

Lessons from the Crisis¹

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Fire protection in the jungle

The US banking system is largely bankrupt and could no longer function without government aid. Its system of mortgage finance has now a strong socialist taste, with government agencies covering almost 95 per cent of the market. Western Europe's banks are tarnished. Without government money, many of them would fail to meet the regulatory minimum equity ratios and would have to fear withdrawal of their banking licences. Some European banks are even running the risk of losing their entire equity. Even the Swiss banking system, for many the epitome of stability and solidity for decades, would have been doomed without government support. More and more East European countries are tottering and must be saved by international support programmes. If national bankruptcies and related social unrest are to be averted, rescuing them cannot be avoided. At their London summit, the G-20 countries made the necessary funds available for the IMF.

The disaster happened because the bacillus of limited liability, nonrecourseness, and irresponsibility spread throughout the world, infecting the financial markets without the regulatory bodies doing anything to stop it. Banks, hedge funds, special purpose entities, investment funds, and real-estate financiers were able to do business almost without any equity. Those having no equity are not liable, and if not liable, they feel free to gamble.² They will look for risk wherever it can be found, because they can privatize the profits and socialize the losses. By cutting off part of the loss distribution, they can conjure returns out of mere risk. Even if they finance projects that do not return true economic risk premiums, they still turn a tidy business profit. The dream returns that bankers generate in good times are to a large extent nothing but the mirror image of the losses to creditors and taxpayers who will have to foot the bill if catastrophe strikes.

Non-recourse financial products, from mortgage-backed securities (MBSs) to the

¹ This text has been taken from Chapter 11 of my book *Casino Capitalism. How the Financial Crisis Came About and What Needs to Be Done Now*, forthcoming with Oxford University Press, Spring 2010.

² See H.-W. Sinn, *Ökonomische Entscheidungen bei Ungewißheit* (Mohr Siebeck, Tübingen, 1980), esp. 172-92 (Dissertation, accepted by University of Mannheim in 1977, English edition: *Economic Decisions under Uncertainty* (North-Holland, Amsterdam, 1983), esp. 163-82).

multi-stage collateralized debt obligations (CDOs), all of them derivatives of the claims of the mortgage financiers against homeowners, or more precisely against their houses, were part of the roulette game that Wall Street played with the world. Again the construction basis was limited liability. The American banks sold credit claims to the world without having to take responsibility for those claims being honoured. The 1.9-trillion-dollar market for annual new private issues of MBSs and CDOs, produced by means short of alchemy, has vanished in the smoke of the crisis. The casino's main ballroom has had to close after being gutted by fire.

Even American homeowners became gamblers on the back of the nonrecourse mortgage loans extended to them. They dared to get involved with projects that they would not have touched under European liability law. Because they knew that they would be able to get off the hook in the event of house prices falling by sending jingle letters to the bank, they did not shy away from high house prices and so fuelled the American housing boom. Unscrupulous mortgage lending, forced upon the banks by the government to fight the so-called red lining, helped even poorer Americans dream Franklin Roosevelt's dream of general prosperity and widespread homeownership. When they awoke they found themselves in a burning jungle.

Whereas the Chicago or Manchester economics school has disgraced itself, more moderate and prudent interpretations of capitalism such as those proclaimed in Europe now appear much more reasonable. Neo- or ordoliberalism, as formulated by Alexander Rüstow, Wilhelm Röpke, or Walter Eucken, stands out. The central thesis of ordoliberalism was that markets can only unfold their beneficial effects if the government sets the rules of the game. There is no such thing as a self-regulation of markets, only self-ordering within a firm regulatory framework set by the state. The liability principle is one of the fundamental principles of the market order that Eucken wanted defined and enforced by the state.³ The collapse of the financial capitalism edifice as a result of this constituting principle being undermined poignantly confirms his thesis.

The banking system can only regain stability if the principle of liability is once again given more recognition. Much stricter capital regulation and the limitation of non-recourse loans are among the essential barriers against gambling that politics must erect. These barriers will create new confidence in the markets for long-term credit contracts and allow capitalism

³ W. Eucken, *Grundsätze der Wirtschaftspolitik*, 1st edn. (Francke und Mohr, Bern, 1952), here cited according to the 7th edn. (Mohr Siebeck, Tübingen, 2004, chapter 16: 'Die Politik der Wettbewerbsordnung—die konstituierenden Prinzipien', 254n. See also W. Röpke, *Civitas Humana: Grundfragen der Gesellschafts- und Wirtschaftsreform* (Eugen Rentsch Verlag, Zurich, 1944), 262n. and 274n.

to continue increasing the wealth of the masses. Eucken must go to America!

But before Eucken arrives there, Keynes must save the banks and the economy. Although the ordoliberal recipes serve to protect the jungle from an outbreak of fire, they are less effective in putting out fires that have already been ignited. There may possibly even be a contradiction between measures that create long-term stability and those aimed at battling acute threats, because expectations of government aid in case of crisis generate carelessness in dealing with risks. It may also be the other way around, however, that there is indeed a harmonious relationship between the short-term and long-term goals of economic policy.

Liquidity, solvency, and equity gifts

Many people see the biggest present danger for the international financial system in the illiquidity of the banks and in the breakdown of maturity transformation. The liquidity needs of the banks, resulting from the collapse of the interbank market, were indeed the most urgent and initially most visible sign of the crisis. But the liquidity crisis was only the symptom of a much deeper solvency crisis, whose cause was the chronic undercapitalization of the banking system and the capital losses during the crisis. By 31 January 2010, the American banks had already lost more than half of the equity capital they had before the crisis, and they were likely to lose at least another one-fourth. Similarly, by mid-summer 2009 the Western European banks had already lost one-fifth of their equity capital and are likely to lose another 30 per cent. In total, the IMF forecasts imply that 81 per cent of the 2007 equity capital of the US banking system and 50 per cent of the equity capital of the Western European banking system will have been wiped out by the end of 2010 through write-offs of toxic assets, not counting the subsequent public and private efforts to inject new equity. Given that the regulatory system requires certain minimum equity levels in proportion to the business volume, the banks must react by scaling down their and reducing their lending to firms. This problem cannot be solved by simply providing more liquidity. The business central banks can pump as much money into the economy as they wish and even reduce their lending rates to zero, but they will still be unable to get credit flowing again.

Providing cheap central bank money while equity losses and bankruptcies limit the credit volume mitigates the solvency crisis only insofar as it drives up the banks' profit margins and generates exceptionally high rates of return on equity, out of which new equity can be formed. The reduced credit supply keeps the banks' lending rates up despite the fall in credit demand, and at the same time central banks allow banks to borrow as much as they wish at extremely low interest rates, in the eurozone at 1 per cent and in the USA even at 0

per cent during the crisis. Small wonder that investment banks like Goldman Sachs, Morgan Stanley, and Deutsche Bank were again reporting high profits in 2009. The high margins allow banks to gain weight, provided that they do not spend their windfall profits on dividends and Bonus payments to their managers, and gradually recover, re-establishing their lending capacity.

This solution to the crisis is unsatisfactory as it takes an unnecessarily long time and slows down the recovery process of the real economy, carrying the risk of becoming infected by the Japanese disease. Moreover, it basically implies that firms and taxpayers are to re-establish the equity base of the banking system without getting anything in return. Firms, already stressed by the crisis of the real economy, pay higher interest rates, and taxpayers must bear the burden resulting from reduced flow of interest earnings that the central bank normally transfers to the government budget. In the presence of a shortage of private bank equity capital, a low-interest policy of central banks is little more than directly bailing out the banks with taxpayer money.

Bad banks and bad ideas

Bad banks are hardly a better means to hand public gifts to the banking system. It is true that the Geithner Plan (PPIP) used in the USA has the potential of re-establishing the equity base faster than mere interest rate policy would, in particular since it has a gigantic potential volume of up to \$1 trillion. The plan contemplates the establishment of private—public limited liability partnerships that are highly leveraged with public or publicly guaranteed loans and that will probably cause substantial losses for the government. The government losses mirror the likely private gains that the participating hedge funds and the banks selling the toxic assets will share. However, only some of the government's gifts end up as equity capital in the banks' balance sheets, and again, of course, taxpayers do not get anything in exchange for their good deeds.

Despite its advantages for the private sector, the plan currently does not really seem to be working, as it would require banks to recognize the write-offs on their toxic assets that they so far have successfully kept concealed. The necessary scaling down of other operations to satisfy the regulatory equity requirements after the recognition of the write-offs scares many banks off and induces them to wait until the very last minute before they recognize such write-offs.

The German bad bank system suffers from the same problem, as many banks find

unbearable the recognition of the required 10 per cent write-offs on the book values of assets to be sold to the bad bank. Unlike the American system, the German system does not involve gifts to banks, as all losses of a bad bank have to be covered with imputed interest from the dividends of the original bank. However, there are potential accounting advantages. For one, the toxic assets can be exchanged for government-guaranteed bonds issued by the bad banks that need no backing by regulatory equity capital. For another, the liability from being obliged to service the losses of the bad bank does not have to be shown on the balance sheet. Thus a surplus of regulatory equity capital is provided that banks can use to expand the credit flow to private business. However, in effect, this whole construct is nothing but a trick that helps private banks to undercut the regulatory minimum equity constraints of the Basel system, equivalent to measures that would cut the minimum equity requirements (see below). It will result in an even weaker banking system.

During its banking crisis of 1991 and 1992, Sweden showed what a successful strategy would be like and under what conditions a bad bank can be set up. Sweden's crisis started after the real-estate bubble of the 1980s had burst, the rate of inflation had risen sharply, and the exchange rate of the Swedish krona had come under pressure. The Swedish crisis was much more severe than the current crisis for the banks of the Western world, as its depreciation losses amounted to 12 per cent of gross domestic product at the time.⁴ Today this value is only exceeded by Bermuda and Switzerland.

The Swedish government offered the troubled banks a partnership and in the event of nationalization also a takeover of the toxic securities by government-financed bad banks. Two of the biggest banks of the country, Nordbanken and Götabanken, took advantage of this offer in 1991 and 1993, respectively. They were nationalized, and only then were the toxic assets placed in bad banks. The government spent a total of 65 billion kronor for recapitalizing the banks, corresponding to 4 per cent of Sweden's gross domestic product.

Having the government take over the banks did not mean that the banks lost their private legal status, but that the government became the sole owner and then determined the business policy. The other banks procured additional capital in the market and had to write off their problem securities without being able to sell them to a government bad bank. The two nationalized banks were merged in 1993 and later, together with other northern European banks, merged into Nordea Bank. In the meantime the government has sold the majority of its shares and now holds only 19.9 per cent of the equity in the bank. Today Sweden again has a

⁴ European Economic Advisory Group at CESifo, *EEAG Report on the European Economy 2009* (CESifo, Munich, 2009), 95.

functioning private banking system. The crisis is long forgotten.

The bank hospital

Sweden basically hospitalized its troubled banks, performed surgery on them, and then released the recovered patients back to normal life. The Swedish experience could become a guideline for other countries, as it is neither acceptable that the governments and the central banks distribute gifts nor that the banks reduce their credit supply despite cheap central bank money and recapitalize their balance sheets via high interest margins. A bank hospitalization plan based on a potential state co-ownership could look like this: a minimum equity—asset ratio of 4 per cent and a minimum Tier 1 ratio of 8 per cent (instead of the present 4 per cent in the Basel system) is introduced, subject to smoothing provisions to prevent scaling down the balance sheet as will be detailed below. If the bank cannot find enough private capital to satisfy this requirement, it must accept the government stepping in with the missing capital and thus becoming a temporary shareholder. When the crisis is over and the banks have recovered their health, they can leave the hospital. The government sells its shares and the banks again stand on their own feet.

Irrespective of the hospitalization plan, the government can continue to extend guarantees or insure the banks against potential investment losses in other ways at fair terms. Such measures are complementary to the proposal made here, but fail to contribute to overcoming the undercapitalization of the banking system for the reasons mentioned.

The increase of the minimum equity requirements would help establish a better banking system with a larger equity buffer that enhances stability in case of a crisis, and it would foster a more prudent approach in the choice of business models, as shareholders will encounter higher potential losses if they demand risky investment strategies from their managers. Of course, there is a transition problem by requiring more equity even as the crisis has wiped out a substantial fraction of it. If banks cannot raise the necessary equity in the market, this problem has to be solved with government equity. Government co-ownership would provide a quick way to solve an imminent crisis by re-establishing the lending capacity of the banking system, despite the necessity of increasing equity requirements. Unlike the low-interest policy of central banks or the Geithner Plan, the government would inject more equity into the banks without making gifts, because it would receive new shares in exchange for the funds it provides. The bank hospital rescues the banks, but not the banks' shareholders.

Some people may have misgivings about the government acquiring a share of the stock. But they ought to consider the severity of the crisis into which the banking system has

slid, dragging down the world economy in the process. Before complaining of socialism' and becoming the victim of mere semantics, one should acknowledge that often there will only be two alternatives for the government: to get shares in return for the money it provides to save the banks, or to help nonetheless and get nothing in exchange. Equally impossible is to just ignore the huge write-offs that have already been performed and that will have wiped out more than half of the equity capital of the Western world's banking systems by 2010.

Government shareholding, after all, is not an expropriation, but a forced equity increase. There is little arguing against but a lot of arguing in favour of the private shareholders remaining on board. The bank must sell the government, at the going market prices, as many new shares as are needed to achieve the required equity ratios. Private shareholders should not have the right to block this if they disagree with the terms. What their shares are worth is determined by the stock market, not the balance sheet.

Let us take the example of a bank that has \$30 billion in its balance sheet but is valued at only \$15 billion on the stock market. That is not an unrealistic case, as the stock market prices the expected future write-offs even before their booking is required by the accounting rules. Assuming that the bank needs a total of \$60 billion to meet the minimum capital ratio, given the previous size of its balance sheet, the government would have to provide \$30 billion for an equity increase. If it must pay the market price for the shares it receives in exchange for the capital provided, it will subsequently own two-thirds of the bank.

The government now has the controlling interest, and that also has a market price. There are common procedures, applied by external consultants, for the determination of the necessary mark-up on the stock market price. The government can present its offer on the basis of relevant expert analyses. To ensure that the private shareholders are not cheated in this transaction, the bank should be allowed to offer the new shares at the agreed terms first on the stock market. If it gets a higher price than that offered by the government, it can sell its shares there. If not, it is the government's turn to buy them.

The banks must not become a government agency. The government has money, but is a bad banker. It is imperative, therefore, that the private legal status is retained. It protects the minority shareholders and the economy from the government abusing its position of power. If it should use its power to force the bank into transactions that are supposedly in the common interest but reduce the bank's value the minority shareholders have a right to compensation that they can enforce by legal action, if need be. The private legal status is also necessary because the government must sell its shares as soon as the crisis ends, at a profit if possible.

The stay in the bank hospital should be as short as possible.

Too big to fail, too small for prudence to prevail

To prevent future banking crises, some economists, notably Mervyn King, the Governor of the Bank of England, advocate the old Chicago way of inducing prudence by threatening to let banks go under if they violate the minimum equity constraints.⁵ These economists, of course, see the risk of another collapse of the financial system if the government does not rescue systemically relevant banks. However, they argue that one should dismember the big banks to create sufficiently small units that need not be rescued if they default. If banks are too big to fail, make them small enough so that they can fail without causing further problems!

While this idea does have intuitive appeal, at closer scrutiny it raises serious doubts. A world with small banks may not function well, and the government may have to rescue the small banks nevertheless in case of a systemic crisis.

The obvious argument against a system with many small banks is that it would destroy the network economies from which banks and the economy have benefited so much. Banks usually have huge networks of branch offices and subsidiaries, often even international ones, for their transactions. Cutting these networks into pieces will probably increase the transaction costs of the market economy and impede economic exchange, which is the basis of gains from specialization.

And, of course, dismembering the banks would not imply that the government could twiddle its thumbs in an epidemic like the current one. When many small banks fail simultaneously because of systemic or correlated investment risks, all of them will have to be rescued nonetheless. Smallness would make it possible to dispense with government help only if investment risks are uncorrelated, but this can hardly be turned into an argument for smallness, as big banks would not be destroyed by uncorrelated investment risks in the first place. The whole question of government help arises only in the case of correlated or systemic risks, and in this case small and big banks alike would have to be rescued.

And with uncorrelated investment risks smallness may even cause additional problems insofar as it increases the incentive to gamble, due to gambling with limited liability. This incentive would not result in a sudden systemic crisis, but could nevertheless create a chronically deficient economy that suffers from excessive risk-taking with high private but low social rates of return.

⁵ Address of Mervyn King to Scottish business organizations, Edinburgh, 20 October 2009, online at www.bankofengland.co.uk, accessed on 16 November 2009.

To clarify this point, let us compare a big bank with a number of small banks of the same aggregate size and assume the big bank consists of branches that resemble the small banks and finance the same type of investment projects. If the investment projects are safe, there is no difference between the big bank and the aggregate of small banks. But with risky investment projects whose maximum possible loss exceeds the liable equity capital, things are different. If risks are uncorrelated, losses normally do not occur simultaneously. Thus a big bank will in most cases simply subtract a loss occurring in a particular branch from another branch's profit. Only very rarely will the losses occur simultaneously, forcing the creditors to foot the bill. Things are different when the branches operate as separate small banks, because then they cannot net out losses and profits. Other things being equal, a small bank has a larger default probability and will therefore also offload its losses on its creditors with a higher probability, which implies a higher expected or average profit. Thus the incentive to gamble is larger for the small banks than for the big bank.⁶

This is the reason why George Soros prefers to have many small legally separate hedge funds endowed with limited liability rather than a big one consolidating all the risks undertaken. Each hedge fund is a gamble in a stochastic environment. If the gamble is successful, the profit belongs to George Soros. If it falls, the excess of the loss over equity falls on the creditors. As at least some of the risks are stochastically independent, Soros is able to make more profit by keeping his hedge funds separate instead of combining them into one big conglomerate.

Gambling with limited liability implies diseconomies of scale, whereas the network effects mentioned above imply economies of scale. Policy-makers should not worry if the net effect of these diverging forces gives rise to big banks, because the economies of scale reflect social and private advantages, while the diseconomies of scale are only private, resulting from the reduction of a negative externality. Big banks are too big to fail, but small banks may be

⁶ For the mathematically interested reader some statistical considerations may be helpful. Suppose the big bank consists of n similar branches with stochastically independent investment projects with identical probability distributions of end-of-period wealth (before limiting liability by imposing a lower wealth constraint at zero). The big bank is compared to n small banks, each of which acts as one of these branches. The end-of-period wealth distribution of the big bank has an expected value and a variance, each of which is n times the respective value of the small bank. This implies that the standard deviation of the big bank's end-of-period wealth is \sqrt{n} times that of the small bank and that the coefficient of variation (the ratio of the standard deviation to the mean) for the big bank is $1/\sqrt{n}$ times that of the small bank. It follows from Chebycheff's inequality that, regardless of the shape of the probability distribution, the upper bound on the probability of default (wealth becoming negative) diminishes when n increases, approaching zero as n goes to infinity. For non-pathological probability distributions (including the normal one to which the big bank's distribution converges) the default probability itself (and not only its upper Limit) diminishes throughout when n increases.

too small for prudence to prevail.

Building a common supervisory system

Rescuing the banks from their acute crisis does not necessarily require international harmonization. Every country is sufficiently interested in maintaining its banking system and implementing the necessary support measures. It suffices to create provisions that prohibit a government from excluding foreign banks from operating within its boundaries or foreign partners of domestic banks from the rescue measures.

It is important, however, to institute international harmonization of the long-term regulatory rules of the banking system in order to put paid to the competition in laxity that has crept in during past decades. Toward this end, the governments of the world should agree on a Basel III framework that determines the details of banking regulation in terms of minimum standards for the quality of bank products. At the G20 summits held during the crisis, initial efforts were made for such a harmonization of banking regulation.

In this endeavour, international institutions with corresponding competencies must be created. Entrusting the IMF, the UN, or the Bank for International Settlements (BIS) with the responsibilities of a super-ordinate regulatory body suggests itself. This cannot mean, of course, that this body should supervise the banks individually, but rather that it would stand at the apex of a hierarchy of supervisory agencies and give directives, if need be, that must be followed by the subordinate institutions.

The next level down could be occupied by the central banks or independent supervisory agencies designed in accordance with a uniform organizational plan. In Europe it is necessary in any case to create a common European agency, above the level of national regulatory bodies, endowed with the right to issue directives to the national agencies.

To be sure, in many areas the subsidiarity principle, anchored in the Maastricht Treaty, argues in favour of solutions at the national level. But such solutions are out of the question with respect to banking regulation, due to the destructive force of the competition in laxity.

The European Central Bank, with its subordinated national central banks and its political independence, offers a possible framework for the organization of supervision,⁷ but it is not imperative that it assume this role. A new EU-wide supervisory agency could well enough be established, if desired.

It is obvious that national supervision in the individual European countries has

⁷ European Economic Advisory Group at CESifo, *EEAG Report on the European Economy 2003* (CESifo, Munich, 2003), chapter 4, 98n.

outlived its purpose, given that hardly any of the big European banks restricts its activities to its home country. Almost all big banks are internationally active corporate groups today, so that national borders have lost significance. It is thoroughly impossible to have such corporations regulated in a meaningful way by national supervisors. But, of course, the content of regulation is even more important than the organizational structure of the supervisory bodies.

Basel III and the accounting rules

The crisis was caused by weaknesses of the US regulatory system and aggravated by deficiencies of the Basel I system used in Europe and many other countries. The new Basel II system, which became operative in 2008, did not do much better. The world now needs a Basel III system with much tougher regulatory constraints that reflect the lessons so painfully learnt during the crisis.

The new Basel system must be uniformly applied throughout the world, at least by the G-20 countries. The USA, in particular, would have to join in. Despite being one of the initiators of the Basel system, the country in the end did not subscribe to the system. This may have been one of the reasons why the US investment banks, freed from any equity regulation by the 2004 SEC decisions, turned into gambling casinos.

An important prerequisite for a worldwide application of a new Basel system is the harmonization of accounting rules. Currently there is a confusing variety of such rules. In Europe, for example, there are many national accounting systems that are only gradually being replaced by the common *IFRS* system endorsed by the EU Commission. The IFRS system is being defined and controlled by a London-based accounting institution, the *IASB*, which itself is a member of an organization based in Delaware, USA.⁸ The USA, however, does not use the Delaware system, but the US GAAP as formulated and controlled by another accounting institution, the *FASB*.⁹ *US GAAP* is not written in law, but it is binding insofar as the US supervisory authority SEC requires that it be followed in financial reporting by publicly traded companies. IFRS and US GAAP have the same origins and are largely based on the same basic principles, including the problematic mark-to-market principle. However,

⁸ IASB stands for International Accounting Standards Board. It is an institution of the International Accounting Standards Committee Foundation (IASCF) that was founded in 2001 and is located in Delaware.

⁹ US GAAP stands for United States Generally Accepted Accounting Principles, and FASB for Financial Accounting Standards Board. FASB is the highest US authority for the establishment of generally accepted accounting principles for public and private companies as well as non-profit entities. In 2008, the FASB issued the FASB Accounting Standards Codification that reorganized the thousands of US GAAP pronouncements into roughly 90 accounting topics.

the IFRS has moved away from US GAAP in many respects, giving rise to substantial confusion. For example, US GAAP allows banks to net out certain assets and liabilities, a practice that shortens the balance sheet relative to what the European accounting system would permit. How large the practical implications of this provision are was demonstrated by Deutsche Bank. It showed that its balance sheet would be cut in half if it switched from IFRS to US GAAP. In view of these differences, one of the most important tasks of the G-20 meeting is to agree on a procedure to establish a common worldwide accounting system.¹⁰

Other contents of a better regulatory system have already been discussed extensively elsewhere in this book. By far the most important rule consists of requiring substantially higher equity capital than today is the case. That is the key strategy for the recovery of the banking system. A high equity ratio provides a better buffer against shocks and, above all, encourages more prudence in dealing with risk because it increases the shareholders' liability.

The higher equity requirement also enjoys backing in Europe. For example, the Larosière Commission, established by the EU in February 2009, has argued emphatically for an increase in the minimum equity ratios as compared to Basel II.¹¹ On the other side of the Atlantic, however, tougher equity rules do not seem to meet with undivided agreement. Thus, in the final protocol of the G-20 Summit in London in April 2009, this point was only mentioned briefly in connection with a limitation of leverage.¹²

Stating precise demands on the basis of general insights is, of course, not free from personal judgement. The figures mentioned above, 4 per cent for the equity asset ratio and 8 per cent for the Tier 1 ratio, could however serve as the basis for discussing a Basel III agreement. These ratios should not only apply during the crisis with the help of government equity, but also over the long term as minimum ratios to be adhered to by the banks of all countries. The difference from short-term crisis management is only that the ratios have to be achieved with private capital alone in the long term, as the government has to sell its shares once the crisis has been overcome.

While the two minimum equity ratios proposed should be adhered to quarter by quarter, it is important that an element of intertemporal smoothing be introduced to prevent banks from scaling down their operations during a crisis. An easy way to achieve this is to

¹⁰ Some attempts in this direction have already been made. For example, in the *Norwalk Agreement* of 2002 FASB and IASB declared their commitment to a convergence of the accounting standards. However, in practice, little has happened.

¹¹ *The High-Level Group on Financial Supervision in the EU*, chaired by Jacques de Larosière, Report, Brussels, 25 February 2009, text to figure 59 and *passim*.

¹² See 'Leaders' Statement. The Global Plan for Recovery and Reform', paragraph 15, 2 April 2009, online at www.g20.org, accessed on 13 April 2009.

require that in each quarter the equity and Tier 1 capital available at the time satisfy the two ratios also with regard to a rolling average of the respective balance sheet items over the last three years. As banks know that they cannot accommodate equity losses with reduced lending, they will probably react to this provision by holding excess capital above the required minimum in order to minimize the risk of having to allow the government to step in, which is a useful reaction.

Basel III should also revise the system of risk weights used to calculate the sum of the risk positions. As explained, the Tier 1 ratio is at present calculated by dividing the capital, consisting of nominal capital, reserves, and dormant investment, by the sum of the risk positions. As the sum of the risk positions accounts for only a fraction of total assets, the Tier 1 ratio suggests a capital ratio that is sometimes up to five times the actual equity—asset ratio. This confusing practice must stop. Basel III needs a fairer valuation of risk-weighted assets, on whose basis the sum of risk positions averaged over all banks can be brought much closer to the value of bank assets.

The system of risk weights should also be simplified. The sophistication of the Basel system was meant to bring about more clarity, but in fact it turned out to be one of the causes for the opaqueness of the banking system. It is impossible to really assess the soundness of a bank by looking at the Tier 1 ratio because the exact meaning of the sum of risk positions remains obscure as a result of the complexity of the calculations. Only insiders understand the system of risk weights, and all too often they cannot resist the temptation of using their superior knowledge to hide the inferior quality of some of their risky investments. This opaqueness also gives rating agencies a weightier role in the risk assessment process than they are able to fill and creates huge moral hazard problems on their part. If bank-issued securities are lemon products it is because the sophistication of the system of risk weights has largely contributed to the opaqueness of financial products.

The new Basel system should prescribe much higher risk weights for investment in securities relative to company loans. In the current Basel system, for example, banks have to back loans they make to sound medium-sized firms of the real economy with substantially more equity than investment in mortgage-based US securities of the MBS or CDO type, whose market has meanwhile collapsed completely. This practice must be terminated. Loans made to individual borrowers who can be taken to court if they do not pay should generally be considered safer than anonymous securities that do not imply a title against the issuing institution but only against the collateral it provides. The risk weights must generally be

increased and readjusted so as to recognize the high risks of structured financial products relative to claims against individuals or firms that are directly liable.

Theoretically, there could be bottlenecks in the short run when more equity is suddenly required, as the banks would first have to generate the needed equity. But, as explained, this problem will be solved by the government's equity injection according to the bank hospitalization plan. In the long term an economy may be organized with largely arbitrary capital ratios of banks, as the savings of the economy always suffice to finance the investment. In principle, it does not matter whether the savings flow to the firms as equity or debt. If higher capital ratios are demanded, a higher share of savings will be changed into bank equity via the purchase of newly issued bank shares or as retained bank profits while the proportion of savings that the banks receive as deposits or by the sale of bank bonds declines.

The representatives of the banks will not like these proposals, given that they imply capping the return on equity as a result of creditors and taxpayers not being as highly burdened if disaster strikes. The business model of the banks, which consists in generating returns out of mere risk because the negative parts of the profit distribution are mostly pushed onto others, will lose its foundation. However, if a lesson may be learnt from this global crisis it is that this business model must indeed be prohibited

Credible regulation

A simple capital regulation prescribing the banks the equity ratios they must adhere to in good times will not knock down unsound business models, however. It is decisive for the success of regulation to determine what the government will do if the regulatory limits are breached. Without defining the penalties for a rule violation, the best regulatory law will be fairly toothless.

Therefore, it is important for the banks to be fully aware of what exactly the government will do in the event of crisis. In today's crisis, the governments' actual actions lay the foundation for determining the expectations of future government conduct. Two extreme cases of detrimental banks' expectations regarding government conduct spring to mind.

The first consists of the expectation that the government or the central banks will directly or indirectly bail out the banks with equity gifts such as appropriately constructed bad bank models, toxic asset purchase programmes, or low central bank interest rates. This case obviously means that the banks' equity will not be lost when things go wrong after excessive risk-taking, because the government or the central bank will act as lenders of last resort. It would be the same as if a thief caught *in flagranti* were paid compensation for surrendering

the stolen goods. No wonder then if burglaries should increase.

Gambling is even promoted in this case, because the liability of the owners is limited not to their entire capital but only to the capital that exceeds the regulatory minimum level. The part of the equity that is required by regulation is protected from any risk because the government or the central bank tops up the equity should it fall short of the required minimum. The shareowners' participation in the bank's profits and losses would then be even more asymmetric than in the case of limited liability alone, and an even greater portion of the losses would be socialized. As a result, in economically normal times the banks would take risks even more irresponsibly, thereby raising the probability of another crisis. This is the major reason for rejecting outright gifts to the banks like those implied by the Geithner Plan, and it even raises doubts about a central bank policy that simply reduces its interest rates while the supply of credit is constrained by insufficient bank equity.

The second case of detrimental expectations consists of the banks assuming that the prevailing regulatory law will be applied mercilessly: neither the government nor the central bank will help the banks but will, long before legal insolvency, cancel their banking licence if capital falls below the regulatory limit.

This case is not probable, as those banks that consider themselves systemically relevant do not believe in the effectiveness of this regulation. But let us assume for the moment that they do believe in it. The banks would still incur big risks whose possible losses could exceed the bank's equity capital, but in their normal business activity they would try to keep a good distance from the prescribed minimum capital ratios in order to avoid disclosure at smaller losses. They would reduce their loans and investments at the slightest sign of a potential crisis in order to avoid the risk of insufficient coverage. But this would depress the market value of the assets, would cause trouble for other banks and non-financial firms, thereby triggering and then aggravating the crisis. Rigid capital regulation, which is to protect from a crisis, can accelerate the pace of the crisis if the government adheres strictly to the regulatory prescriptions and does not step in to help.

Both types of expectations are evidently detrimental. One leads to carelessness and increases the probability of a crisis. The other creates and aggravates the crisis once initial doubts spread. The solution to this dilemma is the bank hospitalization strategy described above that rescues the bank without rescuing the bank's owners. The government helps out when actual equity falls below the regulatory minimum and private capital cannot be found, but it requires shares for whatever equity it provides. This strategy gives immediate relief in

case of a crisis, avoiding a credit crunch, while at the same time setting the right incentives for more prudent bank behaviour in the future, reducing the incentives for excessive risk-taking, provided of course that regulations require sufficiently large capital ratios.¹³

Admittedly, banks will still have an incentive to scale down their operations if equity losses occur, to avoid the government stepping in as a co-owner. However, they surely will be less afraid of government help than of a loss of their banking licences and will therefore not use brutal deleveraging strategies. Moreover, the smoothing rule, according to which the minimum equity requirement is defined in relation to the average balance sheet items of the last three years, limits the possibilities for deleveraging strategies.

Another way of reducing the risk of deleveraging and the gambling incentives provided by government gifts is to temporarily soften the regulatory equity requirements in a crisis. This was argued by a group of German economic advisers,¹⁴ and it is the road the EU followed with its decision of autumn 2008 to permit the banks to move toxic assets retroactively from the trading book to the banking book of accounts.¹⁵

Indeed, softening the regulatory requirements also offers a way to subject a larger part of the capital stock to legal liability and to keep the banks operating despite the failure to meet the original regulatory capital limits. It thus avoids an aggravation of the crisis caused by the regulation paradox and does not provide any additional incentives to gamble beyond those already implied by the general limitation of liability to equity.

However, this strategy is incapable of increasing the capital base of the banks in a crisis and makes no contribution to strengthening the solidity of the banking system. It is, therefore, unable to restore the mutual confidence in interbank transactions and may actually contribute to the destruction of trust. Turning off a fire alarm during a fire may temporarily prevent a panic, but it will reduce the efforts to fight the fire and could, in the end, fuel an even bigger panic.

In addition, after the crisis it will be difficult to effect the political transition from a regulation that has become laxer, if only temporarily, to one that is stricter than before the crisis. How can one ever move from even lower regulatory requirements than those that allowed the storm of the crisis, to stricter requirements once the weather has cleared and the

¹³ Cf. M. Hellwig, foreword to H.-W. Sinn, *Risk Taking, Limited Liability, and the Banking Crisis* (Selected Reprints, Ifo Institute, Munich, 2009).

¹⁴ Scientific Advisory Council to the German Ministry of Economics, *Zur Bankenregulierung in der Finanzkrise*, letter to Minister Michael Glos of 23 January 2009, online at www.bmwi.de/BMWi.

¹⁵ European Commission, Amendment to IAS 39 and IFRS 7 'Reclassification of Financial Assets', online at www.ec.europa.eu/internal_market/accounting.

sun is shining again? Since memories are short and politicians only elected for short terms of office, the banks' lobbies will be able to make sure that the business model that generates profits out of leverage, limited liability, and risk will not be touched. For political reasons, reforms of the banking system for the long term can best be implemented in the midst of the crisis. Politicians should take care not to let a serious crisis go to waste.

A credible hospitalization strategy for the case of insufficient equity consists of announcing the acquisition of an equity share in troubled banks and in demonstrating such a policy by the actions taken during the crisis. Capital regulation that threatens a penalty in the form of withdrawal of the banking licence is useless if the penalty is not imposed in case of crisis, on the grounds that no system-relevant bank can be allowed to collapse. And regulation that promises gifts in case of crisis fosters carelessness. But a regulation that announces and practises the bank hospitalization plan laid out above is credible, effective, and reasonable.

Executive pay

The prevailing public impression seems to be that the misconduct of the banks can be primarily ascribed to their system of manager compensation. This criticism focuses on excessive bonuses that hinge on short-term success, inducing managers to gamble and neglect the long-term success of their bank. The greed of the manager caste is being thoroughly pilloried. All of this is understandable, as the managers stand in the limelight as puppets of the shareholders and are well suited to personify the object of blame sought by the media and serve as scapegoats.

Indeed, the bank manager compensation systems are designed in such a way that they leave grounds for criticism: if managers are successful, they receive a juicy bonus, but in the event of failure there is no malus, or penalty. This asymmetry induces them to gamble. No wonder that even the G-20 countries are currently paying a lot of attention to manager compensation.¹⁶

However managerial compensation systems are not originally responsible for the misconduct, as they are derived from the shareholders' incentive systems. It is the shareholders who profit from the limited liability of the institution and push for risky business models with low capital input, in order to derive private profits from mere risk. Their own compensation system also knows only the bonus, but not the malus. In any case, the malus is

¹⁶ See 'Leaders Statement: The Global Plan for Recovery and Reform', Paragraph 15, 2 April 2009, online at www.g20.org, accessed on 13 April 2009.

limited to the little bit of capital that they inject into the banking business. The same asymmetry is reflected in the manager compensation system. The shareholders are the principals, the managers only their agents. The shareholders look for managers who are able to juggle with the risks of modern banking, and via the supervisory board they design the bonus systems in such a way that the managers fervently intensify their efforts in this respect. No management can survive its frequent 'road shows' in the face of the advice analysts give to shareholders, unless managers present a convincing business model that promises a sufficiently high rate of return on equity.

It is therefore fairly futile for the government to try to influence the design of the contracts between shareholders and managers in order to prompt the managers to pursue a sustainable, long-term business policy. The government will not succeed if it does not change the shareholders' compensation system. Only by forcing shareholders to provide more capital for the banking business and thus also to accept true penalties when business turns sour, will they design better incentive systems for their managers. Besides, the compensation systems are much too complex and multifaceted for governments to even try to redesign them. The ideas to fine-tune policies to such an extent are absurd. No, the key to all of this is strict capital regulation with the goal of weaning shareholders from their gambling addiction, an addiction that is the result of evolutionary learning and Imitation in good weather periods rather than a conscious or even conspiratorial optimization behind closed doors. If stricter capital regulation is introduced, market behaviour will gradually change and bring about more cautious and prudent business models implemented through appropriately incentivized bonus systems.

There is no disputing the fact that, from a legal point of view, reforms are needed to reformulate the responsibilities and the control function of banks' supervisory boards. Executives may have too much scope for procuring advantages from the shareholder representatives in an uncontrolled way. But this is a completely different issue that has little to do with the crisis and the stabilization of the banking system. An improvement of manager control by shareholder representatives cannot limit gambling in any way and therefore cannot contribute to stabilizing the banking system. The opposite could well be the case. Despite all the public excitement over the managerial echelons, some executives do succeed in protecting the banks' capital from being looted by the shareholders. They may do more for the sustained development of the bank than is to the liking of shareholders, who prefer returns on capital of 25 per cent or more. To increase the power of banks' shareholders is certainly not the right

strategy to induce executives to aim for greater sustainability. The government has many responsibilities in the market economy. Intervening in the compensation systems of private businesses is surely not one of them. Prices and wages can only fulfil their control function if they are determined by market forces. They are signals of scarcity that optimally assign people and capital to alternative uses in an economy characterized by the division of labour. As important as it is to keep externalities under control by means of extensive regulation, it is wrong to try to change prices and wages through government intervention. It may not even be useful for reasons of social justice, as distribution goals can be better achieved by the state's tax-and-transfer system. This is the basic tenet of economics that cannot be emphasized enough, even though this is not the place to present the economic foundations of this insight.

Eliminating the procyclicality of the supervisory system

More important than manager compensation are the accounting rules prescribed by the government, as they are partly to blame for the crisis. The mark-to-market method, which is specified by the globally valid IFRS accounting system, has intensified the crisis. It first overheated the bubble because it inflated book profits over and above the real value of the business, and then it exacerbated the downswing, as it forced the banks to write down assets and to scale down their business so as to satisfy the supervisory minimum equity constraints.

An option to overcome this deficiency could be to introduce Colbert's lowest-value principle. Creditor protection calls always for the most cautious valuation method to be chosen, instead of continuously adjusting the valuation of the assets to changing market prices. Accordingly, after comparing the market value and the acquisition cost, the lower of the two ought to be used. For long-lived assets it will normally be the acquisition cost, with the result that hidden reserves accumulate in the balance sheets.

The hidden reserves may serve as capital buffers in times of crisis to meet losses without having to change the balance sheet positions. The procyclicality of the mark-to-market method would be avoided in this way. By following this proposal, the world would repeat the step taken by Germany after the bitter experience of the big Panic (Gründerkrise) of 1873, with the reform of its commercial law in 1884 that reintroduced the lowest-value principle.

Alternatively or additionally, the supervisory capital ratios could be changed procyclically. During a boom, when asset values increase and highly leveraged equity shoots up, the Tier 1 ratio could be increased, so as to force the banks to build up an equity buffer; in recessions it could be reduced so as to prevent the banks from adjusting their lending

procyclically. Spain has already installed such a system, with good success. The Larosière Commission also advocates it for a reformed Basel system.¹⁷ An appropriate macro-prudential supervision framework for the respective central bank system could provide the guidelines for supervisory bodies to adjust the ratios.

Taming the special purpose vehicles and hedge funds

One can learn from Spain and Italy regarding another issue as well. As is well known, many European banks exploited a regulatory gap in the supervisory systems by running big risks outside their balance sheets via businesses carried out in special purpose vehicles and conduits residing in tax havens such as Ireland or Bermuda. Using their foreign shadow subsidiaries, they spun the big wheel of fortune without having to provide capital, as the transactions of the shadow banks were not carried on the domestic balance sheets and the countries hosting the shadow banks did not supervise such activities properly.

Regarding this issue, the Spanish and Italian supervisory agencies were smarter. They successfully banned shadow banking activities by forcing banks to carry all offshore transactions on their balance sheets, which automatically implied capital backing in accordance with Basel II.

The Spanish-Italian rule ought to be adopted by the new Basel III system. This would provide a buffer to cushion potential losses of the special purpose vehicles and, above all, would pull the rug from under this business model. Although this will be hard on Ireland and other countries as one of the motives for locating special purpose vehicles there would disappear, it is indispensable for the stability of the Western world's banking system.

Similar is the situation of hedge funds, the Anglo-Saxon counterparts to the special purpose entities more common in continental Europe. They undertake extremely risky transactions with huge leverage and minimum capital input, as they are not subject to any supervision. Their business no longer has much to do with hedging capital markets, and much with gambling *par excellence* resulting from limited liability. As hedge funds are dying like flies during the current crisis, they can hardly be seen as exerting a stabilization function.

Should banks continue to be allowed to own hedge funds, such hedge funds must be fully carried on the balance sheets and subjected to Basel III regulation like the rest of the bank business, including special purpose companies. Those hedge funds not owned by banks should be regulated like independent entities and forced to back their transactions with capital. It is surprising that the Larosière Report is somewhat reluctant in this respect and that at the

¹⁷ *The High-Level Group on Financial Supervision in the EU*, chaired by Jacques de Larosière, item 60.

G-20 Summit it was only agreed to regulate the ‘systemically relevant’ hedge funds, whatever they may be.¹⁸

Reinstating the Glass—Steagall Act?

Initiated by former central bank president Paul Volcker, in autumn 2009, a new discussion began in the USA about reinstating a separation between commercial and investment banks. No less than President Obama suggested such a separation in a speech in January 2010.¹⁹ He proclaimed the goal of separating the investment business from the deposit business to protect the savers and the federal deposit insurance agency FDIC against the risk incurred in the investment business. In particular, the President wanted to forbid commercial banks to participate in proprietary trade of financial products and to own hedge funds and private equity firms.

The separation of investment and commercial banks has a long-standing tradition in the USA, dating back to the Glass-Steagall Act passed on 16 June 1933, a short time after the world depression's nadir. Commercial banks were allowed to use their depositors' money to lend to households, companies, and other banks, but were barred from acquiring securities or playing any role in their trading. The purchase of shares of stock was as prohibited as the acquisition of securitized financial products of any kind. Even the acquisition of company bonds or private debentures was reduced to a negligible minimum.²⁰

After the Glass-Steagall Act was repealed in 1999, some commercial banks gingerly tried their hand at investment banking. This has fed the suspicion that this may have been one of the causes for the financial crisis. This is implausible, however, because the separation of the banking system into commercial and investment banks was in fact largely intact when the crisis hit. On the contrary, this separation itself may have exacerbated the crisis.

The crisis was triggered in 2008 when Lehman Brothers, against all expectations, was not bailed out by the government. This shattered the banks' mutual trust and caused the interbank market to seize up. The savers' funds could not be channelled on to investors anymore, accumulating instead in the commercial banks. This, in turn, brought about a

¹⁸ See 'Leaders' Statement: The Global Plan for Recovery and Reform', paragraph 15.

¹⁹ See the White House, *President Obama Calls for New Restrictions on Size and Scope of Financial Institutions to Rein in Excesses and Protect Taxpayers*, Office of the Press Secretary, 21 January 2010, online at www.whitehouse.gov, accessed on 26 January 2010.

²⁰ Commercial banks were allowed to hold investment securities (bonds, notes, or debentures) up to 10% of the stock of equity capital, which was close to nothing given that the stock of equity was small if not tiny relative to the balance sheet even at that time. See Banking Act of 1933 (Glass-Steagall Act), Pub. L. No. 73-66, esp. sections 16 and 21 and amendment of 1935. Cf. *The Provisions within the Sections of the Glass—Steagall Act*, online at www.cftech.com/BrainBank/Specialreports/GlassSteagall, accessed 26 January 2010.

collapse in the real economy. Had such banking separation not prevailed in the USA, the economy would have been less susceptible to a collapse of the interbank market, since the commercial banks would have been able to channel at least part of the savings directly to firms via the purchase of stocks, bonds, or debentures.

This makes one wonder what motivated Obama and Volcker. The answer probably lies in the metamorphosis that the investment banks Goldman Sachs and Morgan Stanley, the only ones among the large investment banks to survive the crisis, had undergone to turn into normal commercial banks on 22 September 2008. Behind this transformation was the wish of both banks to gain access to cheap credit provided by the Fed and enjoy the protection afforded by the FDIC during the crisis. The government had actually intended to exclude investment banks from special help, but these banks outsmarted it by quickly changing their legal status. Now Obama wanted to settle the score.

This is understandable, but for those parts of the world that have a universal banking system it is dangerous. This includes Europe, where the activities of investment and commercial banks have always been practised under the same roof. If Obama succeeds in pushing through such a banking separation system in its original form on an international basis during the G-20 negotiations, it would amount to a dismantling of the European banking world, while the effects for the US banking system would be much more limited.

An across-the-board return to banking system separation in any case would not equate to crisis prevention. While it is correct that lowering the expectations of government help would spur investment banks to exercising greater caution in their business, the separation of banking functions would make the system more crisis-prone because it would give the interbank market an even more important role. Furthermore, there is room for doubt that such a separation would actually lower the expectations of government help. In a crisis, the government would have no option but to bail out large investment banks even if they hold no savings from depositors, unless it wanted to dare a repetition of the Lehman Brothers debacle. Lehman Brothers, it is worth noting, was not a commercial bank, and it was unable to impose a risk on its depositors because it had none.

The banks' fondness for risk that led to the crisis stems from the overly lax equity requirements that made them gamble with limited liability. As the banks' owners risked little of their wealth, they felt tempted to engage in overly risky activities, knowing that they would be able to keep all the profits and shift the potential losses onto other shoulders, regardless of whether the government came to the rescue or not.

Gambling with limited liability can only be banished by drastically increasing the regulatory equity requirements, which would have the added advantage of keeping the banks from keeling over when the wind picks up a bit. Strengthening the banks' equity capital is by far the most important requirement of any meaningful financial reform.

Still, the proposal of erecting a firewall between the normal banking business and extremely risky speculative activities could be useful, making such activities more transparent and preventing the banks' creditors from being made liable without their knowledge for the potential losses involved. This firewall, however, should not separate the entire investment banking business, as the Glass-Steagall Act did and Obama proposed, but instead be placed farther out, fencing out only the most risky business areas. This way, it would indeed make sense to ban banks from owning private equity firms, hedge funds, or special purpose vehicles. Investors could then decide in full knowledge to purchase stock in such highly risky companies. A more stringent equity capital rule, as proposed above, would in turn make it less easy even for these companies to gamble to the creditors' detriment. Commercial banks, however, should be allowed to conduct normal proprietary trading, in particular the purchase of shares of stock and bonds of companies in the real economy, in order to reduce the vulnerability of the banking system to a crisis in the interbank market.

Banning short sales

The need to rein in hedge funds and other financial institutions also results from the problematic effects of short sales. Short sales not only toppled the pound sterling. They also played a major role in the collapse of Lehman Brothers and therefore are at the centre of the current crisis.

A short sale is speculation on a falling price, often a share price. The speculator borrows a large number of shares of a particular company and sells them. Because of its large volume, the sale significantly reduces the share price and raises the expectation of a further decline in this price. This induces a herd reaction with many shareholders trying to get rid of that particular share, which reduces the price further and triggers a downward spiral. When the pessimism is at a maximum and the price correspondingly low, the speculator repurchases the shares and returns them together with a fee to the original lender.

Speculating on falling prices is not a problem *per se*. Someone who sells a share forward is also speculating on a falling price. He promises today to sell the share at a particular point in time at a pre-agreed price and buys the share on the stock market when this time comes. He, too, profits only if the future share price (the spot price) falls after the

contract is made, but unlike in the short-sale case he is unable to bring about this price drop through his own actions.

The fundamental difference between a forward sale and a short sale is that the prices are stabilized in the first case and destabilized in the second. The forward seller stabilizes future share prices, as the transaction, which brings profits, drives the share price in the direction of the forward price. The more speculators engage in forward transactions, the stabler the stock market. Forward speculators destroy their own business through their activity, but that is the very reason why they stabilize the market.

The situation is different with respect to short sales. Initially the sale of the borrowed shares depresses the stock price, and then the repurchase increases it again. There is a downward and upward movement of the price that would not have existed in the absence of short sales. This is why short sales destabilize the market. From the perspective of an individual speculator, at first glance the short sale offers no advantage over forward speculation.

However, the crucial difference is that the short seller moves the market, because he trades with huge quantities of shares that he has borrowed. The sheer quantity gives him market power, enough to trigger a price decline that sets in motion the reinforcing herd reaction. By creating the conditions for a favourable repurchase of the shares, a short sale offers the speculator more chances for profit than a forward sale. But it is precisely this condition that raises doubts about such actions from an economic point of view.

Whenever an individual market participant can move the market price through his own actions, there is something wrong with the allocation of economic resources. A market economy functions well with atomistic competition where the participants are price takers, but not when they have enough power to change the nature of the market equilibrium. Market power usually leads to economic inefficiency and welfare losses. Since the private advantage of short sales exceeds the private advantage of forward sales only if market power is exerted, short sales do not offer any additional economic gain above forward sales. They ought to be limited, if not prohibited outright.²¹

A new business model for the rating agencies

The rating agencies failed miserably in the current crisis. If, by way of a cascade of

²¹ Moreover, higher risk weights imposing higher minimum equity constraints are generally appropriate for bets on falling prices because such bets can easily involve losses that far exceed the transaction volume, creating the incentive to excessive gambling with limited liability. See H.-W. Sinn, *Economic Decisions under Uncertainty* (North Holland, Amsterdam, 1983), 288-94.

securitizations, housing loans with an average rating of B+ were converted into far more valuable instruments, 70 per cent of which were rated AAA, something must have gone wrong with the rating process. The same applies to the fact that Lehman Brothers was still rated A+ in the week preceding its demise. Given these facts, suspicion of opportunistic conduct on the part of rating agencies cannot be dismissed out of hand.

An obvious reason for the overly optimistic ratings given by the rating agencies to the investment banks and their CDOs is that they were paid by the banks whose products they rated. They even helped them to structure the CDOs in such a way as to yield as many desirable AAA ratings as possible. This is akin to the automobile club being not an association of car owners, but one that is paid by the automobile companies for help in designing the cars and subsequently testing and positively rating them.

The institutional conditions in the rating market are hair-raising and unacceptable from the point of view of bank customers and of the European competitors of American banks. To render the rating market operational again, four requirements should be met.

First, the rating agencies must no longer be involved in the structuring of the securities they are rating. As this was an important part of their business in the past, the corresponding business divisions must be spun off and managed as independent service companies.

Second, while the service companies can continue to be paid by the sellers of financial products, the rating agencies themselves should get their money from the buyers and/or from the government, due to the public goods nature of their services.

Third, the rating agencies must themselves be subjected to supervision, so that the criteria according to which they determine their rating categories will be completely transparent.²² Basel III should draft a regulatory system for this.

Fourth, a European counterweight to the American rating agencies could be established so as to provide of least some international competition and break the problematic dominance of the US institutions. The EU could help in this endeavour, considering the public goods nature of the rating function.

Stop signs for non-recourse claims

The securitization process supported by the questionable ratings was itself a problem. Mortgage-backed securities were claims against non-recourse claims against homes that often

²² Greater transparency of the rating agencies is also demanded by the Issing Committee. See O. Issing (chairman) et al., *New Financial Order: Recommendations by the Issing Committee*, Center for Financial Studies, White Paper no. II (February 2009), 21-3.

were undercollateralized because of the common practice of cash-back sales and because of the inclusion of fees in the reported home value. CDOs based on MBSs, in turn, were even more dubious constructs, as their returns were further diminished by frequent fees and involved a chain of interwoven claims that often even the cleverest experts were unable to understand. The American market for mortgage-based financial products was a gigantic market for lemons that dwarfed the used-car market, on which Akerlof's theory had originally focused, both with respect to its volume and with respect to the lack of transparency regarding product characteristics. Small wonder that the market for annual issues of MBSs and CDOs has virtually disappeared in the crisis and that US mortgage finance had to be socialized. Drastic intervention by the regulatory agencies is needed in this market in order to create the transparency, accountability, and liability that are the precondition for buyers to regain their trust in such products.

Multi-stage securitization beyond simple CDOs should be prohibited entirely. Even at the first CDO stage, the buyer has a hard time finding out the probability of repayment in the various tranches and determining against whom he is acquiring claims. Multiple securitizations beyond that, sometimes six and even forty stages, are absurd and fulfil no economic function whatsoever. They are nothing but trickery to exploit the excessively lax and fragmentary rules of the supervisory systems. However, this is not enough to revitalize the US capital market. Three further measures are advisable.

First, non-recourse mortgage loans should be eliminated to ensure that the homeowners remain responsible for the repayment of their loans with all their assets and cannot simply return their keys if house prices or the economy nosedive. The legal possibilities offered by private insolvency rules suffice entirely to protect homeowners from claims that would push them below the subsistence level. It is clear that this would trigger a minor revolution in the USA, but it is unavoidable if American mortgage-based securities should ever be sold again at substantial quantities in world markets.

Secondly, it should be stipulated in the Basel III system that every institution that securitizes claims must keep a certain fraction of them in its own books, say at least 20 per cent. If the American mortgage banks pool their credit claims in order to generate ABSs, they must keep at least 20 per cent of these securities. And if an investment bank constructs a hierarchy of structured claims out of such ABSs according to the waterfall principle, it must also keep at least 20 per cent of such securities and must do so out of each tranche that it creates. This rule will induce the participating bank to be much more circumspect in lending

to the homeowner and also in selecting the mortgage claims it uses to construct the CDOs.

Thirdly, the investors in the financial markets could be encouraged to avoid non-recourse securitization entirely by developing an international market of covered mortgage bonds. As explained, covered mortgage bonds are not only secured by the collateralized properties (as securities are), but in the first place represent legal claims against the issuing banks. To develop such a market, a legal framework could be created in the Basel III system that would determine uniform minimum standards for covered mortgage bonds. As such bonds, thanks to being triply covered by bank, homeowner, and property, will presumably enjoy the highest creditworthiness of all privately issued securities, there will be no lack of demand for them.

Burying graveyard insurance

A final issue concerns credit default swaps (CDSs), guarantee-like credit insurance that has taken on a life of its own in a rather opaque way. This market is the most obscure of all, as it is not subject to any regulation, has taken on dubious forms, and has become so huge, with a volume of about \$30 trillion most recently, that the worst would have to be expected for the world economy if big collapses, with domino effects, were to occur. The fact that AIG specialized on CDS insurance because it was able to exploit a regulation gap and had to be nationalized in 2008 after incurring an annual loss of \$100 billion, the highest loss of any private firm in history, speaks volumes.

Unfortunately, this book cannot clarify the many unsolved problems in the CDS area in any conclusive way. I can only point out the existence of a time bomb lurking in the dark that must still be defused.

Of course CDS contracts also have benefits. By insuring banks against the default of their debtors, they promote a more productive risk-taking and lending in the real economy that boosts economic growth and contributes to the prosperity of nations. So care is needed not to throw out the baby with the bathwater. However, in view of the huge negative externalities that CDS insurance potentially imposes on other parties, as shown by the AIG case, prudence-fostering regulation that keeps these externalities under control is indispensable. Certainly, high-equity asset ratios are also necessary for the CDS insurers to induce a more cautious business strategy and make sure that they can meet their payment obligations even in a systemic crisis.

Moreover, a rational strategy for eliminating unnecessary CDS risk includes the creation of an international supervisory body that registers and examines the various hedging

contracts that exist today. The contract claims could then be offset against each other and simplified in part in order to sharply reduce the total volume of CDS contracts. Initial approaches in this direction, in the form of privately initiated clearing actions, are already under way in the United States.

It is paramount, however, to prohibit mere betting on the demise of firms or on other events that do not directly affect the contracting parties. Such gambles create risks rather than eliminate them. In their graveyard insurance guise they are even highly dangerous, as they may trigger mayhem in the financial markets. They were created by financial institutions having limited liability and working with minimum capital stocks, well-known features that lead to gambling at the expense of other market agents and the economy as a whole. To limit the misuse of CDS contracts, the contracting parties must be able to prove that the insurance buyer has an insurable interest in the sense that he would suffer a loss from the insured event that exceeds or equals the contracted indemnification payment. The prevalence of an insurable interest combined with the exclusion of overinsurance is a self-evident requirement for any normal insurance market, which, unfortunately, is rarely met in the CDS market. To ensure that such conditions are met, a reporting system for CDS contracts and an international register for such contracts should be established. This register should contain a convincing description of the insurable interest and a proof that overinsurance can be excluded.

Sometimes it is claimed that in CDS gambles the invisible hand was acting in a beneficial way that was just not yet understood by economists, sufficient reason for the markets to be left alone. In view of the obvious externalities resulting from limited liability, asymmetric information, and the expectation of government bail-out, I find this claim surprising. It reminds me of Voltaire's satire directed against Leibniz, *Candide, ou l'optimisme*, in which Dr Pangloss argues that everything that exists is good and has a purpose, which may be seen by looking at the nose, an appendage obviously shaped in the best possible way to support glasses.²³

On the American life insurance market, graveyard insurance was prohibited back in the nineteenth century in order to prevent such problematic behavioural effects, and insurance contracts nowadays are only legal when they cover an insurable interest. Society is learning from its mistakes. The lesson to be learnt from the current crisis is that we cannot let people

²³ „It is proved", said Dr. Pangloss, "that things cannot be other than they are, for since everything was made for a purpose, it follows that everything is made for the best purpose. Observe: our noses were made to carry spectacles, so we have spectacles . . .", cited from English edn.: Voltaire, *Candide: Or Optimism* (Penguin, London, 1947), 20.

continue to play Wild West games on modern financial markets.