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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

**Second Report on Effects of Directives 2006/48/EC and 2006/49/EC on the Economic
Cycle**

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1. INTRODUCTION

1. The minimum capital requirements for banks under the EU Capital Requirements Directive (CRD)¹, based on the Basel II framework, are risk sensitive. In consequence, as credit and market risk increases in a downturn, minimum capital requirements for banks will also increase to meet those higher risks. Banks may need to raise additional capital to meet these higher requirements at a time when their capital resources are being eroded by losses and opportunities for raising capital are scarce and costly. This may constrain banks' lending capacity into the economy, amplifying the downturn. Similarly, during an economic upturn when prices steadily rise and defaults decrease, the apparent reduction in risk may reduce capital requirements and increase lending, boosting the economy further. If the regulation has such an effect it is described as 'pro-cyclical'.
2. The possibility that the CRD may contribute to the pro-cyclicality observed in the financial system under the predecessor Basel I framework led to the inclusion in the CRD of Article 156² which requires the European Commission (Commission) to periodically examine whether the CRD has '*significant effects on the economic cycle*' and to submit a biennial report to the European Parliament and the Council together with any appropriate corrective measures.
3. The Commission prepared its first report on pro-cyclicality in 2010. This second report is again based on the analysis of the ECB, which was supported by the Impact Study Group (ISG) that was set up jointly by the ESCB Financial Stability Committee (FSC) and the European Banking Authority (EBA) in 2011 as a successor of the Joint Task Force on the Impact of the new Capital Framework (JTFICF). The focus of the ECB report was a quantitative analysis of IRB bank data, although there is brief discussion of the likely pro-cyclicality of the Standardised Approach, included in this report.³

¹ Comprising Directive 2006/48/EC of the European Parliament and of the Council relating to the taking up and pursuit of the business of credit institutions and Directive 2006/49/EC of the European Parliament and of the Council on the capital adequacy of investment firms and credit institutions

² In 2009 amended by Directive 2009/111/EC of the European Parliament and of the Council of 16 September 2009

³ The ECB's quantitative assessment includes quarterly data from Q4 2008 – Q2 2011 from around 80 banks using the internal ratings based approach (IRB) for the calculation of their capital requirements. Qualitative assessment is based on survey evidence from national supervisory authorities and the Eurosystem's Bank lending Survey (BLS).

4. Analysing the relationship between regulatory capital requirements and the pro-cyclical lending of banks remains a complex exercise. As outlined in the first report, the main questions to be answered are the following:
 - (a) Are capital requirements cyclical?
 - (b) If yes, do cyclical capital requirements have an impact on the level of capital that banks desire or actually hold?
 - (c) If yes, does the desired or actual level of bank capital have an impact on the cyclicity of lending?
 - (d) If yes, does cyclical lending have an impact on the economic cycle?
5. On July 2011, the Commission proposed a legislative package for the reform of banking regulation, including a directive (CRD IV) and a regulation (CRR). The Commissions' proposal includes some measures that may mitigate pro-cyclical policy measures. This report concludes with an *outlook* on the extent to which these counter-cyclical policy measures may mitigate the pro-cyclical impacts of the CRD on the financial and economic cycle.

2. CYCLICALITY OF REGULATORY CAPITAL REQUIREMENTS

6. There is a consistent view among the national supervisory authorities surveyed by the ECB in 2011 that the CRD minimum required capital (MRC) is more risk-sensitive and tends to be more cyclical than previous Basel I requirements. The increase of cyclicity in capital requirements is mainly attributed to the higher risk sensitivity of the overall framework, in particular as regards the calculation of capital requirements under the internal ratings based (IRB) approaches.
7. The ECB quantitative analysis examined the extent to which input risk parameters to IRB models, namely probabilities of default (PDs) and loss given default (LGDs) estimations, and exposures, are correlated with macroeconomic factors, and how much this feeds through into cyclical MRC. Their findings are to be treated as preliminary indications rather than robust empirical results.⁴
8. The ECB found that PDs of non-defaulted corporate and retail exposures tend to increase more strongly with lower macroeconomic activity, lower property prices and higher unemployment, fulfilling one precondition for cyclical capital requirements. By comparison, there was a rather limited cyclical impact found for LGDs, likely to reflect that LGD values employed in banks' internal models are somewhat stickier than respective PDs and thus may react less immediately to changes in the macroeconomic environment. Changes in exposure were correlated with lagged changes in industrial confidence and consumer confidence (indicators for the economic cycle) for the corporate and retail portfolio respectively, also

⁴ There remain two primary caveats: the implementation of the CRD is relatively recent (advanced models used from 2008) thereby limiting the availability of relevant data over a whole business cycle, so the analysis depends on cross country differences in business cycle stages; and the available sample period covers the recent financial crisis where crisis induced behavioural changes and policy interventions may have distorted general behavioural relationships.

implying cyclical: banks reduce exposures to these portfolios in the face of an adverse economic outlook.

Overall, the assessment of the input parameters to MRC calculations suggests some counterbalancing effects between cyclical risk parameters such as PDs or LGDs on the one side and cyclical developments in exposures on the other: in a downturn the effect of a higher PD may be offset by a cut back of exposures when combined as inputs into the MRC. These counterbalancing effects may render the cyclical effect on overall MRC somewhat unclear or even non-stable over time as the speed of adjustments may differ across parameters and portfolios.

9. The results of the estimation of changes in overall bank-level MRC do not point to a significant relationship between the change in MRC and GDP growth for the overall sample at the bank (rather than portfolio) level. However, when the analysis is limited to Group 1 banks⁵ there is a significant correlation between a decline in GDP growth and an increase in MRC. This tentatively points to some MRC cyclical for Group 1 banks.
10. It should be noted that the dataset was limited to IRB banks with many smaller Group 2 banks – that use the Standardised Approach – excluded. Therefore, MRC cyclical for Group 2 banks as a whole may also be significant, although statistical evidence for this is beyond the scope of the ECB study (see §13).
11. There are indications for some cyclical of MRC at the portfolio level. For lagged GDP growth, the principle indicator of the economic cycle, there is a significant negative relationship with the MRC of the corporate portfolio of Group 1 banks only. However, there is also a significant negative relationship between lagged commercial property prices and the corporate portfolio MRC for all banks in the sample.

For the retail portfolio, GDP growth also has a relationship with the Group 1 banks only, although to a lower significance level. Changes in unemployment rates have a significant impact on retail portfolio MRC for the overall sample, with no significant difference for Group 1 banks.

12. To summarise, cyclical effects at portfolio level seem to be mitigated at the bank level. As already indicated by the findings on counterbalancing cyclical effects among the MRC parameters, these mitigations are likely to be primarily due to portfolio adjustment concerning the size and composition of banks' overall portfolios. However, the observed reallocations of assets were likely triggered by the financial crisis rather than changes in the underlying risk parameters per se. For instance, banks may have targeted a higher amount of assets eligible as collateral in central bank liquidity operations to improve their liquidity position and to be able to benefit from cheap central bank funding. In the absence of the crisis, then, the MRC may have been more cyclical.
13. An important additional factor that may contribute to the cyclical of minimum capital requirements derives from external rating actions concerning some specific assets included in bank balance sheets. A substantial number of banks in EU

⁵ A bank is considered a Group 1 bank if its Tier 1 capital is above €3 billion and it is well diversified and internationally active. All other banks are classified as Group 2 banks.

countries apply (fully or partially) the standardised approach (SA) for the calculation of their capital requirements. Since the SA heavily relies on the use of external ratings for regulatory purposes, any cyclical variation in external ratings would result in cyclical variations of capital requirements as well.⁶ Banks using the SA may be an additional and significant force for any CRD-driven pro-cyclicality in bank lending.

14. Furthermore, the requirements set by credit rating agencies (CRAs) are important factors in banks' capital allocation decisions, because banks often aim at maintaining or reaching a target rating as a matter of business strategy, which may imply a higher and more cyclical capital ratio than that mandated by the CRD.⁷

3. IMPACT OF CAPITAL REQUIREMENTS ON BANK CAPITAL LEVELS

15. The ability and willingness of banks to lend depends in part on the degree to which the minimum capital constraints are binding. A pro-cyclical MRC increasing during an economic downturn would cut more sharply into a bank's capital buffer above the minimum, forcing a prudent bank to seek more capital or alternatively to reduce the MRC by cutting lending.
16. The academic literature on the behaviour of bank capital buffers over the economic cycle in general finds that banks' capital buffers above the MRC decrease when business activity goes up, implying excessive risk-taking during economic upswings and cutting back lending in downturns.⁸
17. The ECB empirical analysis finds slightly significant correlations between GDP growth and firm capital buffers implying the reverse behaviour – higher buffers during upswings and lower buffers in downturns. However, in view of the short sample period and crisis-driven capital buffer raising in 2010H2 and 2011H1 these observations must be treated with caution.⁹
18. Capital levels held by banks can also be driven by anticipation of future regulatory requirements. Future requirements cover the regulation set out in “Basel III” agreements, the recent measures of the EBA¹⁰ and any other additional national-level regulations concerning banks' capital ratios that have recently been approved or are expected to be approved in the near future. Overall, survey indications point to some

⁶ See commentary and charts 1, 2 and 3 in the accompanying Staff Working Document

⁷ See also section 0

⁸ See for example Ayuso, Perez and Saurina (2004), Bikker and Metzmakers (2004), Lindquist (2004), Jokipii and Milne (2008) and Stolz and Wedow (2011).

⁹ However the ECB notes that a few theoretical papers (e.g. Heid (2007), Zhu (2008), Jokivuolle, Kiema and Vesala (2009) and Repullo and Suarez (2009)) have pointed to the possibility of a change in banks' capital buffer behaviour when moving to a Basel II-based framework. Banks may decide to operate with additional buffers, and in more forward-looking manner, to insure against the perceived more cyclical MRC. This might give rise to capital buffers that move with the cycle; being higher in upturns and vice versa.

¹⁰ The EBA set capital target for 70 European banks, consisting of two parts to be implemented by June 2012. The first part is a temporary capital buffer against sovereign exposures at market prices as of September 2011. The second part consists in raising core Tier 1 capital ratios to 9%.

notable impact of regulatory changes on both their balance sheets and lending policies, including credit standards.¹¹

19. EBA has publicly disclosed preliminary evidence on the recapitalisation exercise.¹² The total actions give a preliminary aggregated capital surplus of approximately 26%. The actions predominantly focus on direct capital measures which account for 96% of the capital shortfall and for 77% of the total amount of actions proposed. The majority of these are capital raising, retained earnings and conversion of hybrids to common equity. Measures impacting risk-weighted assets (RWAs) account for the remaining 23% of total amount of actions. After taking account of the measures arising from EU State Aid decisions on banks restructuring or other country programmes, the impact of actions reducing lending into the real economy would be less than 1% of the total amount. However, the Commission, EBA and ECB are committed to conduct a close monitoring of the deleveraging process, whether related or not to the recapitalisation plan. In particular, since deleveraging is likely to occur with non-core activities and/or outside the home jurisdiction, close home-host cooperation within the EU and also outside its borders is important.

Moreover, euro area banks' share of total credit for Central and Eastern Europe (CEE) (47.3%) is high compared with other emerging economies, suggesting a very high level of credit dependence and a particularly high sensitivity to deleveraging decisions of the parent entities. For some specific countries in the region the credit supply is controlled almost entirely by euro area banking groups.¹³

4. IMPACT OF BANK CAPITAL LEVELS ON BANK LENDING ACTIVITY

20. The large majority of national supervisory authorities stated that there are clear links between bank's capital management policies and their loan granting process. In most cases the regulatory capital requirements of CRD play an important role. However, authorities have not identified clear impacts of regulatory capital requirements on certain asset classes or loan categories.

Other drivers behind capital management policies make it difficult to separate the influence of CRD on bank lending. Such drivers include the risk appetite policies of banks, stress tests, Pillar I/II requirements and RAROC¹⁴ and portfolio growth targets. As regards other supply and demand side factors that may affect the cyclical in loan exposures, authorities have divergent views, but these other factors are mostly seen as more important than regulatory capital requirements. Relevant factors for loan supply include the macroeconomic environment (cost of funding, availability of capital and liquidity, market confidence) and banks' individual lending strategy. Loan demand is mainly influenced by macroeconomic conditions (growth rate, inflation, unemployment, income development, insolvencies, consumption

¹¹ See charts 4, 5, 6, 7 with some results from the euro area Bank Lending Survey (BLS) on the impact of regulatory changes on banks' lending behaviour. However, it must be emphasised that this is a different phenomenon to the pro-cyclicality of existing requirements.

¹² EBA website, 9 Feb 2012, <http://www.eba.europa.eu/News--Communications/Year/2012/The-EBAs-Board-of-Supervisors-makes-its-first-agg.aspx>

¹³ See Table 1: EU banking assets and charts 8 and 9 in the SWD for further information and discussion on cross-border credit supply.

¹⁴ Risk adjusted return on capital, a risk-based profitability measure

(expectation), exports etc.), but market conditions (interest rates, funding availability) were also mentioned. Authorities also noted that impairments and write-offs of loans are more cyclical than regulatory capital requirements for performing loans. Fair value accounting and IFRS are also seen as important drivers for bank lending activity.

5. IMPACT OF CREDIT AVAILABILITY ON THE ECONOMIC CYCLE

21. Quantifying the impacts of MRC changes on lending and GDP remains difficult. The ECB reviewed the results of an analysis carried out by the Macroeconomic Assessment Group (BIS, 2010) that was set up by the Basel Committee on Banking Supervision and the Financial Stability Board to assess the macroeconomic effects of the transition to higher capital and liquidity requirements under Basel III. However, this study is mentioned for illustrative purposes only as it focused on a one-off transition to higher requirements rather than determining a standard co-movement between MRC, lending and GDP.
22. MAG noted that standard macroeconomic models do not readily allow for direct investigation of the effects of prudential policy changes on lending and GDP. While different models employed by the MAG capture many of the key aspects, there is no single model that incorporates all the relevant mechanisms. Therefore the study presents the median outcome of several models as a central estimate of the impact across models and countries.¹⁵
23. However, given all the caveats encountered in the ECB's quantitative analysis of MRC cyclical, for instance the very limited data available and the impact of the financial crisis both via additional regulatory changes, government interventions and behavioural adjustments, it seems to be too early to make a quantitative estimate of how big the pro-cyclical impact of CRD capital requirements on lending and GDP might be.

6. MEASURES TO ADDRESS PRO-CYCLICALITY

24. In July 2011, the Commission proposed a legislative package for the reform of banking regulation, including a directive (CRD IV) and a regulation (CRR). This follows the Basel III agreement and will meet the key objective of maintaining the credit supply to the real economy in the EU.
25. The proposal includes a number of measures that may mitigate pro-cyclical in banking lending: a single rule book, a countercyclical capital buffer, the introduction of a leverage ratio, reduced dependency on credit rating agencies for prudential requirements, and scope to undertake further measures to enhance loan availability for small and medium sized enterprises.

¹⁵ See chart 10: Macroeconomic Assessment Group model study results in the SWD

6.1. Single Rule Book

26. As noted above in §19, due to the integration of the EU banking sector, de-leveraging of credits in international banks in response to regulatory requirements set by national supervisors may occur outside home jurisdictions. The introduction of a single rule book will not only reduce regulatory arbitrage but also mitigate the pro-cyclical effects of asymmetric de-leveraging in "host countries".

6.2. Countercyclical Capital Buffer (CCB)

27. One key regulatory response to the perceived pro-cyclicality of bank lending is the countercyclical buffer (CCB), an integral part of the Commission's CRD IV proposal. This extra buffer, built up gradually over good economic times, can be released in an economic downturn to allow banks to absorb their losses in an orderly way that does not lead to costly increases in the price of credit, which can aggravate recession. It will mitigate both the existing unresponsiveness of regulatory requirements to risk build-up at the macro level and their cyclicality.
28. Since dynamics can be very different across different markets, the buffers are determined on a national market base. The European Systemic Risk Board would be in charge to develop common guidelines and facilitate and coordinate this macroprudential tool within the framework of its mandate.
29. The ECB report highlights that although there are some conceptual issues that arise with regard to the practical implementation of the CCB¹⁶, the overall amount of CCB would have followed a clear counter-cyclical trend. In line with the credit growth in the years before the crisis and on the basis of a hypothetical implementation of the CCB in 2005, the buffer guide would have increased gradually, to a peak of circa 290bn euro for all countries in the EU in 2007.¹⁷

6.3. Leverage Ratio

30. The Leverage Ratio is an additional capital requirement that can become a binding ceiling on leverage beyond a certain multiple of assets compared to Tier 1 capital. This would help to limit excessive bank lending during the upswing of an economic cycle when banks have momentum to expand balance sheets without an appropriate increase in capital.
31. In line with Basel III, the Commission has proposed the Leverage Ratio as a Pillar 2 measure with "a view to migrating to a binding (pillar 1) instrument, after appropriate review and calibration". As the Leverage Ratio is a new instrument for the EU (and in its current form for nearly the whole world) the Commission proposed a diligent approach with a thorough review and parallel trial period before deciding on the final form of the instrument.¹⁸

¹⁶ The ECB examined the Basel III reference guide, the credit-to-GDP ratio in different MS.

¹⁷ See chart 11 in the SWD

¹⁸ The CRD IV proposal tasks the EBA with preparing a report on the effectiveness and impact of the Leverage Ratio to be submitted to the Commission by June 2016. On the basis of the EBA report, the Commission shall report to the European Parliament and the Council by 31 December 2016 on the

6.4. Credit Rating Agencies (CRAs)

32. Credit rating agencies (CRAs) as well as economic capital models may also play an important role in the determination of the actual capital level of banks. As noted in §13, external ratings are closely correlated to the economic cycle, implying that capital requirements linked to these will also follow a clear cyclical pattern, at least at the level of individual exposures. The heavy reliance of the Standardised Approach to credit risk on external ratings means that this issue is particularly relevant for banks who have not yet migrated to the IRB approach.
33. In view of this, the CRD IV proposal encourages the use of internal ratings, while reducing the number of references to external ratings and strengthening provisions on how external ratings can be used.¹⁹ It respects the principle of proportionality by allowing smaller credit institutions and investment firms to opt for the less CRAs-dependent (and more risk sensitive) IRB approach by permitting the use of the simplest possible rating procedures.²⁰ The use of the IRB approach requires independent risk assessment capability and also incentivises better risk management techniques to control the credit risk in bank portfolios.
34. Furthermore, the Commission adopted a legislative proposal²¹ on 15 November 2011 that includes a general obligation for all regulated financial institutions to make their own credit risk assessments, and similar proposals for insurers will follow later in 2012. The Commission is also very much involved in and supportive of work going on in Basel seeking to reduce the importance of ratings as a criterion for defining liquid assets and looking for alternatives to calculate capital requirements for securitization investments. All this should reduce the pro-cyclicality of financial regulation arising from overreliance on CRAs.

6.5. Small and Medium-sized Enterprises (SMEs)

35. SMEs are more bank-dependent institutions since they have fewer opportunities to find alternative sources of finance, and as the backbone of the European economy²² any pro-cyclicality in capital requirements may most significantly impact growth in the real economy through constrained SME lending.
36. Access to bank loans for SMEs was found to have deteriorated in the April to September 2011 ECB 'SAFE' survey, and this trend was confirmed in the October 2011 to March 2012 survey. According to these latest survey results, euro area SMEs' financing needs increased during the period with 19% reporting an increase in their need (demand) for bank loans, up from 17%, while 11% reported a decrease, compared with 12% before. The net balance of firms reporting a worsening in the

effectiveness and impact of the leverage ratio and 'where appropriate' make in 2018 a legislative proposal for the introduction of a Leverage Ratio (Article 482 (1)).

¹⁹ At the international level, the Financial Stability Board (FSB) issued in Oct 2010 principles to reduce authorities' and financial institutions' reliance on CRA ratings. (http://www.financialstabilityboard.org/publications/r_101027.pdf)

²⁰ Recitals 28-29 of the July 2011 CRR proposal

²¹ See http://ec.europa.eu/internal_market/securities/agencies/index_en.htm for further information

²² SMEs account for 99.8% of enterprises, 66.9% of employees, and 58.4% of gross value added in the EU-27 (2010 estimate, Eurostat/National Statistics Offices of Member States/Cambridge Econometrics/Ecorys)

availability (supply) of bank loans was 20%, up from 14% in the previous round.²³

At the same time, in the latest (April 2012) ECB quarterly Bank Lending Survey (BLS) the net tightening of credit standards on loans to SMEs fell from 28% in the Q4 2011 to 1% in Q1 2012, with net tightening of credit standards to the group of non-financial corporations as a whole falling from 35% to 9%, a much larger drop than was expected by survey participants at the time of the previous survey round. This could be explained by a marked decline in the net percentage of euro area banks reporting that cost of funds and balance sheet constraints had contributed to a tightening of credit standards – 8% of banks reported a challenging market financing environment compared with 28% previously. Nevertheless, a respite from an even further tightening of credit standards does not ease the challenging funding situation for SMEs.

37. SME exposures are subject to a favourable treatment under the existing CRD. In the CRD IV proposal capital requirements are increased across the board for all credit risk exposures, which means that SMEs maintain their preferential treatment in Basel II relative to other exposures. Even so, the Commission has requested the EBA to analyse and report on the current risk weights of SME lending and the thresholds employed for identifying SMEs in the context of the new Basel III standards. Options to further improve the favourable treatment of SME exposures include for instance decreasing the risk weighting from 75% to 50% or raising the exposure threshold for SMEs from €1m to €2m or €5m. The Commission would carefully consider these options within the overarching CRD IV objective of enhancing financial stability.
38. It is also worth noting that SMEs, to the extent that they are credit rationed by banks, are expected to be the primary beneficiaries of smoothed pro-cyclicality brought about by the enhanced countercyclical measures in CRD IV.

7. CONCLUSIONS

39. The ECB found some evidence for a cyclical MRC driven by cyclical PDs for larger Group 1 banks using the IRB approach to credit risk, offset somewhat by cyclical exposures (i.e. reduced in a downturn). Although cyclical MRCs are tentatively identified at the portfolio (corporate and retail) level, this effect seems to be mitigated at the bank level when the whole sample of banks is considered.
40. This mitigation may primarily be due to crisis-driven portfolio adjustment, for instance to target more assets eligible as collateral in central bank liquidity operations, and therefore absent the crisis there could have been firmer evidence for a cyclical MRC. Banks using the Standardised Approach may also have a cyclical MRC due to the method's reliance on external CRAs whose ratings are cyclical.
41. The ability and willingness of banks to lend depends in part on the degree to which the minimum capital constraints are binding. Although the MRC calculated under the current CRD may have had some impact on actual capital levels held by banks, in

²³ Survey on the access to finance of SMEs in the euro area (SAFE) available at <http://www.ecb.europa.eu/stats/money/surveys/sme/html/index.en.html>

addition to several other factors expectations of stricter future regulatory requirements may have resulted in capital targets set considerably above the MRC, with significant impacts on balance sheets and lending policies. However, this is a driver that is different from the cyclicity of the current legislation.

42. CRD IV, which will implement Basel III in the EU, will represent a structural break with the past with a more demanding MRC in terms of quality and quantity of capital required, as well as new requirements for liquidity and leverage. Importantly, it will include a number of countercyclical policy measures, including a single rule book, a countercyclical capital buffer, a leverage ratio, and measures on CRAs and SMEs. Where appropriate, the implementation of measures will be phased in over time in order to avoid pro-cyclical effects.

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