MACROPRUDENTIAL POLICY IN THE WAKE OF THE COVID-19 CRISIS: INTERNATIONAL SPILLOVERS AND COORDINATION ISSUES

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Banks are key for the transmission of many monetary, fiscal and regulatory measures that have been taken to dampen the economic consequences of the Covid-19 crisis. This article reviews evidence on the international spillovers of macroprudential policies, focusing on the transmission through bank credit flows and how this varies depending on the characteristics of banking organisations. While authorities reacted to the common negative economic shock with fairly symmetric policy responses, asymmetric speeds of recovery across countries and sectors may imply asymmetric normalisation of policy. At that stage, long-standing questions about the international spillovers of monetary policy, fiscal policy and macroprudential measures, and the case for coordinating such measures, will take on renewed relevance. Global banks can generate positive spillovers and support the recovery in the locations they serve. Some features of global banks, such as their capitalisation and credit provision to borrowers, require particular attention during the economic recovery phase. Cross-country coordination arguments may find support if international spillovers weaken the ability of countries to recover from the Covid-19 crisis.

The global economic decline triggered by the Covid-19 sanitary crisis was met by an unprecedented policy reaction. Policymakers used all available levers to dampen the adverse economic and financial consequences of the crisis for the real economy. Banks have played a key role for the transmission of fiscal support to the real economy and of expansionary monetary policy during the initial phase of the crisis. Continued access to credit for the real economy was crucial in order to reduce corporate bankruptcies and defaults, thus helping to contain some of the long-term economic scarring from the crisis period. Banks were well positioned to maintain lending, given that they were better capitalised as a result of financial sector reforms following the global financial crisis. In addition, flexibility within the new regulatory framework has been used by temporarily relaxing regulatory constraints and thus making capital regulation less procyclical.

As the Covid-19 shock was global and fairly synchronised across regions and across sectors, policy responses were also quite similar. Depending on the initial policy space, national authorities turned to a more accommodative stance on multiple fronts, with reinforcing positive spillover effects across countries. Overall, the impact of the Covid-19 shock on the financial system and on global banking flows has been fairly contained so far.

While the economic consequences of the crisis are still far from being over, governments are looking beyond the first phase of the crisis, characterised by very strict social distancing measures and a sharp contraction in economic activity, towards the future recovery. Near-term uncertainty about macroeconomic developments, the severity of the late 2020 and early 2021 virus infections, and potential structural changes triggered by the pandemic are weighing on the outlook. However, the availability of vaccines and the experience gained over the course of 2020 in managing infections, raise the prospect of economic recovery later in 2021. The stance of different types of policy support will need to be adapted to the evolving situation of firms, households, public finances and financial institutions.

As speeds of recovery may differ substantially across countries and sectors, along with the needs of different constituencies, attention will turn to the progressive normalisation of policies. This policy normalisation is likely to be less synchronised than the initial policy response. International policy coordination may be needed in order to mitigate negative spillovers or to exploit policy synergies across countries. Understanding the nature of such policy spillovers and their impact on the economic recovery will thus be crucial.

As banking sectors remain critical for supporting the recovery, conditions in different bank sectors and the way these interact with different policies will be important focal points. Prior to the pandemic, banks had made progress in raising capital ratios *(see Chart 1)* and lowering non-performing loans *(see Chart 2)*. In response to the crisis, regulatory constraints were relaxed temporarily to facilitate bank support for economic activity. Monitored closely by international organisations, the massive loosening often utilized bank capital and liquidity tools, but also some borrower-based tools *(see Chart 3)*. For example, macroprudential capital buffers, including the countercyclical buffer, were relaxed by between 25 basis points and 300 basis points across countries *(see Chart 4)*.[1] Banks' support for economic recovery, both at home and abroad, will depend on their ability to continue lending and to rebuild capital buffers that may have been used to absorb losses, and on the ability of banking sectors to support structural change in the real economy.

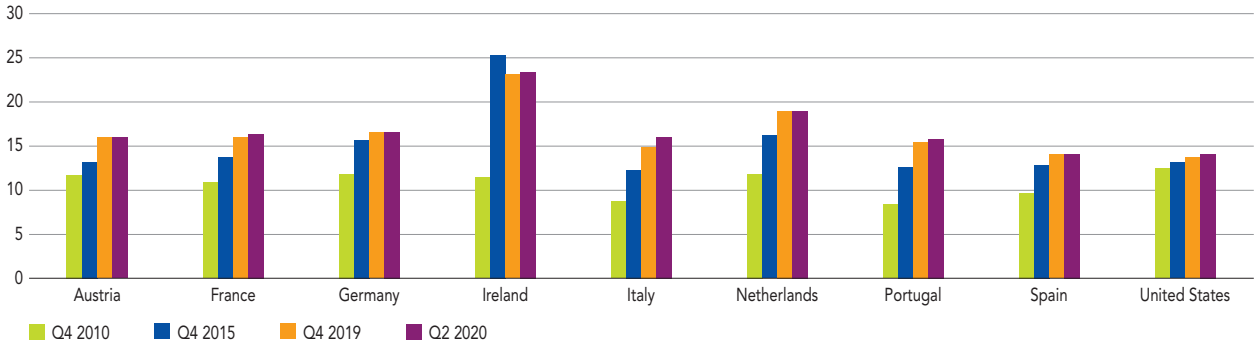
This article draws on lessons from recent research, much of it performed by central banks participating in the International Banking Research Network (IBRN),[2] into how asymmetric recoveries and policy normalisation across countries can induce shifting patterns of international lending through banks. Under certain conditions, including the level of capitalisation of banks, these international bank flows can supplement local banks' ability to fund economic recovery.

Section 1 summarises relevant empirical evidence on international spillovers of prudential policies through bank lending. Research shows that such spillovers are significant, while their magnitude depends on many factors, including the nature of the prudential measure, home and foreign macroeconomic environments, and bank-specific characteristics. Section 2 discusses issues related to policy coordination, paying particular attention to the euro area, a constituency with a common monetary policy and where responsibility for prudential policies is shared between the national and supranational – or European – levels.

1 The interested reader will find complementary information on this topic in the Bank of England blog: *https://bankunderground.co.uk/*

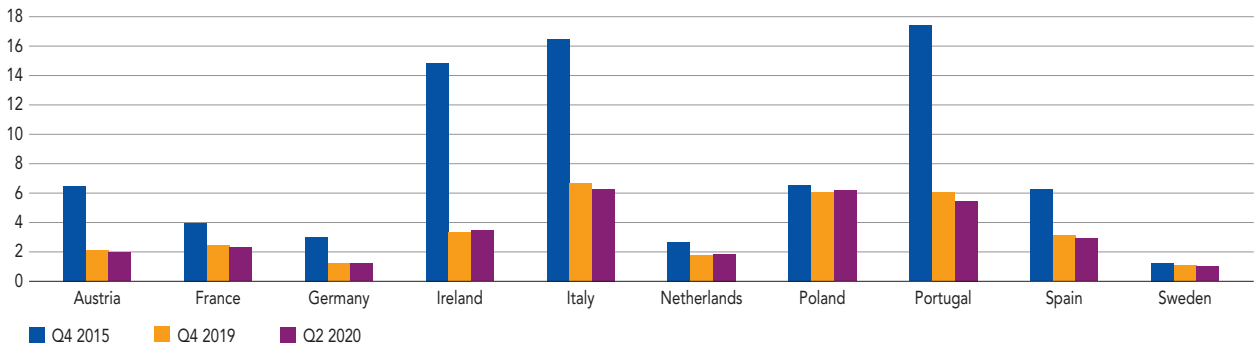
2 Information on IBRN can be found on the main website: *https://www.newyorkfed.org/ibrn*

C1 Bank capital ratio, selected economies
(regulatory Tier 1 ratio, % of risk weighted assets)



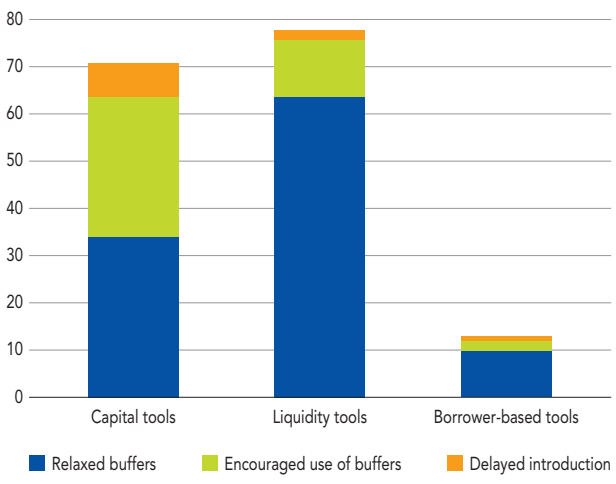
Sources: International Monetary Fund – Financial Soundness Indicators (Q4 2010, Q4 2015 and Q4 2019), European Central Bank – Statistical Data Warehouse (Q2 2020).

C2 Non-performing loan ratio, selected economies
(% of total gross loans and advances)



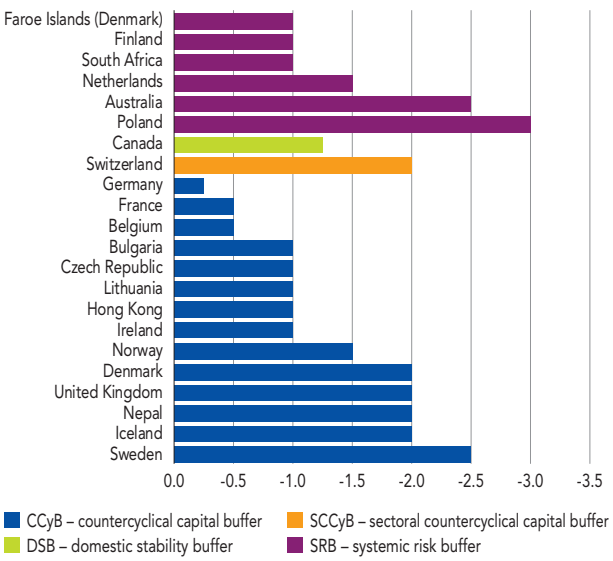
Source: European Central Bank – Statistical Data Warehouse.

C3 Relaxation of macroprudential policy tools, end-August 2020
(number of countries)



Source: Nier and Olafsson (2020).
Note: Liquidity tools include reserve requirements. For borrower-based tools: blue, green and yellow reflect a relaxation of loan-to-value (LTV), debt-service-to-income (DSTI) or debt-to income (DTI), and other tools, respectively.

C4 Relaxation of macroprudential capital buffers
(percentage points)



Source: Nier and Olafsson (2020).

1 International bank flows and macroprudential policy

The Covid-19 crisis has so far mostly affected the real economy, with very different effects across sectors. Credit markets have continued functioning, and the role of large global banks has been particularly important. Risks to financial stability have thus far been contained.

Contrary to the 2008-09 global financial crisis, there has not been a massive retrenchment of international bank flows. The crisis was inherently a financial crisis, originating in the financial sector, and affecting advanced economies relatively more than emerging markets. The financial system repairs that ensued, including through comprehensive reforms to bank capital, liquidity and risk management, have made the financial system more resilient. Resolution reforms have improved the ability of authorities to deal with banks in distress. In response to these reforms, global banks repositioned their activities, and market shares tended to increase for better-capitalised banks but also for non-bank financial intermediaries (Financial Stability Board – FSB, 2019, 2020). Generally, better-capitalised banks tend to be less flighty lenders and have more risk-absorbing capacity (Avdjiev et al., 2020). This investment in robust banks, the global nature of the crisis, alongside the massive policy response to support the real economy, including via central bank swap lines and lending through international organisations, made sudden stops in banking capital flows during the pandemic more limited than initially feared for most countries.

Research on the effects of the global financial crisis also shows that adjustment to shocks and policies can be very different across banks and markets. As the phases of the pandemic evolve, macroprudential authorities will have to take bank heterogeneity and country characteristics into account when managing financial stability risks. Policy responses will also have implications for cross-border capital flows, and for policy spillovers through banks as well as through other financial intermediaries. We present these lessons and discuss possible asymmetric recovery scenarios, focusing in particular on the roles of global banks.

Prudential policy spillovers through global banks

Changes in prudential measures can be a factor in international spillovers of lending through banks. "Spillovers" can reduce the effectiveness of domestic policy measures if, for example, higher inflows of credit are triggered at a time when authorities are trying to reduce already high credit growth domestically. Yet, under some conditions, international spillovers through global banks can also present an opportunity.

Consider a situation where policies that are needed to maintain financial stability might be in conflict with policies that are needed to support economic recovery. This is not an unlikely scenario. During the Covid-19 crisis, banks were encouraged to lend and to draw down their capital buffers if needed. Fiscal guarantee schemes supporting the real economy were used extensively, delaying or moderating loan losses on bank balance sheets. During the recovery phase, regulators need to decide on the timing and the level to which depleted capital buffers need to be restored. Once large credit losses materialise, the domestic banking sector might have to focus on rebuilding capital and on further balance sheet repair. This in turn could temporarily weaken the ability of domestic banks to support domestic growth and recovery.

International capital inflows from foreign banks may partly offset the weakened ability of domestic banks to support recovery: foreign banks with stronger capital positions could substitute domestic banks in lending and supporting the domestic recovery. This could be accomplished through cross-border capital flows, either directly to domestic borrowers or via internal capital market flows to affiliated branches that engage in lending. Such positive spillover effects in support of growth are stronger when global banks have stronger capital and liquidity positions. However, if tighter capital requirements restrict financing flows from global banks, policy trade-offs at the domestic level between economic and financial stability can be larger.

In addition, the nature of the prudential measure matters. Suppose policy measures focus on borrower-based measures such as loan-to-value (LTV) ratios on mortgage lending, tightening ratios in order to address the risk of overheating mortgage markets. This is also not an unlikely scenario as, in many countries, real estate prices have continued to surge even during the pandemic. In this case, authorities may want to restrict lending to overheated domestic markets from both domestic and foreign banks.

These examples highlight that spillover effects of prudential measures on cross-border lending can be positive or negative. To properly assess spillover effects, one must take into account the stance and nature of the prudential tools applied and the characteristics of the lending institutions. This in turn requires granular data on the policy instruments and the banks affected.

Predicting macroeconomic developments and future policy responses is, of course, not possible at the current juncture. However, evidence from the past can provide some insights into the potential effects of policy changes. The IBRN organised a cross-country effort on prudential policy spillovers through global banks, consisting of research by 15 country teams and two cross-country studies with researchers working in close coordination to use comparable data and methods. This work utilised a new database on prudential instruments covering 64 countries with quarterly data for the period 2000 to 2014, and recently updated through to 2018, jointly built by IBRN, the Federal Reserve and the International Monetary Fund (Cerutti et al., 2017).

Buch and Goldberg (2017) summarise the main conclusions of this joint research effort. This research shows that spillovers through lending growth cannot be ignored: they are significant in one third of the regressions conducted across 17 studies. Also, spillovers vary across prudential instruments and are heterogeneous across banks. For example, well-capitalised banks for which tighter prudential requirements are less binding, tend to expand their market shares and lend more than weaker banks.[3]

Country studies allow us to dig deeper into the mechanisms that are at work. For example, studies for German and US banks show that when foreign capital requirements were tightened, global banks expanded lending in their home locations (Berrospide et al., 2017; Ohls, Pramor, and Tonzer, 2017). German banks also tended to reduce lending abroad. For US banks, the reaction varied across types of policy instruments. In both countries, lending by hosted affiliates of foreign banks did not change significantly when the foreign parent country tightened capital requirements. For banks from both countries, the type of policy change matters: for example, global banks reduced lending to foreign localities that raised local reserve requirements, while they did not react much to changes in LTV ratios or concentration ratios abroad.

Changes in prudential instruments can also lead to market share repositioning across global and domestic banks. Studies for Canadian, French, Italian, and Dutch banks confirm a positive spillover effect: as prudential instruments abroad tightened, the banks tended to increase their foreign lending (Bussière, Schmidt, and Vinas, 2017; Caccavaio, Carpinelli, and Marinelli, 2017; Damar and Mordel, 2017; Frost, de Haan, and van Horen, 2017). Foreign banks thus acquired market share during a tightening episode, either because they were not directly affected by the tighter regulations or because the regulations were less binding. For example, well-capitalised banks may have been poised to expand their international presence when other countries increased capital ratios and constrained the activities of their own local banks. Some of the positioning and tendencies might be sensitive to the organisational form of a country's global bank exposures to foreign locations.

Overall, these findings suggest that changes in domestic prudential policies in response to the next phases of the pandemic could lead to spillover effects. The likely direction of these spillovers depends on the nature of the policy instrument used, the characteristics of banking sectors and types of banks affected, and the impact of the instrument on the ability of banks to lend.

Interaction between prudential policy and monetary policy

Prudential measures can also affect the transmission of monetary policy in various ways. Tighter prudential measures can, *ceteris paribus*, hamper the transmission of looser monetary policy,[4] which is one of the reasons why the macroprudential stance was relaxed in the wake of the Covid-19 crisis. Prudential policy can allow monetary policy to be more accommodative than would otherwise be the case: in the absence of macroprudential tools that address risks to financial stability, there may be constellations in which monetary policy is excessively restrictive in order to address side-effects on financial stability.

One channel through which macroprudential policy interacts with monetary policy can be the activities of global banks. In a research project by IBRN, six studies conducted jointly by 11 central banks and international organisations focused on how macroprudential policy affects the transmission of monetary policy and the propagation of shocks across borders. The results indicate that the interactions between monetary and macroprudential policies significantly alter cross-border bank flows (Bussière et al., 2020a). For example, there is evidence that US stress tests affect monetary policy spillovers to emerging market economies – EMEs (Liu, Niepmann, and Schmidt-Eisenlohr, 2021): while US banks lend more to EMEs when US monetary policy becomes

3 Other studies find similar results. For example, Norring (2019) uses a gravity model framework to evaluate spillovers from macroprudential measures for 157 countries. Her findings support the existence of cross-border spillovers from macroprudential policy. In addition, she also finds significant heterogeneity across countries.

4 A study for German banks shows, for example, that an increase in capital requirements is likely to attenuate the effect of monetary policy on interest rates, as it modifies domestic banks' lending abilities (Imbierowicz, Löffler, and Vogel, 2021).

more accommodative, this effect is stronger for banks with balance sheets that have fewer capital constraints according to scenarios embedded in the US stress tests. Avdjiev et al. (2021) take a cross-country perspective, using international banking statistics from the Bank for International Settlements (BIS), to distinguish the role of home and host factors in assessing prudential and monetary policy spillovers. The results indicate that not only the magnitude, but also the sign of the effects of prudential measures, can depend on the nature of the measures.[5] Finally, bank-level characteristics matter: in particular, the size of the bank (its global systemically important bank status specifically) plays a key role in the transmission of domestic monetary policy and its interaction with macroprudential policy in recipient countries (Bussière et al., 2020b).

2 Asynchronous recoveries and prudential policy: is coordination needed?

While authorities responded in a fairly synchronised way to the Covid-19 shock by using the flexibility in the existing regulatory frameworks, decisions need to be taken on when and how to tighten regulatory requirements. Looking ahead, the normalisation of prudential measures could occur at different speeds. Policy decisions need to take into account the uneven positions of banking systems, depending on the severity of the economic downturn, the business models of the banks and the types of fiscal programmes being channeled through banks. Prudential policy decisions will be even more complex in economies that do not recover quickly from the crisis. In such a situation, fiscal policy support might be required for longer, the capital buffers that banks have available to absorb losses may become exhausted, and prudential policy may have limited options to support economic recovery.

Does policy transmission across countries, potentially amplified by bank-level frictions, require international coordination of macroprudential policy? Deciding which policy changes are appropriate, and whether coordination is needed, is not a trivial task. The mere fact that cross-border banking activity responds to policy and liquidity shocks carries no normative policy implications: spillovers can be a sign that markets are integrated but they can also signal the contagion of shocks.

It is thus necessary to assess whether cross-border bank flows and global shocks can give rise to (positive or negative) externalities (IMF-FSB-BIS, 2016): there can be positive externalities if domestic macroprudential policy supports financial stability and lending abroad, but national policies can also be subject to leakage that weakens their effectiveness. Negative externalities can arise if, in response to a tightening of domestic regulation, risky activities migrate to other countries, or if individual market participants do not internalise their contribution to aggregate financial stability (Korinek, 2011). Likewise, negative externalities arise for countries if domestic regulatory policy tightening reduces the supply of credit to foreign countries needing this intermediation.

If negative externalities prevail, national policies alone may be insufficient, and collective action problems can arise that require international coordination (Viñals and Nier, 2014). If financial activity and financial stress cross national borders, collective action problems can lead to "too little" macroprudential policy action, from both a national and a global perspective. Coordination and the appropriate communication of policies is needed to define common minimum standards for resilience,[6] and decisions need to be taken on whether to coordinate and reciprocate policies at the bilateral, regional or multilateral level.

The European Systemic Risk Board (ESRB) provides an example of policy coordination and a designated regime for reciprocity.[7] While most of the responsibility for macroprudential policy lies at the national level with national macroprudential authorities and financial stability committees, in the case of the European Banking Union, the ECB has both coordination and asymmetric top-up power. Reciprocity rules apply to national measures; some are mandatory and some follow a "comply or explain" procedure. When implementing macroprudential measures, financial linkages among economies have to be taken into account as cross-border bank flows might lead to spillovers of macroprudential policies to other countries. The framework has been applied to several macroprudential policy measures, including the regulation of mortgage loans in Belgium, Finland and Sweden.

Recognising the importance of policy surveillance and coordination in the European context, the ESRB has also established a common monitoring framework for the financial stability implications of national fiscal measures.[8] During the first phase of the pandemic, fiscal tools have been used in a heterogeneous way, reflecting differences in the needs of national economies and in exposures to the Covid-19 shock, differences in fiscal space but also a potential lack of policy coordination.[9] Going forward, this may have implications for cross-border financial flows and financial stability, thus requiring coordination of policy across areas and countries.

Conclusion

Banking sectors have played an important role in the initial phase of the pandemic. Fiscal and monetary policies have been transmitted to the real economy through banks; supervisory policy has relaxed balance sheet constraints. This policy response has been bold and fairly symmetric across countries. As a result, banks have continued to lend domestically and the impact of the crisis on cross-border flows by more robust global banks has remained limited.

Going forward, the recovery is likely to be asymmetric across countries and sectors, requiring asymmetric national macroprudential policy responses. As corporate insolvencies resulting from the pandemic potentially increase in many countries, banks will need to play an important role for the recovery while potentially dealing with increasing loan losses and the restructuring of their loan portfolios. Policymakers will thus face difficult trade-offs when deciding on when and how to normalise policies. Normalising too soon may run the risk of cliff effects, while normalising too late may delay the necessary structural change both for banks and the real economy. Flows through strong and resilient global banks can potentially relax the credit supply constraints that otherwise might prevail in some locations they serve. Depending on bank and country conditions, cross-border effects of national policies and effects on financial stability abroad need to be considered and in some cases coordination of macroprudential policy responses could be warranted.

Surveillance of global banks will be particularly important during the next phase of the pandemic in order to improve our understanding of the impact of diversified business activities and of capital and liquidity positions on banks' ability to lend. Surveillance should also pay attention to the risks around a re-nationalisation of banks, as national authorities might be under pressure to protect domestic banking sectors from foreign competition and to use moral suasion to ensure that domestic banks continue lending to domestic firms. This may, ultimately, affect cross-border credit provision.

Recent research by the International Banking Research Network (IBRN) shows that monitoring the response of global banks to changes in policy requires taking a differentiated view. Policy spillovers through global banks are shaped by bank-level characteristics and the macroeconomic environment, and they differ across policy instruments. Surveillance of these issues can build on the extensive infrastructures and institutions that have been put in place since the global financial crisis in terms of access to microdata, stress-testing frameworks, methodological improvement, networks of international researchers, and established modes of cooperation among national authorities.

5 As BIS international banking statistics indicate both a bank's nationality (home country) and where it operates (host country), Avdjiev et al. (2021) can distinguish home and host policies. They find that home policies have larger spillover effects on cross-border US dollar lending than host policies. More specifically, the results suggest that the most important sources of spillovers for the home countries are interbank exposure and concentration limits, while for the host countries it is LTV caps.

6 All this may call for a benchmark standard for financial stability regimes, and regimes to preserve stability that are global, not local (Cecchetti and Tucker, 2015; Tucker, 2016). For discussions on the international policy coordination and the role of domestic policies, see also Rodrik (2019).

7 A recommendation for a framework on the voluntary reciprocation of macroprudential policy measures was published by the European Systemic Risk Board in 2015. See the website of the ESRB for details: *https://www.esrb.europa.eu/*

8 See *https://www.esrb.europa.eu/home/search/coronavirus/html/index.en.html#item1*

9 See *https://www.esrb.europa.eu/*

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