

**RESULTS FROM THE DATA COLLECTION  
EXERCISE ON THE PROPOSED REGULATORY  
CHANGES FOR A COMMON EU APPROACH  
TO THE DEFINITION OF DEFAULT**

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**EBA**

EUROPEAN  
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## Abbreviations

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<b>SA</b>	Standardised approach
<b>IRB</b>	Internal ratings-based approach
<b>CR</b>	Cure rate
<b>DR</b>	Default rate
<b>RR</b>	Recovery rate
<b>ELBE</b>	Expected loss best estimate
<b>DPD</b>	Days past due
<b>CP-GL</b>	Consultation Paper on the guidelines on the application of the definition of default under Article 178(7) of Regulation (EU) No 575/2013, EBA/CP/2015/15
<b>CP-RTS</b>	Consultation Paper on the RTS on the materiality threshold of credit obligation past due under Article 178(6) of Regulation (EU) No 575/2013, EBA/CP/2014/32
<b>SCRA</b>	Specific credit risk adjustments



## Executive summary

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The EBA conducted a qualitative and quantitative impact study (QIS) to assess the impact on the regulatory capital requirements of selected policy options to harmonise the definition of default used by institutions. The policy options tested reflect to a large extent the ones included in respective consultation papers on the RTS on the materiality threshold of credit obligation past due under Article 178(6) of Regulation (EU) No 575/2013 (EBA/CP/2014/32, hereafter CP-RTS) and the guidelines on the application of the definition of default under Article 178(7) of Regulation (EU) No 575/2013 (EBA/CP/2015/15, hereafter CP-GL).<sup>1</sup> The results have therefore been used to inform the final calibration, and subsequent amendments have been made to these regulatory products. An overall impact of the final proposals can be found in the impact assessment of the final RTS and the final Guidelines. The results presented here, while not measuring the final impact of the proposals, provide substantially more detail on the QIS results, and are therefore presented separately.

The QIS sample consists of 72 institutions, where eight of them participated only in the qualitative analysis. Of the remaining 64 institutions participating both in the qualitative and quantitative template, 22 institutions use a standardised approach (SA), 32 use an internal ratings-based approach (IRB) and 10 reported using both SA and IRB exposures. The 64 institutions considered in the sample for the quantitative analysis account for 44% of the total EU institutions' credit risk-weighted assets. However, the representativeness in terms of total credit risk-weighted assets greatly varies across jurisdictions. The data collection exercise has been carried out on a voluntary and best-effort basis, and not all institutions provided estimations for all policy options.

This report outlines the results of this exercise, which in the qualitative part of the assessment—based on a survey among the participating institutions—show substantial differences in the definition of default applied by the institutions. The different approaches taken by institutions, which in the absence of regulatory and supervisory guidance are allowed, demonstrate that the harmonisation of the definition of default is key to reducing risk-weighted assets (RWA) variability.

The quantitative part of the report reinforces the impression that differences in the definition of default used by institutions appear to be a driver behind RWA variability. Generally, the introduction of the harmonised definition of default proposed in the CP-RTS and in the CP-GL should presumably lead to a modest increase of capital charge, corresponding to an overall reduction of the average Common Equity Tier 1 (CET1) ratio of around 20 basis points for the IRB

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<sup>1</sup> Please note that only in the case of the policy option on the materiality threshold was the impact measured of an alternative policy option on the structure of the materiality threshold reflecting concerns of respondents during the consultation period. Details on the policy options tested in the QIS can be found in Section 4.2 of this report, and in the original QIS instructions: <http://www.eba.europa.eu/documents/10180/1247306/EBA+QIS+DoD+Instructions.pdf>.



institutions participating in the QIS, and a very limited reduction for SA banks. The results at the same time confirm that a harmonised definition of default will lead to significantly more comparable metrics being used by the institutions, removing the substantial variability that presently exists in the approaches taken across institutions.

The main drivers of variability within default definition stem from 1) different concepts for days past due (DPD) and different levels of materiality thresholds set by competent authorities; 2) the unharmonised use of probation periods; and 3) different identifications of sale of credit obligations. Harmonising such concepts, as proposed in the CP-RTS and the CP-GL, is therefore likely to substantially reduce the variability observed today.

It should be noted that the QIS is based on a number of simplifying assumptions in the impact assessment methodology that were intended to reduce the burden for institutions participating in the QIS, but at the same time to allow meaningful information to be obtained on the impact of a number of policy options. Testing the impact of the policy options on the risk parameters estimates performed by IRB banks is, in any case, very challenging, and some level of subjectivity used by institutions is unavoidable. The quality checks that have been performed by the EBA, in fact, revealed numerous data quality issues—in particular, in relation to the representativeness of the samples selected by the institutions. Wherever possible, the quality issues have been resolved, but, given the limitations in terms of subjectivity used by institutions, and of methodological simplifications, the results of the quantitative part of the QIS should be interpreted with care, and used only as indicative, bearing in mind the approximations used in the calculations.

# 1. Introduction

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The EBA has published a Consultation Paper on the guidelines on the application of the definition of default under Article 178(7) of Regulation (EU) No 575/2013 (EBA/CP/2015/15, hereafter CP-GL) in September 2015 for a four-month consultation period. At the same time, a qualitative and quantitative impact study (QIS) was launched in order to assess the potential impact and to inform the final decisions on the regulatory requirements expressed in the CP-GL and in the Consultation Paper on the RTS on the conditions according to which competent authorities shall set the materiality threshold for credit obligations past due under Article 178(6) of Regulation (EU) No 575/2013 (EBA/CP/2014/32, hereafter CP-RTS). Only in the case of the policy option on the materiality threshold was the impact measured of an alternative policy option on the structure of the materiality threshold reflecting concerns of a number of respondents during the consultation period (details of the policy scenarios tested can be found in Section 4.2 of this report).

The results of the QIS, while originally intended to inform only the impact assessment for the CP-RTS and CP-GL, in fact have a broader interest, as they provide an overview of current industry practices as regards the definition of default. The report therefore presents the estimated impact of the specified policy options under consideration on the regulatory capital requirements for both institutions that use SA and those that use IRB, as well as qualitative assessment of institutions' current practices with respect to the main areas of the definition of default.

The QIS contains two parts. The first part is a qualitative questionnaire where all participating institutions were asked to provide information on their current practices with regard to the main aspects of the definition of default. The results of the qualitative questionnaire are presented in Section 2 of this report. In addition to this, participating institutions were asked to provide their qualitative assessment of the impact of the policy proposals, included in the CP-GL and described in section 4.2 of this report, on their own funds requirements. The results of this assessment are presented in Section 3 of this report. The second part of the QIS is a quantitative survey and aims to quantify the impact of the proposed technical policy options (scenarios) for selected representative samples of exposures. This part of the QIS is different for institutions that use IRB and those that use SA. In the case of SA, the analysis is based on the expected reclassifications of exposures to and from the exposure class 'exposure in default' with regard to retail, corporate and secured-by-mortgages exposures. The analysis of the impact on the IRB covers retail and corporate small and medium-sized enterprise (SME) exposure classes, and is based on the estimated changes in five simplified risk parameters, including default rate (DR), cure rate (CR), recovery rate (RR), share of defaulted assets within a given type of exposure, and expected loss best estimate (ELBE) for defaulted exposures. In both cases, the impact estimated on selected representative samples of exposures was extrapolated to the total exposure classes covered by the analysis. In addition to the information provided by the institutions through the QIS templates, the analysis is supplemented with the Common Reporting (COREP) data for these

institutions. The results of the quantitative survey are presented in Section 4 of this report. It should be noted that, while the results of the qualitative analysis are presented based on the number of institutions—that is, each institution participating is equally weighted in the pie charts—the results of the quantitative analysis are weighted based on institutions' assets, where the average impact of each policy option is weighted by the institution's total exposures in the exposure classes under consideration.

The QIS sample consists of 72 institutions, where eight of them participated only in the qualitative analysis. Of the remaining 64 institutions participating both in the qualitative and quantitative templates, 22 institutions use SA, 32 use IRB and 10 reported using both SA and IRB exposures. The 64 institutions considered in the sample for the quantitative analysis account for 44% of the total EU institutions' credit risk-weighted exposures.<sup>2</sup> Broken down by the approach for capital requirements calculation, the banks that provided data on both IRB and SA exposures represent 14% of the EU institutions' credit risk-weighted exposures, while those reporting exclusively on IRB or SA exposures represent 28% and 2% respectively.

It has to be noted that the subjectivity used by institutions in interpreting and estimating the impact may affect the results of any analysis that is undertaken. Moreover, institutions were requested to provide their estimates on a best-effort basis, which could affect the accuracy of their estimates in some cases. In addition to this, the quality checks that have been performed on both data reported in the templates and COREP data revealed numerous data quality issues, among which the most significant are related to:

- **Sample representativeness:** The institutions were asked to use a representative sample for each exposure class under consideration. The representativeness was controlled by comparing the sample to the population with respect to the main risk parameters and general portfolio characteristics—e.g. number of obligors, average LGD and PD. While most of the issues arising from these checks have been clarified by the institutions, some level of subjectivity still remains around the sample selection.
- **IRB shortfall computation:** Adjustments have been performed in order to correct for these issues, but this results in some level of approximation.

Wherever possible, most of the quality issues have been resolved, but the results of the QIS should still be interpreted with care in light of these concerns, especially as regards the simplifying assumptions made in the impact assessment methodology, and the subjectivity used by institutions in selecting the representative sample and estimating the impact on the selected parameters. Testing the impact of the policy options on the risk parameters estimates performed by IRB banks is, in fact, very challenging. Considering all of the above aspects, it is worth mentioning that the estimated impact on capital ratios and RWA is based on simplifying assumptions in the calculations.

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<sup>2</sup> The ECB statistics on consolidated banking data.

## 2. Qualitative analysis – current practices

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### 2.1 Introduction

The qualitative analysis was designed with the aim of receiving input from participating institutions on the current practical implementation of key aspects related to the definition of default. This will serve as the basis for the analysis of whether the proposed regulatory changes will have a substantial impact on institutions. Moreover, the results of this part of the analysis identify the areas where significant variability in the practices is observed.

The questions included in the qualitative questionnaire address all aspects covered by the quantitative analysis, in addition to further key aspects of the definition of default that are less suitable for quantitative estimates. The questions refer in particular to the following aspects:

- different default definitions in use within the institution (Section 2.2);
- the application of the definition of default at obligor or facility level for retail exposures, including contagion rules and pulling effects considered for these exposures (Section 2.3);
- definition of technical default (Section 2.4);
- the payment allocation scheme as part of the methodology for counting of DPD (Section 2.5);
- the reference, structure, level of application and levels of the materiality threshold, used for both retail and non-retail exposures (Section 2.6);
- the used indications of unlikelihood to pay (Section 2.7 to Section 2.10); and
- the used criteria for return to non-defaulted status (Section 2.11)

The qualitative questionnaire was the same both for institutions that use IRB and those that use SA, and hence the analysis presented in this section is based on all 72 institutions participating in the QIS.

The results of the analysis indicate that the greatest variability of practices is observed in these areas:

- Materiality threshold (Section 2.6): In half of the cases where an institution uses more than one definition of default, the differences stem from the materiality threshold.

Furthermore, a significant variation is observed with regard to both the structure and the levels of materiality thresholds in use.

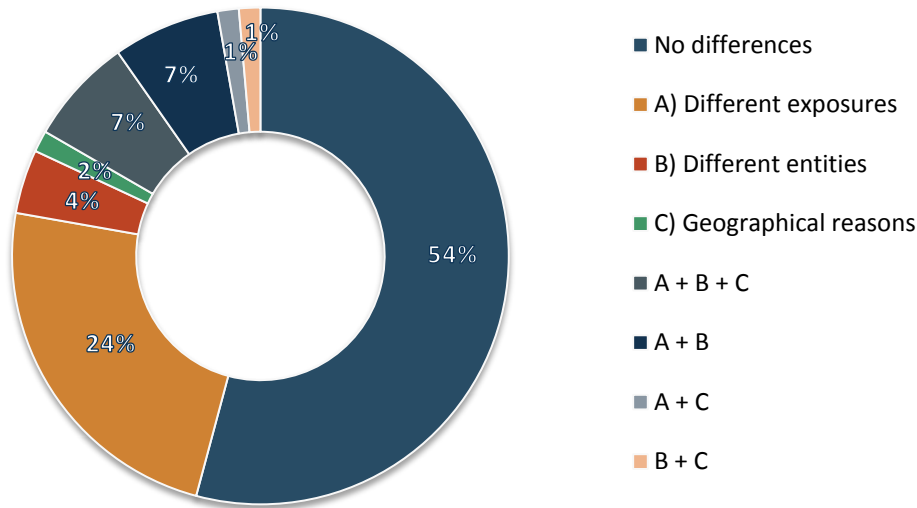
- Distressed restructuring (Section 2.8): The practices among institutions show the greatly different interpretations of distressed restructuring as an indication of unlikelihood to pay, as referred to in point (d) of Article 178(3).
- Probation period (Section 2.11): The qualitative analysis shows that half of the banks apply probation periods at least partially, while the other half do not use probation period at all, or only for distress restructuring. In addition to this, there is a wide range of lengths of probation periods among those institutions that use them.

## 2.2 Use of different default definitions

The differences in default definitions may be due to several aspects. Some of them may reflect different regulatory requirements, such as the number or counting of DPD (in particular, where some competent authorities have exercised the national discretion included in Article 178(1)(b) of Regulation (EU) No 575/2013 and replaced 90 days with 180 days for the purpose of default identification) or distinct materiality thresholds set by the competent authorities in their respective jurisdictions. Other differences may reflect aspects related to internal risk management practices—in particular, through the application of different indications of unlikelihood to pay or criteria to return to non-defaulted status that reflect specific characteristics of different types of exposure.

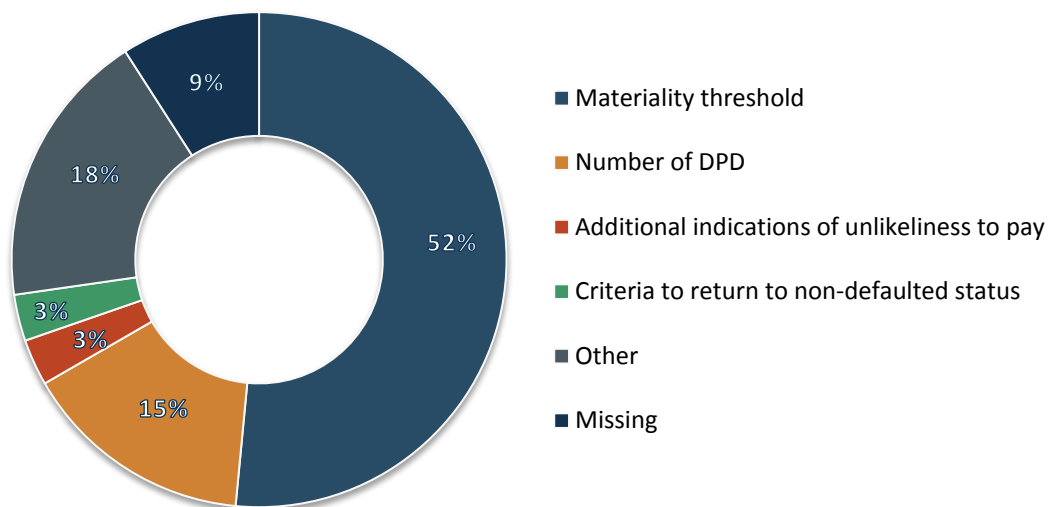
Figure 1 shows that more than half of the institutions apply a unique default definition across the group. Otherwise, in 39% of the cases, different definitions of default apply to different types of exposure (most of the time this being due to retail and non-retail exposure differences with regard to materiality threshold); in 19% of the cases, different definitions are in use in different legal entities; and in 11% of the cases, the reasons for differences in default definition include different geographical locations. Regarding the number of default definitions in use: 54% of the institutions have just one definition of default (as shown in Figure 1); 24% have two different definitions of default (these apply mainly to retail and non-retail exposures); 10% have between three and six different definitions; and 8% have more than six definitions of defaults. 4% of the institutions do not provide the number of default definitions in use.

Figure 1: Default definition differences



Focusing on the 46% of institutions that use more than one default definition, the main aspects of the definition of default creating the difference were then explored. Figure 2 shows that in 52% of the cases the differences stem from the materiality threshold. Other aspects creating differences include the number of DPD (15%), followed by additional indications of unlikelihood to pay (3%) and criteria to return to non-defaulted status (3%). The category ‘other’ includes institutions specifying more than one aspect leading to the differences (e.g. depending on exposures the difference might be due to DPD or the materiality threshold) or other aspects, such as the treatment of specific credit risk adjustments (SCRA).

Figure 2: Reasons for differences in default definition



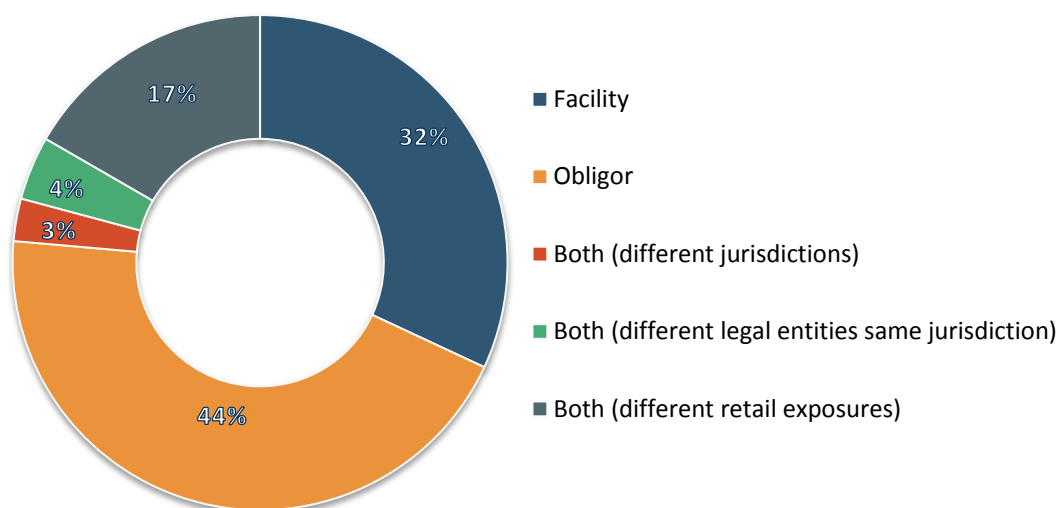
## 2.3 Level of application of the default definition for retail exposures

Article 178(1) of Regulation (EU) No 575/2013 gives institutions a choice to apply the definition of default for retail exposures either at the level of an individual credit facility or in relation to the total obligations of a borrower (i.e. at the obligor level). This part of the questionnaire researched the distribution of the choices made by the institutions.

As presented in Figure 3, institutions are heterogeneous in the way they apply the definition of default for retail exposures. Almost half of the institutions use the definition at the obligor level, and around 30% at the facility level. Among those institutions that apply the definition of default at the obligor, around 75% use IRB, while only 25% use SA. Contrarily, the institutions applying the definition of default at the facility level are more equally split between IRB (52%) and SA (48%). Those differences may stem from the fact that IRB institutions are better equipped to use more sophisticated approaches, and hence are able to apply the definition of default at obligor level rather than facility level.

The remaining 24% of the institutions apply the definition at the obligor or facility level according to different jurisdictions (3%), different legal entities within the same jurisdiction (4%), or for retail exposures (17%).

Figure 3: Default definition application for retail exposures



### 2.3.1 Use of pulling effect where the definition of default is applied at the facility level

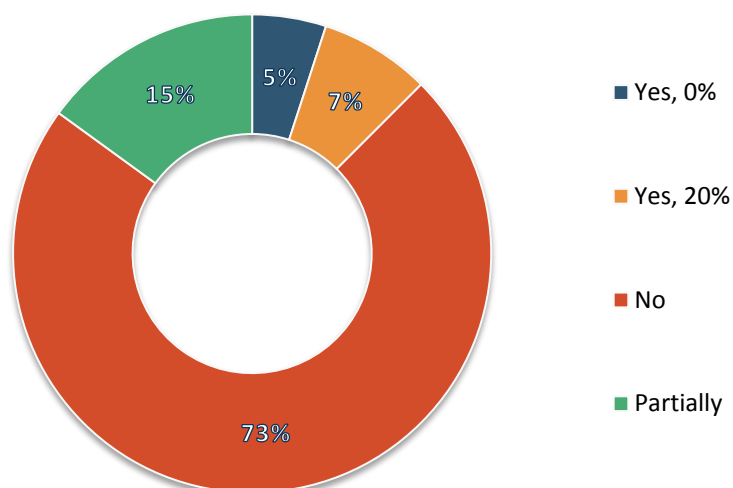
Pulling effect is understood as a rule where a default or non-performing status of a significant part of exposures to an obligor leads to recognition of default or non-performing status on the remaining exposures to this obligor. Such a rule has been introduced for the purpose of supervisory reporting as an obligatory measure in the recognition of non-performing exposures with a threshold of 20%. This part of the questionnaire examined whether a similar rule has been



introduced for the prudential purposes and the recognition of default. Such a rule may only apply when the definition of default is applied at the facility level, as where the definition of default is applied at the obligor level all exposures of the obligor would be defaulted anyway at the same time.

The analysis is based on those 40 institutions that apply the definition of default only at the facility level (23 institutions) or at both the obligor and facility levels, depending on specific entities, exposures or jurisdictions (17 institutions). Results are similar for those 23 institutions that only apply the definition of default at the facility level. As Figure 4 shows, almost three quarters of the institutions do not apply the pulling effect for the purpose of default identification; 15% apply it only partially (e.g. the pulling effect is applied for certain types of products); and only 12% apply it fully (5% with a threshold of 0% and 7% with a threshold of 20%).

Figure 4: Pulling effect for facility-level application



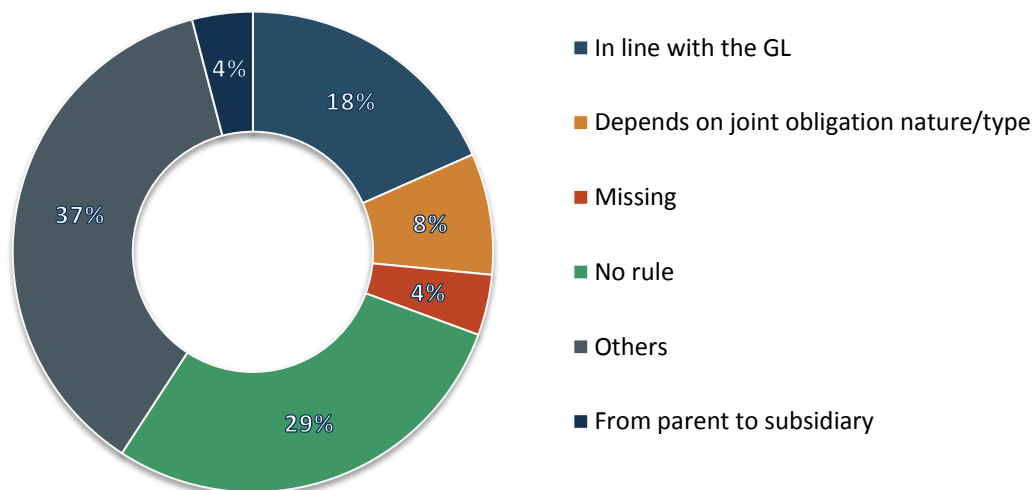
### 2.3.2 Use of contagion rules where the definition of default is applied at the obligor level

The analysis of the practices of the institutions with regard to the contagion rules in the retail exposure class is based on those 49 institutions that apply the definition of default only at the obligor level (32 institutions) or both at the obligor and facility level, depending on specific entities, exposures or jurisdictions (17 institutions).

Figure 5 shows the heterogeneity of the contagion rules across institutions: around 30% of the institutions do not have a rule for contagion, where this can mean either that they don't apply any contagion between obligors or that they make a case-by-case assessment; 18% of the institutions have rules that are in line with the one proposed in Chapter 9 of the CP-GL; 8% have contagion rules depending on the joint obligation nature or type; 4% specify contagion rules from the parent company to the subsidiary; and 37% of the institutions have other specific rules. Among that 37%, various practices are observed. Reported cases include contagion being applied only when the defaulted client is the main debtor; cases where all defaults are contagious with the exception of

those triggered by 90 DPD; cases where default of an obligor within a group of connected clients leads to an assessment of unlikeliness to pay; cases where the contagion treatment is different between retail and non-retail exposures; and cases where the contagion is not automatic but subject to case-by-case assessment.

Figure 5: Contagion rule for obligor-level application



## 2.4 Definitions of technical default

Although the term ‘technical default’<sup>3</sup> is not used in Regulation (EU) No 575/2013 it is a commonly used notion for describing situations or events that are excluded from identification of defaulted status. On the basis of the questionnaire, it was tested which definitions of technical defaults are currently in use.

The responses from the participating institutions were grouped into categories of definitions, as shown in Figure 6. More than half of the institutions (43% with respect to the definitions of technical default considered<sup>4</sup>) do not have a definition for technical default in place. In particular, 18% of the institutions in the sample do not use technical defaults at all, while for the remaining 33% the data of the QIS do not allow the exclusion of those institutions that recognise technical defaults on a case-by-case basis (actually only one bank explicitly claims to do so). Among those institutions that have a definition in use, the definition often refers to some kind of error—for example:

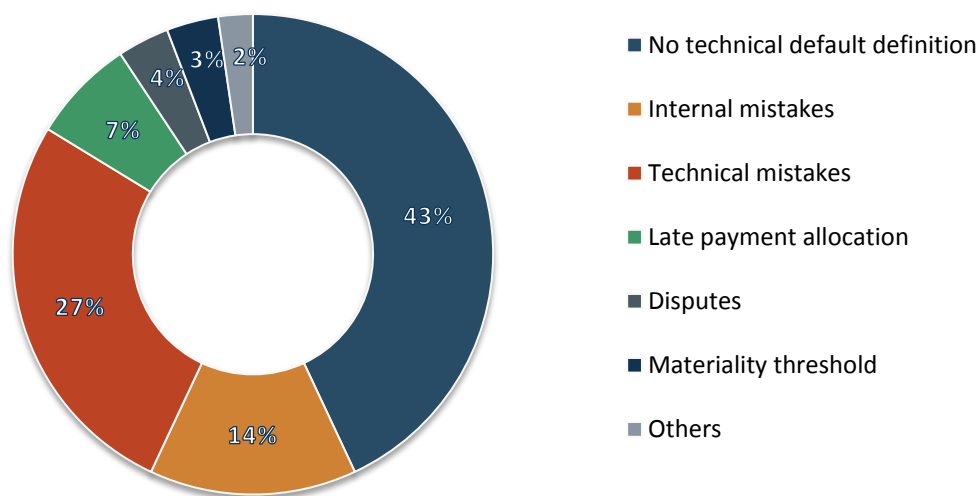
<sup>3</sup> In the final Guidelines the terminology of ‘technical days past due’ has been introduced to clarify that this concept only relates to the identification of defaults based on the DPD concept set out in Article 178(1)(b) in Regulation (EU) No 575/2013.

<sup>4</sup> Note that each institution might have more than one technical default definition in place. Figure 6 focuses on the number of technical default definitions rather than the number of institutions, so the percentages shown should be read as the frequency of use of each technical default definition class. In the appendix, Figure 41 computes the frequency of institutions using each technical default definition category; since each institution can use more than one default definition, the combined percentages do not total 1.

- ‘technical mistakes’ (used in 27% of the cases), including IT-system errors, such as incorrect reporting of the risk classification, or a technically incorrect limit allocation;
- ‘internal mistakes’ (used in 14% of the cases), where defaults are triggered due to errors or mistakes caused by the bank, such as the wrong account being charged;
- or ‘late payment allocation’ (used in 7% of the cases), where the payment is not recognised due to late payment allocation, either for internal or external reasons, such as delays in extending the validity of expired credit facilities, or technical delays in the registration of the payment of the invoice, where money is already in the bank but not yet assigned to correct client account.

In the remaining cases an alternative concept of technical default is used: in 4% of the cases institutions include in their technical default definition disputes or litigations (e.g. on leasing contracts in cases of litigation on the material rented) and in 3% of the cases institutions define a technical default where the delay in payment is within the limit of the materiality threshold.

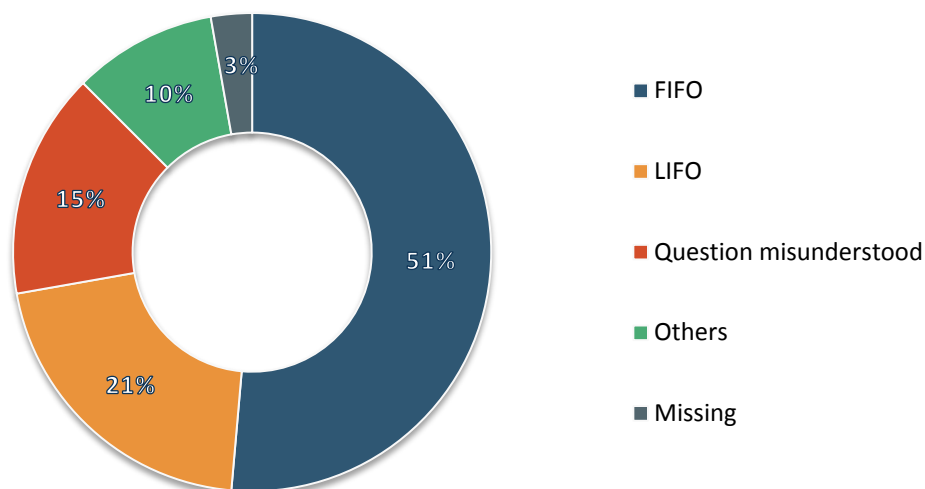
Figure 6: Technical default definitions used by institutions.



## 2.5 Allocation of payments

As the scheme for the allocation of payments may have significant influence on the counting of DPD, the participating institutions were asked about their current practices in this regard. As Figure 7 shows, the most used allocation of payments convention is first-in first-out (FIFO) (51%) followed by last-in first-out (LIFO) (21%), and then other conventions (10%). Among the other conventions, most of them allocate payments according to overdue amounts categories (such as interest principal or fees), or according to specific products and agreements. Some institutions (15%) misunderstood the question and instead of focusing on the allocation of payments for counting of DPD they have specified their methodology for past due counting, and hence this information could not be included in the analysis.

Figure 7: Counting of DPD



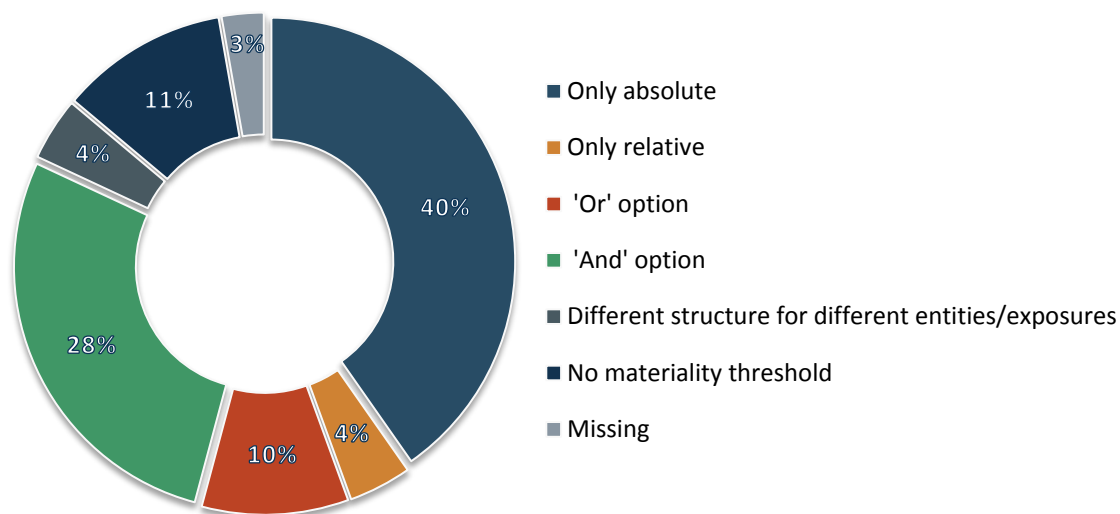
## 2.6 Materiality threshold for past due exposures

It has been observed in the previous studies that both competent authorities as well as institutions often specify the materiality threshold differently for retail and non-retail exposures. Hence, the level, structure and application of materiality threshold are analysed separately for non-retail and retail exposures in the following Sections 2.6.1 and 2.6.2 respectively.

### 2.6.1 Non-retail exposures

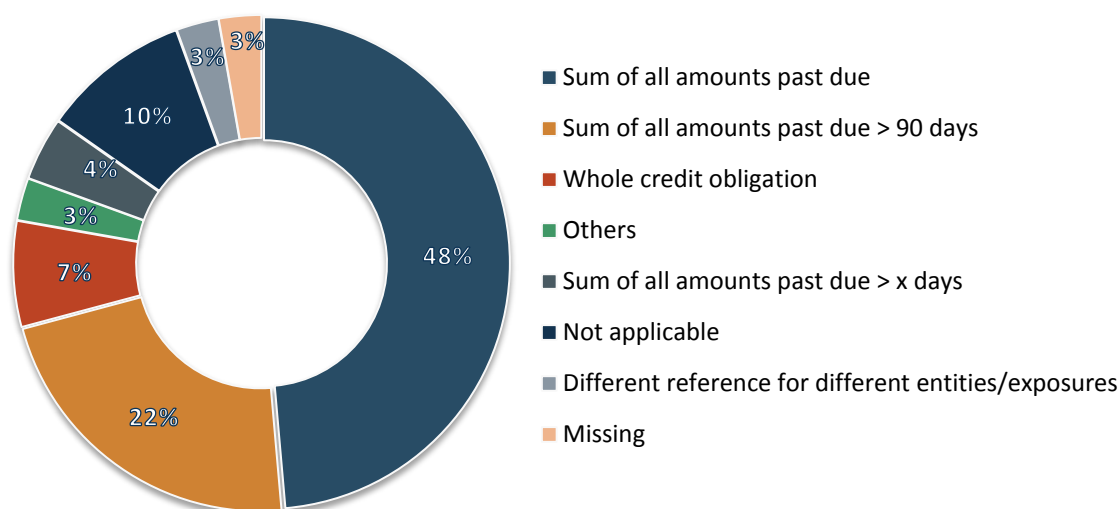
Figure 8 shows varied institutions' approaches to the structure of the materiality threshold for non-retail exposures. The most popular structure of the threshold for non-retail exposures is a simple absolute threshold (used by 40% of the institutions in the sample), followed by the combination of an absolute and a relative threshold, where the breach of both of them triggers default (the 'and' option used by 28% of the institutions), or where the breach of one of them triggers default (the 'or' option used by 10% of the institutions). Only 11% of the institutions do not have a materiality threshold in use. The remaining institutions are divided between those with only a relative threshold in use (4%) and those that apply different thresholds for specific entities or exposures (4%).

Figure 8: Materiality threshold – structure for non-retail exposures



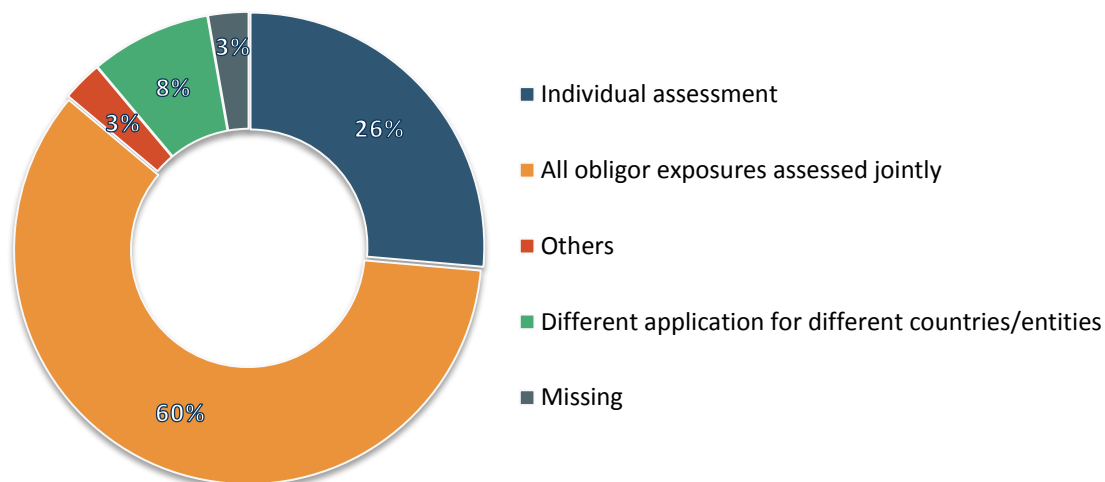
Regarding the reference amount to compare with the threshold, Figure 9 shows that almost half of the institutions use the sum of all amounts past due, while 22% consider amounts that are past due by more than 90 days. The remaining institutions show a variety of approaches: the whole credit obligation is used by 7% of the institutions; the sum of all amounts past due by more than a specified number of days (with different numbers of days) is used by 4% of the institutions; 3% of the institutions use different references for specific exposures or entities; and 3% of the institutions use other very specific approaches.

Figure 9: Materiality threshold – reference for non-retail exposures



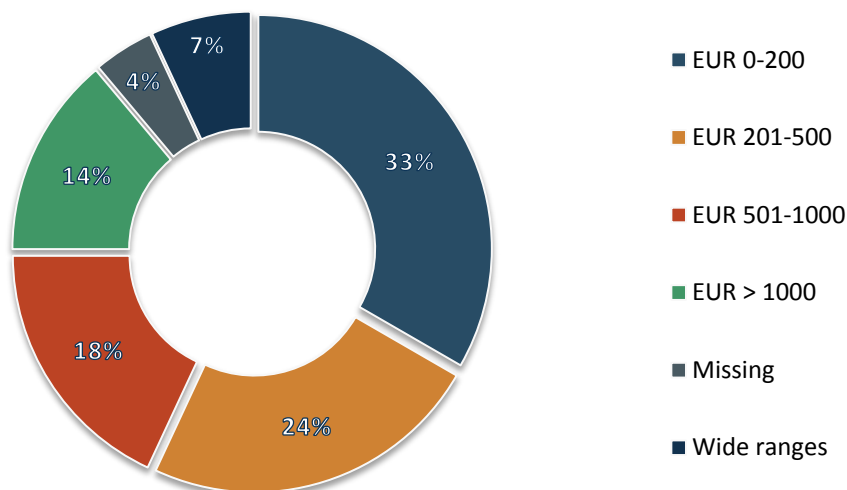
As presented in Figure 10, 60% of the institutions assess the reference amount against the materiality threshold in an aggregate manner for all exposures of an obligor, whereas 26% of the institutions perform the assessment individually for each credit facility.

Figure 10: Materiality threshold – application for non-retail exposures



Regarding the level of the absolute threshold, Figure 11 shows that more than half of the institutions use a threshold that is below EUR 500.<sup>5</sup> The remaining institutions use higher levels of the thresholds, or apply different thresholds for different subsidiaries, exposures etc.

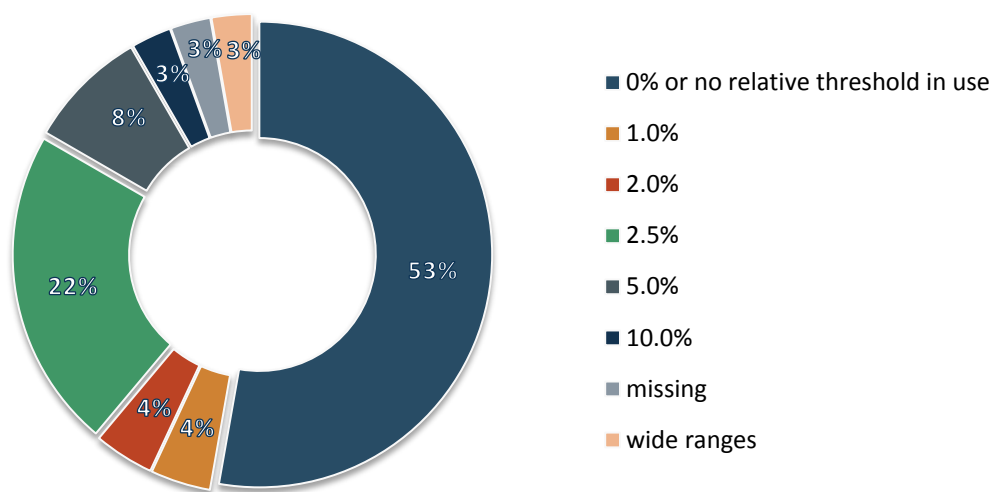
Figure 11: Materiality threshold – absolute level for non-retail exposures



Regarding the level of the relative threshold, Figure 12 shows that more than half of the institutions do not apply any relative threshold. For the remaining institutions that have a relative threshold above 0%, a lot of variation can be observed, with a majority of them (22% of all participating institutions) using a relative threshold of 2.5%.

<sup>5</sup> Note that in Figure 11, institutions that do not apply the absolute threshold are considered to use an absolute threshold of 0.

Figure 12: Materiality threshold – relative level for non-retail exposures

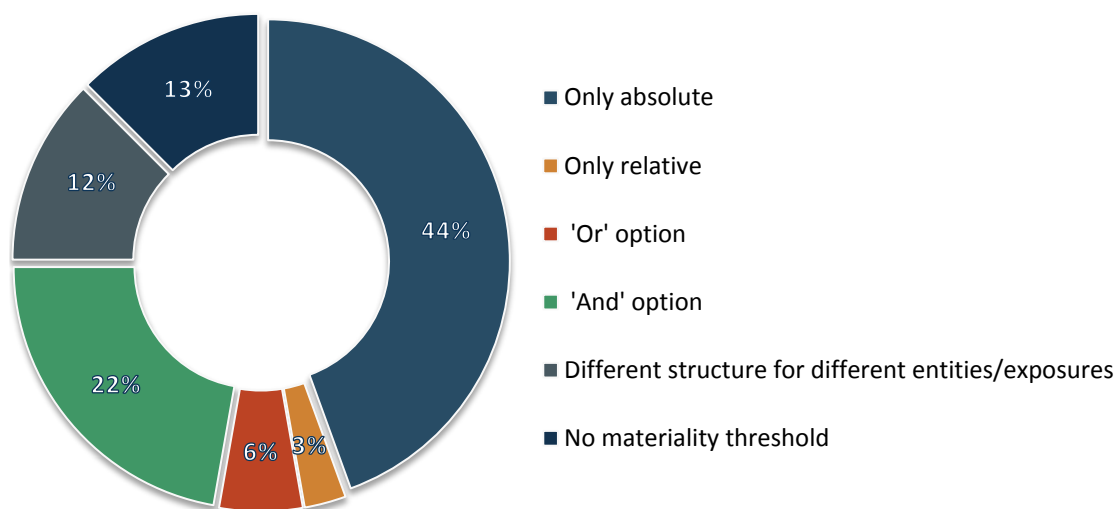


### 2.6.2 Retail exposures

The significant variability in the institutions’ practices both on the structure and the reference for the materiality threshold is observed also for retail exposures.

Figure 13 shows that the most popular structure of the threshold is again a simple absolute threshold (used by 44% of the institutions), followed by the combination of an absolute and a relative threshold, where the breach of both of them triggers default (the ‘and’ option used by 22% of the institutions) or where the breach of one of them triggers default (the ‘or’ option used by 6% of the institutions). Only 13% of the institutions do not have a materiality threshold in use. The remaining institutions are divided between those with only a relative threshold in use (3%) and those that apply different thresholds for specific entities or exposures (12%).

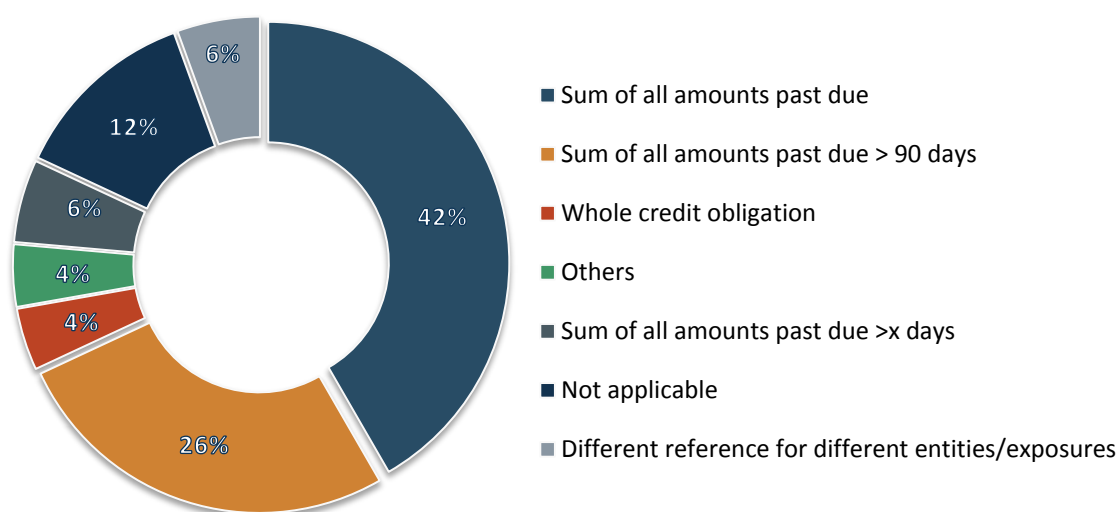
Figure 13: Materiality threshold - Structure for retail exposures





Regarding the reference amount to compare with the threshold for retail exposures, Figure 14 shows that almost 42% of the institutions use the sum of all amounts past due, while 26% consider amounts that are past due by more than 90 days. The remaining institutions show a variety of approaches: the whole credit obligation is used by 4% of the institutions; the sum of all amounts past due by more than a specific number of days (with different numbers of days) is used by 6% of the institutions; 6% of the institutions use different references for different exposures or for different entities; and 4% of the institutions use other very specific approaches.

Figure 14: Materiality threshold – reference for retail exposures



Regarding the application of the threshold for retail exposures, Figure 15 shows that almost half of the institutions (47%) apply the materiality threshold at the individual facility level. This is consistent with the possibility granted by Article 178(1) of Regulation (EU) 575/2013 to apply the definition of default for retail exposures at the facility level. In fact, among those institutions which assess the materiality threshold at the individual facility level:

- around half apply also the default definition at the facility level (25% of the total sample);
- around 30% apply the definition of default both at the obligor level and the facility level according to different retail exposures or entities (14% of the total sample);
- around 20% apply the definition of default at the obligor level (8% of the total sample).

Figure 15: Materiality threshold – application for retail exposures

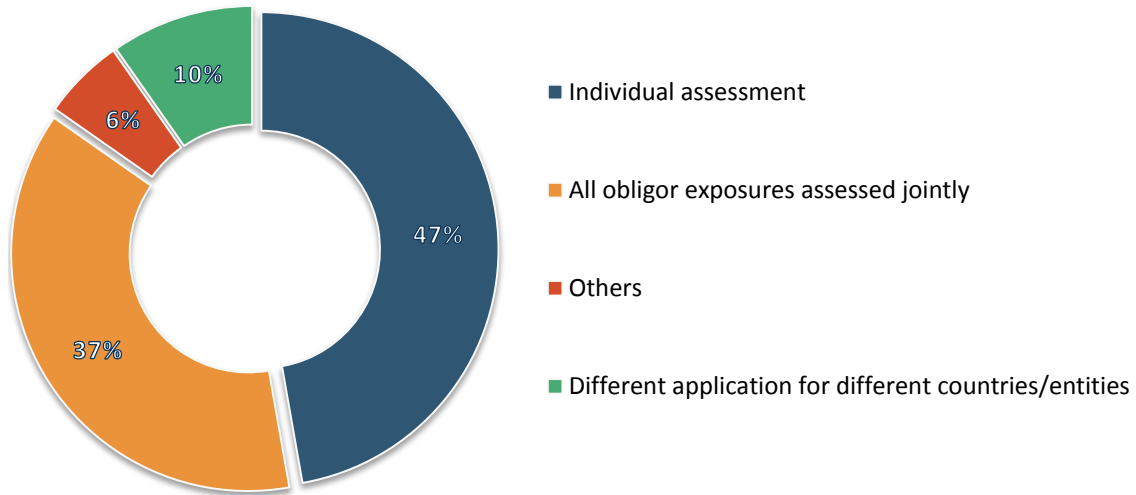
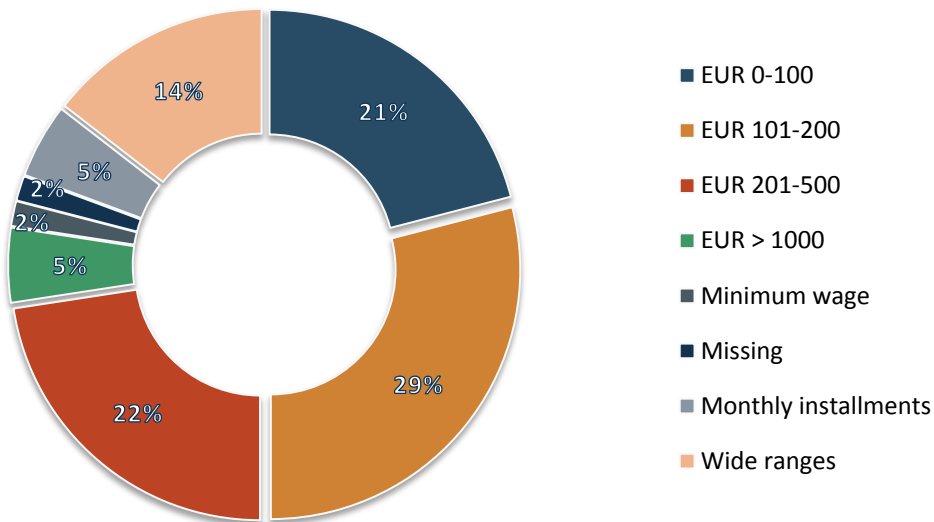


Figure 16 shows that half of the institutions use a level of the absolute threshold for the retail exposures that is within EUR 200. The remaining institutions apply either higher thresholds or use different thresholds for different subsidiaries, exposures etc.

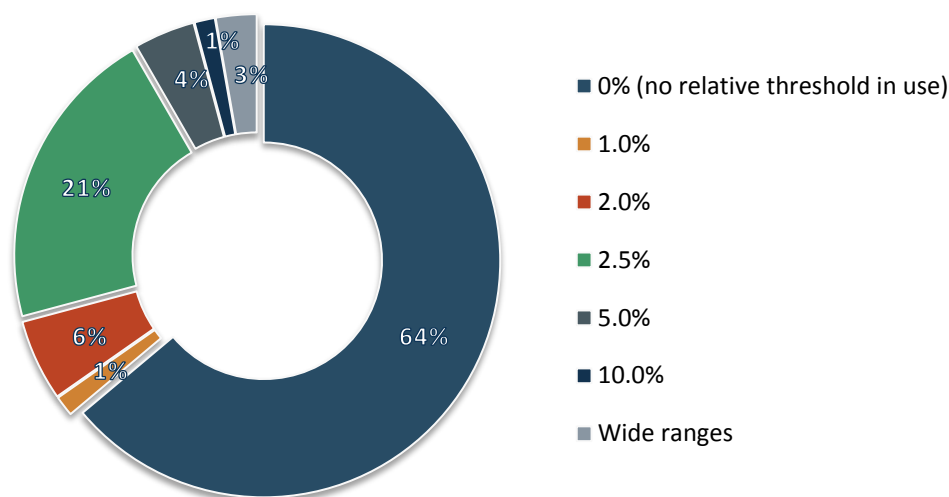
Figure 16: Materiality threshold – absolute level for retail exposures



The analysis of the relative threshold in use for retail exposures is even more striking than in the case of non-retail exposures.

Figure 17 shows that 64% of the institutions do not use the relative threshold, or the level of the threshold is equal to 0. The remaining institutions, as for the non-retail exposures, show a significant range of variability, with a majority of them (21% of the total participating institutions) using a relative threshold equal to 2.5%.

Figure 17: Materiality threshold – relative level for retail exposures



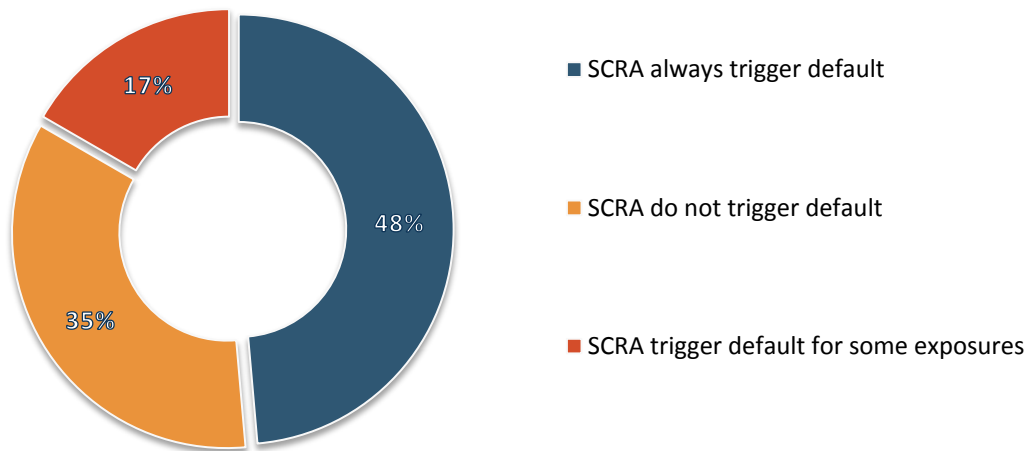
## 2.7 Specific credit risk adjustments as an indication of default

In accordance with Article 178(3)(b) of Regulation (EU) No 575/2013, the SCRA that are a result of a significant perceived decline in credit quality of an obligation should be considered an indication of unlikelihood to pay. In addition, it has been specified in Article 1(5) of Regulation (EU) No 183/2014 that any provisions that cover the following losses should be considered SCRA:

- (a) losses recognised in the profit or loss account for instruments measured at fair value that represent credit risk impairment under the applicable accounting framework;
- (b) losses as a result of current or past events affecting a significant individual exposure or exposures that are not individually significant which are individually or collectively assessed;
- (c) losses for which historical experience, adjusted on the basis of current observable data, indicates that the loss has occurred but the institution is not yet aware which individual exposure has suffered these losses.

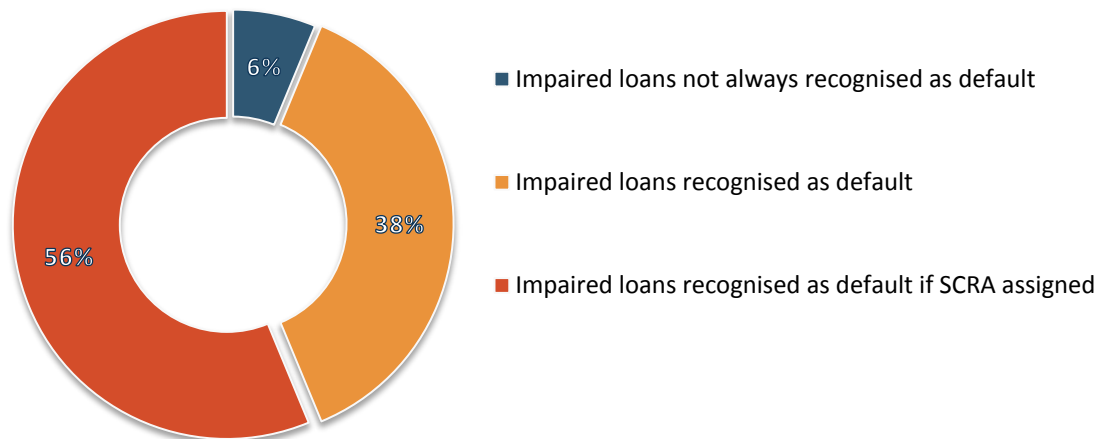
Figure 18 shows that the requirement of Article 178(3)(b) of Regulation (EU) No 575/2013 is not applied uniformly by the institutions. Almost half of the institutions (48%) use SCRA as an indication of unlikelihood to pay, while 35% of the institutions do not consider it to be a trigger of default. For those institutions, SCRA are calculated only for already defaulted exposures, or are used as a trigger for analysing other criteria for default.

Figure 18: Application of SCRA as indication of unlikeliness to pay



In addition, 20% of the institutions reported treating the impairment of an exposure as an additional indication of unlikeliness to pay. Figure 19 shows that around half of those institutions treat impaired exposures as defaulted, but only if SCRA have been assigned. Around 40% of them consider the impaired exposure defaulted regardless of whether there are any SCRA assigned to this exposure. Only one bank claims that impaired loans could be treated as defaulted only after expert judgement.

Figure 19: Impaired exposure as indication of unlikeliness to pay



Among those institutions presented in Figure 18 that use SCRA as indication of unlikeliness to pay (65%),<sup>6</sup> only 23% use quantitative thresholds for SCRA. Among these institutions, the most common reference figure for the threshold is the exposure value (used by half of them), followed

<sup>6</sup> Including institutions partially using SCRA as indication of unlikeliness to pay.

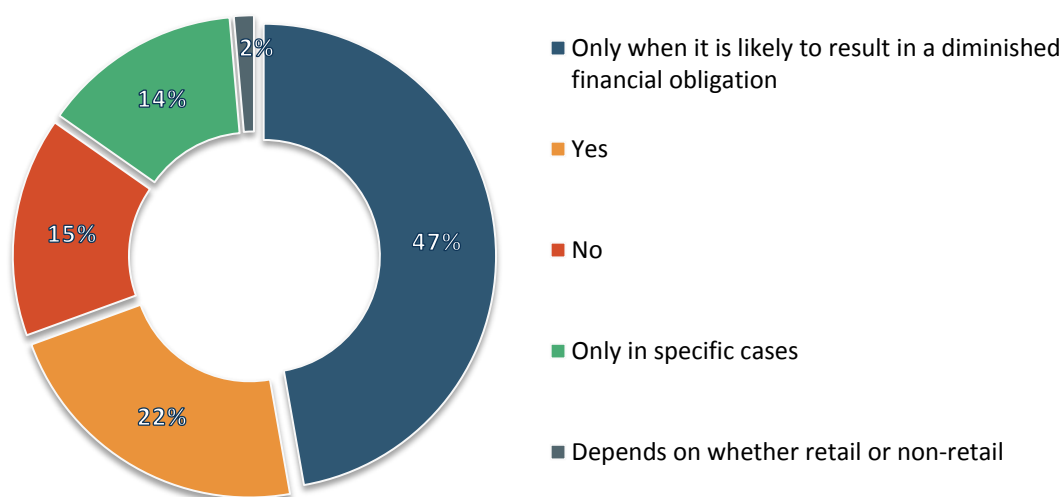
by the amount of SCRA (used by 25%). Regarding the threshold value, half of the institutions use a threshold that is below EUR 500. Along with absolute thresholds, some institutions also apply relative thresholds in the range of 1-25%.

## 2.8 Distressed restructuring definition

The observed institutions' practices show widely different interpretations of distressed restructuring as indication of unlikelihood to pay as referred to in point (d) of Article 178(3) of Regulation (EU) No 575/2013. As presented in Figure 20, institutions do not apply this requirement in a uniform manner. The majority of institutions consider an obligor as defaulted when distressed restructuring is applied. However, some institutions also use additional criteria before default is recognised, while the others do not. For 47% of the institutions, distressed restructuring triggers default only if it leads to diminished financial obligation (i.e. caused by the material forgiveness, or postponement, of principal, interest or fees), while no additional conditions are applied by 22% of the institutions. Surprisingly, 15% of the institutions do not consider distress restructuring an indication of unlikelihood to pay and 14% recognise exposures subject to distressed restructuring as defaulted only in specific cases.

Out of those institutions that consider distressed restructuring to trigger default,<sup>7</sup> only 23% use any quantitative thresholds related to distressed restructuring. Most of those institutions use as a reference figure the exposure value rather than a measure of loss or diminished financial obligation.

Figure 20: Is distressed restructuring considered an indication of unlikelihood to pay?



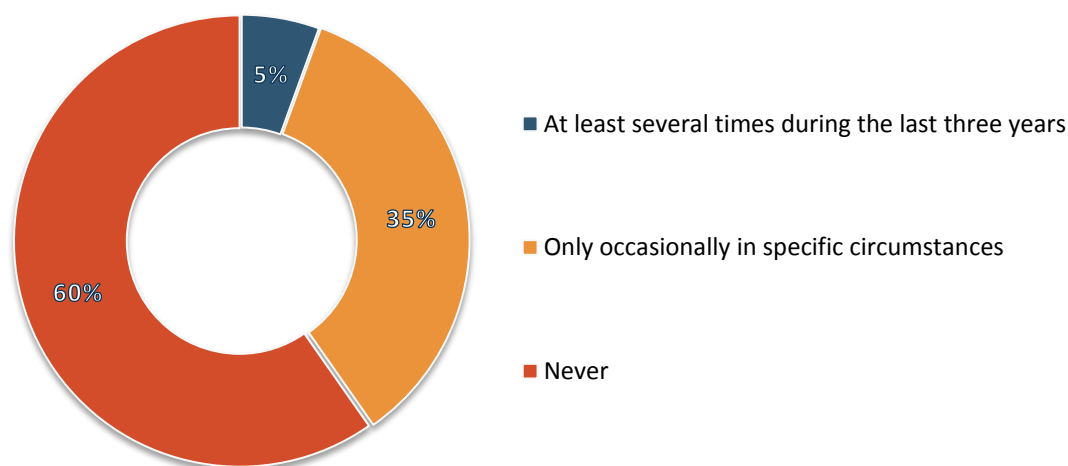
<sup>7</sup> Excluding 15% of the institutions that do not use distressed restructuring as a trigger.

## 2.9 Sale of credit obligations as an indication of default

Article 178(3)(c) of Regulation (EU) No 575/2013 specifies a sale of credit obligation at a material credit-related economic loss as an indication of unlikelihood to pay. The results of the questionnaire show that the majority of institutions (60%) do not sell credit obligations, and therefore this requirement is not applicable. Within these institutions, 4.7% report selling credit obligations but for reasons not related to credit risk.

The remaining 40% of institutions, as presented in Figure 21, sell credit obligations, but most of them do so only occasionally. There is no comprehensive list of specific circumstances for occasional selling of credit obligations; some of those provided are due to a change in business strategy, intra-group selling and deleveraging due to liquidity reasons. Out of those institutions that sell credit obligations at least occasionally in specific circumstances, only 21% (7 institutions) use quantitative thresholds for the loss related to the sale of exposures for default identification. Four of them use as a reference figure for the threshold some measure of exposure (either an exposure value or outstanding amount) rather than the measure of loss. For those cases, the average relative threshold is around 17%. When the reference figure for the threshold is instead a measure of the loss, the average relative threshold is around 8%, and is coupled with an absolute threshold, the value of which varies from EUR 250 to EUR 5 million.

Figure 21: Frequency of the sale of credit obligations



## 2.10 Other indications of unlikelihood to pay

The list of indications of unlikelihood to pay specified in Article 178(3) of Regulation (EU) No 575/2013 is clearly not exhaustive; hence some institutions define additional indications in their definitions of default.

Figure 22 shows that different practices exist across institutions in which additional indications of unlikelihood to pay are used. 47% of institutions do have additional indications of unlikelihood to

pay in use, while 40% of them don't. Finally, 11% consider additional indications of unlikeliness to pay only partially (e.g. the additional indications are used for retail exposures only).

Figure 22: Institutions' use of alternative indications of unlikeliness to pay other than those prescribed in Article 178(3)

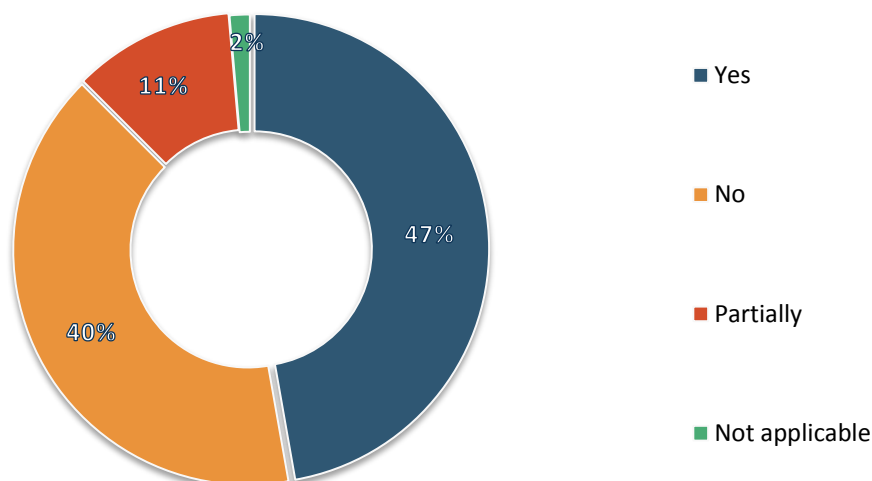


Figure 23 shows the frequency of use of the classes of additional indications of unlikeliness to pay mentioned by the institutions in the sample:

- 42% of the time, institutions use other definitions that are in line with the Consultation Paper proposal (paragraphs 46-50 of the CP-GL). Almost half of those definitions (21% of the total used) refer to a situation where there is a concern about a borrower's future ability to produce sufficient cash flow and repay back (in Figure 23 labelled 'credit quality'). External events such as legal claims made against the customer, or delays in payment on third-party exposures, account for 15% of those indications (7% of the total, in Figure 23 labelled 'bankruptcy third party'). 13% (5% of the total, in Figure 23 labelled 'guarantee/collateral') are indications related to institutions calling any collateral, including guarantees. The remaining (labelled 'others in line with CP-GL' in Figure 23) account for indications relating to obligors' recurring income, to credit frauds or to the breach of covenants.
- 14% of the indications can be classified as linked to enforcement procedures (e.g. termination of exposures by the bank for reasons related to credit risk or the protest of bills or cheques due to the bank initiative).
- 12% of the indications are related to the counting of DPD (e.g. more than a specific number of DPD).
- The remaining indications are related to extrajudicial procedures on the obligor (4%), restructuring (other than included in Article 178(3)(d) of Regulation (EU) No 575/2013),



forbearance measures (5%), death of the client (3%), and other specific conditions that were difficult to categorise (19%).

Figure 23: Classes of alternative definitions in use of unlikeliness to pay

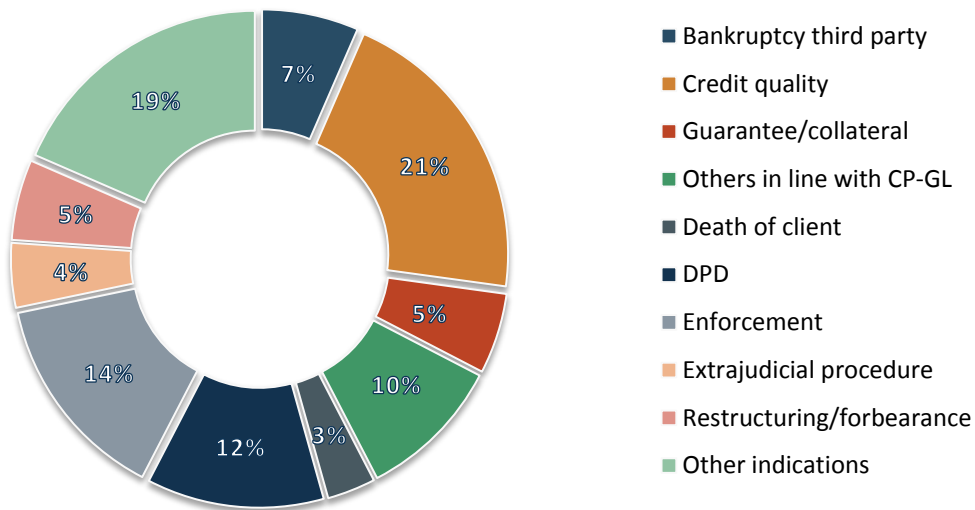
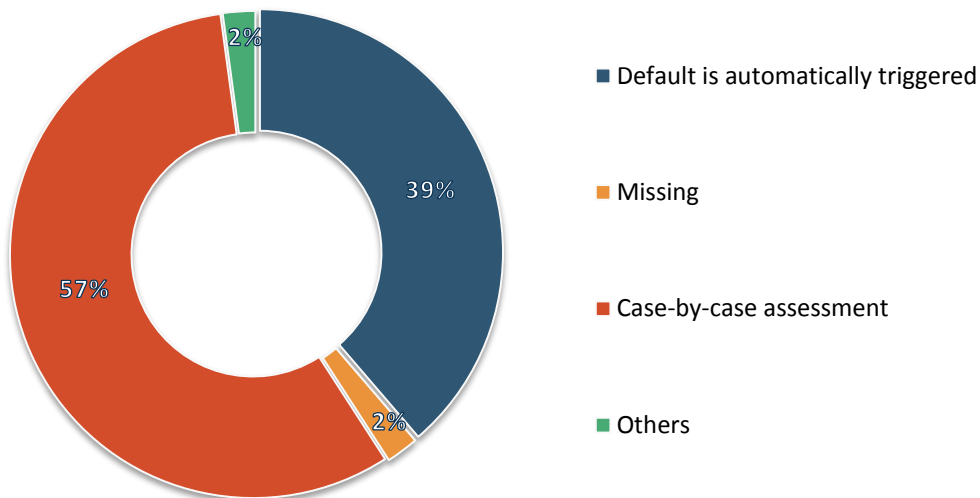


Figure 24 presents the practices regarding the application of the additional indications of default where specified. It shows that those additional indications of unlikeliness to pay trigger default automatically 39% of the time, while most of the time (57%) default is triggered on a case-by-case basis. The most common definition in use that triggers default automatically is a concern about a borrower’s future ability to produce sufficient cash flow and repay back. For those cases where default is triggered on a case-by-case basis, the most common definitions in use are related to DPD counting and enforcement measures or procedures activated by the bank.

Figure 24: Do the additional indications of unlikeliness to pay trigger default automatically?



## 2.11 Criteria for the return to a non-defaulted status

Differences exist in how the requirement of Article 178(5) of Regulation (EU) No 575/2013 is applied in practice by institutions. This section analyses institutions’ practices around the minimum probation periods that they use for the reclassification of defaulted exposures back to the non-defaulted status.

Figure 25 shows that 28% of the institutions in our sample do not apply any probation periods; 21% of them do specify a minimum length of probation period; 33% of the institutions use probation periods only partially (e.g. a heterogeneous approach within the group for probation periods, or different uses across exposure classes); and 18% of the institutions use the notion of probation period only for exposures under distressed restructuring.

Figure 25: Probation period application

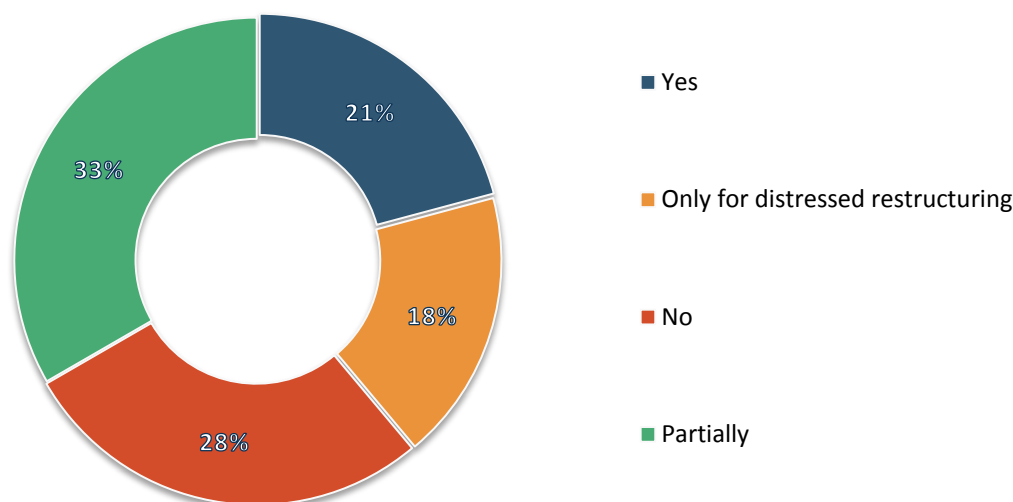
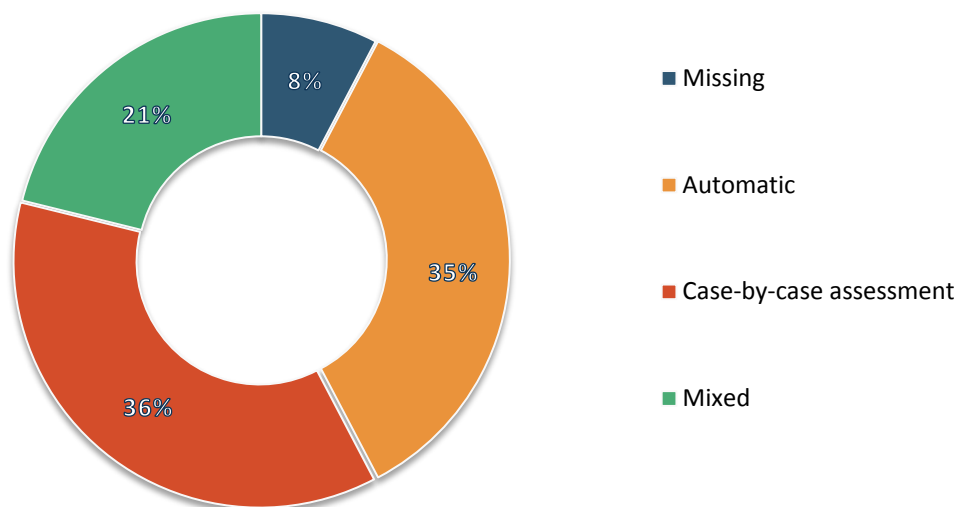


Figure 26 explores the procedures of returning to non-defaulted status for the institutions that are using probation periods in some form (i.e. for all exposures, only for distressed restructuring or partially, together constituting 72% of the institutions in the total sample). Institutions are split between those where the return to non-defaulted status is automatic after the end of the probation period (35%) and those where the reclassification is the result of a case-by-case assessment (36%). The institutions where the reclassification is automatic are also the ones that tend to have a probation period in place for all defaulted exposures. Conversely, the majority of institutions that reclassify defaulted exposures to non-defaulted status on the basis of a case-by-case assessment are those where the application of probation periods tends to be only partial (e.g. applied differently across exposures within the group’s entities).

A considerable proportion of institutions (21%) apply a mixed approach, where the return to non-default status is different according to different types of exposure (e.g. automatic for retail and case-by-case assessment for non-retail, or for significant clients only), or within different entities of the group.

Figure 26: Criteria for the return to non-defaulted status at the end of the probation period



The specification concerning the reference starting date and the length of the probation period can differ according to the trigger for classifying an exposure/obligor as defaulted. The following sections provide the analysis of three different situations: exposures defaulted due to a past-due criterion, exposures under distress restructuring, and the remaining cases where the exposures defaulted due to other qualitative indicators.

### 2.11.1 Exposures defaulted due to a past-due criterion

This section analyses the start and length of probation periods for those exposures/obligors classified as defaulted due to a past-due criterion. Figure 27 shows that the majority of the institutions adopt the probation period starting from the moment when default triggers no longer apply (43%, in Figure 27 called ‘exit default triggers’). The remaining institutions are divided between those that let the probation period start at the moment when the exposure is classified as defaulted (16%, in Figure 27 called ‘default event’) and those using mixed approaches (11%).

Figure 27: Probation period starting point – DPD criterion

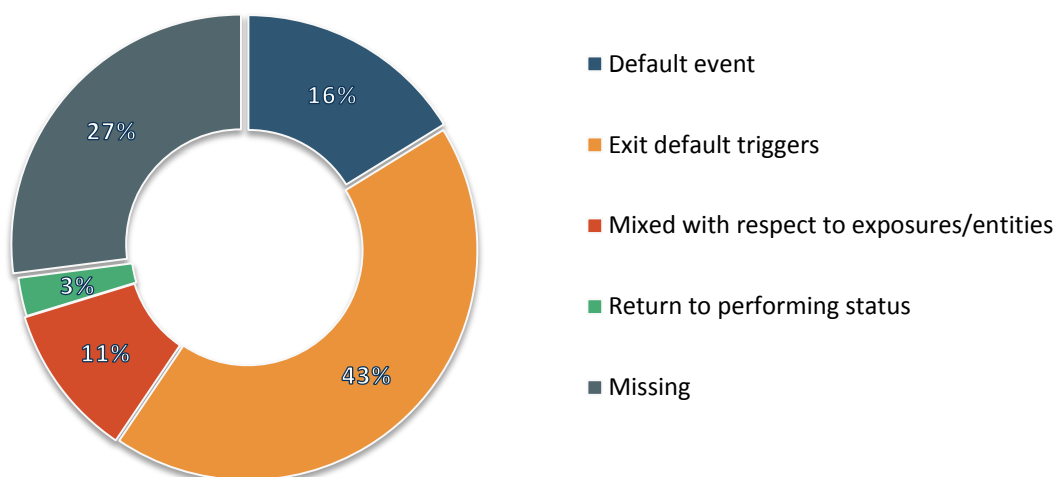
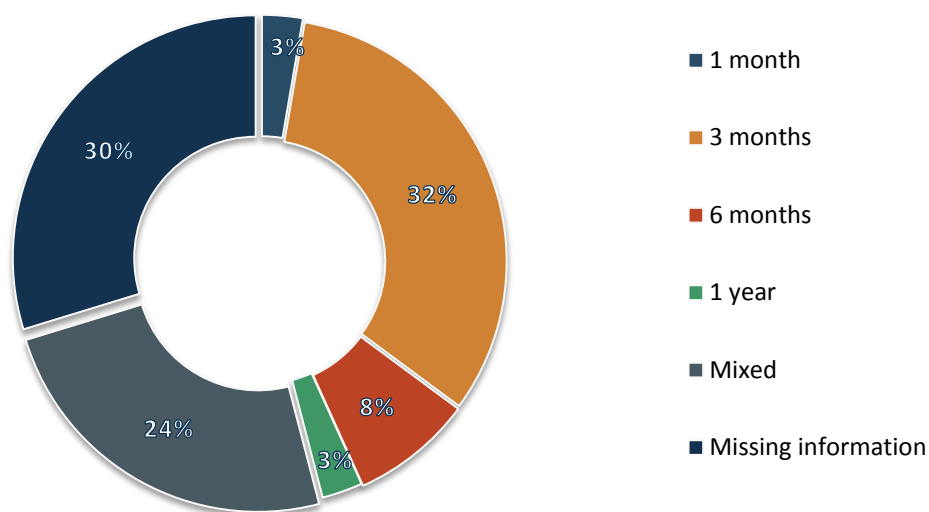


Figure 28 shows the distribution of institutions with respect to different lengths of probation period. One third of the institutions adopt a three-month period, more than half of these adopting as a reference starting date for the probation period the exit from the default triggers. Another 30% adopt a shorter probation period of one month. The remaining institutions either have mixed approaches that vary across entities in the group, as well as exposures (24%), or consider a longer probation period of six months (8%) or even one year (3%).

Figure 28: Length of probation period – DPD criterion



### 2.11.2 Exposures under distressed restructuring

This section is dedicated to defaulted exposures that are under distressed restructuring. As indicated in Figure 29, institutions show a wide range of practices regarding the starting date for the probation period. The most common approach (used by 33% of the institutions) let the probation period start when the restructuring measures are applied; another 11% link it to the moment when default triggers no longer apply; 9% link it to the default event; 6% start the probation period from the end of the granted grace period; and 4% (2 institutions) link the start of the probation period to either the default event or the start of the restructuring measures, whichever is latest (more in line with the Consultation Paper proposal). The remaining institutions have mainly mixed approaches (10%) or fail to report the information (27%).

Figure 29: Probation period starting point – distress restructuring

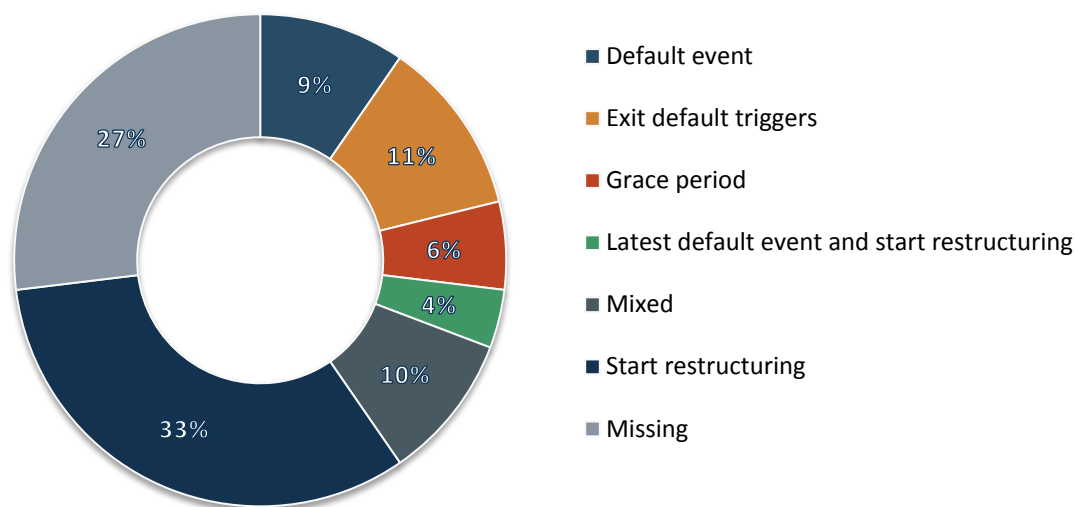
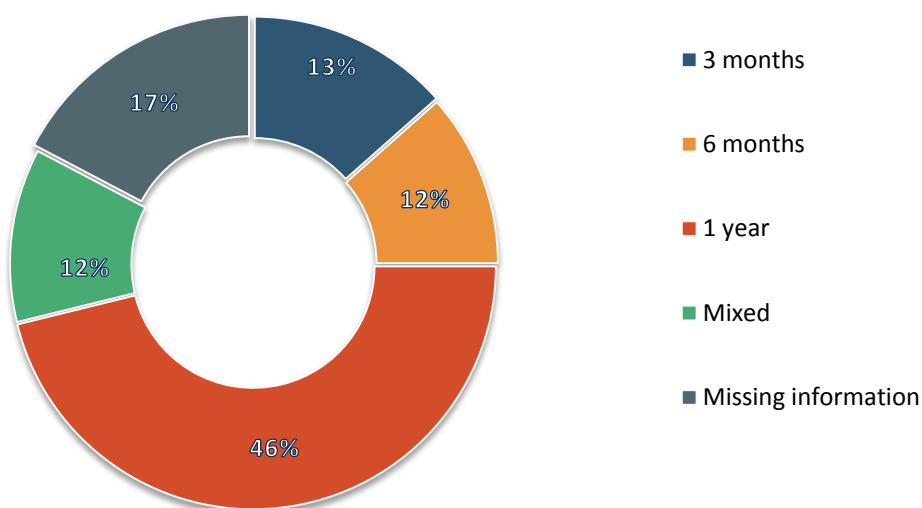


Figure 30 shows the distribution of institutions with respect to the length of probation period in use. Almost half of the institutions consider a probation period of one year. The remaining institutions are divided between probation period lengths of three months (13%), six months (12%) and mixed approaches (12%).

Figure 30: Length of probation period – distress restructuring



### 2.11.3 Exposures defaulted due to other qualitative indicators of default

This section is focused on the remaining cases where the exposure is defaulted according to other qualitative indications of default (based on 46% of the institutions). Figure 31 shows that the majority of institutions let the probation period start only once the default triggers are not present anymore (34%); 12% link it to the default event; and 15% have mixed approaches.

Figure 31: Probation period starting point – other criteria

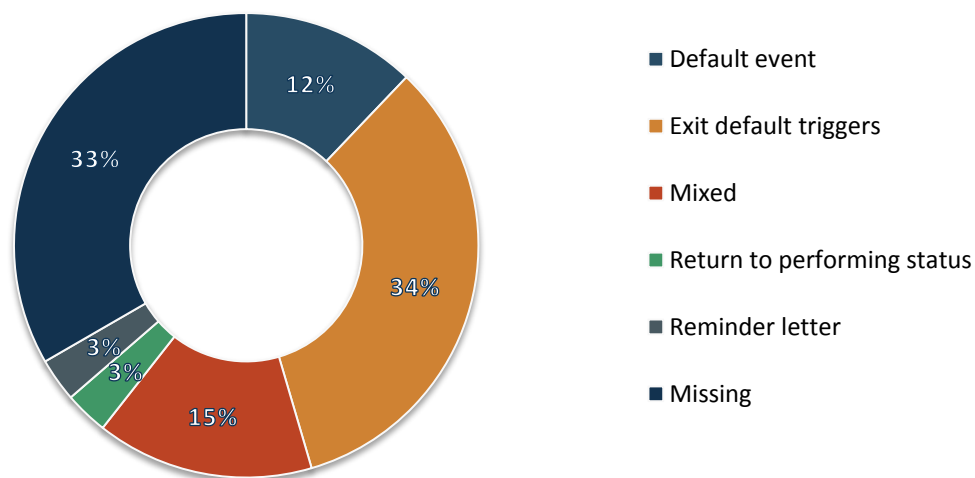
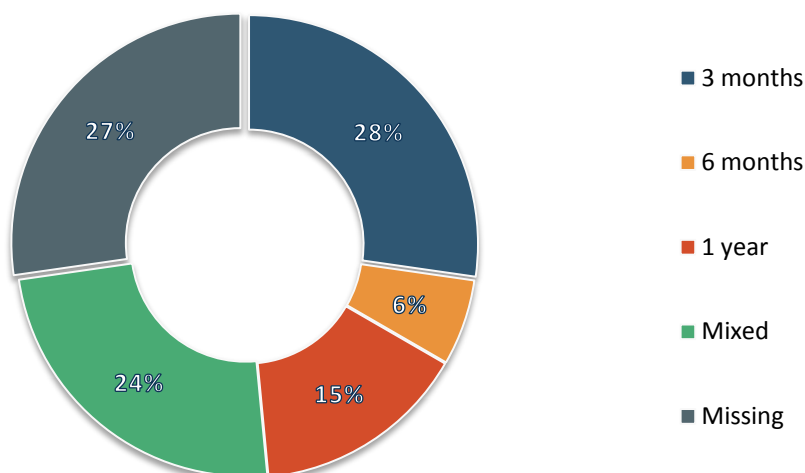


Figure 32 shows the distribution of institutions with respect to the length of the probation period. Around one third of the institutions (28%) adopt a three-month probation period; 24% have mixed approaches that vary across entities in the group, as well as types of exposures; 6% consider a longer probation period of six months; and 15% consider a probation period as long as one year. Similarly to the case of defaulted exposures due to past-due criteria, more than half of the institutions that apply a three-month probation period also adopt as a reference starting date for the probation period the exit from the default triggers.

Figure 32: Length of probation period – other criteria



## 3. Qualitative impact assessment

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The impact of the proposed policy options on the institutions' own funds requirements has been evaluated by them in a qualitative manner. The following sections analyse the institutions' qualitative estimates of the overall capital impact of each specific aspect of the definition of default (Section 3.1), as well as of the impact on selected low-default exposure classes that were not included in the quantitative analysis (Section 3.2).

The assessment presented in this section refers to the policy proposals included in the CP-GL and described in section 4.2 of this report. It addresses all areas covered by the qualitative questionnaire described in the previous section of the report.

### 3.1 Overall impact of the proposed policy options on own funds requirements

This section presents the institutions' assessments of the impact on own funds requirements of the policy proposals on each aspect of the definition of default. For each policy area the following answers were possible:

1. negligible
2. somewhat significant
3. significant
4. very significant
5. unable to assess the impact

The impact is assessed to be negligible by the majority of institutions for all policy proposals. However, it is important to underline that a negligible impact in terms of RWA could be the result of offsetting effect on PD and LGD parameters. In particular, a stricter definition of default is likely to increase the PD level at the same time that it could increase the probability of detecting more defaults that are subsequently cured, leading to a decrease in LGD that could compensate the PD effect on the RWA. The detailed impacts on the risk parameters for the IRB institutions, analysed in a quantitative manner, are presented in the next section of the report.

Many institutions indicate that although the capital impact of the policy proposals may be small, the implementation of the changes may lead to significant costs related to the adjustments of IT systems, internal procedures and rating systems. It is also indicated that the implementation will require substantial time and resources, and hence institutions should be granted sufficient time to properly implement all necessary changes.



The graphs summarising the expected impact of each of the policy areas are presented in Part 2 of the Appendix to this report (Figure 42 to Figure 54). The figures show the overall distribution and the split between SA and IRB institutions. For most of the policy areas, the differences between IRB and SA institutions do not seem relevant; only in the case of the changes in materiality threshold is the impact assessed to be more significant by IRB institutions.

In general, the majority of institutions assess the impact to be negligible, followed by 10% that on average are unable to assess the impact. However, there are two policy areas where the impact is evaluated to be at least somewhat significant by more than half of the institutions. These areas are:

- Return to non-defaulted status (see Figure 54 in the Appendix), where the proposed introduction of a general probation period and stricter rules for the existing probation period for distressed restructuring<sup>8</sup> is assessed by more than half of the institutions as having a somewhat significant or very significant impact (27% and 26% respectively). Some institutions explained that the policy proposals are not considered to be relevant for non-retail exposures, where the expert judgement already takes into account a prudent approach before the reclassification to non-defaulted status. In those cases, there is no probation period at the moment except for the distressed restructuring. For other institutions where the impact is expected to be moderate, all non-restructured defaulted retail exposures already remain in default for three additional months.
- Materiality threshold for both retail and non-retail exposures (see Figure 48 and Figure 49 in the Appendix). For what concerns non-retail exposures (Figure 48), around 30% of the institutions assessed the impact to be somewhat significant, and only slightly less than 10% considered it to be significant (those answers coming only from IRB institutions). For retail exposures (Figure 49), again around 30% of the institutions assessed the impact to be somewhat significant and slightly more than 20% evaluated it to be significant (those answers coming equally from IRB and SA institutions). The assessment for retail exposures is the result of a mix of expected positive and negative impacts. For some institutions, the policy proposal might lead to significant increase in the number of defaults, while other institutions expect a decrease in defaulted exposures due to no or very limited thresholds currently in place.
- Another policy area where the impact is assessed to be more significant than in the remaining areas is that of distressed restructuring (see Figure 51 in the Appendix). Half of the institutions still estimate the impact to be negligible, but around 25% consider it somewhat significant and 10% significant. This may be a result of various definitions of distressed restructuring that are

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<sup>8</sup> The current practices in that regard are presented in Section 2.11. Many institutions do not currently use probation periods other than for distressed restructuring, or they use shorter probation periods, in particular for exposures defaulted on the basis of DPD criteria. In addition, the proposed rules for the probation periods for distressed restructuring are stricter than those currently in use in terms of the start of probation periods, as described in paragraph 59 of the CP-GL.

currently in use, as well as distinct treatments of restructured exposures in the recognition of default, as described in Section 2.8.

## 3.2 Impact on the own funds requirements for selected non-retail exposure classes

This section presents the expected impact of the policy proposals described in section 4.2 on own funds requirements related to selected exposure classes. The analysis is performed separately for SA and IRB as the exposure classes are defined differently under those approaches. For the institutions that use SA the assessment of the impact is focused on exposure classes such as exposures to central governments or central banks, regional governments or local authorities, and public sector entities and institutions, as defined in Article 112 of Regulation (EU) No 575/2013. For the institutions that use IRB, the exposure classes covered by the analysis include exposures to central governments and central banks, institutions and corporates non-SME, as specified in Article 147 of Regulation (EU) No 575/2013.

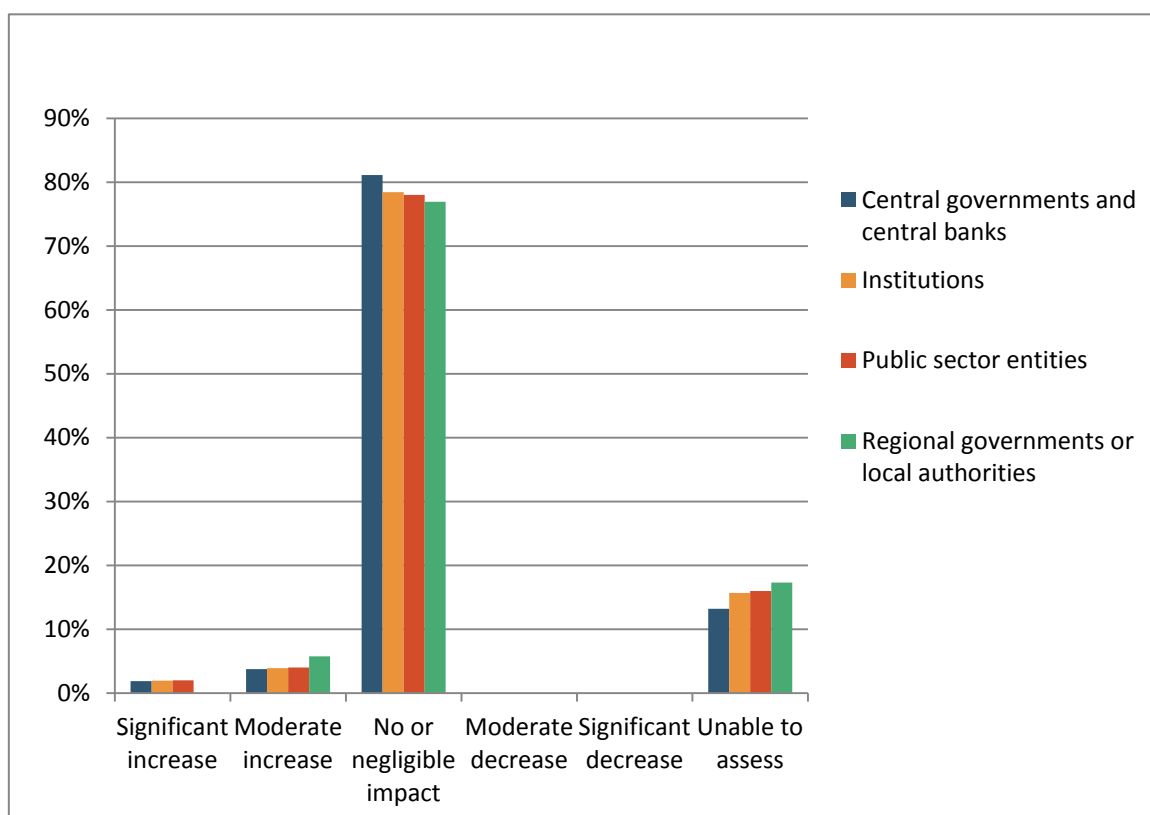
The following answers were possible:

1. significant increase in defaulted exposures
2. moderate increase in defaulted exposures
3. no or negligible impact on the share of defaulted exposures
4. moderate decrease in defaulted exposures
5. significant decrease in defaulted exposures
6. unable to assess the impact

In general, the impact is assessed in most of the cases to be negligible. However, it has to be noted that many respondents highlighted that the impact is negligible only because the size of the portfolio is minimal.

The negligible impact of the policy proposals is especially visible in the analysis of SA institutions. Figure 33 shows that around 80% of the institutions expect no or negligible impact for all the selected exposure classes, and that only 5% of the institutions assessed the increase in to be moderate or significant. This is related at least partly to the manner in which the definition of default influences the own funds requirements under SA. The impact is observed only through the reclassification to exposure class 'exposures in default', where the exposures receive a risk weight of 100% or 150% depending on the provisions and collaterals in the form of mortgages on immovable properties.

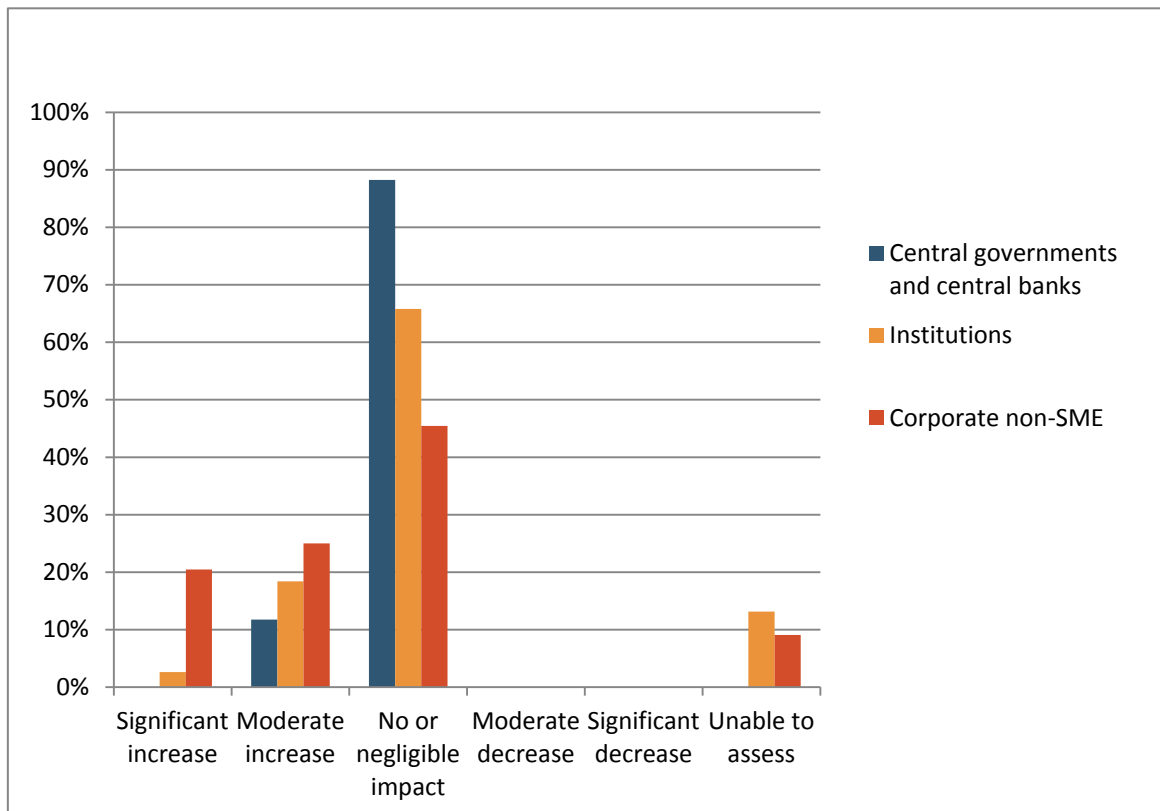
Figure 33: Impact on the share of defaulted exposures for the SA portfolio



In the case of the IRB approach the impact of the definition of default on the own funds requirements is reflected not only through the classification of exposures as defaulted but more importantly through the estimation of risk parameters, so that the changes in the definition of default lead to recalibration of risk weights also for non-defaulted exposures. Figure 34 shows the expected impact of the policy proposals on the IRB portfolios, and here more variability of the expected impact can be observed than in the case of SA portfolios.

The most significant impact is expected for exposures to corporate non-SME, where more than 40% of the institutions expect a moderate to significant increase in the share of defaulted exposures. Less significant impact is expected for the exposures to institutions, where 65% of the institutions assess the impact to be negligible but almost 20% of institutions expect moderate increase in defaulted exposures. Exposures to central governments and central institutions are assessed to be only negligibly affected by the new proposals by almost 90% of the institutions. It is reasonable to expect that in the case of low-default portfolios where the identification of default status should not highly depend on the definition of default as the assessment of unlikelihood to pay is usually performed on a case-by-case basis. The most material impacts are expected in areas of the default definition such as materiality threshold, criteria to return to non-defaulted status, technical default definition and incurred impairments that are proposed to be considered as leading to default without a case-by-case assessment.

Figure 34: Impact on the share of defaulted exposures for the IRB portfolio



Finally, it is interesting to note that no institution expects a decrease in the share of defaulted exposures for all SA and IRB exposures under examination.

## 4. Quantitative Analysis

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### 4.1 Introduction

For the purpose of the quantitative part of the QIS, institutions have been asked to select on their own initiative representative samples of exposures that would represent a similar risk profile as their portfolios classified to exposure classes included in the analysis. The impact analysis is performed in relation to seven scenarios reflecting the policy options under consideration, and additionally a combined effect of those seven scenarios. The quantitative section of the QIS is different for institutions that use IRB from those that use SA.

In order to estimate the impact of specified policy scenarios on SA, institutions were asked to estimate the value of exposures classified to exposure classes such as:

- exposures to corporates
- retail exposures
- exposures secured by mortgages on immovable property
- exposures in default

The impact on own funds requirements is therefore based on the assessed reclassifications between the exposure class of exposures in default and the remaining exposure classes.

In the case of the IRB approach, institutions were asked to quantify the impact of specified policy scenarios on five simplified measures: one-year DR, CR, RR, share of defaulted exposures, and ELBE. This simplified approach implies that institutions were not asked to estimate the impact directly on their PD and LGD estimates. Instead the analysis used DR and a proxy for PD and the changes in LGD were measured based on the following proxy:  $LGD = CR \times 1\% + (1 - CR) \times (1 - RR)$ . Based on these simplified parameters, the impact was calculated on RWA, EL, own funds and capital adequacy ratios. The report presents the impact of the specified scenarios on the following exposure classes under the IRB approach:

- corporate SME
- exposures secured by immovable property (separately for SME and non-SME)
- qualifying revolving retail exposures
- other retail (separately for SME and non-SME)

The fact that the analysis of the impact on the IRB approach is based on simplified parameters has a consequence that the results show pure impact of the specified policy option stripped out of the particular modelling approaches adopted by individual institutions. However, the values of parameters and RWA will not reflect the real figures. Therefore, the impact is presented in terms of relative changes in the basic risk measures and capital requirements rather than in the absolute amounts.

The QIS sample comprises 72 institutions where eight of them participated only in the qualitative analysis. Of the remaining 64 institutions that provided both qualitative and quantitative data, 22 institutions are SA, 32 are IRB, and 10 reported using both SA and IRB exposures. This means that the IRB analysis is based on data coming from 42 institutions (32 + 10) and the SA analysis is based on data coming from 32 institutions (22 + 10).

The analysis was based not only on the data provided in the templates but also on COREP data. Thirty-four out of the participating institutions do not report COREP directly to the EBA; in these cases, the necessary data was provided by national competent authorities.

Before the analysis, a number of quality checks were performed on the QIS templates provided by the institutions, as well as on the COREP data. The quality checks included verification of representativeness of the sample with respect to the main risk parameters and general portfolio characteristics (e.g. number of obligors, average LGD and PD). Moreover, plausibility checks and missing data analysis has been performed. The data quality exercise revealed numerous issues, among which the most significant are related to the IRB shortfall computation. The majority of detected issues have been corrected or explained; however, one institution had to be excluded from the IRB analysis completely, leaving a total of 41 institutions in the IRB sample. Adjustments have been made in order to correct for IRB shortfall mismatches. For three institutions, these adjustments were not possible and were excluded from the analysis of the impact on capital adequacy ratios (i.e. the results are therefore based on 38 institutions).

The subsequent Section 4.2 provides the overview of the policy scenarios that were the basis for the impact analysis for both SA and IRB approaches. Section 4.3 discusses the results of the QIS for SA and the impact on the IRB approach is presented in Section 4.4.

## 4.2 Policy scenarios

### Materiality threshold

The policy scenario for the structure and level of the materiality threshold was based on the following assumptions:

- (a) For non-retail exposures the threshold is applied at the obligor level; for retail exposures the threshold is applied at the obligor or facility level depending on the level of application of the definition of default.

- (b) For non-retail exposures the threshold is composed of an absolute and a relative threshold (relative to the total on-balance-sheet obligations of a borrower); for retail exposures the threshold is composed only of an absolute threshold.
- (c) The absolute threshold is 200 EUR for retail exposures and 1 000 EUR for non-retail exposures and the relative threshold for non-retail exposures is 2.5%.
- (d) The reference amount for the threshold (credit obligation past due) is defined as the sum of all amounts past due and the counting of 90 days (or where relevant 180 days) begins at the moment this amount breaches the threshold.
- (e) For non-retail exposures the counting of 90 days (or where relevant 180 days) starts when both absolute and relative thresholds are breached.

### Technical defaults

This policy option was based on the definition included in paragraph 20 of the CP-GL that specifies that a ‘technical default’ should only be considered to have occurred in either of the following cases:

- (a) where an institution identifies that the defaulted status was a result of data or system error, including manual errors of automated processes but excluding wrong credit decisions;
- (b) where due to the nature of the transaction there is a time lag between the receipt of the payment by an institution and the allocation of that payment to the relevant account, so that the payment was made before the 90 days and the crediting in the client’s account took place after the 90 DPD.

### Specific credit risk adjustments

This policy option was based on paragraphs 25 to 27 of the CP-GL and referred to the impact of treatment of SCRA on the currently applicable accounting standards without taking into account possible changes that will be applicable after implementation of IFRS 9. Under this scenario all SCRA except for incurred but not reported losses should be treated as an indication of default. This policy option was based on the specification of the specific and general credit risk adjustments in accordance with Commission Delegated Regulation (EU) No 183/2014. This means that where one of the following conditions is met the exposures should be classified as defaulted:

- (a) losses recognised in the profit or loss account for instruments measured at fair value that represent credit risk impairment under the applicable accounting framework; and
- (b) losses as a result of current or past events affecting a significant individual exposure or exposures that are not individually significant which are individually or collectively assessed.

### **Sale of credit obligations**

This policy option was based on paragraphs 30 to 37 of the CP-GL and in particular on the proposed threshold of 5%. Under this scenario all exposures that were sold at the credit-related economic loss exceeding 5% of the total outstanding amount of the obligations subject to the sale should be treated as defaulted.

### **Probation period before return to non-defaulted status**

This policy option was based on the minimum probation period of three months as proposed in paragraph 58 of the CP-GL. Under this scenario the probation period before return to non-defaulted status should start at the moment that the conditions referred to in Articles 178(1)(b) and 178(3) of Regulation (EU) No 575/2013 were no longer met and the exposures could not be reclassified to non-defaulted status before the end of that period.

### **Probation period for exposures subject to distressed restructuring**

This policy option was based on the minimum probation period of one year for exposures subject to distressed restructuring as proposed in paragraphs 59 and 60 of the CP-GL. Under this scenario the exposures could not be reclassified to non-defaulted status before one year starting from the latest between the following events:

- (a) the moment of extending the restructuring measures;
- (b) the moment when the exposure has been classified as defaulted;
- (c) the end of the grace period included in the restructuring arrangements.

### **Contagion effect**

This policy option was tested only for retail exposures and only by those institutions that apply the definition of default at the obligor level. The scenario was specified in accordance with the contagion requirements specified in paragraphs 81 to 87 of the CP-GL. In the estimation of impact of the contagion requirements the materiality threshold was used in accordance with the currently applicable materiality threshold specified in the institution's internal policies.

'Contagion' should be understood for the purpose of the QIS as a situation when default of one obligor influences default of another obligor and refers to the rules regarding the treatment of joint credit obligations and related clients in the retail exposure class. As the contagion rules apply only when the definition of default on the retail exposure class is applied at obligor level, the institutions which apply the definition of default at facility level did not evaluate the effects of those rules.



## Combined effect of all policy options

As it was assumed that the impact of specific policy scenarios would be estimated on the basis of the same sample of exposures the institutions were requested to provide the information of the joint impact of all of those policy decisions. This combined estimation does not reflect a simple sum of impacts under specific policy options. Rather, where a single exposure within the sample was affected by more than one policy option this should have been taken into account in the estimation of the combined effect.

### 4.3 SA analysis

The analysis of the policy proposals on the selected exposure classes under SA is based on the changes in RWA due to exposures shifting to or from the class of exposures in default. The final effect on capital ratios is obtained by considering the hypothetical increase in RWA that would apply under the policy options specified in the previous section.

Table 1 shows the relative change of RWA separately for each SA exposure class. The table displays the weighted average percentage variation of (credit) RWA ( $\% \Delta RWA = \frac{\Delta RWA}{RWA}$ ), where the results are weighted using the institutions' total exposures in the exposure class under consideration. In general, the impact on the RWA is modest for all exposure classes and all policy options. Implementation of all the policy options is estimated to have an impact on RWA in the region of 25 basis points increase for corporate and retail, and around 144 basis points increase for exposures secured by immovable properties. The latter are in particular affected by the policy proposal concerning the probation period for distressed restructuring.

**Table 1: Relative increase in RWA for each policy option and SA exposure**

	Corporate	Retail	Secured by immovable properties
Contagion effect		0.037%	0.048%
Materiality threshold	0.147%	-0.087%	0.278%
Probation period – distressed	0.017%	0.173%	0.798%
Probation period – general	0.075%	0.030%	0.314%
SCRA	0.041%	0.120%	0.391%
Sale of credit obligations	-0.009%	0.003%	-0.127%
Technical defaults	0.000%	0.050%	-0.018%
<b>Implementing all the policy options</b>	<b>0.257%</b>	<b>0.248%</b>	<b>1.440%</b>

Table 2 shows the overall impact on capital ratios and RWA aggregating the impact across exposure classes. The figures displayed in the table are weighted averages, using as a weight the sum of the institutions' total exposures in the exposure classes under consideration in the QIS (i.e. corporate, retail and exposures secured by immovable properties). Moreover, the capital ratios are computed with respect to credit RWA but similar impact is obtained when computing them with respect to total RWA.

The impact on capital ratios for SA exposures comes only from the change in RWA—e.g. the percentage point change in CET1 capital ratio as the simple difference between the CET1 capital ratio considering the  $\Delta RWA$  and the current CET1 ratio:<sup>9</sup>

$$(\Delta CAR_{CET1})pp = \frac{CET1}{RWA + \Delta RWA} - \frac{CET1}{RWA}$$

As Table 2 shows, implementing all policy options will produce only a slight decrease in capital ratios due to a slight increase in RWA, where the absolute change in capital ratios is always below seven basis points.

**Table 2: Overall impact on capital ratio of each policy option**

	$(\Delta CAR_{OF})pp$	$(\Delta CAR_{CET1})pp$	$\% \Delta RWA$	Number observations
Contagion effect	-0.001	-0.001	0.012%	16
Materiality threshold	-0.005	-0.003	0.031%	27
Probation period – distressed	-0.033	-0.031	0.198%	22
Probation period – general	-0.011	-0.010	0.075%	26
SCRA	-0.027	-0.026	0.195%	25
Sale of credit obligations	0.007	0.006	-0.041%	21
Technical defaults	-0.001	-0.001	0.003%	20
<b>Implementing all the policy options</b>	<b>-0.062</b>	<b>-0.055</b>	<b>0.383%</b>	<b>27</b>

$(\Delta CAR_{OF})pp$  – percentage point change in total capital ratios

$(\Delta CAR_{CET1})pp$  – percentage point change in CET1 capital ratios

$\% \Delta RWA$  – relative change in RWA

It has to be noted that not all institutions provided estimations for all policy options. The last column in Table 2 presents the number of observations that were used in the assessment of impact of each policy scenario.

The subsequent Figure 35 and Figure 36 present the distribution of the impact of specific policy proposals on capital adequacy ratios of individual institutions. The greatest dispersion is observed for the policy scenario on the treatment of SCRA, which results in a similar dispersion of the joint impact of all policy options. This is followed by quite significant dispersion of the impact of the policy proposals on the probation periods—both for exposures under distressed restructuring and all other exposures.

Figure 37 presents the dispersion of impact on RWA. Here again the application of probation periods and treatment of SCRA result in a wide distribution of impacts. In addition, the policy proposal on the materiality threshold leads to various impacts across institutions. These results

9

$(\Delta CAR_{OF})pp$  is computed substituting total own funds in place of CET1 capital.

Where

are consistent with the analysis of current practices of institutions, as distinct practices are currently observed in these areas.

The subsequent Figure 35 to Figure 37 present the distribution of the impact of specific policy proposals on capital adequacy ratios and RWA of individual institutions. The vertical lines in the figure represent the median, and the squares represent the mean. The box indicates the data in the range of the first and third quartile: the interquartile range (IQR) (25th and 75th percentile). The circles represent observations that are considered extreme outliers:  $> 1.5 \times \text{IQR}$ .

Figure 35: Box plot of percentage point change in total capital ratio,  $(\Delta \text{CAR}_{OF})_{pp}$

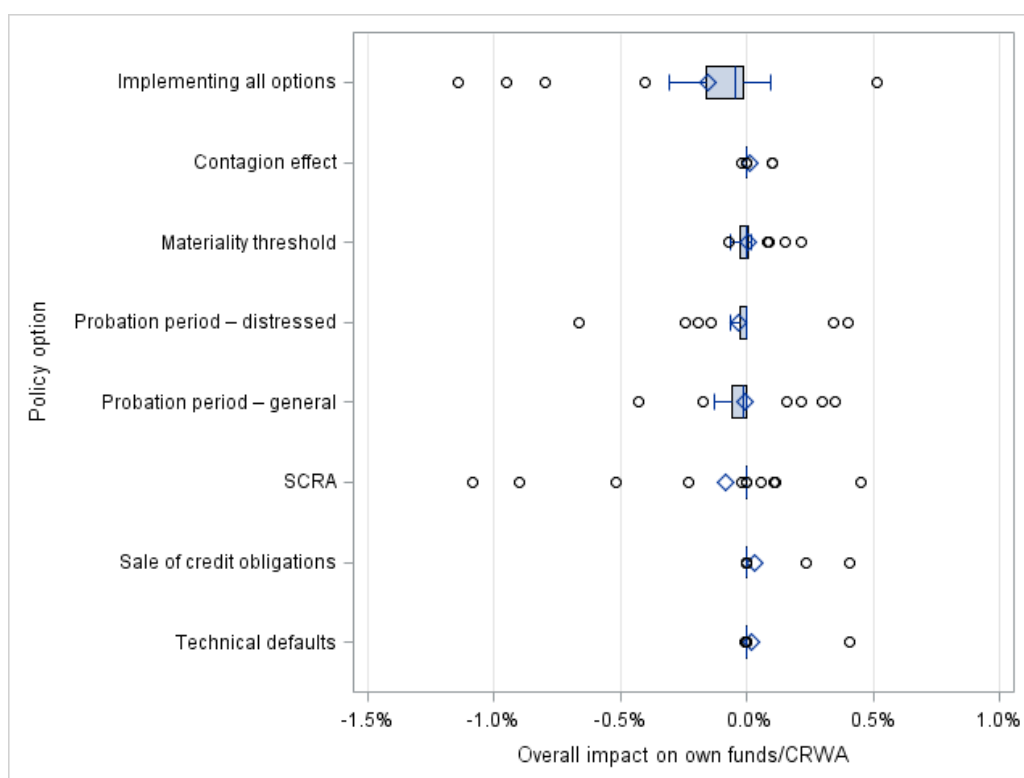


Figure 36: Box plot of percentage point change in CET1 capital ratio,  $(\Delta CAR_{CET1})_{pp}$

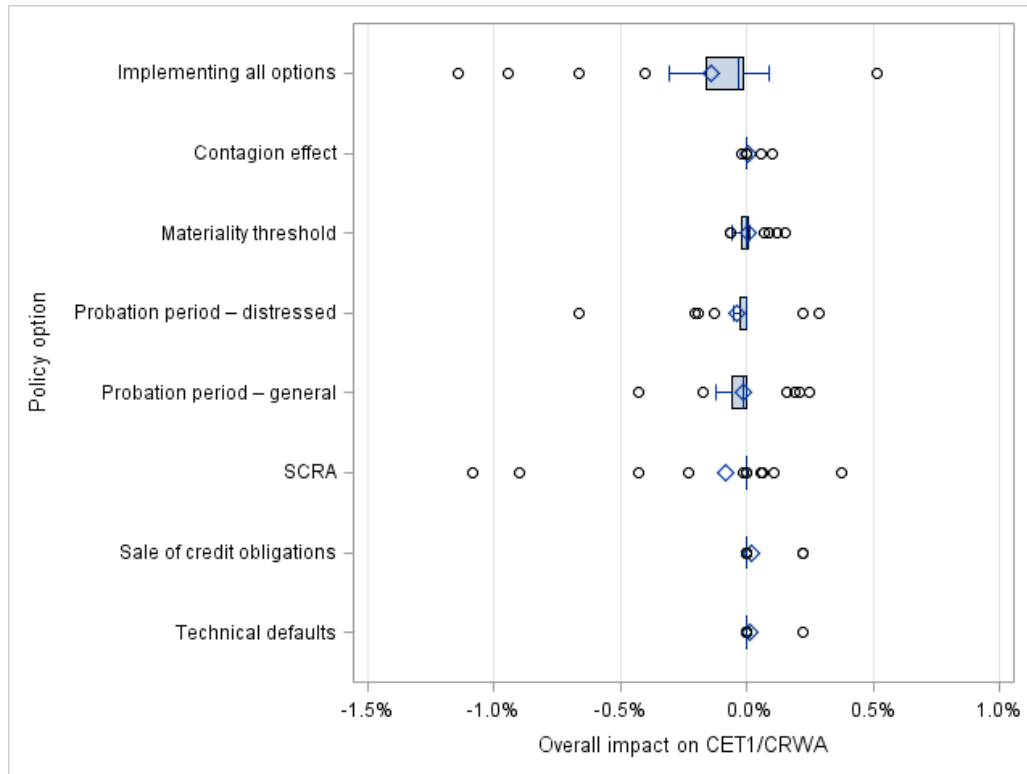
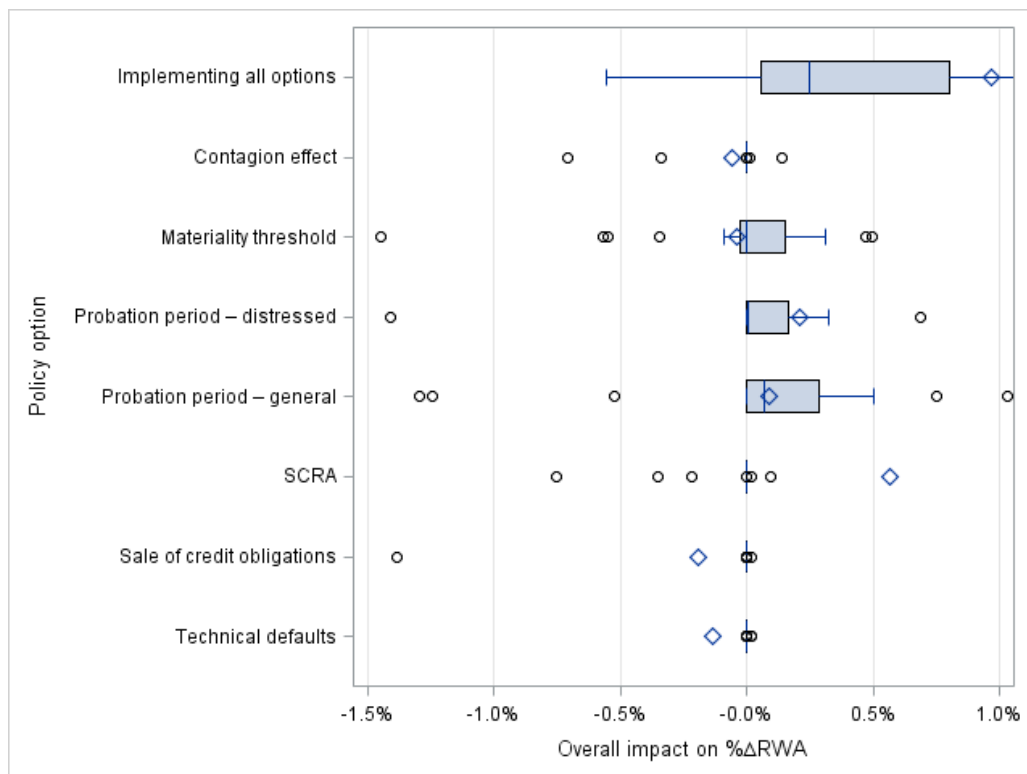


Figure 37: Box plot of relative changes in RWA,  $\% \Delta RWA$



## 4.4 IRB analysis

The QIS exercise for IRB exposures focuses on retail and corporate SME exposure classes that are characterised by high DRs. The overall impact is calculated based on the impact estimated by institutions on five key risk parameters: DR, RR, CR, share of defaulted exposures, and ELBE. These estimates have been combined with COREP data in order to provide estimated impact on RWA, own funds and capital adequacy ratios.

### Impact of the policy scenarios on main risk parameters

This section presents the impact of the proposed policy options on selected risk parameters of both defaulted and non-defaulted exposures. This allows a better understanding of the drivers of the overall impact on capital adequacy ratios and RWA.

The figures presented in the following tables are weighted averages, where the weight used, consistently with the SA analysis, is the institutions' total exposures for each relevant exposure class. In the following tables, each of the policy scenarios described in Section 4.2 is considered separately, and the joint impact presented in Table 10.

The symbols used in the tables should be understood in the following manner:

$(\Delta DR)_{pp}$  – percentage point change in DR

$\% \Delta DR$  – relative change in DR

$(\Delta LGD)_{pp}$  – percentage point change in theoretical LGD =  $CR \times 1\% + (1 - CR) \times (1 - RR)$

$\% \Delta LGD$  – relative change in theoretical LGD =  $CR \times 1\% + (1 - CR) \times (1 - RR)$

$\% \Delta EL$  – relative change in expected loss amounts for non-defaulted exposures

$\% \Delta RWA_{nd}$  – relative change in RWA of non-defaulted exposures

$\% \Delta ELBE$  – relative change in the amounts of ELBE for defaulted exposures

$(\Delta CR)_{pp}$  – percentage point change in CR

$\% \Delta CR$  – relative change in CR

**Table 3: Impact of contagion effect**

	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	-0.02	-0.03	-0.15	-0.02	-0.01
$\% \Delta DR$	-0.37%	0.17%	-3.03%	0.14%	2.28%
$(\Delta LGD)_{pp}$	-0.10	-0.12	-0.27	-0.11	-0.24
$\% \Delta LGD$	-0.15%	-0.34%	-0.46%	-0.32%	-1.31%
$\% \Delta EL$	-0.47%	-0.18%	-3.41%	-0.16%	0.72%
$\% \Delta RW_{And}$	-0.41%	-0.24%	-2.58%	-0.27%	0.08%
$\% \Delta EL_{BE}$	-0.38%	-0.20%	-1.35%	0.42%	-0.01%
$(\Delta CR)_{pp}$	0.00	0.36	0.06	0.13	0.80
$\% \Delta CR$	0.13%	2.41%	1.16%	0.42%	2.03%

**Table 4: Impact of materiality threshold**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	-0.06	0.04	0.13	-0.34	0.59	0.13
$\% \Delta DR$	1.90%	2.34%	25.28%	-22.27%	17.45%	14.07%
$(\Delta LGD)_{pp}$	1.36	1.73	-0.08	7.56	-0.06	-0.43
$\% \Delta LGD$	7.03%	5.99%	-0.98%	14.39%	3.95%	7.67%
$\% \Delta EL$	5.60%	6.69%	7.89%	-14.65%	8.89%	12.60%
$\% \Delta RW_{And}$	1.97%	5.94%	3.30%	-9.44%	1.69%	9.51%
$\% \Delta EL_{BE}$	-2.94%	1.24%	2.45%	-14.53%	5.26%	1.39%
$(\Delta CR)_{pp}$	-2.21	-3.01	2.61	-9.26	3.41	3.36
$\% \Delta CR$	-4.23%	-1.82%	31.49%	-23.60%	17.18%	9.89%

**Table 5: Impact of probation period – distressed restructuring**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	0.03	0.00	0.00	0.00	0.04	0.01
$\% \Delta DR$	0.23%	0.07%	-0.09%	-0.13%	0.31%	1.15%
$(\Delta LGD)_{pp}$	0.04	0.00	0.52	0.33	-0.09	0.66
$\% \Delta LGD$	0.22%	0.02%	1.12%	0.57%	-0.27%	9.07%
$\% \Delta EL$	-0.07%	0.08%	1.01%	0.41%	-0.13%	10.13%
$\% \Delta RW_{And}$	-0.20%	0.05%	1.04%	0.44%	-0.35%	9.63%
$\% \Delta EL_{BE}$	0.08%	0.13%	0.80%	3.53%	0.33%	2.50%
$(\Delta CR)_{pp}$	-0.05	0.03	-0.74	-0.37	-0.08	-1.92
$\% \Delta CR$	-0.06%	0.02%	-2.15%	-1.17%	-0.40%	-5.66%

**Table 6: Impact of probation period – general**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	-0.13	-0.16	-0.08	-0.09	-0.12	-0.05
$\% \Delta DR$	0.00%	-2.90%	-2.58%	-4.03%	-2.77%	-3.61%
$(\Delta LGD)_{pp}$	0.39	0.96	0.69	0.66	0.68	0.70
$\% \Delta LGD$	1.39%	3.26%	1.89%	1.77%	4.38%	7.95%
$\% \Delta EL$	-2.10%	0.09%	-0.89%	-2.29%	0.92%	3.85%
$\% \Delta RW_{And}$	-1.87%	0.15%	-0.03%	-1.22%	1.03%	5.18%
$\% \Delta ELBE$	1.18%	1.32%	1.31%	5.91%	6.99%	2.78%
$(\Delta CR)_{pp}$	-0.71	-1.88	-1.41	-1.10	-1.97	-3.99
$\% \Delta CR$	-0.78%	-6.08%	-6.05%	1.12%	-5.05%	-7.09%

**Table 7: Impact of SCRA**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	0.17	0.05	0.21	-0.05	0.33	0.18
$\% \Delta DR$	9.17%	2.95%	26.56%	-1.03%	23.01%	20.90%
$(\Delta LGD)_{pp}$	-1.55	-0.57	-3.75	-0.16	-1.20	-1.39
$\% \Delta LGD$	-2.96%	-1.11%	-8.27%	-0.27%	-5.37%	-6.52%
$\% \Delta EL$	4.07%	0.65%	5.25%	-1.25%	8.94%	4.03%
$\% \Delta RW_{And}$	-0.56%	-0.14%	-0.60%	-0.95%	2.15%	-0.73%
$\% \Delta ELBE$	5.54%	0.80%	5.71%	-0.28%	7.21%	3.48%
$(\Delta CR)_{pp}$	2.19	0.77	6.90	0.02	4.29	4.13
$\% \Delta CR$	13.93%	7.76%	55.30%	0.06%	16.27%	16.45%

**Table 8: Impact of the sale of credit obligations**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	-0.06	-0.02	-0.03	-0.06	-0.04	-0.02
$\% \Delta DR$	-0.97%	-0.44%	-0.52%	-1.29%	-0.89%	-0.78%
$(\Delta LGD)_{pp}$	-0.24	-0.08	-0.01	-0.02	-0.07	0.00
$\% \Delta LGD$	-0.28%	-0.12%	-0.01%	-0.03%	-0.10%	0.00%
$\% \Delta EL$	-1.11%	-0.51%	-0.52%	-1.30%	-0.96%	-0.77%
$\% \Delta RW_{And}$	-0.79%	-0.39%	-0.37%	-0.96%	-0.73%	-0.49%
$\% \Delta ELBE$	-1.55%	-0.35%	-0.32%	-0.54%	0.28%	-0.31%
$(\Delta CR)_{pp}$	0.00	-0.00	-0.02	-0.09	-0.13	-0.07
$\% \Delta CR$	0.05%	-0.10%	-0.08%	-0.27%	-0.57%	-0.27%

**Table 9: Impact of technical defaults**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	0.21	0.53	0.02	0.00	0.11	0.04
$\% \Delta DR$	3.56%	8.08%	1.63%	0.00%	3.70%	2.66%
$(\Delta LGD)_{pp}$	-0.75	-1.86	-0.43	0.00	-0.29	-0.22
$\% \Delta LGD$	-2.43%	-5.45%	-1.04%	0.00%	-1.54%	-1.27%
$\% \Delta EL$	0.75%	1.18%	0.48%	0.00%	1.92%	1.16%
$\% \Delta RW_{And}$	-0.78%	-1.62%	-0.02%	0.00%	0.43%	0.23%
$\% \Delta EL_{BE}$	0.01%	-0.04%	-0.01%	0.00%	0.09%	-0.09%
$(\Delta CR)_{pp}$	1.87	3.85	0.75	0.00	1.04	0.87
$\% \Delta CR$	7.58%	12.70%	5.34%	0.00%	3.16%	2.64%

**Table 10: Joint impact of all policy options**

	Corporate SME	Other retail SME	Other retail non-SME	QRRE	Mortgage SME	Mortgage non-SME
$(\Delta DR)_{pp}$	0.24	0.78	0.30	-0.35	0.95	0.25
$\% \Delta DR$	10.36%	13.86%	40.14%	-17.33%	33.86%	23.21%
$(\Delta LGD)_{pp}$	0.01	-0.68	-0.98	9.97	-0.15	-0.08
$\% \Delta LGD$	2.85%	-0.29%	-2.64%	18.08%	5.10%	6.89%
$\% \Delta EL$	6.21%	9.30%	11.17%	-4.38%	19.12%	17.14%
$\% \Delta RW_{And}$	-1.06%	3.95%	3.72%	0.84%	5.84%	10.89%
$\% \Delta EL_{BE}$	2.59%	3.25%	9.84%	-9.19%	13.42%	6.30%
$(\Delta CR)_{pp}$	0.17	0.40	2.87	-12.50	3.56	-0.24
$\% \Delta CR$	9.40%	8.51%	35.43%	-33.50%	20.40%	6.32%

It has to be mentioned that not all institutions provided estimates for all policy scenarios and exposure classes; therefore, the figures presented in the tables above are based on varied numbers of observations. In particular, the estimates for qualifying revolving retail exposures (QRRE) are based on a very small sample of institutions (between 5 and 11 depending on the policy scenario), and as a result these estimates may be less reliable.

The most significant impact on risk parameters is observed in relation to the policy scenario on materiality threshold, as presented in Table 4. The impact varies depending on exposure classes: for corporate SME the policy proposal leads to decrease in PD and increase in LGD, whereas for most of the retail exposure classes the impact is the opposite. In all cases, however, except for QRRE, a significant increase in both RWA and EL for non-defaulted exposures is observed.

In addition to the average impacts presented in the tables above, the distribution of impact of each policy scenario on PD and LGD for each exposure class is presented in Part 3 of the Appendix to this report. The greatest dispersion is observed for the policy scenario related to materiality



threshold in terms of both PD and LGD. In terms of exposure classes, the portfolio most affected by varied impacts of the policy scenarios seems to be exposures to SMEs secured by immovable properties. This is particularly observed in the case of the policy scenario related to the treatment of SCRA.

### Impact of the policy scenarios on capital adequacy ratios

The impact of each policy scenario on capital adequacy ratios is calculated on the basis of the estimated changes in RWA, as well as the changes in own funds that result from the adjustment of the calculation of IRB shortfall based on the estimated changes in EL. The percentage point change in capital adequacy ratios is computed in the following way:

$$(\Delta CAR_{CET1})_{pp} = \frac{CET1 + \Delta CET1}{RWA + \Delta RWA} - \frac{CET1}{RWA}$$

$$(\Delta CAR_{OF})_{pp} = \frac{Own\ Funds + \Delta Own\ Funds}{RWA + \Delta RWA} - \frac{Own\ Funds}{RWA}$$

Similarly, as for SA, the capital adequacy ratios have been computed with respect to credit RWA. Results are similar if total RWA is used. The aggregation between banks for the purpose of computing the average impact uses as a weight the institutions' sum of total exposures for each exposure class under consideration in the QIS analysis.

Table 11 shows the overall impact of the policy proposals on capital ratios and total (credit) RWA. Implementation of all policy options leads to a decrease both of the total capital ratio and the CET1 capital ratio in the region of 0.2 percentage points. This seems to be driven mainly by the proposals on materiality threshold and probation period. The policy scenarios related to SCRA, technical defaults and sales of credit obligations lead instead to a very slight increase in capital requirements.

**Table 11: Average overall impact on capital requirements and RWA of each policy option**

	$(\Delta CAR_{OF})_{pp}$	$\% \Delta CAR_{OF}$	$(\Delta CAR_{CET1})_{pp}$	$\% \Delta CAR_{CET1}$	$\% \Delta RWA$	Number observations
Contagion effect	0.000	0.025%	-0.001	0.009%	-0.039%	18
Materiality threshold	0.062	-0.397%	-0.069	-0.468%	0.681%	37
Probation period – distressed	-0.115	-0.581%	-0.095	-0.592%	0.706%	29
Probation period – general	-0.131	-0.488%	-0.104	-0.593%	0.683%	32
SCRA	0.042	0.209%	0.017	0.132%	-0.112%	22
Sale of credit obligations	0.014	0.089%	0.016	0.105%	-0.163%	21
Technical defaults	0.018	0.098%	0.010	0.080%	-0.032%	21
<b>Implementing all the policy options</b>	<b>-0.176</b>	<b>-0.803%</b>	<b>-0.163</b>	<b>-1.022%</b>	<b>1.250%</b>	<b>36</b>

$(\Delta CAR_{OF})_{pp}$  and  $\% \Delta CAR_{OF}$  – percentage point and relative change in total capital ratios

$(\Delta CAR_{CET1})_{pp}$  and  $\% \Delta CAR_{CET1}$  – percentage point and relative change in CET1 capital ratios

$\% \Delta RWA$  – relative change in RWA

The subsequent Figure 38 to Figure 40 present the distribution of the impact of specific policy proposals on capital adequacy ratios and RWA of individual institutions. The vertical lines in the figures represent the median and the squares represent the mean. The box indicates the data in the range of the first and third quartile: the interquartile range (IQR) (25th and 75th percentile). The circles represent observations that are considered extreme outliers:  $> 1.5 \times \text{IQR}$ .

The greatest dispersion is again observed for the policy scenario on the materiality threshold, followed by slightly less significant dispersion of the impact of the policy proposals on the probation periods—both for exposures under distressed restructuring and all other exposures. These results are consistent with the analysis of current practices of institutions, as distinct practices are currently observed in these areas.

Figure 38: Box plot of percentage point change in total capital ratio,  $(\Delta \text{CAR}_{OF})_{pp}$

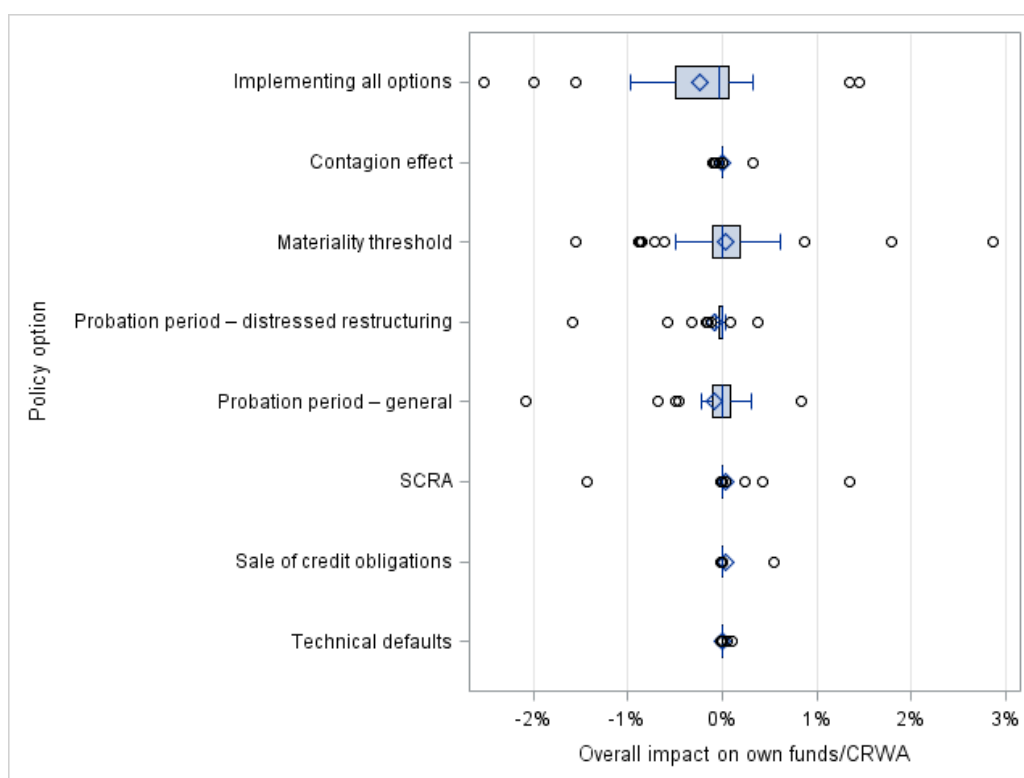


Figure 39: Box plot of percentage point change in CET1 capital ratio,  $(\Delta CAR_{CET1})_{pp}$

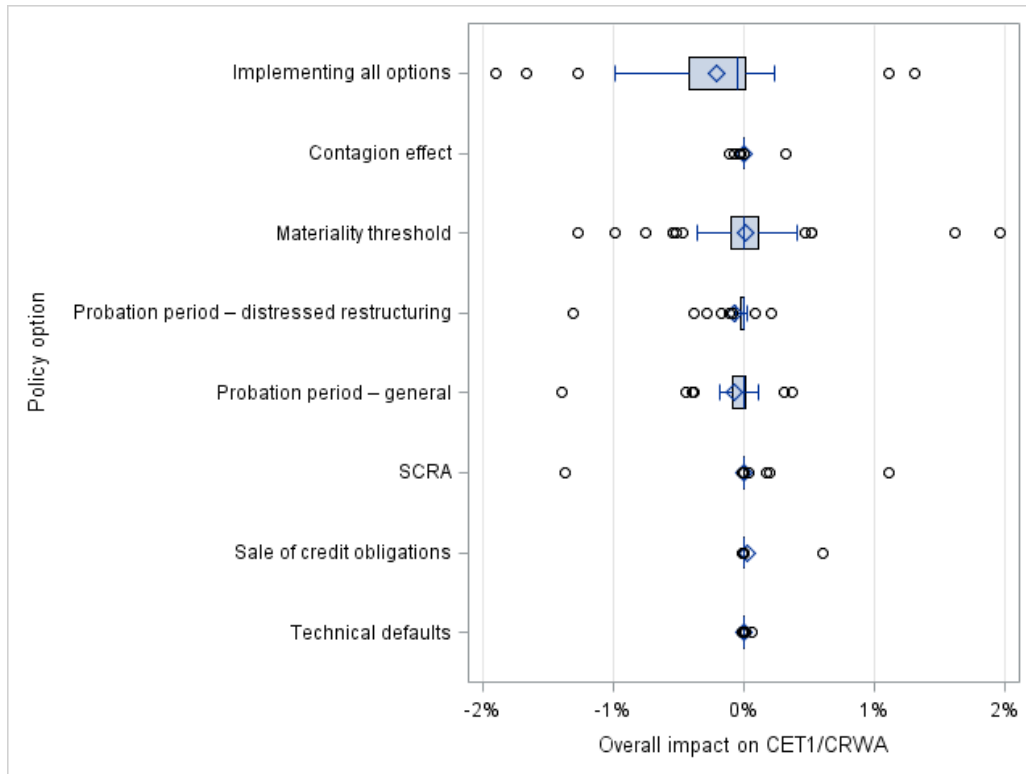
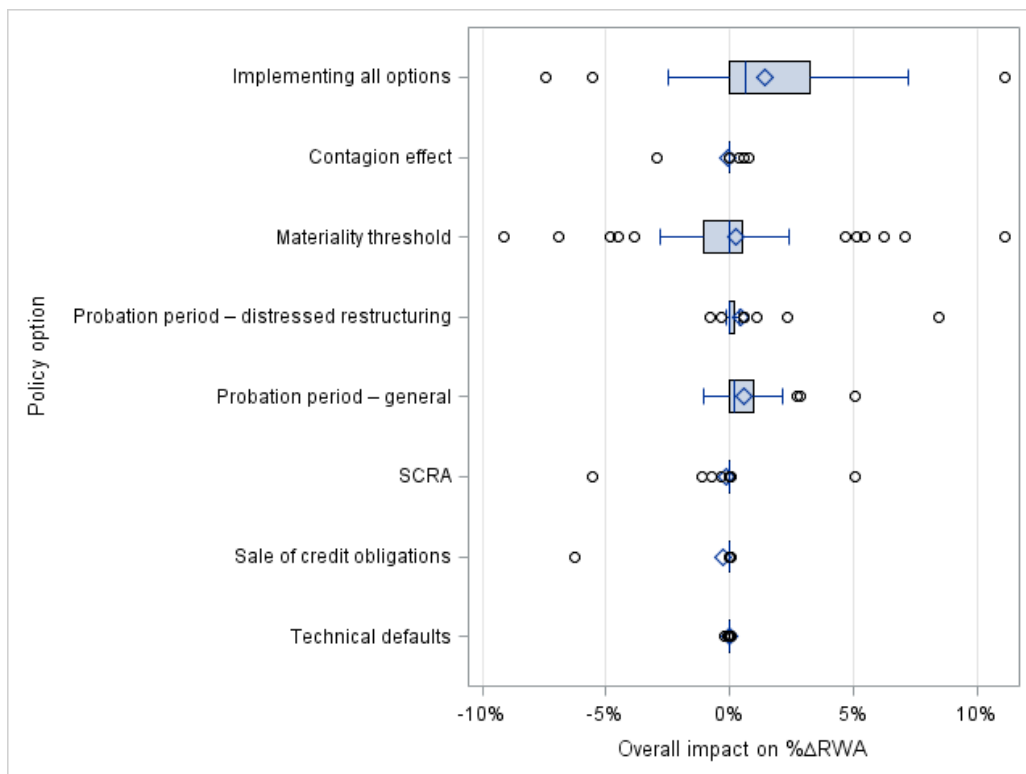


Figure 40: Box plot of relative changes in RWA,  $\% \Delta RWA$

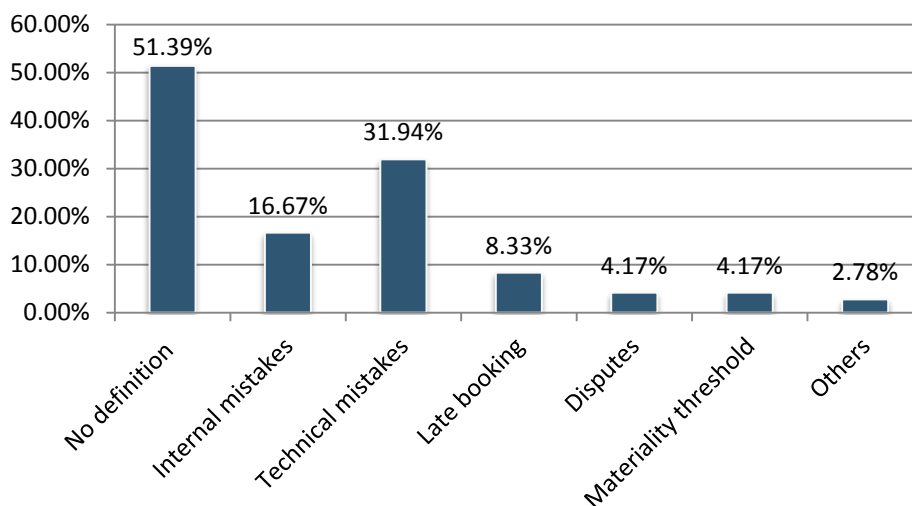


# Appendix

## 1. Technical default definitions

More than half of the institutions do not have a definition for technical default in place. Among those institutions that do have a definition in use,<sup>10</sup> the most used definition of technical default falls into the category of ‘technical mistakes’ (used by 32% of the institutions)—for example, due to an IT-system error such as incorrect reporting of the risk classification, or a technically incorrect limit allocation, or an overdraft that is a result of technical circumstances. This is followed by the ‘internal mistakes’ class (used by 17% of the institutions), where defaults are triggered due to errors/mistakes caused by the bank, such as the wrong account charged. Some institutions (around 8%) consider as technical default those cases where the delayed payment is due to late booking, both for internal or external reasons (e.g. delays in extending the validity of expired credit facilities, or technical delays in the registration of the payment of the invoice, where money is already in the bank but not yet assigned to the correct client account). Some institutions (4%) also include disputes or litigations as a definition of technical default (e.g. on leasing contracts, in cases of litigation on the material rented).

Figure 41: Technical default definitions used by institutions



<sup>10</sup> Note that around 20% of the institutions use more than one of the technical default definition classes defined in Figure 41.

## 2. Qualitative impact on own funds requirements for each policy area

The figures below present the institutions' assessment of the effect on own funds requirements of the policy proposals included in the CP-GL and described in section 4.2 of this report on each aspect of the definition of default. The following answers were possible:

1. negligible
2. somewhat significant
3. significant
4. very significant
5. unable to assess the impact

Figure 42: Impact of the use of different default definitions

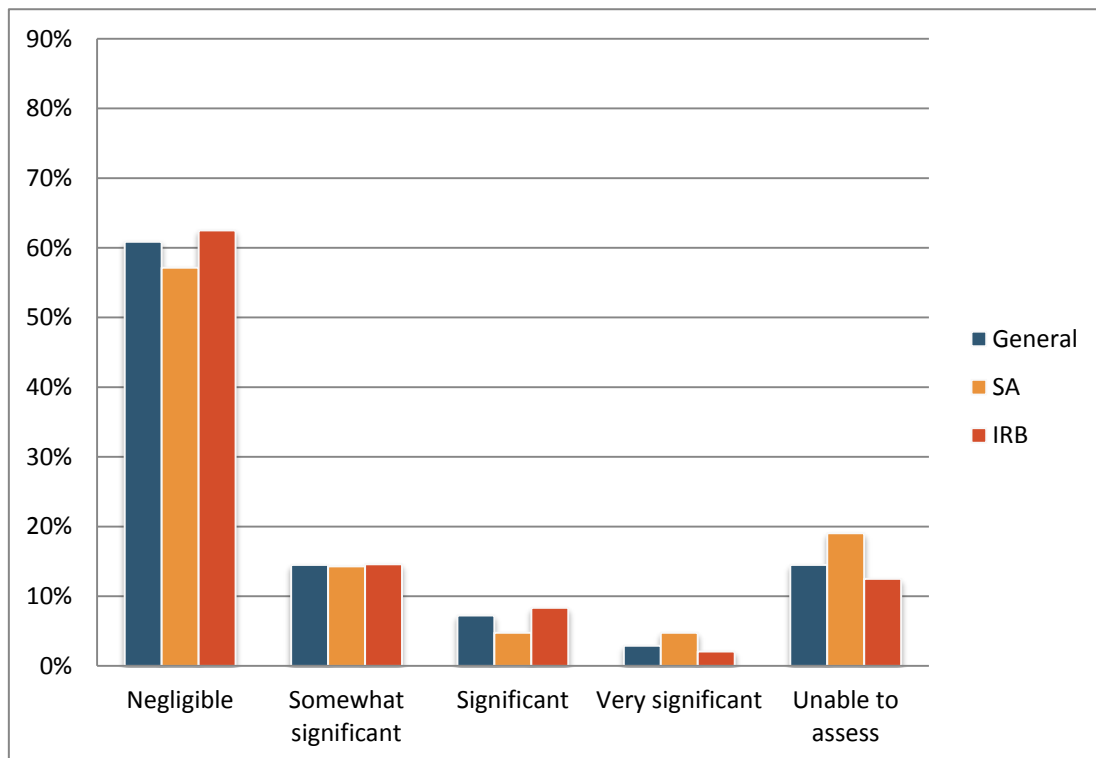


Figure 43: Impact of the level of the default definition for retail exposure

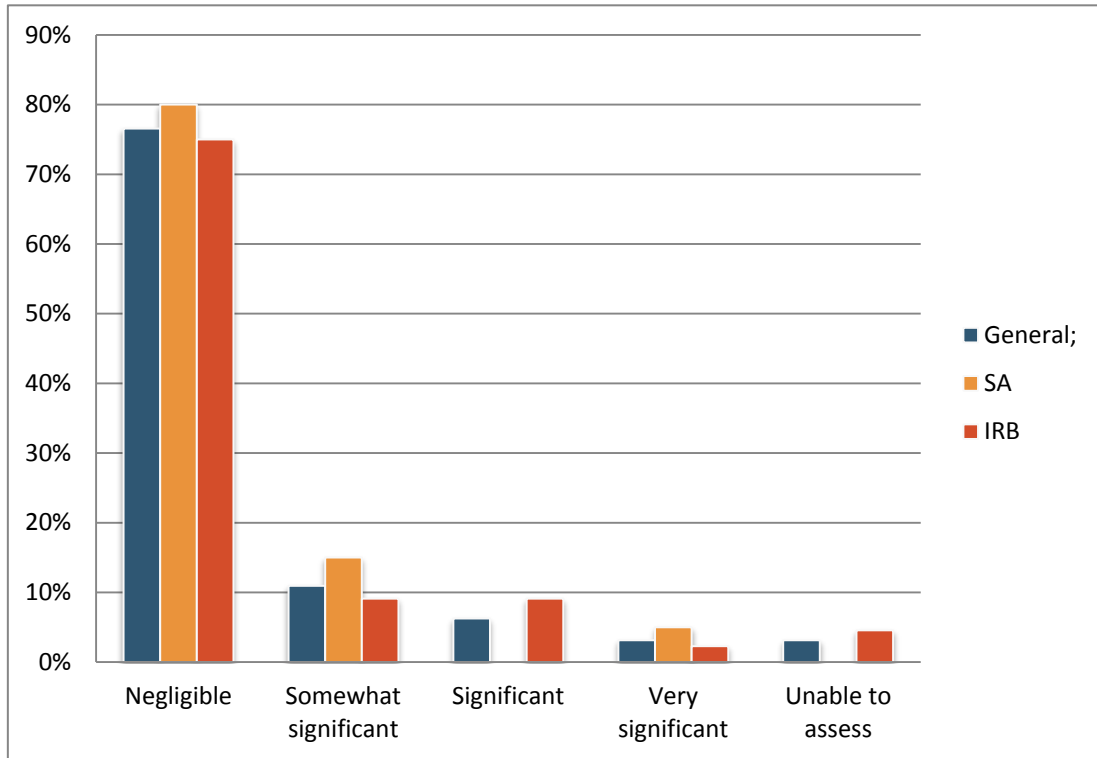


Figure 44: Impact of pulling effect

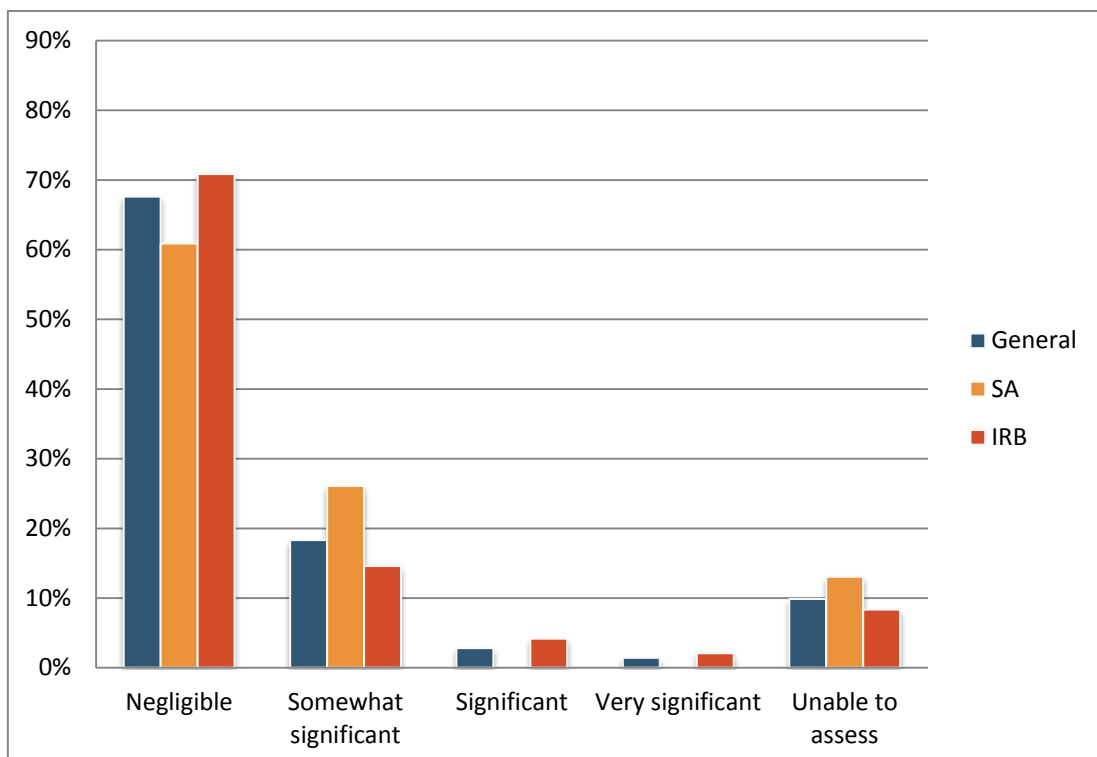


Figure 45: Impact of contagion effect

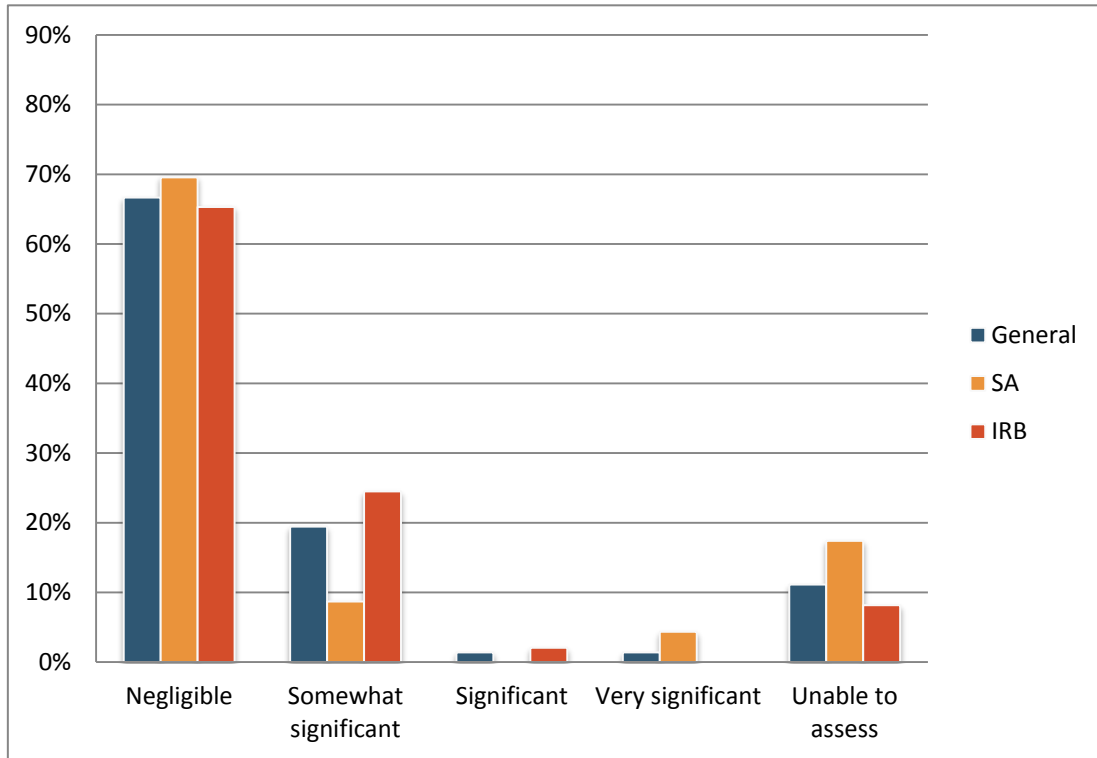


Figure 46: Impact of the new definition of technical defaults

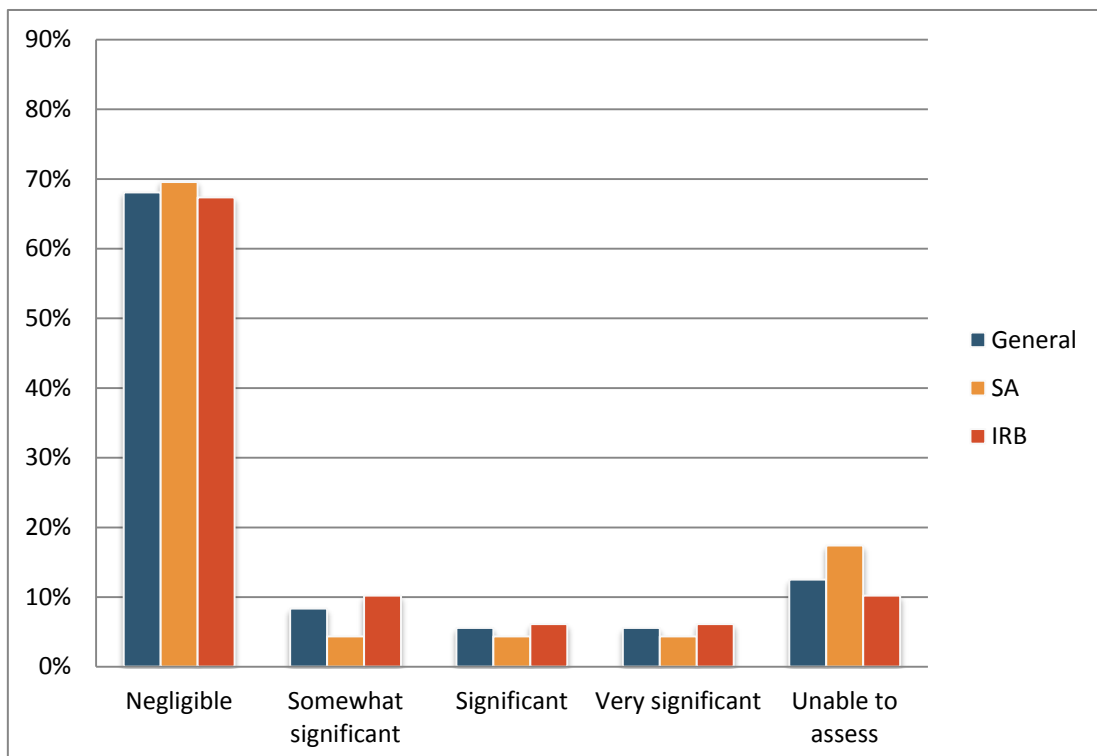


Figure 47: Impact of the new counting of DPD

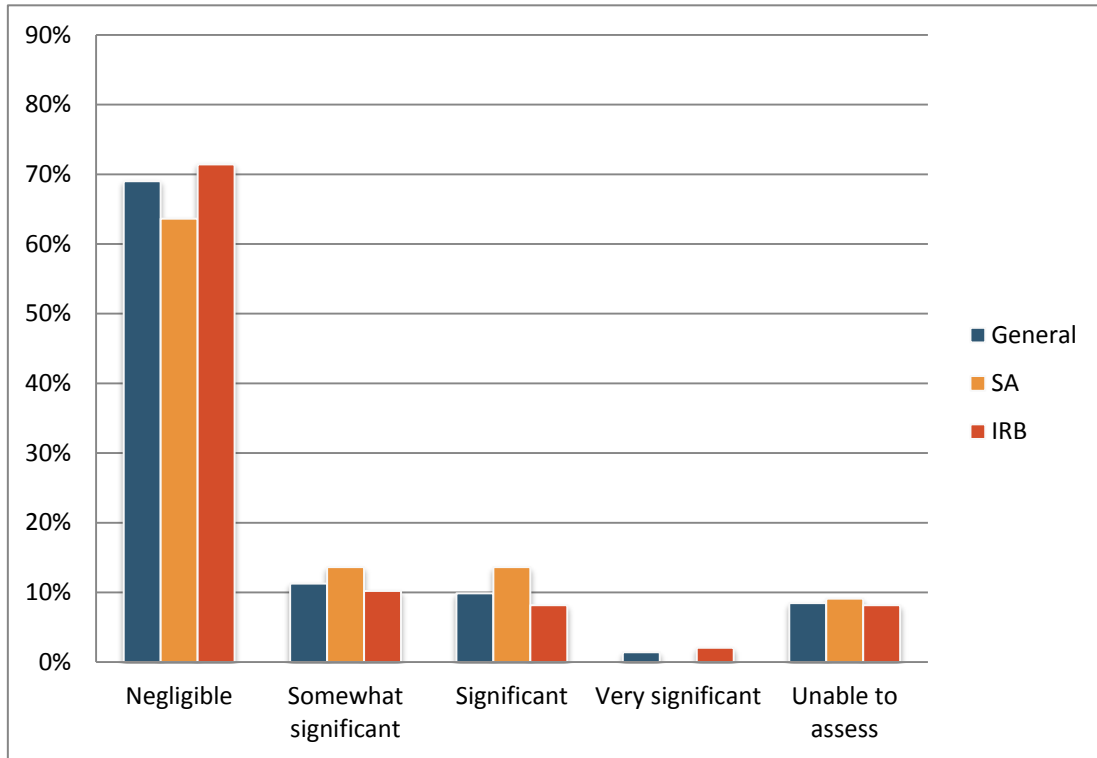


Figure 48: Impact of materiality threshold (non-retail)

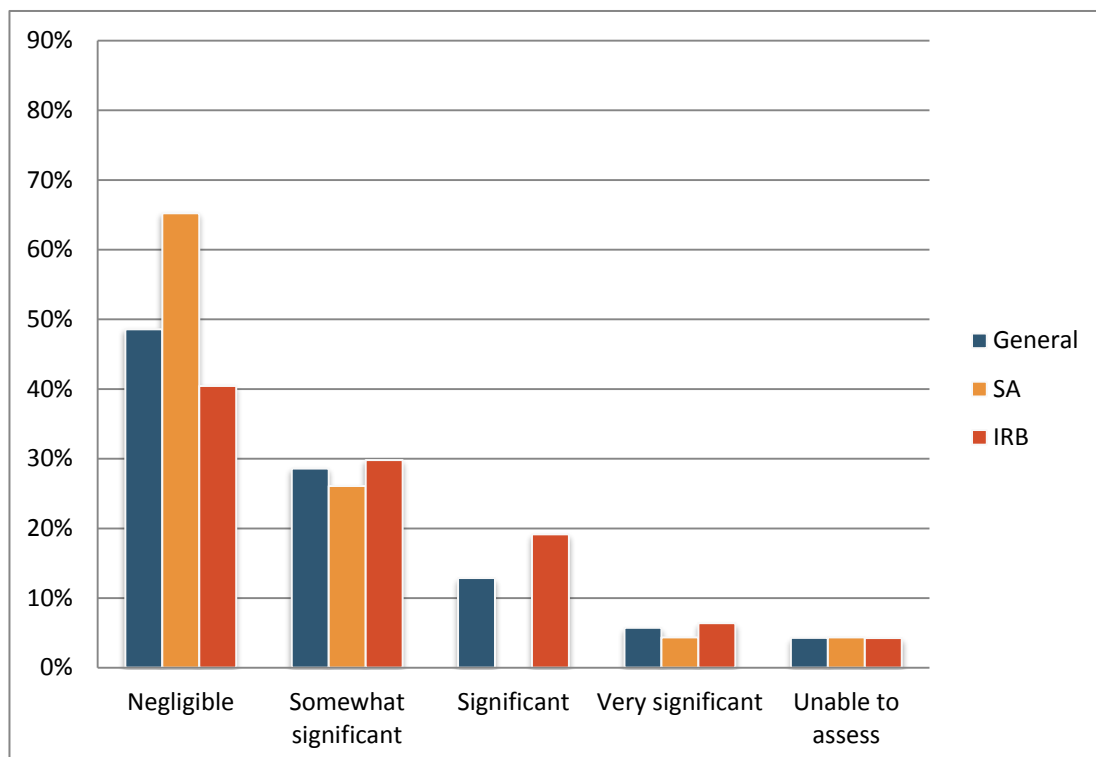




Figure 49: Impact of materiality threshold (retail)

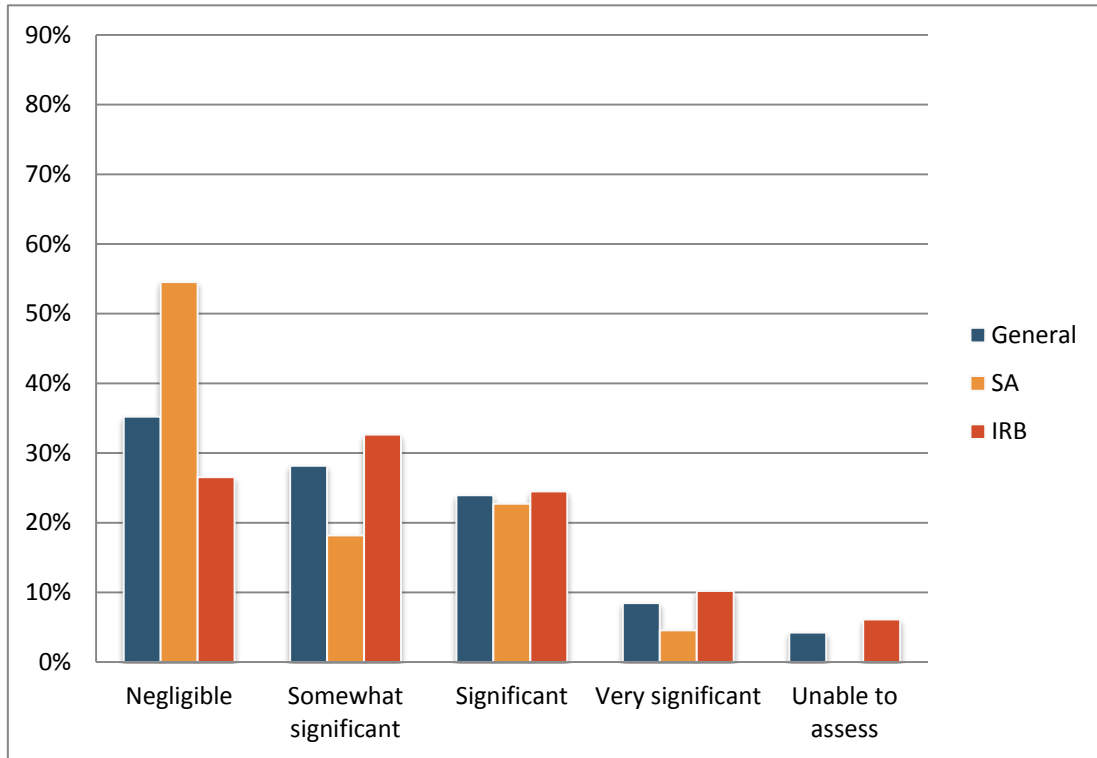


Figure 50: Impact of the rules on SCRA

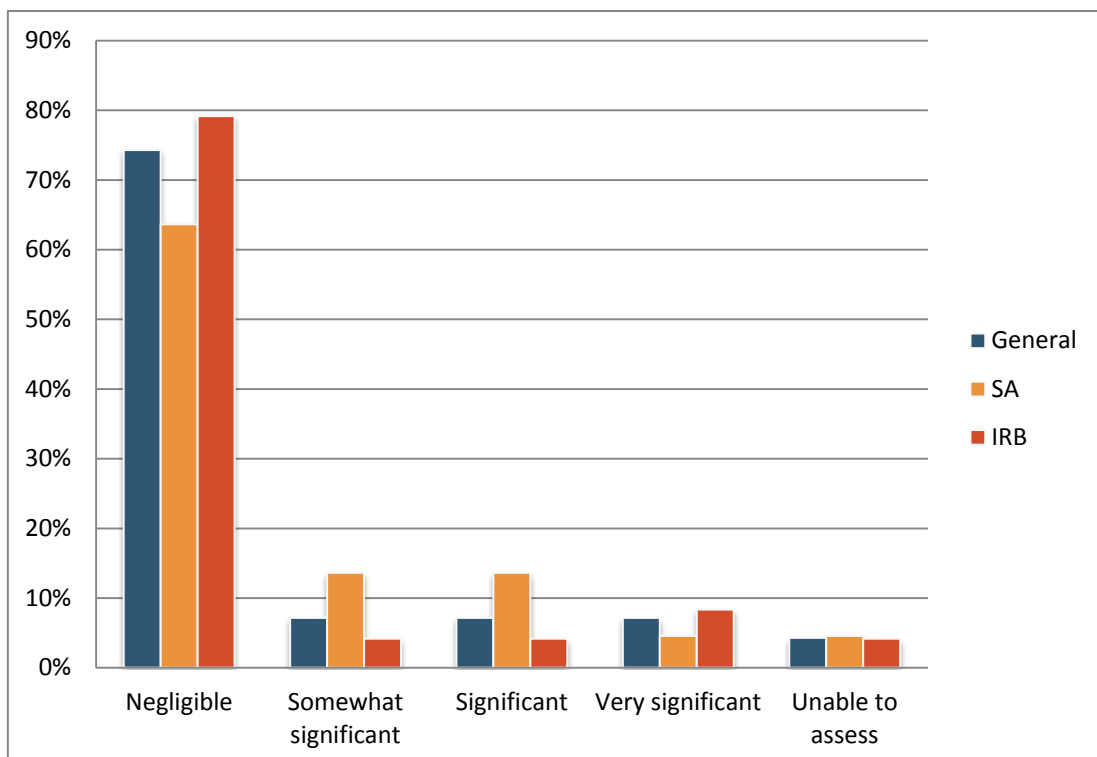


Figure 51: Impact of distressed restructuring definition

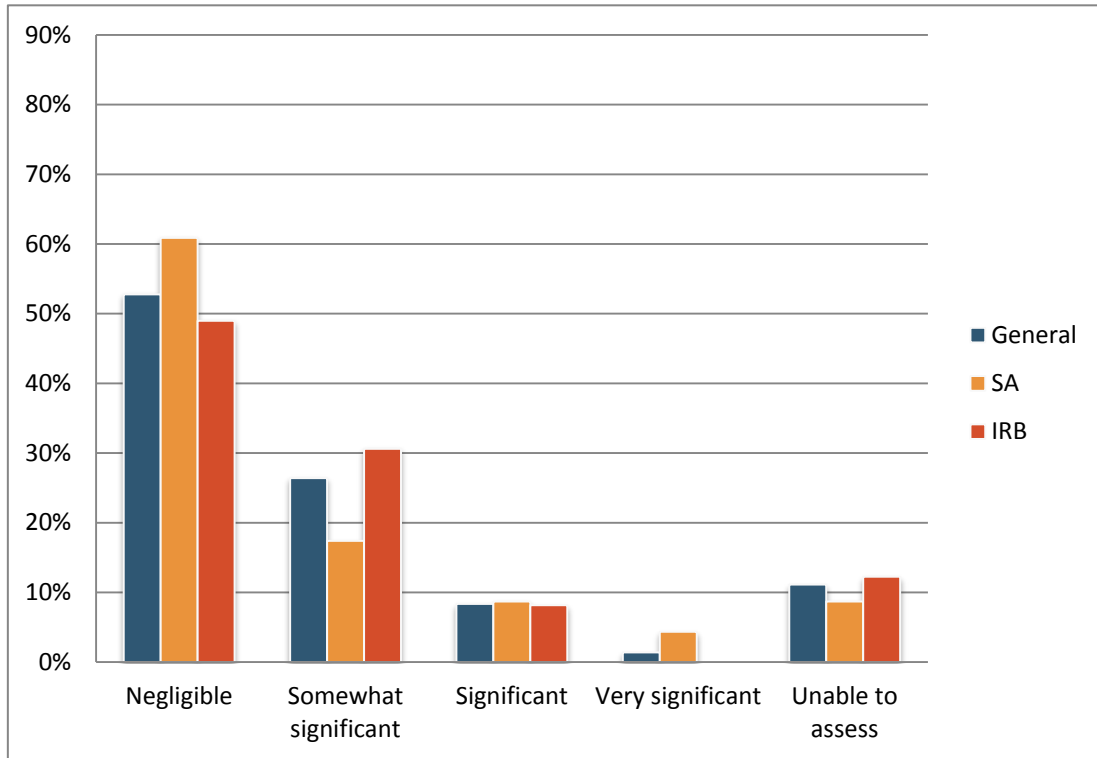


Figure 52: Impact of the sale of credit obligation as an indication of default

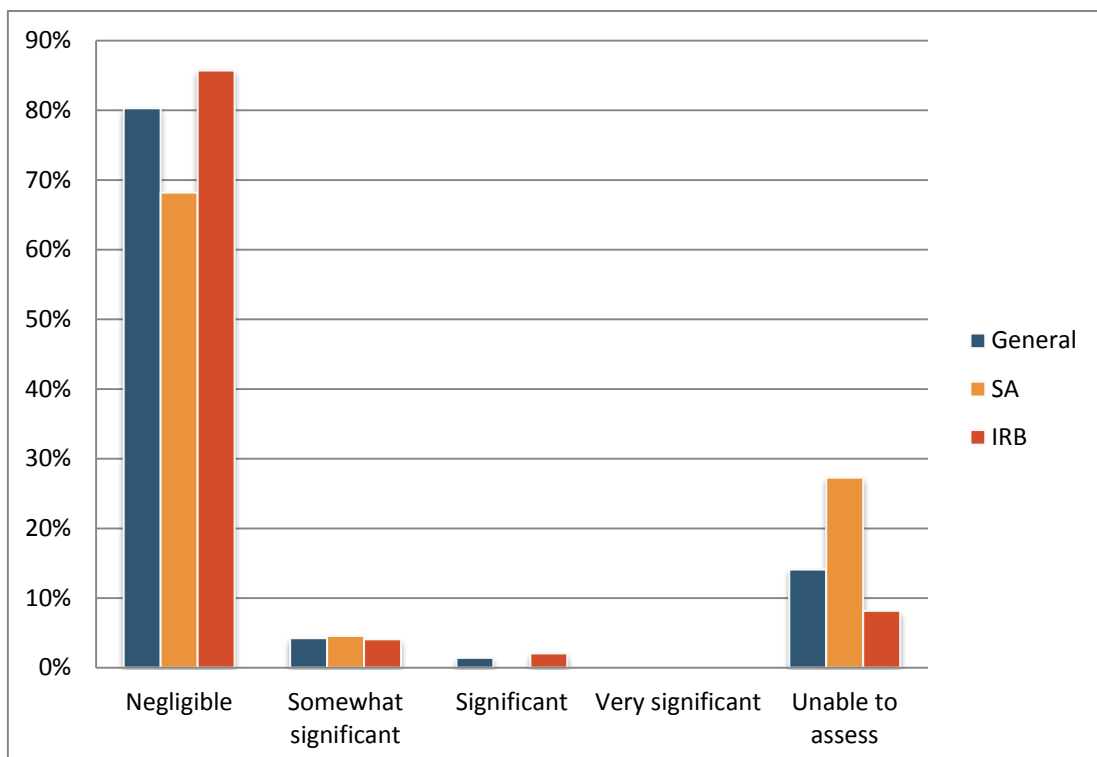


Figure 53: Impact of other indications of unlikelihood to pay

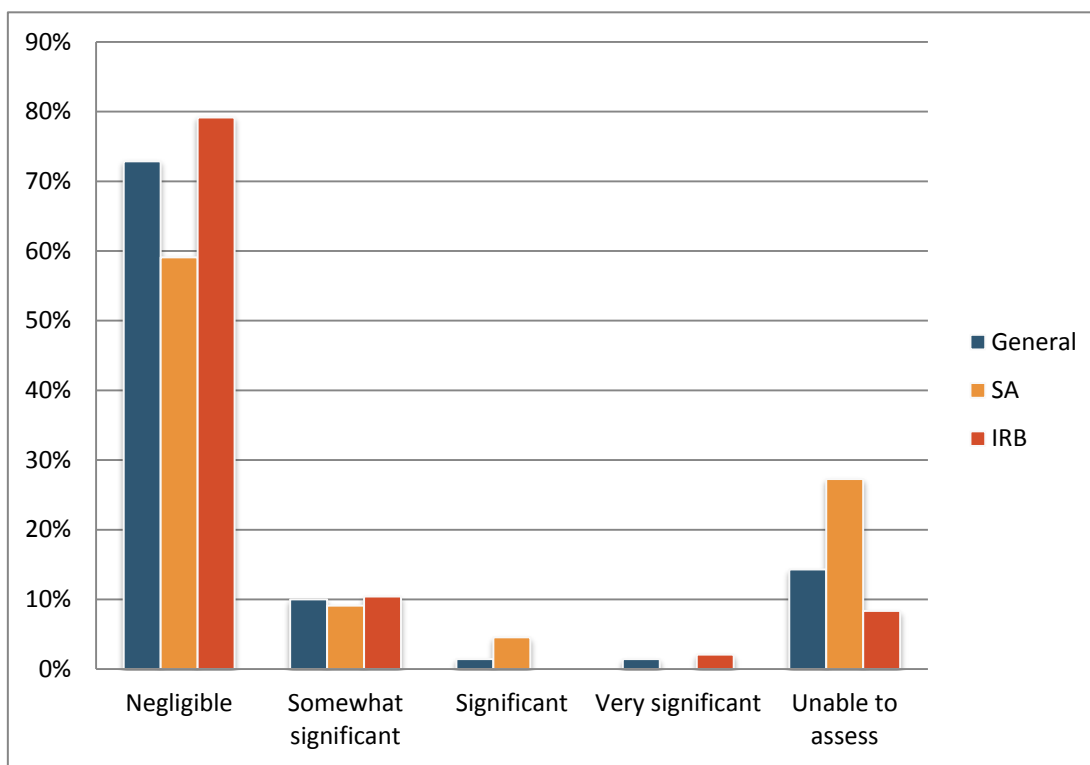
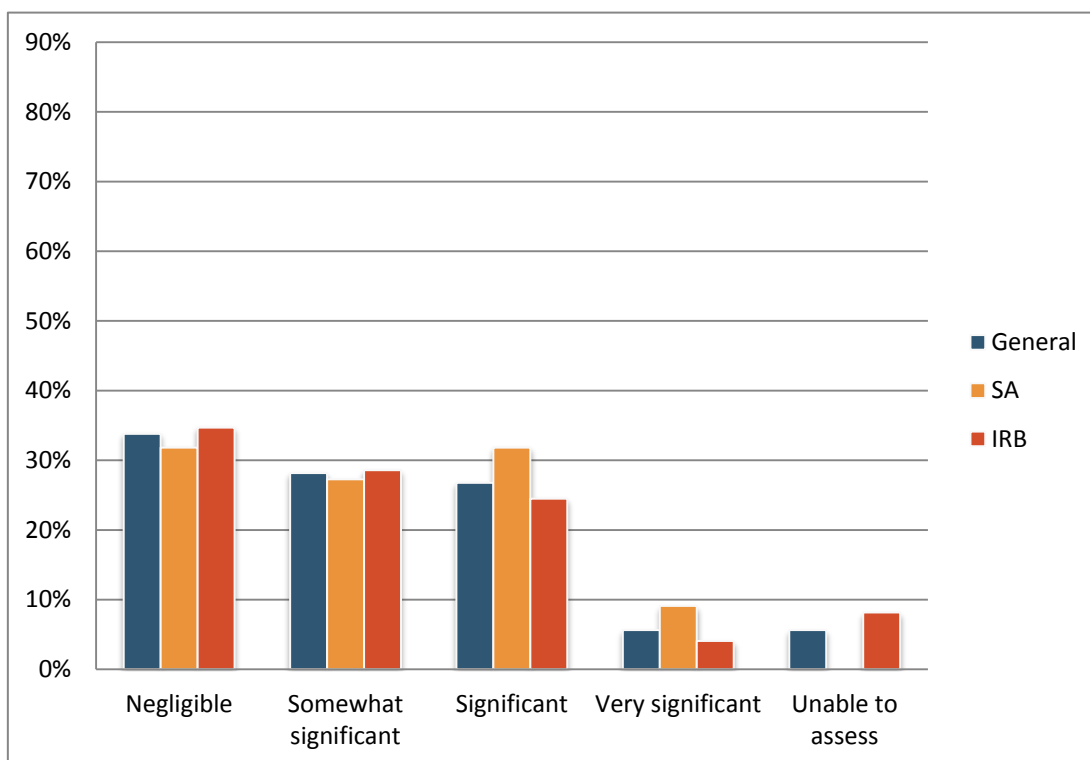


Figure 54: Impact of criteria to return to non-defaulted status



### 3. Distribution of impact of policy scenarios on default rate and LGD

The subsequent Figure 55 to Figure 70 present the distribution of the impact of specific policy proposals on DR and LGD (in terms of percentage point change) of individual institutions. The vertical lines in the figure represent the median and the squares represent the mean. The box indicates the data in the range of the first and third quartile: the interquartile range (IQR) (25th and 75th percentile). The circles represent observations that are considered extreme outliers:  $> 1.5 \times \text{IQR}$ .

Figure 55: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – contagion effect

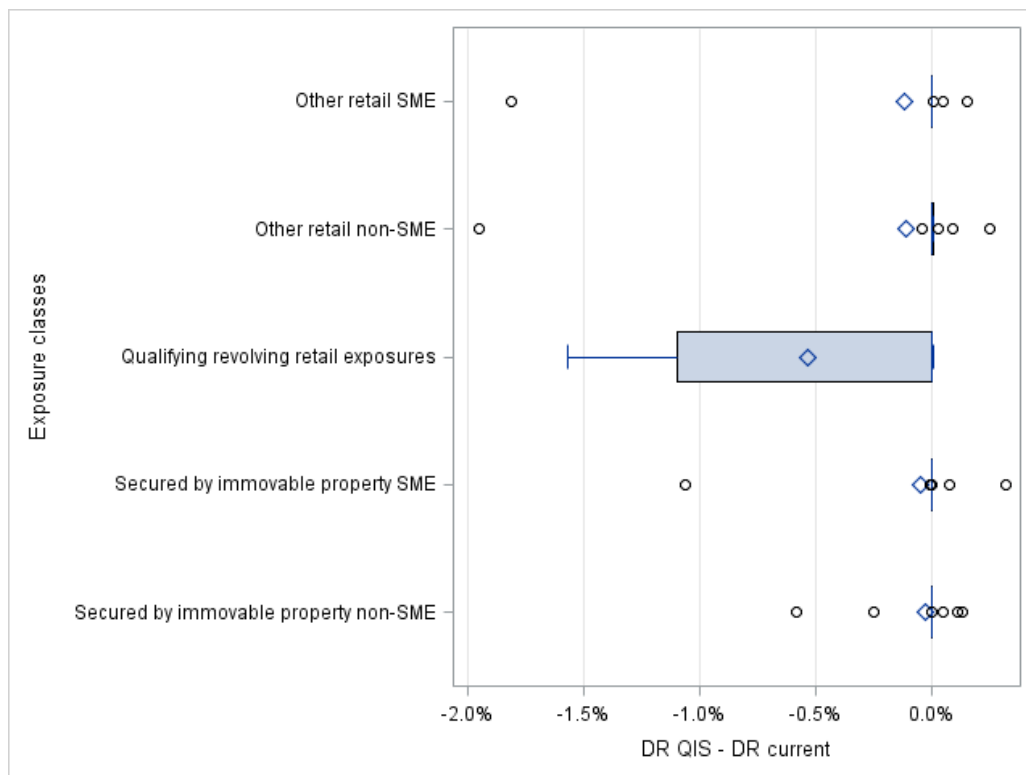


Figure 56: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – materiality threshold

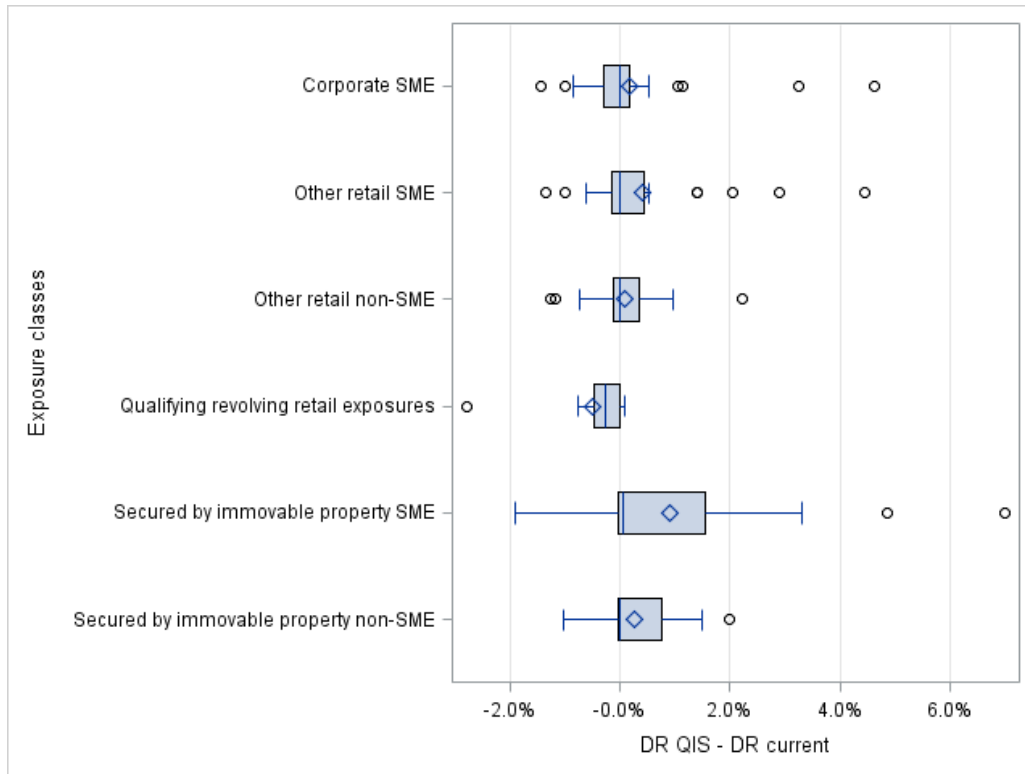


Figure 57: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – probation period distressed

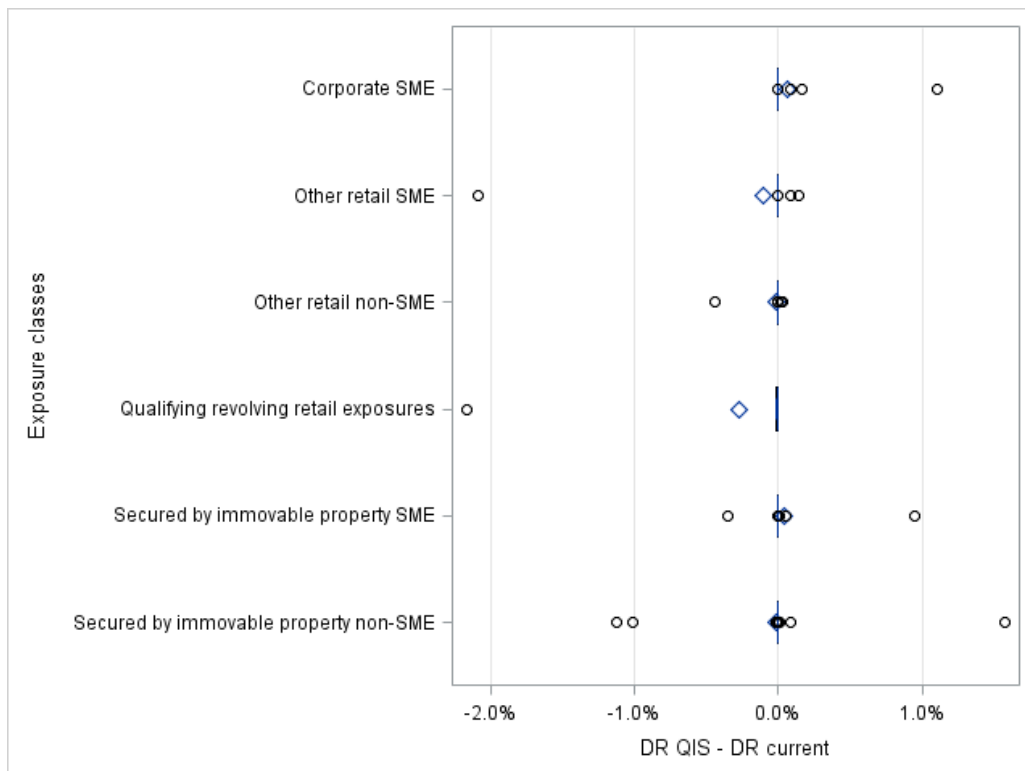


Figure 58: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – probation period general

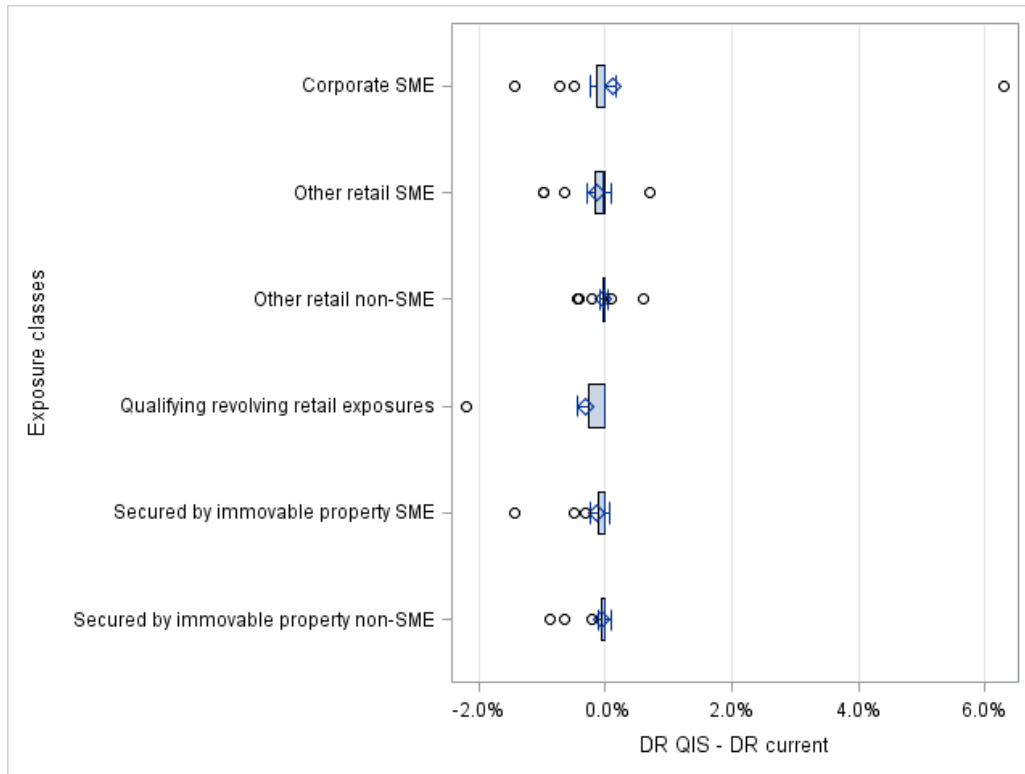


Figure 59: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – SCRA

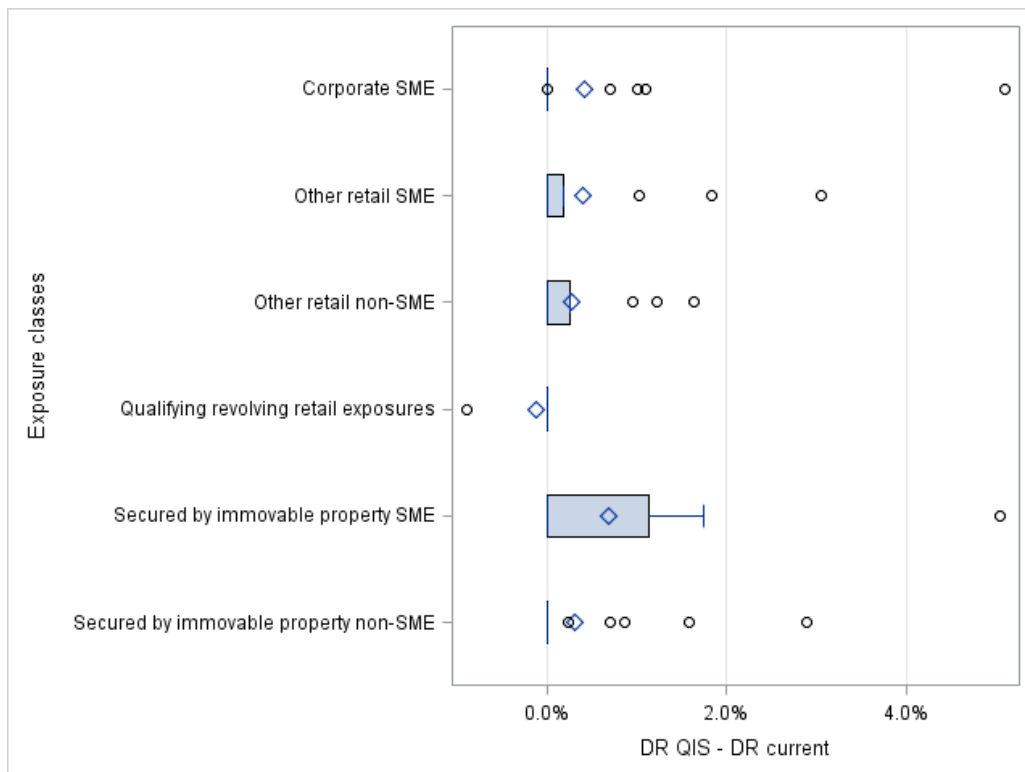


Figure 60: Box plot of percentage points change in default rate,  $(\Delta DR)_{pp}$  – Sale of credit obligations

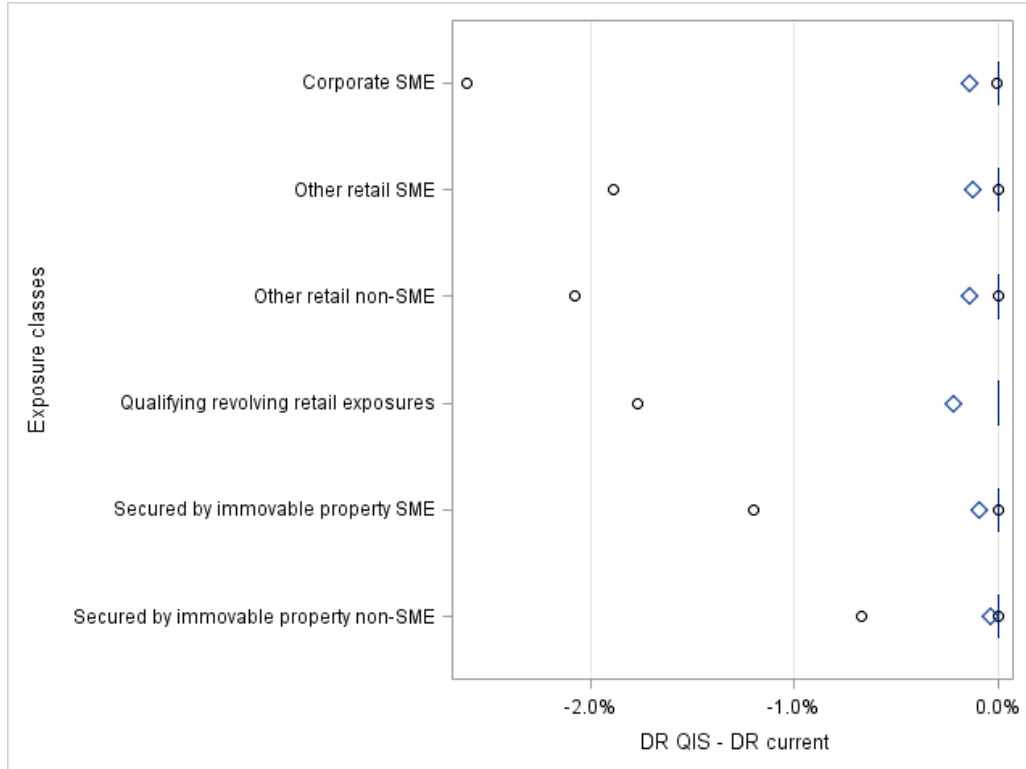


Figure 61: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – technical defaults

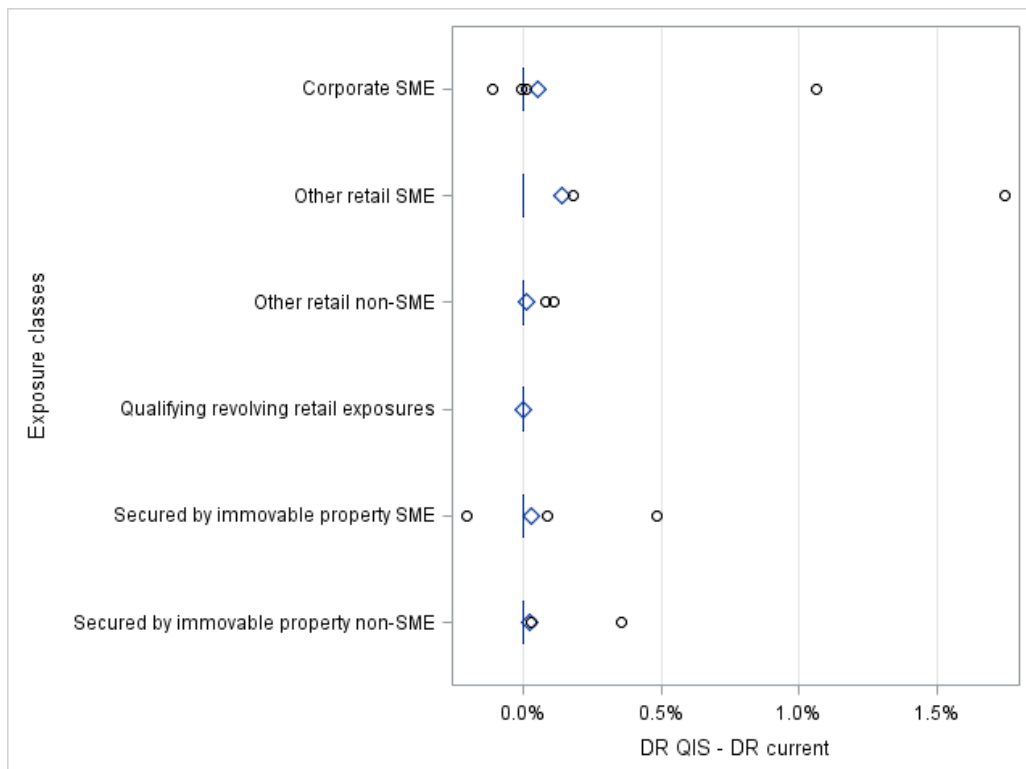


Figure 62: Box plot of percentage point change in default rate,  $(\Delta DR)_{pp}$  – all policy options

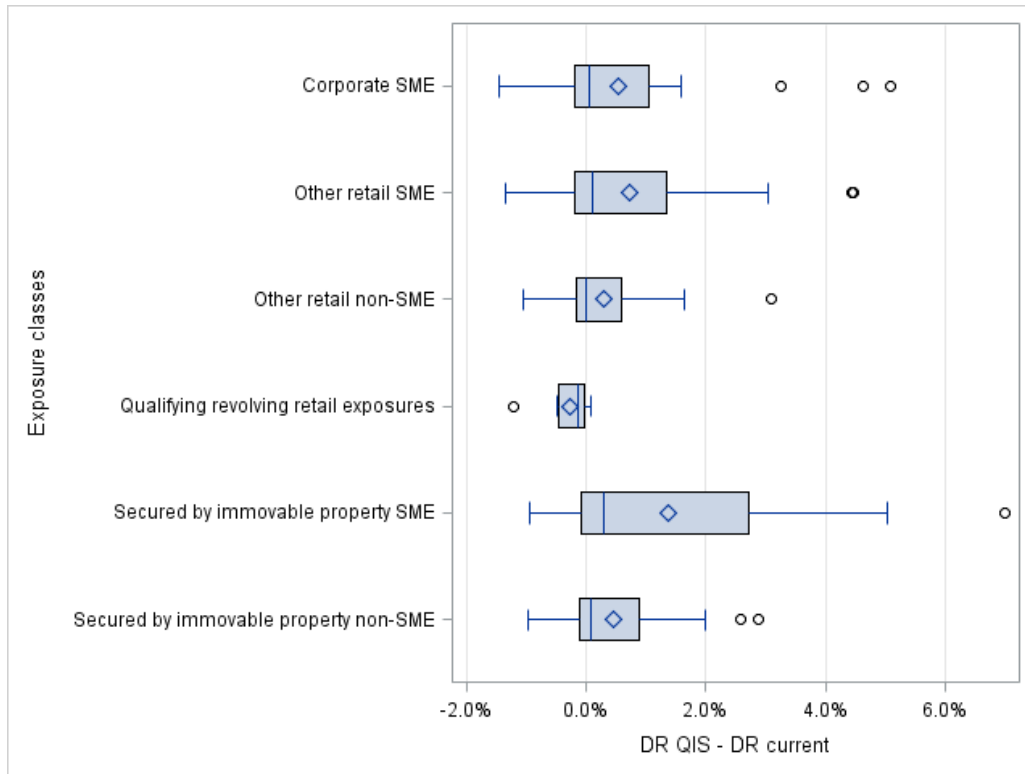


Figure 63: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – contagion effect

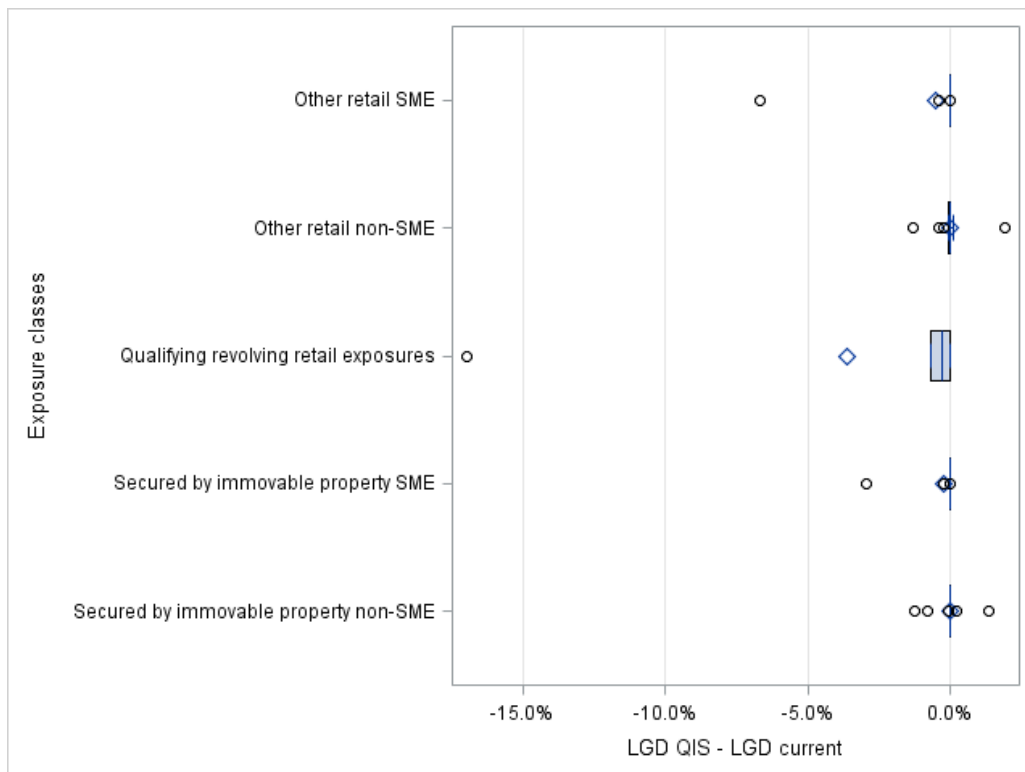




Figure 64: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – materiality threshold

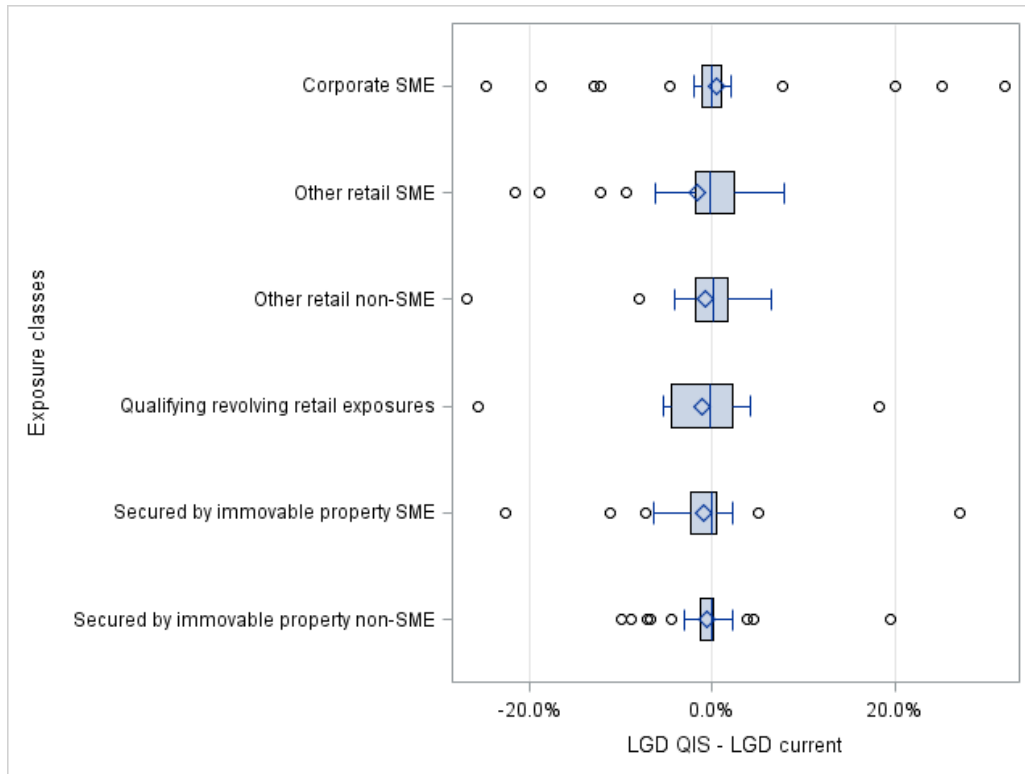


Figure 65: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – probation period distressed

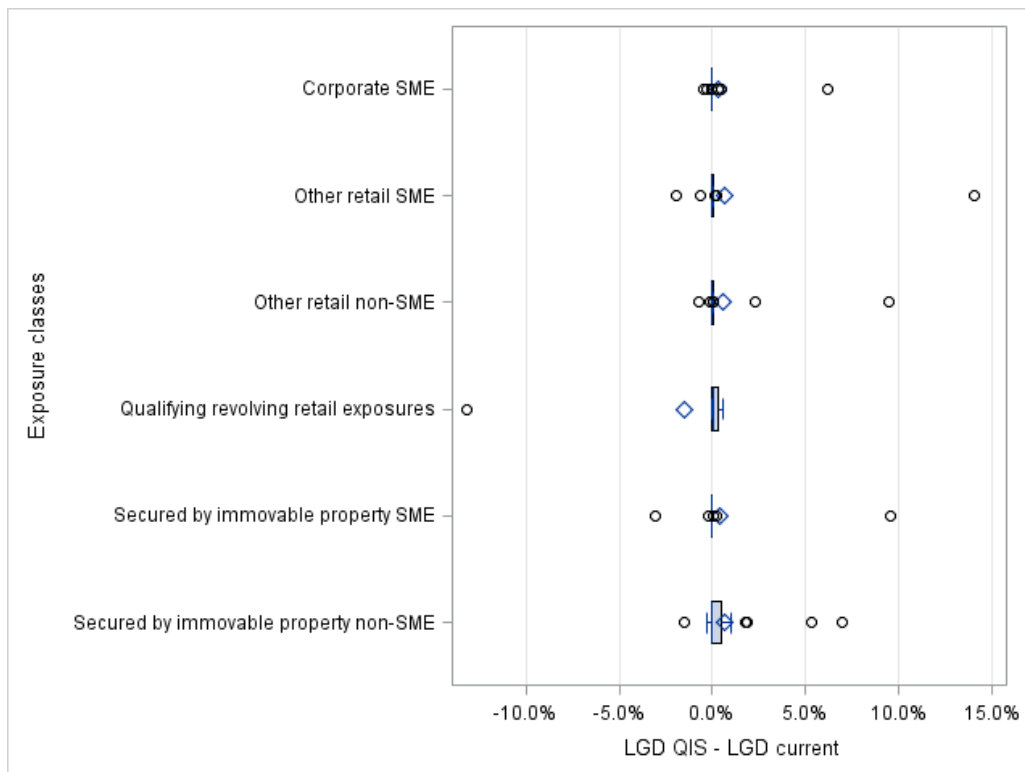


Figure 66: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – probation period general

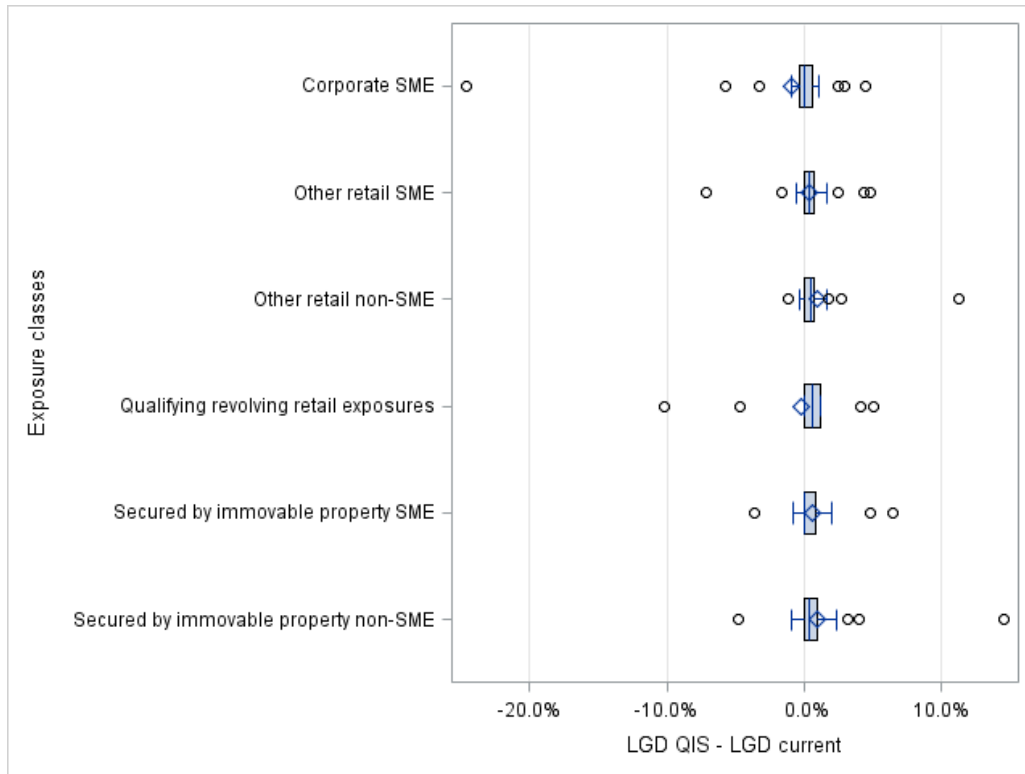


Figure 67: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – SCRA

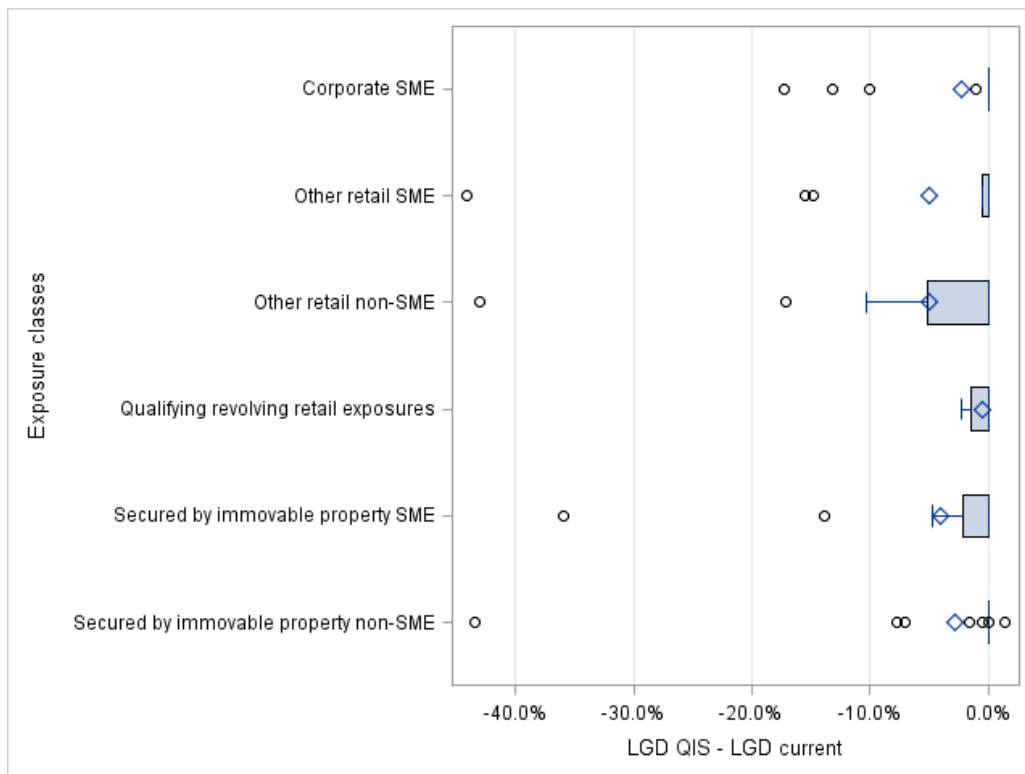


Figure 68: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – sale of credit obligations

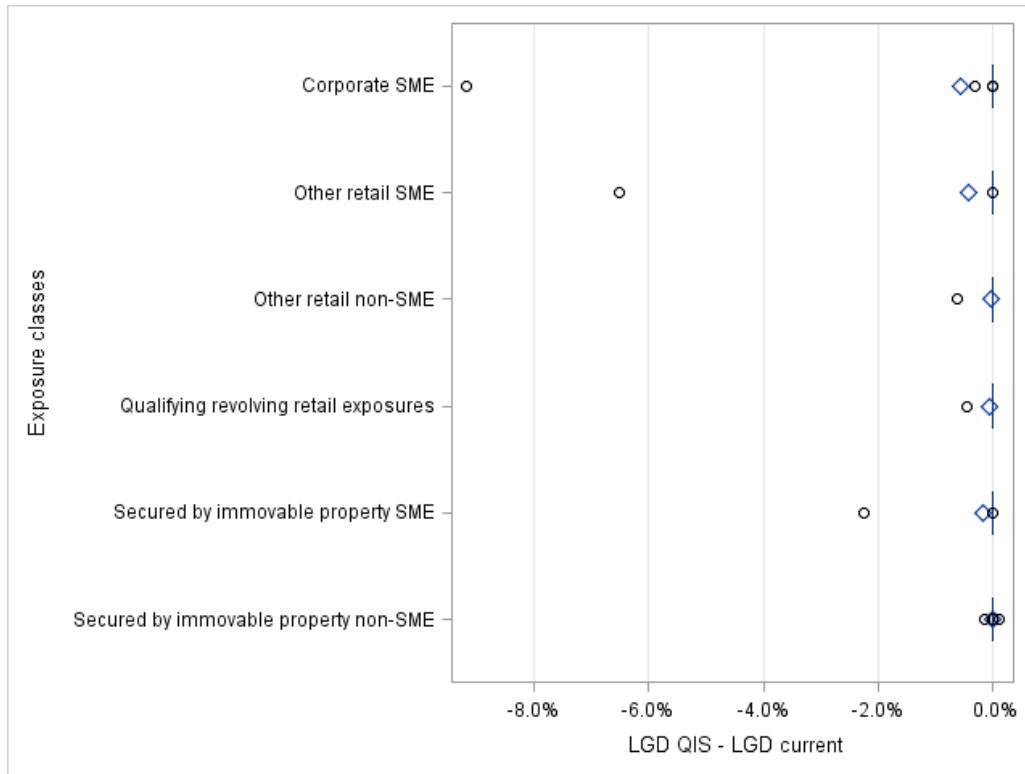


Figure 69: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – technical defaults

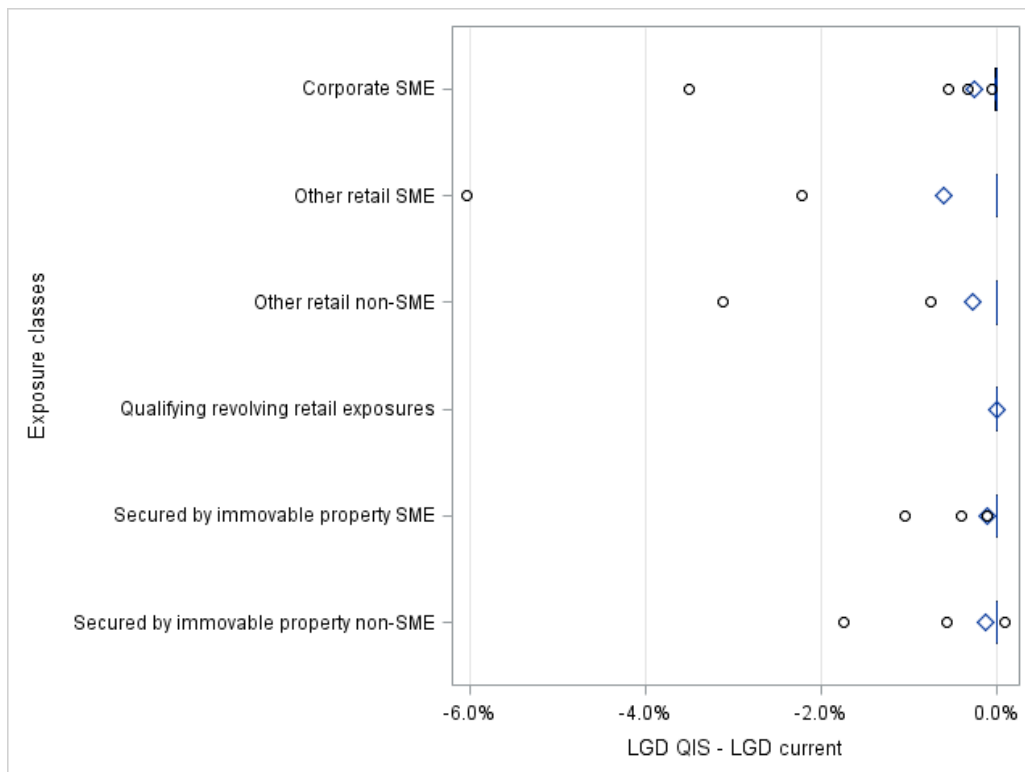
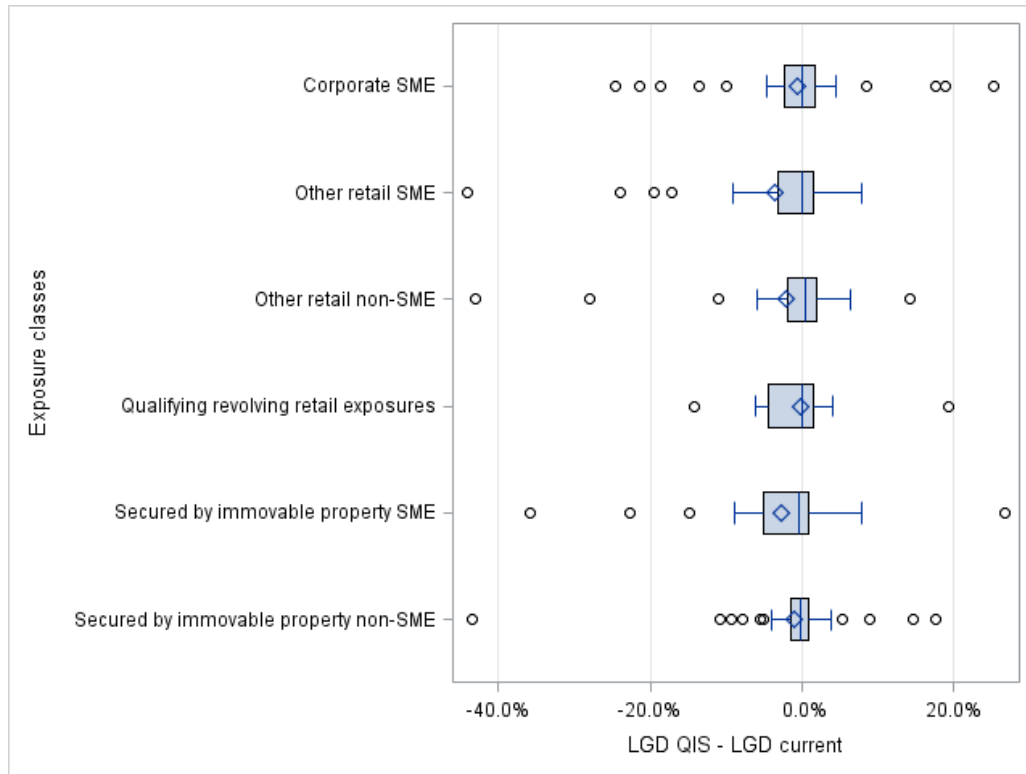


Figure 70: Box plot of percentage point change in LGD,  $(\Delta LGD)_{pp}$  – all policy options





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