THE CONTROL OF FRACTIONAL RESERVE LIMITS IN THE UNITED KINGDOM WITH REFER- ENCE TO NATIONAL & INTERNATIONAL ORGANISATIONS

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This paper will examine the control of fractional reserve limits in the United Kingdom. It will first state the international context; second, the requirements for auditing banks in the United Kingdom; third, the teams involved in such auditing; fourth, the accounts produced for submission to a regulatory body; and fifth, the daily balance that banks provide with a discussion of stress testing. Lastly, conclusions will be drawn and recommendations made.

INTERNATIONAL CONTEXT - THE ROLE OF BASEL I

The first tentative steps at international fractional reserve regulation were made by the Basel Committee on Banking Supervision by the Basel agreements by the Bank of International Settlements (BIS). The Basel I agreement in 1988 examined credit risk and a realistic Risk Weighting of Assets that a bank may hold (Bank for International Settlements, 2013a). Bank assets were put in five categories depending on their credit risk. These could carry a risk weighting from 0% (for example on cash, commodity, and home country debt like Treasuries), to 20% (for securitisations such as Mortgage Backed Securities rated AAA by the standard credit agencies at the time, namely *Moody*, *Fitch*, and *Standard and Poor*) and 50% to 100% (for most corporate debt). Various assets were given no rating (Council of Mortgage Lenders, 2013a). International banks were required to hold capital of 8% of their risk-weighted assets (RWA).

- The Tier 1 Capital Ratio = Tier 1 Capital / All Risk Weighted Assets
- The Total Capital Ratio = (Tier 1 + Tier 2 + Tier 3 Capital) / All Risk Weighted Assets
- Leverage Ratio = Total Capital / Average Total Assets

An example of the risk weighting of assets would be a financial institution with \$2 of existing equity that receives a deposit of \$10 and lends this all out. On the bank's balance sheet, this loan is now a \$10 asset. If it is assigned a risk weighting of 90%, the bank then has risk-weighted assets of \$9 (\$10 times 90%). As the original equity was \$2, the institution's Tier 1 ratio is now \$2 divided by \$9, or 22%. The last factor shown above of a liquidity ratio is just the total capital of the organisation over the average total assets over a specified time period.

Banks were also required to report Off-Balance Sheet Items such as Letters of Credit, Unused Commitments, and Derivatives. These all examined the Risk Weighting of Assets. An assessment of the above ratios is made, and a report is typically submitted to the relevant assessment body which is now the Prudential Regulatory Authority (PRA) in the United Kingdom (Bank of England Prudential Regulatory Authority, 2013a), but is for example the Federal Reserve Bank for companies held fully by banks and the Office of the Comptroller of the Currency (OCC) for national banks in the USA (Jickling and Murphy, 2010) and other national bodies in each country. Since 1988, this practice has been slowly introduced in the G-10, including Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States of America. The compliance is not fully complete and indeed has a long introductory timetable to be completed by 2019 (Bank for International Settlements, 2013b).

Many other countries (presently over 100) have adopted, at least in nominally, Basel I principles. The efficacy with which the principles are enforced varies within different nations of the group.

By the 1990s, the risk assessment methods of the most progressive banks had significantly surpassed the rather tax-like approach to calculating regulatory capital (as in the centrally pre-fixed percentages of specific assets that were allowed to be counted against liabilities in Basel I). The next regulation, Basel II, allowed banks to use more sophisticated methods, as institutions could determine the regulatory capital they need on the basis of their own risk management and measurement systems. This approach was later profoundly criticised due to the misallocation of risk by banks themselves, and altered to change the weightings on assets of all different types (Council of Mortgage Lenders, 2013).

INTERNATIONAL CONTEXT - THE DEVELOPMENT OF BASEL II AND III

A general perception of banking, particularly in the wake of the 2008 financial crisis, was that banks could not be trusted to self-regulate, particularly as the state, and thus taxpayer, usually picked up the bill to rectify matters. The U.S. Federal Deposit Insurance Corporation has this responsibility in the USA (Jickling and Murphy, 2010). Sheila Bair (2007), its chairwoman, stated in June 2007 the need for capital adequacy requirements for banks, such as those of the Basel accords:

There are strong reasons for believing that banks left to their own devices would maintain less capital—not more—than would be prudent. The fact is, banks do benefit from implicit and explicit government safety nets. Investing in a bank is perceived as a safe bet. Without proper capital regulation, banks can operate in the marketplace with little or no capital. And governments and deposit insurers end up holding the bag, bearing much of the risk and cost of failure. History shows this problem is very real ... as we saw with the U.S. banking and S & L crisis in the late 1980s and 1990s. The final bill for inadequate capital regulation can be very heavy. In short, regulators can't leave capital decisions totally to the banks. We wouldn't be doing our jobs or serving the public interest if we did.

Regulations, reporting, and auditing were therefore tightened up under Basel II and later by a new agreement, Basel III. Basel II was more than just a new way of calculating regulatory capital; it was built on two more pillars. It had different demands for the amount of different types of capital that can be held. Capital Adequacy Ratio (CAR) or Capital to Risk-weighted Assets Ratio (CRAR) is the common name of this type of assessment (Toby, A., 2013).

Basel III shares the three-pillar structure of Basel II. Including Pillar I which deals with risk weighted assets or RWAs. But, it may be noted that Basel III has a stricter definition of capital. This means that banks must have better quality assets, and also better capacity to withstand stress. Besides, a Capital Conservation Buffer (2.5%) has been newly introduced in Basel III. A Counter Cyclical Buffer (0 to 2.5%) has also been included. Moreover, a leverage ratio of 3% has been newly stipulated as a safety feature under Basel III (Finance Train, 2013). There are similar, but slightly different rules in China, although objective measurements are different as they do not use International Financial Accounting Standards (IFRS), but their own Chinese Accounting Standards (CAS) (China Banking Regulatory Commission, 2013).

Other changes include those for the ratio of Common Equity to so called Tier 1 Capital. Common Equity is the amount that all shareholders have invested in a company, including the value of the shares themselves, retained earnings, and additional paid-in capital. Tier 1 capital consists generally of common stock and reserves (or retained earnings) and may also include non-redeemable non-cumulative preferred stock. An obvious effect of this tightening is that banks must retain and not lend out an increased proportion of earnings. The Common equity to Tier I Capital ratio was enhanced from 2% under Basel II to 4.5% under Basel III, and there have further been established (Bank for International Settlements, 2010):

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- i. A new Minimum Ratio of Capital to RWA: from 8% (Basel II) to 10.5% (Basel III)
 - ii. A new Minimum Ratio of Common Equity to RWA: from 2% to 4.5% to 7%
 - iii. A new Tier I Capital to RWA: from 4% to 6%
 - iv. (iv) A new Core Tier I Capital to RWA: from 2% to 5%.
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In addition to rules concerning the calculation of capital in relation to credit, market, and operational risks, in line with Pillar 2, financial institutions are required to demonstrate to the regulator that they have internal risk assessment and management information systems in place to efficiently assess their economic capital requirement (Deloitte, 2013); this is known as ICAAP (Internal Capital Adequacy Assessment Process).

ICAAP is a procedure ensuring that executive bodies “appropriately identify, measure, aggregate and monitor the risks incurred by the institution it ensures they possess the capital coverage determined by internal regulations that is sufficient for the fundamental risks the institution is exposed to, and also have an adequate risk management system in place, which they continuously develop in accordance with the risk factors identified” (Bnm.gov.my, 2013).

THE REQUIREMENTS FOR AUDITING BANKS IN THE UNITED KINGDOM

All banks (that is deposit taking institutions) are governed by General Prudential rules (GENPRU), and banks, building societies, and investment firms are also controlled by BIPRU rules in the United Kingdom. These are shown on both the PRA website and explained in more detail on the FSA website. In order to comply with ICAAP, rules on bank auditing regulations are followed in the United Kingdom. Obviously, this is for the UK only. The SEC/OCC will have similar regulations for the US, and other countries have their own rules.

There is also standardisation of regulatory requirements across the EU including the UK - produced by the Capital Requirements Directive (CRD). The Official Journal of the EU on Thursday, 27 June, 2013, published the European Union’s legislative initiative known as “CRD IV” concerning rules for banks, building societies, and investment firms. Most of the legislation applies from 1st January, 2014 (European Commission, 2013). CRD IV is made up of the Capital Requirements Regulation (CRR), which is directly applicable to firms across the EU, enshrined in the framework of the CRD, which must be implemented through national law (bba.com, 2013).

Requirements are included for quality and quantity of capital, new liquidity, and leverage. There are new rules for counterparty risk, macro prudential standards, including a countercyclical capital buffer, and further capital buffers for systemically important institutions. There are also new rules on corporate governance, including remuneration, and it introduces standardised EU regulatory reporting, referred to as COREP and FINREP. COREP covers consolidated, sub-consolidated, and solo reporting of capital requirements and own funds based on the original CRD. FINREP covers financial reporting for credit institutions that use International Financial Reporting Standards (IFRS) for their published financial statements. These reporting requirements demand that supervisors need to be informed by firms in areas such as the extent of their own funds, large exposures, and also the extent of liquidity (PwC.com, 2013).

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THE TEAMS INVOLVED IN AUDITING

A big bank (or indeed insurance company under similar rules called Solvency II) will have a dedicated external audit team (i.e. statutory audit) from KPMG or another suitably qualified external firm more or less permanently on site. The Prudential's team for example, though much smaller and simpler than a big bank, goes up to circa 50 people at busy times, and is around 10 people at its smallest. Nearly all institutions use one of the 'big 4' (KPMG, Deloitte, E&Y, PWC) and because of the cost and complexity of the audits, banks have historically hardly ever changed audit firms; there is an on-going political/regulatory debate whether to force such changes; the regulators feeling that the relationships have become too cosy and that management can pull the wool over the eyes of the external teams, but there are counter arguments, however. Knowledge of a firm's modus operandi can often lead to better, more accurate and faster auditing. The Financial Recording Council, the FRC, (2013) checks the work of each of these regulators and acts as a watchdog on shoddy or dishonest auditing.

THE ACCOUNTS PRODUCED

Audited accounts are normally produced quarterly as a public market listing requirement. Regulatory balance sheet returns under the ICAAP, which are not published, but are the calculation of regulatory capital, by risk weighted assets, and will be submitted to the PRA on a frequency agreed with them, but at least quarterly and often monthly on a 'pro-forma' basis. These are termed the Minimum Capital Requirement Calculations. This submission is subject to a further analysis known as The Supervisory Review and Evaluation Process (SREP). The regulatory return would be formally audited by the external team at least annually, or on another significant event, for example, a merger or acquisition. Liquidity regulatory returns will probably be submitted more frequently, e.g. weekly; the rules in this area have been much strengthened and changed over the last couple of years, witnesses BIPRU (Banks, Building Societies and Investment Firms Handbook) in chapter 12 (and also in the PRA Handbook). The Prudential Regulatory Authority has the authority in the United Kingdom to require banks and other lending institutions to hold whatever amount of capital it sees fit and can require them to do so (see BIPRU 2.2.14 below in the SREP in More Detail section). The recent countercyclical buffer is merely a formalisation of this process, although it is clear that to protect investors any level of capital may be required (Financial Conduct Authority, 2013a).

THE ICAAP IN MORE DETAIL

The PRA is not specific in the exact format that an ICAAP must take but it must undertake certain defined items. According to the *PRA Handbook*, the BIPRU three criteria are relevant, namely those of 2.2.5 to 2.2.7, all of which are quoted below. These require a bank to:

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BIPRU 2.2.5

- (1) Carry out regularly assessments of the amounts, types and distribution of financial resources, capital resources and internal capital that it considers adequate to cover the nature and level of the risks to which it is or might be exposed (GENPRU 1.2.30 R to GENPRU 1.2.41 G (the overall Pillar 2 rule and related rules);
- (2) Identify the major sources of risk to its ability to meet its liabilities as they fall due (the overall Pillar 2 of the Basel III directive rule);
- (3) Conduct stress and scenario tests (the general stress and scenario testing rule), taking into account, in the case of a firm with an IRB permission, the stress test required by BIPRU 4.3.39 R to BIPRU 4.3.40 R (stress tests used in assessment of capital adequacy for a firm with an IRB permission);
- (4) Ensure that the processes, strategies and systems required by the overall Pillar 2 rule and used in its ICAAP, are both comprehensive and proportionate to the nature, scale and complexity of that firm's activities (GENPRU 1.2.35 R); and
- (5) Document its ICAAP (GENPRU 1.2.60 R).

BIPRU 2.2.6

Where a firm is a member of a group, it should base its ICAAP on the consolidated financial position of the group. The group assessment should include information on diversification benefits and transferability of resources between members of the group and an apportionment of the capital required by the group as a whole to the firm (GENPRU 1.2.44 G to GENPRU 1.2.56 G *Application of GENPRU 1.2 on a solo and consolidated basis: Processes and tests*). A firm may, instead of preparing the ICAAP itself, adopt as its ICAAP an assessment prepared by other group members.

BIPRU 2.2.7

A firm should ensure that its ICAAP is:

- (1) The responsibility of the firm's governing body;
- (2) Reported to the firm's governing body; and
- (3) An integral part of the firm's management process and decision-making culture.”

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(Financial Conduct Authority, 2013b)

THE ICAAP IN PRACTICE

Although there are no 'standard formats' for ICAAP documents, by analysing a sample ICAAP document it can be seen the approach used seems to be effective by identifying a list of likely risks and highlighting the implication for the capital plan of the organisation based on regularly assessed risk capital calculations. The main objective of the ICAAP document is to analyse external and internal requirements based on the bank's core business and the prevailing and likely operating environment for the financial services sector. The document is tightly focused on the importance and impact of the capital adequacy of a few select factors that have been quantified and translated into risk requirements. These factors are:

1. Credit Risk
2. Market Risk
3. The Risk of Interest Rate Mismatch
4. Liquidity Risk
5. Operational Risk
6. Strategic Risk
7. Concentration Risk
8. Reputational Risk
9. Legal Risk

METHODOLOGY

A set of balance sheets is defined, for example, those from 31 December, 2003 to 31 December, 2010. Another detailed set of management accounts are specified along with their dates from which more detailed analysis can be taken. Lastly, the dates over which the capital reserve is expected to be adequate are specified along within ratios produced.

RATIO PRODUCED OF CAPITAL RISK ALLOCATION

Four elements are important (State Bank of Pakistan, 2013a). The first is capital adequacy calculations using a specified standard approach approved by the auditor and the regulatory body. This is often called the Baseline Capital Estimate and is the same as the Minimum Capital Requirement calculations submitted to the central bank usually on a quarterly basis. The second focus is capital required by components that have almost no normal deviation from a standard mark given the present monetary environment; for example, consistent charges that must be paid. This is called the Standard Capital Requirement. The third layer is capital that may reasonably be required in the future. Despite this layer of capital not being at present utilised, it is felt likely that in the next twelve months it will be. This is known as the Expected Capital Requirement. The fourth layer is based on expected best and worst case annualised earnings and profitability analysis by stress testing the credit book. This is called the Critical Capital Requirement. While the second and third layers are provisionally based, the last layer is driven by stress on capital caused by expected and unexpected losses. Thus, the total capital requirement used for internal capital adequacy analysis is the maximum of the first two layers and the sum of the last two layers. Though it is unlikely that all of the four layers will sharply change in the near future, the comparison ensures that capital is compartmentalised and not double counted. In fact, a form is used to simplify the process, and it can be produced on only one sheet of paper (State Bank of Pakistan, 2013b, p. 11).

The BIS building in Basel.

THE ALLOCATION OF MARKET RISKS TO CAPITAL

The baseline capital estimate is not assessed for risk but just a careful audit of the capital of the bank. The second layer is analysed with recourse to a Value at Risk (VaR) estimate of a 55% level of confidence with a 10 day trading horizon and 365 days of historical data. A risk analysis undertaken on the third layer with reference to historical experiences and current trends using the volatility and historic performance of the bank's market risk portfolio. This layer is also driven by a Value at Risk model. The percentage used is now much higher and calculated at a 99% VaR rate assuming a 10 day holding period and 365 days of data. The fourth layer is based on stress testing the third layer. While Value at Risk (VaR) gives a threshold beyond which losses are less likely to occur, the fourth layer estimates the capital requirements if this threshold is breached. This is sometimes called profits and liabilities (P&L). The final layer is based on a carrying cost analysis of the entire investment inventory and a comparison of the historical income generation of the entire portfolio minus all these carrying costs. For ICAAP the sum of the regulatory charge (that is the costs of holding the said investments) and an internal model based approach anticipating the market risk capital requirements charge (IMA charge) is used. The expected and critical condition capital charges are then added on. This approach was approved by the BIS in April, 1995.

ASSESSMENT OF INTEREST RATE MISMATCH CAPITAL ALLOCATION

This is when for example a bank uses a one year deposit by an investor to fund a 10 year investment which will not have matured in time to pay the depositor back. The longer 10 year investment could be impacted by different interest rate fluctuations than the shorter. The bank may gain or lose equity on this strategy, which is sometimes necessary as due to the different terms of money it receives and invests.

Internal capital adequacy calculations for interest rate mismatch risk include the following components. A Capital at Risk charge based on Market Value of Equity calculations that use duration gap estimates to discover the net change in shareholders' equity due to interest rate movements (for example how much they would gain or fail to be able to be paid back from their deposit) on account of balance sheet mismatches. This charge is also compared with an Earnings at Risk charge based on Net Interest Income at Risk calculations that use the worst case interest rate shock to determine the impact of interest rate movements on the earnings of the bank. This analysis is more highly developed in stress testing as shown below.

LIQUIDITY RISK CAPITAL ALLOCATION

The cost to close and liquidity gap that is to render such a gap zero and calculations to assess the overall impact of a liquidity crisis on our balance sheet and capital adequacy levels are used.

OPERATIONAL RISK CAPITAL ALLOCATION

A basic indicator approach to allocation of operational risk capital for operational risk exposures is used. That is identifying particular operational exposures per bank branch or indeed exposure to certain well-known areas such as foreign exchange fluctuations from a pre-formed list that could indicate a certain level of risk.

STRATEGIC RISK

This is concerned with the probability of market fundamentals changing so the investments of the bank have a reduced value. This is far from predictable but seeks to measure risk in the longer term, perhaps in the long-term desirability of some type of investment over another. The risk to the bank is partially related of course to the concentration of these assets.

CONCENTRATION RISK CAPITAL ALLOCATION

Concentration risk is the risk of having too many investments in one sector of the economy or indeed one firm. Many firms use the Herfindahl–Hirschman Index (HHI) to determine the size of firms relative to the market and the degree of competition in that market. This is used to calculate concentration level risk over reporting periods by sectors and counterparties. As the index crosses certain thresholds, certain portions of capital are allocated to support those assets which may be in sectors that are in certain specified levels of competition intensity. An analysis can also reveal the degree of ‘skewedness’ of the whole portfolio and aid in appropriate diversification.

REPUTATIONAL RISK

This is the risk that a series of bad or below par deals will render the bank a bad investment. This is very difficult to budget for, however a valid series of internal checks and balances should be enough to reduce the risk of this happening. Included in this area is the risk of fraud or rogue elements in the management and operation of the firm.

LEGAL RISK

Assessments may also be made as to the loss to a banks reputation and legal costs following any debacle or regulation change. This is very difficult to calculate except after a specific occurrence and has therefore been left out of the example that follows.

The results of such analysis are then displayed in table form as below. Although these figures are an example the same areas in a similar format would be produced in the United Kingdom. In the actual ICAAP there is extensive accompanying text. The actual quote is from financetrainingcourse.com, but based on a real bank.

EXAMPLE: DEMO BANK

(The capital charge is from those specific assets that have been identified in a certain risk weighted assets section and represents the costs of holding and operating those assets).

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CREDIT RISK

Credit Risk - Regulatory	Risk Weighted Assets	Capital Charge
30 June 2009	18,580,075,509	1,486,406,041
31 December 2008	20,088,359,023	1,607,068,722
31 December 2007	24,793,467,817	1,983,477,425
Total for 2009	18,580,075,509	1,486,406,041

Figure 1: Credit Risk – Regulatory.

Credit Risk - Internal Assessment	Risk Weighted Assets	Capital Charge
Layer One – Regulatory Capital	18,580,075,509	1,486,406,041
Layer Two – Expected Transitions	6,047,277,377	483,782,190
Layer Three – Projected Transitions	15,206,060,198	1,216,484,816
Layer Four – P&L Impact	25,146,580,508	2,011,726,441
Internal Capital Assessment	33,786,135,707	2,702,890,857

Figure 2: Credit Risk – Internal Assessment.

MARKET RISK

Market Risk - Regulatory	Risk Weighted Assets	Capital Charge
30 June 2009	9,934,561,697	794,764,936
31 December 2008	12,482,411,341	998,592,907
31 December 2007	16,481,234,073	1,318,498,726
Total for 2009	9,934,561,697	794,764,936

Figure 3: Market Risk – Regulatory.

Market Risk - Internal Assessment	Risk Weighted Assets	Capital Charge
Layer One – Regulatory Capital	9,934,561,697	794,764,936
Layer Two – Expected Loss	1,125,000,000	90,000,000
Layer Three – VaR IMA	6,150,012,500	492,001,000
Layer Four – Put Premium	1,250,000,000	100,000,000
Total	12,309,561,697	984,764,936

Figure 4: Market Risk – Internal Assessment.

OPERATIONAL RISK

Operational Risk	Risk Weighted Assets	Capital Charge
Gross Income BIA	5,881,991,987	470,559,359
Total	5,881,991,987	470,559,359

Figure 5: Operational Risk.

LIQUIDITY RISK

Liquidity Risk	Risk Weighted Assets	Capital Charge
Cost to Close Liquidity Gap	6,193,836,170	495,506,894
Total	6,193,836,170	495,506,894

Figure 6: Liquidity Risk .

INTEREST RATE MISMATCH RISK

Interest Rate Mismatch Risk	Risk Weighted Assets	Capital Charge
Fall in MVE @ 99%	3,914,422,545	313,153,804
Total	3,914,422,545	313,153,804

Figure 7: Interest Rate Mismatch Risk.

CONCENTRATION RISK

Concentration Risk	Risk Weighted Assets	Capital Charge
Credit Industry Concentration	1,156,109,580	92,488,766
Equity Sector Concentration	1,170,834,722	93,666,778
Money Market Sector Concentration	1,826,565,758	146,125,261
Total	4,153,510,060	332,280,805

Figure 8: Concentration Risk.

AGGREGATION

Capital Adequacy: Regulatory – Pillar I	Risk Weighted Assets	Capital Charge
Credit Risk	18,580,075,509	1,486,406,041
Market Risk	9,934,561,697	794,764,936
Operational Risk	5,881,991,987	470,559,359
Total	34,396,629,193	2,751,730,335
Eligible Capital	6,000,000,000	
Regulatory Adequacy	17.44%	

Figure 9: Regulatory .

CAPITAL ADEQUACY FOR PILLAR I

Capital Adequacy: Regulatory – Pillar II	Risk Weighted Assets	Capital Charge
Credit Risk	18,580,075,509	1,486,406,041
Market Risk	9,934,561,697	794,764,936
Operational Risk	5,881,991,987	470,559,359
Liquidity Risk	6,193,836,170	495,506,894
Interest Rate Mismatch	3,914,422,545	313,153,804
Concentration Risk	4,153,510,060	332,280,805
Total	48,658,397,968	3,892,671,837
Eligible Capital	6,000,000,000	
Regulatory Adequacy	12.33%	

Figure 10: Regulatory.

These are the totals of the above tables combined and put as entries into Figure 10 immediately above for Pillar 1. It only shows layer 1 Credit Risk assets added to others in the 5 lines immediately below against eligible capital (that is capital the bank has retained in case of necessity to refund depositors).

CAPITAL ADEQUACY FOR PILLAR II

Capital Adequacy: Internal Assessment	Risk Weighted Assets	Capital Charge
Credit Risk	33,786,135,707	2,702,890,857
Market Risk	12,309,561,697	984,764,936
Operational Risk	5,881,991,987	470,559,359
Liquidity Risk	6,193,836,170	495,506,894
Interest Rate Mismatch	3,914,422,545	313,153,804
Concentration Risk	4,153,510,060	332,280,805
Total	66,239,458,166	5,299,156,653
Eligible Capital	6,000,000,000	
Regulatory Adequacy	9.06%	

Figure 11: Internal Regulatory.

These are the totals of the same previous above tables combined and put as entries into Figure 11 immediately above for Pillar 2. It shows combined layers 1 to 4 credit risk and all other risk asset types again in the five lines immediately below, against eligible capital (that is capital the bank has retained in case of necessity to refund depositors). In this figure, Market Risk includes that for all layers.

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(Farid and Salahuddin, 2013, pp. 4-8)

THE SREP IN MORE DETAIL

The requirements of a SREP are defined around BIPRU sections 2.2.9 to 2.2.15. The appropriate regulator (in the United Kingdom, the PRA) will review a firm's ICAAP, including the results of the firm's stress tests carried out under GENPRU and BIPRU, as part of its SREP. Provided that the appropriate regulator is satisfied with the soundness of a firm's capital assessment, the appropriate regulator will take into account that firm's ICAAP and stress tests in its SREP (Financial Supervision Commission, 2009, p. 5). If not satisfied, it can demand another ICAAP is completed or modify the existing ICAAP. Further material on stress testing for a company with an Internal Ratings Based (IRB) permission; that is, banks using a system approved by regulators to judge their solvency risk under stress scenarios, can be found in BIPRU 2.2.41 R to BIPRU 2.2.45, and particularly in G.1 BIPRU 2.2.9.

The SREP is a procedure under which an appropriate regulator:

- “
- (1) Reviews the arrangements, strategies, processes and mechanisms implemented by a firm to comply with GENPRU, BIPRU and with requirements imposed by or under the regulatory system and evaluates the risks to which the firm is or might be exposed;
 - (2) Determines whether the arrangements, strategies, processes and mechanisms implemented by the firm and the capital held by the firm ensures a sound management and coverage of the risks in (1); and
 - (3) (If needed) requires the firm to take the necessary actions or steps at an early stage to address any failure to meet the requirements referred to in (1).
- ”

The following BIPRU rules quoted from the FCA handbook explain the exact role of the regulator.

“ **BIPRU 2.2.10**
As part of its SREP, the appropriate regulator may ask a firm to provide it with the results of that firm's ICAAP, together with an explanation of the process used. Where appropriate, the appropriate regulator will ask for additional information on the ICAAP.

BIPRU 2.2.11

As part of its SREP, the appropriate regulator will consider whether the amount and quality of capital which a firm should hold to meet its CRR in GENPRU 2.1 (calculation of capital resources requirements) is sufficient for that firm to comply with the overall financial adequacy rule.

BIPRU 2.2.12

After completing a review as part of the SREP, the appropriate regulator will normally give that firm individual guidance (individual capital guidance), advising it of the amount and quality of capital which it should hold to meet the overall financial adequacy rule.

Figure 12: The SREP in More Detail.

BIPRU 2.2.12A

As part of its SREP, the appropriate regulator will also consider whether a firm should hold a capital planning buffer and, in that case, the amount and quality of such capital planning buffer. In making these assessments, the appropriate regulator will have regard to the nature, scale, and complexity of a firm's business and of the major sources of risks relevant to such business as referred to in the general stress and scenario testing rule. Accordingly, a firm's capital planning buffer should be of sufficient amount and adequate quality to allow the firm to continue to meet the overall financial adequacy rule in the face of adverse circumstances, after allowing for realistic management actions.

BIPRU 2.2.12B

After completing a review as part of the SREP, the appropriate regulator may notify the firm of the amount and quality of capital which it should hold as a capital planning buffer over and above the level of capital recommended as its ICG. The appropriate regulator may set a firm's capital planning buffer either as an amount and quality of capital which it should hold now (that is, at the time of the appropriate regulator's notification following the firm's SREP) or, in exceptional cases, as a forward looking target that the firm should build up over time.

BIPRU 2.2.12C

Where the amount or quality of capital which the appropriate regulator considers a firm should hold to meet the overall financial adequacy rule or as a capital planning buffer is not the same as that which results from a firm's ICAAP, the appropriate regulator usually expects to discuss any such difference with the firm. Where necessary, the appropriate regulator may consider the use of its powers under section 166 of the Act (reports by skilled persons) to assist in such circumstances.

BIPRU 2.2.13

If a firm considers that the individual capital guidance given to it is inappropriate to its circumstances, it should, consistent with Principle 11 (relations with regulators), inform the appropriate regulator that it disagrees with that guidance. The appropriate regulator may reissue individual capital guidance if after discussion with the firm the appropriate regulator concludes that the amount or quality of capital that the firm should hold to meet the overall financial adequacy rule is different from the amount or quality initially suggested by the appropriate regulator.

BIPRU 2.2.13A

If a firm disagrees with the appropriate regulator's assessment as to the amount or quality of capital planning buffer that it should hold, it should, consistent with Principle 11 (relations with regulators), notify the appropriate regulator of its disagreement. The appropriate regulator may reconsider its initial assessment if, after discussion with the firm, the appropriate regulator concludes that the amount or quality of capital that the firm should hold as capital planning buffer is different from the amount or quality initially suggested.

BIPRU 2.2.14

The appropriate regulator will not give individual capital guidance to the effect that the amount of capital advised in that guidance is lower than the amount of capital which a firm should hold to meet its CRR.

If, after discussion, the appropriate regulator and a firm still do not agree on an adequate level of capital, the appropriate regulator may consider using its powers under section 55J of the Act to **vary on its own initiative a firm's Part 4A permission so as to require it to hold capital in accordance with the appropriate regulator's view of the capital necessary to comply with the overall financial adequacy rule** (Author's italics). In deciding whether it should use its powers under section 55J, the appropriate regulator will take into account the amount and quality of the capital planning buffer which the firm should hold as referred to in BIPRU 2.2.12A G and BIPRU 2.2.12B G.1 SUP 7 provides further information about the appropriate regulator's powers under section 45.

”

(Financial Conduct Authority, 2013c)

THE DAILY BALANCE OF A BANK AND ITS ASSOCIATED PROBLEMS

A bank will balance its books every day in practice; this is how it determines its daily funding need; obviously balancing is more tricky when you operate over multiple time zones, as nearly all banks do. Decisions have to be made about whether you operate as one pot or a number split, say by time zone or operating unit, what time is cut-off in each pot, what currency is base or do you balance and fund each currency balance sheet separately, which source of exchange rate do you use? There is unfortunately no standard agreement. The rates of real interest on some temporary investment accounts in different countries are also an issue upon which there is no agreement (Draper, 2013).

Some standardisation of banking regulation is underway, but only in certain areas, and particularly in the EU where a single Unitary Banking Authority is proposed. This, however, seems only to concern restructuring banks after problems have already occurred.

In July, 2013, plans were detailed for an authority that will be responsible for winding down any of the Eurozone's 6,000 banks by the European Union. Under the Single Resolution Mechanism (SRM), a new body will be given power to close or restructure any Eurozone bank. This would supersede the regulations of all current national bodies. Critics have warned that this new arrangement may mean national governments being required to hand over taxpayers' money to help rescue banks (*The Economist*, 2013a). Indeed, the core capital recently suggested by the ECB is well in excess of current Basel 3 requirements (*The Economist*, 2013b)

Under the SRM, a 55bn-Euro fund will be created and paid for by levies on banks. Germany, the largest Eurozone economy, however, has objected to the creation of a single controlling authority, stating a new European treaty would be required and take years to agree (Tandem Post, 2013).

STRESS TESTING

Stress tests are also imposed by national regulators, in the UK this is the PRA. A second round of stress tests is being coordinated with national supervisory authorities, the European Systemic Risk Board (ESRB), the European Central Bank (ECB), and the European Commission; approximately 90 European banks are participating. Such testing involves running scenarios of different rates of interbank lending and different asset price fluctuations in order to ensure that the bank can remain solvent and prevent a run on the bank with its current asset and liquidity structure. The frequency of stress tests has not yet been determined, and may be a matter left up to national regulators (Pilbeam, 2010).

CONCLUSIONS

According to Edmund Burke (1729-1797), ‘nobody made a greater mistake than he who did nothing because he could do only a little’ (Morley, 1907). This is certainly the case of bank regulation where any defined and trustworthy effort that yields reliable information reduces the risk of bank defaults and fraud. The question is whether systems of historically incremental regulation can be replaced with a more effective system, and whether such a system would be too monolithic and inflexible to be fit for purpose. Basel I, II, and III make a start in this area, and the adoption of ICAAP and SREP by a wide variety of countries is important progress. The problem with such a system is that the relevant assessing quality, the ‘regulatory authority’, is a national one. Penalties and assessment methods and timescales vary according to each jurisdiction. Even more confusingly, reporting methods vary according to the audit agency and the situations they describe.

In February, 2009, US Treasury Secretary Timothy Geithner stated two key problem areas: ‘Our financial system operated with *large gaps in meaningful oversight*, and without sufficient constraints to limit risk. Even institutions that were overseen by *our complicated, overlapping system of multiple regulators* put themselves in a position of extreme vulnerability. These failures helped lay the foundation for the worst economic crisis in generations’ (Author’s italics) (Jickling and Murphy, 2010).

Yet little seems to have changed as the debacle, over the \$5.8 billion loss suffered by JP Morgan due to the actions of Bruno Iksil (also known as ‘The London Whale’) shows that United Kingdom and American regulation still periodically clash and lack necessary cooperation and reciprocity (Calpen, 2013). There is not yet even a standardised database of world banks, only a very incomplete and embryonic one (the-bankerdatabase.com, 2013).

One area of concern is the weighting on risk based assets which Basel III leaves up to the banks themselves. The credit rating agencies, notably Fitch, Moody, and Standard and Poor (as well as those smaller agencies which are given regulatory credence in other parts of the world) have been found to have produced inaccurate assessment of the credit risk of certain organisations. This could obviously have disastrous implications for the solvency of a bank if not carefully observed.

A further serious flaw is that the bank rules, even just in the United Kingdom (GENPRU and BIPRU), apply only to all authorised deposit taking organisations. Deposit taking is the traditional feature that distinguishes a bank from other financial institutions and is what a bank is authorised to do that others are not (many others lend money in one form or another, and many perform at least some measure of maturity transformation). Deposit taking can be retail or commercial/wholesale; there are some different regulatory treatments, for example, in liquidity weightings of deposits. There will also be some activities that an investment does that a retail bank may not (more usually just a question of scale, however), and different activities will have different regulatory treatments. Generally, there is little difference between private/investment and public retail from a regulatory

perspective. Many institutions that pose a risk to the national, or indeed international economy, however, do not formally take deposits, and are to some measure thus outside regulations. There are also many institutions that call themselves banks and receive funds from regulated banks that reside outside the jurisdiction of the BIS or indeed any court in which the lending bank is based. Such transactions are difficult to risk weight and easy to hide and thus sometimes liable to render an ICAAP inaccurate (KPMG International, 2011, p. 11).

Sometimes shareholding can create a perverse incentive for a bank to take risks as they can demand dividends without risking their own deposits that may not be invested with the bank (Alexander, 2011). According to The Bank of England, ‘the role of the PRA in the United Kingdom is thus necessary to address the risks that deposit-takers and investment firms can pose more widely to the stability of the system. The failure of deposit-takers can disrupt the payment system and so depositors’ ability to undertake economic activity. And some of the lending provided by banks (for example to small and medium-sized companies) may be difficult to substitute via the capital markets, meaning that bank failures or financial weakness can severely affect the supply of credit to the economy as a whole’ (Bank of England Prudential Regulation Authority, 2013b). In addition, a company owned by shareholders whose stake is personally leveraged through borrowing from depositors and other creditors will tend to have an incentive to take on more risk than is in the interests of the firm’s creditors. This occurs as shareholders may be liable to pay company debt first, in case of bankruptcy, but they typically have only limited liability. They can, however, enjoy the unlimited financial benefits should the investment prove successful.

Problems are often caused by making fixed inflexible rules for a wide variety of banks. This is the case in Basel 2.5, a ‘half way house’ that preceded Basel III. In these rules, the Basel Committee on Banking Supervision confirmed that any bank approved to use its own internal models for correlation books would be subject to an 8% floor based on a standardised measurement approach known as a Comprehensive Risk Measure (CRM), a decision that has attracted significant criticism from banks. For instance, Benjamin Jacquard, London-based co-head of global credit trading at BNP Paribas said,

“the CRM is based on bank internal modelling, but since the Basel Committee was reluctant to have a charge solely based on bank modelling, it added the 8% floor. That makes a big difference, because the floor is not based on risk-based scenarios where you stress the market parameters and look at the worst downside you have on your book – it is based on what is called the standardised regulatory charge, which is only driven by the rating of the underlying risk” (Risk.net, 2013).

This is a somewhat blinkered approach. The rating-derived standardised method or any risk assessment which a regulator found valid would perhaps lead to punitive treatment of certain essentially sound assets. For businesses that rely on offsetting long and short positions, the measure is problematic as it takes no account of pre-existing risk assessment. Jacquard (Risk.net, 2013) concludes by saying, ‘if you ever have one tranche with 100 sound investments and a similar tranche with 99 of those same investments, you are running a very low risk – but the standardised method will be very punitive to you because it will assume there is no net positive.’ The cost of regulation is often considerable both to the bank or insurance company, but also indirectly through the taxpayer as the ultimate funder of the PRA, or in other jurisdictions, other bodies. Consideration must be given to the damping effect of this regulation and cost to the economy generally (Norton Rose Fulbright, 2010).

RECOMMENDATIONS

A far more standardised international approach to auditing should take place. Due to the growth of international banking, it makes sense if this is at the highest level, namely a UN level. Standardised capital ratios should be attempted at the European level and then extended to all banks in the system through the appropriate channels. The UN can apply two types of pressure; first, it can organise sanctions against a 'blacklist' of organisations that do not comply with the regulations. Second, it can apply selective penalties based on fractional reserve limit violations to each organisation that infringes them. The cost of regulation should be funded from penalties taken from transgressing banks and insurance companies as far as possible. The taxpayer should be shielded from this expense, and with appropriate regulation, the cost of financial failure of the banking sector on the economy should fall. ■

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FIGURE LIST

FIGURE 1: Credit Risk – Regulatory (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 2: Credit Risk – Internal Assessment (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 3: Market Risk – Regulatory (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 4: Market Risk – Internal Assessment (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 5: Operational Risk (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 6: Liquidity Risk (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 7: Interest Rate Mismatch Risk (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 8: Concentration Risk (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 9: Regulatory (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 10: Regulatory (Farid and Salahuddin, 2013, pp. 4-8)

FIGURE 11: Internal Regulatory (Farid and Salahuddin, 2013, pp. 4-8)“

FIGURE 12: The SREP in more detail (KPMG International in Germany adapted from diagram 1 of CEBS’s “Guidelines on the Application of the Supervisory Review Process” under pillar 2).