



[Sony.Kapoor@re-define.org](mailto:Sony.Kapoor@re-define.org)

[www.re-define.org](http://www.re-define.org)

The Finance Market Watch Program @ Re-Define

## Tackling Systemic Risk

**As has become clear from the global nature of the financial crisis, one of the biggest challenges facing policy makers today is reforming the financial system in a way that effectively mitigates systemic risk. Three routes are possible here: we could choose to directly alter the structure of the banking system; we could engage in a complete overhaul of financial regulation; or we could do a bit of both. The choice is between strictly regulating what banks and other financial firms can do, or leaving open the scope of what they may do but strictly supervising how they do it.**

Keeping the current structure of banking, for example, would mean that we need much higher levels of liquidity and capital buffers and highly intrusive supervision to help mitigate systemic risk. On the other hand, reducing the size, interconnectedness and contagion in the financial system might entail some structural surgery, but would need lower capital and liquidity buffers and less intensive supervision.

The one thing that is clear is that the instability of the global financial system needs to be tackled urgently. The world clearly cannot afford another crisis of the kind we have just had. Ideally, given the global nature of finance, the regulatory reforms would be carried out at the global level. However, there is no global finance regulator or supervisor to take this forward.

The current global financial governance structure, comprising institutions such as the International Monetary Fund, the newly reconstituted Financial Stability Board, associations of bank, securities and insurance regulators and most recently the G-20, lacks the legitimacy, competence, capacity and willingness to play this role. Moreover, countries with large financial systems, such as the US and the UK, are reluctant to cede sovereignty to any global regulator.

In the absence of a proper global governance mechanism, there is a need to make sure that the financial sector is governed and reformed appropriately at the country and regional level.

Since the European Union, the largest economy in the world, also operates as a highly interconnected single market, this brief uses this single market as an example of what needs to be done to tackle systemic risk. The same lessons can be applied to national and global levels.

### **Tackling systemic risk in the single market area is important for three reasons:**

- The failure of cross border banks demonstrated the yawning gaps in cross border financial co-operation within the EU. These need to be filled.
- The single market has a highly integrated financial system which makes the need for integrated supervision and regulation ever more urgent.
- As the largest economy in the world, the EU, acting together can influence the shape and form of the global discussion on regulatory reform and the global governance of the financial system.

### **Establishing a system-wide watchdog**

The supervision and regulation of the financial sector thus far has been bottom up oriented, focussing on ensuring that individual institutions and market actors were sound and did not violate regulatory requirements. This was appropriate in a world where markets were fragmented and financial institutions primarily faced institution specific idiosyncratic risk. This old fashioned approach to supervision and regulation failed to keep up with the changing nature of finance and the growth in systemic risk.

That is why the European Union urgently needs to establish a supervisory body that has an eagle eye system-wide view of the financial system at least within the single market. The ongoing discussions on setting up a European Systemic Risk Board go in the right direction.

However they simply do not go far enough. Under the current proposals, the real powers would still lie with national level regulators whose primary interest is ensuring the safety of institutions not the financial system. That is why the European Union needs to act on three levels here:

- Given how much more important systemic risk has become vis a vis idiosyncratic risk, it is necessary to significantly strengthen the European System Risk Board by giving it wide-ranging statutory powers.
- The European Union should mandate the introduction of national level systemic risk regulators across the Member States.
- Because the single market is highly connected to international markets, the EU should put forward a bold proposal for setting up a global systemic risk regulator either as a new dedicated institution or under the aegis of an existing institution such as the IMF.

This system wide watchdog should have access to all relevant financial information across the whole financial system and wide ranging capacity and powers to monitor and control systemic risk. It should be able to act against a build up of systemic risk for example through imposing counter cyclical capital or reserve requirements and an increased use of prudential tools such as variable loan to value ratios, liquidity buffers, bank levies and transaction taxes.

What we need is a system that effectively marries a top down assessment of systemic risks to the bottom up supervision of individual firms.

### **Establishing a system of powerful pan European Supervisors**

The single market financial system is characterized by the presence of several large cross border financial institutions. Large investors operate at a pan European level and financial markets such as stock exchanges are increasingly pan European in nature. That is why the national level supervisory approach seems increasingly outdated. The EU is in the process of setting up a set of three pan European level supervisors (the so called European System of Financial Supervisors) overseeing the banking, securities and insurance markets.

While these bodies are vested with statutory powers, the current level of authority granted to them is insufficient given the highly integrated nature of the financial markets they oversee. That is why the proposal by the European Parliament to for example make the proposed European banking authority the supervisor for large cross border banks is a step in the right direction that needs to be strengthened further. The other agencies also need to have their powers beefed up.

### **Reducing excessive size**

It is evident that financial institutions have consolidated at an increasing pace. The market share (amongst the top 1000 banks) of the ten largest financial institutions has increased from 14% to 26% just in the past decade<sup>1</sup>. Banks from countries such as Iceland, the UK and Switzerland have had balance sheets that were a multiple of the home country GDP. When a small or mid-sized institution gets into trouble, the effect is likely to be localized, not lead to contagion and the fiscal costs are likely to be affordable. However, when institutions that operate across all markets get into trouble, they are likely to pose significant systemic risks and the fiscal costs of this for the home country are likely to be tens of percent of GDP if not more.

While bankers like to make a strong case for efficiency gains that come from size, the evidence of any additional efficiency gains above a balance sheet size of about \$100 billion is non-existent according to the Bank of England<sup>2</sup>. The United States, for example, plans to introduce restrictions on the maximum size of any particular bank. While these do not quite go far enough, they provide a good model for the EU to replicate at a European level. The Bank of England too has come out strongly in favour of reducing the size of the largest banks. Ideally, financial institutions would be given a period of say 3-5 years within which to reduce their size below an absolute or percentage of GDP cap.

Not only would this reduce systemic risk, but it would also have the beneficial side effect of stimulating competition in the financial sector so customers, investors and tax payers are all likely to get a better deal.

### **Reducing excessive interconnectedness**

The level of interconnectedness in finance has grown exponentially in recent decades. This is mainly down to two main developments

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<sup>1</sup> IFSL Research

<sup>2</sup> The \$100 billion question, Andrew Haldane, Bank of England

- An exponential growth in the size of derivative security markets
- A growth in the scope of bank business models

### **Regulating derivatives**

The over the counter (OTC) derivative market is bilateral in nature and the trillions of dollars of outstanding contracts contributes to a very high degree of interconnectedness through a series of interlocking assets, liabilities and margining requirements. This interconnectedness can be reduced significantly by bringing most of this OTC market on to exchanges and through the mandated use of centralized counterparty (CCP) clearing. As a way of allowing the systemic risk regulator to monitor the build up of risk, information on all derivative transactions should be recorded at a central repository to which the regulators have access. While the EU is taking the right steps in this direction, the approach to the regulation needs to be strengthened further. Transparency is a paramount consideration since complex derivatives have been highly opaque.

Derivatives are often also used as tools for arbitraging tax and regulation and this needs to be tackled upfront. The big question, of the effect at both the social and economic levels, of the volume of derivatives trades that is several times larger than the GDP needs to be addressed before allowing large derivative exposures to continue. One way of shrinking the market would be to levy additional capital, margining and transaction tax requirements on derivative products.

Centralized clearing would drive the simplification and standardization of derivative security contractual terms. However, we need to be careful that we do not substitute one source of systemic risk for another. Because the failure of a CCP would pose serious systemic risk, the standards of resilience required should be comparable with other public utilities such as gas, water and electricity.

By drastically cutting down the number of interconnections in the financial system, CCPs can cut down systemic risk. The uncertainty associated with bilateral OTC counterparties as well as the high complexity of outstanding derivative exposures were key contributors to the crisis.

### **Reinforcing payment and settlement systems**

The basic plumbing of the financial system in the form of payment and settlement systems has been one of the unsung heroes of the crisis. Despite enormous stress to the financial system and banks payment systems continued to function remarkably well throughout the crisis. They play an important public utility role so their strength should be reinforced as a bulwark against future systemic events.

Moreover, lessons learnt from the design of, for example, the continuous linked settlement bank and real time gross settlement systems can be applied to other sectors of the financial system.

### **Separating retail and investment banking**

By using publicly insured (and cheap) deposits to fund highly risky investments, several European banks increased the interconnections between the relatively safe old fashioned world of retail banking and highly risky, opaque and volatile segments of financial markets. Not only did this increase systemic risk but it also came at the cost of increased tax payer exposure to potential financial industry bailouts while the

financial sector employees took home excessive bonuses. The system crashed and tax payers across Europe were left to foot the bill.

That is why it would be prudent for the EU authorities to seriously consider the merits of separating at least the most risky and volatile parts of the financial business of banks from retail banking. The US discussion on separating hedge fund and proprietary trading offers a good starting point.

### **Reducing contagion**

Even when interconnections exist, shocks to one part of the system need not infect other parts to cause systemic risk. A greater amount of:

- Shock absorbing capital,
- More liquidity buffers,
- A more manageable speed of financial transactions, and
- Greater counterparty transparency

Can all help limit contagion in the system?

Only a few highly infectious banks are responsible for posing the bulk of systemic risk. These highly interconnected or large systemic institutions should be singled out for special treatment in the same way that those who are likely to most spread infections are the first people who get vaccinated in the event of an epidemic.

As things stand now, larger more systemic institutions actually enjoy subsidies in the form of higher credit ratings and lower borrowing costs from their too- systemic-to-fail status which is an invitation for them to spread even more risk. This is perverse and needs to be tackled immediately. The best way to do this would be to take away that status. A second best solution would be to make them pay.

### **Reducing leverage**

The level of debt in the financial system has increased substantially since the 1970s but especially in the past decade. The average leverage (ratio of debt to equity) for UK banks, for example, has increased from 20 to 30 in the past decade. This has inflated returns on equity for banks but at the same time significantly increased systemic risk. The banking industry in the UK has gone from returns on equity of 5%-10% before the 1970s (similar to those in the rest of the economy) to returns of around 25% in the last decade. This is possible because leverage can amplify profits (and losses), which is discussed in further detail in the Re-Define brief on 'Why Finance Crashed.'

Bankers were rewarded on the basis of the rate of return they generate, so the inflation of earnings and the increase in leverage in the banking system can be explained by the desire to earn ever higher bonuses. But we know now that these were not economically justified but came at a very heavy cost to taxpayers. Profits were privatized and losses were socialized. This is neither efficient nor equitable or sustainable and increases systemic risk.

The current discussions on reforms to capital adequacy and limits to leverage are not going to go far enough. There is no social or investor or public use of having banks try and generate returns on equity

far in excess of the rest of the economy by taking on more leverage and risk. So the 7%-11% range of new tier 1 capital requirements being factored in by the market needs to be extended at least to the range of 15%-20%. This has to be accompanied by strict compensation (incentive) controls for example in the form of relative and absolute bonus caps.

There is a need to place much stricter system wide leverage limits. These should serve to prevent overleveraging by firms in the financial sector responding to competitive pressure.

### **Tackling 'Just-in-time' Finance**

Another development in recent years has been the growth of what is best called 'Just-in-time' (JIT) finance. This borrows the idea of just-in-time supply chains from manufacturing and applies it to finance. It has meant that more and more of the warehoused risk that banks carried on their books as loans has been converted into marketable securities that banks assume they can sell to other financial market actors at a very short notice. It has also meant that rather than relying on stable forms of funding such as long term debt and retail deposits, banks increasingly relied on cheaper short term funding that they then had to roll over every week or so. Banks such as Northern Rock were using overnight borrowing to fund 30 year mortgage risks which worked fine as long as the overnight borrowing market – the liquidity supply chain – did not get interrupted. When it did, the bank collapsed.

UK banks used to hold as much as 30% of their assets in highly liquid form till the 1970s but the advent of just-in-time philosophy in finance meant that this had shrunk to less than 1% by the time the crisis hit. JIT finance leaves no margin for error and can result in a very speedy contagion of problems from one market segment or financial institution to others through interruptions to liquidity chains.

That is why the European Union needs to act to introduce liquidity buffers into the EU financial markets so as to increase the resilience of the system to liquidity shocks. Securitization too needs to be made less attractive *Vis a Vis* traditional loans since the crisis has highlighted that banks are unable to offload securitized risk exactly when they most need to.

The introduction of levies on bank balance sheets so they penalize excessive reliance on short term funding would also help increase the resilience of bank liquidity positions and has the potential to generate significant revenues of more than Euro 50bn in the European Union that can be put to good use<sup>3</sup>.

### **Slowing Down Financial Transactions**

Financial markets are best thought of as markets for information which process huge amounts of information for example from macroeconomic data reports, company balance sheets etc and translate them into prices for securities such as shares. Market movements of share prices are thus supposed to provide guidance to firm managers as well as other economic actors as to the long term future prospects for the firm.

However, the number and speed of transactions as well as volatility of prices has increased way beyond what is justifiable on the basis of changes to economic fundamentals alone. This is because the

market is increasingly dominated by ‘technical traders’ who chase trends buying when the market is going up and selling when the prices are falling. Through these actions, they amplify the amplitude of price movements in the market and can trigger systemic risk.

More recently, groups of investors called ‘high frequency traders’ have begun to dominate certain financial markets. These investors, who trade over time horizons of seconds (sometimes microseconds) using automated computer programs now account for more than 60% of all trading in US equity markets<sup>4</sup>. While some attest to the increased financial market liquidity that this high frequency trading can bring, its dominance serves to distort market signals, thus posing significant systemic risk. The August 2007 breakdown of some of these automated traded models caused widespread dislocation of the financial markets and was the first sign of the financial crisis. The crash of the 6<sup>th</sup> of May 2010 when the US stock market index fell nearly 2000 points in less than 20 minutes was also driven by machine trading.

That is why there is a need to introduce taxes on financial transactions. These would slow down the speed of markets and shift the balance of power towards those who trade on the basis of economic fundamentals and have a longer term investment horizon. Financial transaction volumes are likely to fall somewhat but despite dire predictions of financial insiders this will not result in a fall in liquidity. True liquidity in financial markets comes from a diversity of opinion. Much of the apparent liquidity in financial markets nowadays is illusory and as we saw in the ongoing financial crisis disappears exactly when it is most needed. FTTs might help increase true liquidity by increasing diversity through reducing the dominance of short term oriented technical investors.

Moreover financial transaction taxes can be a very useful prudential tool if different rates are applied to more opaque and complex markets and can be varied to tackle overheating markets.

Introduction of such a financial transaction tax regime will not only make financial sector more amenable towards longer term sustainable ‘green’ investments but also help substantially reduce systemic risk. Applied across the European Union, financial transaction taxes are expected to generate as much as Euro 100bn of revenue which can be put towards tackling fiscal challenges, for green investments and to help finance development<sup>5</sup>.

### **Greater transparency through tackling off balance sheet vehicles and tax havens**

One of the problems that made the crisis spread like wildfire was the very high degree of opacity in the financial markets. All major banks had an extensive network of hundreds and sometimes thousands of subsidiaries and legal structures in many jurisdictions – often in secretive tax havens. Lehman Brothers alone had more than 300 subsidiaries and almost 3000 legal entities<sup>6</sup>. This meant that no one bank was in a position to know exactly how risky its counterparties were, so given this high degree of uncertainty it made sense for each individual bank to hoard cash at the first sign of trouble and minimise trades with potentially risky counterparties. This made individual sense but was collectively disastrous and led to systemic breakdown.

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<sup>4</sup> Financial Times

<sup>5</sup> See Sony Kapoor’s testimony to the ECON committee at the European Parliament and go to [www.re-define.org](http://www.re-define.org) for several other publications on the subject.

<sup>6</sup> The Oxford Handbook of Banking, Allen N. Berger, Phillip Molyneux, John Wilson, Ch 8 Pg 209

In order to prevent this from recurring, it is essential that bank corporate structures, derivative exposures and overall riskiness be transparent and tractable. Only then can the idea of market discipline work. Abolishing the high degree of uncertainty that currently exists in the financial system would significantly reduce the risk of contagion in the event of a disturbance to the system.

A greater transparency and simplification of bank legal structures would also lead to lower levels of tax and regulatory arbitrage which would make the system safer and fairer. It would also help significantly reduce tax flight, which needs to be mitigated especially at a time of an emerging fiscal crisis.

### **Contingency Planning**

The lack of crisis handling mechanisms in the single market was exposed when cross border banks such as Kaupthing and Dexia got into trouble. No matter how much effort is put into monitoring or minimising systemic risk, banks will continue to fail. Sometimes this failure will pose a risk of systemic breakdown. That is why it is essential that EU authorities be prepared for a good crisis resolution mechanism.

The European System of Financial Supervisors, the European Banking Authority in particular, should be given resolution powers over cross border banks (and other financial institution) operating in the EU. This would allow them to get their wards to make realistic 'living wills' detailed plans for a quick neat failure to minimise the risk of contagion. The resolution framework would need to be supported by a pan EU resolution fund that can be financed through a charge on the cross border operations of large EU banks. Alternatively portions of revenues mobilized through bank levies and financial transaction taxes can be pooled into the EU fund. In order to make credible living wills, banks will need to drastically simplify their current complex legal structures, which will increase systemic transparency.

The proceeds of the ex ante fund could be invested in a portfolio of safe government bonds or could, for example, be used to fund pan EU green friendly investments. While these investments would lock in funds and make them unavailable at a short term, the 'green' securities could be used as collateral for short term access to finance from the ECB or a pool of EU states.