into homogeneity in financial markets.

There is a growing consensus that the most important cause of market failure in banking and financial markets is pro-cyclicality. According to this view, the purpose of macro-regulation is to act as countervailing force to the pro-cyclical behaviour of banks which is based on their underestimation of risks in a boom and their overestimation of risks in the

subsequent collapse. This shift in risk perception from “too low” to “too high” is an essential problem. The purpose of macro-prudential regulation is to moderate financial cycles by narrowing this gap in forcing banks to improve their measurement of risks in boom and bust.

A critical part of micro-prudential regulation in the last decade was the increasing use of market prices in valuation and risk assessment. This evolution was the result of standards issued by the IASB⁸ in 2001 which are based on the mark-to-market principle. These accounting standards were introduced in the name of transparency, risk-sensitivity and prudence, but they contributed to increasing homogeneity and cyclicity of market behaviour, and were a source of greater systemic fragility. This micro-prudential regulation has been clearly a factor of endogenous macro-prudential risks.

Counter-cyclical bank regulation can be introduced through banks’ dynamic provisions systems, linking provisioning to the credit cycle. This technique has already been used in Spain and Portugal since the early 2000s to cope with increasing risks in domestic banks following a period of significant credit growth. Such a system requires higher provisions when credit grows more than historical average and lower provisioning in slumps. An alternative approach for counter-cyclical bank regulation is via capital requirements. Basel III guidelines presented in September 2010 propose to introduce a counter-cyclical buffer in the system of bank capital charges.

Micro and macro-prudential regulation differ in their needed professionalism. Micro-prudential regulation should be carried out by banking and financial market supervisors, whereas macro-prudential regulation should be put under the responsibility of central banks (Goodhart, 2010). Central banks should have to monitor credit expansion which is a major channel of bubbles and financial crises. Such instruments as loan-to-value ratios and progressive compulsory reserves on bank credit may be used by central banks to reduce credit cycles.

Not all banks are alike. Regulation should acknowledge that some banks are systemically important. Tighter supervision of the latter banks needs to be implemented. By the same token, international cooperation is required for the regulation and supervision of banks which operate in several countries.

In short, the subprime crisis has shown that the existing framework of banking regulation was insufficiently macro-prudential. A reform of financial and banking regulation is under way to introduce new instruments, and to achieve a new balance between micro- and macro-prudential regulations. This is illustrated by the new Basel III guidelines presented in September 2010 or the reforms implemented in 2011 in the European Union along the lines proposed by the Larosière Report (Larosière, 2009).

Financial regulation at the international level

The recent global financial crisis highlights the weaknesses in international financial architecture. Thus, it appears necessary to manage financial stability which is a public good that can no longer be provided by independent regulators in today’s integrated financial markets.

⁸ Acronym for International Accounting Standards Board

At the international level, the regulator has three main objectives which are not necessarily compatible: (i) financial stability, (ii) independence of regulatory policy, (iii) financial integration.

Financial stability seems to be the most obvious target since it constitutes an essential public good. After the last crisis a fairly clear consensus has emerged amongst the G20 central bankers (Banque de France, 2011). They agree on the need for enhanced supervision of the financial sector – especially for systemically important financial institution (SIFI) – and greater coordination of national policies in order to ensure financial stability internationally. One can note two interesting nuances amongst central bankers of emerging countries. They expect a change in the International Monetary System (IMS), which would imply more competition against the dollar, and better regulation of speculative capital flows, by nature more volatile, since those have a particularly destabilising effect on emerging markets.

The *independence of regulatory policy* may appear desirable, because it allows each country to regulate its financial market according to national preferences. For example, following the example of Germany, other countries might wish to ban short sales or opt for more stringent prudential standards for systemically important actors (e.g. hedge funds). Indeed, preferences in the regulation of financial markets are quite heterogeneous in the world. On one side, Europeans seem willing to put in place a regulatory regime based on a strong coercive power of the authorities. On the other side, the United States appear more directed towards a system focused on market-based insurance mechanisms (Goodhart, 2010).

For many years much of the economic literature has been arguing in favour of a greater degree of *financial integration* which is defined as better access to foreign capital markets for investors. Financial integration is supposed to have several advantages. Firstly, it enables a more efficient capital allocation, because savers benefit from a wider choice in their investment decisions and potentially have access to more lucrative investments. Secondly, the deregulation of national markets allows investors to diversify the risk of their portfolios more effectively by holding assets that are less correlated due to the fact that they are issued in countries with different economic characteristics.

The second point, however, raises two questions. The first question concerns the impact of globalisation on national circumstances. In recent decades traditional barriers to trade in goods and services and to capital flows have eroded and economies have become increasingly interdependent. When a shock occurs, it is felt throughout the system via fewer commercial opportunities, lower investment incomes, and devaluations of foreign assets. The second question is that of the consequences of greater financial integration on the resilience of financial markets. Indeed, there are good grounds for considering that breaking down barriers between national financial markets increases the global systemic risk. Thus, the reduction of portfolio risk expected from the international diversification is not so obvious, since financial integration would cause an increase in the risk to which all assets are exposed. Thus, the deepening of financial integration is beneficial only if systemic risk is reduced by an appropriate regulation at the global level.

To sum up, the efficiency of micro-prudential and macro-prudential measures depends on the capacity to control international financial markets. We can identify three main objectives of regulation at the international level. First, authorities try to reach a high degree of financial integration to allow a better allocation of capital and to permit a better diversification of risks. Second, governments want to improve financial stability, including

the need to avoid international arbitrage between financial centres and their regulations (e.g. tax havens). Third, decision makers wish to maintain the independence of the national regulatory system in order to decide how financial activities should be regulated (e.g. limitations on short selling). These three objectives cannot be combined.

The trilemma in financial regulation at international level can be represented by a triangle with one of the objectives at each vertex (Figure 1) as in Schoenmaker (2011). The regulator has to leave aside one of them. As financial stability is currently the first priority, authorities must either reduce financial integration or accept to reinforce international governance⁹. Thus, it is necessary to adapt the scale of international regulation to the scale of risk caused by greater financial integration at the global level.

In the context of open capital markets, it is impossible for a single nation-state to define an effective regulation of finance. Financial institutions will seek the least restrictive supervision system so as to avoid compliance with the standards set by the regulator¹⁰. Thus, even the most powerful prudential arsenal at national level will be rendered inefficient by the opening-up of financial markets which permits investors to direct capital flows to the less regulated financial centres. G20 measures targeting tax havens¹¹ seem inadequate. The list provided by the OECD is based primarily on criteria of transparency and exchange of information that are neither able to prevent offshore financial centres operating nor even neutralise the off-balance sheet investment vehicles¹².

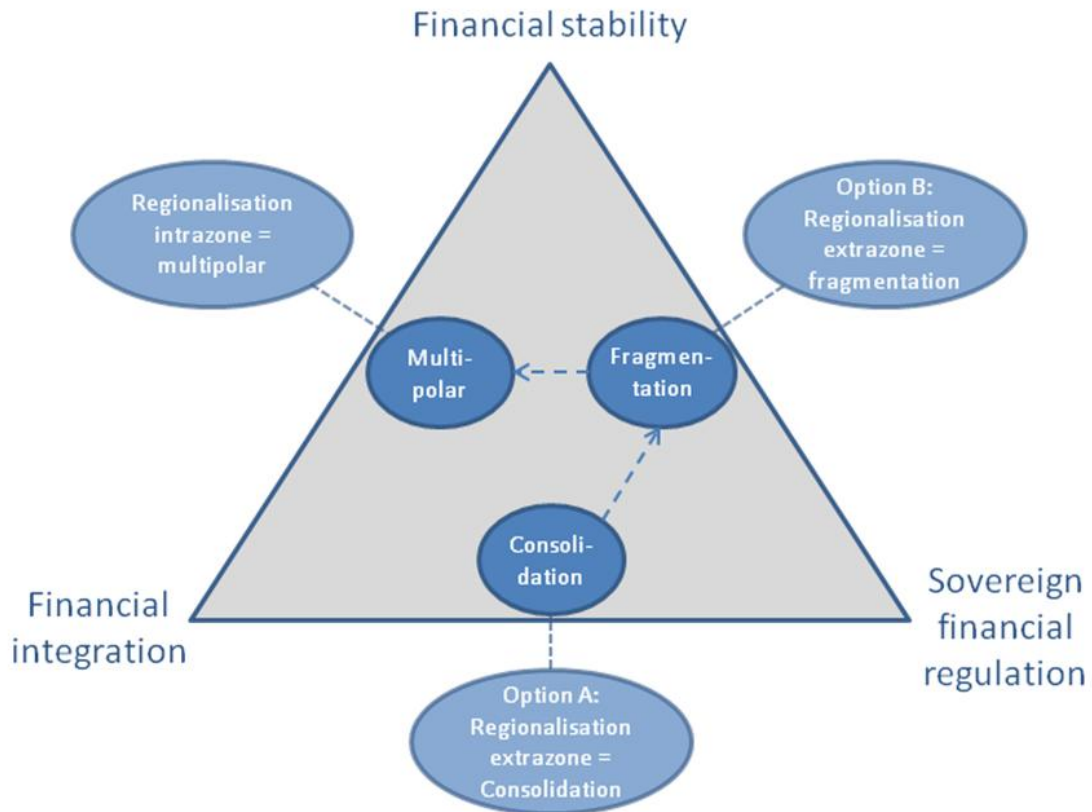
⁹ See Aglietta (2011).

¹⁰ For further details about the inadequacy between international financial markets and institutions, and national supervision and crisis management, see (Goodhart and Lastra, 2010).

¹¹ According to the OECD, four key factors determine whether a jurisdiction is a tax haven: (i) no or only nominal taxes imposition; (ii) lack of transparency; (iii) laws or administrative practices that prevent the effective exchange of information for tax purposes with other governments on taxpayers benefiting from the no or nominal taxation; (iv) absence of a requirement (to identify whether investment and transactions are purely tax driven).

¹² See on this point, the protest of Josef Pröll, the Austrian Minister of Finance (Vanessa Houlder, « Ports in a storm », Financial Times, November 17, 2009).

Figure 1. The incompatibility triangle of financial objectives



Note: in this figure, we indicate the scenarios described in the third part.

IV- Progress report on the financial regulation reform

Following the last financial crisis, governments of most developed countries decided to initiate a set of reforms in order to reinforce financial stability. We detail the main points of this reform and report the progress in the adoption of new regulations.

Improve consumer protection

In order to re-establish confidence in the proper functioning of the financial system, regulators of different countries have proposed several measures to protect the deposit owners and the investors. The Dodd-Frank act includes the creation of a national consumer protection bureau which will have the responsibility to "promote fairness and transparency for mortgages, credit cards, and other consumer financial products and services¹³". The European Commission is working on a proposal to better protect deposit owners and investors and to improve access to banking services (Barnier, 2011). The Vickers report (2011) calls for the improvement of consumer choice by better informing them and by reinforcing competition between suppliers of banking services. According to the Asian Development Bank (Arner and Park, 2010) and the World Bank (2012), consumer protection measures to improve the coverage and the quality of the consumer credit information reporting and to reinforce the confidence (e.g. deposit insurance) should also be taken in Asia.

Implement macroprudential regulation

The three main aims of macroprudential regulation are: (i) to avoid an excessive credit creation; (ii) to limit key amplification mechanisms of systemic risk; (iii) to mitigate structural vulnerabilities and limit spillovers effects. To do so, the Dodd-Frank act includes the creation of the Financial Stability Oversight Council responsible for addressing systemic risk. The aims of this institution will be (i) to limit the development of SIFIs by applying stricter rules as companies grow in size and complexity, (ii) to break up large and complex companies and (iii) to prepare living wills for SIFIs in order to facilitate rapid and orderly resolution of their business in the event of material financial distress. In Europe, the ESRB (2012) defined five guiding principles for the design of effective macro-prudential mandates by national governments.¹⁴ However, this new body may lack credibility since it has no binding powers.¹⁵ In the UK, the Vickers commission argues for higher capital requirements than the 7% of risk weighted assets required and for increased leverage cap for SIFIS, in line with Basel committee and FSB recommendations. In China, we observe limited progress in building up a macro-prudential framework against systemic risks (World Bank, 2012). In other Asian countries, Macroprudential reforms are at an early stage of implementation and should undergo adjustments and improvements in the next few years (Siregar, 2011).

¹³ See Consumer Financial Protection Bureau's website <https://www.federalregister.gov/agencies/consumer-financial-protection-bureau>.

¹⁴ The five guiding principles are as follows: (i) Objective – clear mandate to enhance accountability and reduce the risk of political pressure; (ii) Institutional arrangements – one size does not fit all, but central banks should play a leading role; (iii) Tasks, powers and instruments – creating a comprehensive analytical framework and a consistent set of policy tools; (iv) Transparency and accountability – prerequisites for good governance; (v) Independence – strengthening credibility.

¹⁵ See the article 114 of the Treaty on the Functioning of the European union.

Better supervise bank-like institutions (shadow banking system)

The shadow banking system can be defined as “credit intermediation involving entities and activities outside the regular banking system and raises systemic risk concerns [...] and/or regulatory arbitrage concerns” (FSB, 2011a). As the development of such bank-like institutions entails risk, regulators would like to extend regulation on them. The Dodd-Frank act mentions the need to regulate non-bank financial companies.¹⁶ The European Commission published a consultation document on shadow banking this spring in order to initiate the reform.¹⁷ In China, we observe a rapid growth of shadow banking activities which lie beyond the reach of supervisory authorities (World Bank, 2012).

Redefine bank activities

The development of bank-like activities raises the following question: what is a bank? We observe several attempts to redefine banking activities. The Dodd Frank prohibits the proprietary trading for banks and their affiliates.¹⁸ The Vickers report is in favour of structural separation of domestic retail services from global wholesale and investment banking. Inside the ring fence of retail banks are institutions taking deposits from, and provision of overdraft to, ordinary individuals and SME (ICB, 2011). In 2012, the European commission created a group led by Erkki LIIKANEN that will work on a structural reform in line with the Vickers report.

Standardise global regulation

In September 2010, the Basel committee agreed to force the world’s banks to hold more and better quality capital by 2019. Basel III accord also includes macroprudential dimensions and liquidity rules to limit credit creation. However, at the end of March 2012 none of the 27 members of the Basel committee had final rules in force (not even in terms of capital requirements, without taking into account liquidity ratios and leverage ratio). Only two of them had final rules published but not implemented, and the United States had not even published a draft regulation (BIS, 2012). The Capital Requirement Directive IV (CRD IV)¹⁹ aims to transpose Basel III standards into EU law. This directive also introduces significant changes in order to enable regulators to apply sanctions, to reinforce supervisory regime, to reduce the influence of credit rating agencies by favouring internal ratings and credit opinion, to increase the effectiveness of risk oversight and to create a “single rule book” which harmonises prudential rules.²⁰

The Financial Stability Board is in charge of the G20 reform agenda. It has defined 29 G-SIFIs (Global Systemically Important Financial Institution) which are required to write

¹⁶ Section 113 of the Dodd-Frank act authorises the Financial Stability Oversight Council to require a nonbank financial company to be supervised by the Board of Governors of the Federal Reserve System (the “Board of Governors”) and be subject to prudential standards.

¹⁷ European Commission Green Paper on ‘Shadow Banking’, 23 March 2012

¹⁸ This section of the Dodd-Frank act is known as the Volcker rule.

¹⁹ This directive is prepared by the European Bank Authority on behalf of the EC.

²⁰ The “single rule book” created much debate amongst the EU countries. On 19 May 2011, financial ministers of 7 EU countries wrote a letter to the commissioners Barnier and Rehn – who are in charge of the directive – to ask for a revision of the text in order to better adhere to Basel principles. They are convinced that every country should be free to further implement prudential standards if they think it is necessary. However, the EC considers that higher levels of capital requirements in one country may lead to regulatory arbitrages and refused to change the text on that point.

their “living wills” and to follow proposals to tie bankers pay and force private derivatives movements into “clearing houses” where risk can be balanced and more easily monitored. Finally, the IMF’s Global Financial Stability Report (2011) defines a systemic liquidity risk and proposes: (i) to address it through the creation of indexes to monitor it; (ii) to develop macroprudential tools to mitigate it; (iii) to organise stress tests for systemic liquidity risk.

Other reforms in progress

Regulators also deal with other issues such as the architecture of the regulatory system, the regulation of OTC markets, financial transaction taxes or the regulation of credit rating agencies.

The most economically advanced countries suffered a severe hit to their financial systems whether they had twin peaks regulators (as in the Netherlands), fragmented regulators (as in the US), unitary regulator (as in the United Kingdom with the FSA) or separated regulators (as in France).²¹ Thus, changes in the *architecture of the regulatory system* do not seem to be a critical issue in the establishment of a better system of supervision (Lastra, 2012). Nevertheless, the De Larosière report (2010) defined new supervisory structures in the EU which led to the creation of three new regulatory entities.²²

The G-20 commitment to implement major *reforms on OTC markets* has to be completed by the end of 2012. The reforms include the achievement of central clearing, the requirement to report to trade repositories, the standardisation of OTC derivatives products and higher capital requirements for non-centrally cleared derivatives. However, the FSB believes that these reforms will not be fully met by the end of 2012 (FSB, 2011b). Some jurisdictions are waiting for the decisions made by the US and the EU, as in the case of central clearing reform. A leading role can also be played by coordinated industry actions as for the standardisation process.

The EC also initiated a revision of the Markets in Financial Instruments Directive (MIFID). This revision proposes to regulate algorithmic and high frequency trading activities which may pose systemic risks, to extend regulation to Organised Trading Facility (OTF) which are not yet regulated, to introduce the OTF category to improve the transparency of trading activities, to set stricter capital requirements, to prevent a conflict of interest between investment advisors and portfolio managers and to give more power to regulators such as banning products, services and practices when it threatens investor protection. In 2012 the MIFID proposals will be discussed in the European Parliament and the Council of Ministers, and are not expected to be implemented before 2015.

A *financial transaction tax* (FTT) is expected to mitigate the market fluctuations and to provide revenues for government. The EU proposal is a tax of 0.1% for bonds and shares and 0.01% for derivatives and all other types of transactions. According to the last estimations, if such a tax were adopted in Europe, it would reduce Member States' GNI

²¹ See Garicano and Lastra, 2010.

²² Three new institutions were created in the new European System of Financial Supervisor. The European Banking Authority (EBA) is responsible for the stability of the banking sector and the conduct of stress tests. The European Securities and Markets Authority (ESMA) ensures the proper functioning of securities markets and investor protection. The European Insurance and Occupational Pensions Authority (EIOPA) is in charge of the transparency of markets and financial products and of the protection of insurance policyholders, pension scheme members and beneficiaries.

contributions to the EU budget by 50%.²³ However, the introduction of an FTT is rendered difficult by fears of deep shifts in market shares following savers' flights to "tax-free" financial centres. For this reason, Hungary could be the only country to put in place an FTT in 2012 as Germany is struggling to convince reluctant countries, especially the UK and Sweden.

The *credit rating agencies* (CRA) play a critical role in the stability of the financial system since they determine the quality of assets and thus the quantity of capital which is necessary to fulfil regulatory requirements. During the past few years, the role of CRAs has been brought into question since they had difficulties to correctly appreciate the quality of some assets. Another common criticism of CRAs is the conflict of interest between their advising function and their rating function. The EU regulation on CRA established in December 2010 and amended in May 2011 partially addresses these issues through legal constraints imposed by a centralised institution.²⁴ However, the 2008 financial crisis and the eurocrisis highlighted other problems related to the lack of transparency of ratings²⁵ or to the necessity of finding alternative standards of creditworthiness assessment. The European Commission made a legislative proposal in November 2011 to deal with these limits. The new regulation would require corporate and sovereign issuers to regularly change which CRA they use. Moreover, the establishment of a European Rating Index by the ESMA and the communication of all credit ratings on a website will encourage investors to evaluate their own credit risk. These upcoming measures are in line with FSB principles of (i) removing or replacing references to CRA ratings in laws and regulations and (ii) encouraging banks, market participants and institutional investors to make their own credit assessments.

²³ See the EU press release "The financial transaction tax will reduce Member States' GNI contributions to the EU budget by 50%", 23 March 2012 <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/12/300>.

²⁴ The ESMA is in charge of CRA supervision at the European level and the SEC in the United States.

²⁵ An illustration of this lack of transparency can be found in S&P's \$2 Trillion mistake in the initial document which explained the downgrading of US credit rating on 5 August 2011 (see: <http://www.treasury.gov/connect/blog/Pages/Just-the-Facts-SPs-2-Trillion-Mistake.aspx>). However, after acknowledging the mistake, S&P justified the downgrading by political factors, putting into question the process of rating.

V- Five scenarios

After describing the potential changes of finance and the tools available to regulate it, we will now discuss the effect of different regulatory policies on the natural evolution of markets. The issue is to describe the impact they could have on the world, according to the configuration chosen, and to determine what would be the best strategy for Europe. To do this, we define five scenarios²⁶ that are distinguished by the leading actors who have the power to impose their strategies to the world. Alternatively, we define five groups distinguished by decision makers: Chimerica (United States and China), multinational corporations, nation-states, regional blocs, and supranational authorities.

Reduced government: multinational corporations (minimum state)

In this scenario, we continue an important trend in recent decades: the declining power of states, matched at the same time by the growing influence of multinational corporations. We assume that large firms are becoming increasingly powerful. Thus, they can take advantage of competition between states that seek to become more attractive, particularly in terms of taxation, regulation, or confidentiality. Thus, multinationals have power to bypass regulation and supervision that governments try to establish. Investors will flock to financial markets with soft regulation at the expense of those trying to impose measures that reduce the competitiveness of firms, but are essential to the establishment of financial stability.

Financial institutions are given free rein to develop their business globally. Financial industry becomes more concentrated, because players seek to reach the minimum size needed to be internationally competitive. Meanwhile, stock exchange markets continue to merge. After the creation of *Euronext*²⁷ in 2000 and its merger with the *New York Stock Exchange* to create the *NYSE Euronext* group, a new merger could take place with *Deutsche Börse*. Thus, if the integration process taking place today in Europe and North America continues, it could well lead to the creation of a single global financial market that would improve liquidity.

Governments tend to establish the least stringent regulatory standards possible – what is often termed the “race to the bottom” – and prefer self-regulation to attract large financial institutions that generate higher incomes. Within this oligopolistic global financial market, the trend towards automation of financial transactions continues without being too heavily constrained by regulators. The development of high-frequency trading generates an increase in gross trading volume, while net trading volume stagnates. We observe recurrent financial panics which can result from decisions of large operators and from the spread of automated trade execution²⁸. Finally, the reinforcement of global financial integration increases systemic risk, but there is no supranational authority to regulate this supranational market.

²⁶ See Table 1 for details on scenarios.

²⁷ The group was founded in 2000 with originally *Amsterdam Stock Exchange*, *Brussels Stock Exchange* and *Paris Bourse*. Then, *LIFFE* joined them in 2001 and the *Bolsa de Valores de Lisboa e Porto* (BVLVP) in 2002.

²⁸ The stock market crash of 6 May 2010 provides an interesting example of such a financial panic. On this day, the main US financial indexes fell by 10% within 15 minutes, before returning to their previous level. For further information on the role played by automated trading strategies, see the report of the CFTC and SEC (2010) on that so-called “flash crash.”

The few measures that have been taken to improve macro-prudential regulation are rapidly circumvented, because governments feel the need to woo financial institutions which make high profits. At the same time, the concentration of finance implies an increase in the number of systemically important financial institutions (SIFI) and hence aggravates financial instability. Furthermore, prudential regulation becomes inefficient because of the disjunction between centralised risk management of banking groups at the global level and regulation implemented mainly at the national or regional level. In such a context, it is likely that financial crises and stock-market panics will become more frequent. This scenario could also lead to the fragmentation of the eurozone, which would result from a sudden stop in capital inflows to GIIPS.

China and US intervention: Chimerica

In this case, we assume that the United States and China are in a position to impose their decisions, since none of the major players opposes them. On the one hand, the United States pursues a domestic demand-led growth strategy. The Fed conducts an accommodative monetary policy, and fiscal policy is used to cover shortfalls in demand. On the other hand, China switches gradually from an export-led growth to a more domestic demand-led growth – with increasing consumption and government expenditures as a share of GDP – and continues to accumulate foreign exchange reserves – in dollars and, increasingly, in other currencies – to perform a slow and gradual revaluation of the Renminbi. In this way, the price competitiveness of China is maintained and the transition to domestic demand-led growth takes place smoothly.

In this context, commodity export revenues will continue to grow. Sovereign wealth funds²⁹ in commodity-exporting countries acquire an increasing amount of assets in developed countries, and very soon a steady income replaces commodity revenues. China and commodity-producing countries, which hold a large share of their assets in U.S. currency, maintain their peg to the US dollar which remains the international reference currency.

Europe and the rest of the world are subjected to the growth strategies of other actors. The euro appreciates, because the U.S. and Chinese growth strategies cause a sharp increase in the supply of dollar assets relative to other currencies. European growth is slowed by the rise of prices expressed in euros. As debt sustainability depends on interest rates and on the growth rates of the GNP, GIIPS³⁰ should find more and more difficult to meet interest payments. The euro area experiences increasingly strong tensions. Germany pursues its strategy of wage moderation, while the relative unit labour cost continues to grow in GIIPS (except in Spain and Ireland where it has been decreasing since 2008³¹). Since the eurozone becomes weaker, the European influence on the global economy decreases rapidly. Moreover, as China and commodity-exporting countries diversify their exchange reserves in favour of Euros, Europe should pay increasingly high interests to these countries, which reduces GNP.

²⁹ According to WP5, the Sovereign Wealth Funds could also be interested in AAA-rated green bonds if they start generating the same level of returns as regular bonds because of their “climate-friendly” colour (Hourcade et al., 2011).

³⁰ Greece, Italy, Ireland, Portugal and Spain.

³¹ See De Grauwe (2010), Figure 4.

EU break-up: Nation-state (economic nationalism)

The negative effects of globalisation experienced by workers create a feeling of economic patriotism. Most economies in Europe and elsewhere prefer to adopt purely national economic governance and strictly control international capital flows. The globalised financial and economic space is divided to correspond to the social and political space. Fragmentation is a major concern of the private sector which fears a return to a strong state. Ernst & Young (2009) notes, moreover, a buzz on the word « protectionism » at the 2009 Davos Conference and that the fight against it is a priority for most decision makers.

Another illustration of this growing economic nationalism is Cameron's veto to a revision of the Lisbon treaty in December 2011. This decision has marginalised Britain's position in the EU and it may be a first step towards a two-speed Europe, and perhaps an exit of the United Kingdom from the EU. Indeed, British decision makers seem to be flirting with this idea in order to preserve national interests, in particular those of many bankers who would prefer to see the city of London escaping from EU directives on finance.

The financial markets are becoming more localised, and the regulation is country-specific. In some countries, the banking system may even be nationalised to closely regulate market activities. The retreat into protectionism also involves the establishment of exchange controls and the setting up of currency-undervaluation strategies which may further destabilise the foreign exchange market. In such a context, there exist major arbitrage opportunities for those with the ability to execute trades across borders.

The euro-zone is fragmented, and each member-state returns to its previous national currency. This scenario is far from being impossible, if one looks at the nicknames used to refer to the indebted economies. The group of countries consisting of Greece, Ireland, Italy, Portugal and Spain are often referred as PIIGS, GIPSI or "club med" by the economic press, in academia, and amongst bond analysts. These quite offensive nicknames stigmatize the lack of seriousness of indebted countries and reflect a deep resentment amongst North European countries against their Southern neighbours.

The abandonment of the euro would have serious consequences on Europe. The intra-EU trade would be reduced because of the instability of prices in foreign European currencies and increase in transaction costs. European currencies become vulnerable again to speculative attacks and to currency crisis. The borrowing costs rise in South European countries, whereas German growth substantially slows down because of the appreciation of the Deutsche mark which becomes the main safe haven for investors. Finally, neither the North nor the South European countries seems to have an interest in returning to national monetary and exchange- rate policies.

Regionalisation: Regional integration

In this case, the negative effects of financial globalisation generate a different reaction of the national states: instead of reducing the economic space at the national level, they decide to create regional economic spaces. At the same time, political power is organised at the regional scale to meet the size of the economic space. Regional-states put in place a common financial regulation at the bloc level. We can also imagine the emergence of regional initiatives to counterbalance the power of governments and the influence of

firms. Thus, a group of European elected officials launched a call³² to “organise the creation of a non-governmental organisation capable of developing a counter-expertise on activities carried out on financial markets by the major operators”. The goal of the “finance watch” project is to compete with the private lobbies which contributed to the engagement in riskier lending activities (Igan et al., 2009).

In this scenario financial regulation is region-specific. The regional governments control capital flows to avoid regulatory arbitrage between regions. The blocs can be constituted on the basis of existing agreements. Beside the European Union, we could imagine that NAFTA, ASEAN, MERCOSUR, the CIS or the Arab League would move towards a stronger financial integration. The fragmentation of financial markets requires the financial institutions to adopt a different strategy in each bloc in order to adapt to region-specific characteristics.

The eurozone enlarges to increase its weight in the world economy and the size of its domestic market. In fact, the wider the financial integration area and the more unified the regulation system are, the better the capital allocation and the diversification of portfolio risk will be. The full range of economic policy is put in place at the European level, beyond just monetary or fiscal policy. Europe benefits from advantages of financial integration at the continental level and can establish a financial regulation compatible with its systemic risk aversion, perhaps even creating a currency transaction tax. Afterwards, the “European government” might increase financial integration with the rest of the world in line with the degree of cooperation of regional blocs on prudential supervision and mutual surveillance of their banking systems.

Multipolar collaboration: global integration and supranational regulation

The multipolar scenario implies both a strong intervention capacity of governments and massive participation of civil society in the functioning of financial markets. First, governments of major world economies reach an agreement³³ (e.g. at the level of G20, or an enlarged G20) on financial regulation and create the necessary institutions to enforce these common rules. Thus, political power is established at the scale of financial globalisation with suitable supranational institutions capable of addressing the need for proactive global systemic risk management. Indeed, the cooperation of governments on a sufficiently binding regulation and the capability of supranational institutions to prevent the creation of offshore financial centres – as well as to limit other shadow transactions – are prerequisites for stabilising financial markets.

Second, this scenario necessitates the emergence of a counterbalancing force besides governments’ and multinational corporations’ powers. If there is already a world social forum for civil society – which is the answer to Davos’ World economic forum for corporations and to G20 summits for governments – this third force is not yet sufficiently organised to respond to the challenges of globalisation, especially at the financial level.

There are, however, some interesting citizens’ initiatives aimed at rebalancing globalisation. On the one hand, Obstfeld and Rogoff (2009) claim that “the interaction

³² See the website of Finance Watch: <http://www.callforfinancewatch.org/>.

³³ As stated in WP8, in the long term we can envisage four options for the new global institutional order: a world government, a forum for cooperation of regional organisation, an existing international organisation with extended responsibilities, or a G20-type consulting and advisory forum (Para, 2011).

amongst the Fed's monetary stance, global real interest rates, credit market distortions, and financial innovation created the toxic mix of conditions making the U.S. the epicentre of the global financial crisis." Thus, it seems more than necessary to create a civil society organisation – i.e. the equivalent of the European "Finance Watch" at the global scale – that would keep an eye on financial authorities and institutions in order to avoid the repetition of such a disaster. Following Perlas (2000), a NGO activist from the Philippines, Plihon (2010) argues that there is a need for a threefold process at the global level whereby regulation and supervision result from the interactions of authorities, financial actors and civil society.

On the other hand, civil society could also put in place payment systems in addition to traditional banking. Lietaer (2008) argues that the development of local monies would deal with the problem of crises in increasing the resilience of the economic system, even if it would reduce the efficiency of the monetary system. Therefore, the question of monetary creation is sensitive, since the excess of liquidity – which means a creation of liquidity beyond the credit absorption capacity of the US economy – contributed to the subprime crisis. Ethical finance is an interesting alternative for investors wishing to devote their savings to progressively managed firms which respect the environment, comply with the international labour code, and refrain from speculative activities. The development of such finance could have stabilising effects on markets.

To summarise, in this scenario we assume a combined success of governments and civil society to rebalance the financial globalization process. On the government side, success implies renouncing national preferences. Nation-states must adopt a similar regime of financial regulation with common rules in order to avoid regulatory arbitrage. This means the end of tax havens that would render ineffective the attempts to regulate at the global level. On the civil-society side, counterbalancing powers must be created to oppose the lobbies of financial institutions and to watch the developments of financial markets. Under these conditions Europe and the rest of the world could fully enjoy the benefits of financial globalisation, yielding a more efficient allocation of capital and better distribution of risk.



Conclusions

The aim of this deliverable was to provide insight into the future of financial markets and regulation in order to define what would be the best strategy for Europe. The main objectives of financial regulators should be stability and market efficiency. However, favourite methods to achieve stability can be rather different from country to country and may depend on national preferences or institutional tradition.

We have shown that it was difficult to combine financial stability with both financial integration and sovereign financial regulation. This implies that Europe has to choose between financial opening and independently determining how to regulate finance. The options are summed up in *Table 2*. Three of the five scenarios achieve financial stability both inside and outside Europe. In terms of market efficiency, the multipolar scenario is the best and the fragmentation scenario is the worst, since gains of integration depend on the size of the new capital market. Regarding sovereignty of regulation, fragmentation is the best scenario and the multipolar scenario is the worst because it necessitates coordination at the global level which implies moving further away from respective national preferences.

Even if the multipolar scenario is the first best solution, the more realistic option seems to be the regionalisation scenario. On the one hand, the regional level of coordination seems much more realistic than the global one, since the preferences are much more similar on that scale. On the other hand, it should be of sufficient size in order to enjoy substantial benefits of integration. However, it may be appropriate for the "European government" to gradually increase the degree of financial integration outside Europe in line with the degree of cooperation with the rest of the world.



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Table 1. Presentation of the five scenarios

		China and US intervention	Reduced government	Fragmentation	Regionalisation	Multipolar collaboration
Decision makers		USA-China (Europe?)	Big companies (minimum state)	Nation-state (Economic nationalism)	Regional integration	Supranational
Level of regulation	Microprudential	Basel III	Emphasis on microprudential regulation (Autoregulation)	Country-specific	Region-specific	Basel III modified
	Macroprudential	Some macroprudential regulation and supervision. Credit rating agencies are more supervised but they are still paid by the issuers (conflict of interest).	Macroprudential regulation is circumvented by financial innovations	Country-specific	Region-specific	Supranational institution in charge of macroprudential regulation. Credit rating agencies are closely supervised and they are paid by investors that they protect.
	Supranational	Minimum reform to improve the transparency of tax havens	The transparency is insufficient and international regulatory arbitrage continues	No coordination of regulation systems. Strong heterogeneity of national preferences in terms of financial regulation (e.g. tax on financial transactions, limitations on short sellings)	Coordination inside regional unions, but low coordination between blocs	Coordination at the global level
IMS		IMS mostly based on dollar with a more and more important role for Yuan. Euro remains a second class currency.	Domination of big banks and accommodation by central banks	Three international moneys: dollar, euro and yuan.	Regional monetary zone (Mercosur, euro area, ASEAN, CIS, Arab league...)	A world money for international transactions and reserves (SDR or Bancor)
Implications for Europe and for the rest of the world		Strong euro which adjust global imbalances. Growing tensions inside the euro area.	Emergence of a world financial markets open 7/7 & 24/24. Volatility of prices. Persistent financial instability, debt crisis and implosion of the eurozone.	Important arbitrage opportunities between countries. Implosion of the euro area. Strong speculation on North European countries (Germany, Austria, Netherlands...) and higher cost of debt for GIIPS. Reduction of trade intra Europe.	Development of a multipolar network of financial centres with some degree of specialisation Enlargement of European Union to increase the size of the domestic economy. Strengthening of political Europe. Stronger economic and financial integration in Europe.	Regional financial integration with differentiation of financial systems, Growing integration of European Union with the world economy. Reinforcement of the power of global institutions (G20, UN, IMF, WB, WTO...) instead of European institutions.

Table 2. Regulation policy at the international level

	Decision makers	Financial stability		Financial integration		Heterogeneity of national regulations	
		Inside the euro area	Outside the euro area	Inside the euro area	Outside the euro area	Inside the euro area	Outside the euro area
China and US intervention	USA-China	+	-	+	+	-	+
Reduced government	Big companies	-	-	+	+	+	+
Fragmentation	Nation-states	+	+	-	-	+	+
Regionalisation	Regional unions	+	+	+	-	-	+
Multipolar collaboration	Supranational institutions	+	+	+	+	-	-