

**The Optimal Financial Structure**

**By**

**C.A.E. Goodhart**

**SPECIAL PAPER 220**

**LSE FINANCIAL MARKETS GROUP PAPER SERIES**

**March 2013**

**Charles A. E. Goodhart is Director of the Regulation and Financial Stability Research Programme at the Financial Markets Group and Professor Emeritus of Banking and Finance at the London School of Economics. Any opinions expressed here are those of the author and not necessarily those of the FMG. The research findings reported in this paper are the result of the independent research of the author and do not necessarily reflect the views of the LSE.**

## **The Optimal Financial Structure**

By C.A.E. Goodhart  
Financial Markets Group  
London School of Economics

### 1. History is important

Banking developed rather differently in Anglo-Saxon countries than on the European Continent and in Japan. In Anglo-Saxon countries, notably the UK and the USA, banks started up before the emergence of large scale industry. Such banks were usually small, unlimited liability partnerships in the UK, and financially fragile. An important determinant of successful continuing business was to avoid getting too involved in concentrated lending to (associated) private firms; lending was to be at arms length and diversified. Where, even then, there was a need for large-scale finance, e.g. for canals and then railroads, this could and should be provided by, relatively efficient, capital markets, both for bonds and equities. But the entrepreneurs of such large firms and governments, at various levels, did not generally have the necessary information and skills to access financial (and foreign) markets, so there sprung up another tier of financial intermediaries who used their market skills and information to provide such large entities with access to capital markets. These were the merchant banks (or Accepting Houses) in London, or the broker/dealers (at a somewhat later date, especially after Glass-Steagall) in the USA. Thus in these countries banks were, originally, primarily retail in character, serving the (well-to-do in the) local community, with a separate tier of investment banks acting as keepers of the gateway to efficient capital markets for those large institutions needing access to such markets.

The history and experience on the continent of Europe and in Japan was different. Industrialisation occurred later, by which time industrial economies of scale had become more prevalent, e.g. in iron and steel, chemicals, utilities, etc., but the capital markets there were less efficient, and financial markets were less trusted in these countries. Meanwhile, the minimal needs of households for financial services, e.g. money transmission, were being met by other means, such as Post Office giro, savings and co-operative banks, etc. So the purpose of the large, for-profit, commercial banks that were founded on the Continent and in Japan, from around 1850 onwards, was to finance and foster a closely associated group of large corporate entities, in the guise of the Haus Bank in Germany, the Zaibatsu in Japan, etc. Such banks were, ab initio, established as universal banks, providing a full range of financial services to the large entities with which they were closely associated. Perhaps in part because such services were provided through financial intermediaries, i.e. by universal banks, rather than through markets, the capital markets in such countries remained less developed, thinner and possibly more open to speculation than in the Anglo-Saxon countries. Hence the tendency in such countries has been to value the services of universal banks much more, and to be much warier

of the unfettered, free workings of capital markets – perhaps especially so in France – than in the Anglo-Saxon countries.

This historical division continues. The British propose, in the Vickers' Independent Commission on Banking (2011), a reversion to a two-tiered banking system, ring-fencing (separating) retail from investment banks, while the French, German and Japanese defend the universal role of their national champion banks. In contrast, the French and Germans are moving to introduce taxes and constraints on their financial markets, in the shape of a Financial Transaction (Tobin) Tax and bans, or limitations, on computerised High Frequency Trading, while the Anglo-Saxons seek to defend the free and flexible workings of their capital markets.

Given this historical and traditional split, it is unlikely, in my view, that there will be any European, let alone world-wide Basel endorsed, agreement to proceed far, if at all, in the direction of imposing a two-tier (retail/investment) banking division. Thus countries that want to move in this direction will have to do so on their own. As discussed later, this is likely to represent a particular handicap on the investment banking, and also perhaps the extra-European banking, operations of banks most prone to such constraints. The City of London will become subject to the Wimbledon effect, whereby the British provide the venue, but none of the champions. Whether this will be a good, or a bad, outcome is debatable. There is widespread myth that all investment banks do is to act as a casino, taking large proprietary bets with 'other people's money'. In fact their main role is to act as gate-keepers to financial markets for those who need to access them. In most cases they are so keen to avoid taking a directional position (i.e. a bet on the markets' movement) that the initial response to filling a client's order, and thereby unbalancing the firm's own book, involves a whole series of rebalancing transactions amongst the banks involved. Thus the fact that the volume of financial transactions is a multiple, often 8 or 9 times, of non-bank client transactions is evidence of the desire of such (investment) banks not to take up a speculative position, rather than the reverse. Again many of the documented sources of large losses have come from failed hedges, rather than from outright speculation.

## 2. Structural Separation will be Problematical

Be that as it may, there are a number of other reasons why the move back towards a two-tier banking system will be problematical. The first is that there is, in practice, no clear dividing line between wholesale/investment banking and retail banking, or between acting on behalf of clients and in the bank's own interests, as the difficult attempts to apply the Volcker rules in the USA have shown, (also see H. Scott (2010 and 2011)). Even the largest clients need to undertake some functionally simple retail-type transactions, such as making and receiving payments, and many of the smaller clients could benefit from various kinds of hedging and derivative transactions. In view of the demise of 'caveat emptor' and the emergence of the doctrine that (supposed) ignorance of detail gives a buyer of a financial product grounds for a law-suit if the hedge goes wrong, it is quite possible that financial innovations and products that would be of general benefit will not now be

forthcoming. Of course, ring-fencing is not (quite) as disruptive as total separation, so a large client can continue to deal with several (ring-fenced) parts of the same bank, but it will add to complexity and inefficiency, perhaps particularly for clients with cross-border businesses extending beyond the European Union.

The purpose of such ring-fencing is to restrict the 'safety net', and the contingent liability of taxpayers, to any further bank bail-out to those parts of the wider bank that no government can (politically) allow to close, i.e. the retail deposit and lending base and the (retail) payments system. But such divisions and restrictions will not necessarily make retail banking any safer, nor the contingent liability of taxpayers much less. Over the last 40 years, or so, there have been four main banking/financial crises in the UK. Three of these, i.e. the 1973-75 fringe bank crisis, the 1991/92 ERM crisis, and the 2007/8 blow up, have primarily involved boom/bust cycles in property, both residential and commercial.<sup>1</sup> Whereas most people imagine banks as lending household deposit money to private non-bank (manufacturing) businesses, in reality nowadays banks intermediate mostly between net saving and net borrowing households, (see, for example, Adair Turner, 2010). Such mortgage lending, including to construction companies and on commercial property, forms the basis of most retail bank lending. Ring-fencing will cause the separate retail banking arms to focus even more on what has, historically, been the most cyclical and dangerous element of banking, as in Northern Rock, Anglo Irish and the Spanish Cajas. Lehman Bros went under not because of positions in derivative markets, which were profitable, but because it ventured into mortgage backed securities (MBS). Whether a safer, more diversified, profitable ring-fenced investment bank would (be legally able to) allow its own, separate equity to be used in support of a failing associated retail bank will remain to be seen.

In several, though not all, respects retail banking business is relatively easy to restructure and/or resolve. Problems arise in the IT field and, for one of the SIFIs, the sheer scale of the exercise. Apart from such problems, insured deposits can be rapidly moved to a 'good' bank, or put in some other bank, with the remaining 'good' (mortgage) assets. The non-performing assets can be put in a 'bad' bank funded by the bonds (other than covered bonds) and equity of the failing bank. The problem that the Resolution Agency and the authorities will have to face is what to do with the non-insured, i.e. over €100,000, and foreign, deposits. In practice political self-preservation will usually probably mean that priority will be given to rescuing all domestic depositors (as in Iceland), with foreign depositors and bond holders getting shorter shrift. That, of course, is contrary to *pari passu* covenants. If these prove to be subsequently binding (the Icelandic case continues), it is possible that this will encourage a shift to explicit, legally-imposed, (domestic) depositor preference laws, which would have potential (unintended) consequences for the form and nature of (retail) bank financing, e.g. only by deposit and secured, or covered, bonds, unless the regulators forcibly require some holdings of bail-inable bonds.

The main reason why resolving a retail bank is relatively simple is that it has quite few connections with the rest of the financial system. In contrast an investment bank, primarily by virtue of its role as gate-keeper to financial markets for its (large) clients, has myriad, multiple interconnections with a

---

<sup>1</sup> The fourth, the LDC (or Mexico, Argentina and Brazil MAB) crisis in 1981/82, arose from (syndicated) loans to less developed countries which went bad when Paul Volcker moved to a tight money regime in October 1979.

large number of other financial institutions, including most other such investment banks, and most other financial markets. As noted earlier, the unwillingness of an investment bank to take a speculative position means that an initial client order will often trigger a far longer paper-chase of resultant ('hot potato') adjustment trades. Consequently the potential economic spill-overs and externalities that could result from a liquidation of an investment bank are far greater than those attendant on the liquidation of a retail bank. If one was to apply an economic, rather than a political, calculus it should be the investment, rather than the retail, bank that should be normally recapitalised by the authorities.

The provision of access to financial markets, which is what investment banks do, though primarily for large clients, is as much a utility as the provision of retail services to smaller customers. The analogy of consultants and GPs, and barristers and solicitors, comes to mind. In any case when utilities such as railroads, gas and electricity go bankrupt, the capital infrastructure is almost never ripped up and sold for scrap. Instead, the share-holders, and perhaps the bond-holders, are expropriated, and the management sacked. If the government cannot find an appropriate buyer, it runs the utility itself. No one argues that because the railway lines or electric pylons are not sold for scrap metal, that this involves 'moral hazard'. The infrastructure of banking is mostly intangible, human capital, skills and know-how; breaking that up has no more sense than destroying gas mains when the gas company goes bust. Perhaps, there are too many gas companies, and/or that gas is losing out to electricity. There can be a case for dismantling any utility company, but the idea that the default policy for a failing investment bank should be liquidation is an extremely dangerous concept, driven on by populist comments about 'casino' banking.

### 3. The Danger of Mis-Match

Be that as it may, our banking systems have patently become more dangerous and fragile in recent decades. There are two main reasons for this. The first has been that, despite the efforts of the Basel Accords, I, II and now III, the ratio of equity to total assets remains far lower than socially optimal. Admati and Hellwig (2013) have written about this in their book, *The Bankers' New Clothes*. While it would be socially beneficial to encourage bankers to raise the equity ratio from slightly over 3%, as now required in Basel III, (to total assets) to over 15%, the problem is that, in view of the incentive of shareholders/management to focus on the Return on Equity (RoE), rather than the Return on Assets (RoA), and of the existing debt overhang, any requirement for a higher ratio will provoke deleveraging rather than equity re-build. The need instead is to require each bank to hold a higher absolute level of equity, related to its initial (risk-weighted) assets, and prevent pay-outs to shareholders and/or management until that level is attained. But that issue, of the need for a much higher equity requirement, has already been fully aired, not only by Admati and Hellwig, but also by Miles, et al. (2013).

The second reason for the enhanced fragility has been the recent faster trend growth of credit, relative to deposits, (Schularick and Taylor, 2009). The growing gap between loans and deposits, both on and off balance sheet, has been primarily filled by recourse to funding from wholesale markets. Such funding, unlike deposits, is uninsured, and coming primarily from other large financial institutions is, again in contrast to retail depositors, quite well informed. That makes it peculiarly

liable to runs (Gorton, 2012 and Gorton and Metrick, 2012). Initially lender concern about the possible solvency threats to (bank) borrowers tends to be exhibited in ever shorter funding maturities, so the borrower has to roll-over its life-line on a day-by-day basis. Then, if anything comes to a head, the Central Bank/Treasury/regulatory authorities have almost no time to work out a resolution plan.

One reason why banking systems remained calm between the mid 1930s and the 1970s was that the maturity mismatch between bank liabilities (deposits) and bank assets was calmed by a mixture of deposit insurance and quasi-automatic Lender of Last Resort (LoLR) actions by the Central Bank. When bank liabilities increasingly came from uninsured wholesale funding, when those using such funds had no access to the Central Bank (i.e. in the case of the US broker/dealer investment banks), and when the Central Bank felt constrained in its ability to offset such wholesale outflows (either on grounds of 'moral hazard', or because the banks in trouble might, indeed, be insolvent), the mismatch could lead to a (contagious) banking crisis.

As in the 1930s, something has to be done about the source of fragility in mismatch. But what? At one extreme there are those who might argue that, so long as banks start with enough equity to avoid losses to other creditors, then the Central Bank ought always to offset net drains of liquidity, in part offsetting wholesale markets that become dysfunctional by becoming the market-maker of last resort. And indeed that is what Central Banks have, to a large extent, now done. The basic problem is always solvency. So long as that can be guaranteed, then each Central Bank should be active and innovative enough to prevent any liquidity problems from arising. One problem with this position is that equity ratios remain far too low, so that liquidity problems usually remain symptoms of underlying concerns about solvency.

At the other extreme are those who would deal with the problem of mismatch by banning it by regulation. This is the essence of Kumhof's 'Chicago Plan' (Benes and Kumhof, 2012), involving a combination of 'narrow' banks for transactions purposes and financial trusts wherein loans are backed either by equity or long-dated debt. Kotlikoff's proposals are somewhat similar (see Kotlikoff, 2011). A problem with proposals of this kind is that they run counter to the revealed preferences of savers for financial products that are both liquid and safe, and of borrowers for loans that do not have to be repaid until some known future distant date. It is one of the main functions of financial institutions to intermediate between the desires of savers and borrowers, i.e. to create financial mismatch. To make such a function illegal seems draconian.

But the greater the mismatch, the worse the fragility, for any given equity ratio. What should one then do? One obvious point is that the required net stable financial ratio of a financial institution should be inversely related to its equity ratio. The higher the equity ratio the stronger will be its solvency, the less likelihood will be runs, and the greater the confidence with which the Central Bank can extend LoLR. Of course, the equity ratio will need to be measured using market, rather than accounting values.

Next, a liquidity ratio that has to be maintained at all times is an oxymoron; if it cannot be used, it is not liquid by definition. What is required instead is an increasing ladder of sanctions as the mismatch worsens. Probably the best form of sanction would be pecuniary, (Perotti and Suarez,

2011), with the costs of additional mismatch more than offsetting the usual rate spread between shorter and longer-dated wholesale funding. Such pecuniary charges could be increased when there was a felt need to restrain excessive loan expansion (relative to the growth of deposits and/or GDP), and lowered during periods of recession, either across the board, or on a bank by bank basis, providing a further contra-cyclical instrument. Such charges could also go to finance an ex ante fund for meeting costs of resolution.

The suggestion here that controls over liquidity and mismatch should be:-

- Related to the bank's (market value) equity ratio;
- Based on a pecuniary ladder of sanctions;  
and
- Capable of being cyclically adjusted.

This is, however, a long way from present Basel proposals either for the Liquidity Coverage Ratio (LCR) or the Net Stable Financial Ratio (NSFR). As presently outlined, they are unrelated to equity ratios, absolute rather than having a ladder of sanctions, and not cyclically adjustable.

A particular weakness of the pre-2008 US investment banks was that they were primarily financed by non-deposit wholesale funding, and were left outside the official safety net. The effect of ring-fencing investment banks, as proposed by Vickers and Liikanen (2012), is to force them to be funded by non-deposit wholesale funds, and consciously to exclude them from the official safety net. Such extra fragility can be offset by imposing a tougher (mismatch) requirement on them via an NSFR (and LCR). But that would make their funding considerably more expensive, notably in comparison to continuing universal banks who could base their investment banking activities on a retail deposit base. Either ring-fencing will make the separated investment banks riskier, or less competitive, (or both). Whatever balance is struck, ring-fenced investment banks are likely to be heading for extinction.

#### 4. Further Thoughts

Our banking systems did become more fragile in recent decades. This was primarily because we did not prevent bankers from keeping equity ratios too low in self-interested pursuit of RoE. But it was also because mismatch dangers were allowed to increase, as the expansion of loans relative to deposits encouraged greater recourse to (shorter-dated, uninsured) wholesale funding. These issues need to be tackled, far more aggressively than hitherto, perhaps in conjunction with measures to change the characteristics of bank management remuneration (and/or liability to loss) to make them dependent on RoA, rather than RoE, possibly by making bonuses payable in bail-inable bonds, rather than equity.

In contrast, the thesis here is that the structural changes so widely advocated, e.g. Vickers, Liikanen and the more extreme proposals of Kumhof and Kotlikoff, will be counter-productive, possibly making our financial systems even riskier and probably less efficient than at present.

I have also argued that neither utilities nor banks should be scrapped. Decisions are made by people, not by abstract institutions. If the decision-making managers are sacked and their accumulated bonuses are decimated by the event of failure, then that should deal with moral hazard, whether of an utility or of a bank. If that is not considered sufficiently draconian, try reverting to unlimited liability for a subset of senior managers!

But if (universal/investment) banks are not to be liquidated, then might not the burden of recapitalisation, of meeting the loss, be too big for the government to meet? Such banks, as in Iceland, Ireland and Cyprus, may be too big for the government to save. Is there not then a case for limiting the size of a bank headquartered in Country X to some fraction of that country's GDP? There is also the argument that some banks may be too big, complex and geographically dispersed to be effectively managed, (as with non-financial conglomerates a few decades ago). Perhaps, but this would mean that only large countries, like the USA or China, could have large banks, and that small countries could only support small banks. If a bank headquartered in a smallish country found itself able, and willing, to expand, it might only be able to do so if it was to transfer its headquarters and country of residence to a larger country. Would that be acceptable to its prospective new home country, or to its previous home country? Why should all the large international cross-border banks reside in the USA, China or Japan? Would the establishment of a Banking Union in the Eurozone, with Eurozone wide resolution financing mechanisms, be sufficient to allow Eurozone banks to become much larger than before? Perhaps.

One reason why the doom-loop between failing banks and governments in the Eurozone has proved so toxic is that the trigger for state intervention to take over from current management has been too late, by which time severe losses have already been incurred. This is partly because the wrong metric continues to be used, accounting capital rather than the market value of capital, and partly because the authorities are reluctant to abrogate the ownership rights of shareholders in a capitalist society. While the latter is understandable, it is not clear why it is any more consistent with free markets to impose structural controls over the allowable operations of a bank than to require official intervention when the market value of a bank's equity falls below X% of its total assets; moreover warrants could be given to such shareholders to allow them to share in any subsequent strong revival.

To conclude, what I would advocate for my optimal banking structure, would be:-

- A much higher equity ratio, supported by a ladder of sanctions, with a much higher minimum intervention point, measured via market, rather than accounting, values.
- A liquidity (mis-match) ratio, inversely related to each bank's equity ratio, supported by a ladder of pecuniary sanctions, capable of contra-cyclical adjustment.
- An acceptance that failure should imply the sacking of management and expropriation of shareholders, but not necessarily the liquidation of any bank. This could be reinforced by required changes to remuneration practices so that failure would be more painful to management. Intervention should come earlier, so as to restrict losses.



## References

Admati, A., and M. Hellwig, (2013), *The Bankers' New Clothes: What's Wrong with Banking and What to Do About It*, (Princeton, N.J.: Princeton University Press).

Benes, J., and M. Kumhof, (2012), 'The Chicago Plan Revisited', International Monetary Fund Working Paper, WP/12/202, August.

Gorton, G., (2012), 'Some Reflections on the Recent Financial Crisis', National Bureau of Economic Research Working Paper No. 18397, September.

Gorton, G., and A. Metrick, (2012), 'Securitized Banking and the Run on Repo', *Journal of Financial Economics* 104, 425-451.

Independent Commission on Banking (The Vickers' Report), (2011), 'Independent Commission on Banking: Final Report', Written Evidence, House of Commons Treasury Committee, 12 September.

Kotlikoff, L., (2011), *Jimmy Stewart is Dead: Ending the World's Ongoing Financial Plague with Limited Purpose Banking*, John Wiley & Sons.

Liikanen, E., (Chairman), (2012), 'High-level Expert Group on reforming the structure of the EU banking sector', Final Report, European Commission, 2 October, see [http://ec.europa.eu/internal\\_market/bank/docs/high-level\\_expert\\_group/liikanen-report/final\\_report\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/liikanen-report/final_report_en.pdf)

Miles, D., Yang, J., Marcheggiano, G., (2013), 'Optimal Bank Capital', *The Economic Journal*, 123: 1-37.

Perotti, E., and J. Suarez, (2011), 'A Pigovian Approach to Liquidity Regulation', *International Journal of Central Banking*, December.

Schularick, M., and A.M. Taylor, (2009), 'Credit Booms Gone Bust: Monetary Policy, Leverage Cycles and Financial Crises, 1870-2008', National Bureau of Economic Research Working Paper No. 15512, November.

Scott, H.A., (2010), Prepared Written Testimony of Hal S. Scott, Nomura Professor of International Financial Systems at Harvard Law School and Director of the Committee on Capital Markets Regulation, before the Committee on Banking, Housing and Urban Affairs, United States Senate, February 4.

See [http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore\\_id=c372f56f-819f-4d93-bb5a-6c1802aeb18a](http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=c372f56f-819f-4d93-bb5a-6c1802aeb18a)

Scott, H.A., (2011), Written Testimony of Hal S. Scott, Director of the Committee on Capital Markets Regulation and Nomura Professor and Director of the Program on International Financial Systems at Harvard Law School, before the Committee on Financial Services, United States House of Representatives, June 16. See [http://www.capmksreg.org/pdfs/2011.06.16\\_House\\_Testimony.pdf](http://www.capmksreg.org/pdfs/2011.06.16_House_Testimony.pdf)

Turner, A., (2010), 'What Do Banks Do? What Should They Do?', Chairman of the Financial Services Authority speech slides, Cass Business School, London, 17 March, see [http://www.fsa.gov.uk/pubs/speeches/at\\_cass\\_slides\\_170310.pdf](http://www.fsa.gov.uk/pubs/speeches/at_cass_slides_170310.pdf).