Introduction

On 20 September 2021 Sweden’s Finansinspektionen (FI) officially notified the European Systemic Risk Board (ESRB) in accordance with Article 458(2)(d)(iv) of the Capital Requirements Regulation (CRR)¹ of its intention to extend a national measure limiting risks stemming from Swedish mortgage loans. FI is the designated authority in charge of the application of Article 458 of the CRR in Sweden.² Pursuant to Article 458(4) read in conjunction with Article 458(9) of the CRR, the ESRB must provide the Council, the European Commission and Sweden with an opinion within one month of receiving the notification. The opinion must be accompanied by an assessment of the national measure in terms of the points mentioned in Article 458(2) of the CRR.

The ESRB’s assessment focuses on the net benefits of the national measure for maintaining financial stability. The procedural framework for the provision of opinions under Article 458 of the CRR is clarified in Decision ESRB/2015/4³. In particular, the ESRB has assessed the rationale and merit of the measure against the following criteria.

- **Justification**: Has there been a change in the intensity of systemic risk and does it pose a threat to financial stability at the national level? Can alternative instruments provided for in the Capital Requirements Directive (CRD)⁴ and in the CRR adequately address the risk, taking into account their relative effectiveness?

- **Effectiveness**: Is the measure likely to achieve its intended objective?

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² According to Chapter 1, Section 4, second paragraph of the Special Supervision of Credit Institutions and Investment Firms Act (2014:968), FI has the power to take measures related to Article 458 of the CRR.

³ Decision of the European Systemic Risk Board of 16 December 2015 on a coordination framework for the notification of national macroprudential policy measures by relevant authorities, the issuing of opinions and recommendations by the ESRB, and repealing Decision ESRB/2014/2 (ESRB/2015/4) (OJ C 97, 12.3.2016, p. 28).

- **Efficiency and suitability**: Will the measure achieve its objective in a cost-efficient way, i.e. are the instrument and calibration appropriate?

- **Proportionality and impact on the internal market**: Is there an appropriate balance between the costs resulting from the measure and the problem it aims to address, taking into account any potential cross-border spillover effects? Where appropriate, the ESRB may suggest amendments to the measure to mitigate potential negative spillover effects.

The ESRB’s assessment draws extensively on information provided by, and discussions held with, FI and its staff. The ESRB has also relied on the assessment it carried out prior to issuing its warning of 22 September 2016\(^5\) and its recommendation of 27 June 2019\(^6\).\(^7\)

### Section 1: Description of and background to the measure

#### 1.1 Description of the measure

The draft measure is an extension of the current measure under Article 458 of the CRR, which has been in place since 31 December 2018. It consists of a 25% risk-weight floor for Swedish mortgage loans applied to credit institutions that use the internal ratings-based (IRB) approach. The draft measure targets domestically authorised credit institutions\(^8\), or a subset of those institutions, and falls under Article 458(2)(d)(iv) of the CRR. The measure is intended to continue mitigating the changes in the intensity of risk and concerns risk weights targeting asset bubbles in the residential real estate (RRE) sector. The measure is an extension scheduled to enter into force on 31 December 2021 for a period of two years. Since the proposed extension of the measure increases risk weights for identified exposures by, on average, more than 25%, Article 458(10) of the CRR does not apply.

The mortgage loans targeted by the measure consist of retail exposures\(^9\) to Swedish obligors collateralised by immovable property\(^10\) (referred to in this assessment as “Swedish mortgage loans”). The exposure class largely consists of mortgages granted to private individuals, but it can also include certain exposures to small businesses with loans collateralised by real estate. In addition, it may include certain exposures collateralised by real estate other than residential property.

The draft measure applies to credit institutions that are authorised to use the IRB approach (“IRB credit institutions”) and have issued Swedish mortgage loans. This includes subsidiaries based in Sweden of foreign credit institutions. Branches of foreign credit institutions and direct cross-border exposures of foreign banks are covered through the reciprocation of the

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\(^7\) See “Vulnerabilities in the residential real estate sectors of the EEA countries”, ESRB, September 2019.

\(^8\) For the purposes of this assessment, the term “bank” has the same meaning as “credit institution” as defined in Article 4 of the CRR.

\(^9\) Article 147(2)(d) of the CRR.

\(^10\) Article 154(3) of the CRR.
existing measure. Credit institutions using the standardised approach to calculate the capital requirement for credit risk are not affected. The requirement applies both to individual institutions and at the consolidated level.

The 25% floor applies to the exposure-weighted average risk weight for the portfolio of Swedish mortgage loans mentioned above. The exposure-weighted average risk weight is calculated by dividing the portfolio’s risk-weighted exposure (as calculated in accordance with Articles 154 and 154(3) of the CRR) by its exposure at default (EAD).

FI requested reciprocation of the existing measure by other Member States under Article 458(8) of the CRR, and the General Board of the ESRB decided to recommend reciprocation. The ESRB’s recommendation for reciprocation of the existing measure will continue to apply to the measure in its extended form. FI emphasised that reciprocity remains relevant in order to avoid leakages and regulatory arbitrage. It highlights in particular that there is significant lending via branches of Danske Bank and Nordea, which exposes these banks to the risk related to the real estate market in Sweden.

1.2 Background to the measure

FI has been applying the measure under Article 458 of the CRR since 31 December 2018. Previously, a risk-weight floor for Swedish mortgage loans within the Pillar 2 framework had been applied since May 2013. The floor was introduced as part of the supervisory capital assessment under Pillar 2 to cover risks that are not fully captured by the regulatory capital requirements.

FI indicated that its primary motivation for continuing to apply a stricter national measure was that Sweden is experiencing a significant and prolonged build-up and intensification of systemic risk related to the housing market. House prices have continued growing strongly and remain overvalued, and household indebtedness, mainly consisting of mortgage loans, is still increasing. According to data from the European Banking Authority (EBA), about 38% of total loans and advances of Swedish banks in the first quarter of 2021 were mortgage loans, the fourth highest share of all European Economic Area (EEA) countries. A shock to house prices or interest rates continues to be a risk that could potentially cause serious problems for both the financial system and the Swedish economy as a whole. Therefore, the resilience of credit institutions is important so that they can withstand shocks without excessively restricting the supply of credit.

Furthermore, average risk weights at the portfolio level are assessed to not fully capture the systemic risks related to the Swedish mortgage loan market. Credit losses realised on Swedish mortgage loans have been very low for a long period of time. Therefore, FI considers

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12 See Risk Dashboard – Data as of Q2 2021, EBA.
that IRB models – whose parameters are based on historical observations – do not fully reflect the systemic risk related to increased house prices and household indebtedness. Indeed, risk weights of IRB banks in Sweden are the lowest in the EU.

Section 2: Analysis of the underlying systemic risks

In its recommendation of 27 June 2019, the ESRB recommended that the Swedish national authorities monitor vulnerabilities and activate or tighten macroprudential measures. The key vulnerabilities identified in the ESRB report on vulnerabilities in the RRE sector\(^\text{13}\) related to high and rising household indebtedness, significant house price overvaluation, high mortgage lending growth and a high level of non-amortising mortgages, coupled with the high level of interconnectedness in the Nordic banking system.

2.1 Vulnerabilities in the residential property sector

House price growth has increased further, and RRE prices in Sweden remain overvalued. Annual house price growth accelerated to around 10% in the fourth quarter of 2020 and the first quarter of 2021. Widely used indicators of potential overvaluation, such as the price-to-income ratio and the price-to-rent ratio, as well as model-based approaches, show signs of significant overvaluation in the RRE market, on average around 50%.\(^\text{14}\) In view of this overvaluation and the coronavirus (COVID-19) pandemic-related economic downturn, there is a non-negligible risk of a strong price correction in the RRE sector.

The increase in house prices has been supported by affordability of mortgage loans and the low interest rate environment. The low interest rate environment in recent years has contributed to RRE price increases and rising household debt, which grew at 5.9% per annum in March 2021, according to FI. The COVID-19 pandemic has not dampened these developments, in part due to government measures designed to mitigate its effects.

A majority of residential mortgages have variable interest rates, which makes the RRE market more sensitive to interest rate changes. In March 2021, 53% of residential mortgage loans had variable interest rates. In combination with elevated household indebtedness, this makes Swedish households sensitive to interest rate increases, for example related to changes in the global economic outlook, or sudden interest rate shocks that could be linked to financial market turbulence.

\(^{13}\) See “Vulnerabilities in the residential real estate sectors of the EEA countries”, ESRB, September 2019.

2.2 Vulnerabilities in the household sector

The main vulnerability of the Swedish financial system is the high and increasing level of household indebtedness. The ratio of household debt to gross disposable income was 188% in the first quarter of 2021, with most of household debt stemming from mortgages. The average loan-to-value (LTV) ratio was 66% in 2020, with a ratio of 70% for tenant-owned apartments. About 50% of mortgages granted have a relatively high LTV ratio (higher than 70%).

Although households’ margins are sound, they are at risk in a scenario of rising interest rates. For new mortgages, the share of households with a loan-to-income (LTI) ratio above 300% has further increased.

Household credit growth remained strong, with an annual growth rate of 5.9% in March 2021. Mortgages are the primary driver behind the growth in household debt. Amortisation payments remained broadly unchanged in 2020 compared to 2019, with about 85% of new mortgagors having amortising loans. The average annual amortisation rate remained broadly unchanged at slightly above 2%.

2.3 Vulnerabilities in the banking sector

Swedish banks have significant exposure to the RRE sector. The banking sector provides the vast majority of residential mortgage loans in Sweden. According to FI data, IRB credit institutions account for about 96% of the total mortgage market, making them fundamental to the supply of mortgages to households. Mortgages account for 82% of total lending by monetary financial institutions to households, and are equivalent to around 75% of Swedish GDP, according to FI. For the three largest Swedish banks, mortgage loans to households constitute 50% of their total lending, making them vulnerable to negative developments in the RRE market.

Overall, the Swedish banking sector has relatively good solvency, and risk weights for mortgage loans are relatively high compared to other EU Member States with vulnerabilities in the RRE sector, owing to the 25% floor currently applied under Article 458 of the CRR. The average Tier 1 capital ratio of Swedish banks was 19% in the first quarter of 2021, which is above the EU average. Swedish banks also have a low ratio of non-performing loans, at 1% on average. The average IRB risk weight for mortgage loans in Sweden is 25% (applied under Article 458). Without the measure, the risk weights would range from 3.3% to 14.9% for the nine largest IRB banks (which account for around 96% of the total mortgage market in Sweden).

The bank funding structure may constitute a vulnerability on the liquidity side, including in view of the high degree of interconnectedness and exposure to the RRE market via covered bonds. The major Swedish banks are closely interconnected, are owners of each other’s

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16 See Risk Dashboard – Data as of Q1 2021, EBA, Section 4.1.
issued securities and have similar and large exposures to the real estate sector. Consequently, adverse developments in the Swedish RRE sector could affect Swedish banks beyond their direct loan exposures, both through the liability side, in the form of funding constraints, and via the asset side, in the form of the repricing of covered bonds.

**Section 3: Effectiveness and efficiency of the measure**

3.1 How the measure addresses the identified risk

The measure is part of a wider set of initiatives that have been introduced over several years to address concerns about developments in the Swedish RRE sector (see Section 1.2).

The calibration of the minimum risk weight at 25%, which is kept unchanged in the proposed extension of the measure, was assessed by the ESRB on 21 June 2018 and on 14 October 2020 as an appropriate and sufficient policy measure related to the funding stretch of RRE vulnerabilities in Sweden. Previously, the Pillar 2 measure introduced a risk-weight floor in May 2013, which was recalibrated to 25% in September 2014. Following the introduction of the Article 458 measure in 2018, in its report on “Vulnerabilities in the residential real estate sectors of the EEA countries” of September 2019 and its recommendation of 27 June 2019, the ESRB assessed the macroprudential policy mix to ensure a robust level of bank capital buffers.

The proposed extension of the measure does not primarily seek to address risks related to the key vulnerabilities of high and increasing household indebtedness, nor of RRE price developments. Vulnerabilities on the household side were addressed by FI through measures such as the 85% LTV ratio and the amortisation requirements, the latter linked to both the LTV ratio of the mortgage and the LTI ratio of the borrower. With the proposed extension of the measure, these risks are addressed indirectly by maintaining the resilience of banks in the event of a possible downturn in the RRE sector and a declining credit quality of residential mortgage loan portfolios.

3.2 How the measure relates to possible alternatives

As required under Article 458 of the CRR, this section assesses whether other macroprudential instruments available under the CRD and the CRR could adequately address the increase in systemic risk, taking into account their relative effectiveness. These instruments need to be considered before resorting to stricter national measures under Article 458 of the CRR. The ESRB’s assessment of the existing measure already considered this question. The main reasons

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18 RRE vulnerabilities are identified according to three risk dimensions called “stretches” – collateral, household and funding. See Vulnerabilities in the residential real estate sectors of the EEA countries, ESRB, September 2019.
19 For details on the calibration, see “Risk weight floor for Swedish mortgages”, Fi, May 2013; and “Capital requirements for Swedish banks”, Fi, September 2014.
why these other measures are not deemed to be appropriate alternatives to the envisaged extension of the measure under Article 458 CRR remain the same.

a) Increasing the risk weights for banks applying the standardised approach to credit risk (Article 124 of the CRR)

Relevant authorities can, on the basis of financial stability considerations, impose higher risk weights for exposures secured by mortgages on credit institutions that apply the standardised approach. Relevant authorities can set a risk weight for exposures secured by mortgages on residential immovable property, from 35% to up to 150%. In addition, they can apply stricter criteria for the application of the 35% risk weight.

As about 96% of Swedish mortgage market exposures are held by credit institutions applying the IRB approach and the IRB risk weights are relatively low, Article 124 of the CRR would not be effective in meeting the objectives of the proposed extension of the measure.

b) Increasing the loss given default (LGD) floor for banks applying the IRB approach for credit risk (Article 164 of the CRR)

Relevant authorities can, on the basis of financial stability considerations, set higher minimum values of exposure-weighted average LGD for exposures secured by immovable property. The exposure-weighted average LGD for all retail exposures secured by residential property and not benefiting from guarantees from central governments must not be lower than 10%.\(^{20}\) LGD is one of the parameters used in the risk-weight function. Increasing the LGD indirectly increases the risk weight and the resulting capital requirements.

The average risk weights of exposures secured by residential immovable property of Swedish IRB credit institutions in the absence of the measure range from 3.3% to 14.9%; this is due to very low credit losses observed over a long period of time. FI considers that such low risk weights do not fully capture systemic risks related to the Swedish mortgage loan market.

The differences in the estimation of risk weights reflect the individual conservativism of credit institutions in the estimation of the probability of default (PD) and do not necessarily reflect differences in the risk profile of borrowers. The low levels of historic credit losses affect the estimation of both PDs and LGDs under the IRB approach. Individual credit institutions apply different degrees of conservatism when estimating the PDs of borrowers.

Increasing the LGD floor for mortgages would widen these differences in risk weights between IRB credit institutions and could result in a disproportionate increase in risk weights for some of them. As the IRB risk-weight formula is a linear function of the LGD parameter, increasing the latter leads to a larger increase in risk weights for more conservative banks with higher PD estimates. Moreover, in order to achieve the same impact as a 25% risk-
weight floor, the LGD floor would need to be set above 50% (i.e. a five-fold increase). In FI’s view, such an increase is not justified.

Consequently, the risk-weight floor addresses the objective more adequately and effectively than a measure under Article 164 of the CRR. It avoids a disproportionate increase in risk weights among IRB credit institutions. Furthermore, an increase in the LGD floor would affect the calculation of expected loss under Articles 158 and 159 of the CRR. It would also add further complexity and reduce market transparency of IRB risk weights for market participants. In FI’s view, systemic risks should not be explicitly taken into account in internal models.

c) Using the systemic risk buffer (Article 133 of the CRD)

Member States may introduce a systemic risk buffer (SyRB) to address systemic or macroprudential risks not covered by the CRR or by Articles 130 and 131 of the CRD, meaning a risk of disruption in the financial system with the potential to have serious negative consequences to the financial system and the real economy in a specific Member State. The SyRB can be applied to all banks or to a subset of banks. The SyRB can also be applied to a subset of exposures, exposures in third countries or exposures in other Member States. In Sweden, a SyRB of 3% already applies to all exposures of the three largest banks, addressing the risk of a large, concentrated and interconnected banking system.

The CRD provides for the application of a sectoral SyRB, which may be designed in a way that targets exposures in the RRE market. However, a sectoral SyRB would be less suitable and effective than the draft measure. FI informed the ESRB that the main reasons for not considering a sectoral SyRB were that it would penalise IRB banks with the most conservative assumptions and that small differences in risk weights could be significantly amplified in the resultant capital add-on. Moreover, to achieve the same capital-increasing effect as the 25% risk-weight floor, a sectoral SyRB would need to be set at around 100% for the exposures that (without the floor) would have the lowest risk weights. This would pose difficulties in terms of clear communication and reciprocity. It also shows that a sectoral SyRB at the level foreseen in the CRD would be a less suitable and effective tool than the risk-weight floor. This option will be reconsidered once the ongoing IRB review is completed.

d) Using the countercyclical capital buffer (Article 136 of the CRD)

The countercyclical capital buffer (CCyB) addresses some of the procyclicality in the financial system. The CCyB is a requirement applicable to domestic exposures. The rate for the CCyB is assessed on a quarterly basis by the designated authority. Designated authorities follow a specific methodology based on an ESRB recommendation. FI lowered the buffer from 2.5% to 0% in 2020 to address the potential impact of COVID-19. It has now decided to raise the CCyB rate to 1%. The new buffer rate will be applied as of 29 September 2022.

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21 The CRD provides for an enhanced notification procedure if the combined SyRB rate is at a level higher than 3% and up to 5% for any set or subset of exposures (Article 133(11)), and for the need to seek approval from the European Commission if this rate is above 5% (Article 133(12)). This demonstrates that a level of 5% for a (sectoral) SyRB would already be considered high.

The CCyB is not an appropriate tool to address a targeted systemic risk, as it would apply to all exposures in Sweden and not only to Swedish mortgage loans. The CCyB addresses cyclical risks and is based on, among other things, the relationship between growth in total lending and GDP growth. Furthermore, as described in Section 2, the draft measure addresses both cyclical and structural risks of Swedish mortgage loans. The CCyB would not specifically target the risk identified by the Swedish authorities, as it would also penalise exposures not linked to mortgage loans.

Section 4: Analysis of the net benefits of the measure

4.1 Effects on financial stability, financial system resilience and economic growth

The proposed extension of the measure is expected to maintain the resilience of the affected banks, although further developments regarding the vulnerabilities in the RRE sector in Sweden need to be monitored closely, in particular in the context of the impact of COVID-19. Assuming that the measure is fully reciprocated by Member States that have credit institutions with material exposures to the Swedish RRE market, the capital requirements for the IRB credit institutions should remain broadly the same in terms of nominal amounts. In view of the elevated and increasing vulnerabilities in the Swedish RRE sector (see Section 2), further developments need to be monitored closely and the policy stance may need to be further adjusted.

Since the proposed extension of the measure does not materially change the capital requirements in nominal terms, its impact on banks’ funding costs, loan margins and economic growth can be expected to be limited. The design of the measure implies keeping the current nominal capital requirements unchanged, provided that the measure is reciprocated. Consequently, the impact of the measure on banks’ funding costs, loan margins and economic growth can be expected to be limited, as long as the calibration is not materially adjusted.

Overall, the ESRB has concluded that the proposed extension of the measure would not entail disproportionate adverse effects on the internal market or other national financial systems. The measure should further maintain the resilience of Swedish banks to shocks in the Swedish RRE market and thereby reduce potential channels for contagion from Sweden to other Member States. As the measure has already been in place since December 2018, it should not introduce any disproportionate adverse effects for the internal market or other national financial systems. Members of the ESRB General Board did not raise any material concerns under the procedure laid down in Article 4 of Decision ESRB/2015/4 as far as negative externalities of the measure in terms of adverse cross-border spillover effects were concerned.

4.2 Effects on both domestic and cross-border lending

The ESRB does not expect the draft measure to materially affect domestic and cross-border lending, given that no material impact of the current Article 458 measure has been shown in the past.
RRE loans to households increased by almost 20% between the first quarter of 2018 and the second quarter of 2021. Residential mortgage lending growth has been robust in Sweden and stood at around 6.5% in mid-2021, similar to the growth rate observed in mid-2018.

Non-bank institutions have been entering the Swedish mortgage market only very recently and their market share is still negligible. Direct investment in mortgages by Swedish insurers and pension funds is negligible.\(^\text{23}\) However, FI noted that insurers and pension funds are showing an interest in indirect investments through mortgage funds, in addition to their investments in covered bonds. While new players, such as independent loan brokers and investment funds, have entered the market in recent years, their market share remains low (below 1%).

Nonetheless, these new entrants could complicate macroprudential policy. These new players fall outside the scope of existing macroprudential instruments. For example, they may be subject to lower capital requirements than Swedish banks on the basis of the risk-weight floor or may not be subject to the amortisation requirement. Therefore, the Swedish authorities should continue monitoring developments, closely assess the effectiveness of macroprudential policy measures and, if necessary, update their macroprudential toolkit.

Foreign banks represented around 15% of new Swedish mortgage loans at the end of the first quarter of 2020. For the same banks, the share stood around 13% at the end of the first quarter of 2018. Based on available consolidated banking statistics provided by the Bank for International Settlements, the loan stock of foreign banks in Sweden has not changed since the introduction of the measure, save for the usual business fluctuations.

### 4.3 Effects on intragroup behaviour of credit institutions

Given that credit institutions already meet the higher capital requirement, it is unlikely that the measure will cause a significant shift in operations within their group structures. Moreover, no significant changes in intragroup behaviour of relevant credit institutions have been observed since the introduction of the measure.

FI has also asked the ESRB to recommend that other Member States with material exposures continue to reciprocate the measure. FI emphasised that reciprocity remains relevant as these countries’ banking sectors may be exposed directly, or indirectly through their branches, to the risk related to the real estate market in Sweden.

The development of cross-border mortgage lending and lending through branches should therefore be monitored. Further investigation of developments at the level of individual institutions (in particular by the supervisory colleges of the banking groups concerned) should be conducted if there is a significant pick-up in such activity.

\(^\text{23}\) See Financial Stability Report, European Insurance and Occupational Pensions Authority, December 2017, Box 5.
Conclusions

The main purpose of the extension of the measure is to continue addressing the risk of asset bubbles in the residential property sector and their potential spillover effects.

The current assessment is made against the backdrop of signs that vulnerabilities in the Swedish RRE market are continuing to increase. In Warning ESRB/2016/11 and Recommendation ESRB/2019/9, the ESRB identified increasing residential property prices, resulting in an overvaluation of the market, as well as high and increasing indebtedness, particularly among some groups of households, as the main medium-term vulnerabilities in the RRE sector in Sweden. Overall, residential property prices have continued growing strongly and prices remain overvalued, such that these concerns still remain valid, and there is evidence of further increasing vulnerabilities, for example related to increasing household indebtedness.

The Swedish RRE market has been resilient to the COVID-19 pandemic and the related economic downturn. This is partly due to government measures aimed at dampening the effects of the pandemic on households and the economy. The ESRB is of the view that the proposed extension of the measure does not conflict with the overall aim of guaranteeing lending to the real economy throughout the pandemic.

The ESRB is further of the view that the alternative macroprudential instruments listed in Article 458 of the CRR, which must be considered before any stricter national measure can be taken, would not be adequate to address the risk at hand. Measures such as those listed in Articles 124 and 164 of the CRR, as well as the SyRB and the CCyB, are considered to be inadequate, as they do not provide the intended incentives, are too broad-based, or do not, to the same extent, address the same risk, exposures or credit institutions. The ESRB also found that the extension of the measure does not entail disproportionate adverse effects on the internal market or other national financial systems.

Therefore, the ESRB is of the view that the extension of the measure is justified, proportionate, effective and efficient for the purpose mentioned above. However, this assessment has been made specifically for the purposes of the procedure under Article 458 of the CRR and does not prejudge the outcome of the review of the recommendation of 27 June 2019.

In addition, the ESRB would like to highlight that the effectiveness of the measure will depend on the extent to which it continues to be reciprocated by other Member States with credit institutions active in the Swedish residential mortgage market. In this respect, the ESRB’s recommendation to reciprocate the existing measure24 continues to apply to the measure in its extended form.

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The ESRB therefore supports FI’s intention to extend the period of application of its stricter national measure. At the same time, the ESRB reiterates that the issues raised in its assessment of the existing measure require continued follow-up by the Swedish authorities to ensure the effectiveness of the measure and to avoid unwarranted consequences. The ESRB also supports FI’s intention to conduct a more thorough assessment of potentially introducing a sectoral SyRB once the ongoing IRB review has been completed.