



Topics in

Corporate Finance

*Towards a Fundamental Resolution of the Euro
and Banking Crisis*

PAUL DE GRAUWE
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TOPICS IN CORPORATE FINANCE

TOWARDS A FUNDAMENTAL RESOLUTION
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With contributions of
Paul De Grauwe
Arnoud W. A. Boot

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PREFACE

Never has there been a more opportune time to address the architecture of the Eurozone and the stability of the financial sector. A general feeling of paralysis characterizes the debate. How can we move forward? What are the right measures? In this issue of *Topics in Corporate Finance* the Amsterdam Center for Corporate Finance (ACCF) seeks to contribute to a constructive debate on these fundamental issues.

The first chapter by professor Paul De Grauwe seeks to build an understanding of the sustainability of the Eurozone monetary union. Professor Paul De Grauwe is professor of international economics at the University of Leuven and a leading expert on international and monetary economics. In the second chapter the focus shifts to the financial sector. I analyze there the stability of the financial system and particularly the impact of market forces on the choices of individual financial institutions.

This publication aims to build a further understanding on what is needed to rectify the weaknesses in the Eurozone and the financial sector. We hope you enjoy reading it, and that this publication may contribute to bridging the gap between theory and practice.

The ACCF gratefully acknowledges the financial support provided by the Gieskes-Strijbis Foundation.

Arnoud W. A. Boot
Director ACCF

November 2011

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INTRODUCTION AND SUMMARY

The Eurozone monetary union and financial sector are analyzed in the two extended chapters that follow.

The first chapter by Paul De Grauwe deals with the Eurozone monetary union. When entering a monetary union, member-countries change the nature of their sovereign debt in a fundamental way, i.e. they cease to have control over the currency in which their debt is issued. As a result, financial markets can force these countries' sovereigns into default. In this sense member countries of a monetary union are downgraded to the status of emerging economies. This makes the monetary union fragile and vulnerable to changing market sentiments. It also makes it possible that self-fulfilling multiple equilibria arise.

The implications of this fragility for the governance of the Eurozone are analyzed in detail. The conclusion of Paul De Grauwe is that the new anticipated governance structure (ESM) does not sufficiently recognize this fragility. Some of the features of the new financial assistance are likely to increase this fragility. In addition, it is also likely to rip member-countries of their ability to use the automatic stabilizers during a recession. This is surely a step backward in the long history of social progress in Europe. Several suggestions are provided to deal with these problems.

In the second chapter the focus shifts to key issues that affect the stability of financial institutions. The emphasis is on the micro-economics of banking: what type of incentives do financial institutions have in the current landscape? And what does this imply for regulation and supervision? The paper is motivated by the proliferation of financial innovations and their impact on the financial services industry. In this chapter Arnoud Boot argues that a fundamental feature of more recent financial innovations is the focus on augmenting marketability. Marketability has led to a strong growth of transaction-oriented banking (trading and financial market activities). This is at least in part facilitated by the scalability of this activity (contrary to relationship banking activities). It is argued that the more intertwined nature of banks and financial markets has induced opportunistic decision making and herding. In doing so, it has exposed banks to the boom and bust nature of financial markets and has augmented instability.

Building on this, the chapter discusses the incentives of individual financial institutions. Issues addressed include: frictions between relationship banking and transaction activities that are more financial market focused, ownership structure issues, the impact of the cost of capital, the effectiveness of market discipline, and what configuration of the industry can be expected. It is argued that market forces might be at odds with financial stability. Several institutional and regulatory changes are discussed that might be needed to deal with the complexity of financial institutions.

1 THE GOVERNANCE OF A FRAGILE EUROZONE¹

1.1 INTRODUCTION

In order to design the appropriate governance institutions for the Eurozone it is important to make the right diagnosis of the nature of the debt crisis in the Eurozone. Failure to do so, can lead to designing a governance structure that is inappropriate for dealing with the problems of the Eurozone. In this paper I argue that the governance structure that has emerged after a series of decisions of successive European Council meetings, although an important step forwards, fails to address some fundamental problems in a monetary union.

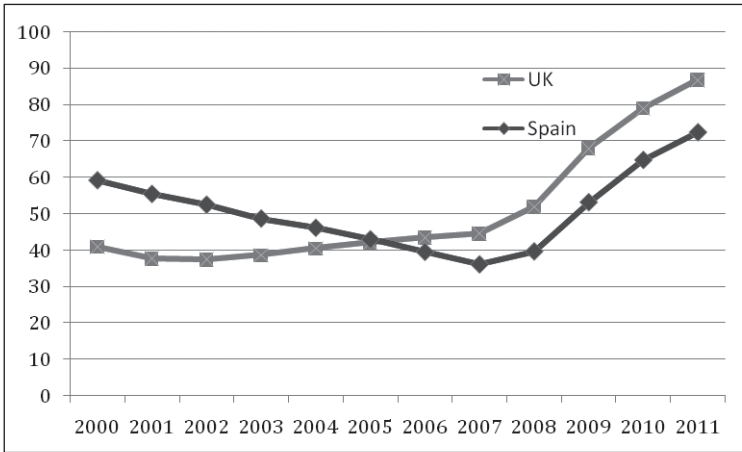
1.2 A PARADOX

I start with the paradox that is immediately visible from a comparison of Figures 1 and 2. Figure 1 shows the debt to GDP ratios of the UK and Spain. It can be seen that since the start of the financial crisis the government debt ratio of the UK has increased more than that of Spain. As a result, in 2011 as a percent of GDP the UK government debt stood 17% higher than the Spanish Government debt (89% versus 72%). Yet from Figure 2 it appears that the financial markets have singled out Spain and not the UK as the country that could get entangled in a government debt crisis. This can be seen from the fact that since the start of 2010 the yield on Spanish government bonds has increased strongly relative to the UK, suggesting that the markets price in a significantly higher default risk on Spanish than on UK government bonds. In early 2011 this difference amounted to 200 basis points. Why is it that financial markets attach a much higher default risk on Spanish than on UK government bonds, while it appears that the UK faces a less favourable sovereign debt and deficit dynamics?

One possible answer is that it may have something to do with the banking sector. This is unconvincing, though. The state of the UK banking sector is certainly not much better than the one of Spain. I will argue that this difference in the evaluation of the sovereign default risks is related to the fact that Spain belongs to a monetary union, while the UK is not part of a monetary union, and therefore has control over the currency in which it issues its debt.

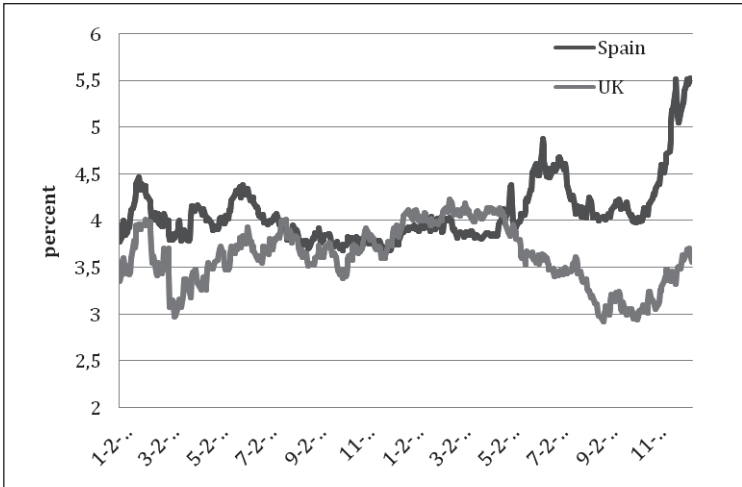
¹ I am grateful to Daniel Gros, Martin Wolf and Charles Wyplosz for comments and suggestions. This chapter has appeared as CESIFO working paper (2011), no. 3456, with title "A Fragile Eurozone in Search of a Better Governance".

Figure 1: Gross government debt (% of GDP)



Source: European Commission, Ameco

Figure 2: 10-year government bond rates Spain and UK



Source: Datastream

1.3 ON THE NATURE OF SOVEREIGN DEBT IN A MONETARY UNION

In a nutshell the difference in the nature of sovereign debt between members and non-members of a monetary union boils down to the following. Members of a monetary union issue debt in a currency over which they have no control. It follows that financial markets acquire the power to force default on these countries. This is not the case in countries

that are not part of a monetary union, and have kept control over the currency in which they issue debt. These countries cannot easily be forced into default by financial markets.

Let me expand on this by considering in detail what happens when investors start having doubts about the solvency of these two types of countries. I will use the UK as a prototype monetary “stand-alone” country and Spain as a prototype member-country of a monetary union (see Kopf (2011) for an insightful analysis).

The UK scenario

Let's first trace what would happen if investors were to fear that the UK government might be defaulting on its debt. In that case, they would sell their UK government bonds, driving up the interest rate. After selling these bonds, these investors would have pounds that most probably they would want to get rid of by selling them in the foreign exchange market. The price of the pound would drop until somebody else would be willing to buy these pounds. The effect of this mechanism is that the pounds would remain bottled up in the UK money market to be invested in UK assets. Put differently, the UK money stock would remain unchanged. Part of that stock of money would probably be re-invested in UK government securities. But even if that were not the case so that the UK government cannot find the funds to roll over its debt at reasonable interest rates, it would certainly force the Bank of England to buy up the government securities. Thus the UK government is ensured that the liquidity is around to fund its debt. This means that investors cannot precipitate a liquidity crisis in the UK that could force the UK government into default. There is a superior force of last resort, the Bank of England.

The Spanish scenario

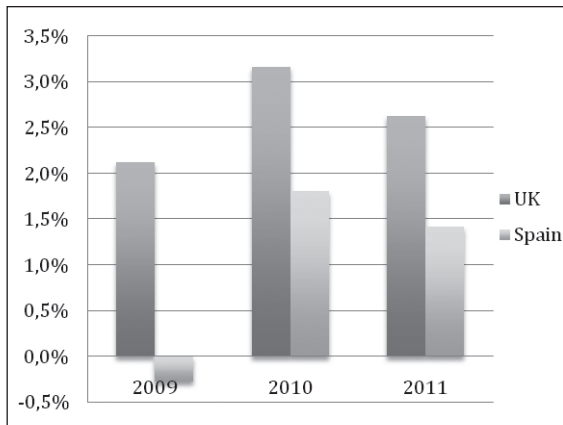
Things are dramatically different for a member of a monetary union, like Spain. Suppose that investors fear a default by the Spanish government. As a result, they sell Spanish government bonds, raising the interest rate. So far, we have the same effects as in the case of the UK. The rest is very different. The investors who have acquired euros are likely to decide to invest these euros elsewhere, say in German government bonds. As a result, the euros leave the Spanish banking system. There is no foreign exchange market, nor a flexible exchange rate to stop this. Thus the total amount of liquidity (money supply) in Spain shrinks. The Spanish government experiences a liquidity crisis, i.e. it cannot obtain funds to roll over its debt at reasonable interest rates. In addition, the Spanish government cannot force the Bank of Spain to buy government debt. The ECB can provide all the liquidity of the world, but the Spanish government does not control that institution. The liquidity crisis, if strong enough, can force the Spanish government into default. Financial markets know this and will test the Spanish government when budget deficits deteriorate. Thus, in a monetary union, financial markets acquire tremendous power and can force any member country on its knees.

The situation of Spain is reminiscent of the situation of emerging economies that have to borrow in a foreign currency. These emerging economies face the same problem, i.e. they can suddenly be confronted with a “sudden stop” when capital inflows suddenly stop leading to a liquidity crisis (see Calvo, Izquierdo and Talvi, 2006).

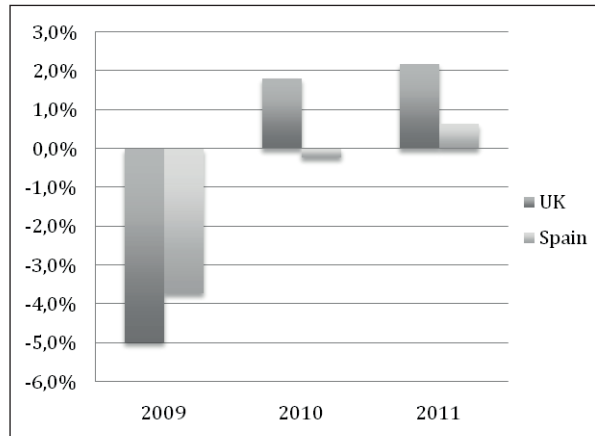
There is an additional difference in the debt dynamics imposed by financial markets on member and non-member countries of a monetary union. In the UK scenario we have seen that as investors sell the proceeds of their bond sales in the foreign exchange market, the national currency depreciates. This means that the UK economy is given a boost and that UK inflation increases. This mechanism is absent in the Spanish scenario. The proceeds of the bond sales in Spain leave the Spanish money market without changing any relative price.

In Figure 3 and 4 I show how this difference has probably affected GDP growth and inflation in the UK and Spain since the start of the sovereign debt crisis in the Eurozone. It can be seen that since 2010 inflation is almost twice as high in the UK than in Spain (2.9% versus 1.6%). In addition the yearly growth of GDP in the UK averages 2% since 2010 against only 0.2% in Spain. This is certainly not unrelated to the fact that since the start of the financial crisis the pound has depreciated by approximately 25% against the euro.

Figure 3: Inflation in UK and Spain



Source: European Commission, Ameco

Figure 4: Growth GDP in UK and Spain

Source: European Commission, Ameco

This difference in inflation and growth can have a profound effect on how the solvency of the governments of these two countries is perceived. It will be remembered that a necessary condition for solvency is that the primary budget surplus should be at least as high as the difference between the nominal interest rate and the nominal growth rate times the debt ratio². I apply this condition and show the numbers in table 1. I assume that Spain and the UK will continue to face the long-term interest rates that the markets have imposed since the last 6 months (on average 3.5% in the UK and 5% in Spain). Applying the average nominal growth rates since 2010 (4.9% in the UK and 1.8% in Spain) we can see that in the UK there is no need to generate a primary surplus in order to stabilize the debt to GDP ratio (and assuming these growth rates will be maintained). In Spain the primary surplus must be more than 2% to achieve this result. Thus, Spain is forced to apply much more austerity than the UK to satisfy the solvency condition. Put differently, Spain could not get away with the UK budgetary policy without being branded as insolvent despite the fact that it has a substantially lower debt level.

Table 1: Primary surplus needed to stabilize debt at 2011 level (percent GDP)

UK	-1,21
Spain	2,30

² The formula is $S \geq (r - g)D$, where S is the primary budget surplus, r is the nominal interest rate on the government debt, g is the nominal growth rate of the economy and D is the government debt to GDP ratio.

The previous analysis illustrates important potentially destructive dynamics in a monetary union. Members of a monetary union are very susceptible to liquidity movements. When investors fear some payment difficulty (e.g. triggered by a recession that leads to an increase in the government budget deficit), liquidity is withdrawn from the national market (a “sudden stop”). This can set in motion a devilish interaction between liquidity and solvency crises. Once a member country gets entangled in a liquidity crisis, interest rates are pushed up. Thus the liquidity crisis turns into a solvency crisis. Investors can then claim that it was right to pull out the money from a particular national market. It is a self-fulfilling prophecy: the country has become insolvent because investors fear insolvency.

Note that I am not arguing that all solvency problems in the Eurozone are of this nature. In the case of Greece, for example, one can argue that the Greek government was insolvent before investors made their moves and triggered a liquidity crisis in May 2010. What I am arguing is that in a monetary union countries become vulnerable to self-fulfilling movements of distrust that set in motion a devilish interaction between liquidity and solvency crises.

This interaction between liquidity and solvency is avoided in the “stand-alone” country, where the liquidity is bottled up in the national money markets (there is no “sudden stop”), and where attempts to export it to other markets sets in motion an equilibrating mechanism, produced by the depreciation of the currency. Thus, paradoxically, distrust leads to an equilibrating mechanism in the UK, and to a potentially disequilibrating mechanism in Spain.

From the preceding analysis, it follows that financial markets acquire great power in a monetary union. Will this power be beneficial for the union?

Believers in market efficiency have been telling us that this power is salutary, as it will act as a disciplining force on bad governments. I have lost much of my faith in the idea that financial markets are a disciplining force. The financial crisis has made abundantly clear that financial markets are often driven by extreme sentiments of either euphoria or panic. During periods of euphoria investors, cheered by rating agencies, collectively fail to see the risks and take on too much of it. After the crash, fear dominates, leading investors, prodded by rating agencies, to detect risks everywhere triggering panic sales much of the time.

1.4 MULTIPLE EQUILIBRIA

The inherent volatility of financial markets leads to another fundamental problem. It can give rise to multiple equilibria, some of them good ones; others bad ones. This arises from the self-fulfilling nature of market expectations. In appendix, I present a simple theoretical model showing more formally how multiple equilibria can arise.

Suppose markets trust government A. Investors then will show a willingness to buy government bonds at a low interest rate. A low interest rate embodies a belief that the default risk is low. But the same low interest rate also has the effect of producing a low risk of default. This is made very clear from our solvency calculations in table 1. Markets

trust that the UK government will not default (despite its having a high debt ratio). As a result, the UK government enjoys a low interest rate. Our solvency calculation then shows that indeed the UK government is very solvent. Financial markets gently guide the UK towards a good equilibrium.

Suppose market distrusts government B. As a result, investors sell the government bonds. The ensuing increase in the interest rate embeds the belief that there is a default risk. At the same time this high interest rate actually makes default more likely. Thus in our calculation from table 1 it appears that the market's distrust in the Spanish government in a self-fulfilling way has made default more likely. Financial markets push Spain towards a bad equilibrium.

The occurrence of bad equilibria is more likely with members of a monetary union, which have no control of the currency in which they issue their debt, than with stand-alone countries that have issued debt in a currency over which they have full control. As mentioned earlier, the members of a monetary union face the same problem as emerging countries that because of underdeveloped domestic financial markets, are forced to issue their debt in a foreign currency (Calvo, Izquierdo and Talvi, 2006; Eichengreen, Hausmann and Panizza, 2005). In the words of Eichengreen, Hausmann and Panizza (2005) this works as the "original sin" that leads these countries into a bad equilibrium full of pain and misery.

There is an additional complication in a monetary union. This is that in such a union financial markets become highly integrated. This also implies that government bonds of member countries are held throughout the union. According to the BIS data, for many Eurozone member countries more than half of government bonds are held outside the country of issue. Thus when a bad equilibrium is forced on some member countries, financial markets and banking sectors in other countries enjoying a good equilibrium are also affected (see Azerki, Candelon and Sy, 2011) who find strong spillover effects in the Eurozone).

These externalities are a strong force of instability that can only be overcome by government action. I will return to this issue when I analyze the governance question of the Eurozone.

To wrap up the previous discussion: members of monetary union are sensitive to movements of distrust that have self-fulfilling properties and that can lead them to be pushed into a bad equilibrium. The latter arises because distrust can set in motion a devilish interaction between liquidity and solvency crises. Being pushed into a bad equilibrium has two further consequences. I analyze these in the following section.

1.5 THE BAD NEWS ABOUT A BAD EQUILIBRIUM

There are two features of a bad equilibrium that are worth analyzing further. First, domestic banks are affected by the bad equilibrium in different ways. When investors pull out from the domestic bond market, the interest rate on government bonds increases. Since the domestic banks are usually the main investors in the domestic sovereign bond market, this shows up as significant losses on their balance sheets. In addition, domestic

banks are caught up in a funding problem. As argued earlier, domestic liquidity dries up (the money stock declines) making it difficult for the domestic banks to rollover their deposits, except by paying prohibitive interest rates. Thus the sovereign debt crisis spills over into a domestic banking crisis, even if the domestic banks were sound to start with. This feature has played an important role in the case of Greece and Portugal where the sovereign debt crisis has led to a full-blown banking crisis. In the case of Ireland, there was a banking problem prior to the sovereign debt crisis (which in fact triggered the sovereign debt crisis). The latter, however, intensified the banking crisis.

Second, once in a bad equilibrium, members of monetary union find it very difficult to use automatic budget stabilizers: a recession leads to higher government budget deficits; this in turn leads to distrust of markets in the capacity of governments to service their future debt, triggering a liquidity and solvency crisis; the latter then forces them to institute austerity programs in the midst of a recession. In the stand-alone country (UK) this does not happen because the distrust generated by higher budget deficit triggers a stabilizing mechanism.

Thus, member countries of a monetary union are downgraded to the status of emerging economies, which find it difficult if not impossible to use budgetary policies to stabilize the business cycle. This feature has been shown to produce pronounced booms and busts in emerging economies (see Eichengreen, Hausmann and Panizza, 2005).

This feature of a monetary union makes it potentially very costly. The automatic stabilizers in the government budget constitute an important social achievement in the developed world as they soften the pain for many people created by the booms and busts in capitalist societies. If a monetary union has the implication of destroying these automatic stabilizers, it is unclear whether the social and political basis for such a union can be maintained. It is therefore important to design a governance structure that maintains these automatic stabilizers.

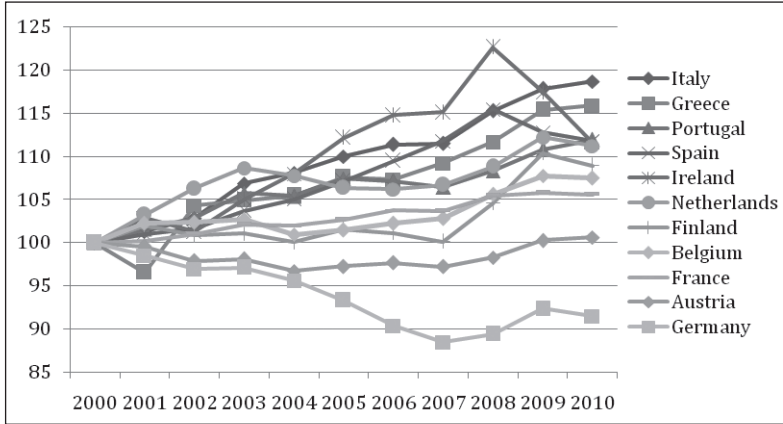
1.6 COMPETITIVENESS AND SOVEREIGN DEBT

The previous analysis allows us to connect sovereign debt dynamics and competitiveness problems.

It is now widely recognized that one of the fundamental imbalances in the Eurozone is the increased divergence in competitive positions of the members of the Eurozone since 2000. The phenomenon is shown in figure 5, which I am confident most readers must have seen somewhere. One may criticize this figure because of the choice of 2000 as the base year. Indeed, this choice assumes that in 2000 there were no imbalances in competitive positions, so that any movement away from the 2000-level is a departure from equilibrium and thus problematic. This is surely not the case (see Alcidi and Gros, 2010). A number of countries may have been far from equilibrium in 2000 so that movements observed since that date could conceivably be movements towards equilibrium. In order to take this criticism into account I present relative unit labour costs of the member countries using the long-term average over the period 1970-2010 as the base. The results are shown in figure 6. The divergence is less spectacular, but still very significant. Figure

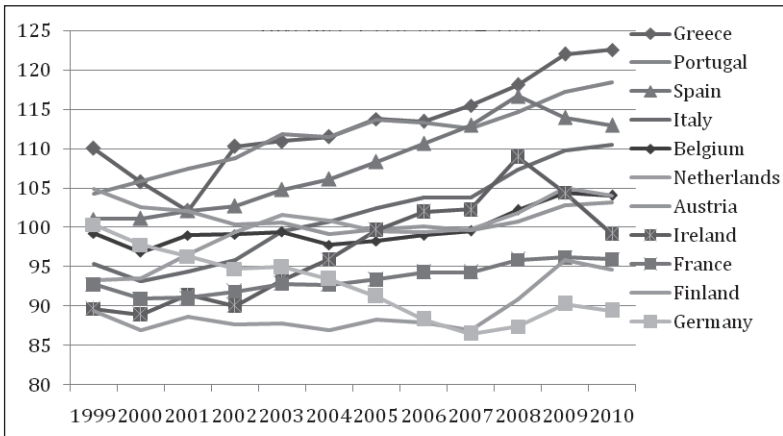
7 confirms this: the standard deviation of the yearly indices increased significantly since 1999.

**Figure 5: Relative unit labor costs Eurozone
(2000 = 100)**



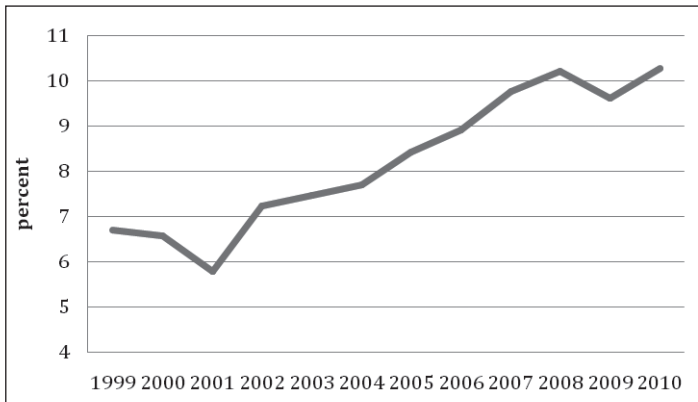
Source: European Commission, Ameco

**Figure 6: Relative unit labor costs in Eurozone
(average 1970-2010 = 100)**



Source: European Commission, Ameco

Figure 7: Standard deviation relative unit labour costs in Eurozone (in percent)



Note: Computed using Data of Figure 6.

The countries that lost competitiveness from 1999 to 2008 (Greece, Portugal, Spain, Ireland) have to start improving it. Given the impossibility of using a devaluation of the currency, an internal devaluation must be engineered, i.e. wages and prices must be brought down relative to those of the competitors. This can only be achieved by deflationary macroeconomic policies (mainly budgetary policies). Inevitably, this will first lead to a recession and thus (through the operation of the automatic stabilizers) to increases in budget deficits.

Most of the analyses in textbooks now stop by noting that this is a slow and painful process. The analysis of the previous sections, however, allows us to go a little further and to link it with the debt dynamics described earlier. As countries experience increasing budget deficits while they attempt to improve their competitiveness, financial markets are likely to get nervous. Distrust may install itself. If strong enough, the latter may lead to a liquidity crisis as described before. This then inevitably triggers a solvency crisis.

Thus the period during which countries try to improve their competitiveness is likely to be painful and turbulent: painful, because of the recession and the ensuing increase in unemployment; turbulent, because during the adjustment period, the country can be hit by a sovereign debt and banking crises. If the latter occur, the deflationary spiral is bound to be intensified. For in that case the domestic long term interest rate increases dramatically, forcing the authorities to apply even more budgetary austerity, which in turn leads to an even more intense recession. The banks that are trapped in a funding crisis reduce their credit to the economy. The country finds itself stuck in a bad equilibrium, characterized by austerity programs that fail to reduce budget deficits because they lead to a downward economic spiral and punishing interest rate levels. The path towards recovery for members of a monetary union is likely to be crisis-prone.

The contrast with stand-alone countries that have the capacity to issue debt in their own currency is stark. When these countries have lost competitiveness, they will typically

try to restore it by allowing the currency to drop in the foreign exchange market. This makes it possible not only to avoid deflation, but also to avoid a sovereign debt crisis. As we have seen earlier, these countries' governments cannot be forced into default by triggering a liquidity crisis. What is more the whole adjustment process involving currency depreciation is likely to boost output and inflation, thereby improving the solvency of the sovereign.

1.7 GOVERNANCE ISSUES

The debt crisis has forced European leaders to set up new institutions capable of dealing with the crisis. The most spectacular response has been the creation of the European Financial Stability Mechanism (EFSF) in May 2010 to be transformed into a permanent European rescue fund, the European Stability Mechanism (ESM) from 2013 on. Surely these were important steps that were necessary to maintain the stability of the Eurozone.

Yet the opposition against these decisions continues to be high especially in Northern European countries. Opposition is also strong among economists of these countries (see the statement of 189 German economists warning about future calamities if the EFSF were to be made permanent, Plenum der Ökonomen, 2011).

This opposition is based on an incomplete diagnosis of the sovereign debt problem in the Eurozone. For the 189 German economists the story is simple: some countries (Greece, Ireland, Portugal, Spain) have misbehaved. Their governments have irresponsibly spent too much, producing unsustainable debt levels. They are now insolvent through their own mistakes. There is no point in providing financial assistance because this does not make them solvent. It only gives them incentives to persevere in irresponsible behavior (moral hazard). Thus in this diagnostics, the problem is a debt crisis of a limited number of individual countries, that can only be solved by an orderly debt default mechanism. The latter is crucial to avoid that German taxpayers have to foot the bill.

While this analysis may be correct in the case of Greece, it fails to understand the nature of the debt crisis in other Eurozone countries, because it treats the debt problem as a series of individual problems; not as the outcome of a systemic problem in the Eurozone, that I have described earlier. This systemic problem has several ingredients. First, by acquiring the status of emerging countries, the sovereigns of the member states in a monetary union are fragilized, as unfavorable market sentiments can force them into default. This has the effect of pushing the country into a bad equilibrium, characterized by punishingly high interest rates, chronically high budget deficits, low growth and a domestic banking crisis. Second, the degree of financial integration in the monetary union is such that when some sovereigns are pushed in a bad equilibrium, this affects the other countries. In particular it fragilizes the banking systems in these other countries. Thus, strong externalities are created, making it impossible to isolate a financial problem of one country from the rest of the Eurozone. Put differently, when one country experiences a debt problem this becomes a problem of the Eurozone. It is my contention that the governance structure that is now being designed does not sufficiently take into account the systemic nature of the debt problem.

1.8 WHAT KIND OF GOVERNANCE?

I identified two problems of a monetary union that require government action. First, there is a coordination failure. Financial markets can drive countries into a bad equilibrium that is the result of a self-fulfilling mechanism. This coordination failure can in principle be solved by collective action aimed at steering countries towards a good equilibrium. Second, the Eurozone creates externalities (mainly through contagion). Like with all externalities, government action must consist in internalizing these.

Collective action and internalization can be taken at two levels. One is at the level of the central banks; the other at the level of the government budgets.

Liquidity crises are avoided in stand-alone countries that issue debt in their own currencies mainly because the central bank can be forced to provide all the necessary liquidity to the sovereign. This outcome can also be achieved in a monetary union if the common central bank is willing to buy the different sovereigns' debt. In fact this is what happened in the Eurozone during the debt crisis. The ECB bought government bonds of distressed member-countries, either directly, or indirectly by the fact that it accepted these bonds as collateral in its support of the banks from the same distressed countries. In doing so, the ECB rechanneled liquidity to countries hit by a liquidity crisis, and prevented the centrifugal forces created by financial markets from breaking up the Eurozone. It was the right policy for a central bank whose "raison d'être" it is to preserve the monetary union. Yet, the ECB has been severely criticized for saving the Eurozone this way. This criticism, which shows a blatant incomprehension of the fundamentals of a monetary union, has been powerful enough to convince the ECB that it should not be involved in such liquidity operation, and that instead the liquidity support must be done by other institutions, in particular a European Monetary Fund. I return to this issue in the next section.

Collective action and internalization can also be taken at the budgetary level. Ideally, a budgetary union is the instrument of collective action and internalization. By consolidating (centralizing) national government budgets into one central budget a mechanism of automatic transfers can be organized. Such a mechanism works as an insurance mechanism transferring resources to the country hit by a negative economic shock. In addition, such a consolidation creates a common fiscal authority that can issue debt in a currency under the control of that authority. In so doing, it protects the member states from being forced into default by financial markets. It also protects the monetary union from the centrifugal forces that financial markets can exert on the union.

This solution of the systemic problem of the Eurozone requires a far-reaching degree of political union. Economists have stressed that such a political union will be necessary to sustain the monetary union in the long run (see European Commission, 1977; De Grauwe, 1992). It is clear, however, that there is no willingness in Europe today to significantly increase the degree of political union. This unwillingness to go in the direction of more political union will continue to make the Eurozone a fragile construction.

This does not mean, however, that one should despair. We can move forward by taking small steps. Such a strategy of small steps not only allows us to solve the most immediate

problems. It also signals the seriousness of European policymakers in moving forward in the direction of more political union.

1.9 A STRATEGY OF SMALL STEPS

I distinguish between three steps that each requires institutional changes. Some of these steps have already been taken. Unfortunately, as I will argue they have been loaded with features that threaten to undermine their effectiveness

1.9.1 A European Monetary Fund

An important step was taken in May 2010 when the European Financial Stability Facility (EFSF) was instituted. The latter will be transformed into a permanent fund, the European Stabilization Mechanism (ESM), which will obtain funding from the participating countries and will provide loans to countries in difficulties. Thus, a European Monetary Fund will be in existence, as was first proposed by Gros and Mayer (2010).

It is essential that the ESM take a more intelligent approach to lending to distressed countries than the EFSF has been doing up to now. The interest rate applied by the EFSF in the Irish rescue program amounts to almost 6%. This high interest rate has a very unfortunate effect. First, by charging this high interest rate it makes it more difficult for the Irish government to reduce its budget deficit and to slow down debt accumulation. Second, by charging a risk premium of about 3% above the risk free rate that the German, Dutch and Austrian governments enjoy, the EFSF signals to the market that there is a significant risk of default, and thus that the Irish government may not succeed in putting its budgetary house in order. No wonder that financial markets maintain their distrust and also charge a high-risk premium. All this, in a self-fulfilling way, increases the risk of default.

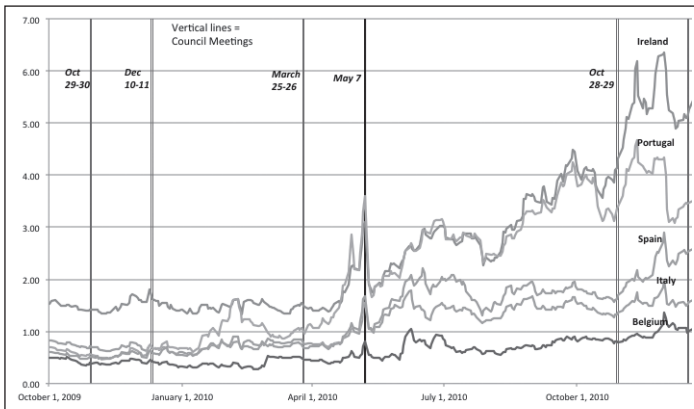
The intelligent approach in financial assistance consists in using a policy of the carrot and the stick. The stick is the conditionality, i.e. an austerity package spelled out over a sufficiently long period of time, so that economic growth gets a chance. Without economic growth debt burdens cannot decline. The carrot is a concessional interest rate that makes it easier for the country concerned to stop debt accumulation. A low interest rate also expresses trust in the success of the package; trust that financial markets need in order to induce them to buy the government debt at a reasonable interest rate. Unfortunately, the future ESM will apply an interest rate that is 200 basis points above its funding rate. There is no good reason for the ESM to do this. By applying such a risk premium, the ESM will signal to the market that it does not truly believe in the success of its own lending program.

There are other features of the ESM that will undermine its capacity to stabilize the sovereign bond markets in the Eurozone. From 2013 on, all members of the Eurozone will be obliged to introduce “collective actions clauses” when they issue new government bonds. The practical implication of this is the following. When in the future, a government of the Eurozone turns to the ESM to obtain funding, private bondholders may be asked to share in the restructuring of the debt. Put differently, they may be asked to take

some of the losses. This may seem to be a good decision. Bondholders will be forced to think twice when they invest in government bonds, as these bonds may not be as secure as they thought.

The intention may be good; the effect will be negative (see De Grauwe, 2010). In fact we have already seen the effects. When the German government made the first proposal to introduce collective action clauses at the European Council meeting of October 2010, the immediate effect was to intensify the crisis in the Eurozone sovereign bond markets. I show evidence for this in Figure 8, which presents the government bond spreads of a number of Eurozone countries. It can be seen that immediately after the European Council meeting of October 28-29, when the first announcement was made to attach collective action clauses (CACs) to future government bond issues, the government bond spreads of Ireland, Portugal and Spain shot up almost immediately. Since then these spreads have remained high. This contrasts with the previous European Council meetings, which either did not seem to affect the spreads, or as in the case of the May 2010 meeting was followed by a (temporary) decline in the spreads.

Figure 8: Government bond spreads (10-year) and European Council Meetings



Source: Datastream

The reaction of the markets to the announcement of future CACs should not have been surprising. When private bondholders know that in the future their bonds will automatically lose value when a country turns to the ESM, they will want to be compensated for the added risk with a higher interest rate. In addition, and even more importantly, each time they suspect that a country may turn to the ESM for funding they will immediately sell their bonds, so as to avoid a potential loss. But this selling activity will raise the interest rate on these bonds, and will make it more likely that the government will have to ask for support from the ESM.

Thus the collective action clauses will make the government bond markets more fragile and more sensitive to speculative fears. I argued earlier that the systemic problem of the Eurozone lies in the fact that in a monetary union the national governments are

more vulnerable to liquidity crises triggered by movements in confidence in financial markets. Instead of alleviating this problem the collective action clauses will intensify it, because with each decline in confidence bondholders will “run for cover” to avoid losses, thereby triggering a crisis.

CACs downgrade the members of the monetary union to the status of emerging markets for which these clauses were invented. In a way it is quite extraordinary that the European leaders have designed a “solution” to the systemic problem that will turn out to make that problem more severe.

There is another feature of the ESM that instead of solving a problem may actually make it more pronounced. I argued earlier that when the member countries of a monetary union are pushed into a bad equilibrium, they lose much of their ability to apply the automatic stabilizers in the budget during a recession. Countries that apply for financing from the ESM will be subjected to a tough budgetary austerity program as a condition for obtaining finance. Thus, with each recession, when a number of Eurozone countries may be forced to turn to the ESM they will be obliged to follow pro-cyclical budgetary policies, i.e. to reduce spending and increase taxes. A sure way to make the recession worse.

The anti-cyclicality of government budgets is an important achievement in the developed world. It has led to greater business cycle stability and to greater social welfare, shielding people from the harshness of booms and busts in capitalist systems. The way the ESM has been set up, however, risks undermining this achievement.

All this is quite unfortunate. Especially because the existence of a financial support mechanism in the Eurozone is a great idea and a significant step forwards in the building of an integrated Europe (Peirce, Micossi and Carmassi, 2011). Unfortunately, by introducing all kinds of restrictions and conditions, the ESM has been transformed into an institution that is unlikely to produce more stability in the Eurozone.

1.9.2 Joint Issue of Eurobonds

A second step towards political union and thus towards strengthening the Eurozone consists in the joint issue of Eurobonds. A joint issue of Eurobonds is an important mechanism of internalizing the externalities in the Eurozone that I identified earlier.

By jointly issuing Eurobonds, the participating countries become jointly liable for the debt they have issued together. This is a very visible and constraining commitment that will convince the markets that member countries are serious about the future of the euro (see Verhofstadt, 2009; Juncker and Tremonti, 2010). In addition, by pooling the issue of government bonds, the member countries protect themselves against the destabilizing liquidity crises that arise from their inability to control the currency in which their debt is issued. A common bond issue does not suffer from this problem.

The proposal of issuing common Eurobonds has met stiff resistance in a number of countries (see Issing, 2009). This resistance is understandable. A common Eurobond creates a number of serious problems that have to be addressed.

A first problem is moral hazard. The common Eurobond issue contains an implicit insurance for the participating countries. Since countries are collectively responsible for

the joint debt issue, an incentive is created for countries to rely on this implicit insurance and to issue too much debt. This creates a lot of resistance in the other countries that behave responsibly. It is unlikely that these countries will be willing to step into a common Eurobond issue unless this moral hazard risk is resolved.

A second problem (not unrelated to the previous one) arises because some countries like Germany, Finland and the Netherlands today profit from triple A ratings allowing them to obtain the best possible borrowing conditions. The question arises of what the benefits can be for these countries. Indeed, it is not inconceivable that by joining a common bond mechanism that will include other countries enjoying less favourable credit ratings, countries like Germany, Finland and the Netherlands may actually have to pay a higher interest rate on their debt.

These objections are serious. They can be addressed by a careful design of the common Eurobond mechanism. The design of the common Eurobonds must be such as to eliminate the moral hazard risk and must produce sufficient attractiveness for the countries with favourable credit ratings. This can be achieved by working both on the quantities and the pricing of the Eurobonds.

Thus, my proposal would be to seek a combination of the Eurobond proposal made by Bruegel (Delpa and Von Weizsäcker, 2010) and the one made by De Grauwe and Moesen (2009). It would work as follows. Countries would be able to participate in the joint Eurobond issue up to 60% of their GDP, thus creating “blue bonds”. Anything above 60% would have to be issued in the national bond markets (“red bonds”). This would create a senior (blue) tranche that would enjoy the best possible rating. The junior (red) tranche would face a higher risk premium. This existence of this risk premium would create a powerful incentive for the governments to reduce their debt levels. In fact, it is likely that the interest rate that countries would have to pay on their red bonds would be higher than the interest rate they pay today on their total outstanding debt (see Gros, 2010). The reason is that by creating a senior tranche, the probability of default on the junior tranche may actually increase. This should increase the incentive for countries to limit the red component of their bond issues.

The Bruegel proposal can be criticized on the following grounds. To the extent that the underlying risk of the government bonds is unchanged, restructuring these bonds into different tranches does not affect its risk. Thus, if the blue bond carries a lower interest rate, the red bond will have a higher interest rate such that the average borrowing cost will be exactly the same as when there is only one type of bond (see Gros, 2011). This is an application of the Modigliani-Miller theorem which says that the value of a firm is unaffected by the way the liabilities of that firm are structured.

All this is true to the extent that the underlying risk is unchanged. The point, however, is that the common bond issue is an instrument to shield countries from being pushed into a bad equilibrium. If the common bond issue succeeds in doing so, the underlying risk of the bonds of these countries does indeed decline. In that case these countries are able to enjoy a lower average borrowing cost. At the same time the marginal borrowing cost is likely to be higher than the average. This is exactly what one wants to have: a decline of the average debt cost, and an increase in the marginal cost of the debt. The

former makes it easier to service the debt; the latter provides strong incentives towards reducing the level of the debt. This feature is important to reduce the moral hazard risk.

The second feature of our proposal works on the pricing of the Eurobonds and it follows the proposal made by De Grauwe and Moesen (2009). This consists in using different fees for the countries participating in the blue bond issue. These fees would be related to the fiscal position of the participating countries. Thus, countries with high government debt levels would face a higher fee, and countries with lower debt levels would pay a lower fee. In practical terms this means that the interest rate paid by each country in the blue bond tranche would be different. Fiscally prudent countries would have to pay a somewhat lower interest rate than fiscally less prudent countries. This would ensure that the blue bond issue would remain attractive for the countries with the best credit rating, thereby giving them an incentive to join the Eurobond mechanism.

It should be noted that if successful, such a common Eurobond issue would create a large new government bond market with a lot of liquidity. This in turn would attract outside investors making the euro a reserve currency. As a result the euro would profit from an additional premium. It has been estimated that the combined liquidity and reserve currency premium enjoyed by the dollar amounts to approximately 50 basis points (Gourinchas and Rey, 2007). A similar premium could be enjoyed by the euro. This would make it possible for the euro zone countries to lower the average cost of borrowing, very much like the US has been able to do.

1.9.3 Coordination of Economic Policies

A third important step in the process towards political union is to set some constraints on the national economic policies of the member states of the Eurozone. The fact that while monetary policy is fully centralized, the other instruments of economic policies have remained firmly in the hands of the national governments is a serious design failure of the Eurozone. Ideally, countries should hand over sovereignty over the use of these instruments to European institutions. However, the willingness to take such a drastic step towards political union is completely absent. Here also small steps should be taken.

The European Commission has proposed a scoreboard of macroeconomic variables (private and public debt, current account imbalances, competitiveness measures, house prices) that should be monitored, and that should be used to push countries towards using their economic policy instruments so as to create greater convergence in these macroeconomic variables. Failure to take action to eliminate these imbalances could trigger a sanctioning mechanism very much in the spirit of the sanctioning mechanism of the Stability and Growth Pact (European Commission, 2010).

While an important step forward, this approach is incomplete. National governments have relatively little control over many of the macroeconomic variables targeted by the European Commission. In fact the evidence we have of the pre-crisis divergence dynamics is that much of it was produced by monetary and financial developments over which national governments had little control. Local booms and bubbles developed in the periphery of the Eurozone. These were driven mainly by bank credit expansion. This is vividly shown in Figure 9. It is the combination of bubbles (especially in the housing

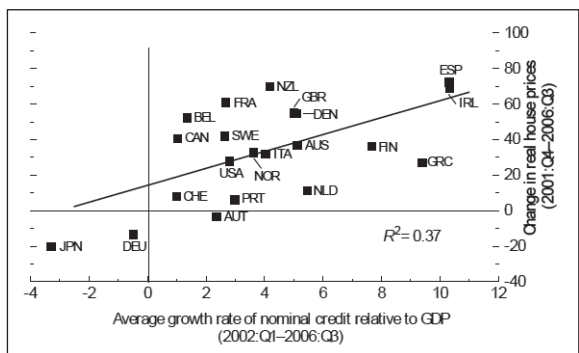
markets) and credit expansion that makes bubbles potentially lethal (see Borio, 2003). This has been made very clear by the experience of Spain and Ireland.

Thus, any policy aimed at stabilizing local economic activity must also be able to control local credit creation. It is clear that because the member states of the Eurozone have entered a monetary union they lack the instruments to deal with this. Put differently, if the movements of economic activity are driven by credit-fueled animal spirits the only instruments that can effectively deal with this are monetary instruments. Members of a monetary union, however, have relinquished these instruments to the European monetary authorities.

The next question then becomes: can the European monetary authorities, in particular the ECB, help out national governments? We have been told that this is impossible because the ECB should only be concerned by system-wide aggregates. It cannot be made responsible for national economic conditions. The reason is that it has one objective which is the maintenance of price stability in the Eurozone as a whole, and because it has only one instrument to achieve this goal.

This I believe is too cheap an answer. The ECB is not only responsible for price stability but also for financial stability. The financial crisis that erupted in the Eurozone in 2010 had its origin in a limited number of countries. It is therefore important that the ECB focuses not only on system-wide aggregates but also on what happens in individual countries. Excessive bank credit creation in a number of member countries should also appear on the radar screen of the ECB in Frankfurt upon which the ECB should act.

Figure 9: Real House Prices and Growth Rate of Nominal Credit relative to GDP (percent)



Source: Kannan, Rabanal and Scott (2009)

One may object that the ECB does not have the instruments to deal with excessive bank credit in parts of the Eurozone. This, however, is not so. The Eurosystem has the technical ability to restrict bank credit in some countries more than in others by applying differential minimum reserve requirements, or by imposing anti-cyclical capital ratios. These can and should be used as stabilizing instruments at the national level.

Another objection is that it is the responsibility of the financial supervisors to deal with

excessive risk taking by banks. When banks extend too much credit and thereby increase the risk of their balance sheets, national supervisors should intervene. This is undoubtedly so. At the same time it does not absolve the Eurosystem from its responsibility in maintaining financial stability. When a credit-fueled boom emerges in some member states, it is also the responsibility of the Eurosystem to act. The Eurosystem also has the most powerful toolkit in controlling the macroeconomic consequences of booms and busts.

The recent reforms in the supervisory landscape in the Eurozone increase the scope for action by the Eurosystem. The European Systemic Risk Board (ESRB) which was created in 2010 is of particular importance here. Very pointedly, the president of the ECB will also preside over the ESRB. Thus the creators of the ESRB have clearly understood that the ECB is at the center of the monitoring of emerging systemic risks in the Eurozone. It would be quite paradoxical that the president of the ESRB (ECB) would emit warning signals about systemic risk and would then not follow-up this warning by action to reduce the risks, leaving it to the national supervisors to act alone.

The steps described in this and the previous sections, involving both the responsibilities of national governments, the European institutions and the Eurosystem are important to move towards political union. They also give an important signal in the financial markets that the member countries of the Eurozone are serious in their desire to guarantee the survival of the Eurozone. These steps are also to be seen as commitment devices that enhance the credibility of the monetary union. They are crucial in stabilizing the financial markets in the Eurozone.

1.10 CONCLUSION

A monetary union is more than one money and one central bank. Countries that join a monetary union lose more than an instrument of economic policy (interest rate or exchange rate). When entering the monetary union, they lose their capacity to issue debt in a currency over which they have full control. As a result, a loss of confidence of investors can in a self-fulfilling way drive the country into default. This is not so for countries capable of issuing debt in their own currency. In these countries the central bank can always provide the liquidity to the sovereign to avoid default. This may lead to future inflation, but it shields the sovereign from a default forced by the market.

Thus, member-countries of a monetary union become more vulnerable. Changing market sentiments can lead to “sudden stops” in the funding of the government debt, setting in motion a devilish interaction between liquidity and solvency crises. There is an important further implication of this increased vulnerability. This is that member-countries of a monetary union lose much of their capacity to apply counter-cyclical budgetary policies. When during a recession the budget deficits increase, this risks creating a loss of confidence of investors in the capacity of the sovereign to service the debt. This has the effect of raising the interest rate, making the recession worse, and leading to even higher budget deficits. As a result, countries in a monetary union can be forced into a bad equilibrium, characterized by deflation, high interest rates, high budget deficits and a banking crisis.

These systemic features of a monetary union have not sufficiently been taken into account in the new design of the economic governance of the Eurozone. Too much of this new design has been influenced by the notion (based on moral hazard thinking) that when a country experiences budget deficits and increasing debts, it should be punished by high interest rates and tough austerity programs. I have argued that this approach is usually not helpful in restoring budgetary balance.

In addition, a number of features of the design of financial assistance in the Eurozone as embodied in the ESM, will have the effect of making countries even more sensitive to shifting market sentiments. In particular, the “collective action clauses” which will be imposed on the future issue of government debt in the Eurozone, will increase the nervousness of financial markets. With each recession government bondholders, fearing haircuts, will run for cover, thereby making a default crisis more likely. All this is likely to increase the risk that countries in the Eurozone lose their capacity to let the automatic stabilizers in the budget play their necessary role of stabilizing the economy.

A monetary union creates collective problems. When one government faces a debt crisis this is likely to lead to major financial repercussions in other member countries. This is so because a monetary union leads to intense financial integration. Whether one likes it or not, member countries are forced to help each other out. Surely, it is important to provide the right incentives for governments so as to avoid profligacy that could lead to a debt crisis. Discipline by the threat of punishment is part of such an incentive scheme. I have argued, however, that too much importance has been given to punishment and not enough to assistance in the new design of financial assistance in the Eurozone.

This excessive emphasis on punishment is also responsible for a refusal to introduce new institutions that will protect member countries from the vagaries of financial markets that can trap countries into a debt crisis and a bad equilibrium. One such an institution is the collective issue of government bonds. I argued that such a common bond issue makes it possible to have a collective defense system against the vagaries of euphoria and fears that regularly grip financial markets.

A monetary union can only function if there is a collective mechanism of mutual support and control. Such a collective mechanism exists in a political union. In the absence of a political union, the member countries of the Eurozone are condemned to fill in the necessary pieces of such a collective mechanism. The debt crisis has made it possible to fill in a few of these pieces. What has been achieved, however, is still far from sufficient to guarantee the survival of the Eurozone.

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APPENDIX: A MODEL OF GOOD AND BAD EQUILIBRIA

In this section I present a very simple model illustrating how multiple equilibria can arise. The starting point is that there is a cost and a benefit of defaulting on the debt, and that investors take this calculus of the sovereign into account. I will assume that the country involved is subject to a shock, which takes the form of a decline in government revenues. The latter may be caused by a recession, or a loss of competitiveness. I'll call this a solvency shock. The higher this shock the greater is the loss of solvency. I concentrate first on the benefit side. This is represented in Figure A1. On the horizontal axis I show the solvency shock. On the vertical axis I represent the benefit of defaulting. There are many ways and degrees of defaulting. To simplify I assume this takes the form of a haircut of a fixed percentage. The benefit of defaulting in this way is that the government can reduce the interest burden on the outstanding debt. As a result, after the default it will have to apply less austerity, i.e. it will have to reduce spending and/or increase taxes by less than without the default. Since austerity is politically costly, the government profits from the default.

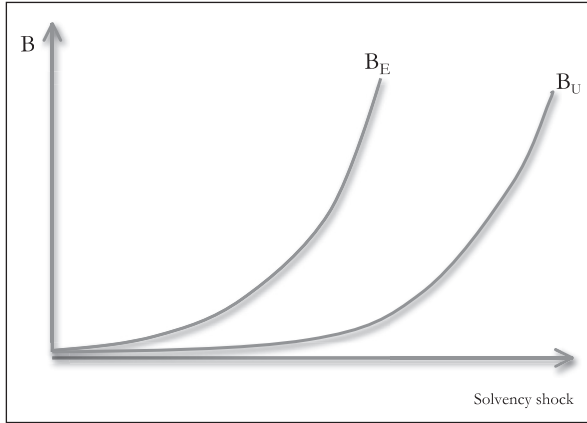
A major insight of the model is that the benefit of a default depends on whether this default is expected or not. I show two curves representing the benefit of a default. B_U is the benefit of a default that investors do not expect to happen, while B_E is the benefit of a default that investors expect to happen. Let me first concentrate on the B_U curve. It is upward sloping because when the solvency shock increases, the benefit of a default for the sovereign goes up. The reason is that when the solvency shock is large, i.e. the decline in tax income is large, the cost of austerity is substantial. Default then becomes more attractive for the sovereign. I have drawn this curve to be non-linear, but this is not essential for the argument. I distinguish three factors that affect the position and the steepness of the B_U curve:

The initial debt level. The higher is this level, the higher is the benefit of a default. Thus with a higher initial debt level the B_U curve will rotate upwards.

The efficiency of the tax system. In a country with an inefficient tax system, the government cannot easily increase taxation. Thus in such a country the option of defaulting becomes more attractive. The B_U curve rotates upwards.

The size of the external debt. When external debt takes a large proportion of total debt there will be less domestic political resistance against default, making the latter more attractive (the B_U curve rotates upwards).

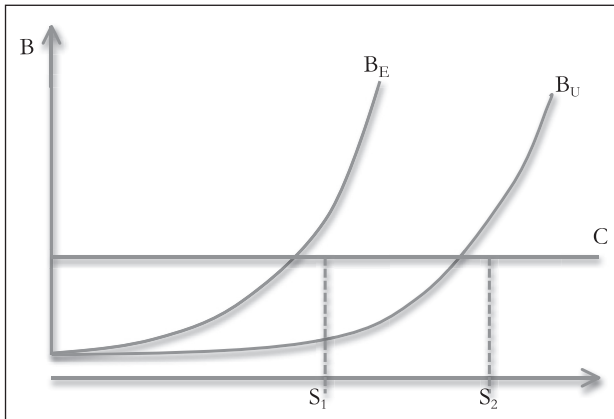
Figure A1: The Benefits of Default after a Solvency Shock



I now concentrate on the B_E curve. This shows the benefit of a default when investors anticipate such a default. It is located above the B_U curve for the following reason. When investors expect a default, they will sell government bonds. As a result, the interest rate on government bonds increases. This raises the government budget deficit requiring a more intense austerity program of spending cuts and tax hikes. Thus, default becomes more attractive. For every solvency shock, the benefits of default will now be higher than they were when the default was not anticipated.

I now introduce the cost side of the default. The cost of a default arises from the fact that, when defaulting, the government suffers a loss of reputation. This loss of reputation will make it difficult for the government to borrow in the future. I will make the simplifying assumption that this is a fixed cost. I now obtain Figure A2 where I present the fixed cost (C) with the benefit curves.

Figure A2: Cost and Benefits of Default after a Solvency Shock



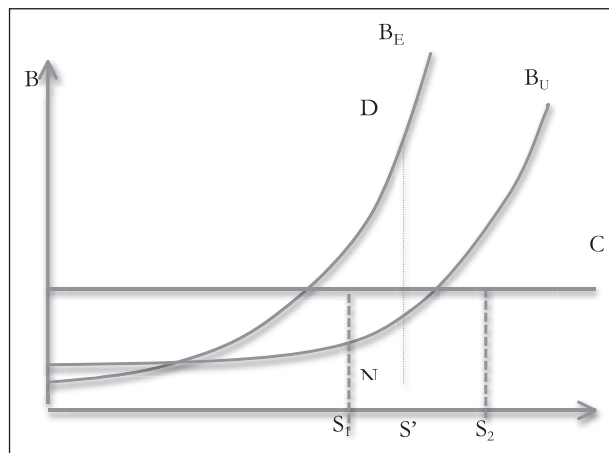
I now have the tools to analyze the equilibrium of the model. I will distinguish between three types of solvency shocks, a small one, an intermediate one, and a large one. Take a small solvency shock: this is a shock $S < S_1$ (This could be the shocks that Germany and the Netherlands experienced during the debt crisis). For this small shock the cost of a default is always larger than the benefits (both of an expected and an unexpected default). Thus the government will not want to default. When expectations are rational investors will not expect a default. As a result, a no-default equilibrium can be sustained.

Let us now analyze a large solvency shock. This is one for which $S > S_2$. (This could be the shock experienced by Greece). For all these large shocks we observe that the cost of a default is always smaller than the benefits (both of an expected and an unexpected default). Thus the government will want to default. In a rational expectations framework, investors will anticipate this. As a result, a default is inevitable.

I now turn to the intermediate case: $S_1 < S < S_2$ (this could be the shocks that Ireland, Portugal and Spain experienced). For these intermediate shocks I obtain an indeterminacy, i.e. two equilibria are possible. Which one will prevail only depends on what is expected. To see this, suppose the solvency shock is S' (see Figure A3). In this case there are two potential equilibria, D and N. Take point D. In this case investors expect a default (D is located on the B_E line). This has the effect of making the benefit of a default larger than the cost C. Thus, the government will default. D is an equilibrium that is consistent with expectations.

But point N is an equally good candidate to be an equilibrium point. In N, investors do not expect a default (N is on the B_U line). As a result, the benefit of a default is lower than the cost. Thus the government will not default. It follows that N is also an equilibrium point that is consistent with expectations.

Figure A3: Good and Bad Equilibria



Thus we obtain two possible equilibria, a bad one (D) that leads to default, a good one (N) that does not lead to default. Both are equally possible. The selection of one of these

two points only depends on what investors expect. If the latter expect a default, there will be one; if they do not expect a default there will be none. This remarkable result is due to the self-fulfilling nature of expectations.

Since there is a lot of uncertainty about the likelihood of default, and since investors have very little scientific foundation to calculate probabilities of default (there has been none in Western Europe in the last 60 years), expectations are likely to be driven mainly by market sentiments of optimism and pessimism. Small changes in these market sentiments can lead to large movements from one type of equilibrium to another.

The possibility of multiple equilibria is unlikely to occur when the country is a stand-alone country, i.e. when it can issue sovereign debt in its own currency. This makes it possible for the country to always avoid outright default because the central bank can be forced to provide all the liquidity that is necessary to avoid such an outcome. This has the effect that there is only one benefit curve. In this case the government can still decide to default (if the solvency shock is large enough). But the country cannot be forced to do so by the whim of market expectations

2 BANKING AT THE CROSSROADS: HOW TO DEAL WITH MARKETABILITY AND COMPLEXITY?¹

2.1 INTRODUCTION

The financial services sector has gone through an unprecedented turmoil in the last few years. Stability is a paramount concern. The institutional and regulatory framework has been called in question. This paper seeks to build an understanding about the fundamental forces that may have destabilized banking. We focus in particular on the effects of recent financial innovations and their impact on the decision making of financial institutions. The emphasis is therefore on the micro-economics of banking: what type of incentives do financial institutions have in the current landscape? And what implications can be drawn for the desired regulatory and supervisory structure of banking?

The financial crisis followed a period with substantial changes in the industry. Liberalization, deregulation and advances in information technology had reshaped the financial landscape dramatically. Interbank competition has heated up and banks face increasing competition from non-banking financial institutions and the financial markets. The predictability of the industry with low levels of financial innovation, little innovation in distribution channels and well defined and rigid institutional structures is gone. Product innovations, new distribution channels and emerging new competitors are in abundance. While the crisis itself and the regulatory responses may have – temporarily – halted the ongoing dynamic shifts in the industry, the underlying structural changes, have not disappeared.

This paper will focus on the structure of the banking industry, particularly the complexity of financial institutions. The starting point is that more recent financial innovations have complicated the governance of financial institutions by creating a dynamism that is hard to control. A fundamental feature of recent financial innovations is that they are often aimed at augmenting marketability, see for example securitization and related products like CDS and CDOs. Such marketability can augment diversification opportunities, yet as we will argue can also create instability. The mere fact that something becomes tradable (or marketable – we will use these terms interchangeably) can undermine commitment. For example, as is well known, mortgages that become tradable might undermine the incentives of the originator to monitor the quality of borrowers. More fundamentally, when markets exist for all kinds of real or financial assets of a firm, a firm can more easily change the direction of its strategy. This might be good, but could also lead to lack of commitment (and staying power), more impulsive decisions and possibly herding. The latter refers to the tendency to follow current fads. In banking, herding is particularly worrisome because it could create systemic risk. Meaning, when all institu-

¹ An earlier draft of this paper was prepared for the FED Atlanta 2011 Financial markets conference, *Navigating the New Financial Landscape*. I am thankful for the comments of George Kaufman and Peter Wallison (discussants at the FED meeting), Stuart Greenbaum, Matej Marinc and Lev Ratnovski. Research assistance by Mark Dijkstra and Timotej Homar is gratefully acknowledged. This chapter will be published in the *Review of Development Finance* (2011).

tions make the same bets, risk exposures become more highly correlated and a simultaneous failure of institutions might become more likely.²

Some have described recent developments as banks “fighting for turf” in the face of market liberalization and/or major technological shifts (Hellwig, 2008). That is, major structural shifts (e.g. the financial innovation wave as a reflection of developments in information technology?) open up the industry and could induce parties to grab market share in order to establish a leading position going forward. This would point at a more transitory problem. As with for example the banking crisis following the deregulation of Swedish banking in the 80s, it takes some time for the industry to settle in a new equilibrium (following liberalization and/or other major shifts) and in the meantime accidents may happen. We believe more is going on. The increased marketability is a permanent shift in the underlying dynamics of financial institutions, and has increased the sensitivity of banks to financial market developments.

As we will argue, this more intertwined nature of banks and financial markets has exposed banks to the boom and bust nature of financial markets and may have augmented instability.³ The linkages to the financial market also facilitate a further proliferation of transaction-oriented banking (trading and financial market) activities, possibly at the expense of more traditional relationship banking activities. Important is also the scalability of transaction-oriented banking relative to relationship banking activities, and hence the more opportunistic approach that this facilitates in transaction banking. What this points at is that banks can relatively easily participate in the proliferation of financial markets. This has further fuelled the sensitivity of banks to financial markets. We will also argue that via an increased risk profile this may undermine a bank’s relationship banking franchise.

In this context also the ownership structure of banks is important. The traditional partnership model in investment banking may have contained risk taking in that partners had their personal wealth tied up in the business, and could not easily leave and liquefy their ownership claim. In a sense, the marketability of their own involvement (human capital) was severely constrained which may have countered the fluidity of banking activities itself.

The increasingly fluid and complex nature of the banking industry – via speed of change, interconnectedness and the presence of large and complex institutions – has motivated some to point at the importance of market discipline in banking as a supplement to regulatory and supervisory controls (Flannery, 2009). We will argue that market discipline might not be able to play an important role in ensuring stability of the financial system as a whole. The momentum-driven nature of financial markets might mean that

2 Risk taking might also become more cyclical. For example, the demand for senior tranches in securitized structures was high despite their high sensitivity to bad economic states (Coval, Jurek and Stafford, 2009). Investors were either lured by high ratings of such instruments or, alternatively, they were eager to upload systemic risk. And this was an industry wide phenomenon. Haensel and Krahn (2007) show on a data set of European CDOs that banks that issued CDOs raised their systemic risk.

3 As Shin (2009, page 110) puts it, “... in a modern market-based financial system, banking and capital market conditions should not be viewed in isolation.” Demirguc-Kunt and Detragiache (2005) point at the risks of collective euphoria, and that with the length of an economic boom a crisis becomes (ultimately) more likely (see also Llewellyn, 2010; Woolley, 2010). Adrian and Shin (2010) point at the effect of favorable financial market conditions on leverage (increasing) and funding (becoming more fragile and short-term). Both effects cause stress when market conditions deteriorate.

the risk in whatever activity that is 'hot' is effectively underestimated by the market as a whole, and this may 'poison' market discipline. That is, momentum driven financial markets promote certain strategies, and these very same markets would then not be in a good position to impose market discipline. To the contrary, they were actually encouraging those strategies by possibly underpricing the risks involved.

From here, the question is how the financial sector will develop. This paper emphasizes the importance of understanding the economics of banking for assessing the changes in the industry. Can we draw insights from the extensive literature on scale and scope economies in banking? We will argue that only limited insights are available. Most recent empirical work identifies some scale economies, yet faces bigger difficulties in identifying real scope advantages. Thus overwhelming evidence is missing, albeit there continues to be a clear tendency with financial institutions to go for growth and larger size. While recently most institutions have expressed a 'client centric' strategy, by some called 'back-to-basics' (e.g. the Dutch banking conglomerate ING), the underlying forces in banking may not have changed, so it is far from clear what this sudden emphasis on 'client centric' and 'back-to-basics' strategies really means.

This picture suggests that endogenous developments in the industry itself may not lead to less complex institutions. The important question then is how to deal with this complexity. Here we will point at institutional and regulatory changes that might be needed to improve the stability of the financial sector. One could say that the institutional structure (including regulation) has not kept up with the enhanced marketability, 'changeability' and hence complexity of the industry. We will focus on effective supervision of individual financial institutions, albeit in the context of the macro-prudential (system-wide, i.e. interconnectedness) concerns that are paramount. Dealing with the complexity of individual institutions via timely intervention and orderly resolution is important in this context. What does this mean? Are structural measures (e.g. breaking up large and complex institutions) needed to deal with the complexity? We will argue that imposing structural measures is far from straightforward, but might be needed to help contain possibly destabilizing market forces and improve the effectiveness of supervision. Overall we advocate a comprehensive approach to regulation and supervision.

The organization of the paper is as follows. Financial innovations and their impact on marketability are analyzed in section 2. Section 3 analyzes the banks' choices between relationship banking and more financial market driven transaction banking, including the potential internal frictions between those activities. Typically this is framed in the context of commercial versus investment banking activities, but this might be too simplistic. Much of investment banking is relationship based. The key dimension is the link to financial markets and that is more dominant for transaction-based activities. Section 4 briefly addresses the banks' cost of capital. This issue is important both internally across activities (how to allocate capital among activities?) and from an overall perspective (how much capital is needed, and is bank capital 'expensive?'). The perceptions about the cost of capital and its determinants are important for understanding the decision making and choices of banks. In section 5 we focus on the ownership structure of banks. Particularly, we discuss the partnership structure as an example of an ownership structure that better

aligns incentives, and might have stabilized investment banking in the past. Section 6 considers market discipline. Could it be effective in constraining bank risk choices and help in augmenting stability? As stated earlier, we are rather skeptical. In section 7 we focus on bank strategies, scale and scope economies, and the complexity of financial institutions that may endogenously come about. Section 8 asks the question what can be done about complexity, and analyzes whether structural measures are desirable. Section 9 concludes.

2.2 FINANCIAL INNOVATIONS AND MARKETABILITY

The notion that financial innovation is good for economic growth is based on the idea that such innovations will improve the allocation of capital. In the words of Fed Chairman Ben Bernanke, “The increasing sophistication and depth of financial markets promote economic growth by allocating capital where it can be most productive” (Bernanke, 2007). This sounds politically correct, and by its very generality is difficult to refute. However, more specificity is needed. What can precisely be good about financial innovations? In a first best world where information is available to all and everybody is capable of fully discerning all relevant attributes, financial innovations could help complete the market, i.e. facilitate a complete set of Arrow-Debreu securities. This is the typical ‘spanning’ argument; financial innovations are good because they help complete the market.⁴

As a corollary, financial innovations might then help improve the allocation of capital. In more simple terms, a complete market allows individuals to optimally hedge, c.q. smooth, their income over time. Given the higher level of predictability that results, they can abscond of their money for longer periods of time facilitating more long-term investments. Similarly, the tradability (marketability) of debt and equity in financial markets allows investors to liquefy their holdings at any point in time (i.e. by selling their holdings to other investors) and helps in diversifying risks. In doing so firms might have an easier access to long(er) term financing.

The wish to liquefy claims also helps explain the introduction of limited liability in equity-type contracts – an innovation by itself. It facilitates trading, and allows investors to liquefy claims on otherwise long-term investments (Michalopoulos, Laeven and Levine, 2009). Liquidity therefore is valuable, yet, as we will see, can simultaneously have some negative repercussions.⁵ More specifically, in a world with imperfections, agency

4 A complete market means that investors or consumers can ‘contract’ on any conceivable future state of the world, and in doing so create an optimal allocation. In the context of hedging for example such a complete market allows investors to neutralize whatever state-contingent risk they may face. What this means is that investors can tailor the state-dependent pay-offs to their precise preferences. Please note that one cannot automatically assume that introducing new securities in incomplete markets that give investors greater ‘spanning’ opportunities is by definition value enhancing. Elul (1995) shows that adding a new security could have “almost arbitrary effects on agents’ utilities.”

5 If certain frictions – transaction costs – impede the optimal allocation of capital then innovations that reduce these seem optimal (see Tufano, 2003). In this positive interpretation, innovations like credit default swaps (CDS) and collateralized debt obligations (CDO) would promote an optimal allocation of capital by reducing the cost of diversifying and reallocating risk. However, as Posen and Hinterschweiger (2009) note, during the period 2003-2008 the growth in OTC derivatives outpaced that of real investment by a factor of twelve (300 versus 25 percent). And after 2006 real investments stagnated while OTC derivatives grew arguably faster than ever. While this does not preclude that the proliferation of these financial instruments provided benefits also later in the boom, the negative effects on the robustness of the financial system – as observed in 2007-2009 – tend to refute this.

and information problems lead to potential distortions that can create a dark side of liquidity.

2.2.1 *Information Problems*

When information asymmetries are severe and particular contingencies are not contractible at all, having complete markets is infeasible.⁶ This happens when contingencies are not verifiable, and/or too costly to verify. Introducing a financial innovation might now have a much darker motivation. Financial innovations might be intended to fool market participants. An example might be the Dutch or UK market for life insurance products. On several occasions structural misselling has occurred with as a common denominator the presence of an excessive variety of product innovations that share one characteristic: complexity in conjunction with obscurity of costs.⁷

Financial innovations would then tend to worsen the allocation of capital. The more recent advances in securitization could be interpreted in that way too. Initially securitization could have allowed for a wider access to investors, reduced funding costs and hence improved lending opportunities for banks. As stated earlier, this may well have been value enhancing. There is a logic in fulfilling the demand for high grade securities by packaging mortgages, and selling the low risk portion to (distant) investors. As long as the originators of the loans keep the more risky layer, they would still have a strong incentive to screen loan applicants and monitor them.

What happened subsequently is less benign. It is clear that lending standards weakened (Keys et. al., 2010).⁸ In part this had little to do with securitization. The housing boom in the US seduced lenders in granting higher mortgages. As long as prices kept rising, loans could always be refinanced and/or sales of underlying houses would cover the outstanding mortgages. Where securitization did come into the picture is that the insatiable appetite for triple-A paper in the market pushed financial institutions into a high gear repackaging mode, ultimately lowering standards. Also, in a desire to issue as much triple-A paper as possible, the more risky tranches of securitization structures were repackaged again, and more triple-A paper was squeezed out. This packaging and repackaging led to very complicated securities. When the market finally started ques-

6 Note that new securities are sometimes introduced to help overcome information asymmetries. While not a really new security, a debt claim may illustrate this. Such a claim might offer financing at lower cost than issuing equity because it is less information sensitive (see Myers and Majluf, 1984; Hennessy, 2009). The idea is that an equity type claim would suffer from a lemon problem, see Akerlof (1970). Alternatively, in case of verification problems, the anticipated costs of verification with a debt contract are limited since in most cases the firm can and will repay (and no verification is needed, see the earlier contribution of Gale and Hellwig, 1984, and also Tirole, 2006). The security design literature provides several other examples, e.g. convertible bonds could give bondholders protection against risk-seeking behavior by shareholders. Others have argued that a rights issue could help solve the lemon problem (Heinkel and Schwartz, 1986; Balachandran, Faff and Theobald, 2008).

7 Gabaix and Laibson (2006) analyze how producers (e.g. financial services firms) can exploit uninformed consumers by misrepresenting attributes. In Carlin (2009) complexity is added to discourage information production, intended to facilitate expropriation of investors. Henderson and Pearson (2009) show how innovations might be designed to fool market participants, and in doing so cause serious harm.

8 Parlour and Plantin (2008) analyze loan sales. In their view banks weigh the benefits of loan sales in the form of additional flexibility to quickly redeploy bank capital against the drawbacks in the form of lower monitoring incentives. They show that loan sales would lead to excessive trading of highly rated securities but to insufficient liquidity in low rated securities. Risk weighted capital requirements may help in bringing liquidity to low rated securities.

tioning the sustainability of the housing boom, the arcane securities were suddenly out of favor.⁹

The more fundamental observation, and one that is particularly important for this paper, is that securitization interconnects banks with financial markets. Securitization was not just there to offload risk, but banks also took positions in those instruments (via liquidity guarantees, warehousing, etc.). Hence their fortunes became intertwined with those of the financial markets.

2.2.2 Marketability and Excessive ‘Changeability’ Key

Securitization has opened up the bank balance sheet. Many bank assets have potentially become marketable. This marketability is typically seen as something positive, but the links with the financial markets that this has created has made banks potentially more vulnerable vis-à-vis the volatility and momentum in financial markets. Moreover, marketability means that existing activities and risks can be changed almost instantaneously. Since financial markets go through cycles and are possibly subjected to hypes and investor sentiments, the banks’ decisions might become more momentum driven, or as Turner (2009) puts it, banks become “... even more susceptible to self reinforcing exuberant upswings and subsequent downswings ...”; see also Shleifer and Vishny (2010). This adds further instability.¹⁰ What we mean by this is that due to the proliferation of financial markets and the increased marketability of the banks’ assets, banks become more opportunistic and could lose a degree of stability.¹¹

With information technology as a driving force, the proliferation of financial markets together with the marketability enhancing financial innovations have changed the dynamics of banking. We will argue that more is going on than just typical competitive dynamics where structural shifts (e.g. liberalization) have opened up ‘the market’ and

9 As long as the momentum was there, the market’s appetite could not be saturated, and much money could be made by putting the ‘repackaging machines’ into higher and higher gear. The willingness of rating agencies to grant high ratings did clearly help (see also White, 2010). In the process, financial institutions adapted their business mix to these market linked activities.

10 Also replacing deposit funding by wholesale funding exposed banks to additional liquidity risk. Huang and Ratnovski (2011) show that the dark side of liquidity comes in the form of reduced incentives of wholesale funds providers to monitor their banks and this may trigger inefficient liquidation; see also Acharya, Gale and Yorulmazer (2011). The main threat of a bank run may no longer come from demand deposits as in Diamond and Dybvig (1983) but rather from wholesale financiers or from bank borrowers that deplete their loan commitments (see Ivashina and Scharfstein, 2010; Gatev, Schuermann and Strahan, 2009).

11 This discussion is also related to the general corporate governance question on the rights of shareholders in the financial market. In related work by Boot, Gopalan and Thakor (2008), the emphasis is on the need of having some stable shareholders. The liquidity stock markets provide may cause ownership to be changing all the time such that no stable and lasting link with shareholders comes about. Support and commitment to a particular strategy might then become weaker and more haphazard. This could make firms more sensitive to short term financial market pressures. Bhidé (1993) argues that the liquidity of stock markets may have a dark side, because fully liquid stock markets may encourage diffuse ownership, and this may undermine monitoring incentives. Hence corporate control over managers might be lax. Monitoring incentives typically require a large(r) and enduring stake in a company, yet this is at odds with liquidity. Bolton and Von Thadden (1998) have shown that overall stock market liquidity may actually benefit from the simultaneous presence of a few block holders. The dark side of liquidity and possibility for quick changes in asset allocation is related to the work of Myers and Rajan (1998) who emphasize that the illiquidity of bank assets serves a useful purpose in that it reduces asset substitution moral hazard. The dark side of marketability is also present in the work in economics that emphasizes that creating (interim) markets and trading opportunities might not necessarily be good, see for example the work of Jacklin (1987) in the context of Diamond and Dybvig’s (1983) intertemporal smoothing.

parties scramble for market share to establish a leading position going forward. While such upheaval might induce risky behavior and cause temporary instability,¹² we expect a more permanent effect of the proliferation of the recent marketability enhancing financial innovations. As we will discuss, the instability in the industry might not be easy to resolve, and more structural measures might be needed.

2.3 RELATIONSHIP-ORIENTED VERSUS TRANSACTION-BASED BANKING

As *The Economist* put it over fifteen years ago in the context of the experience of securities firms:

“Perhaps the worst feature of the 1980s – which has subsequently returned to haunt the securities firms – was the abandonment by most of them of the old relationships with their customers. [...] “The aim was to do a deal, any deal”, remembers one manager who prefers not to be named.” (*The Economist*, April 15 1995, Special Section: A Survey of Wall Street, p. 13)

While this quote was made over fifteen years ago, it is interesting to note that when financial markets prosper they appear to push financial institutions away from their relationship banking franchise. This might be even more true with the recent proliferation of financial markets where many banks actively engaged in financial market driven activities, including proprietary trading. In section 7 we will make some observations about the current strategies of financial players where banks go out of their way to show support for customer-centric strategies. Our message will be somewhat skeptical. Banks appear to operate with increasingly shorter cycles in which they drift away from (and rediscover) the importance of their relationship banking franchise. It was only in October 2005 that Citigroup felt compelled to reemphasize the importance of its retail and relationship banking franchise by stating that Citi should think “locally.”¹³ And barely five years later its CEO Vikram Pandit emphasizes that Citi should (again) position itself closer to the customer: “Serving customers, serving clients, serving the real economy, doing that is what banks should be doing”.¹⁴

Apparently in good years financial markets appear to offer tempting opportunities to financial players, regardless of the true capabilities that each of them might have. For example, in 1999, ABNAMRO – which by now following a split up has disappeared as an international group – unfolded a financial market oriented wholesale banking strategy, to change course a few years later realizing its true added value in relationship-based commercial banking. As BCG (2010a) puts it (explaining the surge in transaction oriented activities in 2004-2007): “... Amid surging economies, low loan losses, and readily

12 Hellwig (2008) points at the banking crisis that followed the deregulation in 1971 in the UK (lifting of credit controls) as well as the crisis of 1992 that followed deregulation in the mid-eighties in Sweden.

13 “Thinking Locally at Citigroup”, *Business Week*, October 24, 2005, p. 50-51, remarks by Steven S. Freiberg, Citigroup’s head of banking retail operations.

14 Interview on Indian television, March 3, 2011, NDTV: <http://www.ndtv.com/video/player/news/vikram-pandit-on-citigroup-turnaround/192488?Npic>.

available cheap capital, it did not really matter whether a bank had top- or bottom-quartile capabilities [...]. All that mattered were workable sales processes”.

What this points at is the scalability of transaction-oriented activities. Subject to available capital banks can quickly increase their exposure to those activities. Relationship-based activities are more constrained as they depend on employing human capital and engaging with potential clients. Thus transaction-oriented banking is not only more susceptible to a sudden spur in momentum (demand-type effect), but also the feasibility of financial institutions to quickly mobilize resources and give in to the sudden opportunities (supply effect) seems greater than for relationship banking activities.

The competitive dynamics plays an important role. When financial markets are exuberant, banks that abstain from for example trading activities – one of the financial market activities that can be expanded quickly – may look less profitable and might feel ‘left behind’ in the earnings game vis-à-vis other banks. This is precisely what happened with UBS, one of the bigger victims in the 2007-2009 crisis. An internal investigation in 2008 – following massive losses on subprime investments – discovered that its troublesome subprime investments were undertaken following pressure from external consultants that pointed at its fixed income activities that were lagging those of competitors. To fill this gap UBS was advised “to close key product gaps” which explicitly referred to subprime investment vehicles (UBS, 2008, page 11).

2.3.1 *Internal Dynamics*

Let’s now focus on the internal dynamics of banks combining transaction- and relationship-based activities. Trading activities within banks have grown enormously and seem sometimes in conflict with the ‘traditional’ relationship-oriented activities. An interesting example is proprietary trading, an activity that has gained importance, and arguably seems to have contributed significantly to the profitability of banks in recent years.¹⁵

A noteworthy example of a banking institution where proprietary trading gained importance rapidly was the Barings Bank, a British bank with a long tradition in corporate banking. Barings failed in 1995 due to trading losses.¹⁶ Some interpret the Barings debacle as a meltdown caused by a clash of cultures: aggressive and ambitious traders versus traditional and conservative bankers. For them, better internal controls and external supervision aimed at aligning incentives seem obvious remedies (Jorion, 2000, p. 43). The economics of banking may however dictate a more fundamental analysis, one that transcends the specifics of Barings and sheds light on banks’ strategic choices in general. Assume that the risk inherent in the trading activity is not fully accounted for.¹⁷ In a sense this was the case because counterparties to Barings’ trading activity felt safe because Barings as an entity was effectively underwriting the trading risks. Also risks might have been underestimated such that risk premiums were relatively low (see section 6).

15 Elsas, Hackethal and Holzhäuser (2010) show that higher margins from non-interest revenues increased bank profitability.

16 The now infamous trader, Nick Leeson, lost £827 million (\$1.3 billion) speculating on futures contracts in Barings’ Singapore office.

17 The trading activity involves substantial risks, thus establishing the fair risk-adjusted cost of funds is important. Banks try to resolve this by allocating (costly) capital to the trading unit.

This line of argument implies that the proprietary trading activity is free-riding on the bank at large. This may have three consequences: (i) proprietary trading appears more profitable than it really is, (ii) a proprietary trading unit does not sufficiently internalize risks, and (iii) other – mainly relationship-oriented – activities of banks face (over time) an unfairly high cost of funds. The latter would come about because proprietary trading would elevate the risk of the institution at large. The implications are twofold. First, proprietary traders may operate with little market discipline. As we will argue in section 6, market discipline might be lacking in banking in any case, but free riding of the trading activity on the bank at large makes it worse. Consequently, the only corrective mechanisms might be internal controls and external supervision.

Second, banks may become less competitive in their relationship-oriented activities. That is proprietary trading might have been granted an artificially low cost of capital, at the expense of a (ultimately) prohibitively high cost of capital for the bank as a whole. Other – mainly relationship-oriented activities – are then implicitly taxed and falsely appear not profitable. Thus, proprietary trading could undermine the bank's competitive edge in its relationship banking business, and that is what the quotes at the beginning of this section point at.¹⁸

While we have highlighted Barings as an example, we could just as well have used UBS. In the UBS report (UBS, 2008), it was noted that the investments in mortgage backed securities were charged a very low cost of capital, and that bonuses were paid on the excess return relative to this underpriced funding cost level. Not surprisingly, this gave ample incentive to increase exposure to these securities even further. While the high (triple-AAA) credit rating on the MBS securities might have been an excuse, it is surprising that apparently no independent due diligence was undertaken.

A related mechanism is that such trading activities initially appear very profitable (as long as the boom lasts), and that during that time those departments engaged in this activity will gain power. What this does is that power is shifted from more prudent relationship banking activities to those trading units. This will affect the overall balance of power and may tilt the institution away from its relationship banking franchise.

2.3.2 Relationship Banking and Competition: Some Theoretical Observations

The academic literature has offered strong support for the importance of relationship banking.¹⁹ But how does this relate to the arguments that are often made to explain banks' increasing involvement in transaction activities? Two arguments explaining a possibly desired (or indispensable) shift to transaction-oriented banking dominate; both are related to the competitive environment. First, it is often argued that in a more competitive environment banks need to look for alternative sources of revenue outside their traditional domain. The other is that competition undermines the feasibility of recouping investments in relationship banking, and that *endogenously* transaction-oriented banking gains importance.

¹⁸ It is important to realize that investment banking can be relationship-oriented as well. Proprietary trading is one of the activities that is clearly not.

¹⁹ This subsection follows in part Boot and Thakor (2010).

The first argument – the need to look for alternative sources of revenue in a more competitive environment – is somewhat problematic because it does not explain why banks would be good at that. Why undertake other activities unless linked one way or the other to the banks' competencies? Should banks in that case not just shrink? Key is then that there need to be complementarities to rationalize banks choice to engage in other activities.

On the second argument an interesting literature has developed that looks at how competition might affect the incentives for investing in relationship banking. While this may ultimately be an empirical question, two diametrically opposite points of view have emerged theoretically. One is that competition among financiers encourages borrowers to switch to other banks or to the financial market. The consequent shortening of the expected "life-span" of bank-borrower relationships may inhibit the reusability of information and diminish the value of information. Banks then experience weaker incentives to acquire (costly) proprietary information and may choose to reduce their relationship-specific investments, and relationships may suffer. One formulation of this negative effect of competition on banks' incentives to invest in relationship banking is that increased credit market competition could impose tighter constraints on the ability of borrowers and lenders to intertemporally share surpluses (see Petersen and Rajan, 1995). In particular, it becomes more difficult for banks to 'subsidize' borrowers in earlier periods in return for a share of the rents in the future. Thus, the funding role for banks particularly for less established borrowers may not be sustainable in the face of sufficiently high competition. This implies that interbank competition may diminish bank lending.²⁰

The opposite point of view is that competition may actually elevate the importance of a relationship-orientation as a distinct competitive edge. The general idea is that competition reduces profit margins most on commoditized products and increases the importance of differentiation. Relationship lending is one way of differentiating. Boot and Thakor (2000) formalize this argument to show that a more competitive environment may encourage banks to become more client-driven and customize services, thus focusing more on relationship banking.²¹ They distinguish between 'passive' transaction lending and more intensive relationship lending. Transaction lending competes head-on with funding in the financial market. Competition from the financial market (as well as interbank competition) will lead to more resource-intensive relationship lending, and reduce transaction lending, since this mitigates the margin-reducing effects of price competition. The absolute level of relationship lending is, however, non-monotonic in the level of competition: initially competition increases relationship lending, but when competition heats up too much, investments in bank lending capacity will suffer and that may start to constrain relationship lending.

Another important consideration is that relationships may foster the exchange of

20 Berlin and Mester (1999) provide a related, albeit different, argument. Their analysis suggests that competition forces banks to pay market rates on deposits, which may impede their ability to engage in the potentially value-enhancing smoothing of lending rates. This is also directly related to Allen and Gale (1995) who see intermediaries as vehicles that can smooth lending rates over time, and financial markets focused on cross sectional diversification.

21 In related work, Hauswald and Marquez (2006) focus on a bank's incentives to acquire borrower-specific information in order to gain market share, and Dinc (2000) examines a bank's reputational incentives to honor commitments to finance higher quality firms.

information, but may simultaneously give lenders an information monopoly and undermine competitive pricing. The informational monopoly on the “inside” lender’s side may be smaller if a borrower engages in multiple banking relationships. This would mitigate the possibilities for rent extraction by informed lenders and induce more competitive pricing (see Sharpe, 1990). Transaction-oriented finance, however, may give banks little incentive to acquire information but is potentially subject to more competition. This suggests that markets for transaction-oriented finance may fail when problems of asymmetric information are insurmountable without explicit information acquisition and information-processing intervention by banks. This argument is used by some to highlight the virtues of (relationship-oriented) bank-dominated systems (e.g. Germany and Japan) vis-à-vis market-oriented systems like the US. This is part of the literature on the design of financial systems (see Allen and Gale, 1995).²²

What this discussion indicates is that the impact of competition on relationship banking is complex; several effects need to be disentangled. However, recent empirical evidence (see Degryse and Ongena, 2007) seems to support the notion that the orientation of relationship banking adapts to increasing interbank competition, so higher competition does not drive out relationship lending. Despite this adaptation, there is also evidence that in recent years the geographic distance between borrowers and lenders has increased, and that this has been accompanied by higher loan defaults (see DeYoung, Glennon and Nigro, 2008).

An important observation is that competition could lead to consolidation in banking, and that in itself might have an impact on the importance of relationship banking. In particular, consolidation may undermine the incentives of banks to produce and utilize soft information. Recent research has shown that large banks are less capable in using soft information (see Berger and Udell, 2002; Stein, 2002, and for empirical evidence Berger et al., 2005). Larger, more centralized banks base their credit approval decisions more on hard (verifiable) information, whereas smaller (more decentralized) banks can more easily use soft information.

As a consequence relationship banking could suffer. This might be particularly important for the financing of smaller and informationally opaque firms, and also has implications for the optimal decision-making structure of larger financial institutions (see Stein, 2002; Liberti, 2003; Strahan, 2008).²³ Sapienza (2002) finds that bank mergers involving at least one large bank result in a lower supply of loans to small borrowers by the merged entity. As stated, this could be linked to the difficulty that larger organizations have in using soft information. These arguments could also point at the importance of proximity in relationship banking and actually suggest that larger banks may fail to grab the benefits of relationship banking if they do not delegate enough authority lower into the organization (see Degryse and Ongena, 2005). That is, the organizational structure of banks might play a crucial role.

²² Another important insight is that bank ownership type (foreign, state-owned or private domestic) affects the bank’s choice between transaction and relationship lending, see the empirical work of Berger, et al. (2008).

²³ Berger, et al. (1998) show that the actual supply of loans to small businesses may not go down after bank mergers, since they invite entry of de novo banks that specialize in small business lending (see also Strahan, 2008).

The extensive work in the field of financial intermediation points at the distinct value of relationship banking. We do not believe that this work has been invalidated by recent developments in the financial sector. To the contrary, much we have said indicates that banks may have destroyed value by straying from their client-focused strategies. Academic research has long shown that banks should be "...extra cautious in forays outside of home markets, and above all, cultivate deep client relationships" (BCG, 2010).

2.4 COST OF CAPITAL FALLACY

The potential misallocation of resources, and shifts in balance between transaction and relationship banking activities is further affected by the beliefs that banks have about their cost of capital. Bankers see capital as being very expensive, and they seem to convey that capital has one price. A bank's cost of capital might be set in the mind of bankers at for example 15%. Whatever the presumption, capital does not have one price. Standard capital structure theory tells us that the per unit cost of capital depends on the risks that this capital is exposed to. More risk generally implies a higher cost of capital. This is indeed core to the well known Modigliani and Miller capital structure theory, and more generally core to the theory of corporate finance.²⁴

Two important implications now follow. First, the per unit cost of capital will not be the same for all of the bank's activities. The level of risk and the risk characteristics will determine the unit cost of capital for each of the activities. Applying an average bank's cost of capital to its proprietary trading unit would therefore be wrong. Given the generally well diversified, and thus low risks, found in the bank at large, the (non-diversifiable) risks taken in the trading unit dictate a much higher cost of capital. This is what banks try to deal with when allocating capital internally.

The capital allocations are typically based on Economic Capital, VaR and RAROC-type methodologies. Allocating differential amounts of capital (at a fixed cost per unit) might be equivalent to differentiating the cost of capital across activities. In practice however risk differentials may not be taken into account sufficiently. Moreover, the momentum driven financial markets may underestimate risk and hence cause distortions in the capital allocation.

The second implication is possibly even more important: banks should not choose to engage in certain activities solely because they have the capital available. This directly addresses the distortions that the simple belief that capital has somehow a high (exogenously) fixed price induces. The critical observation is that 'putting capital to use' increases the per unit cost of capital. Therefore, engaging in proprietary trading to exploit

24 This does not mean that capital structure indifference applies to banks. As is well known, there might be frictions that causes deviations from the M&M world. Yet the general notion that the cost of capital is affected by the risk that the capital is exposed to is hard to refute (see also Admati, et al., 2011). To what extent banking is special, particularly with its role in liquidity transformation, is open for debate. Some alternative theories on the financial structure of banks focus on the disciplining role of fragile short term funding (see Calomiris and Kahn, 1991; Diamond and Rajan, 2001). The idea there is that such fragile debt disciplines a bank (i.e., it will behave well to prevent a run), yet, as Shin (2009) argues such a financial structure would be highly destabilizing, particularly considering exogenous industry-wide events (beyond an individual bank's control) that may trigger a confidence crisis among financiers. Such fragile debt would then cause a severe liquidity crisis in the industry.

the bank's capital will elevate the cost of this capital, and as a consequence increase the cost of funds for the bank at large.

Banks that consider themselves 'overcapitalized' and decide to put this capital to use may thus not create value at all. This argument may also explain why banks consider capital (prohibitively?) expensive. If potential investors anticipate that banks will put their capital to use at all cost, they will gross-up their required return accordingly.²⁵ Banks then can issue equity only at discount prices. These beliefs and anticipations create a perverse equilibrium. Given the bankers' state of mind – fixed priced, expensive capital that needs to be put to use as quickly as possible – the market responds rationally by charging a high price for capital.²⁶ And given these anticipations by the market, the bankers' beliefs are justified and confirmed in equilibrium.

As we will highlight in section 6, taking into account that financial markets may go through euphoric (boom) periods with underpriced risk amplifies the distortions highlighted in this section. If risk is underpriced, loading up on risk (via leverage, asset risk or mismatches) seems to create value. One of the puzzles is why banks appear to maximize ROE while corporate finance theory tells us that risk should be taken into account, and hence the risk-adjusted ROE should be targeted. Once you accept that risk might be underpriced in good times, it becomes easier to understand why maximizing ROE is so prevalent. In the extreme, if risk can be ignored ROE would become a sensible measure. This could also explain why increasing leverage is popular: increasing leverage elevates ROE.²⁷

The proliferation of financial markets has worsened this problem. It has become much easier to quickly take advantage of market-driven opportunities.²⁸

2.5 OWNERSHIP STRUCTURE: PARTNERSHIPS, STABILITY AND INSTITUTIONAL FRANCHISE VALUE

As stated, key to recent financial innovations is the marketability and (excessive?) 'changeability' that it may cause. We pointed at the opportunistic behavior that this may cause. An important link to the ownership structure and stability of investment banks versus commercial (relationship oriented) banks can be made.

Traditional relationship-oriented banks seem incentivized to build up *institutional*

25 Several examples from the 2007–2009 financial crisis demonstrate the risks associated with banks' rapid growth. The Icelandic bank Landsbanki realized extraordinary growth in the Netherlands and the UK by offering Icesave online savings accounts with attractive interest rates. In only five months of presence in the Netherlands, it raised €1.7bn in approximately 130,000 accounts (De Moor, Du Perron, and Krop, 2009, pp. 54, 56). The subsequent collapse of Landsbanki created a diplomatic dispute between Iceland and the UK and the Netherlands. Similarly, ING expanded aggressively in the US with its ING Direct business. The tens of millions in deposits that were acquired in the US market had to be invested locally with some requirements linked to the housing market. Without much of a physical presence in the US, massive investments were made in Alt-A mortgage securities that were questioned in the financial turmoil of 2007–2009. ING needed support from the Dutch government.

26 A corollary to the 'fixed price notion' is that banks might be tempted to respond to higher capital requirements by increasing risk, unless this risk is fully captured in the risk-based capital requirements. Actually, it may help explain the rapid elevation of risk prior to the crisis when banking was considered adequately capitalized.

27 Haldane, Brennan and Madouros (2010) also point at the distortions caused by the explicit (deposit insurance) and/or implicit (TBTF) safety net.

28 See also Adrian and Shin (2010).

franchise value. Individuals are part of the organization as an entity, and the continuity of the organization and lasting relationships with its clientele defines its value. The value cannot be transferred and cannot readily be assigned to individual stars. In other words, the value created is an integral part of the organizational entity and not portable as part of individuals.

Investment banks on the other hand, particularly their trading and transaction activities,²⁹ seem more based on the individual star concept with high marketability of individuals. As a consequence, less institutional franchise value is built up; individual franchise values dominate. If this is the only difference then a relationship banking institution has substantial implied franchise value, while the investment bank has little implied value, and hence Keeley's (1990) analysis would suggest that an investment bank would take lots of risk, while the franchise value of a commercial bank would help curtail its risk taking.³⁰

Historically investment banks have solved the marketability problem – and the potential lack of institutional franchise value – by having partnerships. The partnership structure has two dimensions that could help jointly resolve the marketability problem, and related opportunistic, risky behavior (and star phenomenon):

- a partnership means that bankers have their personal wealth tied up in the business – they own the equity claim of the business;
- the partnership structure is such that the equity is not (optimally) marketable.

The latter implies that stars cannot take their money out, or only at a reduced value. Implicitly, this means that non-portable franchise value is created, and this value is transferred over time to future partners. Interesting examples exist where institutions have made changes that have destroyed this structure. For example, with a go-public transformation (converting a partnership in a listed shareholder owned company) the current partners effectively expropriate all franchise value that has been built up over time.³¹ Even worse, once the partnership is gone, stars may no longer be 'under control.' Their financial interest is no longer tied to the firm. This may elevate risk and reduce stability.³²

In commercial banking the enhanced marketability – and with it, transaction focus – may have opened the door for some type of star phenomenon as well. In a sense, it may

29 Many of the activities in an investment bank are relationship based (see section 3), trading is typically not. In recent times, traders appear to have gained power within investment banks, e.g. more recent leaders of Goldman Sachs came from the trading side. In any case, we do not see the distinction between commercial banking and investment banking as an absolute dichotomy.

30 There is some value in the multitude of connections that are combined in the investment bank, but this is also pointing at externalities of failure (see Duffie, 2010).

31 Morrison and Wilhelm (2007; 2008) analyze the decision of major US investment banks to go public. Investment banks were initially organized as partnerships. The opacity of partnerships and illiquidity of their shares allowed for successful mentoring and training in tacit non-contractible human skills, such as building relationships, negotiating M&A deals and advising clients. They have argued that IT technology necessitated heavy investments and that that necessitated investment banks to go public. Potentially confirming this is that wholesale-oriented investment banks such as Morgan Stanley for which tacit human capital was more important than IT technology went public later than retail oriented investment banks such as Merrill Lynch.

32 Publicly listed firms sometimes use restricted stock to create some fixity in the ownership structure, and continued loyalty of key personnel.

have brought commercial banking closer to investment banking, and similar issues might be at play. This may have induced opportunistic behavior particularly because partnership structures in commercial banking never have been very common.

In any case, partnerships among major financial institutions are rare. The important point however is that via enhancing marketability the demise of partnerships could have undermined stability. As a caveat, all this does not mean that there might not be distinct benefits associated with these developments as well. What we have stressed is the potential downside. We are however prepared to conclude that the financial crisis has made us look more favorably at alternative ownership structures like mutuals and cooperative banks (e.g. Credit Agricole in France). It may well be that also with our thoughts about the type of ownership structure we should be more open to diversity. After all, one of the problems of the increasing intertwined nature of banks and markets is that it might make banks look more alike, and that could induce systemic risk. Diversity in ownership structures might help counter this.

2.6 DOES MARKET DISCIPLINE WORK?

Market discipline is an often discussed feature of banking. In the positive sense it means that banks might be induced to behave well because financial markets may reward and/or punish them. Bliss and Flannery (2002) talk about two components of market discipline: investors identifying the condition of a banking firm in a timely fashion. This requires monitoring by investors. And subsequently the feeding back of investors' responses in the behavior of banks. One could identify as a third channel the use of market information for official supervisory intervention (see Flannery, 2009; Llewellyn, 2010).

Supervisors have subscribed to the notion of market discipline as well. For example, in the Basel II agreement the third pillar aims at enhancing market discipline by pushing for more disclosure. The idea seems sensible. Why not use market information, and have markets help in disciplining banks? This seems particularly important considering the difficult task that supervisors face: a mushrooming financial sector with ever more complex financial institutions and interconnections (Kaufman, 2003). Basel II thus intends to make this task easier for regulators/supervisors by improving transparency, and hence market discipline. Possibly supervisors might also use the market-revealed information in their supervisory practices.

On the surface one feels sympathetic for these ideas. Market discipline would be a welcome supplement for enforcing prudent banking. How might market discipline actually work? At the very least one could say that pricing information and market signals will always provide some information, and hence should potentially be valuable. In the literature, particularly subordinated debt has been pushed as a desired source of funding for financial institutions because it could give valuable pricing information (Bliss, 2001). Such pricing signals could augment the supervisors' information about an institution's risk, or, alternatively, could discourage risk taking by a financial institution directly. That is, when markets envision too much risk taking subordinated funding might not be

available anymore, or banks might be discouraged to take risks anticipating the upward adjustment in subordinated debt yields.³³

While market discipline may play a role, the extent to which it helps impose discipline on the financial sector at large is open for discussion. Even if the market could observe potential risks, collective action problems among investors (free riding) and anticipated government bail-outs could lead to quite distorted pricing signals. Some of the discipline runs via the banks' credit ratings, and these in turn may depend on market signals. As we have seen in the last few years, credit rating agencies might be subjected to conflicts of interest, may not adjust their ratings timely, and/or have little true added value in assessing underlying risks.³⁴

There is some support for the presence of market discipline, but there is controversy on whether market discipline helps or hinders the regulatory task of maintaining banking stability. What seems to be true is that market discipline comes in waves, and particularly in a financial crisis may overwhelm individual players and the industry at large. Market discipline might be subject to herding behavior, as everybody "heads simultaneously for the exit" in more stressful times. As such it could be a source of instability.³⁵

We see a paradox in the notion of market discipline. The opportunistic behavior that we pointed at is driven by banks engaging in particular financial market linked activities. And the enhanced marketability, that we discussed earlier, may have facilitated this. Those activities are heavily driven by momentum in the financial markets; for example overoptimistic views in the market about the profitability of particular strategies. These opportunities appear to mushroom in euphoric times in the financial markets, and typically go hand in hand with underpriced risk, i.e. low risk premiums. It is the market that defines the opportunities and underestimates risk; banks seek to (opportunistically) exploit them.

But now the paradox. In the way we have formulated the argument, financial markets that are supposed to engage in market discipline underestimate risks and are momentum driven, and in doing so encourage banks to engage in specific activities. How then can we expect these same markets to impose market discipline? It appears to us that market discipline is not present when banks follow financial market inspired strategies. Things are even worse because the correlation in strategies between financial institutions will then be high because all see the same opportunities and hence we see herding behavior. Systemic risk would be enormous and not checked by market discipline.

What this points at is that from a macro-prudential view (i.e. system wide view) market discipline is not effective. This supports Flannery's (2009) analysis that in the summer of

33 Decamps, Rochet and Roger (2004), Goyal (2005) and Barth, Caprio and Levine (2004) offer some support for these ideas.

34 Observe also that a downward adjustment in the credit rating might act as a trigger that could in itself destabilize an institution. A downgrade could induce a type of run with investors. For example, many institutional investors are only allowed to invest in investment grade securities. A downgrade to non-investment grade may then lead to a mass exodus. These problems are far from trivial. Credit ratings do also play a role as focal points in financial markets. This may help in coordinating beliefs in the financial market and reduce fragility, see Boot, Milbourn and Schmeits (2006).

35 The relevant question is whether market discipline could help in containing systemic risks, or whether market responses merely amplify such risks (see Flannery, 1998).

2007 neither share prices nor CDS spreads provided information about pending problems. We tend to conclude that market discipline might more readily work for idiosyncratic risk choices of an individual financial institution (i.e. across institutions) than for the choices of the sector as a whole. In the financial sector with the correlated strategies induced by momentum in financial markets, market discipline seems ineffective.

2.7 STRATEGY OF FINANCIAL PLAYERS AND SCALE AND SCOPE ECONOMIES

What drives financial players in choosing their scale and scope of operations? This question is important because the size and particularly the complexity of financial institutions is a concern to regulators and supervisors.³⁶ While the current statements in the industry might suggest that institutions ‘go back to basics’, i.e. reduce complexity, focus and simplify product offerings (KPMG, 2011), we expect the scale and scope extending strategies to continue. As we will discuss below, size will continue to be a driver in the industry. This is part of the ongoing underlying market forces in the industry. Whether size really offers scale or scope economies is a totally different question. Research on this remains rather inconclusive, or in the words of Richardson, Smith and Walter (2011): “Indeed, the recent studies mirror the findings [...] some 15 years earlier [...] there was no predominance of evidence either for or against economies of scale in the financial sector.”

2.7.1 Observations on Scale and Scope

A first observation is that banks like to *combine* many different activities. This distinguishes banks from many of their competitors, e.g. non-banking financial institutions like mutual funds and finance companies. The latter often choose to specialize and therefore are much more transparent. Banks generally choose to diversify their activities. Although few would readily deny that some degree of diversification is necessary, banks seem to engage in a very broad variety of activities. The question that arises is what is the optimal conglomeration of bank activities, and what structure will the industry migrate to?

Until recently, the complexity (or opaqueness) even meant that bankers themselves did not really know the profitability of many of their activities. Cross-subsidies were the rule, and internal cost accounting was rudimentary. While cross-subsidies may sometimes be an optimal competitive response, often they will not be sustainable in a competitive environment. A related issue is that implicit or explicit government guarantees and too-big-to-fail (TBTF) concerns might give artificial competitive advantages to size. Universal

36 We will not focus on (historic) differences in financial systems across countries. Financial systems are often characterized as either being bank-based (continental Europe) or financial market driven (US, UK). In the former, bank financing and relationships are dominant, while direct funding from the financial market plays a more important role in the latter. Financial innovations may have affected these systems differently. The distinction is not as sharp as the dichotomy might suggest, e.g. more than half of US businesses is bank-financed and financial markets clearly play a role in continental Europe; hence no system is fully market or bank-driven. Nevertheless, an interesting question is whether the more recent proliferation of financial innovations might impact those systems differently. One observation is that bank-based and financial market driven systems might have become more alike. The marketability associated with recent financial innovations may have weakened the distinction between bank-based and financial market driven systems.

banks, while not particularly efficient (BCG, 2010a), might have sufficient ‘protected’ revenues to compete with more focused players.³⁷

The coincidence of the consolidation trend in the financial sector with increased competition has led many to believe that the massive restructuring observed in banking is a response to a more competitive environment. That is, as commercial banking becomes more competitive, banks need to examine all possible ways to eliminate inefficiencies from their cost structures, for example, by merging with other banks and realizing scale efficiencies through elimination of redundant branches and back-office consolidation. Moreover, diminishing margins in commercial banking might have invited banks to look outside their traditional domain (see section 3). Some non-banking activities may (appear to) offer higher margins and make scope expansion look attractive. The key question is whether these responses indeed create value.³⁸

Scale and scope economies are often cited as rationale for why financial institutions tend to grow in size and complexity (scope) over time. But are scale and scope economies truly present? Sources of scale and scope economies include (see Boot, 2003; Walter, 2003): *i.* information-technology related economies; *ii.* reputation and marketing/brand name related benefits; *iii.* (financial) innovation related economies; and *iv.* diversification benefits. Information technology related economies particularly refer to back office efficiencies and distribution-network related benefits. Transaction processing offers distinct scale economies. And information technology developments facilitate an increasing array of financial products and services to be offered through the same distribution network, and thus allow for cross selling. Reputation and brand name/marketing related economies may be present in the joint marketing of products to customers. Brand image is partially marketing related, but is also related to the notions of ‘trust’ and ‘reputation.’ (Financial) innovation related economies particularly refer to large(r) institutions that might be in a better position to recoup the fixed costs of those innovations.

Diversification benefits are (at first sight) more controversial. In many cases, conglomerate may lead to a valuation discount which could point at (anticipated) inefficiencies. This is in line with corporate finance theory that tells us that investors can choose to diversify and that this does not need to be done at the firm level. However, key to the business of banking is risk processing and absorption. And confidence in a bank requires it to be safe. Diversification is then needed to be able to absorb risks and be safe. Observe also that several bank activities benefit from a better credit rating, which suggests that diversification at the level of the bank has value.³⁹

37 Indeed, this is one of the complaints of more focused investment banking institutions. Universal banks can leverage their balance sheet (read: cross subsidize) to secure investment banking business (e.g. *Financial Times*, March 21, 2011, page 17: “US banks face fresh scrutiny on lending”).

38 The banks’ inclination to expand scope has some notable exceptions. For example, while we had observed a spectacular cross-industry merger of Citicorp and Travelers, bringing together insurance activities with bank-oriented financial services, more recently, Citigroup has been divesting its insurance assets. Similarly, Credit Suisse expanded into insurance by acquiring the insurance company Winterthur, but lately has been divesting these assets. Similar processes are observed with other bancassurance conglomerates.

39 For many guarantees or contracts and activities that involve recourse, the credit standing of the guarantor is crucial for the credibility of the contract. Mester (2008) emphasizes that bank production decisions affect bank risk. Scale and scope related decisions have via diversification an effect on risk, and that in turn may affect choices about risk exposure.

2.7.2 *Are Scale and Scope Benefits Real?*

Scale and scope economies in banking have been studied extensively. A survey paper by Berger, Demsetz and Strahan (1999) concludes that, in general, the empirical evidence cannot readily identify substantial economies of scale or scope. Illustrative is Saunders (2000). He cites 27 studies, 13 of which found diseconomies of scope, 6 found economies of scope and 8 were neutral.⁴⁰

An important caveat is that this research mainly involves U.S. studies using data from the 70s and 80s. Apart from potential methodological shortcomings the results therefore do not capture the dramatic structural and technological changes in banking that have taken place since then. Furthermore, they reflect the historic fragmentation of the U.S. banking industry due to severe regulatory constraints on the type of banking (banks could engage in commercial banking or investment banking, but not both) and the geographic reach of activities (limits on interstate banking) that were present till the deregulation in the 90s (see Calomiris and Karceski, 1998).

Some more recent studies examine the existence of a diversification discount for financial institutions. Laeven and Levine (2007) confirm the existence of a diversification discount in banks that combine lending and non-lending financial services, and suggest that the potential economies of scope in financial conglomerates are not large enough to compensate for potential agency problems and inefficiencies associated with cross-subsidies.⁴¹ Rajan, Servaes and Zingales (2000) emphasize that, even though conglomerates trade at a discount on average, 39.3% of the conglomerates trade at a premium. They show that the interrelation between activities within the conglomerate is of crucial importance. Diversified firms can trade at a premium if the dispersion between activities is low. High dispersion induces inefficiencies which point at the importance of focus within the conglomerate. In particular, one should look at what type of mergers and acquisitions involve scale and scope benefits. Recent research suggests that mergers with both a geographic and activity focus are most value enhancing. Similarly, in analyzing scope and scale issues, one should focus on the type of activities. What are the scale economies in each activity? And what product-mix offers true scope economies?

In this spirit, DeLong (2001) looked at the shareholder gains – more specifically, the immediate announcement effect on share prices – from focused versus diversifying bank

40 With respect to the empirical evidence on scale and scope, some general observations can be made. First, scale and scope economies are empirically often dominated by adverse changes in managerial efficiency. For example, inefficiencies in managing larger organizations may mitigate possible scale and scope benefits. Second, scale and scope economies are difficult to disentangle from changes in market power. Increasing scale and scope may facilitate market power, and thus elevate profitability in the absence of scale and scope economies. Third, to the extent that mergers may change the structure and dynamics of the industry, the abnormal stock returns associated with merger announcements reflect such changes.

41 Schmid and Walter (2009) confirm the Laeven and Levine (2007) results, and verify that this discount is indeed caused by diversification, and not by inefficiencies that already existed before the diversification. There are two important qualifications on conglomerate discounts as measured in the literature (following the well known Berger and Ofek (1995) study that – as one of the first – identified persistent discounts). Chevalier (2004) shows that controlling for the pre-conglomeration performance of businesses is important: inefficiencies measured after a merger often already existed prior to the merger. A second qualification is that discounts are often measured as a ratio (e.g. return on invested capital). A merger that leads to larger investments may reduce the average return but increase the absolute overall return (in \$).

mergers in the U.S. between 1988 and 1995. She found that focused mergers, both on the level of activity and geography, have positive announcement effects. Moreover, focus in activities was shown to be more important than geographical focus, albeit the latter was important as well. Activity-diversifying mergers had no positive announcement effects. These results point at the presence of scale rather than scope economies.⁴²

The typical result in these earlier studies was however that even scale economies were exhausted at relatively small bank sizes. More recent evidence points at more persistent scale economies. Wheelock and Wilson (2009) and Feng and Serletis (2010) find increasing returns to scale and Elsas, Hackethal and Holzhäuser (2010) find increasing returns to scope also for larger financial institutions. Apart from methodological issues (see Mester, 2010), this might be driven by information technology developments that might only have showed up in more recent data.

2.7.3 *What to Expect?*

We would subscribe to Robert DeYoung's statement that "...scale economies are a distraction" (DeYoung, 2010). What we observe is that many players choose a conglomerate model and go for size (and complexity). In terms of efficiency and effectiveness the academic research would not readily point to a real superiority of such model. Indeed, it might very well be regulatory induced (e.g. taking advantage of TBTF benefits; see Feldman, 2010a).

As a final observation, the structure of the industry that we expect to naturally follow from market forces is trimodal. Apart from these conglomerates (also called large complex financial institutions, LCFI) which might be more investment banking or commercial banking centered, large specialized financial institutions will co-exist, as well as smaller banking institutions capitalizing on relationship-focused niches.⁴³ However, it is difficult to make prediction about the future structure of the industry. Uncertainties are daunting; for example, it is very unclear what the impact of public policy and new regula-

⁴² Isolating potential scale and scope economies is important. On the demand side, the proliferation of savings products and their link to pensions, mutual funds and life insurance clearly pushes for joint distribution, and thereby suggest economies of scope. IT developments might have made it possible to better exploit potential scope economies with multiple product offerings to a particular customer group, using new direct distribution channels with relatively easy access to (formerly) distant customers. The very same IT developments however also offer better possibilities for focused single-product players. Interfaces (may) come about that help bundle the product offerings of specialized providers, thereby becoming a substitute for an integrated provider. The lesson is that only very well managed integrated financial services firms may realize positive scope economies.

⁴³ This could build on the insight in section 3 that larger banks are not very good at serving smaller customers. More specifically, the use of soft information might be hampered in larger organizations. A question is whether larger institutions could successfully imitate a 'multi-local approach' in which subsidiaries would focus on local characteristics of individual countries, and be delegated enough autonomy. But the holding company would supply activities where scope and scale economies would be the biggest. Rotation practices could then (theoretically) bring better governance in subsidiaries compared to stand alone banking firms. As Unicredit puts it: "UniCredit recognizes the importance of specialization. The group utilizes a divisional business model that optimizes its ability to meet the needs of a variety of customer segments, offering personalized services. UniCredit's divisional model is based on identifying well-defined business areas common to all of the markets in which the group operates: retail, corporate, private, investment banking and asset management. The emphasis is on creating specialized product factories and on centralizing support services. To apply this model, UniCredit uses a multi-local approach. This approach is consistent with the group's goal of being recognized as a highly capable domestic player in each of the markets in which it is present. Emphasis is placed on the value of establishing a presence in local communities. Global product factories are a key feature of the divisional model. They can help exploit the growth potential inherent in UniCredit's vast branch network." (<http://www.unicreditgroup.eu/en/Investors/Strategy.htm>).

tions might ultimately be on the industry.⁴⁴

But again we expect market forces to continue to press for size. In the next section, we will try to answer the question whether structural measures are needed to reduce complexity.

2.8 DEALING WITH COMPLEXITY: BREAKING-UP BANKS AND LIVING WILLS

We will argue that structural measures might be needed to help contain destabilizing market forces and deal with complexity, and that behavioral measures (like higher capital requirements) are insufficient. Overall we will advocate a comprehensive approach to regulation and supervision.

The issue of complexity of financial institutions is heavily debated. In other industries one is tempted to say that market forces will figure out what the optimal configuration of a firm might be (subject to anti-trust concerns). However, in banking complexity can worsen externalities that one might want to contain. More specifically,

- i.* complex institutions might be difficult to manage and supervise, and effective market discipline might not be expected (problem of opaqueness);
- ii.* a complex financial institution may have many, difficult to discern linkages with the financial system at large. This may augment TBTF, or rather too-interconnected-to-fail concerns;
- iii.* as a consequence systemic concerns might become more prominent;
- iv.* complexity might paralyze supervisors and put them in a dependent position; e.g. how is timely intervention possible if the complexity of the institution cannot be grasped by supervisors?

On the last point, one element of the current reform proposals asks financial institutions to have a living will available, i.e. a detailed recovery and resolution plan that would allow for an orderly and efficient resolution of financial difficulties when they may arise. Such a living will aims at overcoming the complexity of an institution, and the paralysis it may cause with the supervisor when problems emerge.⁴⁵ Taking this concept seriously should probably mean that all relevant financial institutions organize themselves in a way that they can be easily dissolved when problems arise. So the complexity might have to be dealt with upfront, and would then have direct implications for the organizational structure of the business, i.e. for a bank's business model (Feldman, 2010b).

One is tempted to conclude that one way of dealing with the complexity is to disentangle activities and put them in separate legal structures ('subsidiaries'). Those subsidiaries could deal on an arms-length basis with each other, with each being adequately capitalized without recourse to each other. This would resemble the non-operating holding company structure that is discussed in some OECD studies (Blundell-Wignall, Wehinger

⁴⁴ See for example, McKinsey (2010a,b). Strategic considerations make it also difficult to extrapolate from choices that we currently observe in the industry. Boot (2003) explains the rather broad strategies of many banking institutions by emphasizing that in an uncertain environment banks may want to keep their options open.

⁴⁵ As Bliss (2003) concludes "... until the informational problems are resolved, it will only be happenstance that LCFIs are discovered to be distressed when they are still sufficiently solvent...".

and Slovik, 2009). With such a structure supervisors could possibly more easily (and timely) target, i.e. rescue, systemically important parts of a financial institution in case of distress; other parts could be sold or dismantled.

In this spirit one could look at the arrangements in New Zealand. In that country much of the banking system is in the hands of foreign players. New Zealand's authorities were skeptical about this lack of control, and instituted structural requirements to address them. The requirements entail enforced organization of activities within subsidiaries, but on top of that requirements that make the New Zealand based subsidiaries operationally independent from their foreign parents (Herring and Carmassi, 2010).⁴⁶

2.8.1 *Can Separate Legal Structures under One Corporate Roof be Effective?*

Whether such separate legal structures are really effective is unclear. In the market there might still be reputational spillovers between the different parts. Similarly, the market may still expect intra-group cross subsidization or joint risk bearing with the group's financial strength being perceived behind any individual activity (Lumpkin, 2010).

In practice, financial institutions typically have corporate structures that include a myriad of legal entities (Avgouleas, Goodhart and Schoenmaker, 2010). Banks in this way have become horrendously complex. HSBC for example has in excess of two thousand entities (Llewellyn, 2010). These are typically not designed to augment transparency and/or reduce complexity, but rather to engage in regulatory and tax arbitrage (e.g. capital management). The legal structures themselves are typically not stand-alone in any meaningful way but linked together through intra-group transactions, joint back offices and other shared facilities and activities. While these linkages might produce synergies, the accompanying complexity seems at odds with having effective living wills, or having a business structure that is receptive to supervision or market discipline.

Complexities are magnified once we take into account cross border activities and differences in bankruptcy regimes across countries (Cumming and Eisenbeis, 2010). Living wills and the timely intervention they could facilitate might be valuable particularly in these cross border situations especially when intervention occurs before losses become overwhelming. The latter might be crucial to align the interests of policymakers and supervisors. The potential for conflicts is considerable considering the problems associated with burden sharing.

One may expect that the industry will vigorously oppose such transparent and arms-length structures that – in their view – would limit synergies. Whether these concerns are really valid cannot be readily answered. Real synergies might be limited as we have seen in section 7. As we have argued in section 3, banks may confuse cross-subsidization with

⁴⁶ Following Ng (2007): banks in New Zealand typically outsource a range of business activities, both to independent and to related-party service providers, and both domestically and offshore. The predominance in New Zealand of banks owned by offshore parent banks, which provide important services to their subsidiaries, means that cross-border, related-party outsourcing is of particular relevance. The outsourcing policy requires a large bank's board to maintain legal and practical control over any outsourced functions such that the bank is able to continue to play its key role of supporting financial activity in the economy, both under normal circumstances and (particularly) under stress. The Reserve Bank applies the policy with some flexibility to suit the circumstances of individual banks. The policy thus ensures that the banking system retains the ability to avert distress, and underpins the Reserve Bank's ability to manage a financial crisis, while enabling the financial system to enjoy the benefits of foreign bank participation.

real synergies. The incentives of financial institutions might also be to seek complexity and in doing so hold supervisors ‘hostage.’ The implicit TBTF (or too-complex and/or interconnected-to fail) backing may further amplify disagreements between the bankers privately optimal choices and those of society. The reality is that the non-operating holding company structure as envisioned in the OECD studies – with transparency via arms-length contracts, no recourse and separate capitalizations – is a far cry away.

2.8.2 *Breaking-up Banks?*

A valid question is whether in face of this opposition one should not be more active and possibly seek a more radical solution. This refers to structural measures that seek to prescribe the structure and allowable businesses of banks and other financial institutions (Llewellyn, 2010).⁴⁷ Several policymakers have advocated such measures. The British have arguably been most adamant. Both Mervin King (Governor Bank of England) and Adair Turner (Chairman of the Financial Services Authority) have hinted at the need to split up banks. Actually, the UK government has established an independent Banking Commission (the Vickers Committee’) to look into potential structural remedies. While not directly advocating such measures, Sheila Bair of the FDIC has advocated that “America’s big international banks may have to restructure and downsize their operations now, unless they can prove they will be easy to dismantle in another financial crisis” (as reported by Reuters, March 1st, 2011). In terms of actually implementing new policies, the US appears to be in the lead with the Volcker Rule (part of the Dodd-Frank Act) that seeks to prohibit the involvement of banks in proprietary trading, and limit their investments and sponsorship in hedge funds and private equity.⁴⁸

European banks have always operated as fully integrated universal banks, while in the US the Glass-Steagall Act made a clear division between commercial banking and investment banking. The demise of this Act at least in part reflects the difficulty (and desirability?) of enforcing such separation. Indeed, prior to the passage of the Gramm-Leach-Bliley Financial Services Modernization Act of 1999 which formally repealed Glass-Steagall, commercial banks did enter via so-called Section 20 subsidiaries investment banking activities. This may have reflected the complementarity between lending and debt underwriting. Hence, the 1999 Financial Services Modernization Act was to some extent a belated response to underlying market forces. But it did more. It enabled US commercial banks to expand rapidly in investment banking, and become true financial conglomerates.⁴⁹

If the complexity makes it impossible for supervisors to (credibly) intervene in a timely fashion, one may start thinking about the desirability of breaking-up banks. One

47 We also could identify possible structural measures in the operations of financial markets; for example the introduction of central counterparties to reduce counterparty risk in OTC markets. This may help contain contagion. Note that the focus in this paper is on financial institutions, and less on the functioning of markets. As we will argue, we advocate a comprehensive redesign of regulation and supervision which would include measures aimed at reducing counterparty risk.

48 The Act is broader. It seeks to expand these measures to other important financial institutions (not just banks) and also seeks to address financial derivatives.

49 The other noteworthy regulatory development was the repeal in 1994 of the McFadden Act (with the passing of the Riegel-Neal Interstate Branching Efficiency Act) which removed restrictions on interstate branching.

question is whether this is really possible. And the other is how breaking-up banks squares with the broader objectives of supervision, and particularly the lessons learnt from the financial crisis. At least two lessons could be identified:

- contagion should be addressed;
- core commercial banking functions might have to be safeguarded.

The latter typically refers to the payment system and local deposit and lending operations. If a break-up indeed increases transparency and reduces complexity, timely intervention might become easier which might fit both lessons.⁵⁰ But this is from an ex post perspective, i.e. after problems have emerged. But how would a more fragmented banking system operate from a more ex ante perspective? Does it reduce contagion? Is it better at safeguarding core-commercial banking functions?

It is not obvious that a more fragmented system would be less susceptible to contagion, but the record of consolidated systems is not convincing either. Systemic risk does not appear to be contained in large diversified banks. As a matter of fact, Richardson, Smith and Walter (2010) conclude that “the expansion to multiple functions – the LCFI (large, complex financial institution) model – produces greater systematic risk.” They build this conclusion on extensive work by (among others) Stiroh (2006), De Jonghe (2010) and theoretical work by Wagner (2010). So from a policy perspective it is hard to defend the necessity of such large and complex institutions. Likewise, more limited commercial banking institutions without much exposure to the financial markets and primarily financed by deposits (contrary to less stable wholesale financing) might be better at safeguarding core-commercial banking functions.

2.8.3 *What to Do?*

We would be in favor of actions that would simplify the structure of banking institutions. With the enormous complexity of existing institutions and the difficulty that regulators (and legislators) have in grasping the intralinkages (within) and interlinkages (across) financial institutions, much could be gained. However, the same complexity together with the (understandably) hostile and uncooperative attitude of the industry itself when it comes to structural measures, make it a truly daunting task that would require enormous perseverance and persistence. Also, well known problems like how to deal with the cross border operations of banks (international coordination) and the shadow banking system at large would need to be addressed. And what does not help either is that there are no well established prescriptions on how to go about redesigning the financial architecture.

The Volcker Rule with its focus on proprietary trading, investments and sponsorship in hedge funds and private equity, and some restrictions on derivatives trading could help reduce the exposure to financial markets and does seem consistent with the dual lessons of the crisis as stated above (limit contagion and protect core banking functions). But the Rule is clearly imprecise and not watertight, so its effectiveness might be limited. Also

⁵⁰ For an early discussion on timely intervention and its interaction with systemic concerns, see Wall (2003).

the impact on complexity is limited, and hence effective timely intervention would still be doubtful. But overall we see it as a move in the right direction.

We believe that heavy handed intervention in the structure of the banking industry – building on the Volcker Rule – might ultimately be an inevitable part of the restructuring of the industry. It could address complexity but also help in containing market forces that might run orthogonal to what prudential concerns would dictate (as the insights on market discipline in section 6 suggest). For now, the structural interventions in the banking industry are rather tentative. Other measures such as higher capital and liquidity requirements are clearly needed. But these primarily focus on individual institutions while a more system-orientation is crucial to identify externalities and interlinkages (Goodhart, 2009; Calomiris, 2009). Anti-cyclical capital surcharges and other measures and surcharges depending on the degree of interconnectedness are needed as well to add some further comfort. We tend to subscribe to John Kay's (2010) notion of redundancy: having comfort in the stability of the financial sector dictates building redundancy into the regulatory and supervisory structures of banking.

2.9 CONCLUSIONS

The paper has highlighted the major challenges facing 'modern' banks. What has been shown is that financial innovations can be good (e.g. from the perspective of completing markets) but could also cause instability. The red flag is related to the observation that financial innovations often aim at augmenting marketability and intertwine banks and financial markets. This makes banks subject to the boom and bust nature of financial markets.

We tend to conclude that the marketability created in banking via financial innovations has created a more opportunistic landscape prone to herding, fads and excessive risk taking. More instability seems an inherent part of this new reality. Our discussion on the value of partnerships which actually may contain unwarranted opportunistic behavior, and their disappearance, points at the need to find some new 'fixed points' in the financial system; not everything can be fluid.

What we have also argued is that market discipline might be rather ineffective. We described this as a paradox. When particular strategies have momentum in financial markets, the market as a whole may underestimate the risks that these entail. How then can we expect market discipline to work? It appears to us that market discipline might not be present when banks follow financial market inspired strategies. Things are even worse because these strategies will lead to a high correlation in actual exposures between financial institutions because all see the same opportunities and hence herding occurs. Systemic risk would then be considerable and not checked by market discipline.

What this points at is that market forces work against prudential behavior in banking. Regulation and supervision then face an enormous challenge. In part for this reason we believe that heavy handed intervention in the structure of the banking industry – building on the Volcker Rule – should ultimately be an inevitable part of the restructuring of the industry. Structural measures could help contain destabilizing market forces. The

other challenge is the complexity of financial institutions. The complexity as it exists now makes it very difficult for supervisors to act. Timely intervention seems virtually impossible. The so-called living wills may lead to some improvements, but more transparent business and industry structures seem indispensable.

We do not believe that it is sufficient to only introduce behavioral measures like higher capital and liquidity requirements. These are undoubtedly needed, including also more system-oriented measures focusing on externalities and interlinkages, but they do not address the complexity nor misalignment between market forces and prudential concerns. Instructive in this regard are the counterproductive incentives that higher capital requirements might induce, e.g. banks might choose to increase their risk exposure following higher capital requirements in order to preserve a high ROE (which does not measure nor control for risk).⁵¹

We are not convinced by Allen Greenspan's recent statement that we should accept that the financial system is like Adam Smith's invisible hand – some type of complex ecosystem that is beyond anyone's control or imagination, and is "unredeemably opaque."⁵² Such status quo would seem unacceptable. However, he is undoubtedly right when he observes that any measure, and also the many measures proposed in the Dodd Frank Act, will have unintended side effects. This points at the potential costs of regulatory interference. Indeed, we know very little about the cost side of regulation (including those of structural measures), nor by the way is it easy to establish the costs of financial crises. A massive research effort is needed to build an understanding about what structure might offer the greatest benefits.⁵³ In our view, marketability has created considerable instability and warrants structural remedies. We are prepared to err on the safe side, and support a comprehensive approach to regulation.

51 As noted in section 4, the fallacy of considering the cost of capital more or less as fixed at a high level might push banks to manage based on maximizing the return on equity rather than the risk-adjusted return on equity (and in doing so, reestablish a high ROE on a now broader equity base).

52 'How Dodd-Frank fails to meet the test of our times,' *Financial Times*, March 30, 2011, page 9.

53 This research effort should also look at the positioning of the financial sector vis-à-vis the real economy. Over the last two decades the financial sector has grown enormously relative to the real sector (OECD, 2009). To what extent is this growth welfare enhancing (see Haldane, Brennan and Madouros, 2010)? Or has there been a crowding out of the real sector?

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