
POLICY PLATFORM | White Paper

“The Economic Rationale for Financial
Regulation” Reconsidered
An Essay in Honor of David Llewellyn

Richard J. Herring

Professor of International Banking, The Wharton School, U. of Pennsylvania

Reinhard H. Schmidt

Chair of International Banking and Finance, Goethe University

April 2012

“The Economic Rationale for Financial Regulation” Reconsidered

An Essay in Honor of David Llewellyn¹

Richard J. Herring and Reinhard H. Schmidt²

Introduction and Overview

This is the 10th anniversary of David Llewellyn’s classic work, “The Economic Rationale for Financial Regulation”. It was the first occasional paper issued by the Financial Services Authority and provided a plausible rationale for what the new institution was designed to accomplish. David gave a thorough and balanced assessment of the economic rationale for financial regulation, written with his characteristic clarity and elegance. This perspective of a well-respected, mainstream economist became widely cited and, indeed, often appeared on college syllabi.

But since the 1990s, financial instruments, markets, institutions, regulations and macroeconomic conditions have changed markedly. Notably, innovations in derivatives have increased and tended to blur the traditional lines between financial institutions. Capital markets have become much more important in the operations of large financial institutions and large complex financial institutions have become more numerous, and even larger and more complex. For example, the top 5 banks controlled 9% of world banking assets in 1998. Now they control well over 18%. Moreover, the Basel I guidelines for capital adequacy have been adopted by more than 125 countries, often with the unexpected result of encouraging the growth of off-balance sheet transactions that substitute for more heavily regulated on-balance sheet assets. And Basel II has replaced Basel I in several countries and has been extended to what were the 5 largest investment banks, with the unintended consequence of greatly increasing leverage. Moreover accounting standards, (which, although unacknowledged, have always been critical to any kind of international capital adequacy standard), have evolved from a hodge podge of national, generally accepted accounting principles that sometimes differed within countries across sectors of the financial institutions industry and usually differed across countries to a fair value standard.³ Yet, despite all of

¹ This article has been published in: Chr. Green, E.J. Pentecost and T. Weyman-Jones (eds.): *The Financial Crisis and the Regulation of Finance. Essays in Honour of David Llewellyn*. Edward Elgar, Cheltenham, UK, 2011, pp. 68-82.

² Jacob Safra Professor of International Banking, The Wharton School, University of Pennsylvania (herring@wharton.upenn.edu) and Reinhard H. Schmidt, Professor of International Banking and Finance, Johann Goethe University, Frankfurt, Germany (schmidt@finance.uni-frankfurt.de).

³ The process of convergence between International Financial Reporting Standards and US Generally Agreed Accounting Principles is, however, far from complete.

these innovations, most of which were thought to be advances in financial technology when they were introduced, the world has sustained the most damaging global financial crisis since the Great Depression.

While much of what David wrote in the mid-1990s remains true today, we hope that he will revise his classic work to take account of what we have learned from these developments. We will be presumptuous enough in this paper to offer him unsolicited advice about issues he may wish to consider for the 10th anniversary, revised edition. The central challenge is to explain why the institutions overseen on the basis of David's classic rationale for financial regulation failed to achieve the primary objective of financial regulation – systemic stability.

In the second section we will begin with a brief sketch of David's original work, review some of the major changes in instruments, markets, institutions and regulations that have occurred since his paper was written, including a change in the nature of systemic risk. The concluding section will highlight the key issues we hope he will address in the new edition of his paper.

Llewellyn's economic rationale for regulation and financial innovations

For those who have not read David's classic work recently we will begin with a very brief and necessarily superficial summary of his key arguments.⁴ David identified 3 key objectives for financial regulation: (1) to sustain systemic stability; (2) to maintain the safety and soundness of financial institutions; and (3) to protect consumers of financial services. While the first two objectives were once regarded as virtually synonymous, recent experience has served to heighten the differences between macro-prudential regulation and supervision and micro-prudential supervision. Indeed, if market participants assume that supervisors are ensuring the achievement of the second objective, the likelihood of systemic instability may be increased by undermining incentives for the monitoring and pricing of risk by market participants. Moreover, we have come to realize that monitoring the interconnections and correlations among institutions and markets are much more important for achievement of systemic stability than focusing on the safety and soundness of individual institutions considered separately. The third objective, of course, has become much more complicated as the complexity of financial instruments has increased and the originate-and-distribute model has displaced much of traditional (buy and hold) lending where customer relationships were of utmost importance and the same institution originated the loan, underwrote the loan, serviced the loan, restructured the loan (if necessary) and held it on its books until it was repaid (or charged off).

Because of the heightened importance of capital markets for the activities of most major banks we would like to propose a fourth major objective: to maintain the integrity of financial markets. This would include attempts to improve the efficiency and transparency of the price discovery system, promoting market liquidity and ensuring the safety and soundness of the clearing and settlement processes.

Llewellyn also argues that regulators should prevent systemic problems associated with externalities and correct principal-agent problems and other market imperfections. Like most other economists at the time, David did not address the equally troublesome problem of how to motivate supervisory agents to act in

⁴ Of course, we urge you to read the original for a complete and clearly articulated treatment (Llewellyn (1999)).

the best interests of their taxpayer principals.⁵ Although the recent crisis certainly revealed a number of egregious principal-agent problems within firms and among firms, particularly in the securitization process, it also highlighted the failure of most regulatory and supervisory institutions to undertake the kinds of precautions that might have prevented or at least mitigated the crisis.

Llewellyn also argues that regulators should take advantage of economies of scale in monitoring financial firms to promote consumer confidence. This is one compelling argument for gathering most financial regulatory and supervisory functions in one institution like the (then) newly created Financial Services Authority. But to the extent it succeeds in promoting consumer confidence by placing greater emphasis on regulatory oversight it may lessen monitoring by the private sector. Moreover, it is difficult to argue that the integrated financial regulators have performed with greater distinction in this crisis than the traditional specialized regulators, which, of course, does not deny the potential merit of the idea.

Llewellyn argues that supervision and regulation can counter grid lock among financial institutions by reassuring counterparties that they are safe from adverse selection and moral hazard. This has proven much too great a burden for supervisors and regulators. That the sub-prime crisis caused such immediate and complete grid lock internationally indicated that, when faced with such a shock, financial institutions had very little confidence in the supervisory authorities or each other.

Finally, Llewellyn argues that financial regulation should counter the moral hazard associated with revealed preference of governments to provide safety nets. After a crisis in which governments have risked trillions of dollars – more than 25% of world GDP by one conservative estimate⁶ – in bailing-out and propping up financial institutions, it is clear that much remains to be done to make this worthy goal a reality.

Llewellyn identifies two kinds of regulation and supervision: (1) prudential regulation, which focuses on the solvency and safety and soundness of financial institutions and (2) conduct of business regulation. In his view they may overlap with regard to systemic concerns.

First, with regard to prudential regulation, he views the key challenge as preventing systemic problems. But he also stresses that prudential supervisors must protect customers from being exploited by better informed financial institutions. In this sense, the supervisor plays a fiduciary role, if consumers are unable to assess safety and soundness when they purchase a financial product or contract, which usually involves the customer paying cash now for the promise of a benefit that may not be realized until far into the future. If the post-contract behavior of the financial institution determines the value of the contract, it can pass on the cost of hazardous behavior to an insurance fund or compensation scheme if badly supervised.

Llewellyn argues that conduct of business regulation is necessary because financial intermediaries may exploit their fiduciary responsibility by rendering bad advice that benefits the firm, but not the customer or the financial intermediary becomes insolvent before the contract matures. Moreover, the contract may

⁵ A notable exception is the work of Ed Kane who has repeatedly emphasized this theme. See, for example, Kane (1989).

⁶ See, Haldane (2009).

be misunderstood by the customer or there may be outright fraudulent misrepresentations. The failure of the US authorities to oversee conduct of the mortgage business properly and, worse still, the urging of the Congressional overseers to lower normal lending standards to serve the housing aspirations of lower-income groups certainly contributed to the sub-prime crisis. This episode is a prime example of how badly conducted business can contribute to systemic risk.

Much to David's credit, he foresaw one of the fatal weaknesses in the British deposit insurance system that made British banks especially vulnerable to runs in the wake of the Northern Rock liquidity problem, even though the UK had not experienced a run since the collapse of Overend and Gurney in 1866. He noted that the low limit of £2 thousand and the reliance on co-insurance, in which the depositor must bear 10% of the loss above a very low minimum, meant that deposit insurance in Britain could itself become a source of systemic risk. He clearly saw the credit risk implicit in co-insurance and low ceilings, but he did not articulate the additional burden that most deposit insurance systems (with the notable exception of the US Federal Deposit Insurance System) place on depositors in failed banks – liquidity risk resulting from the lag in repayment that can last, in some cases, until the bank is resolved. Since bank deposits are often a consumer's most liquid asset, this loss of liquidity can be as devastating as the credit loss and needs to be dealt with by whatever authority resolves the bank.

Llewellyn's concern about systemic risk focused on banks because of the pivotal position they have played in the financial system, especially in clearing and settlements and managing the payments system. Moreover, in most systems banks are the main source of finance for the majority of borrowers. Their highly leveraged balance sheet structure, in which illiquid assets are financed largely by short-term liabilities, many of which are payable at face value on demand, makes them inherently vulnerable to a loss of confidence and ruinous runs that may prove contagious. His main concern, of course, was contagion from one bank to others, either because of direct exposures, (which may be large, opaque and rapidly changing), or because of suspected exposures to the same shock that caused the first bank to collapse.

Ironically, Llewellyn contrasted the fragility of commercial banks with the more robust structure of investment banks. He was not alone in this view. It was certainly shared by the primary regulator of investment banks, the Securities and Exchange Commission (SEC). The traditional US view was very much like David's. It was assumed that investment banks do not pose systemic risk because they: (1) are unlikely to be subject to a run, since customer funds are not commingled with the firm's own funds; (2) they hold mainly high-quality, marketable securities and should be able to deleverage rapidly without suffering illiquidity costs in the event of a funding shock; (3) they do not have access to systemically important large-value clearing and settlement systems except through large banks and thus the authorities could rely on indirect regulation by supervising banks.

Indeed, this view seemed justified by the collapse of Drexel Burnham Lambert, which for much of the previous decade had been the most profitable bank on Wall Street. Drexel had departed from the traditional investment banking model by financing bridge loans for less-than-investment grade borrowers with short-term funding in the expectation that Drexel could quickly replace the bridge loans with issues of high-yield ("junk") bonds. They also financed a considerable inventory of junk bonds in the same way in order to maintain a liquid secondary market. When the market for junk bonds collapsed, (at least in part because of the criminal indictment of Drexel Burnham and the removal from the market of Michael

Milken, the chief architect of the junk bond market), Drexel found that it had inadvertently taken on the structure of a commercial bank operating without the safety net provided by deposit insurance and access to the lender of last resort. The bridge loans became bridges to nowhere because it was impossible to issue new high-yield debt and the inventories of high-yield debt plummeted in price. When investors refused to roll-over their claims on Drexel, the holding company was forced to declare bankruptcy even though the regulated broker/dealer and primary dealer were transparently solvent.⁷ But there was no contagion to other institutions.⁸ In fact, the stock market rose the day that Drexel declared bankruptcy.

Most other large investment banks (with the notable exception of First Boston) stayed with the traditional investment banking model of funding high-quality, liquid assets with short-term borrowing and repurchase agreements (repos). This gave them remarkable flexibility to respond to changing market conditions. Their balance sheets could expand or contract accordion style depending on the funding available. Because of the high quality of their assets they could shrink their balance sheets substantially without incurring illiquidity costs.

The EU had long held the contrary view and worried that US investment banks could be a serious source of systemic risk. This may have reflected the fact that many of the largest European banks have long had a full range of investment banking powers or the fact that the largest US investment banks had established commercial banking operations in the EU. The EU insisted that the investment banks be subject to consolidated prudential oversight, comparable to that applied to large US banks or form holding companies that would be subject to consolidated supervision in Europe. Rather than submit to regulation by the EU, the five leading investment banks agreed to become Voluntary Consolidated Supervised Entities subject to Basel II like capital standards, supervised by the SEC. This turned out to be a prime example of the law of unintended consequences because when the investment banks applied Basel II-like capital standards they found that they had substantial amounts of excess regulatory capital (not unlike the case of Northern Rock) and their net leverage ratios more than doubled (see Figure 1).⁹ This clearly made them more rather than less vulnerable to a shock as the EU had expected.

The fact that this program was voluntary, which meant that it had to be carefully negotiated with the regulatees, is a prime example of regulatory capture. David rightfully worries about overregulation because the cost of regulation is not priced in the market and thus consumers will demand too much. But he ignores the important countervailing force of the political market that determines regulations in

⁷ Substitute subprime related securitizations for high-yield debt and you have a striking parallel to part of the recent crisis.

⁸ Although the Bank of England and the Fed had to serve as honest brokers in unwinding Drexel's balance sheet to prevent creditors from attempting to seize Drexel's assets in the clearing and settlement process as they were liquidated.

⁹ This is likely to be a substantial underestimate of intra-reporting-period leverage because there is significant evidence of window dressing to disguise leverage at the end of each quarter. (See the report of Anton Valukas (2010), the court appointed examiner in the Lehman bankruptcy case describing 105 and 108 repo transactions.)

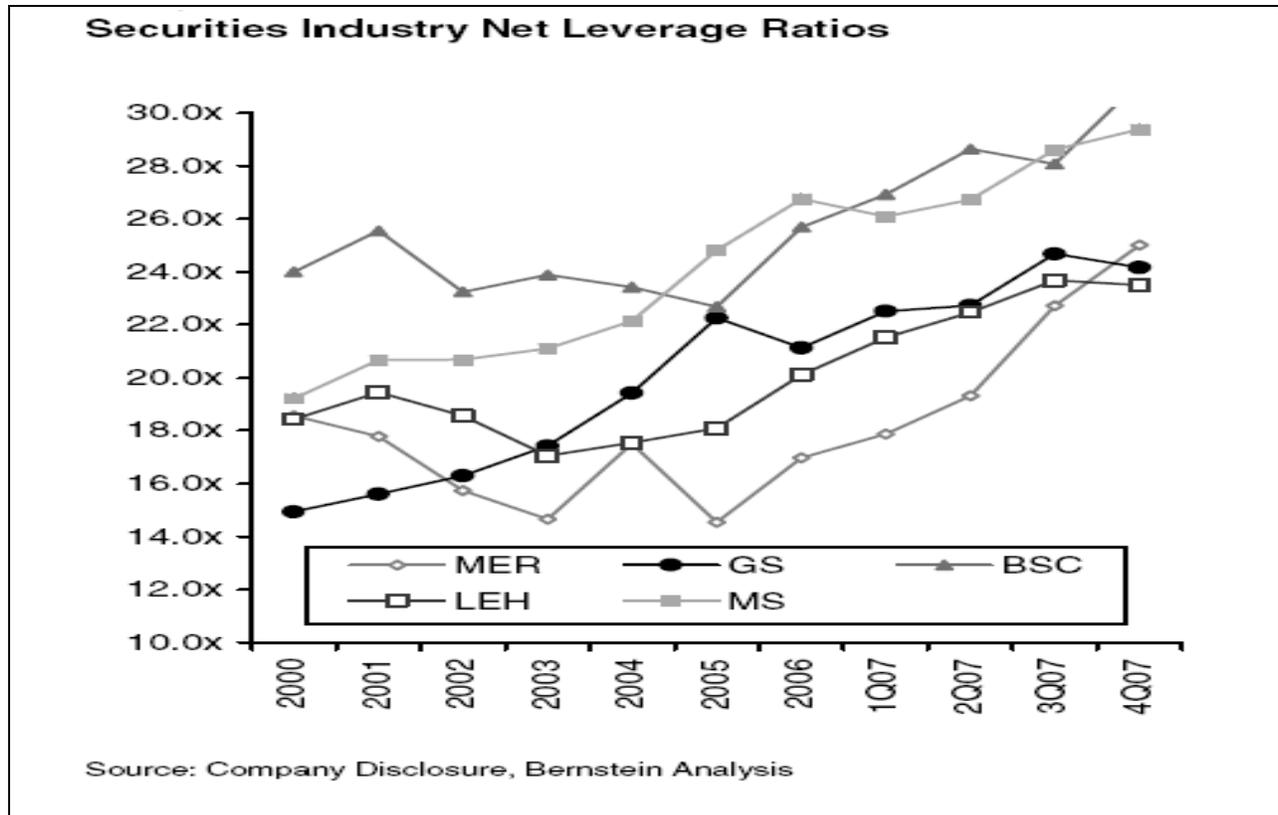


Figure 1. Leverage Increased Markedly After Shift to Voluntary Consolidated Entity Regime

many countries. Financial service industry lobbyists are often very powerful and, in the US, are the largest contributors to Congressional campaigns. Because regulators and supervisors have so many ill-defined objectives it is difficult to hold them accountable to any one objective. This problem is further exacerbated by the constraints of civil service pay scales, which do not usually permit incentives for the achievement of particular objectives. Moreover, the failure of a supervised firm is usually regarded as a supervisory failure (even when it should be interpreted as effective supervisory discipline), while the waste of resources in letting an insolvent Zombie firm continue in operation is generally not disparaged. Thus supervisors often tend to forbear and hope that a change in conditions will restore the solvency of a troubled institution. Moreover, the “ascent to heaven” is not an exclusively Japanese vice. Many SEC lawyers leave to represent former regulatees (for much higher salaries) once they have gained sufficient experience at the SEC.

Over the last decade, the large US investment banks have adopted a new model (in addition to increasing their leverage). Their portfolios have shifted dramatically in favor of lower quality, less liquid assets that are inevitably much more difficult to sell without incurring an illiquidity cost in the event of a funding shock. (See Figure 2, for example, which shows the sharp rise in lending commitments to industrial corporations.) They have also become much more heavily involved in the derivatives business both as dealers and position takers. Although plain vanilla interest rate swaps and currency swaps are relatively transparent, the advent of credit default swaps introduced significant complexity in determining the credit

exposures of institutions (in addition to helping them manage credit risk more effectively than ever before).

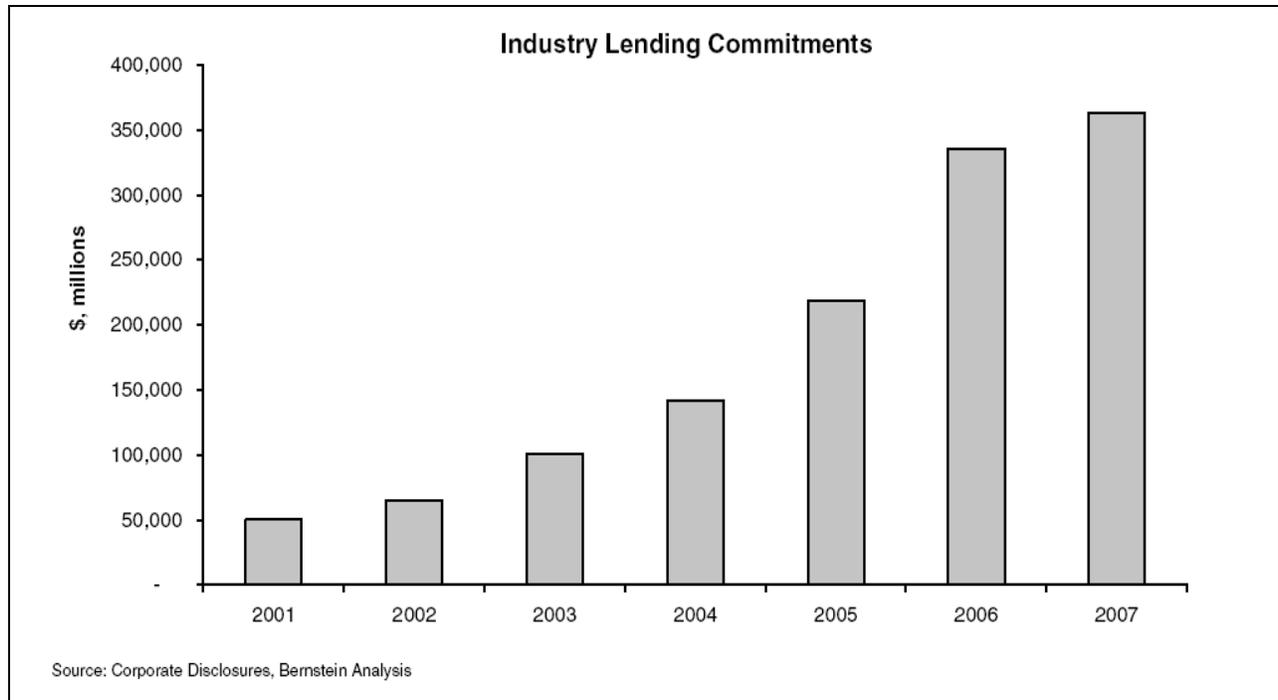
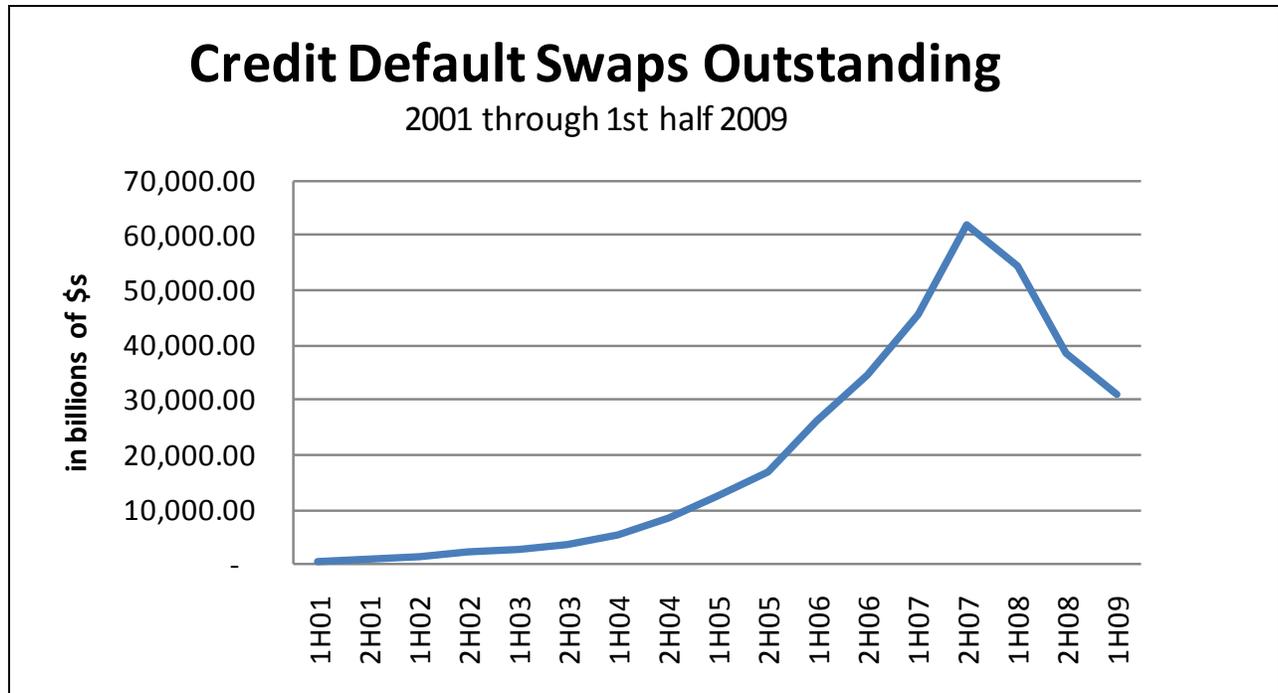


Figure 2. Investment Bank Portfolios Became Markedly Less Liquid

Figure 3 shows the exponential growth in credit default swaps until the crisis began. This rapid growth itself led to significant documentation problems as back-offices struggled to keep up with the rapid velocity of trading. Moreover, the ability to separate credit risk from traditional credit-risk bearing instruments meant that no firm (or regulator) could be sure who actually was assuming the credit risk. Simply knowing the identity of a firm's lenders or bond holders was not enough and might, in fact, give an entirely misleading impression of which entity would suffer loss in the event of a default, much less the knock-on consequences. The introduction of increasingly complex securitizations which were often tranching, recombined with other securitizations and tranching again added further opacity to the system and made it virtually impossible to identify and evaluate the quality of the underlying securities.



Source: International Swap Dealers Association, includes CDSs referencing single names, indexes, baskets and portfolios

Figure 3. The Explosive Growth of Credit Default Swaps

These firms have also become much more global in reach and complex in legal structure. Most had adopted an international funding strategy controlled by the holding company, but drawing funds from broker-dealer subsidiaries in the US, the UK and Japan. While this greater diversity of funding sources undoubtedly helped stabilize funding in normal times, in the event of a shock, local regulatory authorities are inclined to ring-fence the parts of the group that they can control, exacerbating the funding (and capital management) challenge for the holding company.

One of the most remarkable changes in funding strategy was the growing reliance on tri-party repos to fund balance sheets.¹⁰ In 1990, repo credit was 13% of federally insured deposits. By 2007, repos were 60% of federally insured deposits and two-thirds of the repos matured (or needed) to be rolled over overnight. If the buyer loses confidence in the seller they may refuse to roll-over the repo or demand higher quality collateral or more collateral. This, in combination with the increasing illiquidity of investment bank portfolios and expanded leverage, turned out to be the Achilles heel of the new investment banking model and gave rise to a new kind of risk, which the regulatory authorities regarded as systemic. In addition to the traditional model of a contagious bank run, the authorities now had to

¹⁰ A tri-party repo is a natural outgrowth of the traditional two-party repo in which the collateral is held by a neutral third party to reduce counterparty risk and administrative costs. A repo is like a secured loan in which a borrower sells a security with a simultaneous agreement to buy it back from the lender at a fixed price and date. Unlike a secured loan, however, legal title to the security passes from the seller to the buyer. The third party in a tri-party repo is generally a custodian bank that acts as intermediary. The custodian is responsible for the administration of the transaction including the allocation of collateral, marking the collateral to market and, on occasion, substituting collateral. As part of the collateral management agreement the buyer and seller agree on an eligible collateral profile that reflects the buyer's appetite for risk.

worry about the endogenous destruction of liquidity in capital markets caused by a loss of confidence in a major seller of repos.

Suppose that a shock raises concerns about the solvency of a financial institution heavily dependent on repos for liquidity. (With investment bank leverage ratios often above 30:1 and market price volatility during 2008 often approaching 40%, it is not difficult to imagine the motive for a loss of confidence.)

Figure 4 shows the two related mechanisms at work.¹¹

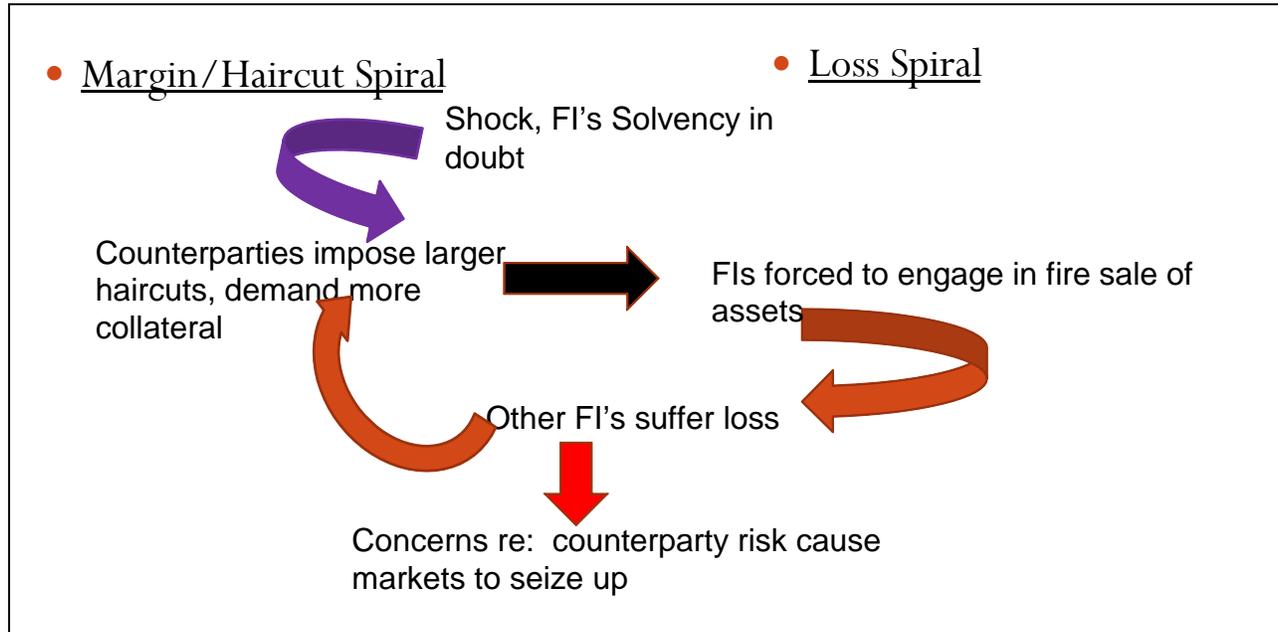


Figure 4. Systemic Nightmare Updated: the Destruction of Endogenous Liquidity

First consider the Margin/Haircut Spiral in which counterparties lose confidence in a seller of repos. At first they are likely to react by imposing larger haircuts on collateral and demanding more collateral to roll-over a repo. The seller of the repo can either react by providing more collateral or not renewing the repo, but this will result in a reduction of the size of its balance sheet. Either course results in a sale of assets. If the institution has already repoed its most liquid assets (which is highly likely since that provides the lowest funding cost), it will have no choice but to sell illiquid assets. This will drive down prices in the secondary market. Since investment banks are marked to market daily (so long as an active market exists), they will be forced to mark-down the remainder of any position in that asset they may hold. This reduces equity and increases concerns about the institution's solvency, which will lead to greater haircuts, more demands for collateral or for better collateral and ultimately to a refusal to deal with the institution at all. Like a bank-run, this can become a self-fulfilling prophecy and can reduce the supply of intermediation quite rapidly.

The second channel is the transmission of the shock to other institutions holding similar positions. When the secondary market price of an asset falls, they too will be forced to mark-down the value of their own

¹¹ For additional discussion of this mechanism, see Brunnermeier et al (2009).

holdings which reduces their equity and increases their leverage. Their counterparties may react just as in the previous case and another margin/haircut spiral may begin. When concerns about the sellers of repos become widespread, the market may simply dry up. But if an investment bank cannot meet its cash obligations when due, it must declare bankruptcy. Because of the size of these institutions and their opaque connections with the rest of the financial system, the first instinct of the regulators in the United States was to stretch the safety net to protect investment banks. Bear Stearns was the first to succumb and a heavily subsidized, shot-gun marriage was arranged with JPMorgan Chase to prevent any loss to creditors or counterparties that might cause further, uncertain damage to the financial system. The regulators simply didn't know what the consequences of a bankruptcy might be because they did not know the institution's exposures and, in view of the opacity of the instruments in which Bear dealt, could not predict where the damage might spread. To prop-up confidence in the remaining large investment banks they set up a special discount facility for primary dealers.

As David has noted, the propensity of governments to react in this way in a crisis inevitably gives rise to moral hazard. This is apparent in this case. There were many things Lehman Brothers could have done in the six months after the collapse of Bear Stearns to have strengthened its balance sheet, but those initiatives were not given a high priority because the top management believed the firm to be protected by the safety net. After all, if the government would intervene to save Bear Stearns an investment bank that was less than half as large and much less complex than Lehman Brothers, there could be little doubt that they would do as much for Lehman. Indeed, this deduction was shared by a number of other market participants so that Lehman found that it could fund itself much more easily in the wake of the rescue of the Bear Stearns. Some asset managers actually referred to the purchase of Lehman commercial paper as a "moral hazard" play because they could pick up a bit more yield without incurring (they assumed) more risk.

The logic seemed plausible, but it was flawed. In the wake of the bail-out of Fannie Mae and Freddie Mac, the authorities were loath to help Lehman when it came under pressure because of mounting losses. Moreover, they felt that the market had sufficient time to anticipate a Lehman bankruptcy so that those institutions that were heavily exposed would have hedged themselves appropriately. (They apparently took no account of Lehman's global network of subsidiaries.) It also neglected a lesson that policy-makers should have learned from the Herstatt crisis in 1974. When a regulator does something unexpected that causes loss to creditors or counterparties, it may destabilize markets even if the institution itself is not especially large.¹² Moreover, whatever point they hoped to make regarding market discipline was completely undermined when, two days later, they bailed out AIG, ultimately injecting \$180 billion to prevent it from causing loss to creditors or counterparties.

¹² Herstatt was closed in June of 1974 at the close of business in Germany, but in the middle of the clearing and settlement process in New York where several banks that had sold Asian or European currencies to Herstatt earlier in the day expected to be paid in dollars in New York. This demonstrated, just as the Lehman case did, that the authorities who close an institution can shift losses to foreigners by picking a time that disadvantages foreign creditors. Since it is normally assumed that the regulatory authorities will take a more cosmopolitan view of their responsibilities (as, indeed, most have done after Herstatt and before Lehman Brothers), when these expectations are disappointed key participants withdraw from the markets until they feel they once again understand the rules of the game. In the wake of the failure of Herstatt, trading in the dollar/Deutsche mark market, the most active foreign exchange market at that time, nearly ceased for several weeks and the failure of a relatively small German bank caused an international financial crisis.

Both of these examples show the damaging consequences that can occur when the authorities lack the appropriate tools to resolve a faltering institution in a way that will not cause damaging spillover effects or impose unwarranted losses on taxpayers. Moreover, the international complexity of Lehman's corporate structure, with hundreds of separate subsidiaries, showed that an effective resolution policy must be coordinated with resolution policies in other key countries to avoid destabilizing international spillovers. David's *Economic Rationale for Financial Regulation* was silent on the issue of resolution, but it has become clear that an effective resolution policy is essential to control moral hazard and prevent the distortion of incentives that arises when one group of firms is believed to have preferred access to official assistance in the event of a crisis. We feel certain that David will have valuable insights on how resolution policy should be combined with the other tools of regulation and supervision.

Concluding Comment: Suggestions for the Revised Edition

We conclude by offering some specific suggestions for topics that David may want to consider for a 10th anniversary edition of his *Economic Rationale for Financial Regulation*. These suggestions are inspired jointly by three sources. One source is the general and far-reaching transformation of financial sectors in the course of the last ten years; the second is the evolution of political and academic thought about regulation and supervision; and the third is the experience of the ongoing financial crisis that started in 2007. Possibly the most important lesson from the crisis is that sound regulation and effective supervision of the financial sector are of paramount importance for the proper functioning of the financial system and that the hopes that were once associated with far-reaching deregulation are, in retrospect, not likely to be effective in the absence of a credible resolution policy that can prevent any failure from becoming systemic and encourage effective market discipline.

We hope the new edition of Llewellyn's *Economic Rationale for Financial Regulation* would reflect on the changing structure of financial sectors and systems in recent years. The boundaries between banking, insurance and capital markets have largely disappeared. Many financial institutions and financial instruments have adopted a hybrid character. Derivatives and other sophisticated financial products have gained greatly in importance. Many banks have adopted a new business model known as the "originate and distribute model". And national borders have largely lost their former importance except during a crisis when a systemically important financial institution must be resolved or more often, because of inadequate resolution procedures, bailed out.

Regulation and supervision of banking, insurance and capital markets must be integrated both in terms of their institutional design and in terms of their substance; this may take the radical form of creating one single relevant authority, as implemented in the case of the British FSA, or a more moderate form of separate but interrelated and cooperating institutions. One of the main challenges of financial regulation is to strike a balance between the advantages of specialization, which is better suited to the characteristics of individual institutions, and comprehensive oversight, which can take better account of growing interdependencies.

The tasks and objectives of any configuration of regulatory institutions must today be defined in a way that reflects the interdependencies between banks, capital markets and insurance firms. The aims of banking regulation and supervision must today include that of ensuring fair and efficient capital and

insurance markets and insurance firms, and correspondingly capital market and insurance regulation and supervision should aim at simultaneously contributing to sound and safe banking.

Since financial activity is no longer confined to individual countries' territories, regulation and supervision of the financial sector has become more and more a supranational issue. Obviously, supranational regulatory and supervisory institutions appear to be better suited than national institutions to take cross-border aspects into account and to create a level playing field for competition across borders. But there is also the danger that they may be overly political and excessively bureau-cratic institutions and that they are too far removed from where acute problems arise and where pertinent information is available. Moreover, as the current crisis shows, the step from supervising a bank to rescuing it can be small. Since the cost of bailing out a bank is ultimately born by a national government, there are limits to a policy of shifting the supervisory role to supranational institutions in spite of the increasing role of cross-border activities and cross-border spillovers in the case of a crisis. As in the case of integrated vs. specialized institutions, a sound balance between national and supranational institutions must be found and carefully implemented.

What makes relevant policy decisions with respect to these two institutional issues so difficult is the fact that they are interrelated. For instance, it may seem reasonable and appropriate to have national FSA-type integrated institutions in a number of large EU member states, and at the same time one central European institution that would be responsible for regulating and monitoring the increasingly integrated European capital market. But this will work only if there is unprecedented, intensive cooperation between the national authorities and the supra-national agency. The issue of the design of regulatory institutions should be taken more seriously than it was a decade ago.

One of the main lessons of the current financial crisis is that banks, including large and seemingly well-established banks, can easily get into serious financial trouble at least in part because of financial incentives to take excessive risks. Thus, there is a need to find ways of dealing with large banks once they are in trouble that does not exacerbate moral hazard incentives for risk taking. Bailouts may restore stability in the short-run, but only at the cost of increasing incentives for risk-taking in the long run. Much more attention must be paid to resolution policies that limit spillovers, but deter excessive risk-taking in the future.

Unfortunately, supervisors and governments cannot make a credible commitment to a "no bail-out policy" until they have developed resolution procedures that can be applied without creating intolerable spillovers. Of course, for this to be possible important changes in banking regulation are required which amount to creating a new and specific insolvency regime for large, systemically relevant banks.¹³

There are many more aspects of financial regulation and supervision that need to be seen in a new light after the crisis, and that require political action. Because of space limitations, we must confine ourselves to merely naming a few. One new area concerns the creation of much more transparency, such that in a crisis the relevant authorities would be in a position to assess if a given financial institution is really "systemically relevant" and how risk is distributed throughout the financial system. A second, and related,

¹³ A detailed proposal of how such a strategy of allowing bank restructurings without inducing moral hazard could function, has recently been made by Krahn and Siekmann (2010) in a paper published by the Policy Platform of the House of Finance, Goethe University Frankfurt.

area is the transition from micro-prudential to macro-prudential regulation and supervision. Indeed, it is extremely important that financial sector policy complements its current focus on the stability of individual financial institution by the focus on how the various elements of the financial system are related and how a failure in one part of that system could affect the other parts and the system as a whole.

References

- Brunnermeier, M., A. Crockett, C. Goodhart, A. Persaud and H. Shin (2009), *The Fundamental Principles of Financial Regulation*, London, Centre for Economic Policy Research, <http://www.cepr.org/pubs/books/P197.asp>
- Haldane, A. (2009), "Banking on the State," presented at the 12th Annual Federal Reserve of Chicago International Banking Conference, September 25, 2009, <http://www.bankofengland.co.uk/publications/speeches/2009/speech409.pdf>
- Kane, E. (1989), Changing Incentives Facing Financial Services Regulators, *Journal of Financial Services Research*, 2: 265-74
- Krahnen, J.P., and H. Siekmann, Helmut (2010), *Rescue Strategy without moral hazard – an attempt to provide a master plan for avoiding banking crises*, White Paper, Policy Platform at the House of Finance, Goethe University Frankfurt.
- Llewellyn, D. (1999), *The Economic Rationale for Financial Regulation*, Occasional Paper Series, 1, Financial Services Authority, London.
- Valukas, Anton, 2010, "Report of Anton R. Valukas, Examiner to the United States Bankruptcy Court, Second District of New York In re Lehman Brothers Holdings Inc., et al., Debtors," Chapter 11 Case No. 08-13555 (JMP)