

**LLOYDS
BANKING
GROUP**



LLOYDS BANKING GROUP PLC

CMA RETAIL BANKING MARKET INVESTIGATION

**Response to Addendum to provisional findings: the capital requirements
regulatory regime**

9 May 2016

LLOYDS BANKING GROUP PLC

Response to Addendum to provisional findings: the capital requirements regulatory regime

Lloyds Banking Group ("LBG") sets out below its response to the CMA's 15 April 2016 Addendum to provisional findings: the capital requirements regulatory regime (the "**Addendum**").

Overview

1. The regulatory framework in the reference markets has an important influence on how all providers operate, ensuring the resilience of the financial system and that markets work well for customers. **The CMA's Addendum considers only one part of the regulatory framework** and finds a possible competitive advantage from using the internal rating-based approach ("IRB") for Pillar 1 capital requirements. It does not assess other parts of the framework that may favour smaller providers and more recent entrants, that tend to use the standardised approach ("SA"). The CMA cannot come to a view on any adverse effect on competition ("AEC") in the reference markets **without assessing the impact of the regulatory framework as a whole.**
2. There are also a number of significant limitations in the CMA's framework and the PRA's preliminary research, **and the CMA acknowledges some of these in the Addendum.** As a result of these significant limitations, **conclusions cannot be drawn on whether the capital requirements regulatory regime is affecting competition** in the residential mortgage market or in the provision of other retail banking services, including in the reference markets. The PRA and FCA should thoroughly investigate this issue and, if the regime puts smaller providers and more recent entrants at a disadvantage, it should seek to lower the cost for these providers to adopt an IRB approach.

The FCA is best-placed to conduct a full assessment of competition in mortgage market

3. **The Addendum raises some relevant questions on how competition works both within and beyond the reference markets. However, these have not been tested adequately,** and substantial further work would be required before any conclusions could be drawn. In particular, **a full and robust assessment of competition in the residential mortgage market would be required.**
4. In particular, the potential mechanism identified by the CMA in the Addendum is based on a number of steps, each link of which is unquantified and unsupported by evidence:
 - (a) *"If it is the case that SA banks charge higher mortgage prices because of having higher risk weights than IRB banks..."*
 - (b) *"...then this **would lead** to SA banks having a **reduced** ability to win mortgage customers at lower LTVs..."*
 - (c) *"The **magnitude** of the competitive disadvantage for lower LTV mortgages, in the form of lower market shares and/or lower margins..."*
 - (d) *"...**would determine the extent to which** SA banks have lower returns on equity and deposits as compared with IRB banks..."*
 - (e) *"along with SA banks' **ability to offset** any disadvantage through alternative investment options..."*
 - (f) *"This disadvantage **could** lead SA banks to have a reduced ability to compete in retail banking more generally, with product offerings that are less competitive and with lower investment in innovation..."*
 - (g) *"...This **could** reduce the attractiveness of investments in SA banks compared with the next best alternative investment..."*

(h) "...Ultimately this **could** deter entry into retail banking."¹

5. The CMA has not investigated these links in sufficient detail to establish, based on the evidence, that each link is more likely than not to be satisfied. In the words of the Court of First Instance, "...the chains of cause and effect are dimly discernible, uncertain and difficult to establish...."² Given the late stage of the market investigation and the CMA's terms of reference, it will not be possible for the CMA to conduct an adequate assessment of competition in the residential mortgage market in order to reach findings on whether the capital requirements regime places SA providers at a competitive disadvantage in that market. Consequently, the CMA cannot find a related AEC in the reference markets to the required standard of proof.³
6. The FCA will shortly start a review of competition in the mortgage market. The FCA is best-placed to conduct the required analysis to determine whether any providers are at a competitive disadvantage in the mortgage market in light of an in depth analysis and a full understanding of how competition works in that market. Unfortunately, there is a risk that the Addendum will be used by providers,⁴ commentators and journalists as "evidence" of competitive disadvantage for smaller, new entrants.
7. LBG has requested that the underlying PRA data and analysis (on which the Addendum relies heavily) is disclosed to its external advisers in the Disclosure Room, to enable it meaningfully to respond to the Addendum. The CMA has refused to disclose this material, and has explained that the CMA does not hold all of the data used in the PRA's analysis.
8. Consistent with its right to a fair process, LBG reserves its right to request this material and make further submissions at a later stage, once it has had the opportunity to review other parties' responses to the Addendum and any further statements made by the CMA on capital requirements.

If there is a problem with the capital requirements regulatory regime, then this should be addressed within proposals to amend the current regulatory capital rules

9. The CMA has provisionally concluded that there is a potential disadvantage for SA providers in the provision of lower LTV mortgages due to the capital requirements regulatory regime in lower LTV residential mortgages. The current regime means that a provider following the SA must hold a higher level of equity capital than would be the case if it were using the IRB. If these regulatory requirements are the source of competitive disadvantage and cannot be justified on prudential grounds, then the way to level the playing field is to do so **at its source and to adjust the capital requirements regulatory regime**. The Basel Committee on Banking Supervision, of which the PRA is a member, has proposed significant modifications to the capital requirements regulatory regime, many of which are expected to be finalised by the end of 2016. LBG considers that the PRA is ideally placed to contribute to the outcome of these proposed modifications.
10. There is scope to address the issues identified with the SA approach directly, or to make it easier for SA providers to develop IRB models more quickly. For example, the PRA could consider the feasibility of opening up data on historic mortgage and loan

¹ Addendum, paragraph 77 (Emphasis added).

² Tetra Laval v Commission, [2005] ECR I-987, paragraph 44.

³ The Guidance for market investigations (CC3) states at para 319 "In forming its judgement the CC will apply a 'balance of probabilities' threshold to its analysis, i.e. it addresses the question: "is it more likely than not that features or a combination of features lead to an AEC?" This was endorsed by the CAT in AXA PPP Healthcare Limited v Competition and Markets Authority [2015] CAT 5, paragraph 13.

⁴ LBG defines providers as banks and building societies throughout its response.

performance, on an anonymised basis, to new entrants to help them overcome the requirement to build up data.

The CMA's framework overstates any impact on cost of funds due to higher capital requirements

11. The CMA's provisional view is that higher risk weights mean more capital is allocated to low LTV mortgages, which leads to a higher cost of funds, which may subsequently lead to higher mortgage prices for SA providers and/or higher margins for IRB providers. This finding is based on the **CMA's theoretical framework** and **preliminary analysis from the PRA** both of which have significant limitations.
12. In its Provisional Findings the CMA stated that, "*in considering the impact of capital requirements on competition it is important to examine the whole capital regulatory framework, including the impact of Pillar II requirements*".⁵ The CMA also notes in the Addendum that SA providers still face significantly higher capital requirements compared with IRB providers even accounting for Pillar II requirements. However, the CMA's estimates in its theoretical framework do not reflect this. **The CMA should include Pillar II capital requirements for mortgages within its analysis.** The Pillar II capital requirement that LBG takes into account in its pricing models for residential mortgages is approximately **[Confidential]** times higher than Pillar 1 alone. This suggests the CMA has omitted a significant amount of capital from its analysis, which could potentially have an off-setting effect. Pillar II capital requirements are derived from a supervisory review by the PRA to address risks not fully captured in Pillar I. Typically, these risks relate to stress tests and will have different implications depending on the size and type of a provider's book.
13. The CMA's theoretical framework assumes that the capital requirements regime requires SA providers to hold a higher ratio of equity, which results in a higher cost of funds because the cost of equity is higher than the cost of debt.⁶ The CMA's theoretical framework suggests that the cost of funds is 10 to 20 basis points (bps) higher under the SA approach as a result.⁷ The CMA does not explain how it reaches its values for a return on equity of 12% and the interest on debt of 2% which drive these results, and does not consider any potential differences between providers. In particular, **the CMA has not considered the decrease in a provider's cost of equity as it uses more equity to fund its lending. This means the model is likely to overstate any increase in the cost of funds.**
14. Using more equity reduces risk which lowers both the cost of equity and debt, and subsequently the required return on both. This is a well-established implication of capital requirements, and has been analysed by the Bank of England and ICB.⁸ For example, the Bank of England has said, "*It is absolutely NOT self-evident that requiring banks to use more equity and less debt has to substantially increase their costs of funds and mean that they need to charge substantially more on loans.*"⁹ This is also consistent with the approach taken by the CMA in other investigations.¹⁰ The reduction in the cost of equity will partially, although not fully, off-set any increase in cost of funds due to using more equity. **Therefore, any increase in the cost of funds will**

⁵ CMA's Provisional Findings, para. 10.59

⁶ The main component of a provider's capital resources is equity — referred to as common equity Tier 1. LBG refers to this as "equity" in its response for simplicity.

⁷ Addendum, p.14

⁸ See Annex 1 for further detail.

⁹ "Discussion Paper No.31: revised and expanded version; Optimal bank capital", External MPC Unit, Bank of England, April 2011, p.18

¹⁰ For example, "Bristol Water plc price determination: Final Report", CMA, October 2015, para. 10.26 and "Northern Ireland Electricity Ltd price determination: Final Determination", CC, March 2014, para. 13.36

be lower than the CMA suggests – potentially between 45-75% lower based on the Bank of England and ICB research.

15. The CMA's theoretical framework assumes that existing SA providers would gain similar risk weights to existing IRB providers if they moved to the IRB approach. This would not necessarily be the case. The IRB approach allows a provider to set risk weights that more accurately reflect its risk, and the PRA keeps IRB risk weights under constant review, given the dynamic factors that determine risk weights, to ensure that they are proportionate to the risk profile of their book. Whilst LTV is an important driver of mortgage risk, it is not the only driver. For example, it is possible that two mortgage books with the same mix of LTV carry very different risks depending on credit risk appetite, lending criteria (e.g. income multiples, lending into retirement, interest only mortgages), the credit quality of borrowers, credit decision and fraud screening capability, and operational performance in managing loans at risk of default. Identifying the impact on capital requirements across providers will need to control and adjust for these differences.
16. The CMA also seeks to compare the profitability of SA and IRB providers. **Caution is required when trying to compare the return on equity across providers.** There are many factors that determine a provider's return on equity. These include how much equity a provider holds, a provider's risk appetite, its cost to serve customers through different channels, cost efficiency, the cost of underlying infrastructure (e.g. some providers have expensive legacy IT systems) and other historic factors. **In short, meaningful conclusions on the impact of the capital requirements regulatory regime cannot be drawn by comparing the profitability of providers.**

The PRA's empirical analysis is preliminary and therefore the CMA's provisional findings are premature

17. The CMA has attempted to test its theoretical framework of the difference between IRB and SA providers with the PRA's empirical analysis of mortgage prices for low LTV mortgages. However, the PRA has stated that its research is still preliminary, and **it plans to further refine its analyses to obtain more accurate and robust results. The PRA accepts that this may affect the results.**
18. The limitations of the PRA's preliminary analysis result in a **high degree of uncertainty around the robustness of the results at this stage.** Further analysis addressing these limitations is required before any conclusions can be drawn. LBG disagrees with the CMA that "*the initial results are sufficiently robust to show that SA providers have higher mortgage prices in lower LTV mortgages compared to IRB providers*".¹¹
19. The Addendum does not provide sufficient detail of the PRA's data and approach or sensitivity analysis in order for LBG and other parties to make a meaningful assessment of the PRA's preliminary research and the materiality of its limitations. **The CMA should therefore include the PRA's data set and workings in a disclosure room if it intends to refer to, or rely on, this analysis in its Final Report.**
20. The significant limitations to the PRA's preliminary analysis include:
 - (a) **mortgage prices do not include fees.** This is likely to be a significant omission as any accurate pricing analysis should include upfront fees paid to the lender. Lenders' fees can vary from £0 to over £2,500.¹² A typical £1,000 upfront fee is

¹¹ Addendum, paragraph 78.

¹² TSB currently charge £2,660 fees for a 2-year variable rate mortgage with 60% LTV. This comprises a valuation fee of £400, a booking fee of £265 and an administration fee of £1,995. In contrast there are a number of lenders

approximately equivalent to an additional 50bps on the interest rate for a £100,000 mortgage over two years. **This 50bps is material given the mortgage price gap found by the PRA is between 1bps and 46bps,** depending on the approach used. Many providers offer a choice of comparable products with different combinations of fees and interest rates. For example, a lower rate/higher fee product and a higher rate/lower fee product. The different combinations offered by providers may have changed over time. The CMA and/or PRA would need to understand the differences in fees charged between IRB and SA providers, and whether this has changed over time;

- (b) **mortgage prices only reflect initial rates.** The analysis focusses on introductory rates and does not include subsequent SVR or other rates. Mortgage pricing means that introductory rates and SVR rates are interdependent, as lenders seek to make an appropriate return from lending to a customer over the customer's expected lifetime. **An accurate pricing analysis should include SVR rates.** However, some providers, including LBG, previously offered mortgage contracts with SVRs linked to the Bank rate. As a result, these providers are constrained by contractual pricing terms written pre-crisis that stipulate that SVR either must track the Bank rate directly, or be capped according to a specified relationship to the Bank rate. The terms vary by provider, and over time. As a result, many providers are locked into low-margin or loss-making SVRs and cannot re-price to reflect risk/funding costs. This has affected different providers in different ways, which will affect the comparability of margins between providers. These loss-making customer segments would need to be accounted for in any historic pricing analysis;
- (c) **the research misses a number of important factors** that will determine either credit risk and/or mortgage prices. These include securitisations and other funding sources; other aspects of the regulatory framework for capital; and other reasons that are related to why providers follow either the SA or IRB approach that also determine credit risk and mortgage prices. These omissions are likely to bias the results and it is not clear that the estimated pricing differential can be fully attributed to the IRB/SA status; and
- (d) **the results are not robust.** The PRA acknowledges that the results are sensitive to changes in the time period and the firms included in the sample, and the results are also biased as they overestimate the impact of risk weights on prices as credit risk is captured imperfectly.

The CMA has not conducted a thorough assessment of the impact of regulatory costs

- 21. In addition to the limitations of both the CMA's theoretical framework and the PRA's empirical analysis, the CMA has not considered a number of other factors that will determine the extent of any overall competitive disadvantage in the reference markets due to regulation.

The cost of being IRB approved

- 22. The CMA refers to the cost advantage IRB provides in terms of a lower equity requirement for lower LTV residential mortgages. However, IRB does not always result in lower capital requirements. For example, LBG is required to hold more capital for unsecured PCA overdraft lending under IRB than it would do under the SA as a result of applying higher credit conversion factors to undrawn balances. Providers must apply

charging no fees for a comparable product. For example, Accord Mortgages, Newcastle Building Society and Skipton Building Society, among others.

IRB to all products; they cannot pick and choose.¹³ **The CMA should therefore consider the net cost differential across all products for IRB relative to SA.**

23. The CMA acknowledges that IRB providers face “significant upfront investments”¹⁴ and on-going costs in order to comply with the relevant regulations and IRB standards. This may “materially increase the costs for an IRB approved bank relative to an SA bank”. **The CMA does not take account of the costs of being IRB-approved in its assessment.** Any assessment of the cost implications of being IRB approved must also include the significant costs and investment to become and remain IRB-approved. **The total cost for a provider being IRB-approved is the relevant reference point,** rather than for the portion allocated to mortgages. This is consistent with IRB being applied across all products.
24. LBG estimates that its direct annual running costs for IRB is approximately [£25-50m], with indirect costs in other areas such as risk management and finance teams. The direct management of IRB comprises substantial human resource costs (an analytics team of over **[Confidential]** employees), on-going investments in IT systems, data infrastructure and other compliance costs. This is in addition to significant up-front costs to develop the IRB models.
25. Given the scale of the investment and on-going costs for IRB, it does not make financial sense for all providers to become IRB approved. Each provider will make an investment decision comparing any potential changes in their funding costs against the costs involved with being an IRB provider.¹⁵ The CMA should quantify and establish the minimum balance sheet that is required before any investment in IRB becomes worthwhile in terms of any funding advantage that could be achieved. The CMA highlighted in its Provisional Findings that some other IRB providers submitted their own comparable IRB cost estimates figures. However, **the CMA should focus, in particular, on providers which have become IRB approved in the recent past** to understand the IRB investment decision they made. For instance, Coventry BS and Principality BS have gained IRB status more recently and are both relatively small compared to other IRB providers. They have total assets of £30bn and £7bn respectively. This would be a good starting point for the CMA to understand the scale required before investment in IRB becomes worthwhile.

Other regulatory costs

26. LBG has outlined above that if the capital requirements regulatory regime is creating distortions in the market, then the most effective solution is to adjust the regime. However, **it is important that the CMA does not consider the capital requirements regulatory regime in isolation from other regulatory costs** as part of its assessment of any competitive disadvantages. The PRA told the CMA that recent measures had been introduced for large banks, such as capital buffers, total loss absorbing capacity, the leverage ratio and stress testing.¹⁶ There are other regulatory costs that fall disproportionately on some larger, more established providers, and for which it can be advantageous to be a smaller provider or newer entrant to the market. To LBG’s knowledge, the CMA has not provided an assessment of the impact of these costs across providers and of the overall impact on competition.

¹³ There are sometimes exceptions for particular portfolios which may be exempted, either under the IRB rules or through prior agreement with the regulator. These exempted portfolios could include niche portfolios, run-off portfolios and those portfolios lacking historic data or judged too difficult to model.

¹⁴ Addendum, paragraph 10.

¹⁵ This is separate to any impediment to gaining IRB-approval from data requirements.

¹⁶ Addendum, Appendix 1, paragraph 3.

27. These include **the Corporation Tax surcharge** and **the Bank Levy**, which place a disproportionate cost on larger providers, as larger providers will pay a higher proportion of their profits or balance sheet in tax. This is because both taxes have a tax free allowance on profits and the balance sheet – £25m and £25bn respectively. As larger providers have larger profits and balance sheets, a greater share of their profits and balance sheet will be above the tax-free allowance. Therefore, the differential tax treatment between small and large banks will off-set to some degree any cost advantage from having IRB status. For some smaller providers it is likely that this tax advantage will more than off-set any cost of funding disadvantage, in particular, where profits and balance sheets are below the relevant tax-free thresholds. It is notable that only one provider, Principality BS, appears likely to benefit both from IRB and advantageous tax treatment. HMT has acknowledged that, “the tax regime continues to favour smaller banks including new entrants”¹⁷ which is supported by information previously submitted by the CMA and other providers.
28. Therefore, focussing on the impact of Pillar I capital requirements, as the CMA has done, is insufficient. The CMA should also seek to understand the impact of differential tax treatment as well as other regulatory costs, in order to understand the cumulative impact of regulatory costs on providers of different sizes.
29. There are also regulatory costs specific to the reference markets which are discussed below.

The CMA has not sufficiently investigated, explained or evidenced the impact on the reference markets

30. As explained above, the CMA has failed to establish to the required standard any of the eight links in its alleged chain of causation as set out at paragraph 77 of the Addendum. LBG therefore agrees with the majority of the CMA Panel that there is insufficient evidence to show that differential mortgage risk weights lead to a competitive disadvantage or constitute a barrier to entry and/or expansion in the reference markets.
31. There are two reasons why there is insufficient evidence for a finding of an AEC in the reference markets. First, and as the CMA has suggested, there is insufficient evidence of adverse outcomes in the reference markets, such as higher prices or lower investment in innovation, as a result of higher mortgage risk weights.
32. Secondly, the CMA has not sufficiently investigated, explained or evidenced the mechanism through which higher mortgage risk weights might impact providers’ ability to compete in the reference markets. Mortgages are an important part of many providers’ retail businesses and can provide a return on deposits. However, the CMA does not explain or evidence the linkages between the mortgage market and other retail banking markets, and the role of the wholesale market in determining the value of funds for PCAs, BCAs and savings markets. Moreover, the CMA recognises that some entrants to the market rely on wholesale funding rather than a mortgage business. The CMA has also not explained why a provider would use a cost advantage in mortgages to cross-subsidise other products, rather than keep any cost advantage in the form of higher profits (to the extent these are not passed on to consumers in the form of lower prices for low LTV mortgages).
33. Even assuming hypothetically that there was a higher cost of funds for SA providers in the mortgage market which directly impacted the value of funds held by SA providers in the reference markets, the CMA’s estimate of the differential is not material. **The**

¹⁷ Available at: <https://www.gov.uk/cma-cases/review-of-banking-for-small-and-medium-sized-businesses-smes-in-the-uk>, para. 85

CMA's estimate of a cost of funds advantage of 20bps would amount approximately to 2-3% of revenue in the PCA market at most, and is likely to be significantly less due to the offsetting factors explained above.¹⁸ This equates to approximately £260m.

34. As mentioned above, there are some regulatory costs specific to the PCA market that fall disproportionately on larger, more established providers. These include:
- (a) the obligation on larger providers to provide **fee free basic bank accounts** to eligible customers. There were almost 10 million basic bank accounts in the UK currently with an estimated cost to the industry of £300 million, as of December 2014.¹⁹ This figure is likely to be substantially higher since December 2014 when HMT reduced the income providers can earn and changed the eligibility criteria. LBG was making a loss of between **[Confidential]** per year, as of 2014, and prior to HMT's changes; and²⁰
 - (b) **funding of CASS.** The costs to set-up and run CASS were largely allocated according to providers' market shares, although there is some adjustment to the allocation of running costs by switching volumes. For example, LBG paid £12m of the total industry build cost of £35m, or 34%. LBG pays a similar percentage of annual running costs, £1.6m of total costs of £5.2m in 2015. This means that for the same number of switchers a smaller provider would pay a smaller contribution to the costs of CASS relative to a larger provider.

¹⁸ Calculation is based on total PCA credit balances of £160bn (as of 2013), a 20 bps cost of funds advantage, 71% of mortgage balances in mortgages with a LTV<70% and total PCA revenue of £8.7bn (CMA's provisional findings). The share of low LTV mortgages in new business is less than 71%.

¹⁹ <https://www.gov.uk/government/news/new-basic-fee-free-bank-accounts-to-help-millions-manage-their-money>

²⁰ "LBG response to profitability of customers and products", LBG, March 2015, p.50

Annex 1

The theoretical framework for estimating the impact of capital requirements on the cost of funds

The theoretical framework

1. The CMA attempts to estimate the impact of a higher equity ratio on a provider's cost of funds as a result of following the SA rather than the IRB capital requirements regulatory regime. The impact of equity ratios on cost of funds is an important question, and one which has been looked at extensively in the regulatory finance literature, especially since the financial crisis in 2007.
2. The CMA's theoretical framework starts with the assumption that a provider with a higher ratio of equity would, as a result, have a higher cost of funds because the cost of equity is higher than the cost of debt. This is a commonly held view but it is inconsistent with the relevant theory, empirical research and regulatory practice. This view omits the fact that increasing the equity a provider uses reduces the risk for investors, which means the cost of both equity and debt is lower. This is a well-established concept and is based on the Modigliani-Miller theorem.²¹ It has been widely explored and recognised in the context of capital requirements for retail banking providers. For example:
 - (a) *"It is absolutely NOT self-evident that requiring banks to use more equity and less debt has to substantially increase their costs of funds and mean that they need to charge substantially more on loans... It would be a bad mistake to simply assume that the reduced volatility of the returns on bank equity deriving from lower bank leverage has no effect on its cost at all", Bank of England (2011).*²²
 - (b) *"The argument is made that banks switch some of their funding from debt to equity increases their average cost of funding. This would be passed on to bank borrowers in the form of more expensive loans... This analysis overlooks the fact that a bank with more equity would be safer, and so investors – both debt and equity – should accept lower returns, as they are exposed to less risk," Independent Commission on Banking (2011).*²³
 - (c) *"Simply stating that because equity is much more expensive than debt funding, banks total funding costs will increase accordingly if their equity ratio is increased, biases the estimated increase upwards", the central bank of Norway (2011).*²⁴
3. The Modigliani-Miller theorem in its purest form suggests that, under certain assumptions, moving to higher ratios of equity funding and lower debt funding would leave the total cost of funding unchanged as the cost of debt and equity would also fall. In other words, the cost of funds is unchanged as the level of equity increases as the corresponding fall in the cost of debt and equity is fully offsetting.
4. In practice there are a number "market frictions" that may mean the "pure" assumptions do not hold and the offset is less than full. These market frictions would include, for example, the differential tax treatment of equity and debt. The actual level

²¹ "The Cost of Capital, Corporation Finance and the Theory of Investment," Modigliani, F., and M. H. Miller (1958): American Economic Review, 48, 261–297

²² "Discussion Paper No.31: revised and expanded version; Optimal bank capital", External MPC Unit, Bank of England, April 2011

²³ "Final Report: Recommendations", Independent Commission on Banking, September 2011, p. 88

²⁴ "Effects of Higher Equity Ratio on a Bank's Total Funding Costs and Lending", Norges Bank, September 2011

of offset is then an empirical question, and it is this Adjusted-Modigliani-Miller theorem that has become the regulatory norm.

Empirical estimates of the offset between a higher equity ratio and decreasing cost of equity and debt

5. The Bank of England²⁵ used data from 1997-2010 on UK banks and building societies to assess the link between bank leverage and the cost of bank equity. It found that the increase in cost of funds is about 45% lower than would be expected if there was no offsetting effect, but notes that it could be as much as 75% lower.
6. More recently the Bank of England updated its earlier estimates to include UK data up to the end of 2014.²⁶ It found that the increase in cost of funds is around 53% lower than it would be with no offsetting effects. It also cites estimates from other papers based on European data with a range between 27% and 64%.
7. The Independent Commission on Banking (“**ICB**”) conducted a similar worked example to the CMA’s Table 3 on the funding costs of higher equity requirements in its Final Report.²⁷ The ICB however acknowledges that increasing “the amount of equity funding a provider has would make it much less risky, and so reduce the cost of its funding”. The ICB considers that a “credible increase” in the cost of funding would be approximately 54% lower than the cost of funding increase without accounting for the offsetting reduction in the cost of equity and the cost of debt.
8. The CMA’s estimate that the cost of funds is 10-20bps higher for a provider following the SA rather than the IRB does not account for these offsetting effects. Therefore, putting together the Bank of England and IRB’s estimates based on UK data suggests that the higher cost of funds for a provider following the SA rather than the IRB is likely to be 45-75% lower than the CMA’s estimates. **In other words, even on the CMA’s analysis, the increase in cost of funds is likely to be only 25-55% of the CMA’s estimate of 10-20bps.**

²⁵ “Discussion Paper No.31: revised and expanded version; Optimal bank capital”, External MPC Unit, Bank of England, April 2011, p.18

²⁶ “Financial Stability Paper No.35: Measuring the macroeconomic costs and benefits of higher UK provider capital requirements”, Bank of England, December 2015.

²⁷ “Final Report: Recommendations”, Independent Commission on Banking, September 2011, p. 89

Annex 2

An assessment of the PRA’s empirical analysis

1. The limitations in the PRA’s preliminary empirical analysis are noted above. These limitations mean that the results are not robust and not likely to be accurate. Indeed, some of the PRA’s diagnostic statistics presented in the Addendum are indicative of potentially significant issues within its analysis. LBG has requested that the underlying PRA data and analysis (on which the Addendum relies heavily) is disclosed to its external advisers in the Disclosure Room, to enable it meaningfully to respond to the Addendum. The CMA has refused to disclose this material, and has explained that the CMA does not hold all of the data used in the PRA’s analysis. Consistent with its right to a fair process, LBG reserves its right to request this material and make further submissions at a later stage, once it has had the opportunity to review other parties’ responses to the Addendum and any further statements made by the CMA on capital requirements.
2. For example, Table 2 in Appendix 2 of the Addendum shows that the price differential between IRB and SA low LTV mortgages is no longer statistically significant at the 95% level when the PRA use clustered standard errors²⁸ rather than classical standard errors. In fact, the **standard errors increase substantially when the PRA uses clustered standard errors – by a magnitude of over 3000 times**. This is indicative of issues in the data such as heteroskedacity or serial correlation. From the information in the CMA’s paper it is not clear what the cause of this is. However, it could be caused by omitted variables, measurement error or differences between the sub-populations within the data have not been controlled for. These diagnostics tests, combined with the limitations in data noted above strongly indicate that the analysis is not robust. Accordingly, no conclusions can be drawn.

Figure 1: CMA’s Table 2, Appendix 2

Table 2: Individual IRB switch model, 2005Q2-2015Q2: price advantage (in bps) for IRB firms at low LTVs (compared to high LTVs)

| Sample | Definition of ‘low’ LTV | | |
|----------|---|---------------------|---------------------|
| | LTV ≤ 70 | LTV ≤ 75 | LTV ≤ 80 |
| Sample A | -17.0*** (0.003) | -15.5*** (0.003) | -10.7*** (0.003) |
| Sample B | Classical errors -18.8*** (0.003) | -15.0*** (0.003) | -7.6*** (0.004) |
| | Clustered errors -18.8* (9.939) | -15.0* (8.496) | -7.6 (7.643) |

Notes: Standard errors in parentheses. ***, **, * denote significance at the 99%, 95%, and 90% levels respectively. Clustered errors, in *italics*, use two-way clustering by bank and time.

Source: CMA’s paper, Table 2, Appendix 2, p. A2.6

²⁸ Clustered standard errors allow for correlation of the error term within clusters of loans made by the same bank and/or the same period.