

This is a post-peer-review, pre-copyedit version of an article published in Journal of Banking Regulation. The definitive publisher-authenticated version Anagnostopoulos, Yiannis and Kabeega, Jackie (2019) Insider perspectives on European banking challenges in the post-crisis regulation environment. Journal of Banking Regulation, 20(2), pp. 136-158 is available online at: <https://doi.org/10.1057/s41261-018-0076-1>

TITLE

Insider perspectives on European banking challenges in the post-crisis regulation environment

Yiannis Anagnostopoulos*

Is a senior lecturer in banking and finance at Kingston University Business School. He has published in the area of banking regulation and supervision, compliance of financial institutions, international accounting regulation and regulatory standards as well as banking risk models and risk management. His research focuses on the interplay between banking regulation, risk management, and managerial behaviour. He holds a PhD and an MSc from the University of Aberdeen Business School and a BA in Business from Newcastle.

Jackie Kabeega is a professional manager at financial services with over 10 years' experience in financial markets. She has also worked in the areas of financial regulation and compliance section of various financial institutions.

***Correspondence:** Yiannis Anagnostopoulos, Department of Accounting, Finance and Informatics, Kingston Business School, Kingston University, Surrey, UK

Email: Y.Anagnostopoulos@kingston.ac.uk

ABSTRACT The purpose of this paper is to make a highly topical and practical contribution by investigating the interplay between capital and liquidity risk management and managerial decision-making in banking, following the Basel III introduction for enhancing the safeguards against systemic risk. Specifically, we attempt to gauge the experience and assess the degree of tensions among banking practitioners' perspectives on the reformed banking liquidity practice and risk-capital management in light of the newly introduced increased capital and liquidity requirements, which are to become fully and unilaterally effective as of 2019. As currently seen the liquidity provision requirement has become a distinct form of 'sharing' financial risks in the global economy, which includes the supply of capital from its issuers. This article reviews the issue from a European perspective attempting to gain insight into: (i) the suggestion that the new regulations lack internal consistency owed to their complexity, which creates the potential for both inter- and intra-company regulatory capital arbitrage and credit constriction; and (ii) the suggestion that increased capital and liquidity requirements may have a significant impact on bank behaviour and/or certain business model segments. Both of the above can potentially distort managerial behaviour through altering managerial incentives and hence fail to adequately regulate bank behaviour. With regard to the liquidity requirements, whilst we do not attempt to quantifiably assess the degree to which liquidity regulations (the Liquidity Coverage Ratio in particular – LCR henceforth) affect returns on equity/assets to banks, our interviews are used as a triangulating measure for complementing quantitative studies that can provide a further insight into the perception of affecting managerial incentives. We aim to add to, update, and enrich the studies around the vital research question of whether the new regulation and liquidity standards can achieve their ultimate objective of upholding financial soundness and stability. Therefore, this research is important to complete the extant literature on updated insiders' perspectives that investigate the effectiveness of the new regulatory framework imminently to be fully applicable by 2019. Where the views of the professionals who have voiced their concerns, support, and/or proposals provide for a material contribution, these have also been provided.

Keywords: liquidity, regulation, regulatory capital, managerial behaviour

1. Introduction

The provision of global bank capital and its management have experienced dramatic transformations, including changes in both long- and short-term borrowing, lending, deposits, and loans, as well as investing as a result of the later liquidity regulation overhaul. Liquidity risk reduction is one of the major targets of the new liquidity regulation particularly aimed at addressing the vulnerabilities of financial institutions, which became apparent during the recent financial crisis. Since the introduction of capital requirements of Basel I in 1992, banks have had to steadily raise their capital to risk-assets ratio.¹ The new Basel III liquidity-related framework is a primary amendment in banking regulation as it has launched global liquidity standards for all internationally active banks, which are aimed at containing the risks surfaced during the last financial turmoil. Through a strenuous negotiation period - which lasted from February 2008 to June 2015 - the management of funding and liquidity *vis-a-vis* systemic risk has become a core part of the reform package, strategic planning framework, and proactive balance sheet management of banks. Liquidity in financial markets is often provided by specialised financial agents, such as commercial banks, market makers, trading desks in investment banks, hedge, and pension funds. Adverse shocks to the capital of these agents cause liquidity to decline and risk premiums to increase. Conversely, movements in the prices of assets held by liquidity providers feed back into these agents' capital.

A growing body of empirical literature documents the inter-relationships among the capital of liquidity providers, the liquidity that these agents provide to other participants, assets' risk premiums, and importantly systemic risk considerations. Furthermore, such relationships are evident in the operations of major financial institutions, which in turn are interconnected through a complex web of trades such as carry-trade, pooled investments, inter-institution, and interbank loans with any adverse effect on any particular strain of the system percolating and transmitted through.^{2,3} Following the extant literature, the new liquidity regulations and their effect raise concerns regarding a two-fold issue: first, the potential for the reduction in investment returns^{4,5} and secondly, altered managerial incentives and regulatory capital arbitrage that re-introduces systemic risk.

Following the collapse of Lehman Brothers in 2008, funds doing business with Lehman collectively experienced a higher probability of failure, and the liquidity of the stocks that they were trading declined.⁶ In addition, bid-ask spreads quoted by specialists in the New York Stock Exchange widen when specialists experience losses.⁷ Outflows from hedge funds that perform the carry trade predict poor performance of that trade, with low interest-rate currencies appreciating and high-interest rate ones depreciating.⁸ Risk premia in commodity-futures markets do not fare much better either; linked also to capital arbitrage they are larger when broker-dealer balance sheets are shrinking.⁹

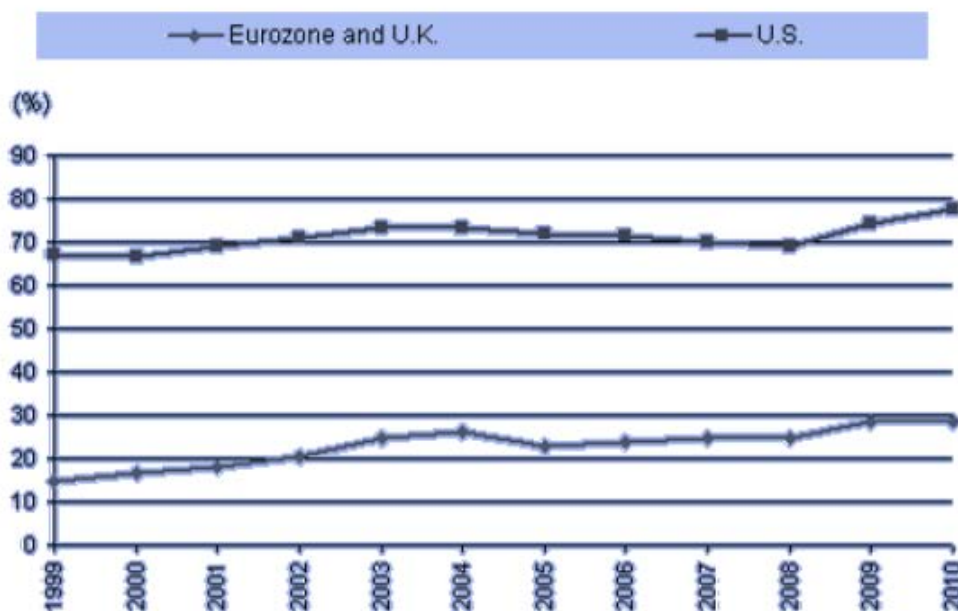
Following from the above, in the case of banks, investments in a range of liquid assets which have experienced a significant price decline may actually force the banks to be even more hesitant to trade even where the bid/ask spread is slim and the price drop appears to be controllable (i.e. the sale would seem to be justified realistically nearer the market price). A disposal would crystallise the risk-making loss and eliminate the bank's ability to recuperate from any potential subsequent gains associated with recovery. Consequently, despite capability to cover losses through capital, the institution may still be hampered by the fact that it is unwilling to trade and hence access to liquidity is diminished. This is also further side-corroborated by the fact that banks holding sizeable quantities of liquid assets cannot actually gain performance-wise due to the opportunity costs of holding thick, low-yielding portfolios.^{10,11}

Furthermore, there have been well-documented relationships between the profitability of banks and the level of holding liquid assets in the presence of regulations with banks most likely to replace loans with alternative forms of less risky assets, thus creating the potential to also restrict credit when credit is most needed.^{12,13} Banks will have to re-evaluate their service mix in order to equilibrate supervisory and regulatory requirements with associated costs and profitability. Following the new regulations and as at the time of writing, short-term/money market yields have been exceptionally low with many investors re-evaluating the tradeoffs among liquidity, quality, maturity and yields.¹⁴

High quality and instant liquidity is costly; maintaining liquidity and credit quality comes at a current rate of marginally positive, or in the case of ultra-conservative investment vehicles, in the form of negative yields.

Contrary to the above arguments, one could argue that in theory, and as an alternative for decreased bank financing, the capital markets may take on the role of finance provision. However, in European banking this appears to be questionable based on its atypical background; first, creditors in European banks are *barred* from Deposit Insurance and secondly, the development of corporate debt markets - with a high degree of risk-averse agents - in many countries is inadequate. European, non-financial institutions have traditionally been reliant on banks for borrowings compared to their US peers. This is an important aspect when assessing the impact of the liquidity regulation on the financial intermediation activities of banks which are further linked to economic growth in the region¹⁵ since they could be most strongly hit by Basel III due to their weaker funding position.⁴

Figure 1 below shows that capital markets supply only 30% of the funds to European, non-financial companies compared to approximately 80% in the US.¹⁶



Source: Standard & Poor's calculations, BIS, ECB, FED.

Secondly, despite the fact that higher liquidity costs might indeed reduce returns on investment, one could also argue that this corresponds to market risk not systemic risk. Yet, it is vitally important to ensure that regulation properly considers the interface between banking risks and markets in periods of financial distress. Liquidity mismatching in banking has long been widely accepted as a *natural, daily*, (low perception) risk by design and due to the nature of operations involved and it is dealt with accessing the interbank markets; but it transforms to very high risk when there is a generalised liquidity shortage.¹⁷

Before discussing the current, topical research literature and portraying any provisional conclusions, a few material limitations must be cited. First, at the end of 2015 revisions to Basel III on the international capital and liquidity standards devised after the financial crisis were thought to be agreed upon and in place by 2017; while progress has been made, that has not happened fully yet, due to some European authorities' scepticism of higher capital demands for banks in the European jurisdiction. It is only lately that some form of final agreement seems it might be reached. Yet, the formalised liquidity regulation in the current Basel III framework is currently not fully and unconditionally in place.

While the LCR is under full implementation with banks geared up to fully comply with the requirement, the NSFR has yet to be implemented fully. This forces us to accept only cautioned conclusions at this stage. Such a factor is not yet in a position to be sufficiently controlled for and any conclusion drawn surrounding the impact of liquidity regulations in their totality must be observed as delicate. As such, an assessment of the long-term impact would be hard to predict accurately as the liquidity standards can only be computed for a very short time. The collective impact on the total weighted average liquidity is still unclear given that the Net Stable Funding Ratio is not yet fully or unilaterally disclosed by all internationally active banking institutions. A few tasks still remain unresolved, such as for example the gap between the banks' internal calculations of Risk Weighted Assets the standardised approach, which typically yield higher RWAs and lower capital ratios.

The new rules – arguably far more rigorous formalisations of the important relationships between liquidity and financial stability – are well intended but also risk the introduction of unintended effects, such as for example distorting managerial incentives and leading to capital arbitrage as well as introducing frictions and cutting back on the provision of credit. Europe is the focus of the study due to its unique financial landscape as we discuss further below, yet this research aims to promote a more generalised, widely applicable, and improved appreciation of the role of regulation and banking supervision. This is the focus of the next section where the context of European banking is reviewed before our research results are presented.

2. Background

Banks in particular are naturally exposed to tensions between liquidity shortages and solvency risk, especially as banking insolvency invariably precedes illiquidity. Liquidity is a thorny issue to define and even trickier to determine.¹⁸ However, this makes it especially challenging to 'pro-actively' distinguish temporary illiquid from insolvent banks. Runs on deposits for example, if sustained, can induce liquidity freezes, fire sales of assets, capital controls (as in the case of Greece recently), and interlocked repayment failures, all of which generate risk.¹⁹ The European banking union has more strongly supported that a fragmented, market-by-market, nation-by-nation approach does not operate successfully. In European banking, however, despite the institutionalisation of the second European banking directive (the '*passporting*' directive), there have been numerous high-profile cases where it has become obvious that Europe still has a long way to go for becoming a wholly amalgamated financial market. There seems to be a growing conflict between the principles of mutual understanding among regulatory agencies, the unambiguous and rigid national mandates of the topical regulatory authorities and practitioners on the other.¹⁷ According to some bank representatives as well, as it will be shown in our analysis further below, there is a strong reaction by practitioners since the specifications as set by the Basel Committee already reach so far that the industry talks about *Basel IV*.

Part of the tension is the result of some important aspects being ignored by regulators: one, the vast majority of large, international, and also nationally systemic European banks have strengthened their balance sheets and capital levels significantly since the crisis, as all seem to meet core equity capital requirements well above the minimum stipulations. A characteristic example of this is the very recent stress-testing success of UK banks under extreme market conditions. Two, as argued above, the European economy, unlike that of the US, is largely bank-financed. This brings into discussion the high-risk discrimination aspect of the respective portfolios of the two '*banking type markets*'. For example, the US banks have tended to keep the riskiest part of their commitments (and the most profitable) on their balance sheets due to securitisation and deeper financial markets that allow them to take the remainder off their balance sheets; government assurances, whether plain or implied, further allow them to obtain cheaper debt financing compared to equity funding and further enhance their incentives for regulatory capital arbitrage. On the other hand, stronger risk models and favourable weights for well-rated and well-secured credits have encouraged EU banks to keep these loans on their balance sheets and the E.U target aims for a strengthened capacity of such institutions not only to withstand shocks but also to deliver prosperity to the people of Europe. Furthermore, while the US regulator for example has called for stricter controls on the use of internal models, every

model in use by European banks has been approved and authorised by both national and European regulators. The harmonisation efforts of the regulators to reduce disparities and to create a level playing field with regard to the existing risk-weighted systems (internal vs. standardised and U.S vs. Europe, for example) is logical. It should not arrive at the expense of any system or market or dislocate the funding and growth of the real economy or discourage effectively diversified portfolios and sound risk management practices.

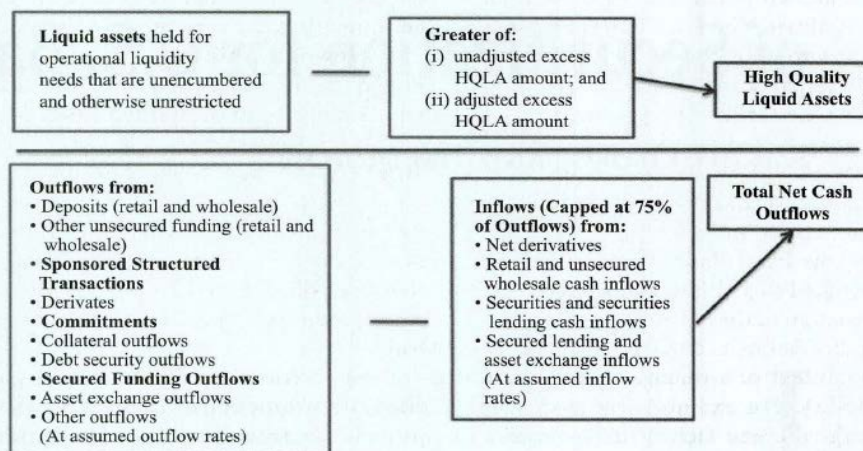
2.1 Liquidity, credit constriction, and capital arbitrage

Critics of Basel III point out that there is an implementation inconsistency among various national regulators.²⁰ They have argued that it was not Basel's II shortcomings *per se* but this inconsistency in the application of the regulatory approaches on the use of external credit ratings in Europe and the US as well and that in itself further incentivised regulatory arbitrage. The new framework has also been criticised as a less-effective, *rigid, one-size-fits-all* approach and that it creates the potential for further credit constriction and regulatory capital arbitrage.^{21,22,23} Similar criticism, utilising the UK banking context as the object of the study, has been directed at the application of the substance-over-form principle in that regulators should actually seek to provide liquidity guidance on a case-by-case basis in their effort to achieve stability and avoid inertia as the result of blanket regulation.²⁴ In the same line of scepticism there have been equally fundamental questions as to the extent to which a globalised form of bank financial management is indeed desirable or even attainable.²⁵

Furthermore, some very recent research in the US and the UK discusses the liquidity rules that are shaping the global banking industry in its totality conclude that such regulation is not likely to achieve its mandate in safeguarding the system and de-risking the banks. The criticism revolves around the fact that while regulations seek to shape management behaviour they actually fall short of appropriately recognising the significance of shareholder value-driven business models; these are the real drivers of management behaviour in banking and hence they run the risk of distorting behaviour in the wrong direction. That is, re-allocating risks according to driving market and regulatory arbitrage conditions and therefore avert the intended outcomes originally aimed at.²⁶ Interestingly, some other recent research regarding European banks evaluates the effects of phased-in, gradual increases of liquidity coverage ratios as per the regulations; the study concluded that the systemic risk profile of the system is not improved and may even deteriorate.²⁷ The same study proposes a cross-sectional but case-by-case, differentiated, application of liquidity regulations.

On one side, firmer regulation has considerably decreased the ability and the 'enthusiasm' of financial intermediaries to be involved in the money markets and on the other it creates the potential for such institutions to willfully refrain from lending also. Exhibit 1 below shows the updated, formalisation process of the LCR computation.²⁸ Within the context of European banking the threat is that banks may redirect (new) funding towards LCR-compliant investments rather to investments that are normally typified as illiquid and risky such as loans. For example, banks could issue extra deposits with their central banks in order to strengthen their liquidity cushion. Such a risk could grow to be especially acute since the regulations - in their current form - potentially may be a considerable barrier for trade finance impairing growth and revival. Following this, three further and closely related aspects need also be considered: first, assets that are impaired the most when collective liquidity shrinks offer the highest expected returns and risk; research has shown that such assets may be absorbed by many agents in the economy, but actually arbitrageurs may be better placed to actually take up such shocks;²⁹ secondly, this creates the potential for establishing inter-bank lending as even more desirable to financing corporates, which would result in resources that typically sustain trade being reallocated to banks, increasing in this manner interconnectedness and system-wide riskiness; and thirdly, this could also encourage banks to set up intra-group liquidity facilities that otherwise could build up the resilience of the system to peripheral shocks. The arguments above run counter to the regulators' intended aims. This is also because the penalising treatment in the LCR and the related costs would ill-incentivise banks from maintaining liquidity lines with counterparts. This is a vicious circle, as liquidity provisions and lines of credit are major tools that bankers utilise in order to alleviate a liquidity squeeze through tension phases.

EXHIBIT 1
Computation of LCR



The evidence so far has been – justifiably - mixed and inconclusive. Some researchers highlight the contagion-limiting effect of liquidity rules where they document that a tougher liquidity regulation decreases bank interconnectedness, mitigates the transmission of shocks, and strengthens the stability of financial institutions and the system as a whole.³⁰ Yet, some professional bodies have expressed their serious scepticism that crucially the liquidity regulations could result in thwarting out productive investments and neuter nearly €1 Trillion out of the real economy in Europe.³¹ Contrary to that, proponents of the new regulation indicate that the liquidity buffers reduce systemic risk in that ultimately they make banks more resilient and less vulnerable to bank runs, and this is because creditors are more confident that the bank will meet its financial obligations.³² The latter is directly contested, though once again through very recent research that examines the effect of liquidity regulations on creditors. It supports the view that the new liquidity rules also communicate information about future bank profitability and this information is seen as negative news by the creditors. Creditors perceive the liquidity regulation as an increased probability of bank default.³³ In a similar strain of research that examines share price reaction to liquidity reform announcements it is suggested that shareholders perceive the adoption of the liquidity regulations as decreasing bank profitability.³⁴

Higher capital and liquidity levels should in principle also reduce the probability of future governmental intervention and public bail-outs. However, the contradiction is that the LCR is not a macro-prudential instrument; and it should not be intended to ‘discharge’ regulators of intervention and enable banks to endure liquidity strains alone and hence to remain solvent during stress times. It is rather intended to ‘make time’ for controlling insolvency-related costs and providing confidence in the system that problematic banks can either be salvaged and/or possibly be orderly wound down, avoiding in this manner impending, uncontrollable systemic implications resulting from a dis-ordered meltdown. Indeed, regulatory and administrative requirements produce costs associated with the constraints placed on banking conduct;³⁵ one can also argue that the proposed liquidity reforms show promise but the concern is whether such costs are well justified, and as yet, their effectiveness is mostly unverified. Research has shown that at heightened periods of liquidity crunches the LCR measure becomes much less effective and the lender of the last resort has to support the system.³⁶ A distinct, yet related area under examination is also the regulators’ intention to reduce the incentives for regulatory capital arbitrage through securitisation and credit risk transfer transactions that attract lower charges since it is much harder for assets to migrate from the banking to the trading book under the new regime.³⁷

Research carried out in UK banks has shown that a positive link exists between securitisation and bank credit risk where securitisation has been significantly driven by: i) the search for liquidity funding and ii) regulatory capital arbitrage and credit risk transfer.³⁸ It is to regulators' credit to attempt and modify/influence bank behaviour towards the 'appropriate' direction through steering banks to re-think and de-leverage their business models. That is, banks will have to amend their business models considerably before they are in a position to originate assets that are fully viable and designated for use as safe collateral. Contrary to that, banks are unable to do so or banks that utilise deposits for an ever-expanding loan book then they would ignore the longer-run risk that this will add considerably to their cost structure, since their liquid asset constraints will be higher. It is the latter that also gives rise to the concern regarding the restriction of credit.

Proposals in support of a modified liquidity approach formulate a strategy in which banks are allowed, on a case-by-case basis, to securitise particular types of loans in order to convert illiquid assets into liquid funds. Through this type of securitisation the banks' holdings of liquid assets are reduced and the credit supply expands. Thus, it can also provide an additional source of financing and at the same time enables banks to withstand changing cost structures due to external shocks. The counter-argument though is that such a process could potentially: i) force banks to compete simultaneously for particular types of assets, ii) neuter the ability of authorities to influence the credit cycle when it is deemed necessary for the economy, and iii) make institutions prone to a liquidity/funding supply crisis if the securitisation market freezes.³⁹ In that manner, critics have also argued that – no matter whether intended/ unintended - it creates the real potential to actually manoeuvre institutions out of the securitisation market.²⁸ This side of the debate is still not settled to an extent: as argued earlier final agreement has not yet been reached; the model and the markets are still untested; and it still is very early to conclude that the new regulation will either actually improve the liquidity buffers of banks or it will actually result in a decrease of the overall market liquidity by moving banks out of the securitisation market.

2.2 Profitability, incentives, and restrictions to lending

Turning now to the arguments and substantiation of the theories regarding challenges to the banks' profitability and as a result of lending and behaviour distortion, the evidence has so far also been mixed and inconclusive. This is partially because the data relating to liquidity measurement utilised in various recent studies either could not be easily obtained publicly or their relevance has been relatively limited; a large quantity of that data related to the pre-crisis events whereas current data is still largely in the process of collection and testing, particularly the NSFR-related data. Up to now, the research and the associated literature on the impact of the new liquidity constraints for example, on Net Interest Income (NII henceforth) are ambiguous; there is no clear directional confirmation as to whether NII increases or reduces in response to liquidity requirements.

As already mentioned one string of research has sustained that low-yielding liquidity and comparatively high costs of longer-term funding can potentially hurt bank profitability. Some studies establish a direct decrease in the return on equity (ROE) index, a typical measure of bank profitability. Research conducted internationally has found that while the best, cost-efficient approach is to elongate the maturity of wholesale funding and increase the volume of high-grade assets such an approach is expected to trim net interest margins (NIMs hereafter) down by a range of 70-88 basis points on average.⁴⁰ The effect is also most dramatic among European banks, specifically the large economies of France, Germany, the UK, and Switzerland that already experience thinner NIMs. These banking markets are also assessed as having the lowest starting longer-term funding in place owed to their business models in general that are more diversified; nowadays, there is a disincentive to rely on deposits and more reliance on short-term maturity funding (as well as generous acquisitions of assets held for trading which must be 100% funded). In these markets, as a direct result of the downward pressures on lending margins, a drastic bank balance sheet restructuring has been necessary to meet the long-term funding requirement.⁴¹ Nevertheless, it has been argued that for regulation to be effective it will necessarily constrain the regulated from achieving their preferred, arguably unrestricted positions, often by lowering their profitability.⁴²

The experience of the crisis has however demonstrated that some trade-off in profitability versus resilience is justified. Banks already seek out ways to manage ROE in the new level playing field by trimming costs, adjusting prices with significant pressures generated in the specialised lending, trade finance, trading, and securitisation businesses. EU banks reported an average RoE of 5.7% as of June 2016, down by more than 100 basis points compared to June 2015. Profitability remains a source of concern in the EU banking system which is confirmed by the fact that the RoE remains well below banks' cost of equity, which stands at around 7-8%.⁴³ With the regulatory agenda soaking up resources banks seem to reposition themselves for a period of prolonged low growth partly owed to the new requirements.⁴⁴

Hence, the new requirements have had a more intense impact on bank operations and business models. They have also induced changes in behaviour and have rendered some (formerly) most profitable business tactics less viable which, has led to declining financial performance. Banks' maintenance of healthy profitability and hence sectoral stability will largely depend on their capacity to acclimatise their service mix to the new operating level playing field.⁴⁵ This may also force banks to concentrate on their core competencies and markets with the potential of divestment of 'auxiliary' activities; for example, Greek banks faced with pressurised interest margins had to withdraw their investments and provision of credit in the Balkans' area and reposition themselves largely to the inward-looking Greek market. Using UK bank data, researchers find that an increase in capital requirements of one percentage point reduces the growth rate in real lending by 4.6% and credit growth by 6.5-7.2%.^{46,47} Similar results are obtained in other recent research; using the recapitalisation exercise of 2011-2012 by the European Banking Authority (EBA), where the EBA announced the intention to implement capital ratios higher than previously anticipated in the transition to Basel III, researchers find that an increase in the regulatory ratio by one percentage point was associated with a reduction in banks' provision of credit by 1.2%.⁴⁸

In an interesting study based on French banking data that includes an estimate of the impact of the new requirements on banks as well as firms, it is shown that a one percentage point increase in capital requirements leads to a reduction in lending between 3 and 8%, with an attendant significant negative impact on firms' investment and employment.⁴⁹ Similarly, in the UK, an increase in the aggregate requirement during an economic upswing is associated with a reduction of lending, with the potential for constricted lending being larger to the corporate sector than to households.⁵⁰ Moreover, negative shocks to bank equity ratios for leverage-constrained banks substantially lower funding flows to more productive firms and as a result large output losses occur welfare-wise.

Actually, some further argue that within the financial services sector - based on the current conditions and current regulation - non-banking institutions are likely to gain, especially those with low balance sheet risk that are less vulnerable to lower profits. In addition, among banks, domestic retail banks with little market exposure may as well be much better placed to absorb the regulatory impact of liquidity requirements⁵¹ and consequently alter the level playing field; many bankers have reacted in that there is no *one-size-fits-all* strategy for business model adjustment and that the optimal strategy should depend on a case-by-case basis and on the operating environment of each individual bank. Indeed, in the UK for example, one of the powers of the FPC is to direct a change in sectoral capital requirements when it is deemed necessary to do so. Perhaps a clearer exposition of the current issues faced can probably be shown by examining the anticipated effect of the *earlier* liquidity regulations proposed right after the crisis (from 2010 and until 2014) and the revisited effects right after their recalibration (2015 onwards). It has been argued that the added liquidity requirements explicitly decrease credit and the associated welfare, through a reduction in indebtedness and lending leading to inefficient allocation of capital.

Earlier, yet highly topical research has shown that, firstly, under the liquidity requirement there is a positive correlation between the capital ratios and systematic shocks which increases considerably as a consequence of institutions being unable to extend lending in an expansion. Secondly, there is also a correlation in procyclicality between credit provision and capital ratios: while the addition of liquidity requirements to total capital reduces the procyclicality of credit, it also increases the procyclicality of

capital ratios. At the same time, collectively, across the sector, capital cushions in recessions are not drastically dissimilar from the capital buffers of banks that are only subject to capital regulation. This is because liquidity requirements constrain a bank's maturity transformation function, forcing it to under-invest in lending, over-invest in unproductive liquidity buffers, and suppress further net interest margins with resulting implications for investment, growth, plus the potential for making the shadow. The research concludes that the decrease in lending procyclicality is distorted toward the up-side, extensively impeding credit provision.⁵² More recent research has concluded that the attempt to make regulated banks less risky may actually raise their cost of capital, a heightened threat for the stability of the system.⁵³ Furthermore, if creditors view the new liquidity standards as detrimental for bank soundness, they can potentially respond negatively increasing their perceived default risk following the regulatory events. Interestingly, research that has accounted for the country of origin (banks located in Greece, Ireland, Italy, Portugal, and Spain (*GIIPS*)), which have been most strongly hit by the financial crisis, argues that investors in these countries are increasingly worried about bank default risk.⁵⁴

Such an effect might be more pressing only in the short term due to the 'abrupt' introduction of new, top-up liquidity regulations. Such effect is muted in the longer-term since the constraints imposed by the regulation on institutions in 'normal times' may be viewed as the cost of insurance *vis-a-vis* the liquidity shocks and their impact in crisis periods.⁵⁵ Contrary to that, others argue that this might indeed occur only if banks' optimum mix, *status-quo targets*, of asset and liability composition - are invariant to changes in capital regulation (that is, behaviour and hence their business models are unaffected by regulatory changes). The evidence regarding long-term effects suggests that this is potentially not the case. Economically speaking, the long-term impact on credit and the real economy is higher than the short-term impact. The empirical results suggest that the negative impact in the short- as well as the long-term appears larger than previously thought.⁵⁶

Other research does not confirm this negative relationship, illustrating instead the potential benefits of the adoption of the new standards. Using a near-full sample of commercial, cooperative, and savings banks in the EU, it has been shown that considering a crisis of a similar magnitude as the recent one, the potential costs for public finances decrease from roughly 3.7% of EU GDP (before the introduction of any new tool) to 1.4%.⁵⁷ Others also do not find evidence that banks increased the average interest rates on loans to the non-financial sector; specifically, on a sample of yearly data for 1098 banks from 27 EU countries for the period 2004 to 2011 findings suggest that competition exerts a positive influence on bank profitability. The results seem to corroborate the objective of European integration to improve pricing and competition on markets. In line with the competition impact on bank profitability, the size of banks doesn't matter in the case of ROAE and has a small and weak significant effect in the case of ROAA.⁵⁸ Similarly, other research, when examining the drivers and outcomes of the NSFR prior to its introduction (1996- 2010), showed that the funding ratio did not significantly impact on a set of profitability variables.⁴ On a sample of US banking institutions a negative relationship between the NSFR and bank failure has been observed but no similar effect has been reported for the LCR.⁵⁹ There is thus also a consensus on benefits around higher capital ratios reducing the probability and costs of the crisis including proposals that range from benefiting smaller banks against larger incumbents to altering managerial behaviour and increasing the liquidity reserve at the expense of retail lending. The crisis that affected the banking system had a negative effect not only on the price of credit to corporations, but also on the price corporations pay to guarantee access to liquidity.⁶⁰ Stronger liquidity requirements can potentially avert this undesirable, destabilising effect. Other empirical evidence has demonstrated that higher capital requirements increase the probability of survival for individual banks and at the same time preserve market share for medium-and-large-sized banks alike during banking crises with small banks enjoying such benefits at all times; these are encouraging results for the stability of the financial system as a whole. The same research concludes that higher capital ratios improve profitability for all banks at all times in the longer term.⁶¹ Along the same line of argumentation, research that corroborates the above from a risk perspective concludes that liquidity measures do not influence equity betas and as such market participants do not appear to materially integrate liquidity in their assessment of banks' riskiness.⁶²

The authors add and caution that a potential explanation of this lack of causal relationship between liquidity and risk is that liquidity was not a material risk before the financial crisis and as such the data may also be limited in order to provide for a proper evaluation of the effect after the crisis. Others have approached the issue from a behavioural point of view claiming that in the absence of new regulation (i.e. Basel III) incumbents do not have any motives to change their business models in favour of a safer funding mix; they propose substitution of current funding by retail deposits where growth in retail funding decreases under stress times and substitution of capital market funding for higher regulatory capital in favour of stability and resilience.⁶³

Nevertheless, liquidity regulations are currently initially put to effect at the bank level. It merits consideration whether bank-specific characteristics and bank-specific behaviour (especially the dimension that is related to the liquidity standards) influence the market participants' reaction. Hence, a material issue is to assess to what extent more, smarter, and better quality capital regulations impact the prospects of bank resilience during both normal and stress times (for example a system stress that has its origins in banking or in the capital markets).⁶⁴ As a very recent professional research claims, this is going to be especially challenging for banks to achieve these requirements; they come at a time and place where net interest margins are under a continuous downward stretch as a result of lower interest rates; a higher rate of non-performing loans; ever-increasing regulatory requirements that push up banks' financing costs; competitive pressures from existing banks, new entrant banks and non-banks⁶⁵ (such as fin techs, for example). Others argue that this pressure is not what it currently seems to be in that as with any new regulation that reconstructs the system-wide regulatory foundations, short-term reactions are just *noise* relative to the long-term stabilising effects; they warn though that in order to have the intended results, considerable structural amendments are necessary, where failure to put into practice the required transformations may actually make the *cure worse than the disease*, thus increasing banking costs materially.⁶⁶

What the recent and previous crises have gradually - yet clearly - shown us is that regulation is an evolving organism that self-recognises its own policy limitations. The disagreement and lively debate over policy effectiveness seems to imply that Basel III should not be viewed as a complete regulatory framework once more. Rather, it represents, in essence, an ever-evolving system that requires continuing adjustments over time due to market innovations, industry developments and changing behaviour. To that it has been noted that the regulatory capital to be held by banks depends on three major factors: (i) the regulatory environment itself, (ii) market discipline (market-wide behaviour such as credit ratings, market participant, and competitor expectations) and (iii) risk management (internal qualitative factors including management's behaviour, motives, and attitude towards risk). These factors suggest that banks may not respond to regulatory requirement in the manner assumed in many quantitative models and that caution should be exercised about any conclusions drawn from models that ignore these issues above.⁶⁷ This is also what drives our research.

A much more recent body of literature deals with the potential dynamic contribution that behavioural finance research could provide regarding the application of the macroprudential regulation to be employed in order to safeguard the financial system. This string of research concludes that there is limited current understanding of the interaction between micro-conduct in financial markets and macro-results in terms of financial stability.⁶⁸ There is thus also scope for exploring alternative - complementary - backing in designing the official regulatory infrastructure in use for the new macroprudential instruments. It is the latter that we also argue has received much less attention; the issue of impact of capital requirements on banks and esoteric managerial behaviour. Since risk perception is a central factor influencing people's reactions to events perceived as 'threatening', particular attention must be paid to managers' responses to the risk information influencing their behavioural intentions. Attempts to balance regulatory concerns of solvency risk on the one hand and profitability and financial soundness on the other must be also preconditioned to understanding the managerial responses to regulatory jolts. This is an aspect sometimes ignored by regulators through their insistence on edging on 'thin risk quotients'.

3. Methodology

This study utilises a behavioural approach coupled with quantified research data as presented above where it can cut across and within research strategies, as one of its features as a behavioural technique is to cross-check results deriving from both quantitative and qualitative research. It provides a platform to aid our attempt at coherence in universal studies of regulation, liquidity, and performance measures.

Participants - data and analysis

To provide for a systematic representation of the findings, the present study followed the standardised approach for content analysis. The procedure allows key categories to be identified and major themes to emerge from the data that consist of ideas and descriptions within a particular context that can be used to explain causal events, statements, morals and behaviour derived from the participants' views;⁷³ a characteristic in the reasoning of qualitative inquiry. The uniqueness of this research is that the sample banks involved include major banks affected by the new regulations in the UK (7 commercial banks), Greece (all 4 systemic banks), and Spain (3 commercial banks) where the most senior ranking officers served as the key informants and where we conducted in-depth interviews. Key informants provided most of the information for this study. The use of key informants is highly supported by the qualitative research literature.⁷⁴ More specifically, the sample includes 14 in-depth interviews: these involve six Chief Executive Officers (CEOs), two Chief Finance (CFOs), one Chief Treasury Officer (CTO), three Chief Risk Officers (CROs), and two Head of Compliance Officers (CCOs). The interviews were a mixture of face-to-face and telephone interviews, subject to the participants' preferences and convenience over which the researcher had little control. While some bankers made explicit that they wanted to be fully aware of the person they were dealing with, some others expressed their reservation about face-to-face interviews, due to time constraints and excessive workload.

The procedure adopted in this study was to facilitate a set of in-depth semi-structured '*elite*' interviews of officers of major commercial banks in Greece, Spain, and the UK, who were identified as the gatekeepers to inside information for guiding data generation. Elite interviews can play a very powerful role in research that traces the history, development, and implications of an important social phenomenon and is a vital element of research programs that engage with recent intentional human behaviour. It is an appropriate method for the study of recent historical change, process-tracing studies of policy enactment or implementation, in political or social activity, and the role of elites (broadly defined) in a political, social, or economic process.⁷⁵ High-powered individuals can exert great influence over findings and '*...although they may be remote from some aspects of what you are researching, they are likely to have a particularly comprehensive grasp of the wider context and to be privy to information that is withheld from others*'.⁷⁶ Elite interviews do directly what statistical analysis seeks to do indirectly; illustrate what approaches or values are associated, how robustly they are correlated, and how and why agents tie particular views. Semi-structured interviews gave us the opportunity to use some latitude in order to explore queries on what could be seen as a *significant reply*. All interviewees participated extensively in the discussion. The result was over 10 hours of recorded interviews transcribed onto over 105 pages with each interview lasting on average approximately 45 to 60 minutes. To show the derivation of conclusions from the data above, this paper presents the relevant tables based on our analysis as well as relevant direct quotes in the findings section. Although such presentation requires careful interpretation it helps to provide an overview of the emphasis in the bank manager (inter)views with respect to the specific risk management activities, perceptions, and behaviour.

4. Findings

We begin this section by presenting the results of our interviews' analysis in tables 1, 2, and 3 below over three major emerging issue areas. As argued above - since implementation is scheduled to run until 2019 under the Basel Committee timetable - we interpret our results cautiously in light of the

current developments but also due to a dynamically changing environment. The fact that some components of the regulatory framework are yet to be fully finalised and implemented, including the leverage ratio and the final Fundamental Review of the Trading Book renders the collective impact of a range of different rules not known in advance. In addition, the coming months will also be crucial for the *competitive* future of the European banking given the new General Data Protection Regulation (GDRP) that becomes fully operational and binding as of May 2018. Finally, some of our themes identified in this research span more than one emerging issue area hence they might appear successively in our analysis. Table 1 below summarises the first major impact as seen by our participants to be revolving issues related to bank business models.

Table 1. Effect of changing regulatory requirements on banks' business models emerging themes

Codes	Initiating	Issues discussed	Themes identified
New capital requirements and impact on banks' business models			
New product development	Approval issues	Any new product/service has to get official approval	New product approval
New business products/services	Transparent chain of command	Any new business/service has to get unanimous approval by involved	Unanimity
New business committee	Committee focus	New business committee which has complex structure with representatives from management, finance, risk and compliance sections	Complexity
Process	Time constraints	Process can now take up to 4 months	Process lethargy/ lost business
New businesses	Example: Loan origination	Deal with loan origination completely differently because of chain of command and regulatory restrictions	Compliance restrictions
Process	Regulatory-driven / Material effect on business	Compliance issues	Complex compliance processes
Process	Client-driven demand	Competition issues	Conflict in process
Volume of business	Type of transactions	Put a stop to big transactions	Altered decision making motives / competition
Governance and Management	Regulatory-driven	Smaller vs. big transactions / short-term vs. long-term funding	Legacy management and funding structures altered
Opportunities for the banks	New banks	Competitors, mutant banks, Fintechs	Opportunity for good management
Incumbent banks	Change of philosophy	Complete change of philosophy that revolves around change in business models including funding structures	Clarity and Strategic change management
New Rules	Response and retaliation	Risk-transfer some of the risk back to investors with regulatory approval	Innovative management
Governance	Balance Sheet Restructuring	Counter-party risk has become central. Extensive revisions on existing portfolios and revamping especially in high-risk transactions as seen under the new rule-book / competitive issues	Brand management / Escaping a bad past

Participants stressed that with regard to the impact the forthcoming regulation will have this revolves around three main pillars; new products, new businesses, and by extension, product and business risk compliance. While all agreed that the profitability and liquidity positions of the European banking sector have stabilised in recent years they also stressed that while regulation has been more risk-advanced, they stated their apprehension that banks as individual businesses at the micro-level face several risks both in the short and the long run; these range from sometimes unnecessary complexity on management information structures and decision-making, slow response to market changes and reduced volume of business owing to the new regulation. Banking profitability and the linkages to the sustainability of their business models have emanated as special grounds for distress. Bankers clearly stated that they still make revisions to their product and service offer business models since these have suffered a multi-faceted impact. Yet, what also comes through is that several of the participants associate legacy management structures and the decision-making process setting as directly linked to business models. Many agreed that whilst their business models are client-driven, the process underlying the implementation of such models becomes regulatory-driven. They were unanimous in actually supporting the view that a great deal of stress has been directed to process setting, transparency, and accountable chains of command leading to a challenging to reconcile design:

CFO 1: *'Any new business idea now has to get approval by all of those people (management, finance, risk, compliance sections) before we can go any further. Whereas 10 years ago if you were a trader and you had an idea to trade swaps you just go to your line manager and say you want to trade swaps. You would apply for the limit, get the limit and you would be trading within a week. This process can now take 2, 3, 4 months. A slow response process. You will lose business **and** you are accountable.'*

CEO 1: *'...Barclays...that would be my example as well. They have closed out some perfectly good trading businesses on the basis that it is not worth the [cost] for them from a regulatory perspective. There are a number of facets to that, and certainly Basel III is part of it.'*

CFO 2: *'Entrant banks will be incorporating the new rules as they simultaneously create their new business model. Whereas banks like us or Barclays and JP Morgan are the ones that are going to change their existing portfolios because they were so deeply involved in risky transactions.'*

CTO: *'We would look at new businesses going forward differently because of these rules. For example, 2 months ago we stopped a big transaction because we didn't want to get stuck with big capital consumption.'*

CEO 2: *'You had a department (emphasis added) there that was making a fortune and the management did not understand...[pause]...in the slightest. All they knew was getting a satisfactory revenue number. In those days they were quite happy as long as the revenue number was coming in quick and it was higher at the end of the year than the outflow costs and they didn't really care what they were doing to get the return where actually there are a lot of things that are interplaying here: you had a situation where it was tolerated by the regulators, market shareholders and everybody else. You had the big old boys from the big city saying that they really didn't understand what was going on in the business...[pause]...but there is senior management accountability now and I think within the new regulatory regime they are expected to not only able to produce this MI (Management Information), but they have to be able to comprehend it and see the bigger picture. It all links in together so you require a greater level of sophistication in the people at the top because they have personal accountability in a way they didn't in the past.'*

CEO 4: *'There has been reluctance to spend money on systems that give you that kind of visibility in the past, now it's non-negotiable so we are investing in lots of systems and we are not the only bank. More reporting, more hierarchy, better systems, all that comes out of the cost of doing business. To get the granularity that you need, you need system hierarchy. There's a knock on effect beyond just the headline; 'here is the requirements', there is a whole lot of stuff that has to happen for the firm to*

be able to address it. And it is not just changes in the business, there are pretty major things going on in the back office. I would say it is a revolution.'

The quotes above are indicative also of a historical, critical cultural split: the views revolving around reforming banks versus the views of reforming behaviour. More often than not, regulation and regulatory changes have been heavily criticised for actually targeting and failing to moderate and reform *individual bank* behavior as opposed to targeting and regulating an *individual banker's* behavior; yet most participants felt that it is the latter that has been actually targeted through those newer changes: a forced, institutionalised change aiming to instill a change of mentality through governance reforms that aim to limit risk-incentivised behavior through the institutional transformation and emergence of hierarchical organisations that actually shape business models. The following quotes are examples of bankers' split stance on the issue. One the one hand, there seems to be agreement surrounding the overall positive changes in management structures:

CEO 3: *'To be honest the people that were framing Basel I & II wanted more than they got, because there was a limit to what was politically possible to achieve. We are where we are and there is a greater consensus that having consistency at a high standard is a good thing overall. That wasn't the political consensus before, there were a lot of countries that regarded it as detrimental to their sector if there were these standards and now I think having at least a solid minimum is regarded as good by almost everybody.'*

CRO 3: *'I think the genesis of the problem in the UK for example was a lack of comprehension within the regulators about the real risks that were posed to the financial system by ever increasing complexity within the financial system. The capital situation did not catch up with what was going on in terms of the innovations, the products and the risk profiles of those banks so it was not adequate to the task. As far as the banks that complain now that Basel III is overkill...[pause]...well it is not like they were managing themselves in a way that suggested that they were being honest about what their risks really were. And so I don't think it is that surprising that you need a regulatory regime that imposes it, because they could have gone beyond the minimum capital standards in response to the risks they should have understood themselves. And when regulators started asking really deep questions about whether they understood the risks, it was questionable whether they really did themselves and regulators also didn't.'*

On the other hand, there also seem to be conflicting views with regard to the new regulations and their effects for incumbents, competition, and profitability. Some of them may also imply the notion of window-dressing as well as the peculiar notion of ethics being instilled or taught by design:

CEO 6: *'Well if you look back, before the new regulation, the banks were stronger at the time so they could fight back against more regulation. Politically stronger, so they could lobby and get most things done. Politically stronger but I am not sure from the capital perspective. They can't do it now because it would look bad.'*

CEO 5: *'I think it depends on how developed banks are. The truth is in more complex markets you may need Basel II and Basel III, but if you are looking at a very basic banking system, I am not really sure it adds much. With Basel III you may have got a framework that makes a very complex situation manageable but then if banks are responsible for regulating themselves you don't need these standards. You wouldn't have needed them if there were responsible within the industry and the regulators had known what was going on, that is my personal view.'*

CRO 3: *'It is actually about conduct, reputation [and] a whole lot of other factors that feed into that decision to change. It can create opportunities for banks like us. What is a loss for one bank is sometimes an opportunity for another bank'. There are some banks though that will actually exit certain businesses because of it since the new regulations are more constraining for smaller players'.*

CCO 1: ‘From a transaction point of view I don’t think we will completely abandon any business lines [as a result] of capital requirements. Due to profitability problems, we are planning differently mostly because of tightening regulation and the entry of new players and operating models onto the market.’

CFO 2: ‘There’s actually opportunities for the banks that were not involved in the first place; it is the banks that were there to start off with who have got to now do this complete change of philosophy and they are the ones who have to change their business model. We are incorporating the new rules as we create our new business model.’

CRO 1: ‘We are moving to Basel III with all the additional requirements, which includes market risk, not only on the trading portfolio, but also on non-trading portfolio. Furthermore it includes incremental risk, default risk, credit migration and counterparty risk in the derivatives business. We were not doing any of that and now we have to apply all these charges; we are planning particularly to downsize investment banking, decrease high-risk lending and foreign operations.’

CCO 2: ‘Certainly banks are not making [as much] money. For us it has changed materially our business model in the UK, and it is changing the mentality of how we see the businesses in terms of profitability and capital requirements and we have to be very careful with that.’

The participants’ views imply that Basel III has also been utilised by policy and law-makers as a tool to overhaul regulation at the micro-level in an effort to enhance market discipline, reduce moral hazard, and instil ethics. While it can be considered rational to assume that such perceptions point to altered management structures, clearer chains of command and hence transparent accountability that lies directly with the decision maker(s) behaviour it is also safe to say at this point that this is yet to be seen at the micro-level; imposing fines on a bank (i.e. the institutional level) has different attributes to imposing fines on a banker.

Furthermore, Basel III has also highlighted the importance of the macro-prudential policy dimension in effective supervision, reducing the probability of market failure and making markets more robust on aggregate. The two sections that follow below address two major parts of macro-prudential regulations namely, the regulations pertaining to the treatment of market versus trading book operations (table 2) as well as the new liquidity requirements (table 3). We begin with table 2 below on gauging and summarising insiders’ perceptions on the applicability, enforceability, and effectiveness of this dimension of the enhanced regulatory framework.

Table 2. New boundaries treatment

Codes	Initiating	Issues discussed	Themes identified
Impact of newly imposed boundaries between the trading book and the banking book under Basel III			
Return-driven decisions	Risk-return profile	Banks are paying more attention to capital requirements due to large capital consumption transactions rendering returns unworthy	Trade-offs
Regulatory-driven decisions	Evidence of challenges	To make sure a bank is delving deep enough down and evidence of knock-on expectation not just from the risk of doing a trade	Bank-wide impact
Treasury Operations	Own proprietary trading transforming to a partnership management as opposed to trading operations	Treasury operations are the ultimate liquidity and funding managers	Change in trading strategy

Basel III induced structural changes	Major changes in treasury management	Treasury centrality; liquidity based on 3 central concepts; LCR, NSFR and loan /deposit ratio	Impact on the funding structure
Basel III Consistency	Inconsistency in standards	Limits some of the discretions that used to have under Basel II but still Basel III presents elements of uneven implementation across banks and regulatory arbitrage which is probably not a good thing	Uneven implementation and regulatory arbitrage
Regulatory Challenges	High Costs of implementation	As banks stand they are not profitable and with very low confidence	The negative effect on lending / constricted expansion
Costs	Marginal expenses transformed to major costs	Incumbents constrict competition due to higher cost absorption capacity / systemic risk becomes central again	Competitive advantage
Competition	Boundary problem	Standards raise the bar too high. Cost for new entrants reduces competition/stifles innovation. Depressive effects	Reduces competition and credit provision
Pressing Issues	Unbalanced enforcement	Recapitalisation reducing businesses	Loan book reduction / credit constriction
Support functions	Triviality in the past	Now they are central to the decision making, where the power lies with Senior risk officer and the Head of compliance.	Management Restructuring and Treasury Centrality
Non-trading / Funding decisions	Client deposit-taking trivialisation	Regulatory rigidity / KYC procedures excessively complicated	Customer and funding base switch / competition / opportunity costs
Code of Business Conduct	Changing ethics	Business model changes designed to percolate through and regulate behaviour	Changing the mentality
System Tools	Conservative and tight models and measurements	Where for example it takes longer to get a mortgage and where the real economy is constrained to a degree by banks being very conservative, financial crises might be constrained as well.	Resilience and Less cyclicality
Prudence	Resort on ethical behaviour	Reduced government guarantees and tight capital standards actually force conservatism in the tax payer's best interest.	Conservatism / Reduce risky behaviour and moral hazard

Starting at the bottom of the table above, there was widespread agreement in bankers' perceptions regarding the risk-limiting effects that the new regulations will bring to markets. Their views express agreement over issues such as a systemic change in business conduct, risk measurements, stronger and more prudent management, and a (forced) changing mentality:

CFO 1: *'We were doing the stress testing before and measuring the risk. The problem was that everybody was saying 'oh those crazy guys, the only thing they do is crunch numbers'. We would go to meetings and when talking about stress testing under very stressful scenarios everybody would say 'come on, we will never get there'. With Basel III we formalised a lot of things the banks were already doing. Many banks were already doing all the analysis such as incorporating tail risk with incremental risk charges, stressed VAR, counterparty risk and credit migration. Banks are certainly now more serious about stress testing for market risk, not only for trading, but also non-trading. They are also more serious about stress testing for liquidity, counterparty risk, and for credit migrations.'*

CEO 2: *'There is the argument that you need higher capital standards because of the moral hazard of that implied guarantee and that banks will always resort to a risky behaviour because they know that are effectively underwritten by the government and therefore if you have very tight capital standards you actually force [emphasis added] them to be conservative then you are acting in the tax payer's best interest.'*

CEO 5: *'I remember a discussion with the financial officer for the Northern rock at the time when they went bankrupt and when asked why were you in these loans in America [subprime market] he said everybody else was and the shareholders demanded high returns.'*

CRO 2: *'Generally your risk can only be based on your historical data and up to the Lehman [crisis] your historical data contained relatively small market moves and afterwards it contained much bigger moves. So all these stress testing parameters and all your valuation models are suddenly now based on not 5% haircuts they are based on potential 25% haircuts. We do our stress testing with the Williams and if we compare our stress testing parameters now to what they were 10 years ago, they are a lot more severe because we have now realised that markets can be more severe. You can only do what you think at the time and 10 -15 years ago you would never think half of Europe would go bankrupt. You would never have thought there would be a case where half of the European countries couldn't issue [bonds] into the market and you were going to get places like Ireland, Portugal and Spain nearly go bankrupt. That was unheard of. So now we are incorporating those ideas into our stress testing models which is why they have to be a lot more severe because the reality is these things can happen.'*

CFO 2: *'In the past we were not really considering the counterparty credit risk, and the CVAs [credit valuation adjustments]. All these things come together to significantly increase capital requirements. Is it much better? Yes, it is better than before when we were using VAR. From the market risk perspective we are talking about not only trading portfolios but non-trading portfolios.'*

CEO 3: *'We are now doing Basel III metrics that are based on what happened in the most extreme circumstances, which is good for banks, regulators and good for the economy as a whole. I emphasise how that Lehman weekend changed the whole markets. We are now using that as our model. We thought that [previous stress tests] were the worst that could happen, but actually Lehman is the worst that could happen and therefore that's why everything has changed because since Lehman, the idea of what was a stress situation suddenly multiplied ten folds. VAR up to then was adequate for what it was, because we thought that is what could happen in the worst situation. You thought you would get 5% haircuts, well actually after Lehman you were getting 40% haircuts, you couldn't even get rid of things like the Greek, Portuguese and Italian bonds. I mean that was 4 - 5years of major upheaval in the markets which is now completely made people rethink the definition of what is the worst case scenario.'*

CFO 3: *'One thing the regulators want to see is challenge, anytime you have things like audits, board meetings or committees, they want to see evidence of challenge. So when you are having your meeting they want to know that the risk manager is challenging the business line heads as to why they want to do certain transactions; just to make sure you are delving deep enough down that you know what to expect not just from the risk of the trade but also how it impacts the rest of the bank. If you want an example of how the new rules will affect the business model, 10 years ago as the treasury in the bank we were doing our own proprietary trading. Now we are just purely what I would call a partnership management operation as opposed to a trading operation. So that stuff has gone out of the window and we now employ people to do fixed income, swap, and derivatives trading. Now most banks treasury operations are purely just treasury, they are liquidity managers and funding managers. That has changed and streamlined the business model.'*

There was however, equal scepticism with regard to some other regulatory-induced challenges faced by banks. These revolve around management structures and costs imposed and their effect for credit-provision, inconsistencies in the structural changes imposed by the regulators, and implementation inconsistencies in some major standards potentially leading to regulatory capital arbitrage from another avenue. Starting with regulatory-imposed costs, several participants expressed the view that such costs while they appeared marginalised/trivialised in the past are actually much larger, more central, restrict competition, and are profit motive-repressing:

CEO 4: *'...Let's be clear about something: When talking about the business model one sometimes assumes that one is just talking about front office, but your existence for example here in London is a symptom of changes that are happening in back office. Our business model is carrying more costs for support because of the extra analysis required. Risk is more a complicated world than it used to be, it's bigger and the compliance of all this stuff takes up a lot of resources. The truth is downsizing since our business model has moved to carrying greater support costs and staff because of the new capital requirement rules.'*

CEO 6: *'That's one of the issues they [Basel] have got. It's alright bringing in all these regulations but the downside is they are costly to banks. If banks are not profitable, you don't get the confidence therefore they don't lend anymore and you get a vicious circle. They are piling on more pressure on the banks because they are less stable and we are now in a situation where they are creating more regulations which make banks less profitable. This makes the regulators think banks are less stable so they respond with even more regulation. At some point the regulators have to ease off and let banks have a chance to recapitalise, get their profits and revenues up so they get money coming in. But they are never going to do that because to the public, especially in the UK it looks bad. At the moment the balance is not there, it is against businesses and the challenge is trying to get banks recapitalised. The downside of that is if banks are trying to recapitalise, they retransfer funds, they reduce credit by reducing their loans books because they have to reduce business.'*

CCO 1: *The question is that by enforcing those standards you then raise the bar so high that the costs for new entrants, such as for example compliance and their funding structure, actually reduce competition. Competition and innovation is another one of the main objectives of Basel but Basel III has a depressive effect on both of these.'*

CFO 1: *'Where decisions about your business strategy are starting to become impacted by those costs which used to be marginal but which are now becoming so high that actually you have to take them into account when you decide to stay in the market or enter into a new market. This leads to the bigger banks ending up with a competitive advantage because they can more easily deal with those costs. So you are finding within RBS for example, they are getting rid of all their overseas operations whether or not they make money on the basis they are not going to have critical mass in that market and that they have got to focus at home and deal with regulatory change there and they just don't have the time to deal with anything else. So questions that used to be asked about how well a business is run and how profitable it is, is less of a concern now than whether you have the management capacity to be able to run an empire that size.'*

CTO: *'It's spawning this huge business of support functions. These support functions – well not exactly trivialised in the past - they were auxiliary. But this isn't the case with global banks: their front office just saw that transaction but they've got to be able to see the opportunity cost of doing something. It is about thinking through lots of permutations and in a very big organisation, it has become a very complex task. So there is a whole army people doing that stuff now. Nowadays they are more central to the decision making, and now suddenly the power lies with the chief risk officer (CRO) and the head of compliance (CCO). You have got people like the CRO, head of fixed income and even myself [Treasury] making some decisions like turning down client deposits because the KYC procedures and funding have now become too complicated and expensive. So you are also making decisions based on non-trading ideas.'*

CEO 3: *'I think banks are now more careful on the transactions that they are entering into. In the past we were just doing trades and we were not that concerned about capital requirements but now we are more careful. This is because we know that if we are going to do a transaction that is going to have a big capital consumption we may be stuck with that capital consumption for 3 to 5 years and if the return is not going to be particularly rewarding we basically don't approve the transaction because the Tier 1 capital based on Basel III is limited. I believe now banks are paying more attention to the capital requirements. Whereas before banks were more concerned about profits and they didn't care about the capital requirements. The demand was driven by higher profits and large volumes, which is not the case now. The low confidence has been reflected in lower commissions, lower fees and trading income. I can give a lot of examples in this organisation where we have basically stopped a lot of transactions because of big capital consumption, and the CRO applies risk models to every single trade.'*

Some participants also expressed the view that while overall the overhaul of the regulation is generally a positive step in the right direction that limits some of the discretions that used to be present under Basel II, they pointed out inconsistencies in standards. There are also elements in Basel III that point to uneven implementation on the part of some banks and/or shadow banks and opportunities for regulatory arbitrage. Such opportunities also seem to appear under liquidity requirements as well as will be discussed in conjunction with table 3 further below.

CEO 4: *'Real banking [emphasis added], like for example loans, deposits and trade finance is generally well regulated. It's when you go away from that into complicated markets like securitisation and complicated business models. In mutant banking [emphasis again] where you are doing banking for the sake of banking where a huge opportunity for capital arbitrage is present that is when you need regulation. That is where Basel III needs [emphasis added] to come in.'*

CRO 2: *'To give you an example of how hard it is to instil new regulations into the city mentality you have only got to read the papers about RBS. I mean they got another slap on the wrist this time by the Australian authorities for trying to arbitrage and rig the rates for swap fixing. They have been punished by the PRA (Prudential Regulation Authority) for the LIBOR fixing yet their traders are still trying to do it in Australia. That's the hard part for some of these big organisations where it is so deeply instilled into their mindset that they can't get their head around the new rules. Quite often they don't even know what the rules are and they just say it doesn't affect me. Well actually it does affect you, maybe not directly but it's got to be part of your trading strategy or part of the business model. The banks that are that going to suffer are the ones that can't instil that in their business model, they are the banks that are going to suffer going forward because their numbers are going to fall and we have already seen that with banks around the world.'*

CEO 6: *'Well, Basel III is good for banks as it gives them discipline, but go to different countries around the world that are performing fantastic today and one realises they already stopped on Basel I. They haven't implemented Basel II and they are not planning to do anything with Basel III. Basel III is good for the banks, it enforces discipline for capital requirements and leverage ratio but is it the best thing for the domestic markets? Regulation should think about the boundary involving bank risks*

and markets in periods of financial distress. What's the association between compliance and efficiency?'

CFO 3: 'Well VAR is a very important tool but it also has a lot weaknesses and any risk manager has to understand the weaknesses of using VAR. Let's say you are doing an analysis of 300 days with a confidence interval of 99%, if you don't have any volatility in that period, VAR is very low and as soon as you start to incorporate more volatility within the scenario your VAR goes up. That is one of the main reasons why VAR has weaknesses for example. VAR does not incorporate any liquidity analysis within market risk. VAR is very poor in that sense, and you have to manage VAR very carefully together with all the tools I have mentioned to you, such as incremental risk charges, stressed VAR and stress testing. The market risk framework with stressed VaR improves the banks' ability to absorb losses since it adopts more severe testing parameters that reflect the ever-changing market conditions. Only together with other measures [emphasis added] it is a good complement but if you use it on its own to capture risk it is inadequate. It is a very important tool, it is a very important statistical tool but you have to be very careful with that tool and you need a combination of additional elements. I am not sure though that the methodology is applied evenly throughout banking.'

Some of the quotes above echo calls of various academics and professionals as possibly destabilising prudential supervision for either there are cases where they incorrectly classify activities as 'arbitraging' or re-introduce capital arbitrage, for example, through attempts to achieve an enhanced diffusion of risk-weighted assets (RWAs) via the use of internal-rating-based models (IRBs) which allow for legitimate 'capital-saving' effects; one of the major aspects that regulators strive to clamp on in the first place. For example, as the regulation stands at the moment, banks can enhance the expected return of their loan portfolios by switching from riskier investments to safer allocations. While this is indeed the intended scope and use for the regulator such an operation can also be characterised as arbitrage because the change in the risk-return profile does not come from efficiency in the risk premium paid on the market but from the different regulatory requirements between two investable assets. To make this point a bit clearer, one can consider 'safer' collateralised securities; a type of instrument in wide and deep exchange by corporates and banks alike especially after the last crisis. An institution subject to standard regulatory checks and controls can potentially take advantage of the 'insensitivity' of capital requirements where such requirements are evaluation-conditional (i.e. see credit ratings) for collateralised assets. Such an institution then has a systematic motive to methodically accept all securities that exhibit the following combination of characteristics: maximum yields possibly attainable and the smallest possible security performance among collateralised assets/securities within the same regulatory-set, risk weight brackets. This yield-chasing operation allows regulated institutions to augment the returns on the regulatory capital required. Furthermore, in such a scenario if ratings do not discriminate among various company-specific and systematic risk factors, then regulation will not penalise banks accordingly for investments of high risk.

Equally though, one can argue though that such a yield chasing activity results in a simultaneous, one-sided, herd behaviour movement and ultimately is self-defeating as participants would eventually be forced to abandon such a strategy as the market gradually moves against them. At the same time, the very underlying principle for countercyclical capital requirements comes with a price tag as they can positively affect idiosyncratic risk taking. Regulators, in their effort to shield banks from system shocks, in the context of the example above, generate motivations for banks to invest individually in activities that become highly correlated. As a consequence, aggregate economic exposure to shocks is amplified since the instruments that underlie such activities also become 'more scarce' and less liquid.

The third area also seen as a field of material importance among our professional participants is the liquidity provision of the new regulations. The participants presented us both with their experiential perceptions and balance sheet examples of how banks can potentially re-allocate risks to other parts of the economy by transferring them to agents that might be unprepared to accept and hold such risks and hence risks would be dislocated.

Table 3. Liquidity regulation emerging themes

Codes	Initiating	Issues discussed	Themes identified
Effect of new liquidity risk regulation on (systemic) risk management			
Horizon	Liquidity requirements which are the same for all banks(?)	Level playing field	Survival periods
Short-term fund availability	Treasury and Planning	Swift re-organisation management	Cash Immediacy
Liquidity rules	Survival	Fear that some banks after 5 to 10 years will be trying to change the stress testing parameters once again	Resilience(?)
Potential future risks	Stress testing potential, expansion needs and balance sheet size versus funding	Funding plans procedures and living wills in place	Eminence of Credible Contingency Planning
Punitive Charges	Certain business segments affected more than others	Segmented markets, (i.e. securitisation and SME-sized entities credit uneconomic.	Unintended effects/arbitrage
UK identified issue	Cohesiveness of new regulation proposals	Real risks that were exposed to the financial system but problematic recognition due to the ever-increasing complexity within the financial system	Lack of comprehension within the regulators
Incumbent vs. Newcomer Banks	Higher capital and structural liquidity requirements	Bigger institutions can go beyond the minimum capital and liquidity standards in response to the risk	Market reaction and movements against the players
Minimum deposit	Overnight markets slowly collapse	Zero-value deposits (<30 days)	Decrease in short-term funding
Corporates and retail customers	Cash immediacy	Deposit market shrinkage / secondary source / dated deposit competition minimum of 180 days for the NSFR	Shortage in easy access funds from banks
Greater consensus	Minimum liquidity requirements	A solid minimum is required	Consistency at a high standard setting level
Legacy Business Models	Changes instilled	High and low-risk banks would result in the same valuation of risk alike in the past; this is not the case anymore	Different risk valuations / piecemeal approach
Balancing Regulatory Responses	Certain transactions ' <i>restricted</i> '	One cannot follow the same trend anymore / cannot engage in the mimicking and replication behaviour of Basel I and Basel II	Systemic risk reduction and adverse selection monitoring / regulate by exception

The recent crisis has traded a focus on profitability and earnings with a focus on cash and liquidity. It has also marked the end of easy accessibility of cash for many corporates and the reality of a situation in which the financial markets are not as willing or able to readily satisfy the demand for financing. As a result, banks have reduced their need for external funding or seek to maximise yield on positive balances.

With credit remaining expensive and scarce and the heightened focus on liquidity and its association with financial risk management, the role of the bank treasurer has been elevated dramatically. Liquidity management has moved up the list of priorities for treasurers and finance directors. Once again participants were seen to be 'equally' unanimous regarding certain features of the liquidity regulation and 'equally' divided regarding certain misalignment aspects of these regulations and of their potential effects. Starting with the positive effects, professionals agreed in general on the high-level principles of survival, system resilience, and immediacy of response. They were also more sanguine on the view of assessing risks on a bank-by-bank basis as opposed to blanket responses.

CTO: *'To implement the full liquidity requirements, there is a 'flight path' of subsequently higher requirements leading up to full compliance for everyone by 2018. This is fair because you can't say on day 1 you are going to have to quickly build up billions of dollars of surplus. Once the regulators are happy that banks have this buffer, that actually they can survive the next 30 days or 90 days and that its corporate loan book is covered for the next 365 days, then the stress tests just point you to potential future risks. They know that if those risks do occur the banks have got the [safety] net to cope with them. It's like any stress testing; all it is going to do is tell you of a potential risk. What you then need to do is find out how you solve that potential risk. Everything is all about theoretical ideas, but what a bank needs to show is that it has got a contingency funding plan. I.e. if this risk happened what would we do. And you need to have various plans in place. Now these are things which banks didn't have before which Basel III now brings. So they say yes do these stress testing but they are pointers. They are not saying that if you fail this test you are going to be bankrupt, it just means there is a chance you could go bankrupt if we do actually incur that stress. And it's saying we got those potential risks, we are now going to give you a string of things we want you to do and we will make sure you do it; contingency funding plans and living wills which they are making all banks do now. When the [bankruptcy administrators] went into Lehman they couldn't get out of [market positions] because they didn't know what the bank did.'*

CRO 1: *'What is going to happen is in 10 years' time, all the front office traders will be saying 'Ohh...Lehman was 20 years ago now and we don't care about that'. They will be trying to change the stress test parameters, but as long as they can't touch the liquidity rules, the liquidity rules will be the ones that are going to give you 30 days survival horizon on the LCR, your net stable funding ratio is going to give you your long-term funding ratios. As long as the regulators leave them in a fairly solid and robust manner they are the ones that will provide, if something like Lehman's happens again, the immediate cash for the banks to survive the next 30 days while they re-group and find management actions which are going to save them.'*

CCO 2: *'Liquidity regulations and liquidity management is good for the banks. We really had a lot of liquidity measurements to capture like 30, 60 days survival period, before Basel III Liquidity rules came into force. Net stable funding ratio has not been finally defined as of today. Going forward they will finalise and incorporate long-term funding in the NSFR. But it is a good tool.'*

CFO1: *'I think it will reduce systemic risk because banks are going to be stronger both from a capital and liquidity perspective. If all banks implement equally Basel III and there is a comfort that they can survive for 30 days, have leverage of 3% and a 3x Tier 1 against total assets then it will reduce systemic risk. It not going to eliminate it, but it will mitigate it.'*

Some participants also agreed that a piecemeal approach would be the most effective in terms of complexity matching and coherence among regulators (i.e. distinct revisions on regulation applicability based on the regulator's view of an individual bank's balance sheet, volume, and complexity of its transactions), stressing the need for structured liquidity and for the increased regulatory focus on large and systemically important banks.

CRO 3: *'In the past doing the same product in different banks would result in the same valuation of risk, but now it is not the same valuation of risk because every inch of the bank is going to have a different capital base, liquidity and different liabilities so therefore the same business in different banks will have a different LCR. Therefore you can't just follow the other banks, because your balance sheet may not allow you to do that sort of business. This should help improve the systemic risk because it stops everyone doing the same thing.'*

CCO 1: *'You can't actually hold the same positions as another bank unless you're the same bank with the exact same deposit metrics, with the same capital metrics whereas under the old system everyone had the same capital ratio number. With Basel III it is individual numbers for every individual bank therefore you can't just follow...which is what they want...to make sure we all don't fail together.'*

They stressed, however, that looking beyond the anticipated benefits there is also a big impact on the European economy and its financing from a cost perspective. This is due to increases in the lending costs as well as from a regulatory perspective, where the revision of risk evaluation by the Basel Committee could potentially discourage good risk management and well-diversified funded portfolios.

CTO: *'Banks are going to be saying our minimum deposit period is 60 days, the overnight markets will slowly collapse because once you get into Basel III deposits less than 30days obviously have got no value so you will be looking for deposits greater than 30days. But the problem with corporates and customers is they want as short dated as possible because they want easy access to their money and they are going to struggle to find a place to deposit their funds. Banks are going to be saying 'two weeks money doesn't do me any good because I can't use it for my Basel III metrics', so therefore banks are going to want 60 to 180 days for the NSFR. There's no doubt that it will have an effect on the real economy.'*

CEO 4: *'Even though the long-term liquidity capital ratio hasn't come into full effect yet there are a lot of banks who do not want to do certain transactions because it will adversely affect their LCR and they know they will have to meet certain LCR requirements by 2018. Before banks and institutions were fighting for those same transactions. LCR is the main concern, not NSFR. Liquidity requirements are good for banks but it has implications on the market. For instance SMEs might turn elsewhere if they have reduced access to the liquidity.'*

CFO 2: *'Well, risk has two elements: an idiosyncratic element and a market-wide element. In hyped activity markets where risk builds up you have to be conscious of the market-wide mispricing element but what you are asking us also to do is to internalise negative externalities coming from individual institutions.'*

The latter quotes also give rise to financing relocation concerns through investment exchanging or (re)-structuring whereby a bank achieves equivalent financial gains of an investment vehicle at a lower regulatory tax charge; a side argument also is that for such firms for example by slashing transaction costs they also facilitate 'more efficient pricing'. It can also be achieved by sidetracking to substitute conduits for making investments or acquiring credit. This is implied in the sections above whereby Fin-Techs (and shadow banks) as new entrants are not currently captured by the regulatory boundaries in order to define the level of their risk-taking activities. As things currently stand, there are no metrics or data to assess their leverage or their eminence in the economy. A very modern, highly relevant example is the case of *Yu'E Bao* (a Chinese money market fund owned by Alibaba, online firm that competes as a fintech as well) that clearly illustrates how a non-financial classed, systemically insignificant, *small* fintech firm went from 'too-small-to-care' to 'too-big-to-fail' in the space of nine months. When such firms obtain more pervasive roles – due to the opportunities presented – they grow to be more eminently involved in the banking domain by taking on crucial tasks (i.e. personal, SME lending, acceptances, repositories for left-over cash etc.). The incumbent banks and the overall macro-prudential exposure to them can increase, leading to new risks if such agents retract from the market.

This may also run counter to the regulators' calls for enhanced protection whereby the market once again moves against banks: agents can generally demonstrate herd behaviour, so in reality (as the recent crisis has practically demonstrated) they could all trade in simultaneously, and in these stress conditions the risk of aggregate asset sales becomes real.

Furthermore, in tandem with addressing regulatory-driven 'inefficiencies' for short-term gains, treasurers are now forward-thinking risk managers, motivated to embed, sustainable, long-term liquidity capital strategies at the heart of their business by keeping more of their liquidity buffer in cash; relying less on revolving credit facilities from other banks and investing for the longer term rather than the short term. This unintended regulatory inequity could compel more individuals and more financial businesses from the classic towards the shadow banking market where both sets of agents (investors and intermediaries alike) can profit from cost gains and more lax regulation.

CCO 1: 'It will have cost implications on treasury operations. Before you were funding your long-term assets wholesale funding which is short-term funding. Now you have to start moving into retail for long-term funding. Everyone is going to start chasing the same [emphasis added] retail or more long-term funding which has competition implications and is more expensive. Normally as a bank it is very easy to fund in the short term as it is cheaper. Now with Basel III you have to move a big portion from short to long-term just to fund your long-term assets and that has cost implications.'

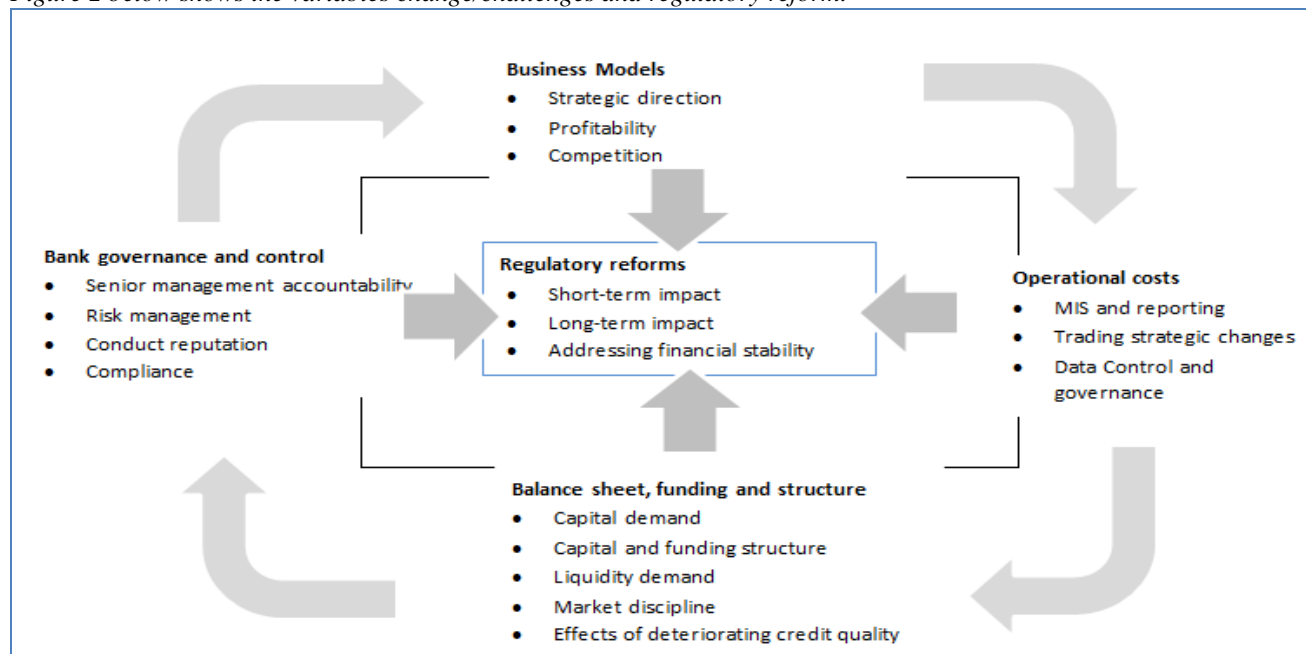
CRO 2: 'The Liquidity coverage ratio is something that is changing treasury in many ways. This is because you have to start thinking if I do a transaction, for example, with a collateral agreement or a downgrade with a client, that will have an immediate impact on the liquidity coverage ratio and you might not want to do that, so we may inform the client that we are unable to undertake the transaction.'

The interviews also confirm that credit creation substantially affects economic activity. It is understandable that from a regulator's perspective the task is a challenging one of balancing banking sector stability, the competitiveness of national banks and short to medium term economic growth. While banks as drivers of credit provision are crucial in an economy, bank regulations have great impact on the entire economy rather than only in the banking sector; these tensions above might also further help establish and clarify some macro-economic policy tensions between agents' motives in the markets. For example, for a monetary-policy-focused agent this motion has positive features, since it keeps the liquidity premium low and relatively unvarying over the longer term. From a monetary policy perspective this translates to a swift and clean diffusion to predictably stable term interest rates. For a regulatory-policy-driven agent where the overarching aim is financial stability, such type of stability could be interpreted as regulatory arbitrage that destabilises the very aim of safeguarding against system-wide liquidity shocks. We conclude this section by grouping and summarising the most important variables identified in the thematic analysis in table 4 below.

Table 4: Categorisation of areas from the thematic analysis

Major Categories	Variables / Issues Identified
Capital Requirements	Risk Reduction and potential Risk Dislocation and Arbitrage, Business Constriction
Governance	Transparency, Compliance, Accountability and Reputation
Business Models	Mentality, Balance sheet restructuring and loss of business
Operations	Management Restructuring and Treasury centrality
Liquidity	Multi-dimensional strengthening of funding, lack of consensus, partial lack of coherence, herd behaviour and counter-productive competition

Figure 2 below shows the variables change/challenges and regulatory reform.



5. Conclusion

International harmonisation of financial regulation has become a crucial focal point among regulators in safeguarding the stability of the financial system. The analysis presented above highlights insiders' views that Basel III has largely positive anticipated effects and that banks are making good progress in implementing Basel III. Advances in the capital regime regulation and bank governance improve the inadequacies involved in Basel II. Market, counterparty, and liquidity risk elements in Basel III are all major improvements in capturing systemic risk. From a risk perspective, the implementation of Basel III promotes the broad consistency of standards for the global financial system as it also takes away the divergence in application that existed under Basel II. Therefore, this consistency reduces the potential for regulatory arbitrage and promotes financial stability. However the analysis has also highlighted some depressive effects of implementing Basel III, for example, reduction in competition, innovation, and profitability. Basel III increases regulatory change costs, which will impact banks with the smaller banks being hit harder since larger banks can more readily absorb increased regulatory costs. This reduces competition for smaller banks. Higher capital requirements have also impacted the ability of banks to innovate and raise capital. Banks have been forced to abandon certain business operations or segments and shrink - most notably - their international businesses. As a result, for banks to meet Basel III's capital requirements, they are reducing their loan books fast with an associated large impact on lending particularly riskier sectors and lending SME lending. Some participants implied that this will impact economic recovery. Bankers worry that supervisors may trap capital that could be better deployed elsewhere.

As argued above, regulatory authorities should seek to balance stability, competitiveness, and growth but an undeviating and blanket enforcement of the new standards may cause disproportionate compliance costs for simpler institutions, stifling competition with no material regulatory benefits. Basel III as currently 'built' provides for a certain degree of latitude regarding a regulator's approach against an individual bank (i.e. assessments on a case-by-case basis). Yet, in recognition of the challenging tasks ahead, while the proportionality principle is seen as welcome and fair, it is almost certain to substantially shape the competitive market environment and provide for the unintended potential to reduce the regulatory-sensitivity radar and encourage unsound or imprudent behaviour. Reducing regulatory costs does not necessarily have to go hand-in-hand with lessening regulatory requirements. At the very least, complexity matching should ensure that 'smaller' (baseline obligatory) rules pertain to smaller banks with the rules scaling higher with complexity.

References

- 1 Flannery, M. and Rangan, K. (2008) What Caused the Bank Capital Build-up of the 1990s? *Review of Finance* 12(2): 391-429.
- 2 Allen, F. Carletti, E. and Gale, D., (2009) Interbank market liquidity and central bank intervention. *Journal of Monetary Economics*, 56(5): 639–652.
- 3 Lastra, R. M. (2013) Defining forward-looking, judgement-based supervision. *Journal of Banking Regulation* 14(3/4): 221-227.
- 4 Dietrich, A., K. Hess and Wanzenried, G. (2014). The good and bad news about the new liquidity rules of Basel III in Western European countries. *Journal of Banking & Finance* 44(3): 13–25.
- 5 Handorf, W. C. (2014) The cost of bank liquidity. *Journal of Banking Regulation* 15(1): 1–13.
- 6 Aragon, G. O. and Strahan, P. (2012) Hedge funds as liquidity providers: Evidence from the Lehman bankruptcy. *Journal of Financial Economics* 103(3): 570–587.
- 7 Comerton-Forte, C., Hendershott, T., Jones, C. M., Moulton, P. C., and Seasholes, M. S. (2010) Time variation in liquidity: The role of market-maker inventories and revenues [Electronic version], Retrieved [15/01/2016], Cornell University, School of Hospitality <http://scholarship.sha.cornell.edu/articles/4/>
- 8 Jylhä, P. and Suominen, M. (2011) Speculative capital and currency carry trades. *Journal of Financial Economics* 99(1): 60-75.
- 9 Acharya, V., Lochstoer, L. and Ramadorai T. (2013) Limits to arbitrage and hedging: Evidence from commodity markets. *Journal of Financial Economics* 109(2): 441–465.
- 10 Arif, A. and Anees, A. N. (2012) Liquidity risk and performance of banking system. *Journal of Financial Regulation and Compliance* 20(2): 182–195.
- 11 Bordeleau, É. and Graham C. (2010) The Impact of Liquidity on Bank Profitability. Bank of Canada: Financial Stability Department. Working Paper 2010-38, December 2010
- 12 Naceur, S. B. and Kandil, M. (2009) The impact of capital requirements on banks' cost of intermediation and performance: The case of Egypt. *Journal of Economics and Business* 61(1): 70-89.
- 13 VanHoose, D (2007) Theories of bank behaviour under capital regulation. *Journal of Banking and Finance* 31(12): 3680–3697.
- 14 Blackrock, (2016), Addressing Market Liquidity: A Broader Perspective on Today’s Bond Markets. Blackrock UK: Addendum, November 2016 (updated and re-issued) <https://www.blackrock.com/corporate/en-sg/literature/whitepaper/viewpoint-liquidity-bond-markets-broader-perspective-february-2016.pdf>
- 15 European Banking Authority. (2015) Second report on impact assessment for liquidity measures under Article 509(1) of the CRR, Brussels: EBA Report <https://www.eba.europa.eu/documents/10180/950548/2014+LCR+IA+report.pdf>
- 16 Standard and Poor’s. (2011) Why Basel III and Solvency II Will Hurt Corporate Borrowing in Europe more than in the U.S, Standard and Poor’s: US. September 27 <http://www.argusdelassurance.com/mediatheque/9/6/2/000011269.pdf>
- 17 Freixas, X. (2010) Post-crisis challenges to bank regulation. *Economic Policy* 25(62): 375–399.
- 18 Asongu, S. A. (2013) Post-crisis bank liquidity risk management disclosure. *Qualitative Research in Financial Markets* 5(1): 65-84.
- 19 Tirole, J. (2011) Illiquidity and All Its Friends. *Journal of Economic Literature* 49(2): 287-325.
- 20 Clayton, N. (2013) An overview of the inconsistencies of approach in regulating the capital position of banks: Will the United Kingdom step out of line with Europe? *Journal of Banking Regulation* 14(2): 107-133.
- 21 Brammertz, W. (2010) Risk and Regulation. *Journal of Financial Regulation and Compliance* 18(1): 46-55.
- 22 Laker, J. (2010) Global Regulatory Reforms – An update: Introductory Remarks. Proceedings of the FINSIA Financial Services Conference; 20 October 2010, Sydney: Australian Prudential Regulatory Authority.
- 23 King, M. (2010) Banking – From Bagehot to Basel and back again. Speech in The Second Bagehot Lecture Series. October 25, New York: Buttwood Gathering
- 24 Akinbami, F. (2013) Is meta-regulation all it’s cracked up to be? The case of UK financial regulation. *Journal of Banking Regulation* 14(1): 16-32.

- 25 Meszaros, G. (2013) Macroprudential regulation: A contradiction in its own terms. *Journal of Banking Regulation* 14(2): 164-182.
- 26 Ertürk, I. (2016) Financialization, bank business models and the limits of post-crisis bank regulation. *Journal of Banking Regulation* 17(1/2): 60-72.
- 27 Aldasoro, I. and Faia, E. (2016) Systemic loops and liquidity regulation. *Journal of Financial Stability* 27(C): 1-16.
- 28 George, R. and Mohan, T. (2015) Liquidity Coverage Ratio Requirement Increases Cost of Securitization for U.S. Banks. *The Journal of Structured Finance* 20(4): 13-21.
- 29 Kondor, P. and Vayanos, D. (2018) Liquidity Risk and the Dynamics of Arbitrage Capital. *The Journal of Finance* forthcoming
- 30 Banerjee, R. and Mio, H. (2014) The impact of liquidity regulation on banks. Basle: Bank for International Settlements. Working Paper No. 470
- 31 European Banking Authority. (2012) New Bank Liquidity Rules: Dangers Ahead. Brussels: EBA Report, A Position Paper by EBA's Banking Stakeholder Group
- 32 Kowalik, M. (2013) Basel Liquidity Regulation: Was It Improved with the 2013 Revisions? Federal Reserve Bank of Kansas City. *Second Quarter Economic Review* 2: 65-87.
- 33 Simion, G., Rigoni, U., Cavezzali, E. and Veller, A. (2016) Basel liquidity regulation and credit risk market perception: evidence from large European banks. World Finance Conference in New York; November 9, USA
- 34 Bruno, B., Onali, E. and Schaeck K. (2018) Bank reaction to bank liquidity regulation. *Journal of Financial and Quantitative Analysis* 53(2): 899-935.
- 35 McIlroy, D. H. (2008) Regulating risk: A measured response to the banking crisis. *Journal of Banking Regulation* 9(4): 284-292
- 36 Van den End, J. W. and Kruidhof, M. (2013) Modelling the liquidity ratio as macroprudential instrument. *Journal of Banking Regulation* 14(2): 91-106.
- 37 Osborne, M. and Francis, W. B. (2012) Capital requirements and bank behavior in the UK: Are there lessons for international capital standards? *Journal of Banking and Finance* 36(3): 803-816
- 38 Cerrato, M., Choudhry, M., Crosby, J. and Olukuru, J. (2012) Why do UK banks securitize? University of Glasgow: UK. Glasgow Business School Working Paper, April 26 <http://dx.doi.org/10.2139/ssrn.2051379>
- 39 Loutskina, E. (2011) The role of securitization in bank liquidity and funding management. *Journal of Financial Economics* 100(3): 663-684.
- 40 Härle, P., Lüders, E., Papanides, T., Pfetsch, S., Poppensieker, T. and Stegemann, U. (2010) Basel III and European Banking: Its Impact, how banks might respond and the challenges of implementation. EMEA Banking. McKinsey & Company. Working Papers on Risk No. 26
- 41 King, M. R. (2013b) The Basel III Net Stable Funding Ratio and bank net interest margins. *Journal of Banking & Finance* 37(11): 4144-4156.
- 42 Goodhart, C. (2008) The boundary problem in financial regulation. *National Institute Economic Review* 206(1): 48-55.
- 43 European Banking Authority. (2016) EBA sees high NPL levels and low profitability as the main risks for EU banks. Risk Assessment of the European Banking System, 02 December <https://www.eba.europa.eu/-/eba-sees-high-npl-levels-and-low-profitability-as-the-main-risks-for-eu-banks>, accessed 15 January 2017
- 44 Meekings, K. and Delarue, M. L. (2016) Seeking stability in an uncertain world. European Banking Barometer 2016. Ernst and Young Publications, USA, 7th edition, March
- 45 Constâncio, V. (2016) Challenges for the European banking industry. Conference Proceedings on European Banking Industry: what's next? 7 July 2016, University of Navarra: Madrid, Spain
- 46 Aiyar, S., Calomiris, C. and Wiedalek, T. (2014a) Does Macro-Prudential Regulation Leak? Evidence from a UK Policy Experiment. *Journal of Money, Credit and Banking* 46(1): 181-214.
- 47 Aiyar, S., Calomiris, C. and Wiedalek, T. (2014b), How does credit supply respond to monetary policy and bank minimum capital requirements? London, UK: Bank of England. Working Paper No. 508.
- 48 Mesonnier, J. S. and Monks, A. (2014) Did the EBA capital exercise cause a credit crunch in Euro area? Paris, France: Banque de France. Working Paper No. 491.

- 49 Brun, M., Fraisse, H. and Thesmar, D. (2013) The real effects of bank capital requirements. Paris, France: Banque de France. *Débats économiques et financiers*. Working Paper No.8.
- 50 Noss, J. and Toffano, P. (2014) Estimating the impact of changes in aggregate bank capital requirements during an upswing. London, UK: Bank of England, Working Paper No. 494.
- 51 Goffinet, Y. (2016) European banks: a problem of profitability—but not of liquidity or solvency. Pictet Group, *Search Perspectives*, February 12
<https://perspectives.pictet.com/2016/02/12/european-banks-a-problem-of-profitability-but-not-of-liquidity-or-solvency/>, accessed 22 March 2016
- 52 De Nicolò, G., Gamba, A. and Lucchetta, M. (2014) Microprudential regulation in a dynamic model of banking. *Review of Financial Studies* 27(7): 2097–2138.
- 53 Baker, M. and Wurgler, J. (2015) Do Strict Capital Requirements Raise the Cost of Capital? Bank Regulation, Capital Structure, and the Low-Risk Anomaly. *American Economic Review* 105(5): 315–320
- 54 Kiesel, F., Lüke, F. and Schiereck, D. (2015) Regulation of uncovered credit default swaps: evidence from the European Union. *Journal of Risk Finance* 16(10): 425–443.
- 55 Basel Committee on Banking Supervision (2016), Literature review on integration of regulatory capital and liquidity instruments, Basel, Switzerland: B.I.S. Working Paper No. 30.
- 56 De Nicolò, G. (2015) Revisiting the impact of bank capital requirements on lending and real activities. Conference Proceedings on Macro, Money and International Finance, 26-27 February Munich, Germany: CESifo
- 57 Benczur, P., Cannas, G., Cariboni, J., Di Girolamo, F., Maccaferri, S. and Giudici, M. P. (2017) Evaluating the effectiveness of the new EU bank regulatory framework: A farewell to bail-out? *Journal of Financial Stability* 33: 207-223.
- 58 Petriaa, N., Caprarub, B. and Ichnatovc, I. (2015) Determinants of banks' profitability: evidence from EU 27 banking systems. *Procedia Economics and Finance* 20: 518–524.
- 59 Hong, H., Huang J. Z. and Wu, D. (2014) The information content of Basel III liquidity risk measures. *Journal of Financial Stability* 15: 91–111.
- 60 Bord, V. M. and Santos, J. A. C. (2014) Banks' Liquidity and the Cost of Liquidity to Corporations. *Journal of Money, Credit and Banking* 46(1): 13-45.
- 61 Berger, A. N. and Bouwman, C. H. S. (2013) How does capital affect bank performance during financial crises? *Journal of Financial Economics* 109(1): 146–76.
- 62 de Bandt, O., Camara, B., Pessarossi, P. and Rose, M. (2014) Regulatory changes and the cost of equity: evidence from French banks. Paris, France: Banque de France
https://acpr.banquefrance.fr/fileadmin/user_upload/acp/publications/Debats_economiques_et_finance/201403-Regulatory-changes-and-the-cost-of-equity-evidence-from-French-banks.pdf
- 63 Schmaltz, C., Pokutta, S., Heidorn, T. and Andrae, S. (2014) How to make regulators and shareholders happy under Basel III. *Journal of Banking and Finance* 46(C): 311–25.
- 64 Basel Committee on Banking Supervision. (2016) Literature review on integration of regulatory capital and liquidity instruments, Basle, Switzerland: Bank for International Settlements. Working Paper No.30.
- 65 KPMG. (2016) The profitability of EU banks: Hard work or a lost cause?, KPMG International, October, <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2016/10/the-profitability-of-eu-banks.pdf>
- 66 Allen, B., Chan, K.K., Milne, A. and Thomas S. (2012) Basel III: Is the cure worse than the disease? *International Review of Financial Analysis* 25(C): 159–166.
- 67 Alfon, I., Argimon, I. and Bascuñana-Ambrós, P. (2004), What determines how much capital is held by UK banks and building societies? London, UK: Financial Services Authority, Occasional Working Paper No 22.
- 68 Gray, J. (2016) Behavioural finance and the macroprudential dimension. *Journal of Banking Regulation* 17(4): 296-310.
- 69 Horváth, R., Seidler, J. and Weill, L. (2012) Bank Capital and Liquidity Creation. Brussels: European Central Bank. Working Paper No. 1497.
- 70 Acharya, V.V. and Skeie, D. R. (2011) A model of liquidity hoarding and term premia in inter-bank markets. *Journal of Monetary Economics* 58(5): 436–447.
- 71 Acharya, V.V. and Merrouche, O. (2012) Precautionary Hoarding of Liquidity and Interbank Markets: Evidence from the Subprime Crisis. *Review of Finance* 17(1): 107-160.

- 72 Aspachs, O., Nier, E. and Tiesset, M. (2005) Liquidity, Banking Regulation and the Macroeconomy: Evidence on Bank Liquidity Holdings from a Panel of UK Resident Banks. London, UK: London School of Economics, (mimeo 1-26)
- 73 Hsieh, H. and Shannon, S. E. (2005) Three approaches to qualitative content analysis. *Qualitative Health Research* 15(9): 1277–1288.
- 74 Rubin, H. J. and Rubin, I. S. (1995) *Qualitative Interviewing: The Art of Hearing Data*, Sage Publications, Inc., Thousand Oaks, CA.
- 75 Hochschild, J. L. (2009) *Conducting Intensive Interviews and Elite Interviews*, Workshop on Interdisciplinary Standards for Systematic Qualitative Research, Harvard University: USA
- 76 Gillham, B. (2005) *Research Interviewing: the range of techniques*. Berkshire: Open University Press.