

Cardiff Economics Working Papers



Working Paper No. E2009/27

Controlling Banker's Bonuses: Efficient
Regulation or Politics of Envy?

Kent Matthews and Owen Matthews

December 2009

Cardiff Business School
Aberconway Building
Colum Drive
Cardiff CF10 3EU
United Kingdom
t: +44 (0)29 2087 4000
f: +44 (0)29 2087 4419
business.cardiff.ac.uk

This paper can be downloaded from econpapers.repec.org/RePEc:cdf:wpaper:2009/27

This working paper is produced for discussion purpose only. These working papers are expected to be published in due course, in revised form, and should not be quoted or cited without the author's written permission.

Cardiff Economics Working Papers are available online from: econpapers.repec.org/paper/cdfwpaper/ and business.cardiff.ac.uk/research/academic-sections/economics/working-papers

Enquiries: EconWP@cardiff.ac.uk

Controlling Banker's Bonuses: Efficient Regulation or Politics of Envy?

Kent Matthews
Cardiff Business School
Cardiff University
matthewsk@cardiff.ac.uk

Owen Matthews
Skadden, Arps, Slate, Meagher
and Flom (UK) LLP
Owen.Matthews@skadden.com

November 2009

Abstract

The positive relationship between bank CEO compensation and risk taking is a well established empirical fact. The global banking crisis has resulted in a chorus of demands to control banker's bonuses and thereby curtail their risk taking activities in the hope that the world can avoid a repeat in the future. However, the positive relationship is not a causative one. In this paper we argue that the cushioning of banks downside risks provide the incentive for banks to take excessive risk and design compensation packages to deliver high returns. Macro-prudential regulation will have a better chance of curbing excess risk taking than controlling banker's compensation.

Key Words: Banker's bonus; risk taking; Too-big-to-Fail; macro-prudential regulation.

JEL Codes: G21, G28

Corresponding Author

Kent Matthews
Cardiff Business School
Colum Drive
Cardiff, CF10 3EU
United Kingdom
matthewsk@cardiff.ac.uk

Paper prepared for the International Conference on China and the World Economy in the post crisis era, South East University, Nanjing, 21-22 November 2009. The views of the second author do not necessarily reflect the views of Skadden, Arps, Slate, Meagher and Flom (UK) LLP

1. Introduction

Politicians, journalists, Nobel-prize winners and now even royalty have pronounced on the great banker's bonus debate. The popular view is that bonuses have encouraged bankers to take risky positions with the aim of making short-term profits. By ignoring the risks bankers have, at the very least, contributed to the making of the great recession, if not having actually caused it. In recent months there have been a proliferation of reports commissioned, regulations published and rhetoric spouted as politicians and regulators have attempted to convince a hostile public that they are taking the initiative toward curbing the perceived excesses that have led to the current crisis. Principles of regulations concerning banker's pay have been pronounced by the G20. The regulatory authorities from New York, London, Paris and even Hong Kong have announced forthcoming regulations. By controlling bonuses and compensation, it is believed that regulation can reduce excessive risk taking and return the banks to a nether age of 'boring banking'.

This paper argues that banker's bonuses are an *effect* and not a *cause* of excessive risk taking by the banks. In the parlance of economic modelling, both compensation and risk taking are endogenous variables. The driving factor is the widespread expectation that banks in the UK are 'too-big-to-fail' (TBTF). There is ample evidence of an association between compensation and risk taking activity. We suggest that this association is not a causative one. We proceed by reviewing the evidence for an association between banker's compensation and risk taking. Second, we outline the proposals by regulatory agencies for controlling banker's compensation. Third, we examine the issue of TBTF and the policies used to deal with it. The period of deregulation in the 1980s was not followed up with sufficient re-regulation to restrain the development of a TBTF expectation. Finally, we conclude

with an examination of the implications of regulating banker's compensation as part of a general countercyclical regulatory policy.

2. Banker's Compensation

The total of bonus payments to Wall Street and City of London bankers have been the subject of much comment in recent months. The scale of the total payouts are an insight to the rewards earned by select investment bankers. Estimates produced by the media tend to give an average figure, obtained by dividing the bonus pot by the number of employees to give a misleading figure which underestimates the true payout to bonus recipients. For example research done by the Wall Street Journal claims that average earnings at J P Morgan Chase will be \$134 thousand in 2009, while average pay at Goldman Sachs is expected to be \$743 thousand¹. In reality, recipients of large bonuses can expect them in the order of millions. Table 1 show that bonuses in Wall Street and the City of London are heading for a strong recovery in 2009.

Table 1: Total bonus payouts

Year	Wall Street Bonuses \$ billion	City of London Bonuses £ billion
2001	13.0	3.9
2002	9.8	3.3
2003	15.8	4.9
2004	18.6	5.7
2005	20.5	7.1
2006	23.9	10.1
2007	33.2	10.2
2008	18.4	4.0
2009	27.5 (estimated)	6.0 (estimated)

Source: *New York State Comptroller Office, London and the City Prospects, Wall Street Journal estimates and Centre for Economic & Business Research estimates.*

¹ Quoted in the Guardian Newspaper 14 October 2009

The background to banker's compensation is steeped in the principal agent problem of aligning the agents (managers) behaviour with that of the principals (shareholder) objectives (Jensen and Meckling, 1976, Fama, 1980). The conventional view is that agents want job-security and are naturally risk-averse and therefore need incentives to undertake risky projects that add value to the firm. These incentives take the form of direct compensation such as salary and cash bonus and firm-related wealth enhancing compensation such as increase in the value of option holdings, increase in value of restricted stocks, profits from exercising options and increase in value of direct equity holdings. The firm-related wealth enhancing compensation schemes (stock options) are assumed to create better alignment of agent's behaviour with principal's preferences. However, as Berrone (2008) suggests stock options and similar instruments provide upside rewards if share prices rise but no downside penalties if they fall. Consequently, the incentive is to take 'excessive risks'. The implication of the principal agent theory of Jensen and Meckling (1976) and others² is that if top management reward is closely aligned the equity holder's interests in highly leveraged firms like banks, there will be a strong incentive to undertake high risk incentives³.

In their recent survey of manager incentive mechanisms in banking, Panetta et al (2009), list a number of unintended consequences of remuneration packages. Remuneration packages based on accounting profit may result in CEOs and senior executives taking decisions that boost short-term profits at the expense long-term growth. Pay is based on immediate gains that are based on risky investments. These immediate gains are interpreted as managerial skill. Ex-post risk adjusted returns may show over-estimated alpha (returns to managerial skill) and underestimated beta

² John and John (1993)

³ It can also be argued that the political leverage of a large firm can also result in a lower pay-performance sensitivity see Jensen and Murphy (1990)

(systematic risk). Typically, these values are not known until after the remuneration has been activated. It also creates an incentive for risk managers to be overruled by senior executives.

The hypothesis that the pay-performance sensitivity of bank CEO compensation is sensitive to a measure of risk was tested by John and Qian (2003) and Brewer et al (2003). Both studies find a positive association between a measure of risk (volatility of share value) and equity-based compensation. These findings are indicative of an established a positive relationship between risk and pay-offs to CEOs of banks. Regulators can use this as argument for paying attention to the compensation schemes of CEOs and senior executives.

John and Qian (2003) study the pay-performance sensitivity of CEOs in US banks over 1992-2000. They find that the pay-performance sensitivity of bankers is lower than that of other firms and that this sensitivity declines further with the size of the bank. They find that lower equity-asset ratios lead to CEOs aligning their interests with shareholders at the expense of depositors by taking excessive risks⁴.

Studies of hedge fund manager behaviour show that contrarian strategies are avoided if the bonus system does not compensate for risk taking behaviour. Brunnermeir and Nagel (2004) show that weak bonus schemes lead to herd behaviour in bubble situations because fund managers are not rewarded sufficiently for taking contrarian views that incur short-term losses, therefore herding is a rational strategy. The implication of this finding is that strong bonuses that reward risk taking behaviour will incentivise contrarian behaviour which would have driven the market back to fundamentals. This is precisely the findings of Dass et al (2008) for mutual fund managers. Because mutual fund managers face longer-term incentive schemes

⁴ The size of the bank will also result in a low pay-performance sensitivity because of an implicit or explicit Too-big-to-Fail policy as predicted by Jensen and Murphy (1990)

than hedge fund managers, they found that bonus-based mutual fund managers contributed to correction of the market when experiencing speculative bubbles. The incentive effects of bonuses on effort, risk-taking and attention to fundamentals is examined in survey work conducted by Gehrig et al (2009). Bonuses were not the main factor in determining work effort in German and Swiss fund managers but in the USA where bonuses are typically higher they have positive effects on effort, risk taking and fundamentals orientation⁵.

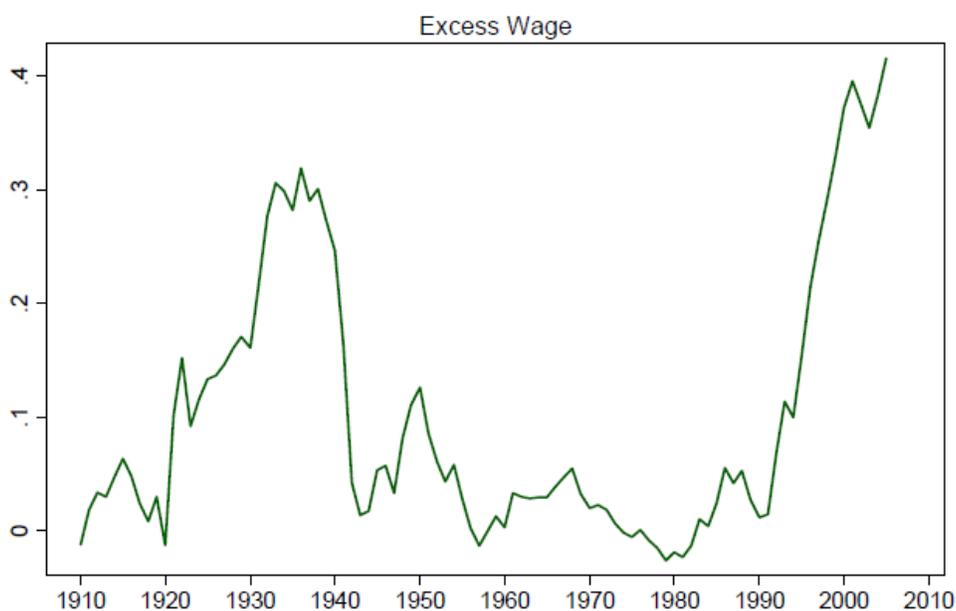
It is clear that the empirical evidence supports the presumption that bonus payments incentivise bankers and fund managers. The relationship with risk-taking depends on the structure of the compensation scheme. Compensation schemes that reward risk-taking are associated greater risk-taking which should not be a surprise. What may be a surprise is that the literature survey conducted by Panetta et al (2009) finds abundant evidence of the link between risk-taking and CEO option based compensation schemes but no evidence of excessive risk taking. However, none of the empirical findings shed any light on the argument that compensation schemes and risk-taking are both endogenous variables determined by an unknown factor. Recently published work by Phillipon and Reshef (2009) provide some insight into what this unknown factor might be.

In an NBER paper Phillipon and Reshef (2009) estimate the compensation premium of earnings in the US financial sector from 1909 to 2006. The premium is measured as the wage in the financial industry relative to average non farm wage. They show that 83% of the variation in the relative compensation premium is explained by deregulation. Figure 3 below reproduces the movement in excess

⁵ A preliminary study of bank CEO compensation in China by Ding, Schenk and Song (2007) found a low pay-performance sensitivity and compensation being made up of cash and short-term performance bonuses. Pay-performance sensitivity in Chinese banks is much lower than its US counterparts as would be the actual levels of compensation.

compensation. The figure shows that the compensation premium rose rapidly during the 1920s and even survived the great depression of the 1930s. The premium remained low during most of the 1950s through to the 1970s coinciding with the period of the post-war regulation (restrictions on interstate banking, divorce of commercial from investment banking). The premium began to climb again in the 1980s, coinciding with the abolition of regulation Q and climbed rapidly during the deregulation period of the 1980s and 90s.

Figure 3: Excess Wage Compensation in US Financial Sector



Source: Phillipon and Resheff (2009)

The period of deregulation coincided with two further but mutually dependent forces of financial innovation and globalisation. Around the world but particularly in the liberalising economies, banks faced intense competitive pressure from incumbent banks, foreign banks, non-bank financial institutions and even non-financial institutions. Faced with thinning spreads and declining net interest margins, the banks controlled costs through technological innovation, consolidation and merger. They also shifted their focus to off-balance sheet business and securitization as a means of

generating profits⁶. It was not long before the ‘originate and hold’ model gave way to the ‘originate to distribute’ model as a means of boosting return on equity (ROE).

3. Regulatory proposals

Reaction by governments and regulators to the crisis has been swift and efforts concerted as banks that, only months ago were dependent on state hand-outs to stay afloat, have returned to profit and begun to set aside large bonus pools to be distributed amongst their employees. At recent G-20 meetings world leaders pledged to crack down on excessive risk taking by banks, forcing them to tie bonuses to long-term performance in addition to raising the proportion of capital they are required to hold. A draft communiqué from the meetings revealed that leaders plan to tell banks to avoid “multi-year guaranteed bonuses” and allow pay awards to be deferred or clawed back, though more draconian French proposals to introduce specific caps on pay were rejected. The growing influence of emerging economies and recognition that global solutions are necessary in an age of global banking was also marked by the agreement that the G-20 would supplant the G-8 as guardian of the world economy.

Independently, each country and its financial regulators have also been working hard to develop new rules to curb the banks excesses. With a general election looming, the UK has been quick to respond to the issue of banker bonuses and the country’s City watchdog, the Financial Services Authority (FSA) recently published guidelines on remuneration practices in financial services⁷. The Remuneration Code, which will take effect from January 1, 2010 will apply to 26 of the largest banks,

⁶ In a study of the competitiveness of the British banking industry, Matthews et al (2007) find that while competition in the loan and deposit market was undiminished during the 80s and 90s, competitiveness worsened in the non-interest earning area of bank activity,

⁷ Senior Management Arrangements, Systems and Controls (Remuneration Code) Instrument 2009

building societies and broker-dealers in the UK and represents the first set of major market rules to reform banker pay in the wake of the global financial crisis.

In drafting the code the FSA adopted their *modus operandi* since 2006, providing “principles-based” regulation as opposed to a list of detailed and specific rules. As well as a *legally enforceable* “general requirement” that firms “must establish implement and maintain remuneration policies, procedures and practices that are consistent with and promote effective risk management” they are also expected to take heed of a series of 8 “evidential provision” principles which deal with topics ranging from the composition of a firm’s remuneration committee, to the assessment of financial performance used to calculate bonus pools. The FSA has clarified that the evidential provisions of the Code are “not *per se* compulsory”, but that non-compliance with them “tends to show non-compliance with the Remuneration Code [enforceable] general requirement”.

Reaction to the Code has been mixed, with much of the media dismissing its provisions as “toothless”. Many were left disappointed that the Code’s stricter requirements, outlined in its draft version, had been removed following consultation with the banks; for instance, the draft included a requirement that senior executives be required to take two-thirds of their bonuses over three years, while the final version simply suggests it as good practice.

The FSA’s reluctance to impose strict, non-negotiable rules on the banks has been the source of many commentators’ frustrations. However, laying down the law with a list of stringent rules would have been the regulatory equivalent of using a sledgehammer to crack a nut – likely resulting in the unintended stifling of both innovation and risk-taking. Moreover, there is ample evidence to suggest that general principles-based regulation actually results in more enforcement action than reducing

policy to simple hard-and-fast rules, for example, since the FSA's switchover to principles based regulation in 2006 the number of sanctions it has imposed on individuals has roughly doubled. Talented lawyers are employed by banks and financial institutions to find ways in which to circumvent complex and onerous rules, where a system is based on principles however, avoidance becomes far more difficult. Finally, operating with the knowledge that its actions are being closely scrutinised by the public and facing the threat of extinction if the UK Conservative Party take power at the next election, it seems unlikely that the FSA will hesitate in bringing enforcement action against firms who demonstrate flagrant disregard for the remuneration principles outlined in the Code when it comes into force next year.

Hot on the heels of the UK regulator the US Federal Reserve announced proposed incentive compensation guidance on October 22nd⁸. The guidance includes two supervisory initiatives. The first, applicable to 28 large, complex banking organisations (LCBOs), will review each firm's policies and practices to determine their consistency with the principles for risk-appropriate incentive compensation. The second will review compensation practices at regional, community, and other banking organisations not classified as large and complex as part of the regular, risk-focused examination process. As with the FSA's Remuneration Code, the Fed's proposed guidance rests on a series of principles, namely, ensuring balanced risk-taking incentives, compatibility with effective controls and risk management and having strong and effective corporate governance. The Fed will also have the power to take enforcement action against a banking organisation if it believes it is engaged in unsafe or unsound practices which go against these guiding principles.

⁸ Federal Register, Vol. 74, No. 206, Tuesday, October 27, 2009 - [Docket No. OP-1374] Proposed Guidance on Sound Incentive Compensation Policies

Although the FSA's Remuneration Code and the Fed's guidance are both examples of principles-based regulation, on closer inspection the UK regime appears to be far more prescriptive in nature. For example the FSA's evidential provisions relating to the role of bodies responsible for remuneration policies is far more specific (setting out detailed guidance on the acceptable size, composition and expertise of a remuneration committee) than the Fed's general proposals relating to ensuring effective controls and risk management. At a basic level, the Federal Reserve's proposals simply require LCBOs to demonstrate their pay schemes do not encourage excessive risk taking while the FSA rules require banks to demonstrate how they have adapted their policies and procedures to comply with its evidential principles. It is a difference that has not escaped the banking executives who only days after the Fed's proposals were published were reported as being concerned that the differences in flexibility of the systems could lead to a two-tier system, in which UK banker's bonuses are smaller and spread over a longer period than those of American colleagues⁹.

Bankers are like highly mobile capital and should differences in systems of regulation result in lower compensation packages being paid to bank employees working in London as opposed to Wall Street the talent will likely migrate and London's competitive position will be left compromised. There is also the potential for the UK's competitive advantages to be further eroded as institutions seek to relocate to countries with less stringent regulatory regimes, such as Switzerland, whose banking regulators have thus far proved unwilling to wade into the bonus quagmire.¹⁰ However whatever the levels of regulation, many of the larger banks will

⁹ 'Wall street fears two-tier pay scale after heavy-handed FSA action' Financial Times, 30 October 2009

¹⁰ Although some hedge funds have shown a willingness to relocate, the predicted exodus of banks and financial institutions from London to countries with lighter touch regulation, such as Switzerland has,

still need to maintain operations in major financial centres such as London and New York and as discussions at the G-20 indicate the UK and US will not be the only major economies putting significant controls on remuneration policies over the coming months – nor, if French and German proposals to place caps on pay are implemented are they likely to be the most restrictive.

4. Too-big-too-Fail and the regulatory imperative

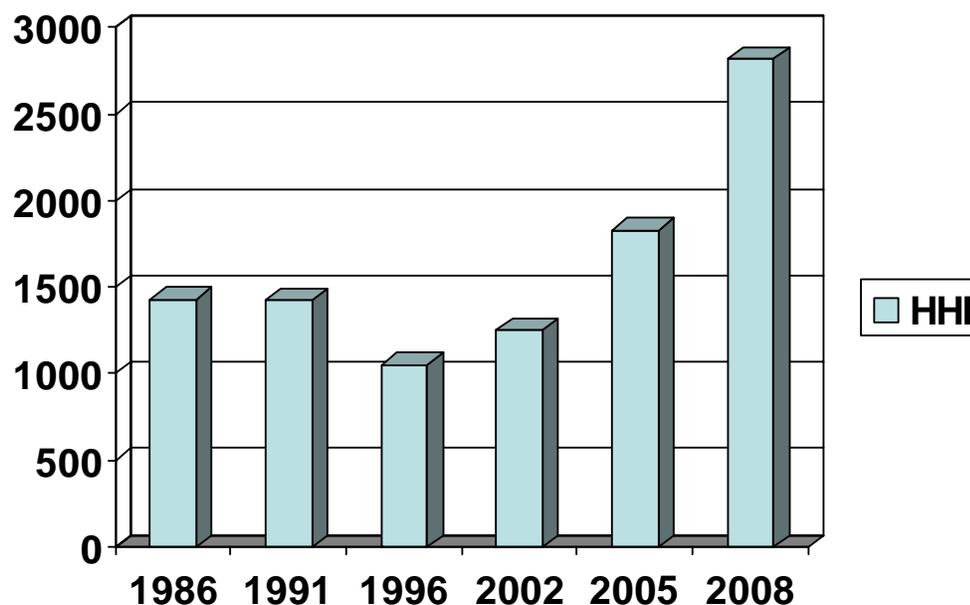
With the growth of earnings in the banking sector came a greater concentration through merger and acquisition. This was particularly the case with the UK banking industry but globally there was a trend to consolidation and concentration. One measure of concentration is the Herfindahl-Hirschman Index (HHI) defined

as; $HHI = \sum_{i=1}^n S_i^2$, where S_i is the i^{th} bank's share of the market. Figure 4 below shows

the evolution of the HHI statistic for the UK banking industry over the 1980s and 90s¹¹. A number of high profile mergers and acquisitions occurred in the UK banking industry at the turn of the century. Barclays acquired Woolwich, Bank Santander acquired Abbey National, Royal Bank of Scotland acquired Nat West, Halifax and Bank of Scotland merged to create HBOS. It is clear that in recent years the HHI index shows an industry that under recommended regulatory precepts would be considered anti-competitive.

so far, largely not materialised. Consulting firm Kinetic Partners LLP stated in October 2009 that it had helped 23 hedge-funds make the move from London to Switzerland in the preceding 18 months. There were 957 single-manager hedge funds in the U.K. at the end of 2008, according to figures from industry publication EuroHedge.

¹¹ According to the current screening guidelines of the US Department of Justice, the banking industry is regarded as competitive if HHI is less than 1000, somewhat concentrated if HHI lies between 1000 and 1800, and highly concentrated if HHI is larger than 1800.

Figure 4: Herfindahl-Hirschman Index for UK banking

Source: Matthews et al (2007) and author calculations

With the growth and concentration of the banking sector also comes the expectation that banks are too big to fail. The problem of TBTF is the familiar one of moral hazard. A government sponsored safety net may prevent bank panics but the bad news is that it creates moral hazard which is even more severe for large banks because when they fail it can lead to a systemic risk that infects the whole banking system. Knowing that downside-risks are cushioned by the safety net of TBTF, only upside rewards enter the cost calculation of the bank leading to excessive risk taking. It is fair to say that the doctrine of TBTF has evolved into an accepted part of the architecture of financial systems in all countries and regulators have attempted to deal with it through capital adequacy requirements and PCA.

Clearly, TBTF imposes externalities on society in the form of fiscal costs of bank bailouts. A credible no bail out policy would remove these costs but under a

pure free banking system capital-asset ratios would be in excess of the Basle minimum¹². However, the protection of depositors and the payment mechanism from a systemic bank failure makes the no-bailout policy unsustainable. The issue arises because of a lack of credibility of the policy maker's commitment to not bail out large banks. A no-bail-out policy is not time consistent because of the failure of the policy-maker to credibly pre-commit. The existence of TBTF increases the risk taking of banks which increases the likelihood of a banking crisis. One way of thinking about the TBTF problem is to apply the cost-benefit calculus of Barro and Gordon (1983) to the issue of time inconsistency. Policies that reduce the externalities from the failure of a large bank on the financial system reduce the incentive to renege on a no bailout pledge.

If explicit or implicit deposit insurance, and protection of the payments system is a political imperative that weakens the resolve of the government or regulatory authority to sustain a no-bailout policy, Benston and Kaufman (1996) suggest that regulation should:

- a) Prohibit activities that are considered excessively risky
- b) Monitor and control the risky activities of banks
- c) Require banks to hold more capital sufficient to absorb potential losses.

Regulating bank bonuses by shifting the focus towards medium term rewards may result in a marginal shift away from risky activity but in the presence of the safety net good employment lawyers would find ways for the banks to reward and retain good personnel. In general the first two suggestions by Benston and Kaufman (1996) would be over-prescriptive as different banks operating in different markets have better information about risks than the regulator (Llewellyn, 2003). The last suggestion is

¹² At the turn of the 20th century US banks had capital ratios in excess of 20% and in the mid 19th century they were in excess of 40% (Matthews and Thompson 2008)

the one in practice that regulators can effectively monitor. Counter-cyclical capital requirements are in vogue. In their recent report in financial stability Brunnermeier et al (2009) state:

“Banker’s remuneration has incorporated insufficient internalizing of the social costs of excessive lending. But we aim to deal with this through our additional capital charges. The response of banks to less profit in the boom should be smaller bonuses, so there will be less need for regulators to meddle in the overall level of remuneration.” P.50

But a belt-and-braces approach to regulation however, would recognise that countercyclical capital requirements alone would be insufficient without addressing the larger picture of TBTF. One mechanism for dealing with the problem of TBTF is to borrow from the analysis of the conservative central banker of Rogoff (1985). Is it possible to appoint an independent but conservative regulator that puts a greater weight on the moral hazard costs of bank bailouts than the government? This is an attractive option but like the conclusion of Rogoff (1985) the optimal degree of commitment would be to not be ‘too conservative’. Hence some weight would be given to maintaining a TBTF policy but not a zero weight.

But how can the no-bailout policy be made credible, particularly since the conservative regulator is not to be too conservative? Once again we can borrow from the economics of central banking by designing incentive compatible contracts in the sense of Walsh (1995). The independent conservative regulator will have an incentive compatible contract that will penalise him or her for failure to exercise prompt corrective action. Formulating an incentive contract for regulatory reaction is not easy but some way towards it is the adoption of more *rules based regulation*¹³. An example is the Federal Deposit Insurance Corporation Improvement Act 1991, which links the intensity of supervision to the capitalisation of the banks in the form of a

¹³ Brunnermeier et al (2009).

ladder of graduated response, i.e. instead of annual audit by the regulator, the audits can occur several times in the year according to the results of the last audit.

A novel suggestion by Mishkin (2006) is that the regulatory agency makes an announcement that the first large bank to fail will not be treated as TBTF and costs will be imposed on uninsured depositors when the bank is closed¹⁴. The advantage of this approach is that uninsured depositors, creditors and stock holders have an incentive to monitor the bank because they worry that they would be the first bank to fail and not be bailed out. Similarly managers would not want to be the only bank that fails and is not bailed out and so by trying not to be the first bank to fail the complete system is preserved.

The incentive structure needs also to be extended from the regulators to the banking system. For example a prudently run bank would want to signal its practice to the regulators. They would adopt best practice as recommended by national banking associations, international bodies, Basel II etc. This would reduce the frequency of on-site regulatory intrusion. Such a relationship between the regulator and the bank would be on-going and not one-shot. Satisfactory internal controls result in lower on-site inspections. The Financial Services Authority in the UK is supposed to apply a risk rating to each bank on a 1-5 scale. The Bank of England suggests a combination of risk measures and qualitative indicators of organisation, management, culture including bonus schemes be incorporated into a risk metric ranging from 1 to 10.

The bank may also offer a contract to the regulator pre-committing the enforcement of internal controls and that banking book and trading losses wouldn't exceed a certain percent of assets as per the use of *Value-at-Risk* measures. To be credible, such a contract would have to be ex-post verifiable by the regulator.

¹⁴ One can only surmise the signal the bail out of Bear Stearns sent Wall Street.

Clearly a regulatory authority that builds up a reputation for tough supervision will influence expectations of prompt corrective action PCA but like Rogoff's conservative central banker we would not expect the regulator to be 'too conservative' and regulatory forbearance would not disappear. The purpose of creating a tough regulatory environment with rules based regulation and appropriate incentive compatible contracts for the regulator and the regulated is to minimise the risks that arise from TBTF.

5. Conclusion

Tinkering with the compensation packages of senior bankers at the very best will have marginal effects on the balance of risky and safe investments and at the worst could stifle innovation and risk taking. Worse still will be the negative microeconomic effects of skilled labour misallocation if bonus regulation is not internationally coordinated.

Countercyclical capital requirements could in principle alter the risk activity of bankers and at the same time limit the bonuses of bankers. However, not addressing the bigger picture of the implicit TBTF policy leaves open the possibility for regulatory arbitrage and financial innovation to circumvent costly capital requirements. Addressing an implicit TBTF guarantee through a credible no-bail-out policy requires rules based regulations and strong prompt corrective action. Recently commentators have re-stated the call for a Tobin type narrow banking framework or return to a version of the Glass-Steagall act. Both policies would be a retrograde step from the trend in universal banking, would be unpopular with banks and would be unnecessary. Breaking up banks is an appropriate strategy on competition grounds but credible no-bail-out policies to address the implicit TBTF guarantee is what is needed

for financial stability. Controls on banker's bonuses make good media copy and vote-catching policies but do little to improve financial stability.

References

- Barro R and Gordon D (1983), 'Rules, Discretion and Reputation in a Model of Monetary Policy', *Journal of Monetary Economics*, 12, 101-121
- Benston G J and Kaufman G G (1996), 'The appropriate role of bank regulation', *Economic Journal*, 106, 688-697
- Berrone P (2008), 'Current global financial crisis: An incentive problem', *IESE Business School, Occasional paper* OP-158
- Brewer III E, Curt-Hunter W, Jackson III W (2003), 'Deregulation and the relationship between bank CEO compensation and risk-taking', *Federal Reserve Bank of Chicago, Working Paper*, 32
- Brunnermeier M, Crockett A, Goodhart C, Persaud A D, Shin Hyun (2009), *The Fundamental Principles of Financial Regulation*, Geneva Reports on the World Economy, 11, Geneva and London: ICMB and CEPR
- Brunnermeier M and Nagel S (2004), 'Hedge funds and the technology bubble', *Journal of Finance*, 59, 2013-2040
- Dass N, Mass M and Patgiri R (2008), 'Mutual funds and bubbles: The surprising role of contractual incentives' *Review of Financial Studies*, 21, 1, 51-99
- Ding D, Schenk H and Song F (2006), 'An exploratory study of executive compensation in Chinese banking', *Paper for presentation at the All China Economics Conference, Hong Kong*, 12-14 December 2007
- Fama E F (1980), 'Agency problems and the theory of the firm', *Journal of Political Economy*, 88, 288-298
- Gehrig T, Lütje and Menkhoff (2009), 'Bonus payments and fund managers' behaviour: Transatlantic evidence', CEPR Discussion Paper, 7118
- Goodhart C, Hartman P, Llewellyn D, Rojas-Suárez L and Weisbrod S (1998), *Financial Regulation*, London: Routledge
- Jensen M C and Murphy K J (1990), 'Performance Pay and Top-Management Incentives', *Journal of Political Economy*, 98, (2), 225-64
- Jensen M C and Meckling W (1976), 'Theory of the firm: Managerial behaviour, agency costs and ownership structure', *Journal of Financial Economics*, 3, 305-360
- John T and John K. (1993), 'Top-Management compensation and capital structure'. *Journal of Finance*, 48, 3, 949-974
- John K and Qian K (2003), 'Incentive features in CEO compensation in the banking industry', *Federal Reserve Bank of New York Economic Policy Review*, April, 109-122

Llewellyn D T (2003), 'Some lessons for bank regulation from recent financial crises' in A W Mullineux and V Murinde (eds), *Handbook of International Banking*, Cheltenham: Edward Elgar.

Matthews K and Thompson J (2008), *The Economics of Banking*, Chichester: John Wiley & Sons Ltd

Matthews K, Murinde V and Zhao T (2007), 'Competitive conditions among the major British banks', *Journal of Banking and Finance*, 31, 2025-2042

Mishkin F (2006), 'How big a problem is Too Big to Fail? A Review of Gary tern and Ron Feldman's Too Big to Fail: The Hazards of Bank Bailouts', *Journal of Economic Literature*, XLIV, December, 988-1004

Panetta F, Angelini P, Albertazzi U, Columba F, Cornacchia W, Di Ceasare A, Pilati A, Salleo C and Santini G (2009), 'Financial sector pro-cyclicality: Lessons from the crisis', *Banca D'Italia Questioni di Economia e Finanza, Occasional paper* 44

Phillipon T and Reshef A (2009), 'Wages and human capital in the US financial industry: 1909-2006', *NBER Working Paper*, No 14644

Rogoff K (1985), 'The optimal degree of commitment to an intermediate target' *Quarterly Journal of Economics*, 100, 4, 1169-89

Walsh C E (1995), 'Optimal Contracts for Central Bankers', *American Economic Review*, 85,1, 150-167