

IFRS 9

Pro-cyclicality of provisions. Spanish banks as an illustration

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Executive summary

The financial crisis led to a need to recognise credit losses earlier in the credit cycle. This has been reflected in the new approach to Expected Credit Losses (ECL), instead of the former Incurred Credit Losses (ICL), enshrined in the new IFRS 9 rules, which will enter into force in January 2018.

Besides the increase in provision requirements in absolute terms, this note argues that the ECL as implemented through IFRS 9 will have pro-cyclical effects. These effects stem from two sources. On the one hand, from the transition from stage 1 to stage 2 of some loans, which require an increase of provisions corresponding to the expected loss over the life of the loan instead of the expected loss over 12 months. On the other hand, the cyclical evolution of the expected losses parameters (i.e. PDs and LGDs) given that ECL is based on a point-in-time approach rather than an (average) through-the-cycle one. Moreover, these two effects can be magnified by the recency bias as the most recent events have a significant impact in forecasters even when they have a low relevance.

We have estimated which would be the impact of IFRS 9 for the Spanish banking system in the changeover phase and in a subsequent downturn. Although the impact of IFRS 9 seems limited for the system as a whole (a 21% increase in provisions equivalent to 67 bps of erosion of CET1 in the changeover), it is very heterogeneous across individual banks. According to our estimates, the impact of the implicit stress scenario incorporated in the EBA Stress Test exercise of 2014, including the IFRS 9 changeover, in four banking groups would be equivalent to more than 200 bps of CET1 capital (the CET1 capital ratio will be eroded below 9% in two of them). In the rest of Spanish banks, the impact will be below 200 bps for most banks or even below 50 bps in a few banks.

While it has been argued that the earlier recognition of losses have some advantages in terms of financial stability, the cyclical effects may reduce such effects. Therefore, some mitigation actions should be implemented on the cyclical effects of IFRS 9 provisioning rules. They could include: a close monitoring by macroprudential authorities with the possibility of counterbalancing the effect through the various capital buffers; clear disclosures from the part of the entities to identify the effects on capital stemming from the implementation of the new rules and distinguish them from actual deterioration in capital levels; the implementation of dynamic transitional arrangement as proposed by the Basel Committee as they allow for ECL provisions to fluctuate over time, which is not the case for the static transitional arrangement.

¹: We acknowledge the useful comments received from Juan Julián Cubero Calvo, Juan Carlos Garcia Céspedes, Santiago Fernández de Lis and Javier Suárez.

Introduction

A lesson from the global financial crisis was that banks did not have enough provisions to confront a downturn of the unprecedented magnitude observed in the last global financial crisis, only comparable to the depression of the early 1930s. Following a G20 mandate², the new IFRS 9 rules incorporate a forward looking assessment by moving from an incurred credit loss (ICL) approach to an expected credit loss (ECL) approach for the measurement of impairment allowances with the goal of recognising existing credit losses earlier in the credit cycle. On top of past events and current conditions, expected credit losses are estimated on the basis of “reasonable and supportable forecasts about the future, including future economic conditions”³. This new approach to provisioning may have significant implications for regulatory capital both in terms of its amount and its procyclicality. The Basel Committee on Banking Supervision has launched a task force to better understand these implications⁴. This paper constitutes a contribution to this debate.

Provisioning rules under IFRS 9

Under IFRS 9, credits must be classified in one of three categories: stage 1, stage 2 and stage 3. Non-deteriorated loans are considered under stage 1 and should be provisioned with an amount equivalent to the loss expected to be incurred in the following 12 months. When a loan suffers a ‘significant increase in credit risk’, it is moved to stage 2 and requires provisions for the lifetime expected loss. Finally, credit-impaired loans are classified as stage 3 and are provisioned similarly to an incurred credit loss under IAS 39.

According to the Basel Committee estimates, the transition to IFRS 9 will generally result in an increase in the overall amount of loan loss provisions, which in many cases will reduce the capital ratios of banks⁵.

The cliff effect and pro-cyclicality

The move from ICL to ECL approach of IFRS 9 is reflected in the need to provision non-impaired loans (i.e. stage 1 and stage 2 loans). The early and decisive recognition of forthcoming losses seeks at improving financial stability through increased transparency, market discipline or inducing prompt supervisory intervention. However, it may also have some unintended consequences, via its effects on regulatory capital, by deteriorating the lending capacity of banks at the very beginning of a contraction, potentially contributing to its severity through amplified pro-cyclical effects. Moreover, the interpretation of some definitions allows for a flexible adaptation to specific cases, but they can also be unduly stretched. For instance, what does “significant increase” or “reasonable and supportable information” mean?; how will each entity tackle the non-linear relationship between ECL and forward looking information such as macroeconomic scenarios? Thus, the comparability across entities may significantly be jeopardised.

According to several estimations, the initial impact of the change over from IAS 39 to IFRS 9 would be limited (on the range of 30 to 75 bps of reduction in CET1⁶), although with significant heterogeneity across banks in terms of the size

2: FSB (2009): *Report of the Financial Stability Forum on Addressing Procyclicality in the Financial System*, April.

3: See BCBS (2016): *Regulatory treatment of accounting provisions. Discussion Paper*.

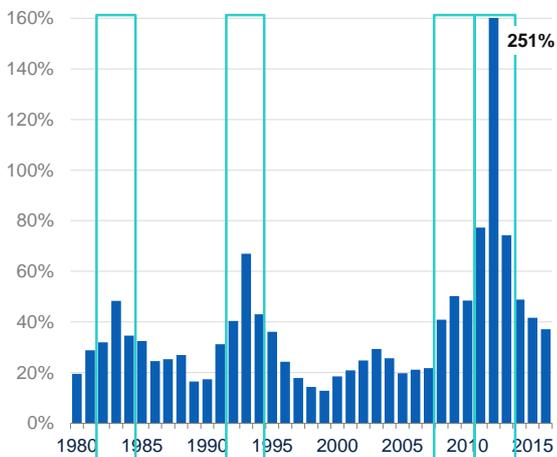
4: See BCBS (2016): *ib.*

5: See BCBS (2017): *Regulatory treatment of accounting provisions – interim approach and transitional arrangements*.

of this impact. The bulk of this impact would come from stage 2 loans (about two thirds) and the rest from stage 1 loans (one third). In order to smooth the shift to IFRS 9, the BCBS, and the Commission in the review of CRD IV, proposes some transitional adjustments for up to 5 years.

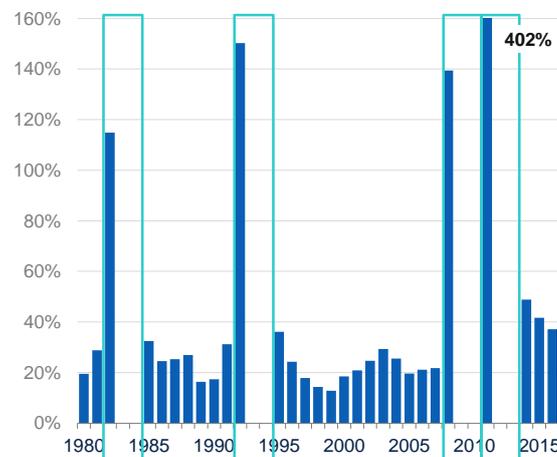
Besides this ‘day-one’ effect, the new accounting rules may generate a permanent pro-cyclical effect. The reclassification of a loan from stage 1 into stage 2 generates a sort of cliff effect in the amount of required provisions. Indeed, provisions jump from the expected loss for one year to the expected loss for the life of the loan, which can have a maturity of 30 or more years. The credit quality of deteriorated loans can also improve so that the loan returns to stage 1 and the corresponding provisions are reduced. Through the cycle, the movements in both directions will compensate each other. However, during the downturn, there will be a concentration of loan transfers from stage 1 to stage 2 and, during the recovery, there will be a concentration of loan transfers in the other direction. This fact, combined with the cliff effect of the reclassification, implies a pro-cyclical effect generated by the provisioning rules under IFRS 9. As an illustration of this potential effect, Figure 1 compares the evolution of loan losses over pre-provision earnings in Spain since the 1980s, against how it would have been if the losses for each one of three-year crises should have been recognised upfront at the beginning of each period.

Figure 1a Loan losses over pre-provision earnings, Spain, percentage



Source: Banco de España and BBVA Research.

Figure 1b Loan losses over pre-provision earnings with a front loaded recognition of losses, Spain, percentage



Source: Banco de España and BBVA Research.

With the exception of 2012, loan losses have always been smaller than earnings; typically they represent between 40% and 60% of earnings during a downturn (Figure 1a). This implies that banks can use some of these earnings to build capital buffers, confront potential losses from other portfolios or even distribute a (small) dividend to investors. Under the lifetime approach, provisions should be frontloaded for the expected loss during the (3-year) downturn period (Figure

6: A number of studies provide an estimate within this 30-75 bps range. For instance, EBA (2017, *Report on results from the second EBA Impact Assessment of IFRS 9*, July) EBA (2016, *Report on results from the EBA Impact Assessment of IFRS 9*, December), Barclays (2017, *IFRS9 – Bigger than Basel IV*, January), Deutsche Bank (2017, *IFRS 9: Safer balance sheets, more volatile earnings*, May) and HSBC (2016, *Impact of transition to IFRS 9 will be manageable, but regulatory capital requirements at risk in recession*, December). In absolute terms, the increase in provisions under IFRS 9 compared with the current levels of provisions under IAS 39 is estimated to be between 15% and 30% in most studies (see ESRB, 2017, *Financial Stability implications of IFRS 9*, July).

1b). In such a case, provisions do not only absorb the whole of earnings of the first year, but also deteriorate capital. While this situation could theoretically be reverted in the subsequent years, the volatility in earnings and dividends can have a significant impact on investors' confidence and the cost-of-equity of banks. Moreover, the accounting erosion of capital might reduce capital levels below regulatory requirements while it was not the case without the pro-cyclical effect. In other words, books might show a bank (or even a financial system) as non-viable when it is economically viable. The accounting effect may even be amplified through a self-fulfilled prophecy, push a bank into insolvency and undermine the capacity of banks to comply with other prudential requirements (e.g. leverage ratio).

Moreover, these effects are amplified by the cyclical sensitivity of the credit risk parameters used for the estimation of the expected credit loss. The IRB models used under the prudential framework incorporate the one-year expected loss approach, which is calculated on the basis of (average) through-the-cycle (TTC) PDs and LGDs. However, the expected loss under IFRS9 will be calculated on the basis of point-in-time (PIT) PDs and LGDs. These PIT parameters move with the cycle and show higher values during downturns (possibly affected by the recency bias).

Confronted with this situation, banks are expected to build additional "buffers" of provisions beyond regulatory requirements. However, other reactions are also possible; for instance, they may rethink some business lines which could more likely be affected by the stage 2 effects either by increasing loan prices or by abandoning certain business lines. Indeed, According to the EBA (2017, op. cit.) 72% of banks anticipate that IFRS 9 impairment requirements will increase volatility in profits. Also banks suggest that IFRS9 may have an impact in lending practices. On a similar vein, Abad and Suarez (2017)⁷ argue that forward-looking methods for the calculation of impairment allowances, such as under IFRS 9, imply sharper on-impact responses to negative shocks to (expected) credit quality, including those associated with changes in the aggregate state of the economy. If changes in economic cycle cannot be predicted well before the beginning of the crisis, PIT parameters could be overestimated and thus the downturn could have sharper impacts. Moreover, this can be affected by the recency bias. Consequently, well-modelled forward-looking methodologies reduce the procyclicality of IFRS 9 provisions and their economic consequences.

Pro-cyclical effects in Spanish banks

To assess the extent of these pro-cyclical effects, we have performed some simulations for the fourteen largest Spanish banking groups.

The simulations are based on the consolidated information disclosed under pillar III for December 2016, complemented with data from the EBA transparency exercise (as of June 2016) when needed. Seven banking groups use internal models (IRB) for assessing credit risk, namely, BBVA, Bankia, Popular, Santander, Sabadell, Bankinter and Caixabank⁸. Therefore these banks provide information about their credit portfolios in terms of probabilities of default (PDs), loss given default (LGDs), exposures at default (EAD) and provisions broken down by internal rating category (although with heterogeneous level of granularity). Other seven banking groups (Kutxabank, Ibercaja, Unicaja, Cajamar, Liberbank, Abanca and BMN) only use the standard approach (SA) in assessing the credit risk of their loan portfolios and

7: *Assessing the cyclical implications of IFRS 9 – a recursive model*. ESRB Occasional Paper no. 12, July 2017.

8: Data for BBVA, Santander and Sabadell correspond to the group as a whole, i.e. it includes both the business in Spain and abroad.

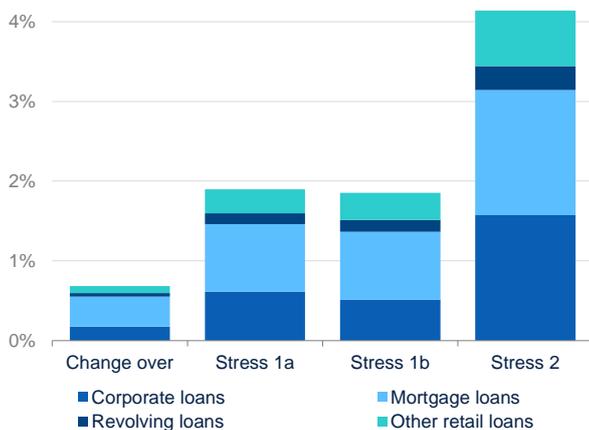
calculating capital requirements. We have assumed that the SA portfolios had a distribution similar to the IRB distribution, either for the same bank when information is available or for the average of all banks with IRB otherwise.

Loans with a probability of default of 5% or larger were considered to be on stage 2. A bank would very seldom grant a loan with such a high probability of default and, therefore, having such a loan in the portfolio would most likely stem from a supervened deterioration in the loan⁹.

We have considered 3 scenarios by stressing the PDs. In scenarios 1a and 2, PDs are increased two-fold and five-fold across internal rating categories, respectively, assuming banks become more conservative during a downturn. In scenario 1b, we have used the implicit stress incorporated in the EBA Stress Test exercise of 2014 by comparing the PDs in the stress scenario against the PDs in the baseline scenario (at the end of the period, after the stress horizon of three years). Scenarios 1a and 1b represent a stress similar to the one observed in the crises of early 1980s, the early 1990s and the first stage of the recent global financial crisis (2008-2010); while scenario 2 corresponds to a more severe crisis, similar to the one experienced during the deepening of the crisis in Spain as of 2011-2013.

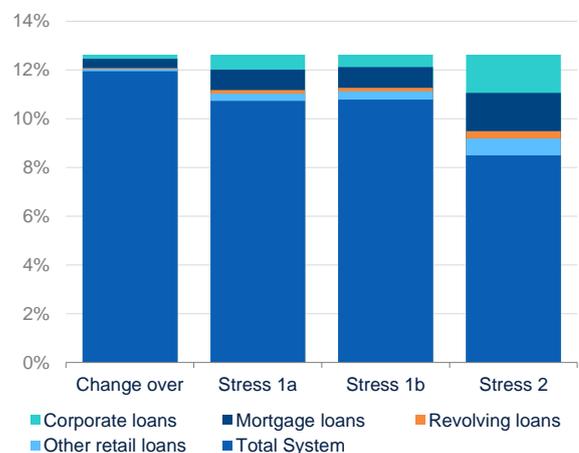
We have divided the loan portfolio into four subcategories, in line with the usual regulatory classification (mortgage loans, corporate loans, revolving credit and other retail loans) to take into account their specificities.

Figure 2a Impact on CET1 of IFRS 9 under several stress scenarios, Spanish banking system, percentage



Note: Change over: effect of the change over from IAS 39 to IFRS 9; Stress 1a: 2-fold increase in PDs for each rating class; Stress 1b: PDs are stressed following the assumptions used for the EBA stress test 2014; Stress 2: 5-fold increase in PDs for each rating class. Source: Banks' disclosures, EBA and BBVA Research.

Figure 2b CET1 ratio under IFRS 9 and several stress scenarios, Spanish banking system, percentage



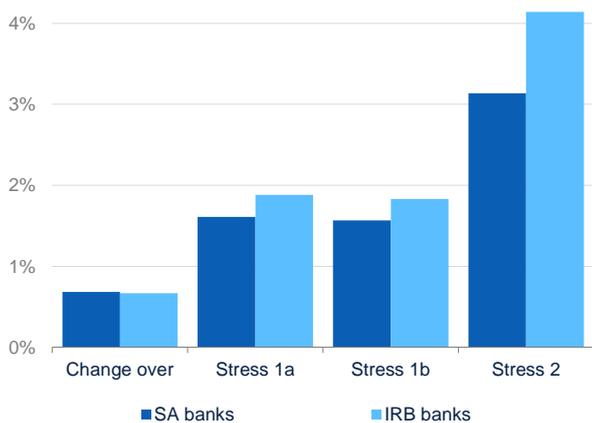
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9: According to EBA (2017), banks will mostly consider the relative change in the PD as a primary quantitative indicator of significant increase in credit risk for most asset classes. Similarly, ESRB (2017) indicates that banks usually rely on changes in PDs and missed payments for the determination of a significant increase in credit risk and the subsequent shift of exposures to stage 2.

The results of the simulation for the Spanish banking system in aggregate are shown in Figure 2. The changeover to IFRS 9 is expected to increase the expected losses in €5.2 billion compared with the losses incurred under IAS39. As a benchmark for comparing banks and scenarios, we have assumed that the provisions would be fully translated into a reduction in CET1 capital¹⁰. As a consequence, the CET1 capital ratio decreases in 67 basis points, mainly coming from the corporate and mortgage portfolios. A crisis with the characteristics of stress 1a or 1b would yield similar results with an impact of 185 and 180 bps, respectively (Figure 2a). A more severe crisis like the one under scenario 2 would erode the CET1 ratio in 403 bps. As a consequence, the CET1 ratio would decrease from 12.6% in 2016 to 11.9% after the changeover to IFRS 9, to 10.8% in an average crisis like the ones of scenario 1b and down to 8.6% in a severe crisis like the one under scenario 2 (Figure 2b).

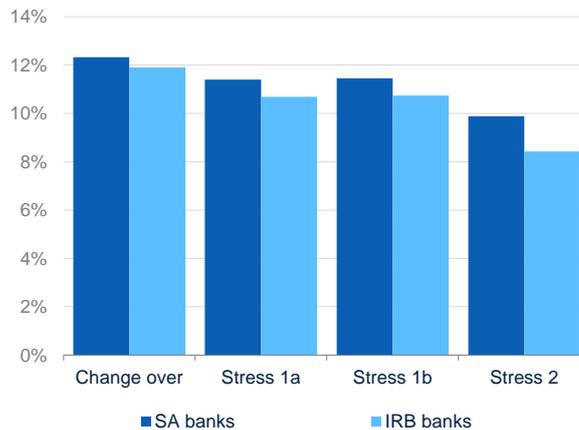
The impact appears to be very different across banks. Although regulatory requirements mark the minimum provisions, banks may be more conservative in their reserves for loan losses. As a consequence, the effective impact of the new rules should be assessed against the actual provisions accumulated by the different banks. There is a different prudential treatment of accounting provision depending on the use of the standard approach (SA) or internal risk-based models (IRB). Banks using mainly the standard approach tend to have larger buffer or excess provisions than banks using an IRB approach. As a consequence, SA banks present a lower estimated impact on provisions from IFRS 9 impairment requirements in potential future downturns than banks mainly using the IRB approach.

Figure 3a Impact on CET1 of IFRS 9 under several stress scenarios, Spanish banking system and breakdown by type of bank, percentage



Note: Change over: effect of the change over from IAS 39 to IFRS 9; Stress 1a: 2-fold increase in PDs for each rating class; Stress 1b: PDs are stressed following the assumptions used for the EBA stress test 2014; Stress 2: 5-fold increase in PDs for each rating class.
Source: Banks' disclosures, EBA and BBVA Research.

Figure 3b CET1 ratio under IFRS 9 and several stress scenarios, Spanish banking system and breakdown by type of bank, percentage



Note: Change over: effect of the change over from IAS 39 to IFRS 9; Stress 1a: 2-fold increase in PDs for each rating class; Stress 1b: PDs are stressed following the assumptions used for the EBA stress test 2014; Stress 2: 5-fold increase in PDs for each rating class.
Source: Banks' disclosures, EBA and BBVA Research.

10: We abstract from potential 'regulatory filters' dealing with possible discrepancies between accounting and regulatory provisions.

In concrete terms, SA banks would be impacted by 69 bps (of RWA) in the changeover to IFRS 9, mainly caused by the mortgage portfolio. On the other hand, IRB banks would be impacted by 67 bps, with a greater importance of corporate loans and other retail loans than in the case of SA banks. However, IRB banks are more impacted in the increase of provisions over risk-weighted assets than SA banks in a stressed scenario (Figure 3a). For instance, under a crisis with the characteristics of stress 1b SA banks would need to increase their provisions in 157 bps and IRB banks in 183 bps. The increase of provisions would be greater for IRB banks than for SA banks because of the higher coverage of provisions held by SA banks and because a greater risk-weighted assets density. This impact has been performed without considering the add-back of excess regulatory provisions over accounting provisions in Tier 2 for IRB banks. Considering the add-back, the impact for IRB banks would be much more limited.

Besides the differences depending on the approach to capital, we also observe significant differences across individual banks. For instance, taking as reference the stress 1b, equivalent to the one proposed by the EBA in its stress test in 2014 out of the seven SA banks analysed in our sample, three of them do not need to account for additional provisions to comply with IFRS 9 impairment requirements. The other four of them have a shortage of provisions of less than 70 bps of CET1. The impact is also limited for two IRB banks, but much more relevant for two IRB banks (between 200 and 250 bps of CET1) and even larger for the other two IRB banks (above 400 bps). For SA banks the largest impact of a stress seems to come from the mortgage portfolio¹¹ while for IRB banks the impact on corporate loans may also be significant. The source of these impacts is twofold. On the one hand, some banks hold a series of loans that, although they are not defaulted, they have suffered certain deterioration. Following a stress period, these loans should be moved into stage 2 and therefore provisioned by the lifetime expected loss. Required provisions under IAS 39 are insufficient to confront these losses.

Our results are consistent with EBA (2017), for which the impact of provisions stemming from IFRS 9 tended to be more limited for smaller banks¹² as they tended to have a higher coverage of exposures with provisions under IAS 39 than larger banks because the use of the SA tends to yield higher credit risk allowances than internal models.

Discussion

The crisis highlighted the need to better foresee potential future losses and, consequently, the need to increase provisions to foster the credit-loss absorbing capacity of banks. The early loss recognition incorporated in IFRS 9 seeks at enhancing transparency and the effectiveness of market discipline so that market concerns regarding capital adequacy in a crisis are reduced¹³. Financial statements will therefore reflect the weakness or strength of the reporting institution in a more timely and reliable way. Existing empirical work finds evidence pointing to the fact that the delayed recognition of expected losses has adverse effects on financial stability¹⁴.

11: Note that for SA banks this portfolio includes all the credit to households.

12: Note that, given the shortfall in regulatory provisions for banks using IRB models, the impact in regulatory capital of IFRS 9 tends to be larger for the larger banks (the ones using IRB models).

13: ESRB (2017).

14: ESRB (2017).

However, the expected credit loss estimates should be interpreted with caution and its benefits should be weighed against potential shortcomings. In particular with respect to modelling (including data availability) and some unintentional effects potentially leading to pro-cyclicality.

Modelling and data availability

The global financial crisis has cast doubt on the reliability of internal models. Under existing incurred loss models, the Basel Committee identified varied practices in accounting and regulatory provisions across jurisdictions and banks¹⁵, which may contribute to level playing field concerns and highlighted substantial disparities in the calculations of RWA across banks for similar portfolios¹⁶.

IFRS 9 establishes broad principles on how to model ECLs but it leaves many important details to the judgement of the reporting entities and their interaction with auditors and regulators. For instance, the shift of exposures from stage 1 to stage 2 (or vice versa) is critically dependent on the practical implementation of the concept of “significant deterioration in credit risk”¹⁷.

Moreover, the ECL approach to impairment allowances entails a large degree of sophistication and poses challenges related to the lack of data or experience relevant to the required modelling. ECLs imply estimates about future behaviour, sometimes with a very long time horizon, going well beyond usual macroeconomic projections. The models and assumptions may (significantly) differ from one bank to the other. Indeed, according to EBA (2017), banks mentioned a series of issues and challenges about IFRS 9 impairment implementation, including data quality, availability of historical data (determining the credit risk at origination) and availability of resources, as well as the incorporation of forward-looking information in the assessment of credit risk, the transfers across stages and the ECL estimation.

While banks currently using the internal ratings-based approach (IRB) to establish their capital requirements can build on their experience and adjust their models, banks solely using the standardized approach (SA) to determining their capital requirements may need to develop models from scratch.

Intended and non-intended impact and potential pro-cyclicality

The actual impact of IFRS 9 on systemic pro-cyclicality depends on complex interactions. A fuller and timelier recognition of credit losses enhances both the size of loss-absorbing buffers and their responsiveness to information. This may lead to enhanced financial stability but it can also point to a deterioration or improvement in credit risk and therefore may amplify the cycle. For instance, even if IFRS 9 would lead to a contraction in credit supply when a negative shock hits the economy, such a contraction may be lower than the contraction in credit demand, which may also be negatively affected by the shock¹⁸.

15: See BCBS (2016): *Regulatory treatment of accounting provisions. Discussion Paper*.

16: See, for instance, BCBS (2016): *Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches. March*.

17: ESRB (2017).

18: Abad and Suarez (2017).

The overall impact would depend on the reaction of the banks in terms of capital buffers and lending behaviour. Larger capital buffers may preclude forbearance and the continuation of dividend payments during the initial stages of a crisis so that banks can return to sound financial health more quickly¹⁹. This being said, building these capital buffers may be costly. Moreover, Abad and Suarez (2017) argue that recent evidence suggests that banks tend to accommodate sudden increases in capital requirements by reducing risk-weighted assets, most typically bank lending, which has a significant impact on the real economy. Indeed, according to ERSB (2017), banks foresee adjusting the interest rates charged on loans in anticipation of the new impairment allowances (and their capital cost). Moreover, they also may shorten the maturity of their loans or prefer borrowers with activities less sensitive to the business cycle.

These potential pro-cyclical effects may also have some implications for future stress test exercises as the results of the exercise may exacerbate the need of precautionary recapitalizations.

Remedial actions

The potential unintended consequences of IFRS 9 and pro-cyclical effects warrant a series of remedial actions.

First of all, it will require some macroprudential attention, possibility relying on the existing regulatory buffers. National macroprudential authorities could proactively use the countercyclical capital buffer (CCyB) to offset undesirable credit supply effects²⁰.

Secondly, regulatory guidance should help ensuring a sound and harmonised implementation of the ECL approach.

Thirdly, disclosures will be crucial in guaranteeing an adequate level of transparency regarding the computation of impairment allowances. A careful communication policy will be crucial to avoid undesired reactions by market participants stemming from a misinterpretation of the results regarding the earlier recognition of credit losses under the new ECL approach. Although there are no legal requirements to undertake parallel runs of IFRS9 and IAS39, most banks plan to undertake a parallel run of IAS 39 and IFRS 9 before the initial application of IFRS 9 in 2018, with regard to the impairment requirements, for 6 months. However, the EBA is concerned because the duration of parallel runs has been shortened from that originally envisaged and is also concerned that some banks are not planning to undertake any parallel run before IFRS 9 enters into force²¹. This parallel runs is important for banks to be able to assess how much of a potential deterioration in the books in early 2018 corresponds to an accounting effect of the implementation of the new rules and how much corresponds to an actual deterioration of the asset quality. Disclosures should allow investors to understand and evaluate those effects and how they are mitigated through the transitional arrangements being currently discussed at the EU level.

Finally, the BCBS proposes a static and a dynamic transitional arrangement²². Under the static approach, the mechanism would be applied only to the transitional effect on CET1 capital of initial application of an ECL accounting standard. The dynamic approach addresses the likelihood that the amount of total provisions that is due to the new ECL accounting will fluctuate over time. Given the pro-cyclical effects discussed in this note, the dynamic approach seems to be preferable to the static one.

19: Abad and Suarez (2017).

20: Abad and Suarez (2017).

21: EBA (2017). 19% of banks do not plan to undertake any parallel runs for impairment before the initial application of IFRS 9.

22: See BCBS (2017): *Regulatory treatment of accounting provisions – interim approach and transitional arrangements*.

Conclusions

In this paper, we have discussed some potential negative effects of the implementation of the new accounting rules under IFRS 9. Beyond the intention to enhance financial stability, the expected credit loss approach may imply some shortcomings. In particular, it may amplify, rather than reduce, cyclical fluctuations.

Using data for the main Spanish entities, the early recognition of losses may put some banks on the bridge of insolvency from an accounting point of view. This effect may be even further exacerbated if a stress test were to be implemented during a downturn. Although the impact is not very large, it is still relevant and should be monitored, particularly by macroprudential authorities.

The impact of provisions on banks using the standard approach for the calculation of capital requirements seems to have a more contained impact than banks using IRB models. This is explained by a higher coverage with provisions. However, SA will incur in higher operational cost for the changeover to IFRS 9 because they will most probably have to build their models from scratch.

Although the impact of IFRS 9 seems limited for the system as a whole, it is very heterogeneous across individual banks. According to our estimates, the impact of an average downturn in four banking groups would be equivalent to more than 200 bps of CET1 capital (the CET1 capital ratio will be eroded below 9% in two of them). In the rest of Spanish banks, the impact will be below 200 bps or even below 50 bps in a few banks.

While it has been argued that the earlier recognition of losses have some advantages in terms of financial stability, the cyclical effects may reduce or even cancel these effects. Therefore, some mitigation actions should be implemented to mitigate the cyclical effects of IFRS 9 provisioning rules. They could include: a close monitoring by macroprudential authorities with the possibility of counterbalancing the effect through the various capital buffers; clear disclosures from the part of the entities to identify the effects on capital stemming from the implementation of the new rules and distinguish them from actual deterioration in capital levels; and the implementation of dynamic transitional arrangement as proposed by the Basel Committee as they allow for ECL provisions to fluctuate over time, which is not the case for the static transitional arrangement.

Annex 1: Explanations of the calculations

In this annex, we explain how we have estimated the impact of IFRS 9 and the various stress scenarios for Spanish banks. As an illustration, we have taken the values for the total Spanish banking system and the mortgage portfolio (Table 1).

Figure 3a Impact on CET1 of IFRS 9 under several stress scenarios, Spanish banking system and breakdown by type of bank, percentage

Initial situation							Changeover to IFRS 9				
Internal Rating	Exposure at default			PD	LGD	Prov IRB	PD		Expected loss		
	IRB	SA	Total				12m	Life	12m	Life	IFRS9
AAA	199.384	115.842	315.226	0,07%	15,8%	128	0,07%	0,68%	31	-	31
BBB	46.072	26.064	72.136	0,20%	16,4%	10	0,20%	1,86%	19	-	19
BBB-	81.337	45.697	127.035	0,31%	16,1%	46	0,31%	2,92%	55	-	55
BB+	40.641	22.719	63.359	0,54%	15,8%	31	0,54%	5,04%	49	-	49
BB	68.495	38.815	107.311	0,91%	17,0%	79	0,91%	8,28%	144	-	144
BB-	44.906	26.092	70.998	1,75%	17,0%	64	1,75%	15,45%	168	-	168
B+	22.958	13.882	36.840	2,95%	17,8%	987	2,95%	24,76%	172	-	172
B	20.059	11.137	31.196	4,13%	18,0%	682	4,13%	32,98%	218	-	218
B-	20.521	12.301	32.822	7,82%	18,3%	935	7,82%	53,80%	419	2.754	2.754
CCC+ a	19.660	10.784	30.444	23,65%	20,3%	401	23,65%	92,00%	1.379	4.823	4.823
CC-							100,00%	100,00%	11.047	11.047	11.047
Defaulted	24.302	13.354	37.655	100,0%	29,9%	4.823					
Total	588.335	336.689	925.023			8.187			13.702	18.624	19.482
			Prov SA defaulted			8.641					
			Prov SA non-defaulted			11.890					
			Prov Total			20.531					

Note: Changeover: effect of the change over from IAS 39 to IFRS 9.
Source: Banks' disclosures, EBA and BBVA Research

A comparison between the current regulatory framework for IRB approaches and the impairment model under IFRS 9 was performed. First, we calculate the Stage 1 allowances based on a 12-month horizon and Stage 2 and Stage 3 allowances based on lifetime expected losses (see column named IFRS 9 in the table above). Then, we compare total ECL under IFRS 9 with current IRB regulatory framework (see allowances under IRB framework in the column named "12m" above). From Pillar 3 disclosures, we obtain the distribution of EAD, PDs and LGDs for the IRB portfolio across internal rating categories. For the SA portfolio, we get the gross exposure to perform this comparison in order to avoid a distortion with the current incurred-loss provisions approach.

Additionally, for the SA portfolio, we have the value for the total exposure (highlighted in green) and we assume that its distribution across rating categories is the same as for the IRB portfolio²³. We also have the provisions for defaulted and non-defaulted exposures under SA.

For each rating category we calculate the lifetime PD from the average duration of the portfolio (which can be estimated from the distribution of maturities available at Pillar 3 disclosures) and apply discount rate of 5%. We

23: Abad and Suarez (2017) argue that IFRS 9 have an extremely similar quantitative impact on SA banks and IRB banks.

consider that the loans with a PD higher than 5% should be classified under stage 2 and we apply the lifetime EL while we apply the 12 month EL for the loans with a PD below 5%.

Finally, we compare the total EL with the requirements under IAS 39, i.e. current provisions for the IRB portfolio and provisions for defaulted exposures for the SA portfolio. In the example above, the EL for IFRS 9 changeover amounts to €19,482 million compared to €16,828 million of required impairment allowances under IAS 39 (i.e. €8,187 million + €8,641 million) and it implies a shortfall of €2,654 million²⁴.

For the comparisons across banks, we compare the shortfall with risk-weighted assets, so that we have an estimate of the impact in terms of CET1 ratio. In the above example, it would be of 68 basis points. We abstract from potential 'regulatory filters' dealing with possible discrepancies between accounting and regulatory provisions. This is particularly relevant because the regulatory capital treatment of provisions under the SA and IRB approaches differ under both Basel II and Basel III²⁵.

We apply this same logic to the rest of portfolios for each one of the banks. When specific information was not directly available from the banks' account and Pillar 3 disclosures, we have estimated them through the last transparency exercise of the EBA or from the averages of the system.

24: Note that, in this case, SA provisions for non-defaulted exposures are enough to cover this shortfall. However, we restrict our analysis to the impact in terms of regulatory requirements without taking into account voluntary buffers banks may have.

25: See BCBS (2017): *Regulatory treatment of accounting provisions – interim approach and transitional arrangements*.

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