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IMPACT ASSESSMENT

Accompanying the document

Proposal for a Regulation of the European Parliament and of the Council

on the establishment of a European Investment Stabilisation Function

{COM(2018) 387 final} - {SEC(2018) 277 final} - {SWD(2018) 298 final}

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1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

On 2 May 2018, the European Commission adopted its proposals for a new Multiannual Financial Framework (MFF) for 2021-2027. Under these proposals1, the European Investment Stabilisation Function will have an overall ceiling for lending backed by the EU budget of EUR 30bn over this period. This impact assessment report reflects the decisions of the MFF proposals and focuses on the changes and policy choices which are specific to this instrument.

The financial turbulence and severe economic downturn of the late 2000s and early 2010s stress-tested the foundations of the euro and the EU. While important governance changes have been undertaken in response, the euro architecture remains a vulnerable construction. Policy leaders at the national and the European level are therefore engaged in a discussion to learn the lessons of the past years and further bolster the resilience of the zone.[2] One focal point of that debate is the appropriate euro area fiscal framework and in particular the adequate arrangements for providing fiscal stabilisation.

The topic of a common stabilisation function to underpin the single currency has garnered much attention over the years and decades. Over 40 years ago the Mac Dougall report (European Commission, 1977) already emphasised the desirability to accompany the creation of a single European currency with a common budget of meaningful size. As of today the euro area remains an area with a centralised monetary authority and a plurality of national fiscal actors. Developments since the inception of the euro have however shed a new light on this discussion. Indeed, the events unfolding as part of the euro area sovereign debt crisis in the early 2010s have pointed out the limited resilience of the euro area to macroeconomic shocks, thereby renewing interest for such an instrument.

At present, there is a lively debate on the need and form that could take such a stabilisation function. Some Member States positively support further fiscal integration as a crucial component of EMU deepening. The case for ambitious fiscal integration, in the form of a euro area budget that would notably provide stabilisation, has been made by the French President. The national ministries of economy or finance from Italy and Spain have issued papers lining out proposals for specific funds providing macroeconomic stabilisation. However, doubts have also been raised in other constituencies on the value

[1] https://ec.europa.eu/commission/priorities/democratic-change/future-europe/eu-budget-future_en

[2] 6 December Package. Commission Communication on "Further steps towards completing Europe's economic and monetary union: a roadmap" - COM(2017) 821: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0821&from=EN ;
White paper on the future of Europe - COM(2017)2025: https://ec.europa.eu/commission/sites/beta-political/files/white_paper_on_the_future_of_europe_en.pdf
Five Presidents' Report: Completing Europe's Economic and Monetary Union:
https://ec.europa.eu/commission/sites/beta-political/files/5-presidents-report_en.pdf

added and risks from a common stabilisation instrument. The Prime Minister of the Netherlands has been explicitly sceptical in a recent speech. Some Member States appear open to further discussions without necessarily being supportive. The coalition agreement underpinning the current German government mentions a future investment budget for the euro area that could also provide stabilisation.

While registering this spectrum of views, the Commission has actively contributed to this discussion. The Commission has made the case for a stabilisation instrument while laying out important guiding principles, e.g. in its Communication on "new budgetary instruments for a stable euro area within the Union framework" from 6 December 2017 and the Reflection Paper on the deepening of the Economic and Monetary Union.[3] Taking note of the diversity of views, the Commission has set out different options and approaches were presented, thereby nourishing the discussion. The introduction of a stabilisation function is also seen as part of a wider drive to modernise the EU budget and maximise its impact. To this end, the 6 December Communication proposed four new instruments: 1.) A new way to support national reforms identified in the European Semester, 2.) a dedicated convergence facility for Member States on their way to joining the euro, 3.) key features of a backstop for the banking union, and 4.) the roll-out of a stabilisation function, which is the focus of this impact assessment. The stabilisation function would tackle a vulnerability in the EMU architecture, which is why access would be especially desirable for euro area Member States.

This Impact Assessment describes the current gaps in the euro area's capacity to respond to shocks and discusses different policy options and the impact of possible EU action. This document explains why and to which extent the euro area's response to the recent crisis was constrained. It assesses which factors contributed to its aggravation and the increasing divergence among Member States. The analysis shows how the institution of a common stabilisation function would raise the resilience of the euro area by increasing the capacity to withstand future large asymmetric shocks, thereby avoiding the risk of Member States departing from EU economic and social cohesion objectives. Such a stabilisation function should be properly designed and may have to be built over time. This document therefore also reviews the options for building a stabilisation function, evaluates their respective effectiveness, motivate the proposals made by the Commission, and explains how the stabilisation function will be monitored.

It is important to note that the quantification of impacts described in this document does not capture the entire scope of the problem analysed. In terms of the quantitative analysis presented, specific caveats should be borne in mind. These include technical limitations of the statistical data and of the simulation models available. It is in the nature of macroeconomic analysis that the assessment depends on (well-justified) assumptions and that future outcomes are *per definitionem* not certain but will depend crucially on the

[3] Communication on new budgetary instruments for a stable euro area within the Union framework - COM(2017) 822: https://ec.europa.eu/info/sites/info/files/economy-finance/com_822_0.pdf
Reflection paper on the deepening of the economic and monetary union - COM(2017) 291: https://ec.europa.eu/commission/sites/beta-political/files/reflection-paper-emu_en.pdf

– partially random – unfolding of events. In light of the above, this document presents a proportionate assessment of impacts. The impacts are primarily described through a qualitative assessment and, where possible, a quantification of impacts is outlined.

Procedural information regarding the preparation of this Impact Assessment can be found in Annex 1.

2. PROBLEM DEFINITION

The problem to be addressed by this initiative, in summary, is the insufficient ability of available instruments to absorb large macroeconomic shocks in the euro area. In modern economies, fiscal and monetary policies are the main means for managing business cycles. Monetary policy is generally viewed as the most flexible tool, while fiscal policy responds in the first instance through the so called automatic stabilisers. The euro area is however confronted with a particular set-up: monetary policy can only focus on aggregate fluctuations of the zone, while fiscal policy is 'decentralised' and in principle can respond to country-specific shocks. This arrangement appears viable for normal times but it is confronted with critical problems whenever large economic disruptions arise. This has especially been illustrated by developments in the economic and financial and the euro crisis, which has evidenced strong limits to the functioning of national automatic stabilisers for coping with asymmetric shocks, even sometimes in Member States with sound fiscal credentials. This has resulted in a pro-cyclical pattern for fiscal policies, which has also been detrimental to the quality of public finances and in particular public investments. The sequence of recent events also suggests that too much weight may be put on the monetary authority to provide stabilisation in severe economic circumstances. These observations point to a stabilisation gap and the risk of procyclical cuts in public investment in the current EA/EU setting, pointing to the need for a common fiscal instrument for the future. In turn, that shortcoming has contributed to widespread differences in macroeconomic performance between Member States, imperilling the cohesion of the EU.

The remaining of this section documents this fundamental problem and identifies problem drivers by shedding light on:

i) business cycles in the EA/EU, showing that business cycle fluctuations are large and reflect both a common component and substantial country-specific components ;

ii) the experience over the years of the crisis that erupted a decade ago and saw the occurrence of sizeable pro-cyclical fiscal adjustments that weighed especially strongly on public investments.

It will then be explained (section 3) why these problems will continue to represent a major threat in the future, even taking into account the existence or the development of

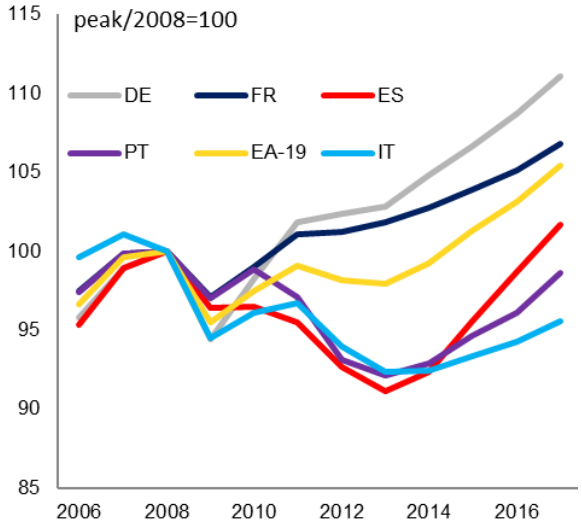
new instruments in the EA/EU setting and assuming that Member States preserve their national fiscal space by strictly respecting the fiscal rules framework. This makes the case for an EU-level instrument to provide stabilisation support in some circumstances that characterise a large asymmetric shock.

2.1. Business cycles in the EA/EU

The overall macroeconomic performance in the euro area has been lacklustre since the eruption of the crisis. The crisis and the subsequent double-dip recession in the euro area has induced low growth. The low resilience of the euro area appears to have a permanent effect on real GDP. The gap with the US in terms of growth performance has widened over the past ten years and reflects a weaker capacity to absorb and recover from shocks. While the US reached its pre-crisis real GDP level already in 2011, the EA reached it only four years later, in 2015.

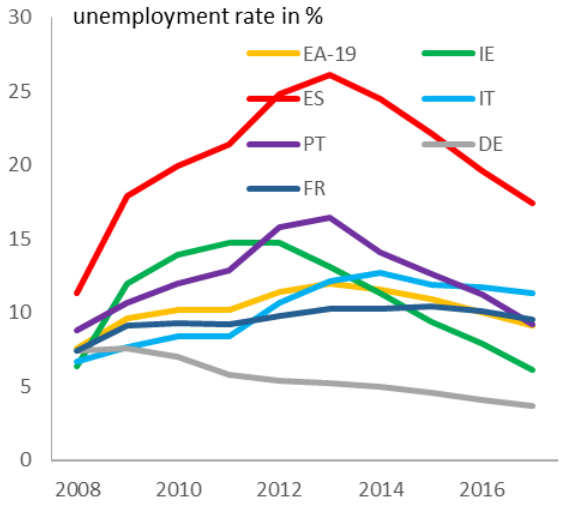
Beyond the aggregate growth performance, economic divergences between Member States have resurfaced. In the decades running up to 2008, important economic convergence took place in the EU. Since the crisis however, this trend has reversed, as illustrated in Figure 1. In a number of Member States, GDP levels have only recently recovered to their pre-crisis starting points.

Figure 1: Real GDP, selected Member States



Source/Note: European Commission 2017 autumn forecast

Figure 2: Unemployment rates, selected Member States



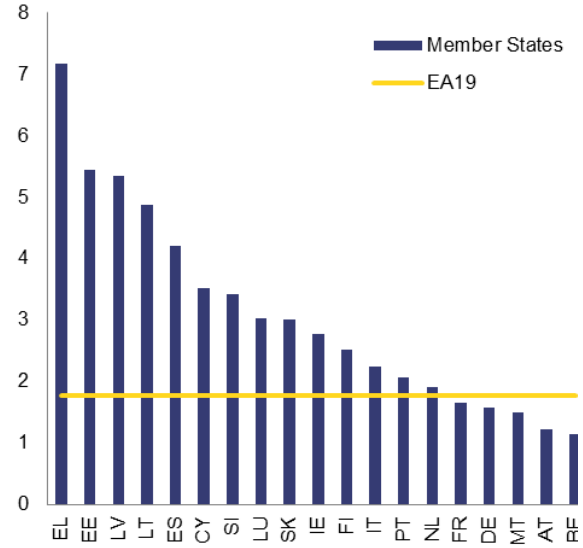
Source/Note: EC 2017 autumn forecast.

These developments were mirrored in a jump in unemployment rates across some Member States. Changes in unemployment rates are highly correlated with business cycle fluctuations. Strong increases in unemployment rates are thus an important indication for a large economic shock. During the recent crisis, unemployment rates shot up across the euro area, and even more so in those Member States hit hardest by the

downturn (Figure 2). Overall, divergences in unemployment dynamics have increased significantly with the crisis, even more than for GDP. Unemployment rates for the long-term unemployed, the low-skilled and the young have peaked more than "headline" unemployment and still remain at very high levels in the EA, while involuntary part-time and hidden labour force signal that slack is still present in the economy.

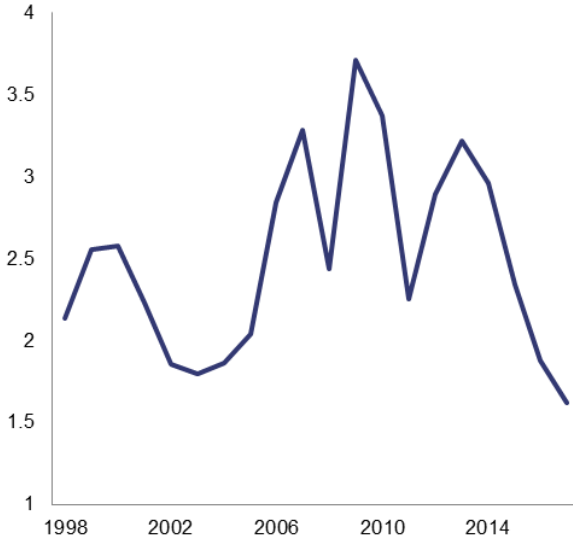
The lack of monetary policy and exchange rate adjustment channels at the national level hampers the resilience to asymmetric shocks. The introduction of the euro was highly beneficial for the European Union and has contributed to prosperity and stability. It has completed the single market and contributed to more intra-EU trade (see Baldwin and others 2008; Berger and Nitsch 2008). Nonetheless, in a currency union, exchange rates cannot adjust and monetary policy is set at the euro level. To facilitate macroeconomic adjustment and cushion large shocks, Member States thus need to rely more on the remaining instruments of economic policy, namely structural reforms and fiscal policy instruments, making the adjustment more difficult overall. The lack of a fiscal stabilisation at the centre also implies a heavier reliance on monetary policy to stabilise overall economic activity.

Figure 3: Standard deviation of the output gaps by Member States (2000-2017)



Source/Note: European Commission 2017 autumn forecast, Authors' calculations

Figure 4: Standard deviation of the output gaps across Member States

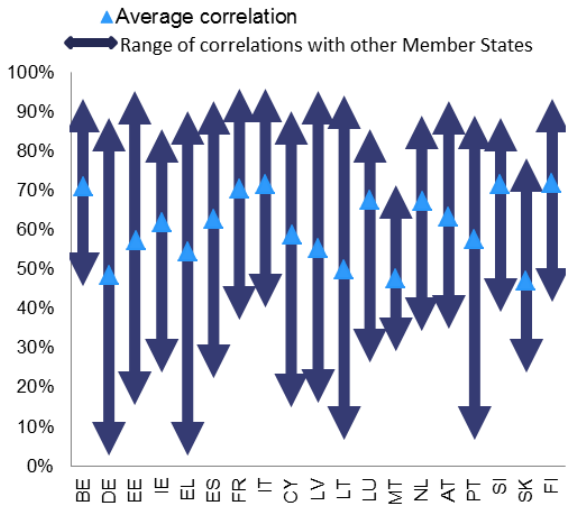


Source/Note: European Commission 2017 autumn forecast, Authors' calculations

Twenty years after the introduction of the euro area, important asymmetries in the business cycles remain across Member States. Since the early 2000s, the average magnitude of the output gap fluctuations in the euro area is equal to 1.8% of GDP. This aggregate volatility hides larger fluctuations at the national level and sizeable disparities both between countries (Figure 3) and through time (Figure 4). Indeed, the Euro Area aggregates smooth out the disparities between Member States and most countries experience larger economic fluctuations than the Euro Area as a whole. In addition, in

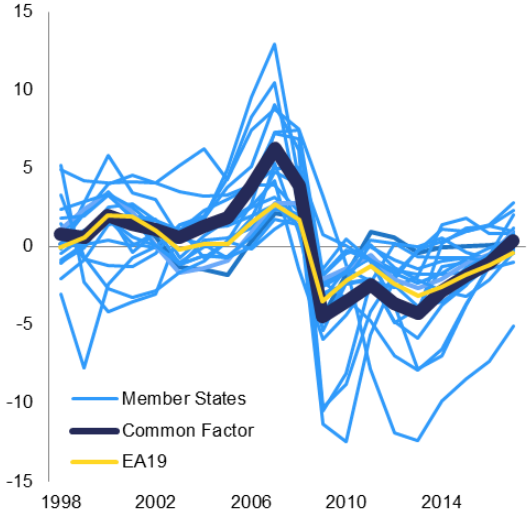
the wake of the crisis disparities between Member States' output gaps have increased (Figure 4). Each country's correlation with the others reveals the great disparities existing across countries (Figure 5): the correlation of national output gaps with that of the other Member States is on average around 60% but varies from close to 0 to 90%. For instance the output gap correlation between Germany and Greece is only equal to 3%, and it is only 7% between Portugal and Lithuania. It is however as high as 96% between France and Italy.

Figure 5: Business cycle correlation across EA19 Member States



Source/Note: European Commission 2017 autumn forecast, Authors' calculations
The correlation of national output gaps with that of the other Member States is on average around 60% but varies from close to 0 to 90%

Figure 6: Business cycle fluctuations in EA Member States and their common factor



Source/Note: European Commission 2017 autumn forecast, Authors' calculations
The Common Factor captures as much of the joint fluctuations as possible and is computed by Principal Component Analysis.

The business cycles convergence in the euro area remains partial. Since the late nineties, for the 19 Member States of the euro area, at most 60% of the fluctuations in output can be ascribed to a common factor (Figure 6). Therefore, more than 40% of the fluctuations in output either stem from asymmetric sources, or at least reflect asymmetric transmission across Member States of common shocks.[4] Indeed, both common and country-specific shocks can generate the desynchronised economic cycles observed in the EMU. For example a common shock on the foreign exchange rate has an impact on each Member State that will depend on its trade openness with the rest of the world, on its export and import structure as well as on the size of its financial sector. Some Member States are however more affected than other by idiosyncratic developments. For example, if we restrict the analysis to the EA12 Member States, the common factor accounts for up to 80%, leaving 20% of the fluctuations to be asymmetric. Overall, the limited business cycle synchronisation can be considered a key problem driver.

[4] Estimation based on a principal component analysis. A similar analysis on GDP growth or the unemployment rate yield a similar estimate of 40% of asymmetric fluctuations.

2.2. Fiscal developments and implications for public investments

National public finances provide a crucial extent of stabilisation, via automatic stabilisers and discretionary fiscal policies. National fiscal stabilisation operates mainly via automatic stabilisers, meaning that a fall in tax revenues, an uptick in social benefits and the inertia of other spending support the economy in downturns. European Commission (2017 E) shows that, in the euro area average, around one third of a shock to disposable income of households is absorbed by automatic stabilisers. However, the importance of such smoothing differs widely across Member States. In addition to automatic stabilisers, discretionary fiscal policies are an important tool to cushion large shocks. As part of the policy response to the financial crisis of the late 2000s, the European Recovery Plan was implemented, which provided discretionary aggregate support. Fiscal rules as in the Stability and Growth Pact do give room for the automatic stabilisers to play out and for discretionary fiscal policy under specific conditions. Still, in particular situations they might also act as a constraint.

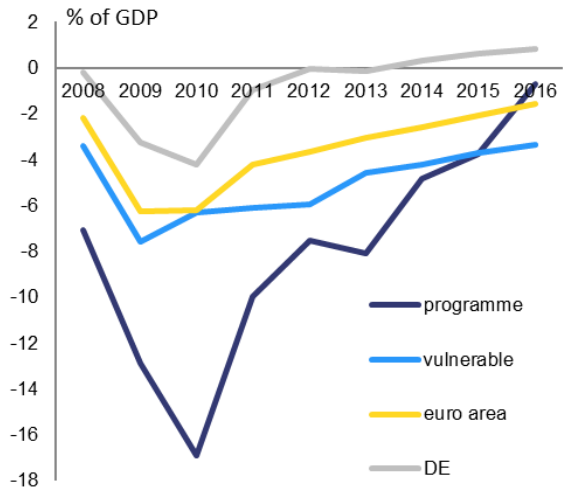
A build-up of fiscal buffers is thus needed in good times. In light of the crisis experience, the fiscal framework was strengthened with the introduction of the Six-Pack, Two-Pack and the "Treaty on Stability, Coordination and Governance in the Economic and Monetary Union". Member States need to build sizeable fiscal buffers in normal and good times to afford the fiscal space needed for the free operation of automatic stabilisers. Public deficits have recently been reined in and public debts put on a downward path. Many Member States, however, still face a legacy of very high debt burdens that will take time to wind down. In these cases, more efforts are needed to replenish fiscal buffers for future downturns.[5] Nonetheless, even Member States with sound fiscal policies might become constrained in their fiscal policy choices due to market pressure. Moreover, as a result of the crisis, public debt levels have increased to fairly high levels, in some Member States above 100% of GDP. Due to this legacy of high public debt, fiscal room for manoeuvre might be somewhat constrained until these debt levels have be wound down.

Still, in the wake of large shocks, public finances can deteriorate strongly. As shown in Figure 7, public deficits worsened strongly during the crisis. In the euro area as a whole, the deficit surged by around 4% of GDP and public debt shot up by more than 30% of GDP. This slump was worse in Member States hit hardest by the downturn. One important underlying reason was the often sudden and dramatic collapse of public revenues. In normal downturns, revenues develop broadly in line with the economic cycle, or more precisely in line with a constant elasticity linked to the relevant tax bases (see Mourre et al., 2014). In case of a drop in GDP, this mechanism already leads to a major fall in revenues compared to budgetary plans. In a large downturn, however, these

[5] See European Commission (2017 G), 2018 horizontal DBP Communication on draft budgetary plans: https://ec.europa.eu/info/sites/info/files/economy-finance/com-2017-800-en.pdf

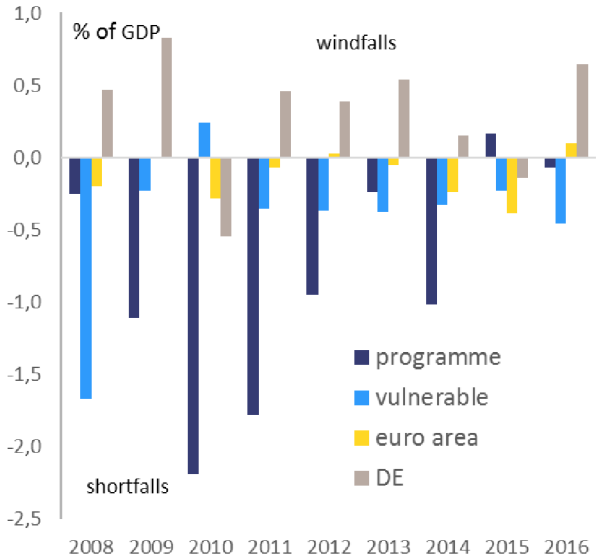
developments can be exacerbated, i.e. they become more than proportional to the GDP slump, and materialise as sizeable revenue shortfalls. In the case of the recent crisis, revenues and budget balances fell dramatically, as illustrated in Figure 7 and Figure 8. Cumulated revenue shortfalls reached several percentage points of GDP for programme and vulnerable Member States, in addition to revenue losses due to lower activity. Member States either need to run higher deficits to maintain spending plans or find other savings to compensate.

Figure 7: Budget balances, country groups



Source/Note: Programme: IE, EL, PT, CY. Vulnerable: IT, ES. Weighted avgs. Authors' calculations based on EC 2017 autumn forecast.

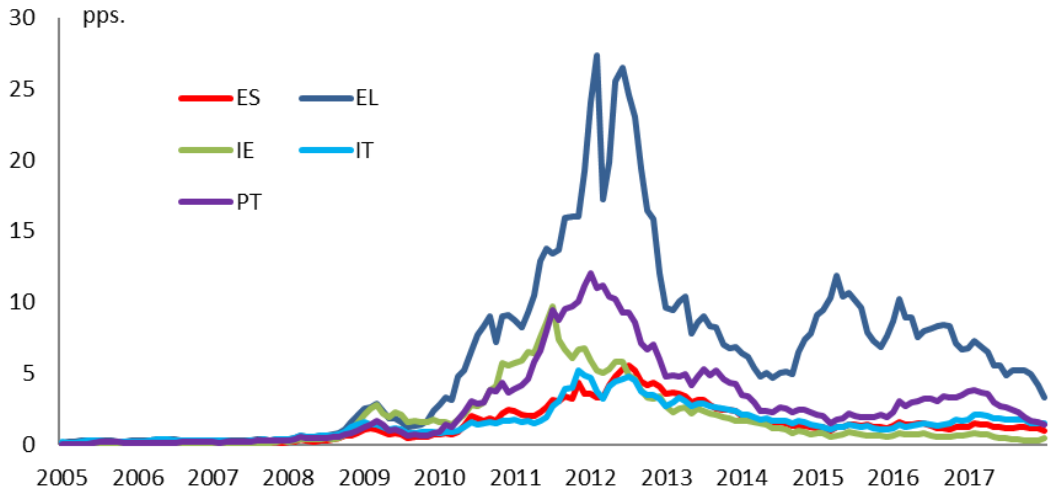
Figure 8: Revenue windfalls/shortfalls, country groups



Source/Note: Year-on-year windfalls/shortfalls. Discretionary revenue measures taken into account from 2010 onwards. Authors' calc. based on EC 2017 autumn forecast

A countercyclical conduct of fiscal policy, including the free operation of automatic stabilisers, can be hindered by financial market instability and constrained market access. In the early 2010s, a strong deterioration in public finances, jointly with doubts about the functioning of the euro area under periods of intense stress resulted in weakened investor confidence and significant financial market fragmentation during and after the outbreak of the crisis, see Figure 9. Bold policy actions at several levels were needed to re-establish market confidence and achieve a reversion of this fragmentation. The European Central Bank's (ECB) announcement of Outright Monetary Transactions (OMT) led to a reduction in the perceived redenomination risk. Steps towards Banking Union helped cushion sovereign-bank doom loops. Major reforms in the Member States most affected by the crisis, including structural reforms and fiscal consolidation, were undertaken and in some cases supported by provision of financial assistance. Nonetheless, this experience reveals that national fiscal policies, even in cases where initial debt levels are low, risk being overburdened in case of large shocks.

Figure 9: Sovereign bond spreads, selected Member States

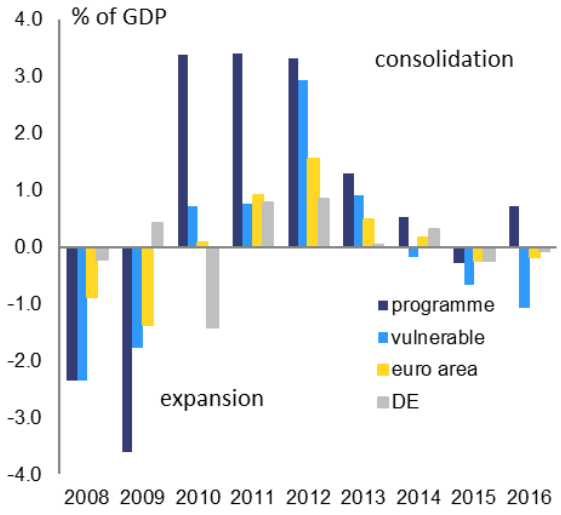


Source/Note: ECB statistical data warehouse

To keep deficit and debt levels under control in the face of market pressures, there is a risk that Member States resort to highly pro-cyclical and low quality fiscal adjustments. Some of these Member States had failed to build sufficient fiscal buffers ahead of the crisis. Others, however, were running prudent fiscal policies, at least at face value, and had accumulated low levels of public debt before the crisis struck. In the recent crisis, several Member States were under extreme market pressure, as their spreads *vis-à-vis* the German sovereign bonds increased sharply, with important implications on the cost of servicing their debt and running higher deficits. As a consequence, EL, IE, PT and CY had to revert to financial assistance programmes. Overall, the euro area, in particular in Member States without market access and vulnerable to financial market instability, has undertaken strong fiscal adjustments (Figure 10).

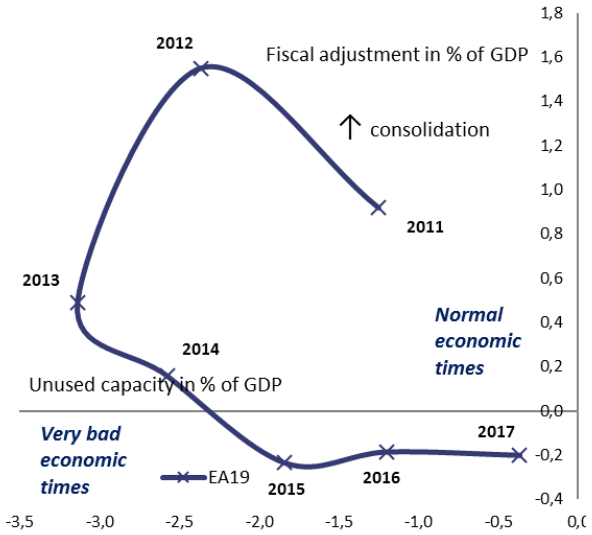
On aggregate, the euro area has been prone to pro-cyclical fiscal consolidation in the downturn. As a consequence of national consolidations, the euro area fiscal stance turned highly restrictive in 2012-2013, while the downturn was still deep, see Figure 11. To compensate, a very large weight has been put on the ECB, testing the limits of monetary policy at times of unprecedentedly low interest rates. These weaknesses in the architecture have contributed to further deepening the economic downturn.

Figure 10: Structural adjustment by country groups



Source/Note: EC 2017 autumn forecast. Change in structural primary balances. Pre-2010 change in cyclically-adjusted primary balances.

Figure 11: Euro area fiscal stance



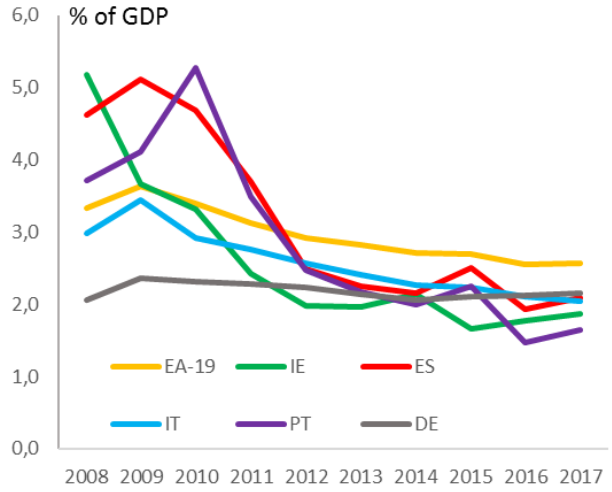
Source/Note: EC 2017 autumn forecast. Fiscal adjustment is measured by the change in the structural primary balance. Unused capacity is measured by the output gap.

In many countries, the tightening of fiscal policy translated into severe cuts in public investment. While these cuts may partly have been a response to previously excessive spending, short-term budgetary pressures have in many cases led to myopic policymaking in which governments slash public investment given their lower political costs to achieve savings. Those Member States facing the biggest pressure for front-loaded consolidation made significant cuts in public investment (Figure 12), on average around 2% of GDP. These cuts in public investment came on top of decreases in private investment. This type of adjustments has sometimes deepened and lengthened the recession in those countries, negatively impacting the economic and social cohesion of the Member States.

The EU budget has helped to some extent to weather the crisis. Thanks to its inherent stability in the medium term, EU-funded public investments and transfers – e.g. for training unemployed people or for urban and rural development – has acted as a countercyclical force during the recession that began in 2009, despite the relatively modest share of EU spending out of national governments' total expenditure.[6]

[6] Financing the EU Budget: report on the operation of the own resources system, Commission Staff Working Document, accompanying the Proposal of a Council Decision on the Own Resources of the EU (SWD(2018) 172 of 2 May 2018).

Figure 12: Public investment in selected Member States



Source/Note: EC 2017 autumn forecast.

Preserving growth-friendly public investment is key to foster (potential) growth also during recessions. Weak investment spending has not only negative consequences for short-term growth via its impact on aggregate demand, but also for the medium-term productivity via its impact on the capital stock. Furthermore, the short-term impact of high-quality investment on growth is typically found to be larger than that of other types of spending. Therefore, it is important to preserve growth-friendly public investment also in economic bad times to ease the necessary adjustment burden and return on a sustainable growth path as quickly as possible.[7]

2.3. Other instruments and policies

Some policies and instruments can reduce the need for providing stabilisation through fiscal instruments. In the EMU setting, this concerns:

- Well-functioning markets and structural reforms which raise resilience
- Cross-border risk sharing through financial markets
- The action of the ECB
- The provision of financial assistance subject to strict conditionality, as provided by the European Stability Mechanism (ESM)

Well-functioning markets are indispensable to absorb economic shocks efficiently across Member States. Such market mechanisms form the first line of defence. Conceptually, market mechanisms play a key stabilising role in monetary unions, through greater internal resilience to shocks and improved mobility of the production factors capital and labour.[8] The efficient functioning of the single market, including in the financial markets and labour markets, feature among the crucial ingredients to make European economies more resilient. Labour mobility is another mechanism which facilitates economic adjustment, although the room for further improvements appears

[7] European Commission (2016): Public Finances in the EMU 2016; Barrios and Schaechter (2008): The Quality of Public Finances and Economic Growth, European Economy Economic Papers 337; Barbieroand Cournède 2013): New econometric estimates of long-term growth effects of different areas of public spending, OECD Economics Department Working Paper, 1100.

[8] Mundell (1973) and Eichengreen (1992) have suggested that a monetary union among countries keeping their fiscal autonomy could potentially compensate the lack of a common fiscal capacity through the so-called 'private insurance channel', brought forward by financial integration.

limited in the medium term. (Molloy et al., 2011; Beyer and Smets, 2015; Dao et al., 2014).

Structural reforms can also increase the economic resilience of Member States. They help address macroeconomic imbalances and lift economic potential. That is why the Commission has proposed the creation of a **Reform delivery tool** on 6 December 2017 to further increase incentives for structural reforms. Still, structural reforms *per se* would not stabilise demand fluctuations. On the contrary, in the short term, they can weaken the recovery, in particular when implemented during the downturn or when monetary policy is constrained.[9] Such issues call for an appropriate 'sequencing' and 'packaging' of reforms that takes advantage of synergies and complementarities (Berti and Meyermans, 2017).

Private sector cross-country risk sharing works through cross-border factor income. With domestic productive assets partially held abroad, the consequences on domestic income of a country-specific shock may be smoothed by reduced dividends and interest payments to foreign residents, together with sustained earnings on foreign assets held by domestic agents. This is the so called capital market channel for private risk sharing. Labour compensation across borders may also contribute to smoothing domestic incomes. In addition to these income smoothing effects, there can also be a consumption smoothing channel through borrowing and saving on international capital market. This is the so called credit channel of consumption smoothing. Consumption smoothing behaviour is however conceptually distinct from risk-sharing *stricto sensu* (Alcidi and Thirion, 2016).

The amount of private sector cross-country risk sharing through financial markets remains low in Europe compared to other currency unions. Market mechanisms allowing for higher mobility of capital consist of the so-called capital market channel, the credit market channel, and the cross-border labour compensation channel. In the US and other federations, private sector channels have been found to smooth out a significant fraction of shocks on consumption, possibly of the order of 60% (when including the credit channel). The contribution of public risk-sharing is generally found to be smaller, of the order of 15-20%.[10] Private risk-sharing appears far less developed in the case of the EU (Berger, Dell'Ariccia, Obstfeld, 2018), providing a strong case for completing the banking union and achieving a capital markets union raising the degree of cross-border risk sharing.

The creation of Banking Union is underway, in order to severe bank-sovereign doom loops. In the past, Member States repeatedly found themselves in situations where large amounts of public money were spent to bail out failing banks, in some cases

[9] See OECD (2015), Vogel (2014) and Duval and Furceri (2016)

[10] See Nikolov (2016), Alcidi (2015) and Allard et al. (2013). There are nevertheless important methodological challenges in these empirical studies. The results regarding the contributions of both private risk-sharing and public risk-sharing, should be taken with caution (Clévenot and Duwicquet, 2011). In the early 1990s, Sachs and Sala-i-Martin (1991) and Bayoumi and Masson (1995) found that in the US automatic stabilisers of the federal budget would smooth around 30% of income shocks.

leading to doubts about the sustainability of their public finances. The creation of common supervision for big banks and a common resolution framework and fund have alleviated the burden on national sovereigns, thereby contributing to the severance of the so-called sovereign-bank doom loop. To strengthen the resilience of the common resolution approach, the Commission has proposed to create a common backstop for the Single Resolution Fund. The Capital Markets Union, for its part, has the potential to considerably broaden cross-border risk-sharing.

There is evidence that public risk sharing is a necessary catalyst for private risk sharing in a currency union, especially in stressed times when it matters the most. Private sector risk sharing can turn pro-cyclical in downturns and is more effective when working in conjunction with public sector risk sharing (Kalemli-Ozcan et al. , 2014). In other advanced currency unions, such as the US, Canada and Germany, private risk sharing channels are supported by public mechanisms. Furceri and Zdzienicka (2015) find that the degree of risk-sharing in the euro area falls sharply in severe downturns, more precisely: "the amount of unsmoothed shocks in periods of recession is significantly larger than during normal times, and the increased inability to smooth output shocks is driven by the lack of consumption smoothing provided by private saving via the credit channel. This is particularly true for severe downturns that are persistent and unanticipated". The conclusion is therefore that a degree of public risk-sharing is a necessary catalyst for private risk-sharing to work effectively in stressed times, when it matters the most.

Among existing common European instruments, the ECB is at the forefront of regular macroeconomic stabilisation. The common monetary policy provides a first response to stabilise the economy in the event of shocks affecting the whole area, through the pursuit of price stability. Its primary, traditional instrument is the interest rate. During the crisis, the toolbox of the ECB has evolved, adding new unconventional instruments such as the OMT and liquidity support to the banking sector. Nonetheless, there is a risk of overburdening monetary policy, especially when the interest rate is close to the zero lower bound (ZLB). In those cases, further reducing nominal interest rates may be difficult. Unconventional tools can complement, but their impact might be decreasing with increased use (see Blanchard et al, 2015). Moreover, a common monetary policy cannot react to individual country shocks; thus the need for a fiscal instrument to complement (Berger, Dell'Ariccia, Obstfeld, 2018).

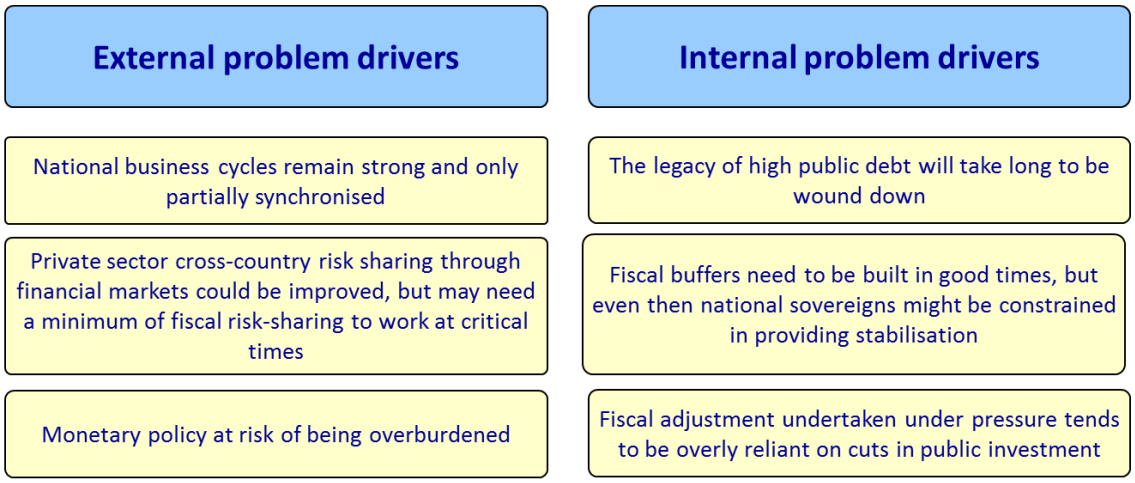
During the past ten years, the ESM was created to deal with crisis situations. The ESM provides financial assistance to Member States having lost market access subject to strict conditionality. It thereby acts as a lender of last resort to national sovereigns. However, the experience of sudden and sometimes excessive stops in market access calls for a more preventive approach to support Member States hit by large shocks. Concerning the institutional setup, the Commission has made proposals to strengthen the

ESM's governance framework and integrate is into the community framework on 6 December 2017.[11]

2.4. Conclusion on problem definition

From the inception of the euro it has been asked whether the EMU set-up offered enough space for macroeconomic stabilisation. This question arises naturally as countries in a monetary union lose crucial channels of adjustment to asymmetric shocks by giving up an own monetary policy and the possibility of nominal exchange rate changes. The initial understanding over the euro was that this loss might be 'compensated' by a natural convergence of business cycles within the union. In addition, national fiscal policies remained available in order to absorb country-specific shocks. However, the experience suggests that these assumptions were too optimistic. Business cycles remain sizeable in EMU, reflecting a key external problem driver. They reflect both a common component and substantial idiosyncratic cyclical developments in Member States, particularly in the more volatile economies of the euro area. The behaviour of national fiscal policies is a key internal problem driver. National fiscal stabilisers have functioned at times and in some countries but have also exhibited serious limitations. In fact, fiscal policies have too often turned out pro-cyclical, and in particular public investment cycles have followed a boom and bust profile that has been detrimental to growth in both the short and long terms. Figure 13 provides an illustrative overview of these key problem drivers.

Figure 13: Key internal and external problem drivers



Source/Note: Stylised illustration prepared by authors

While the euro area economy is now expanding again, these vulnerabilities remain and the capacity of the euro area and Member States to smooth large

[11] See Commission proposal for a Council regulation on the establishment of the European Monetary Fund COM/2017/0827 final - 2017/0333 (APP): http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52017PC0827

macroeconomic shocks is not yet sufficient. The expansion appears solid at present, but the heterogeneity in the euro area is fuelling the potential for further tensions that could have severe consequences including for the very integrity of the euro area and the EU. Therefore, a more complete set of collective defences to tackle large shocks and prevent divergences among the Member States is needed. Such shocks and crises can persistently alter growth trajectories to the detriment of welfare and cohesion. Underinvestment and the persistence of high unemployment in some Member States are of particular concern as they could inflict long-term economic and social damages. In part, the failings highlighted above may have reflected an insufficiently sound conduct of fiscal policies in the better part of the cycle. However, as will be argued in the next section, there are inherent constraints to national fiscal stabilisation policies even when budgets respect strictly the rules. As a result, the present EMU framework leaves a larger role for macroeconomic stabilisation on the ECB jointly with national fiscal policies.[12]

3. WHY SHOULD THE EU ACT?

This section explains why the existing instruments do not suffice to provide enough space for fiscal stabilisation in the EA/EU set-up. In line with the subsidiarity principle, a stabilisation function is needed as a complementary tool in severe circumstances. This section therefore:

- explains why private sector adjustment mechanisms do not suffice without an element of fiscal risk sharing;

- then explains why the workings of national fiscal stabilisers, while essential, needs to be complemented by the EU level in certain circumstances, in particular to protect public investment;

- considers the state of play of stakeholders views in this respect;

- notes the availability of a legal basis (Article 175, TFEU) for building such an instrument.

3.1. Existing lines of defence

In a currency union, there are several lines of defence against disruptive shocks. Cœuré (2018) has pointed to a stylised description of three lines of defence needed to deliver a stable currency. Flexible markets are crucial to start with, including also

[12] In mature monetary unions (such as e.g. in the US), the single monetary authority has a counterpart of a federal fiscal authority, which determines the fiscal stance for the monetary area and can support monetary policy in its stabilisation policy. The euro area is marked by "an unprecedented divorce between the main monetary and fiscal authorities" (Goodhart, 1998).

efficient financial markets across the zone (to which the banking union underway contributes). Sound government policies are the second essential elements. In the fiscal field, this includes in particular the need to build fiscal buffers in good economic times in order to have space for absorbing shocks when those occur. Finally, some common instruments have already been introduced to deal with crisis situations, notably the European Stability Mechanism (ESM).

Integrated, European markets are indispensable to absorb economic shocks efficiently across Member States. Such market mechanisms form the first line of defence. The amount of private sector cross-country risk sharing through financial markets remains relatively low in the euro area, providing a strong case for completing Banking Union and capital markets union. Banking Union would also help severe sovereign-bank doom loops. Nonetheless, private risk sharing is at the risk of running dry in the downturn, mirroring the sometime pro-cyclical nature of market discipline, calling for public risk sharing as necessary complement and enabler. Structural reforms can also increase the economic resilience of Member States, as they help address macroeconomic imbalances and lift economic potential.

National governments play a key role in the stabilisation of the European economy against shocks. They can be considered as a second line of defence, as even well-functioning markets cannot fully mitigate shocks. In particular, national public finances provide a crucial extent of stabilisation, via automatic stabilisers and discretionary fiscal policies. A build-up of fiscal buffers is needed in good times, but might still prove insufficient in large downturns. Nonetheless, as analysed in section 2, even Member States with strong fiscal positions might become constrained in their fiscal policy choices due to market pressure.

Among existing common European instruments, the ECB is at the forefront of regular macroeconomic stabilisation. The common monetary policy provides a first response to stabilise the economy in the event of shocks affecting the whole area. Still, there is a risk of overburdening monetary policy, especially when the interest rate is close to the zero lower bound (ZLB). In addition, the European Stability Mechanism (ESM) was created to deal with crisis situations. It provides financial assistance to Member States and thereby acts as lender of last resort. However, markets tend to bite late but harshly. The experience of sudden and sometimes excessive stops in market access calls for a more preventive approach to support Member States hit by large shocks.

3.2. The need for economic stabilisation at the European level

Even with all these elements in place, national fiscal policies risk being overwhelmed calling for support at the European level. In large economic downturns, the combination of increasing deficits and falling nominal growth rates can generate market uncertainty about the sustainability of public finances, even for countries whose debt may be initially low. Limited fiscal space may prevent governments in a currency

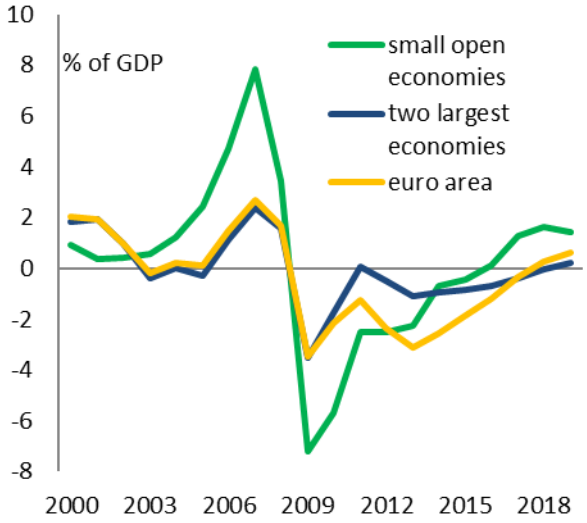
union from efficiently and effectively using their national fiscal policy to smoothen the impact of macroeconomic shocks. On the contrary, they may be hard pressed to cut expenditures, with investment politically easier to cut, although with harmful economic consequences in the short and longer term.

In normal times, the current setting, resting on prudent decentralised fiscal policy and single monetary policy absorbing common shocks, seems to suffice in stabilising the EU economy. This corresponds to the philosophy of the Maastricht Treaty: area-wide shocks are tackled by monetary policy, while asymmetric shocks (affecting the demand side) could be fixed by national fiscal policy. There is thus an important justification to maintain a high level of subsidiarity in fiscal policy.

In this setting, fiscal prudence allows the automatic stabilisers to play in full, absorbing the asymmetric economic shocks in real time, while ensuring the sustainability of public finances in the medium term. National fiscal stabilisation operates primarily via automatic stabilisers, meaning that a fall in tax revenues, an uptick in social benefits and the inertia of other spending support the economy in downturns. To enable the workings of automatic and discretionary fiscal stabilisers at the national level, Member States need to create sizeable fiscal buffers, ensuring sustainable deficit and debt positions.

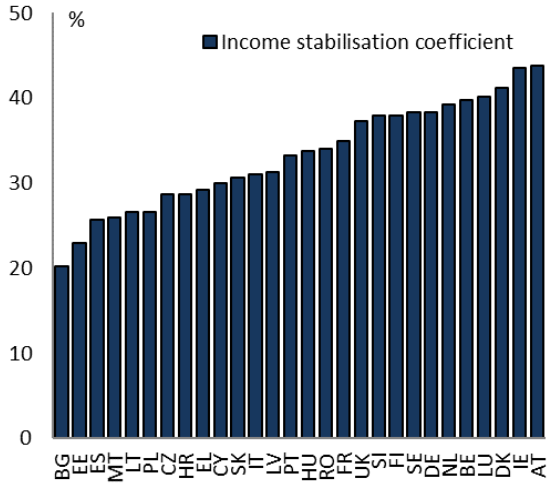
However, in the presence of large shocks, the automatic stabilisers may become insufficient to ensure proper stabilisation, especially in small open economies. Such situations exemplify limits to the subsidiarity principle. Large shocks can put important strain on a Member State's public finances, leading to a rapid increase in deficit and debt levels. Significant market pressure can then build up, preventing the free operation of national stabilizers. The crisis experience shows that even Member States with low levels of public debt and seemingly sound public finances are not immune to this risk and might be in need of further fiscal policy support. Figure 14 shows that small open economies, such as Luxembourg, Ireland, Slovenia, Finland and the three Baltics, recorded very large cyclical swings in output, much larger than the euro area average. These were particularly acute during the financial crisis in 2008-10, with a sharp drop of output gaps by around 14 percentage points and a strong persistence of negative output gaps in 2011-2013. By contrast, the two largest economies of the euro area –also hit by the crisis – experienced smaller cyclical fluctuations than the whole area. At the same time, the automatic income stabilisation generated by the tax and benefits system represents below 40% for most of the euro area countries, as illustrated in Figure 15 (below 30% for one third of them; see European Commission: Public Finances Report (2017) for a more detailed discussion).

Figure 14: Disparities of cyclical variation across countries (output gap)



Source/Note: The aggregate "Small open economies" covers EE, IE, LT, LU, LV, SI, FI. The aggregate "Two largest economies" covers DE and FR. based on European Commission 2017 autumn forecast.

Figure 15: Automatic income stabilisation

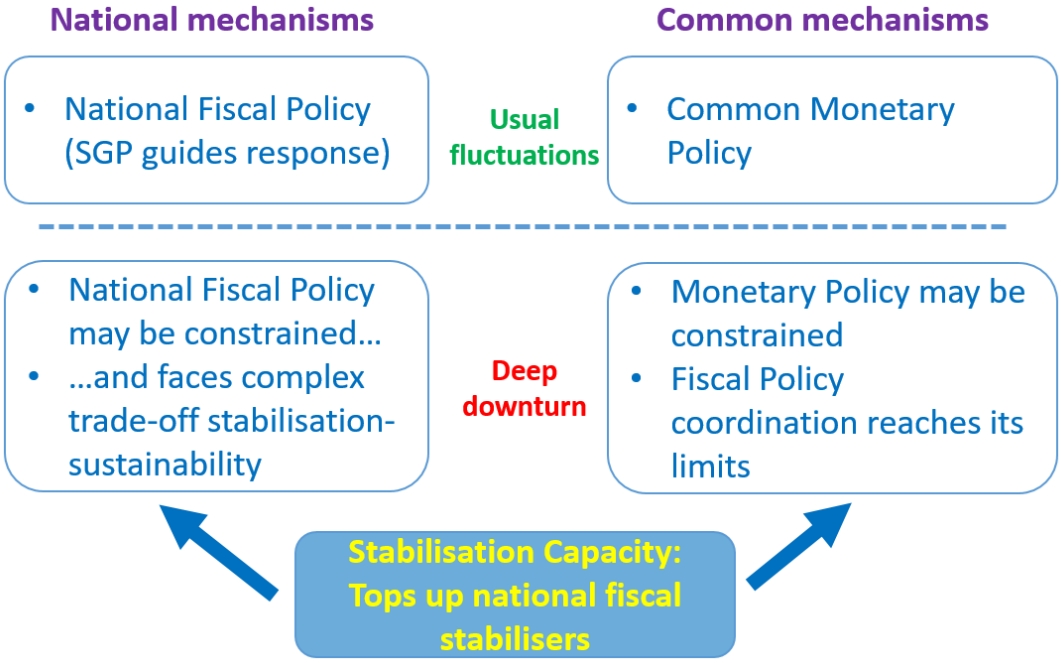


Source/Note: Degree of automatic income stabilisation (in per cent) of the current tax and benefit system with the degree of stabilisation assuming a hypothetical average effective tax rate (AETR). Authors' simulations based on EUROMOD using EU-SILC data. European Commission: Public Finances Report (2017)

This is aggravated by the inability of an overburdened monetary policy to fully respond to common negative shocks. When the monetary policy hits the zero lower bound, that is, when key interest rates are very close to zero in nominal terms, it becomes more difficult to relax it further to address negative shocks affecting the whole euro area. Moreover, in better times, monetary policy will also be constrained if there is a risk for financial stability.

The euro area therefore needs a fiscal instrument to help coping with large shocks. In this sense European action is needed to overcome an overburdening of national subsidiarity. As a vital complementary element, the stabilisation function should be active in the event of large shocks affecting a Member State, or several Member States, when the limits of other mechanisms and national policies materialise, posing great economic risks for the Member State itself but also for the area as a whole. It would be important to avoid that shocks and significant downturns result into deeper and broader situations of stress. A stabilisation function would avoid such situations through the possibility to support Member States under large stress. More adequate and countercyclical fiscal policies at national level would also contribute to a more consistent aggregate fiscal stance, entailing positive spill-overs for other Member States as well. Moreover, the stabilisation function would support Member States when means for stabilisation at the national level are narrowing down, but before recourse to financial assistance is needed. Figure 16 summarises the value added of a stabilisation function.

Figure 16: The value added of a stabilisation function



Source/Note: Stylised illustration prepared by authors

3.3. Stakeholders' views

There is a long history of public debate about a stabilisation function for Europe. Before the creation of the euro area, reports committed by the European Commission, namely the "Marjolin Report" and the "MacDougall Report", pointed to the need for sizeable central budgets, also to achieve fiscal stabilisation. At the launch of the euro, only limited forms of fiscal union could realistically be contemplated. Proposals emerged for mimicking the stabilisation properties of central budgets through tailored instruments (e.g. Italianer and Vanheukelen (1993). The idea went partly dormant as the euro was successfully introduced but renewed interest has come in recent years as the euro area struggled to maintain balanced fiscal policies in the crisis aftermath.

Recently, the topic of a stabilisation instrument for the euro area has garnered renewed attention. The political declarations from Member States in this debate have been mixed, with some expressing strong support in principle for a stabilisation instrument while others have shown scepticism. France has been amongst the most ambitious advocates for central fiscal capacity, with President Macron (2017) proposing a permanent, fully-fledged euro area budget that would finance common public goods include migration, defence and disruptive innovation. The national ministries of economy or finance from Italy and Spain have issued papers lining out proposals for specific funds providing macroeconomic stabilisation (see below). While views floated in the German government appear mixed, the coalition agreement includes a reference to "devoting specific budget funds to economic stabilization, social convergence and structural reform in euro zone. Those funds could form the basis for a future 'investment budget' for the

euro zone."[13] In contrast, other Member States have been more sceptical of the need for an instrument for the absorption of large economic shocks, as reflected in recent speech by Dutch Prime Minister Rutte (2018). This was mirrored when the finance ministers of six euro area Member States (Estonia, Finland, Ireland, Latvia, Lithuania, the Netherlands) plus Denmark and Sweden did not mention a central fiscal capacity in their priorities for EMU reform.

Other stakeholders than Member States have generally been supportive of the idea overall. The European Parliament's Committees on Budgets and Economic and Monetary Affairs issued a report on a budgetary capacity for the Eurozone in 2017 and the European Parliament adopted a resolution outlining a roadmap for the creation of a budgetary capacity for the Eurozone in 2017. The European Central Bank has seen a fiscal capacity as an important part of EMU deepening (Coeuré, 2016). Other European actors such as the European Economic and Social Committee[14] have emphasized the need for a fiscal union while the European Stability Mechanism has offered to support financially a macroeconomic stabilisation function if one is created.[15]

In the academic literature, there is a wide array of papers supporting the case for a stabilisation function for Europe, with some dissenters as well. Broad studies on fiscal union have put forward the notion of a common stabilisation capacity for coping with large shocks and share risks. This is in particular the case of surveys from international organisations such as the IMF and the OECD (e.g. Allard et al. (2013); Berger et al., 2018; OECD, 2018). These international institutions have made detailed proposals for a central fiscal stabilization capacity, with variants of an insurance mechanism and a common unemployment scheme. A non-exhaustive list of specific proposals from economic papers includes Dullien (2009, 2013), Enderlein et al. (2013), Pisani-Ferry et al. (2013), Delbecque (2013), Dolls et al. (2014), Drèze and Durré (2014), Lellouch and Sode (2014), Beblavy and Maselli (2014, 2015), Carnot et al. (2015, 2017), Benassy-Quéré et al. (2018), Arnold et al. (2018), Dullien et al. (2018) and Claveres and Stratsky (2018). Some academics have however also warned against the notion of a stabilisation function, or at least drawn attention to its risks (Feld and Osterloh, 2013; Hebous and Weichenrieder, 2015).

In policy circles, there is an emerging debate when it comes to more specific proposals. In October 2015, the Italian Ministry of Finance published a proposal for a European Public Unemployment Benefit system, which was updated in August 2016. Recently, the Spanish Ministry of Economy suggested a two-pronged stabilisation instrument to help countries cope with large asymmetric shocks comprised of a grant-based insurance mechanism and a loan-based scheme to support private investment. The French Treasury published an outline of a euro area investment budget (Bara et al., 2017). The European Commission outlined the need for a macroeconomic

[13] Coalition agreement (2018)
[14] Opinion: Euro area economic policy 2018, (ECO/444-EESC-2017-05444-00-00-ac-tra).
[15] K Regling,Speech at the German Economic Institute and Association of German Banks, "The ESM's role in deepening monetary union", March 2018.

stabilisation function in general in its "Reflection Paper on EMU" of May 2017 and subsequently in its Communication to the European Parliament and European Council in December 2017, where several options were considered.

Preliminary discussions among Member States at a more technical level have also reflected varied views towards the value added and form of a central fiscal capacity. First discussions at the Economic Financial Committee and among their alternates confirm varied views. Notably, besides some supportive and some sceptical Member States, there is a sizeable group of Member States who acknowledge the merit of in-depth discussions but do not yet hold a firm view. The proposal to be presented by the Commission in May could seek to bridge these gaps among Member States, although it is likely that extensive subsequent discussions will be needed in order to create a consensus on both the necessity and operational characteristics of such an instrument.

3.4. Legal basis

Article 175, paragraph 3, TFEU may be used as a legal basis for the stabilisation function on condition that it can be established that that function is necessary to strengthen the economic, social and territorial cohesion of the Union, in order to promote its overall harmonious development, in particular by reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions. This would require that the functions deploys its aim of supporting the level of public investment in specific sectors where it can be shown that maintaining that level will lead to the economic, social and territorial cohesion of the Union. Besides, to preserve the link with cohesion policy, financial consequences should ensue in case the cohesion policy objectives have not been achieved.

4. OBJECTIVES: WHAT IS TO BE ACHIEVED?

4.1. General objectives

The general objective of a stabilisation function is to raise the cohesion and resilience of the EU architecture, by supporting single Member States to withstand large shocks. By reinforcing the capacity of Member States to withstand such shocks, it should increase economic and social cohesion and convergence among Member States. Such an instrument should allow national fiscal policies to follow a more predictable course. It should complement the national fiscal stabilisers with a supra-national intervention when needed, therefore removing a major source of disruption.

4.2. Specific objectives

More specific objectives can be delineated across six dimensions:

- First, it should contribute to a **reduced amplitude and asymmetries of business cycle fluctuations** across Member States. To this end, it needs to be economically meaningful, timely and effective. It would thus address the problem of sizeable and only partially synchronised national business cycles.
- Second, it should contribute to a **conduct of fiscal policies that is more counter-cyclical**, or at least reduce the risks of pro-cyclicality. It would thus help avoiding the problems of strongly pro-cyclical consolidations and lack of building buffers in good times.
- Third, it should contribute to **smoother public investment trajectories and economic cohesion**, in particular to avoid ill-advised cutbacks in downturns with negative impact on growth. It should preserve the flow of investments supported by national budgets, ensuring stable levels of public investments, also in the event of major downturns. It would address the problem of overreliance on cuts in investment in periods of fiscal consolidation.
- Fourth, it should contribute to the **prevention of full-fledged financial market crises**, including sovereign debt crises, through the provision of support when a Member State faces difficult economic circumstances and tight financing conditions on the markets. It should however not act as crisis management tool, but rather a crisis prevention tool, making it distinct from the ESM and other EU funds for investment. A stabilisation function is an in-between instrument. In this logic, assistance from the ESM would be called upon if and after support from the stabilisation function was not sufficient.[16]
- Fifth, it should **preserve cross-country neutrality**. The scheme is not aimed to be redistributive and therefore should not lead to permanent transfers. It is also necessary to preserve incentives for sound national policies. The stabilisation function should in fact contribute to strengthening the economic governance framework, including the application of rules for prudent fiscal policies. This includes that it should be conditional on sound policies leading to convergence within the euro area.
- Sixth, **a stabilisation function should contribute to the integrity of the Union.** The setting up of a stabilisation function would send an important signal of common commitment to the deepening of EMU. It would thus address the problem encountered in the euro crisis when the currency union was questioned in its very fundamentals.

[16] In practice, in case of a very fast deterioration of public finances and significant market pressures, it is not excluded that a Member State would take recourse to an ESM programme without prior support from a stabilisation function.

A stabilisation function would find its place as a complement to existing tools in the EMU architecture:

- **It would act in conjunction with economic governance provisions, in particular the rules governing the EU fiscal framework.** To allow for an adequate fiscal policy response in large downturns, the workings of a stabilisation function and the application of the fiscal rules need to go hand in hand. As discussed above, a stabilisation function would complement existing stabilisers, in particular national fiscal policies. In deep downturns, the flexibility in the Stability and Growth Pact allows for a measured fiscal policy response that balances the primary objective of sustainable public finances with the dimension of economic stabilisation. The stabilisation function could allow a better reconciliation of the involved trade-off, by providing support in severe circumstances and possibly also incentivising sounder positions in good times.

- **A stabilisation function would operate as a crisis prevention tool, making it different from existing forms of ESM assistance granted in support of a macroeconomic adjustment programme, calling for a careful design of their interaction.** A stabilisation function would kick in case of a large shock, which is less grave than a full-blown economic crisis. Ideally, it would allow cushioning economic shocks to prevent recourse to the ESM. Still, in case financial assistance becomes necessary, the operation of a stabilisation function needs to be clearly delimited. For instance, support from a stabilisation function, which operates via the provision of favourable loans, would cease with recourse to the ESM in the event of full-blown financial assistance programmes. However, the resources that would have been transferred by the stabilisation function to the Member State would be covered by the programme envelope. By stopping the stabilisation function when financial assistance is granted, the limited resources of the stabilisation function could be used to stabilise economic activity in other Member States particularly in those hit by negative spill-overs. By contrast a stabilisation function, which operates via the provision of budget support or direct spending programmes, would be complementary to financial assistance programmes by the ESM and could thus operate in parallel and in conjunction with those.

5. WHAT ARE THE AVAILABLE POLICY OPTIONS?

Different policy options are available for a stabilisation function, which are not mutually exclusive. For the sake of simplicity, this section will focus on selected stylised designs. It will link these to the proposal put forward by the European Commission as part of the MFF proposal. All options have pros and cons *vis-à-vis* the objectives of the stabilisation function. It should be noted upfront that the active policy

options below are non-exclusive and therefore can be combined. In this section, they will be presented one by one.

On the question of the geographical scope, there are economic reasons to target a stabilisation function on the euro area but a more inclusive approach can also be defended. As lined out in the problem definition, the need for additional means of macroeconomic stabilisation is particular pressing for the euro area, as national stabilisers might become overburdened in absence of a country-specific foreign exchange rates and monetary policies. This is why the adoption of such an instrument is more especially desirable for euro area Member States, which is retained as working assumption for the geographical scope in this impact assessment. However, it can also be argued that participation in a stabilisation function would also be beneficial to non-euro area Member States. Even before adoption of the euro, the additional macroeconomic support provided by a stabilisation function could provide cushion for countries affected by large shocks. There are also political considerations to assess in choosing between a focused versus a more inclusive approach. One additional dimension to be considered is that not-yet-euro area Member States may find it joining the scheme useful when joining the ERM-II mechanism, since already at this stage their national monetary and exchange rate policies might become constraint. This makes a case for extending the stabilisation function to at least countries within ERM-II.

The categorisation of the policy options follows a taxonomy of designs. It focuses on the conceptual nature of the instrument. This distinguishes between a borrowing-lending scheme, an insurance mechanism, and a euro area budget.[17] Within each of those general options, sub-options and sub-varieties can be envisaged: sub-options pertain to issues such as calibration, triggering criteria, eligibility conditions, and use of funds. Those choices are also presented and discussed.

5.1. What is the baseline from which options are assessed?

Option 1: Status quo

The benchmark option would be to maintain the status quo. Over the past years, the EMU architecture was strengthened and further improvements are underway, as described in section 2. There could thus be a merit in further analysing the operation of these innovations, also in light of political obstacles to additional innovations.

The status quo presumes that currently pending legislation and proposals by the Commission would be adopted. Option 1 thus presumes that a backstop for the Single Resolution Fund (SRF) is being put in place. This contributes importantly to furthering the Banking Union but does not modify the analysis concerning the need for macroeconomic stabilisation mechanisms. Option 1 presumes that the different proposals

[17] A similar taxonomy was used in: "Options for a Central Fiscal Capacity in the Euro Area," Euro Area Policies, Selected Issues, IMF Country Report No. 16/220, July 2016.

for the capital markets union and the recent package on non-performing loans are in place and yield the desired risk reduction in financial markets. Furthermore, the Reform Delivery Tool is in place and creates additional incentives for needed structural reforms.

The status quo also assumes that the proposal for the creation of the EMF is adopted, leading to more transparency and accountability in its operations and decisions, but not per se entailing new instruments. It is possible that the ESM/EMF shareholders establish new lending instruments, and in particular, eventually develop a stabilisation instrument, which could be similar to the ones envisaged in the options presented subsequently. The creation of such an instrument, while envisaged, is nevertheless not enshrined in the legal provisions of the EMF proposed Regulation, and therefore is not considered as being part of the baseline scenario. However, if the ESM/EMF were in the future entrusted with such an instrument, it would be possible and desirable that it works in complement to the options described below, in particular when it comes to option 2. The possibility of complementary instruments backed by the EU budget and by the ESM/EMF jointly contributing to enhanced macroeconomic stabilisation is explicitly foreseen in European Commission (2017 D).

The status quo option would leave the euro area exposed to the risks evidenced over the past and presented in previous sections. While the euro area economy is now expanding again, the vulnerabilities exposed in sections 2-3 remain and the capacity of the euro area and Member States to smooth large macroeconomic shocks is not yet sufficient. In the presence of large shocks, even in highly integrated financial markets as achieved by the completion of Banking Union, there is a risk of a pro-cyclical drop in risk sharing in absence of central fiscal instruments (see section 2). Furthermore, the automatic stabilisers may become insufficient to ensure proper stabilisation, especially in small open economies. This may be aggravated by the inability of an overburdened monetary policy to fully respond to common negative shocks (see section 3).

The cost of non-acting could range from moderate to very large. A moderate cost of insufficient shock absorption capacities would consist in sub-optimal fiscal and public investment policies, characterised as in the past by strong pro-cyclical tendencies, notwithstanding the preventive effects of fiscal rules. This has significant costs in terms of amplifying business cycles and their consequences on unemployment, as well as compromising investments that foster long-run growth and productivity. But more dramatic costs can also ensue in the baseline under a worst case scenario which would involve a re-run of the past crisis or some variant thereof. This may eventually trigger highly disruptive crises and increase risks of fragmentation of the zone, with the ultimate risk involving a break-up with wide-ranging economic and political consequences for the EMU and EU projects.

5.2. Description of the policy options

Option 2: Borrowing and lending scheme (favourable loans)

In a borrowing lending scheme a central agent, e.g. the European Union, borrows in order to on-lend to the concerned Member State(s) at the same conditions it gets on the market. Such a mechanism provides Member States with the necessary financing to continue executing their budgets. In the Commission proposal, the support would be used to maintain adequate levels of public investment in the cohesion sectors. In this particular design, the loan is accompanied by a limited grant component in the form of an interest rate subsidy. The latter would be used to further reduce the interest rate of the back-to-back loan given to the Member State.

The size of the borrowing and lending scheme depends on the margin available under the EU budget. In a similar fashion to the EFSM, all loans issued under this option would have to be guaranteed in full by the EU's own resources. The ability to issue loans would therefore be limited to an earmarked part of the headroom between the own resources ceiling and the annual budget, the so-called margin. It would therefore depend on the possibility to raise the own resources ceiling and on arbitrages with other instruments based on the same margin. In numerical simulations, this document considers a maximum volume of outstanding loans set between EUR 30 and 100 billion (see section 6, in particular sub-section 6.1.3, for a discussion).[18]

Support is activated in case of large country-specific shocks, defined through triggering conditions. Support should be targeted to situations where Member States are especially hit by a large macroeconomic shock. To allow for timely and undisputed activation, triggering should be automatic and rapid on the basis of pre-defined parameters, as evoked in European Commission (2017 C). This document briefly review some possible triggering criteria, including those based on output gap and GDP growth, but favours and examines in more details triggering conditions based on unemployment rates (see section 6, in particular sub-section 6.1).

A double condition on unemployment rates appears as a pragmatic option for such an activation trigger. There is no perfect design or parametrisation of an activation trigger, as the notion of an automatic criterion inevitably bears a degree of simplicity and some imperfections. However, a pragmatic option, retained in the Commission proposal, is a "double condition" on unemployment rates: it links the activation of the stabilisation support to a condition involving both the level of the national unemployment rate (compared to its past average) and the change in unemployment (compared to a certain threshold). While not perfect, such a condition appears robust to characterise the existence of large asymmetric shock and avoid significant 'mistakes'. Section 6 will provide additional reflections on this matter, including simulations confirming the adequacy of activation provided by the double condition.

[18] Approximately 0.3% and 1% of GDP respectively.

To ensure that the availability of support through the stabilisation function does not reduce incentives for prudent fiscal policy, strict eligibility criteria are needed. As highlighted in section 3, prudent national fiscal policies remain primordial for an effective fiscal policy response in case of large downturns. That is why conditions of compliance with the EU surveillance framework appear needed as an eligibility criterion. Given that option 2 entails mainly support in the form of loans which are legally required to be repaid (as opposed to outright transfers, as would materialise notably in option 3), the set of eligibility conditions could nevertheless be relatively focused.

A possibility to consider would be inspired by conditions employed in the framework for macroeconomic conditionality. Those require that:

- Concerning fiscal surveillance, Member States in excessive deficit procedures and in significant deviation procedures need to deliver effective actions.
- Concerning the Macroeconomic Imbalances Procedure, Member States shall not repeatedly fail to deliver sufficient corrective actions plans or fail to take recommended corrective action.

Therefore, under these conditions Member States could for instance be in an excessive deficit procedure and still benefit from the stabilisation function, as long as they meet the requirements from EDP recommendations. Such an approach avoids that Member States are 'cut off' from the instrument at the very moment when they may need it the most.

In this approach, it is natural that the degree of support, as materialised by the amount of lending granted, takes into account the size of the economic shock. Once the triggering conditions for the stabilisation function have been met, the amount of support given to a Member State could be determined as a function of an overall envelope in conjunction with the severity of the shock. Box 1 provides a detailed description. The use of an explicit formula for establishing the degree of support is consistent with an instrument functioning in a quasi-automatic and predictable manner. Timeliness and predictability are a key elements to ensure that support is available before a full blown crisis could emerge. Automaticity also carries a signalling effect towards financial markets, which can positively affect the borrowing conditions of concerned Member States beyond the direct effect of the scheme.

The procedure for granting loans would be quasi-automatic. Once triggering conditions and eligibility criteria are met, the concerned Member State would know that it has access to the facility, should it wish so. A Member State would remain free to tap into the lending made available by the stabilisation function, i.e. the procedure for granting lending support would have to be initiated by the concerned Member State. Once this is the case however, the support should come rapidly and in a quasi-automatic manner. This is consistent with a timely stabilisation support and the objective of preventing a difficult economic situation from getting worse. In this spirit, it would be logical that once support is requested and again, assuming that the triggering and eligibility criteria are met, the decision and implementation of support is left to the European Commission, without involving a decision from the Council.

Box 1: Determination of size of the loan support

The maximum envelope for the loan support would be determined by:

$$I_S = \alpha \frac{Average\ Public\ Investment_{\text{EU}}}{GDP_{\text{EU}}} \times GDP_{\text{MS}}$$

The main component is the ratio of eligible public investment to GDP in the EU at current prices and on average over a period of certain number of years (e.g. 5 years) before the request of the support: $\frac{Average\ Public\ Investment_{EU}}{GDP_{EU}}$. This ratio is calibrated by the GDP of the Member State concerned (GDP_{MS} in current prices and on average over a period of five years before the request for support). The underlying logic is that an adequate level of public investment should be taken as a reference, while ensuring equal treatment among Member States.[19] The amount of the public investment level supported by the stabilisation function is further scaled by a factor α. This factor reflects the maximum amount which can be made available with the backing of the EU budget. This must be set taking into account the budget constraint but also the probability and severity of shocks which could activate the stabilisation function in the future. The latter two are estimated in reference to the past activation periods (see subsection 6.1.3 on the numerical calibration of the parameters).

The actual amount of the loan to be granted would be a function of the severity of the shock. It captures the increase of the national unemployment rate above the threshold that triggered the activation of the stabilisation function. The formula below is applied:

$$S = \beta \times I_S \times (Increase\ in\ unemployment_{\text{MS}} - threshold\ level)$$
$$subject\ to\ S \leq I_S$$

Where β is a sensitivity parameter to the severity of the shock. The size of support is capped by the maximum available level for a given Member State I_S determined in the previous step.

In specific circumstances, the size of the loan can be topped up. In addition to the automatic component, the Commission may decide, under specific circumstances to increase the loan up to the maximum support I_s. The Commission would take into account extraordinary factors including the increase in the national unemployment rate of the Member State concerned.

To avoid budget overruns, two additional lines of defence should be introduced. At the aggregate level, **it** could be provisioned that the outstanding amount of loans should not exceed a certain ceiling. In addition, the support to a member state could be capped to avoid exhausting the remaining resources under this ceiling. Although such provision may be required for budget certainty, to ensure that the loans mechanism plays in full, it is important that they are binding only in exceptional and rare cases. For this reason, the parametrisation of the support must be carefully calibrated.

This approach to decision-making would nevertheless differ from the procedure in place for other instruments. In the case of financial assistance programmes such as those granted under the EFSM, there is considerably more discretion in the decision-making process, and the Council must make an explicit decision on a case by case basis. However, these other instruments are usually related to a process of economic policy coordination in the context of a macroeconomic adjustment programme and financing

[19] An approach based on national public investment activity would entail that Member States with higher levels of public investment would benefit more, raising questions of equal treatment.

needs are determined on a case-by-case basis. A heavy decision making process seems therefore justified in these cases, while the stabilisation function would benefit from having a light procedure given the quasi-automaticity of the formula.

To make the lending more attractive and effective, a grant component could be used in order to *de facto* subsidize the interest rate charged on the back-to-back loans. The purpose of such grants is two-fold: first, it can provide additional support to a Member State undergoing an adverse economic event and facing particularly tight financing conditions on the market without yet being in a financial assistance context. Second, it would make the stabilisation function more attractive, also for Member States benefiting from low interest rates on the market. A simple approach would be to proportion the amount of grants to the interest costs pertaining to the back-to-back loan that the Member State is availing of. The overall size and cost of the grant component would therefore be limited and predictable. First, the interest subsidy could at most compensate for the interest expenditure linked to individual loans. Second, the interest subsidy would be proportional to the overall loan volumes.

This grant component could a priori be financed with different means, including from the EU budget and/or from member states' contributions. As regards the financing of the grant component, two options are possible. One possibility would be for the EU budget to directly provide the interest subsidy. This would require a line in the EU budget under the payments ceiling. That approach would have the advantage of securing the interest subsidy as part of the EU budget, consistent with the provision of lending also backed by the EU budget. A possible complication may nevertheless arise if the geographical scope of the stabilisation function focuses on a subset of EU Member States (such as the euro area). Still, amounts would be fairly small and this risk could be attenuated by a careful design of the contributions to such financing. As another (non-exclusive) possibility, Member States could voluntarily agree to pool national contributions in order to allow for the financing of the interest subsidy. Irrespective of the exact source of financing, the resources for a limited grant component could be pooled in a dedicated fund.

Option 3: Insurance mechanism

An insurance mechanism would provide sizeable fiscal policy support to Member States in the form of grants to cushion large shocks. Conceptually, it is comparable to a rainy day fund, with or without the possibility of borrowing. Similar to an insurance, it would provide pay-outs to Member States in pre-defined adverse circumstances. In return, regular contributions or an own resource would be needed to balance the system in the long run. The pay-outs could take the form of budget support or may be tied to critical public expenditure, such as public investments or unemployment benefits. Critically, an insurance mechanism would need to accumulate funds to be disbursed in case of large shocks. At this stage, the Commission has not adopted a specific proposal, but has stated the intention to complement option 2 with an insurance mechanism. A stylised vision of an insurance mechanism is presented below, elaborating and discussing selected design choices and sub-options.

Similar to option 2, the triggering and size of support in option 3 could be tied to a double condition on unemployment rates. Also in case of an insurance mechanism the double condition on unemployment would allow for a pragmatic measure of large shocks. Similarly, the size of support would be tied to the size of the shock, e.g. the increase in unemployment over and above a certain threshold increase, to ensure the most effective distribution of means.

To ensure a balanced position a regular flow of resources is needed. They could take the form of contributions from Member States or of a new own resource. Simulations suggest that already a small, regular stream of resources would allow for disbursements of sizeable support in the downturn. Resources could take the form of regular contributions or could be scaled as a function of the business cycle and past access to the insurance funds (in the logic of insurance premia). The latter features may be important to ensure cross-country neutrality over time.

The possible addition of a borrowing capacity has important repercussions on the functioning and impact of an insurance mechanism. In the absence of a borrowing capacity, often referred to as a rainy day fund sensu stricto, an insurance mechanism could only dispense support up to accumulated contributions. In practice, this could entail that support runs dry during the downturn and/or create problems with regards to the equal treatment of Member States due to the sequencing of support. A limited borrowing capacity[20] would solve these risks and allow for smaller accumulation of funds ex ante. Nonetheless, it may complicate the political acceptability of such a mechanism.

Option 4: A euro area budget

A common budget for the euro area would arguably be the most ambitious design for a stabilisation function. The proposal was brought up several times in the past years and has gained renewed attention. President Macron (2017) called for a euro area budget for common investments and to ensure stabilisation in the event of economic shocks.[21] In practice, a common budget would involve permanent own resources on the revenue side and permanent spending functions on the expenditure side.

In this case, the stabilisation effect comes from the cyclicality of the revenues or expenditures comprising the budget. In option 2 and 3, the stabilisation properties of the instruments are generated by their activation and dis-activation depending on economic shocks. A common budget would not primarily target economic stabilisation, but rather the provision of European public goods. Still, reliance on cyclical revenues (e.g. corporate income tax) and countercyclical spending (e.g. unemployment benefits) contribute to macroeconomic stabilisation via automatic stabilisers at the EU level. In

[20] Borrowing against future incomes of the fund while maintaining solvability.
[21] Macron, "Initiative pour l'Europe - Discours d'Emmanuel Macron pour une Europe souveraine, unie, démocratique": http://www.elysee.fr/declarations/article/initiative-pour-l-europe-discours-d-emmanuel-macron-pour-une-europe-souveraine-unie-democratique/

addition, one could foresee discretionary elements which could further foster stabilisation properties.

A combination of options

A combination mixing the above approaches is conceivable. As will emerge from the assessments of the options (see notably the conclusions of sub-section 6.5), the options can be seen as fulfilling the objectives in a complementary manner. It is therefore conceivable that they co-exist in a long-term perspective. It is also possible to conceive a step-based approach to the stabilisation function.

As a first step of a phased approach, one could envisage a loans facility, together with limited grants that would allow favourable interest rates, in order to support public investment. A Member State facing a large asymmetric shock would automatically be entitled to benefit from available financing provided through the stabilisation function. The support would mostly rely on loans, to be supplemented with a limited grant support. The EU budget would provide back-to-back loans. Grants from the EU budget would be used to achieve particularly favourable interest rates to the benefit of Member States. Such an approach was discussed in European Commission (2017 D) and corresponds to option 2.

In a later, second step, one could envisage the creation of an insurance mechanism. This suggestion was proposed by European Commission (2017 D) as a second step to be implemented in the future when conditions for it are met. This corresponds broadly to option 3.

6. IMPACT EVALUATION OF THE OPTIONS[22]

This section analyses qualitatively and quantitatively the value added of the various options (laid out in section 5) in reaching the objectives (exposed in section 4). Option 1 will serve as benchmark against which proposals are assessed. The section lays out the main channels through which the different options would contribute to strengthening the resilience of the European economies and to the achievement of the specific objectives. As appropriate, quantitative methods, such as simulations and regressive analysis, are used to substantiate the qualitative evaluation.

This section evaluates the choices to be made and the relevance of the different options along three dimensions:

- The selection of the activation trigger, which needs to be timely. This is a common issue for option 2 and option 3. Therefore, the discussion of the

[22] This regroups the questions: What are the impacts of the policy options? How do the options compare? What are the preferred options?

activation trigger will be made irrespective of that option. In the case of a full budget (option 4), there is no need for a trigger.

- The stabilisation power. This is the effectiveness of the scheme in absorbing asymmetric shocks, allowing the conduct of smoother fiscal policies, and preserving public investments.
- The cross-country neutrality. This relates in particular to the absence of permanent transfers, and means to secure that objective.

6.1. Selection of the activation trigger

An activation trigger is a crucial element in option 2 and 3. Its design and calibration are discussed in detail in this sub-section. The Commission Communication on new budgetary instruments for the euro area calls for a stabilisation function that is *'timely and effective'*. For eligible countries, "*triggering should be activated automatically and rapidly on the basis of pre-defined parameters (for example, based on a large temporary negative deviation from their unemployment or investment trend)*". The objective is to complement the national stabilisers in the event of "*large asymmetric shocks*".

6.1.1. Choice of trigger variable

The triggering criterion should be based on the evidence of large cyclical shocks affecting the concerned Member State(s).

The possible options are:

i. **The output gap**. In theory, the output gap is the most straightforward indicator of cyclical developments, but it faces implementation issues.[23] In practice the output gap is 'unobservable' and its estimation reflects many assumptions. Given the possible controversies over measurement and the large revisions of the output gap over time, it is probably not the best option to base the activation of a macroeconomic stabilisation function on.

ii. **GDP growth**. Two sub-options:

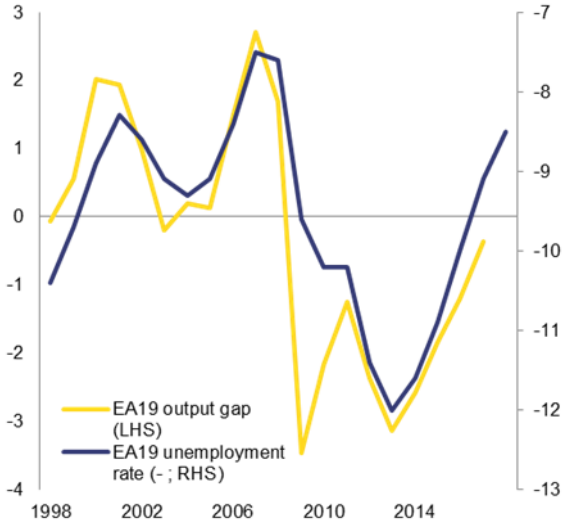
- Recession (negative growth) as the trigger. This option is limited by the large differences between Member States regarding their potential growth (Malta: 5.6%; Ireland: 5.1%; Greece: -0.9%; Italy: 0.2% - figures for 2017 from Commission autumn 2017 forecast). Using recession as a criterion would massively skew the scheme in favour of countries with the lowest potential growth.

[23] The gap between actual GDP and potential GDP. This gap reflects mainly cyclical demand shocks, such as a fall in export markets. The stabilisation function aims at smoothing out the effects of such large shocks, without however providing permanent support and substituting for needed adjustments.

- GDP growth compared to trend growth. To correct for the limitation of the above option, GDP growth could be compared to its trend. This indicator is therefore equal to the change in the output gap. It is therefore exposed to the problem of unobservable variables (although with lesser uncertainty than on the level of the output gap). In addition, there would be situations where the sole information from the change in the output gap is too limited: for example one may not wish to support a country with a *positive* level output gap just because the output gap is declining.

iii. An unemployment rate trigger. The unemployment rate has several valuable properties: it is well-known, harmonised, available at high frequency with short delays, and subject to limited revisions. It is an excellent indicator of the business cycle, purging some of the short-term noise of GDP (Figure 17). It reacts however with some lag to the business cycle. This may not be such an issue for a stabilisation function focused on large shocks. Moreover the effects of shocks on public finances also tend to lag the growth cycle and actually to more or less match the unemployment cycle. In addition, it is important for the credibility of the system that in the initial phase of the shock national automatic stabilisers and policies are called to operate. Thereby the lag reflecting the use of unemployment level until the stabilisation function is activated, would not undermine the utility of the latter. A more significant potential limitation of the unemployment rate, however, is that its sensitivity to cyclical shocks may differ across Member States, for example because some economies have more developed working-time arrangements in downturns.[24] Another technical consideration is the risk that the assessment of cyclical developments are affected by structural improvements in labour markets, but such effects appear limited empirically.

Figure 17: Cyclical indicators, the output gap and the unemployment rate



Source/note: Eurostat, and AMECO. The opposite of the unemployment rate (in blue) replicates closely the fluctuations of the output gap (in yellow).

iv. Discretionary approach based on a set of indicators. A fourth option would be based on a set of indicators to identify the presence of a large cyclical disturbance for the Member State. The indicators can include notably business surveys, GDP, the labour market and inflation. It is however likely that such an approach based on a range of indicators would have to involve a degree of judgment (i.e., not just reflect a 'pre-defined' algorithm, as the latter would be very challenging to write down to cover all possible

[24] Working hours could be a superior indicator conceptually, but their harmonized measurement is much less assured than for unemployment.

situations). This may be the most encompassing avenue from an economic viewpoint, but it conflicts with the automatic nature of the triggering.

Overall, an unemployment based trigger appears as a viable pragmatic option for the activation of support. This line of reasoning favouring the unemployment rate as the indicator to trigger the mechanism is found in several recent studies (see Table 1) as well as in the European Fiscal Board's Annual Report (2017). Across the literature, broad support has emerged to favour the unemployment rate as basis for the trigger indicator.

6.1.2. Choice of trigger design and parametrisation

A stabilisation function for the euro area should cushion *large asymmetric shocks only*, calling for prudent activation and limiting the risk of questionable support. As highlighted in the 6 December Package, national fiscal policies, monetary policy and structural reforms remain the core levers to ensure reliance in the wake of downturns. The stabilisation function is supposed to complement these in case of truly large asymmetric shocks, calling for a calibration which places much emphasis on avoiding unduly support. Such a restrictive approach appears essential to prevent moral hazard and permanent transfers. Nonetheless, it would entail an opportunity cost in the sense of sometimes not providing support even though a case could be made for it.

The technical discussions around an unemployment-based activation trigger focus on two designs: a simple trigger and a double trigger (Table 1). Simple triggers can refer to either the level or the change in unemployment. Arnold et al. (2018) and Dullien et al. (2017) propose the mechanism to be triggered if the level of unemployment rates is above previous years averages. A group of French-German economists (Bénassy-Quéré et al., 2018) propose to trigger the mechanism if the unemployment rate increases significantly. In either cases, thresholds can be introduced to react only to large deviations. Both concepts have merits, such as a higher extent of simplicity. A double trigger, in contrast, combines both a condition on the level and on the change in unemployment. It has been proposed by Carnot et al (2017) and Claveres and Stráský (2018).

Table 1: Comparison of activation triggers proposed in the literature

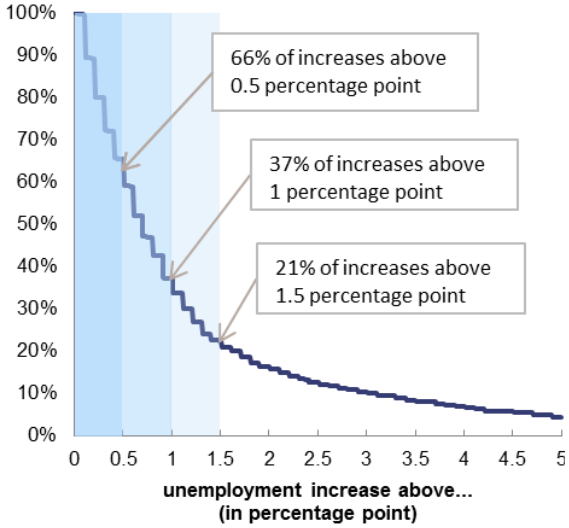
Carnot et al. (2017)	Dullien et al. (2017)	Arnold et al. (2018)	Claveres and Stráský (2018)	Bénassy-Quéré et al. (2018)
Double condition: - unemployment level above the 10-15 years moving average - unemployment rising, possibly above a threshold	Level of unemployment rate exceeding average level of past 5 years, by 0.2 pp for national compartment, by 2.0 pp for stormy day fund	Level of unemployment rate above 7 year moving average (in pp or in %)	Double condition: - unemployment level above the 10 year moving average - unemployment rising	Change in unemployment rate, employment or wage bill above/below a threshold (e.g. 2 pp for unemployment)

The specific approach that is favoured here relies on a condition involving both the level and the rate of change of the national unemployment rate. Specifically, in light of the simulations presented in what follows, the stabilisation support could be triggered based on the observation of both:

- An unemployment rate above the historic average of the country, for example its average over the past 10-15 years. This condition is needed to put countries on par, irrespective of their permanent (structural) level of unemployment;
- An unemployment rate that is increasing over the past year. To restrict the activation conditions further, it is considered that the increase should go beyond a certain threshold, specifically 0.5-1.5 percentage point, with a value of 1.0 percentage point taken as the central assumption. The amount of support should be linked to the increase in the unemployment rate (beyond the threshold if there is a threshold).

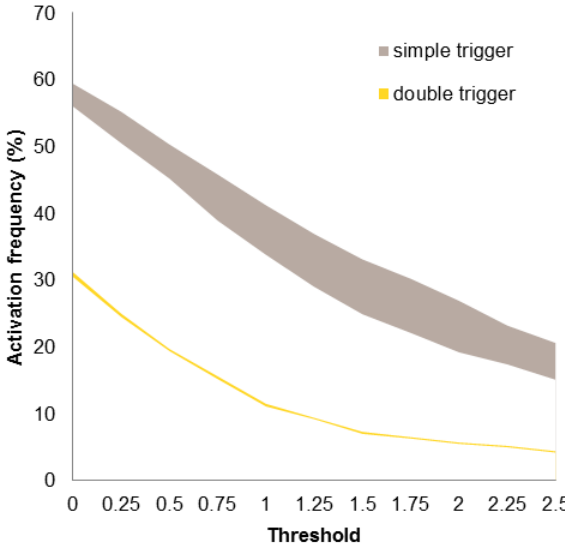
Such a double condition, especially when incorporating a threshold, ensures with a great degree of assurance that the Member State is indeed confronted with a large shock with a temporary and country specific element. With a threshold set between 0.5 and 1.5 percentage point (i.e. increases below this value does not trigger the mechanism), between one third and four fifth of the unemployment increases would be entirely left to the responsibility of the national stabilizers (Figure 18). Based on past experience, for a threshold of 1 percentage point, the frequency of activation would be slightly above 10% (i.e. once per decade for a country) (Figure 19).

Figure 18: Proportion of unemployment increases above a certain value



Source: Eurostat, authors' calculations based on year-on-year increases in quarterly unemployment rates since 1985. Available data may start later for some Member States.

Figure 19: Frequency of activation depending on the threshold

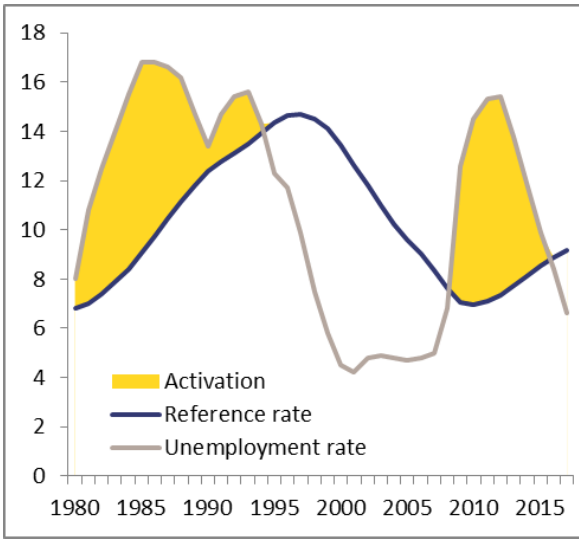


Source/Note: Eurostat, authors' calculations. Based on simulation for the EA19 since 1985. Coloured areas correspond to the range of values for reference rates computed over10 to 15 years. This dimension only has a secondary effect on the frequency of activation especially with the double trigger.

The double condition allows for support to be targeted at times of sizeable economic worsening. Figure 20 and Figure 21 illustrates the application of the simple trigger and the double trigger on the unemployment rate. The double trigger targets more specifically the situations where unemployment is rising, i.e. times of economic worsening. In comparison, a simple trigger offers support also when the recovery is already on track. For both kinds of approaches (single or double trigger), a threshold can allow support to be less often distributed (Figure 20.b. and Figure 21.b.). This option is not very attractive for the simple trigger as it mostly delays the support, but for the double trigger it allows not to provide support when the economic shock is deemed minor.

Figure 20: Illustration of activation of support with simple trigger (Irish case)

a. no threshold



b. threshold 1 pp

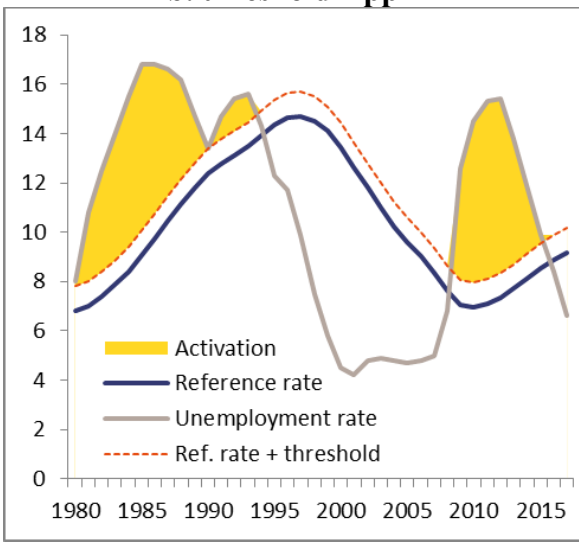
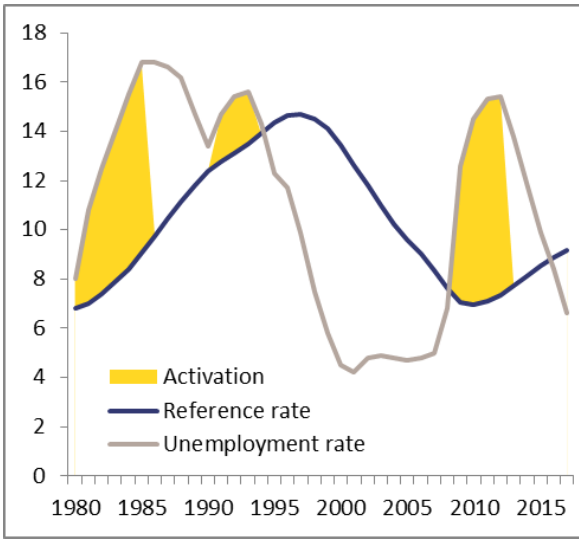
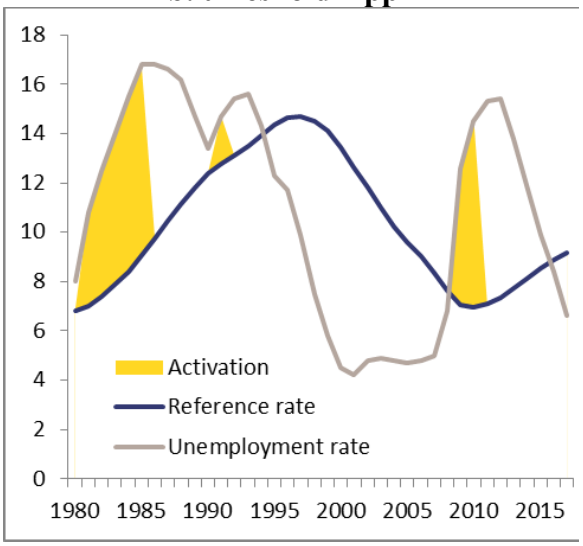


Figure 21: Illustration of activation of support with double trigger (Irish case)

a. no threshold



b. threshold 1 pp



Source/Note: European Commission 2017 autumn forecast, authors' calculations
reference rate = 15 year moving average of the unemployment rate

Simulations for the EA19 since the mid-nineties confirm that the double trigger is more targeted than the simple one. In particular, during the period 2009-2014 the double trigger would have induced two peaks of support for 80% and 40% of the Member States (Figure 22) which weighted for a similar fraction of the euro area GDP (Figure 23). On average over the period, support would have been granted for almost 12% of the cases with the double trigger (more than 34% with the simple trigger). This frequency of activation depends largely on the chosen threshold: a higher threshold leaves the adjustment to larger shocks under the sole responsibility of Member States and therefore provides support less often (Figure 19). Without threshold, the mechanism proposed would provide support in up to 30% of the cases while with a threshold of 2.5

percentage points on the annual increase in unemployment this frequency would fall below 5%.

Figure 22: Share of EA19 countries which would have been under support

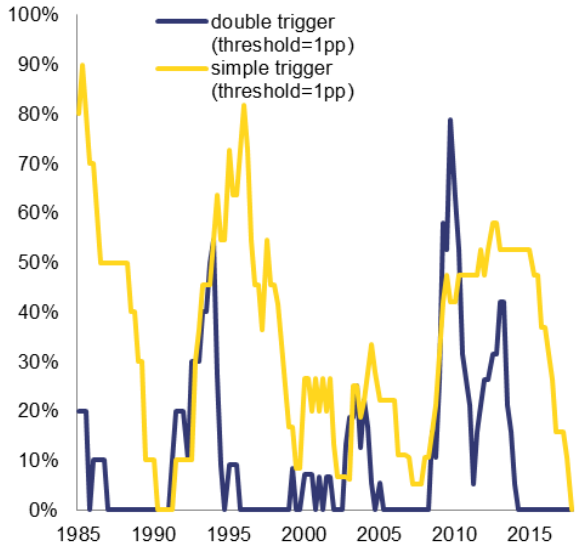
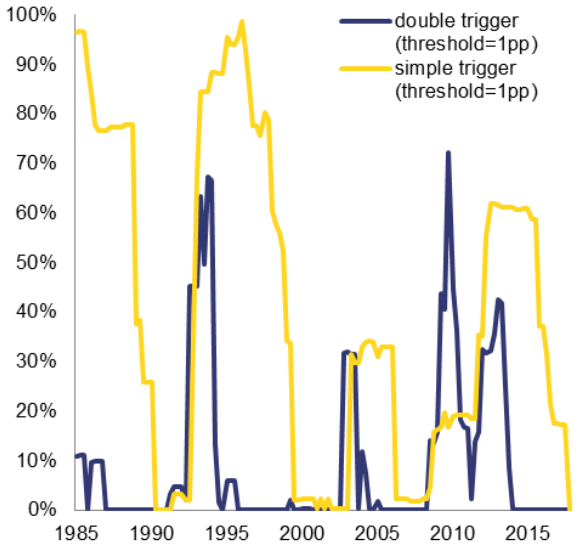


Figure 23: Share of EA19 countries which would have been under support (GDP weighted)



Source/Note: Eurostat, authors' calculations
Reference rate computed as the average over the past 10 years.

6.1.3. The total support envelope for option 2

The parameterisation of the amount of support entails a trade-off between the available budgetary means and the macroeconomic meaningfulness of the support. Technically, the choice of the amount of lending available for a Member State fulfilling the conditions is reflected in the parameters 'alpha' and 'beta' in the formula for granting support (see Box 1 above):

- As lending would be backed by the EU budget, the setting of those parameters has to be broadly proportionate to means made available for the purpose in the EU budget. Specifically, the ability to issue loans under option 2 is limited to an earmarked part of the headroom between the own resources ceiling and the annual budget, the so-called margin. This limitation corresponds to a prudent strategy by which the EU budget can guaranty in full all emitted loans.
- At the same time, the amounts made available must be of a meaningful macroeconomic size in comparison with the borrowing needs of Member States, particularly with regard to the financing of their investment expenditures. While the shares of public investment of GDP vary across Member States within a range of 2-4 percent, it can be considered that meaningful support in the event of a severe shock should be sufficient to fund a significant fraction of that total. In practice, it can be considered that the availability of financing support should

reach at minimum a few tenths of percentage points of GDP for large shocks. More significant support would be of the order of 1 percent of GDP or even above in the event of very large shocks.

Using backward simulations, it is possible to give a conservative estimation of the maximum support affordable per Member State, given an overall ceiling for the total lending capacity of the stabilisation function. This estimation is such that over the past periods of activation of the scheme (and in particular the recent crisis), it would have been possible to provide all the loans due without breaching a given overall total ceiling. To provide an illustrative range, two values for such an overall ceiling are considered, specifically EUR 30 billion and EUR 100 billion (i.e., between 0.3-0.9 percent of euro area GDP). For these values of the total lending capacity of the instrument, the maximum support affordable under option 2 for a Member States in a given year ranges between 0.2% and 1.3% of the Member State's annual GDP, depending on the choice of total ceiling and other parameter choices (Table 2 and Table 3).

Overall, a total ceiling for the lending capacity in the lower range envisaged (30 billion) allows supporting a non-negligible but limited fraction of public investment, while a higher overall ceiling (100 billion) allows supporting a proportionally higher fraction of public investment:

- For an envelope of EUR 30 billion (0.28% of euro area GDP), simulations run for the period 1985-2017 show that the maximum support which could have been provided on an annual basis ranges from 0.21% to 0.40% of the Member State's average GDP over the previous five years in current prices (Table 2). This corresponds to a value for the parameter α ranging between 7% and 14%. It corresponds for the parameter β to a value ranging from 0.5 to 2.
- For the higher total envelope of EUR 100 billion, the maximum support and the parameter α must be scaled up while the parameter β is unchanged. The maximum support then reaches up to 1% percent of national GDP or even a bit more, depending on the other parameterising choices.

Table 2: (Option 2) Affordable maximum support (on an annual basis, in percent of national GDP) depending on the plausible range of parameters and for an envelope of 0.28% of EA GDP (EUR 30 billion)

Threshold / Severe shock	0.5p.p.	1 p.p.	1.5p.p.
	10 years		
2 p.p.	0.21	0.26	0.32
2.5 p.p.	0.24	0.30	0.38
	15 years		
2 p.p.	0.24	0.29	0.35
2.5 p.p.	0.27	0.34	0.40

Table 3: (Option 2) Affordable maximum support (on an annual basis, in percent of national GDP) depending on the plausible range of parameters and for an envelope of 0.93% of EA GDP (EUR 100 billion)

Threshold / Severe shock	0.5p.p.	1 p.p.	1.5p.p.
	10 years		
2 p.p.	0.68	0.85	1.05
2.5 p.p.	0.80	1.00	1.26
	15 years		
2 p.p.	0.80	0.97	1.15
2.5 p.p.	0.91	1.12	1.35

Source: Author's calculations
Reported numbers correspond to the maximum support, which can be provided as a percentage of the Member State's GDP if it receives a maximum support for the quarters of the same year.

Concerning the setting of other parameters, the maximum support available to a Member State is higher when (see Tables 2-3):

- the threshold on the increase in unemployment for triggering support is higher. The maximum support is highest when the threshold is set at a 1.5 percentage point increase in unemployment, and lowest for a threshold of 0.5 percentage point increase. A value of 1.0 percentage point may be a good compromise between maximising support on very large shocks and timely activation.
- the reference period for calculating average past unemployment is longer (15 years versus 10 years);
- the amount of support is modulated as function of the severity of the shock (i.e., is a proportion of the increase in unemployment rate beyond the threshold point, as in the formula of Box 1, and as opposed to a fixed amount). This latter point is further explained and documented below (see sub-section 6.1.4).

The grant component associated to the loans would only be a fraction of the loans issued. To make the loans more attractive, it can be envisaged as noted above that the interest rate cost would be (partially) covered by a grant. The estimation of the needed resources for that purpose is highly uncertain as it depends on the degree of effective take-up of the available loans, as well as the implied degree of subsidisation of the financing. An upper bound can be gauged by assuming that the full lending capacity of the scheme (EUR 30-100 billion) is being mobilised, with a significant interest subsidy that can illustratively be set at 200 basis points.[25]

[25] This assumption can be rationalised by assuming that the borrowing rate of instruments backed by the EU budget is likely to revert up from its low level to at least 2% in the medium-term. A 200 basis points subsidy can therefore allow the provision of lending which in the best of case would effectively be interest free.

Under these assumptions, the amounts corresponding to the 'grant component' of the scheme could reach a maximum of between EUR 0.6-2.0 billion per year. From a macroeconomic viewpoint, this is relatively small, as it corresponds to between 0.006-0.02 percent of euro area GDP.

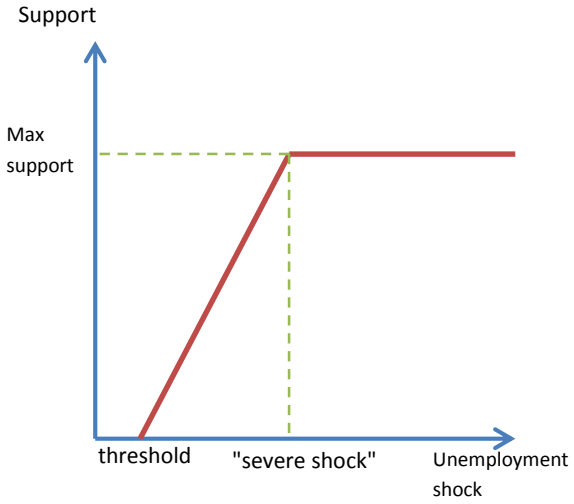
6.1.4. A modulated amount of loans can provide larger and more targeted support

When the mechanism is triggered, the support can either be a fixed amount or modulated depending on the severity of the shock. For the loan mechanism (option 2), both possibilities have pros and cons:

- An approach with a fixed amount is simpler but its main drawback is to treat quite differently (no support vs. full support) two countries in almost identical situations (just below and just above the triggers). However, as Member States may use only partially the loan facility, some modulation may already be at play even with the option of a fixed amount. This option may in addition be attractive as it allows to control the budget envelope of the mechanism.

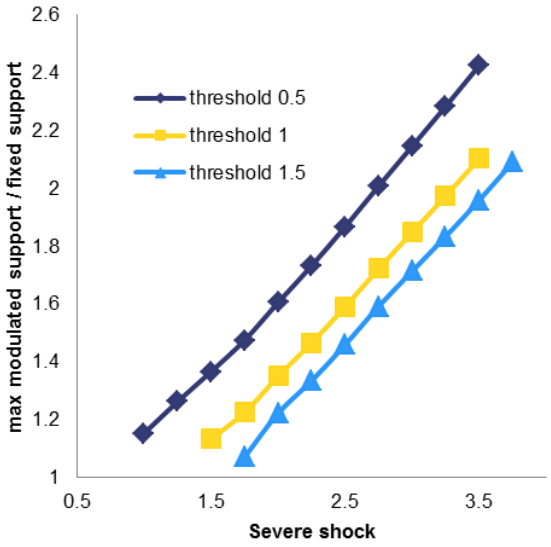
- The modulated amount option is not subject to the unequal treatment drawback and can avoid budget slippages by setting a maximum support, as proposed by the Commission (Figure 24). In addition, this option, for a given budget, will have a larger macroeconomic impact in cases of severe shocks.

Figure 24: Commission proposal for a support modulated by the severity of the shock to the unemployment rate



Source/Note: Authors' illustration
No support is available for an increase in unemployment below the threshold. The amount of support is proportional to the increase in unemployment beyond the threshold. It reaches a maximum for a "severe shock".

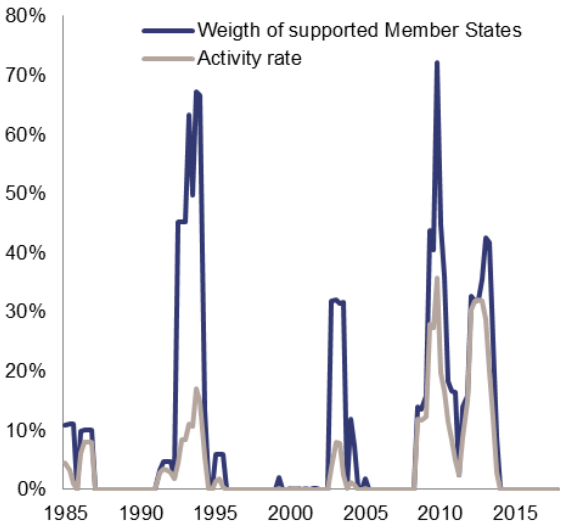
Figure 25: Maximum support which can be provided in the case of modulated amounts over the fixed amount affordable with the same envelope



Source/Note: Eurostat, authors' calculations Based on simulation for the EA19 since 1985. The figure compares for a fixed budget the maximum support which can be provided in the case of modulated amounts and in the case of fixed amounts

The balance of arguments is yet more clearly in favour of a modulation of support. For the same total available envelope, a modulated amount option can provide larger support to countries under a severe downturn. Simulations on the period 1985 to 2017 show that modulating the support allows to provide much higher support in cases of severe shocks for the same total envelope (with a threshold of 0.5 to 1.5 percentage point and a severe shock set to be above 2 to 2.5 percentage points, the support provided can be from 1.2 times as high to 1.9 times as high, Figure 25).[26]

Figure 26: GDP weight of supported Member States and effective activity rate of the stabilisation function



Source/Note: Eurostat, authors' calculations. The share of supported GDP correspond to the one reported in Figure 23. Activity measures the share of the maximum annual loan support used in the euro area.
Reference rate for the unemployment level is computed as a 10 year average, threshold is set to 1 percentage point and maximum support is provided above 2.25 pp. increase in the unemployment rate.

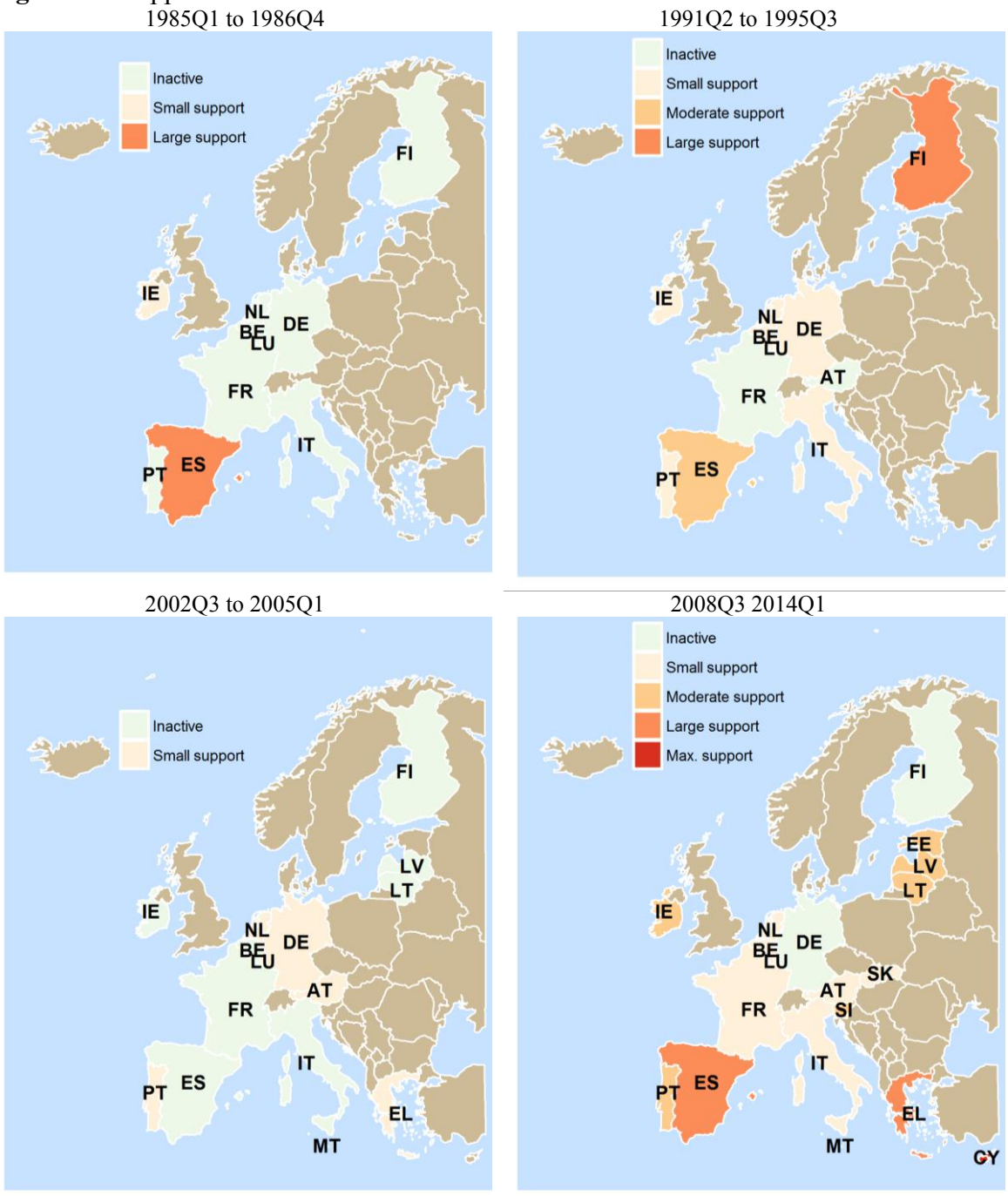
Taking into account the modulation of the support, the stress put on the mechanism would be lower at each point in time. Figure 26 recalls that Member States weighting up to 70% of the EA GDP would have been under support at the peak of the crisis. Modulating the support based on the severity of the shocks affecting each Member States however limits the "activity rate" of the stabilisation function to 30%, i.e. only a fraction of the maximum support would have been effectively made available.

Under the assumption that the recent crisis was exceptional in magnitude and duration, a less conservative calibration could target larger maximum support. Over the past four episodes of large downturns in the euro area, the recent crisis and its double dip would have stressed the stabilisation function the most, leading to the highest activity compared to maximum available loan support (see Figure 26). Cumulated support would have been much smaller in the nineties and the early 2000s, suggesting that a more generous calibration would be possible if these were considered representative. The comparison between the first episode of stress and the last one exemplifies also the different scope of support. In both cases the crisis was broad-based and affected large Member States (Figure 23), yet the crisis was less severe in the nineties which explains why the provided support would have peaked at a much lower activity rate.

[26] The modulation of support with the severity of shocks is even more warranted in the case of option 3 (the insurance mechanism) than for option 2. Indeed, the modulation is more in line with the spirit of insurance and considerations of equal treatment are more prominent in case of payouts/grants. This assessment is confirmed by the literature on insurance mechanisms, which exclusively considers amounts modulated with the severity of shocks. See Arnold et al. (2018,) Claveres and Stráský (2018), Bénassy-Quéré et al. (2018), Carnot et al. (2017).

6.1.5. Simulation of past functioning

Figure 27: Support simulations over between 1985 and 2017



Source/Note: Eurostat, authors' calculations
Based on simulation for the EA19 since 1985. "Inactive" means that the double trigger condition was not fulfilled in any of the quarters by the Member State. A "small", "moderate", "large" and "maximum" support corresponds to respectively less than 25%, 50% and 75% and more than 75% of the maximum support on average over the period. In practice no Member State would have received on average more than 75% of the maximum support (except Cyprus for which simulations are possible only since 2012), but some would have received this maximum over a fraction of the period.

The stabilisation function would have been active in four periods since 1985. The first period (1985Q1 and 1986Q4) corresponds to the end of a recession, which started before the beginning of our sample. The second period corresponds to a recession in the

early to mid-nineties (1991Q2 and 1995Q3), the third to the aftermath of the burst of the dotcom bubble (2002Q3 and 2005Q1) and finally to the recent crisis (2008Q3 2014Q1) characterized in Europe by a double dip. During each of these periods, some countries would have received some support from the stabilisation function. Outside these periods none of the Member States in the sample would have been offered support.[27]

Across the four periods of activity, different member states would have benefited to a different degree from support (Figure 27). The distribution of support reflects both the intensity of the shock and its asymmetry. In the mid-nineties, Finland and Spain would have benefited the most from support while many other Member States, less impacted, would have received a small support. In the early 2000s, the euro area underwent a moderate downturn and Portugal, Greece, Germany and its neighbours would have benefited from the stabilisation function. In the recent crisis, more countries are included in the sample. Simulations highlight the most crisis hit countries (Cyprus, Greece, Italy, Spain, Portugal, Ireland, but also the three Baltics) as the main beneficiaries of support.

6.1.6. The financial calibration of the insurance mechanism

For the operation of option 3, a regular flow of resources is needed to ensure a balanced position. They could take the form of contributions from Member States or of a new own resource. For the sake of simplicity, this Impact Assessment focuses on contributions from Member States, in line with the literature (Table 4). Such contributions can be a fixed fraction of the country's GDP (Arnold et al., 2018, Dullien et al., 2017). It is also possible to modulate the contribution based on the volatility of the Member States, i.e. on the probability that it requires support (Bénassy-Quéré et al., 2018), or on the past use of the insurance (a form of experience rating, Claveres and Stráský, 2018, Carnot et al., 2017). Contributions can also be called when the fund is in a deficit (Claveres and Stráský, 2018) or when the Member State is in a favourable economic situation (Carnot et al., 2017). These options are often combined (Table 4) and aim at ensuring a neutral position on average of each Member State vis-à-vis the insurance mechanism (see section 6.3).

Simulations suggest that already a small stream of resources would allow for disbursements of sizeable support in the downturn. Regardless of the contributions design, the insurance mechanism should be balanced: the expected pay-outs should be equal to the expected revenues. Proposals from the literature suggest that average contributions to the amount of 0.1% to 0.35% of GDP would already allow a significant stabilisation potential (see section 6.2). Against annual contributions of 0.1% of GDP on average, if Member States are entitled to a support from option 3 in the same conditions as for option 2 (double trigger with a threshold on the change in unemployment between 0.5 and 1.5 percentage point) and if in addition the pay-out received is proportional to the change of unemployment beyond the activation threshold (without a maximum),

[27] Simulations presented in this section take a 15-year average for the reference rate, a 1 percentage point threshold and a 2.25 percentage point "severe shock". Some small blips of activity can appear with less restrictive parametrisation (e.g. around 1999-2000 in Figure 22)

simulations for the years 1985 to 2017 show that the insurance mechanism would be balanced over time while providing 0.13 to 0.36% of the Member States annual GDP for an annual increase in the quarterly unemployment rate of 1 percentage point above the threshold.

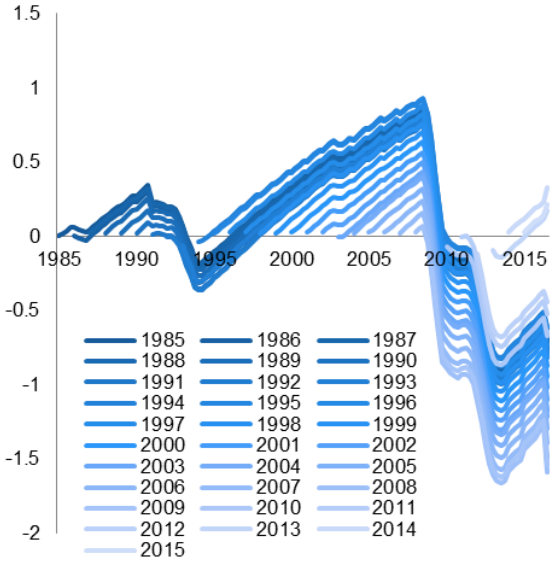
Table 4: Comparison of the contributions to the insurance mechanism and its borrowing capacity proposed in the literature

Carnot et al. (2017)	**Dullien et al. (2017)**	**Arnold et al. (2018)**	**Claveres and Stráský (2018)**	**Bénassy-Quéré et al. (2018)**
Modulated contribution: ~0.1% of GDP on average when unemployment below the 10-15 year moving average and decreasing (proportional to unemployment decrease, fully symmetric to support), plus experience rating	Modulated contribution: 0.1% of GDP per year (80% going into national compartment, 20% into stormy day fund) Higher contributions for countries with 'cumulative deficits' when unemployment falls 0.5pp below average of past 3 years	Fixed contribution: 0.35% of GDP per year	Modulated contribution: ~0.15% of GDP on average Two components (i) 0.1% of GDP by all countries each time the fund's balance drops below -0.5% of EA GDP (ii) 0.05% of GDP for every time the support scheme has been activated in the past 10 years (experience rating).	Modulated contribution: ~ 0.1% of GDP incl. during crisis, modulated depending on countries volatility
Borrowing capacity	Borrowing capacity	Borrowing capacity	Borrowing capacity	No borrowing capacity

The insurance mechanism could not operate at its full potential without a borrowing capacity. Most contributions in the literature suggest that the insurance mechanism has a borrowing capacity (Table 4). If the insurance mechanism cannot borrow against future incomes, its ability to operate in full is dependent on the sequence

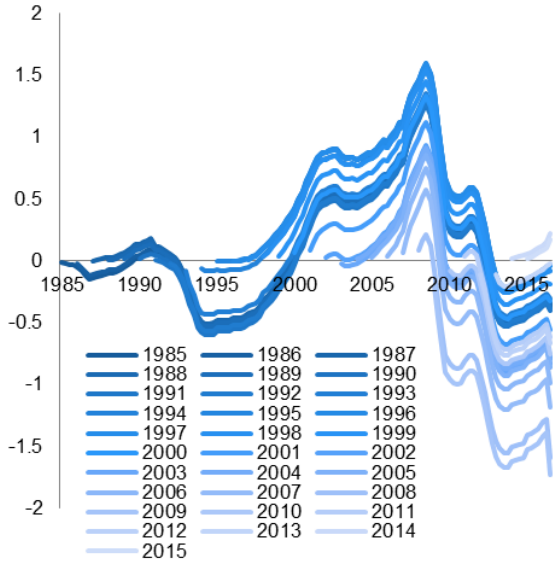
of shocks and contributions. Simulations show that the net positions of an insurance mechanism are bounded, whether contributions take the form of a fixed contribution (Figure 28), or a contribution when the unemployment is low and decreasing (Figure 29). The insurance mechanism would have been ineffective had it be put in place right before one of the peak of activations. Most importantly, the insurance mechanism without a borrowing capacity would not have been able to face the recent crisis' double dip, even if it had been established in 1985.

Figure 28: Net financial position of an insurance mechanism financed by fixed contributions by starting date (% of GDP)



Source/Note: Eurostat, authors' calculations. Calculations based on a threshold of 1 pp, a reference rate computed over 15 years and a fixed contribution of 0.1% of GDP

Figure 29: Net financial position of an insurance mechanism financed by modulated contributions by starting date (% of GDP)



Source/Note: Eurostat, authors' calculations. Calculations based on a threshold of 1 pp, a reference rate computed over 15 years and an average contribution of 0.1% of GDP

6.2. Stabilisation impact

6.2.1. Main qualitative impact

The main direct economic impact of a borrowing lending scheme (option 2) would be to reduce the average cost of debt for a Member State facing a large shock. This would provide an important signal and may help stabilise markets. It would also reduce the interest burden of the concerned Member State, and provide financing to preserve public investment. The loan would facilitate access to financial markets at favourable rates, which would support the execution of the foreseen public investment. Box 2 provides econometric evidence of this channel.

The main economic impact of an insurance mechanism (option 3) would be to provide significant breathing space to the national budget of a Member State facing a large shock. This would allow in particular preserving public investment and running a

more supportive fiscal stance, thereby contributing to smoothing out the effect of the shock on growth, employment and private spending. An insurance mechanism could therefore replicate the stabilisation properties of a very sizeable common budget.

Some macroeconomic effects of an insurance mechanism are documented in the literature. Claveres and Stráský (2018) find that for average contributions of 0.5% of GDP an insurance mechanism could have mitigated the trough of the crisis by more than 1% of GDP. Assuming that the pay-outs from the insurance mechanisms would have been spent on top of the observed past expenditure, Dullien et al. (2017) argue that for Spain, GDP could have stayed 2.5% higher during the crisis. For Italy, they show that the impact would have been lower than 1% of GDP because the increase in unemployment was less marked. Arnold et al. (2018) exemplify the stabilising impact of an insurance mechanism using macroeconomic model simulations similar to the ones presented below with Quest. Their simulations show that one third of the shocks can be cushioned by the insurance mechanism. Their simulations also confirm that a borrowing capacity is needed for the insurance mechanism to operate at its full potential. A third result from their simulations is that the insurance mechanism can substantially reduce the cross country dispersion of the output gap.

Box 2: Relationship between interest rates and public investment

The literature on public investment shows that an increase in interest rates is detrimental to public investment. European Commission (2017 E) provides a comprehensive empirical analysis of the determinants of public investment, based on a panel spanning 21 years and the 28 EU Member States using of a wide set of control variables and estimation strategies. In almost all specifications, it finds a highly significant and sizeable causal relationship between market interest rates and public investment.

As part of this impact assessment, Commission staff has run an additional, more targeted regressive analysis. Compared to existing work, it focuses on the recent crisis experience, namely the period 2009-2017. The analysis aims to assess the relationship between sovereign financing rates (in times of large macroeconomic shocks) and public investment.

The following regression equation was estimated:

$$GFCF_{ct}=\alpha+\beta_1 i_{ct-1}+\beta_2 debt_{ct-1}+\beta_3 lend_{ct-1}+\beta_4 LGDP_{ct-1}+u_{ct}$$

Where GFCF is general government gross fixed capital formation at time t for country c, i is the nominal interest rate, debt is public debt, lend is general government net lending, LGDP is logarithm of real GDP. GFCF, public debt and general government net lending are measured as ratios to trend GDP, while i is the nominal interest rate on 10-year government bonds. The estimations are based on a cross-country panel, including the 28 Member States of the EU. The estimator used is pooled ordinary least squares with country fixed effects.

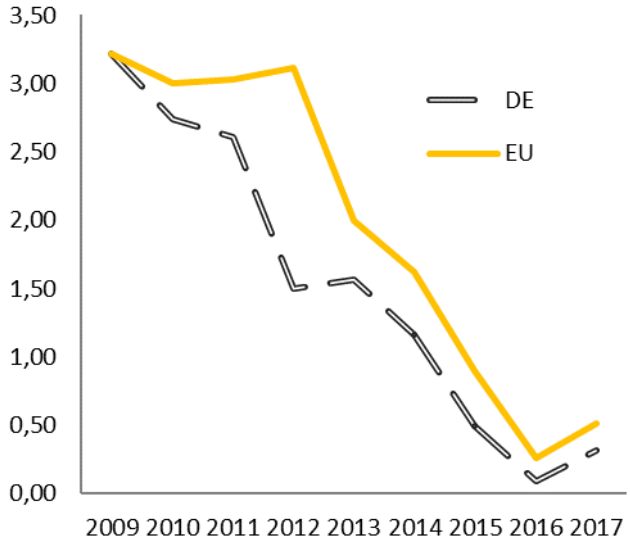
The results confirm the expectation that an increase in interest rates is detrimental to public investment. The reported specifications take into account both current and lagged interest rates on public investment, as well as at the impact of nominal and real interest rates. Overall, the negative effect of an increase in interest rates on public investment is confirmed. Control variables turn out as expected: an increase in general government debt and/or net lending is found to lead to a decrease in public investment. Overall, the analysis confirms that the provision of loans at favourable rates would thus facilitate the continuous execution of public investment projects. The results of the regressions are reported in Table 5.

Table 5. Panel estimation results EU-28, 2009-2017 (dependent variable public investment)

	coeff.	t-stat.	coeff.	t-stat.	coeff.	t-stat.
I_t	**-0.0012**	**-4.13**	**-0.0012**	**-4.08**	-	-
i_{t-1}	-	-	-	-	**-0.0005**	**-2.27**
$LGDP_{t-1}$	-	-	-0.005	-0.27	-	-
$debt_{t-1}$	**-0.0289**	**-5.83**	**-0.029**	**-5.77**	**-0.0252**	**-5.05**
$lend_{t-1}$	**-0.0567**	**-2.85**	**-0.0551**	**-2.65**	-0.0296	-1.57
R2 adjusted	0.31		0.24		0.34	
F-stat	F(26,186)=8.42		F(26,185)=7.84		F(26,186)=7.41	
Nob	216		216		216	

Note: Significance at the 5% confidence level is indicated in bold.

Figure 30; Long-term interest rates on EU bond issuance compared to 10-year rates on German government bonds (2009-2017)



Source/Note: ECB statistical data warehouse. COM treasury operations. For 2009-2015 EU is proxied by average interest rate of EU back-to-back loans. For 2016-2017 EU is proxied by 10-year nominal ESM rates.

The loans granted under option 2 would allow to reduce the interest burden on the sovereign, and thereby support public investment. The loan that would be granted would be at an interest rate for a highly rated issuance which, particularly in times of stress on financial markets, could generate savings in interest payments for the Member State concerned. These savings would be spread over the duration of the loan. The long-term interest rate of EU bonds issuance follows the 10-year nominal rate on German government bonds with a slight positive spread compared to the latter (Figure 30). Applying this rate to the loan facility would allow for most Member States some savings on the debt burden over the duration of the maturity.

6.2.2. Quantitative estimates of the stabilisation impact

The potential effect of a stabilisation function can be illustrated with the macroeconomic model QUEST. We simulate a crisis starting in 2018 against which for 3 years the economy faces a downturn which will then fade-out. This downturn is calibrated to correspond roughly to the ordinary magnitude of the economic cycle in a relatively volatile economy, i.e. Spain (4% loss in output). The crisis hitting the economy is assumed to be caused by a combination of domestic and external demand shocks. The simulated shock is therefore significant but not exceptional in terms of size and origin.

Without the stabilisation function, the government faces a stark trade-off between controlling the public deficit and supporting activity (or at least not amplifying the economic shock). In accordance with the provisions of the SGP, a counter-cyclical strategy, without proactively steering the economy, the government could let the fiscal stabilisers play in full. Under this strategy, tax revenues decline because of the erosion of the tax bases, while unemployment benefits paid increase. This corresponds to a fiscal policy whereby the structural deficit is stable and the expenditure benchmark is respected. In the wake of the crisis, external constraints might push the government to run pro-cyclical policies. In a case where a risk to public debt sustainability arises or simply where financial markets over react to the rise in public debt, the government may feel forced to a pro-cyclical fiscal policy response and consolidate even though its economy is facing a downturn. To do so, we assume that the government decides a cut in both public investment and public consumption by 0.4% of GDP each. This fiscal adjustment limits the debt increase to just below 10 percent of GDP but amplifies and lengthens the economic downturn.

Figure 31: GDP trajectory

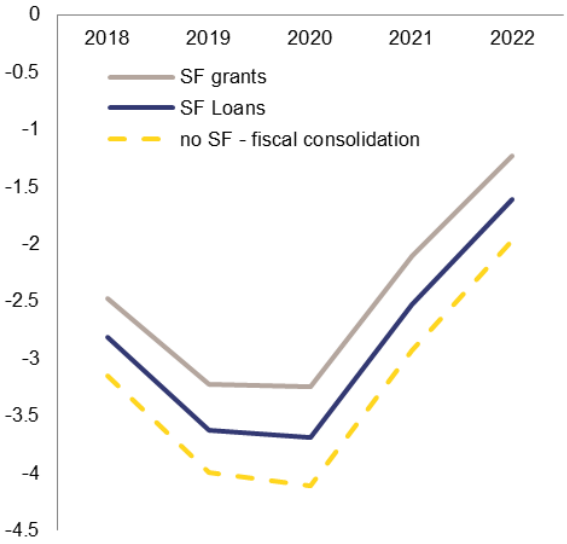
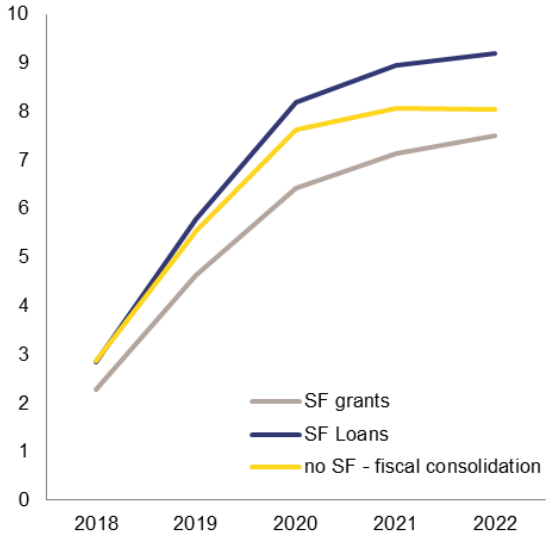


Figure 32: Debt trajectory



Source: Commission services, QUEST simulations

Options with a stabilisation function:

Support in the form of loans would allow for the Member State not to consolidate as much but tensions on its indebtedness would remain. We assume that the loan allows the Member State to broadly maintain public investment but not to avoid cuts in public consumption. Indeed, the loans, even though at a smaller interest rate, still imply an increase in public debt which Member States may still try to limit. In the first years, public debt follows the same trajectory as when the country engages in fiscal consolidation for lack of a stabilisation function (Figure 32). Then, as the Member State consolidates less, the debt trajectory reaches higher levels. This strategy has a mitigating effect on the recession: the trough is less pronounced by 0.4 points of GDP (Figure 31).

When provided through grants, the stabilisation function has a larger impact. Thanks to the provision of the grant the Member State can maintain investment while also avoiding other procyclical consolidation measures. Under this scenario, both public investment and public

consumptions are maintained. At the same time, the increase in public debt is lower than in both the baseline scenario and the scenario with loans provision (Figure 32). By not consolidating, the Member State lets the automatic stabilizers play in full. As a consequence, the recession is much less severe by 0.8% of GDP (Figure 31). This means that 20% of the shock is absorbed in this case.

6.2.3. Stabilisation impact of a euro area budget

The stabilisation properties of option 4, a common budget, could be significant, but would strongly depend on its size and composition. Through its permanent spending, a common budget would provide immediate aggregate demand support. In this sense, during its automatic execution it could be more powerful than option 2. As opposed to option 3, it would not provide active/scalable stabilisation. However, the exact stabilisation properties would depend on the cyclicality of revenues and spending as well as provisions for discretionary fiscal policies.

One analysis of a euro area budget shows that a well-conceived design can allow for some stabilisation properties for a relatively modest size.[28] The simulations focus on different stylised specifications. A budget of around 2% of euro area GDP with diversified revenue sources and expenditure is estimated to substitute 10% of the stabilisation achieved at national level and stabilise 4% of shocks (against 17% for national budgets). A design based exclusively on corporate income tax and spending mostly focused on unemployment benefits is expected to substitute around 20% of national stabilisation. A bigger budget would provide yet more stabilisation, but not proportionally so.

In combination with discretionary elements, a euro area budget could provide sizeable stabilisation. Trésor (2017) presents a blueprint of a common budget of at least 2% of euro area GDP. Expenditure would be stable over time, targeting public investment. Assigned parts of value added taxes (VAT) and corporate income taxation would provide each half of the needed revenues. In downturns, the budget would be allowed to go into deficit, to allow for the free play of automatic stabilisers. In addition, the paper suggests the possibility of temporary cuts in the assigned part of VAT, to be triggered by sizeable output gaps. In this sense, the proposal combines elements of a common budget with elements of an insurance mechanism. In addition, a more countercyclical design of fiscal rules is assumed. According to simulations provided in Trésor (2017), during the recent crisis, aggregate fiscal policies would have been much more supportive of activity, leading to overall gains of around 3% of GDP in output in 2016 (in levels). The increase in public debt would have been partially offset by higher growth and stricter rules in good times.

[28] Trésor-Economics: "A Budget for the Euro Area" – 2013, No. 120: https://www.tresor.economie.gouv.fr/Ressources/file/392340

6.3. Cross-country neutrality

In option 2 and 3, support is triggered by the objective criteria of an adverse economic event, which could hit every Member State (section 6.1). With the proposed mechanism and parametrisation, each Member State is expected to benefit from support (Table 6). It should be noted that for some Member States benefiting most often the data sample is fairly limited, thereby possibly biasing the results by the recent crisis. Still, as discussed in section 3, national policies are critical for economic resilience, so it needs to be verified that incentives for such policies are not reduced.

Table 6: Frequency of activation by country with the double trigger

	total	BE	DE	ES	FI	FR	IE	LT	LU	MT
activated	198	7	12	35	12	1	18	8	8	1
in sample	1777	132	132	132	132	132	132	52	132	52
frequency	11%	5%	9%	27%	9%	1%	14%	15%	6%	2%
	NL	PT	AT	CY	EE	EL	IT	LV	SI	SK
activated	9	22	4	9	7	19	10	6	9	1
in sample	132	132	95	23	39	74	131	51	36	36
frequency	7%	17%	4%	39%	18%	26%	8%	12%	25%	3%

Source/Note: Reference rates computed over15 years and threshold to 1 percentage point. Simulations start in 1985 for BE, DE, ES, FI, FR, IE, LU, NL, PT, IT,, in 1994 for AT, in 1999Q2 for EL, in 2005 for LT, MT, LV, in 2008 for EE, in 2009 for SI, SK and in 2012 for CY. Results for the latest countries must therefore be interpreted with caution as they result only from a crisis period.

As support in option 2 is provided via loans, there is a limited risk of moral hazard. Member States are required to pay back the loans received in line with their maturity. The transfer received is thus by definition not permanent. To date, Member States have always honoured their obligations *vis-à-vis* the EU. Still, the frameworks provides some limited risk sharing as Member States availing of the scheme benefit from the favourable interest rates, which stem from the high rating and the grant component. Those benefits appear relatively small compared to the size of the support. They can thus not be expected to be instrumental for national decisions to pursue reforms or not.

The eligibility conditions lined out in section 5 reduce risks of moral hazard in the area of macroeconomic policy choices. Concerning fiscal policy, the proposed eligibility criteria provide additional incentives to build fiscal buffers in good times and correct gross policy errors. Concerning the Macroeconomic Imbalances Procedure, the need to provide and follow up with adequate corrective action plans in case of an excessive imbalances procedure ensures that structural macroeconomic problems are avoided or corrected before they can be harmful to the fiscal outlook.

As support in option 3 is provided via pay-outs/grants, the risk of moral hazard and permanent transfers is inherently bigger. Member States would receive significant pay-outs/grants from an insurance mechanism in case of an adverse economic event. The calibration of the system ensures that in the following upturn, Member States would

contribute to the fund. In practice, however, it cannot be excluded that support would be more frequent or bigger.

Support and contributions need to be carefully designed to minimise these risks. There are three design features to further minimise risks of permanent transfers:

- Linking support to changes in unemployment limits total support and by construction makes it 'non-permanent'.
- Contributions could be designed to mirror the support in bad times with additional payments in bad times, allowing for symmetric workings.
- Experience rating ensures additional contributions in exchange for more frequent support.

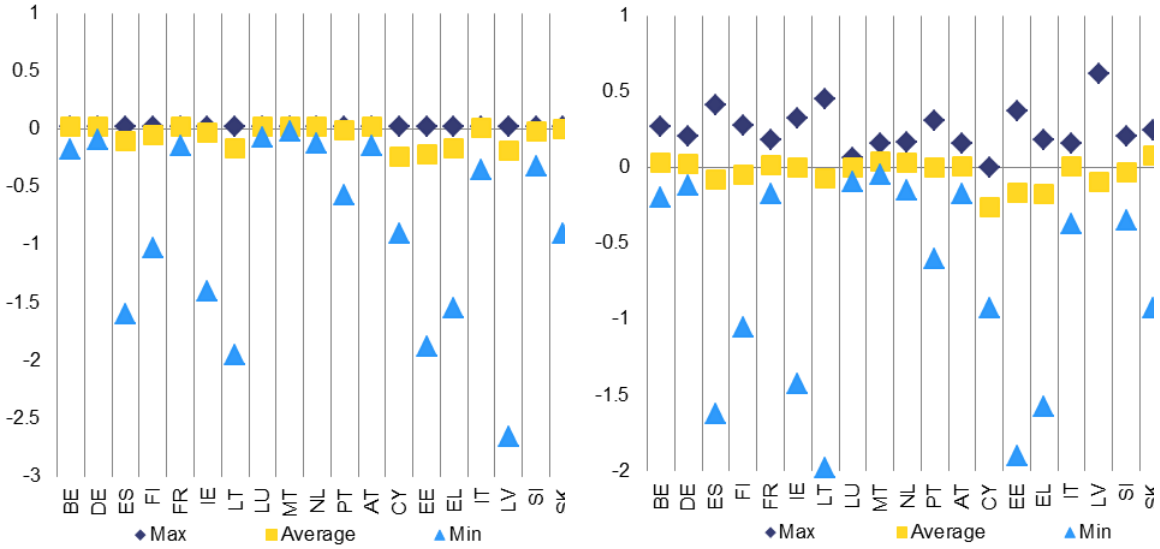
Linking support to changes in unemployment limits total support and by construction make it non-permanent. The fact that support is linked to a deterioration in unemployment rates entails that the cumulated support to be received is overall limited (by construction, the *increase* in unemployment is temporary, even if the level of unemployment stays high). Similarly, caps on individual and the collective net position would effectively limit total transfers, even in case of an unusual cumulation of periods of support.

A symmetric design of contributions comforts the long term neutrality of the insurance mechanism. Contributions could be increased in good times. The double condition on unemployment could be used to this end, triggering supplementary contributions when unemployment rates are low and falling. Such additional contributions in good times would foster countercyclical policies. It would also ensure that Member State with more volatile growth and unemployment patterns would not benefit excessively from an insurance mechanism.

Experience rating and enhanced eligibility conditions could increase incentives for prudent policies. Experience rating could be used to define additional contributions to an insurance mechanism as a function of past access. Such an approach would mimic the concept of insurance premia. It might also be justified to consider more stringent eligibility criteria for an insurance mechanism than for a loans facility. Experience rating could take several forms. Dullien et al (2017) propose to increase the contribution of member states in deficit vis-à-vis the fund. Carnot et al (2017) suggest more specifically that this premium correspond to the interest rate cost incurred by the fund on this position. Claveres and Stráský (2018) suggest topping up contributions for countries who benefited from the fund in the previous 10 years. On top of a similar usage premium, Arnold et al (2018) also propose to cap cumulative payments and contributions. Bénassy-Quéré et al (2018) propose to modulate the contributions depending on the volatility of the trigger variable for each country.

The insurance mechanism could provide sizeable pay-outs while being broadly balanced vis-à-vis each Member State.[29] Figure 33 compares the net contributions to an insurance mechanism (contribution minus pay-out received) for the euro area Member States. Two cases are compared, a constant contribution and a contribution when the unemployment rate is low and decreasing (double trigger symmetric to the one for pay-outs but without threshold). In both cases, the annual contribution is calibrated to 0.1% of GDP on average and the pay-out generosity is such that the insurance mechanism would have been balanced. These simulations highlight three stylised facts: (i) the average net contribution of each Member State is close to balance, (ii) against large shocks Member States could have received large pay-outs, (iii) introducing modulated contributions improves cross country equity as Member States with more volatile economies both benefit and contribute more.

Figure 33: Net contributions to an insurance mechanism (% of Member States' GDP)



Source/Note: Eurostat, authors' calculations. Simulations based on the period 1985-2017. Simulations start in 1985 for BE, DE, ES, FI, FR, IE, LU, NL, PT, IT,, in 1994 for AT, in 1999Q2 for EL, in 2005 for LT, MT, LV, in 2008 for EE, in 2009 for SI, SK and in 2012 for CY. Results for the latest countries must therefore be interpreted with caution as they result only from a crisis period.

The cross-country neutrality of option 4, a common budget, would depend critically of its revenues and spending functions. A common budget would not entail direct contributions from and support to Member States and is thus less prone to the risk moral hazard. However, it might indirectly result in income redistribution from richer to poorer countries through permanent differences in tax bases and/or transfer needs. Similarly, some spending functions could be more beneficial for certain Member States. This is one of the reasons why a common budget could preferably focus on the provision of European public goods. Nonetheless, broad political ownership and ambition are needed for the proposal to go forward. Trésor (2013) acknowledges that a common budget requires further political integration and political accountability, also linked to the entailed greater extent of European solidarity.

[29] This result is also to be found in (Carnot et al 2017; Arnold et al, 2018; Claveres and Stráský, 2018)

6.4. Environmental and social impact

This short subsection focuses on the environmental and social impact of the different options. The economic impact of the different options is discussed in the rest of this impact assessment.

In option 2, the loan-based instrument, the protection of public investment activity could support "social investment". According to the Communication of 6 December the stabilisation function should also aim at supporting the upgrading/maintenance of skills. According to the European public accounts (ESA2010), public gross fixed capital formation also includes government R&D spending either protected through patents or made freely available to the public, as well as basic research expenditure and spending on education that can be considered as gross fixed capital formation. Therefore, the public investment indicator also partly captures the maintenance/upgrading of skills aspect. In addition, training programmes to support the employability and upskilling of displaced workers, as well as support measures specifically targeted to young people could be considered as particularly relevant in this context and could be factored in when determining the size of the support for each Member State. The stabilisation function would then also be geared towards supporting Member States' national expenditure on active labour market programmes and services dedicated towards training, thereby avoiding cuts to such programmes in periods of large adverse economic events. However, that would depend to which extent such forms of investment could be captured by objective, verifiable indicators.

In option 3, the insurance mechanism, the environmental and social impact would be fairly indirect and difficult to assess. In the stylised insurance mechanism described in sections 5 and 6, there is no immediate link to environmental and social outcomes. It is fair to assume that a stronger response to large shocks would have beneficial spillovers for environmental and social outcomes, but these indirect effects are extremely difficult to assess at this stage. In option 1, the status quo, there is by definition no additional impact.

In option 4, the euro area budget, the environmental and social impact would likely be positive, but the definition of the option is not detailed enough to allow for an assessment. According to President Macron (2017), a euro area budget should support investment and Research & Development amongst others. It is thus natural to assume that it would foster the transition to a green economy. According to Trésor (2013), a euro area budget should provide unemployment benefits and would thereby contribute to a positive social impact. However, at this stage, there is no sufficiently detailed proposal to allow for a definite assessment.

6.5. Conclusions, preferred option and implementation plan

In option 1, the status quo, important vulnerabilities remain. In light of recent and ongoing reforms, the European economic architecture is stronger today than ten years ago. Risk stemming from the financial and banking sector are now detected earlier with European supervision in place. Private sector risk sharing is benefitting from effort to complete the banking union and the capital markets union. The ECB's toolbox covers a wider range of monetary policy instruments. European economic surveillance is keeping closer tabs on fiscal and structural developments. The ESM stands ready to support Member States in crisis resolution via conditional financial assistance. However, important vulnerabilities remain. As lined out in section 2, public debt levels remain high. The lack of a strong fiscal centre in the European economic architecture increases the burden on monetary policy and national fiscal policies. That is why even Member States with sound public finances are prone to the sudden occurrence of market pressure and thereby at risk of running pro-cyclical fiscal policies in the downturn. Table 1 gives an overview of the pros and cons of the different options along the main objectives defined in section 4.

Option 2 (borrowing lending scheme) would contribute to the cohesion objective by offering financing support in the event of a large asymmetric shock affecting a Member State. This support would target the benefit of public investments in priority sectors and be subject to a trigger and eligibility conditions. This provision of support will provide a strong incentive to protect key public investments and thereby preserve at an appropriate level expenditures which are essential for the future growth of the economy. As such the scheme would foster outcomes in sharp contrast to the past crisis in some countries where public investment was sizeably cut, although the powerfulness of the scheme would depend on its precise parametrisation. The macroeconomic stabilisation impact in this option is limited by the fact that support takes the form of a loan. Confronted with a large shock, the concerned Member State would face a broadly unchanged trade-off between supporting activity *via* deficit spending or controlling the increase in its public debt. This trade-off would nevertheless be mitigated as the Member State would be given access to cheaper financing than on the market. Moreover, the provision of EU financing may exert a strong signalling effect to market participants, which can act as a catalyst for avoiding the loss of market access and a full-blown financial adjustment programme. This option is also consistent with a requirement for no permanent transfers, in the sense that loans are by nature temporary support and the Member State concerned is legally required to pay it back. Option 2 would therefore bring value added with respect to all the objectives identified in this Impact assessment, as summarised in Table 7. Option 2 is also feasible within the current EU legal framework, using article 175 as a base. Importantly, option 2 may also be politically more feasible, at least in the near future. As underlined in this document (see in particular the introduction and sub-section 3.3), the views of stakeholders remain divided at this juncture on the need and form of a stabilisation function. One key concern of the more sceptical stakeholders concerns the risks that a stabilisation scheme could entail in terms of moral hazard and generating permanent transfers, in other words violating the objective of cross-country neutrality. As

noted, this is an area where option 2 fares well in comparison to alternative options (apart from the status quo), as it relies essentially on temporary lending. For this reason, it can be considered that option 2 is a more realistic option at this point in time. Overall, given these considerations option 2 is at this stage the preferred option. It would bring an important contribution to all the objectives lined out in section 4. It could also lay the grounds for a further maturing of the debate and the possible future development of other options.

Option 3 (insurance mechanism) would offer significant payouts in the event of a large asymmetric shock affecting a Member State, subject to the trigger and eligibility conditions. These 'insurance payouts' would reduce the short-term trade off faced by the concerned Member States between supporting activity and controlling the rise in their debts and deficits. The payouts would therefore complement the national automatic stabilisers in adverse circumstances. They would facilitate the conduct of a smoother and more counter-cyclical fiscal policy throughout the cycle, which would also be beneficial for the quality of national public finances and the avoidance of booms and busts in public investments. Depending on its parameterisation, that option can offer a powerful demand stabilisation impact, even for a limited amount of contributions. Option 3 is however relatively challenging to reconcile with the objective of country neutrality, as some Member States could benefit from payouts more often or more than others, for example because their economies feature more volatile cycles. Some design features could be important to improve on the objective of country neutrality, such as higher contributions in good times (which would ensure that volatile economies contribute more and would accelerate the constitution of buffers), and a form of experience rating (contributions modulated as a function of past usage). Overall, option 3 can offer very effective stabilisation properties and may be consistent with country neutrality if well-designed. It could therefore provide a highly valuable strengthening of the EMU architecture. However, the political support for this option appears mixed at best at this stage, as some stakeholders may see it as entailing too many risks and going beyond a proportionate response to the challenges at hand. Given the state of play of the debate, further reflections and discussions appear needed to assess the viability and raise the political acceptability of such an option. Still, the framework for putting in place an insurance mechanism may to some extent be framed by the setting up of a borrowing lending scheme as envisaged under option 2, as some of the mechanisms and conditions (for instance, the triggering criteria) could be similar in both options. The limited grant components that could accompany a borrowing lending scheme in option 2 in order to make the loans more attractive could in fact be seen as an embryo for an insurance mechanism that could be extended at a later stage. Such a combination would create a consistent ensemble enabling significant stabilisation.

Option 4 (euro area budget) would contribute to the stabilisation of large shocks through the automatic fluctuations with the cycle of the revenues and/or expenditures of that budget. The effectiveness of that mechanism depends on the cyclical sensitivity of the composition of the budget and on its size. The implications of option 4 would go somewhat beyond that of providing a stabilisation function, as a full budget implies that

allocative competences on the revenues and on the expenditure sides are shifted from the national to the European level, in addition to the current EU budget. The setting up of such a budget would therefore require strong political will and consensus. Overall, option 4 can offer some stabilisation properties, the extent of which greatly depends on its size and composition, but further reflections and discussions are needed to assess its content and raise its political acceptability.

Table 7: Comparison of options along main objectives

Objectives	Option 1 (status quo)	Option 2 (BLS, loans)	Option 3 (insurance mech.)	Option 4 (EA budget)
1. counter business cycle fluctuation	-	+	++	+
2. more counter-cyclical fiscal policy	-	+	++	+
3. smoother public investment trajectories	-	+	+	+
4. prevention of financial market crisis	-	+	++	+
5. preserve cross-country neutrality	+	+	-	o
6. contribute to integrity of the Union	o	+	+	++

Source/Note: illustration prepared by authors

6.5.1. Implementation plan

Overall, the different options have different main channels and merits. A loans system would facilitate the execution of ongoing investment plans and provide a helpful signal to ensure financial stability. An insurance mechanism would have more stabilisation power in the traditional sense of demand support. A common budget could allow for the stable provision of European public goods.

As already noted (see the end of secton 5.2), the different options should not be considered as mutually exclusive. They have different pros and cons and can also be combined. Importantly, the different options can also be combined over time. A stabilisation function could be phased-in, for instance first via loans and then through an insurance mechanism.

Option 2 would be the preferred option at this stage and could be implemented with the next MFF. A political agreement on the MFF is targeted for 2019. A loan-based stabilisation function could thus be implemented and available with the start of the new MFF. Such a timeline would allow for the instrument to be available in time for the next cyclical downturn. An insurance mechanism is a necessary complement, but will take more time to mature. More ambitious steps should be taken as a second step. An insurance mechanism (or a euro area budget) would be more effective in providing

macroeconomic stabilisation. It would a highly desirable complement to option 2. Both should be considered as a package jointly providing the stabilisation function in the long term. Still, in case of an insurance mechanism there is arguably a bigger risk as to cross-country neutrality. While these risks can be overcome, further work on building a common understanding across Member States and on an adequate design appear needed before proceeding with a legal proposal.

Overall, a phased approach is the most promising. As already announced in the 6 December Package, the Commission approach could be to first put in place an instrument based on loans with a limited degree of interest rate subsidies. In a subsequent step, an insurance mechanism could be proposed and put in place. There is thus a need for such a follow-up discussion. In practice, this could take the form of a 'review clause' after a few years, which would give the opportunity to: i) assess the effectiveness of the borrowing lending scheme; ii) re-examine the case for more ambitious proposals, in the light of experience and of the evolving political debate.

A regulation appears as the most adequate legal instrument for option 2. The instrument proposed entails the central provision of loans to Member States to ensure the protection of adequate levels of public investment. A regulation as legal instrument allows for this central provision of loans. On the contrary, a directive would by definition not be suitable since it would require the national, tailored transposition for the operation, which runs counter the desire for a central mechanism. As mentioned in the conclusions section, the legal basis of 175 TFEU appears adequate for option 2, the loans instrument. The link to cohesion objectives is less direct and straightforward in options 3 and 4.

7. HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED?

The monitoring and evaluation of the stabilisation function could be done along three dimensions. First, it would assess the macroeconomic impact and adequacy of the instrument as part of the ex post evaluation. Second, the use of support provided by the stabilisation function would be continuously monitored. Third, the efficiency of public investment management in the respective Member State would be assessed to ensure sound quality of public investment, ex ante before the instrument starts operating.

The Commission could proceed to evaluations of both the instrument and each loan:

- An evaluation of the mechanism in its entirety would be conducted after a certain number of years (possibly 3-5 years).
- For each loan an ex-post evaluation would be carried out. This could occur e.g. 2 years after the support has been granted.

7.1.1. Macroeconomic impact

The expected macroeconomic outcomes from the stabilisation function are:

- more synchronisation of the business cycles across the Member States
- lower volatility of public investment
- less pro-cyclicality of the fiscal policy.

The assessment should therefore be carried out along these dimensions. An additional dimension to consider is whether the instrument can be deemed to have helped preventing full-blown financial crises and financial assistance programmes.

The evaluation of the instrument would review the degree of (cyclical) convergence in the EU/EMU. Such an evaluation would be conducted based on macroeconomic data (in particular, GDP, output gap, unemployment rate) specifically with a view to assessing whether the marked differences in economic and financial performances observed in the recent past have been attenuated.

Building on the evaluation of each loan, the overall evaluation of the scheme should investigate the trajectory of public investment. Based on the national accounts data (in particular gross fixed capital formation of the general government and more generally the general government accounts), it should be analysed whether boom bust cycles in investment have been limited by the introduction or the use of the stabilisation function.

The Commission would also assess whether the stabilisation function has been conducive to smoother fiscal policies. This assessment would build on macroeconomic data for fiscal policy (budget balance, cyclically adjusted budget balance, fiscal stance) to assess in particular whether fiscal policy has been less pro cyclical. Looking at financing conditions of the public debt (sovereign spreads), it should also be evaluated whether the stabilisation function has had an impact on market expectations.

The evaluation could also draw lessons in terms of the calibration of the scheme(s), such as on adequacy of the amount of resources available given the magnitude of shocks, and whether the triggering criteria are appropriate. The analysis could also examine the distribution of beneficiaries/contributors to the stabilisation function.

Box 3: Macroeconomic indicators

A non-exhaustive list of indicators to be mobilised for the assessment of the stabilisation function could include: GDP, the output gap, the unemployment rate, gross fixed capital formation of the general government and the general government accounts, including the budget balance, the cyclically adjusted budget balance, the fiscal stance and sovereign spreads.

7.1.2. Use of funds

The use of funds could be continuously monitored as Member States benefit from support from the Stabilisation Function. In addition, the analysis and results from this continuous monitoring could also be used in an ex post evaluation of the instrument.

Specifically, the stabilisation function could contain a post-access monitoring mechanism which confirms that the Member State has upheld its commitments in terms of public investment. This mechanism would check that the data reported ex-post in the national accounts of the Member State is consistent with the objective of the stabilisation function to support public investment. When establishing the threshold under which the public investment level should not decrease a number of caveats need to be taken into account. First, the level of general government gross fixed capital formation reported in the national accounts includes co-financing for projects supported by ESIF funds. If gross fixed capital formation decreases, then it is necessary to ensure that the decrease is not due to a decrease in the EU co-financing part (typically because of end-year shortness of funds on the EU side) while the national financed part of public investment has been maintained at the agreed levels. Second, the threshold should also take into account the volatility due to the structural funds financing cycle where typically public investment is very high at the end of a programming period and very low at the beginning of new programming period. Third, the threshold should also take into account the cyclicality of public investment and ensure that the Member State is not forced to maintain a level of public investment that is characteristic in a peak of the economic cycle when it is in a downturn of the cycle.

Monitoring would also include spending in the area of "social investment" if and once it is included in the stabilisation function. In addition to the monitoring of public investment through the data reported in the national accounts, the ex-post monitoring mechanism would then need to also ensure that the Member State does not decrease spending on the concerned social investment. Additional data on such training programmes would be needed to ensure regular and timely monitoring.

On a regular basis, the Commission should consult the member states who did not make use of available loans in order to identify the limitations of the scheme.

7.1.3. Quality of public investment management

The quality of public investment management would be monitored ex ante before the instrument starts operating. In addition, the merit and lessons learnt from this exercise would also be used in an ex post evaluation of the instrument.

The ex-ante assessment would examine the quality of a Member State's public investment management capacity, with the aim of ensuring that there are no bottlenecks within their public investment management system that lead to an inefficient use of the resources provided by the stabilisation function. Moreover, a high quality

public investment management process would also ensure that the support given to public investment in the event of a downturn would produce the desirable macroeconomic effects and lead to sustainable investment.

The ex-ante assessment would be done by monitoring the efficiency of public investment management system. This could be done by using the IMF Public Investment Management Assessment Framework (PIMA) and other frameworks, such as those proposed by OECD (2013 and 2014) and European Commission (2017 F). The framework would evaluate the public investment management process at three key stages of the public investment cycle: planning sustainable investment across the public sector ("planning phase"), allocating investment to the right sectors and projects ("allocation phase"), implementing projects on time and on budget ("implementation phase"), and possibly ex post evaluation of projects (“evaluation phase”). See box 3 for details on the IMF PIMA framework.

Box 4: The assessment of the public investment framework (IMF, 2015)

The following indicators could be used when assessing the planning phase:

- National fiscal rules and budgetary planning are such that they ensure that overall levels of public investment are adequate, predictable and sustainable;
- National and sectoral plans are such that they ensure public investment decisions are based on clear and realistic priorities, cost estimates and objectives for each sector;
- Central and local coordination arrangements are such that public investment plans are integrated across levels of government, provide certainty about funding from the central government and ensure sustainable levels of subnational borrowing;
- Management of public-private partnerships (PPP) are such that they ensure an effective evaluation, selection and monitoring of PPP projects and liabilities;
- The regulation governing infrastructure companies is such that it ensures open and competitive markets for the provisions of infrastructure services, an objective pricing of infrastructure outputs and the effective oversight of infrastructure company investment plans.

The following indicators could be used to assess the allocation phase:

- Multi-year budgeting that provides transparency and predictability regarding levels of investment by ministry, program and project over the medium-term;
- Budget comprehensiveness which will be reflected by the fact that all public investment regardless of the funding channel is authorised by the legislature and disclosed in the budget documentation;
- Budget unity which will be reflected by the fact that decisions about individual projects take account of both their immediate capital and future operating and maintenance costs;
- Project appraisal according to which project proposals have to be subject to published appraisal using standard methodology and takes potential risk into account;
- Project selection according to which projects are systematically selected and approved on the basis of transparent criteria and included in the pipeline of approved investment projects.

The following indicators could be used to assess the implementation phase:

- Protection of investment which will be reflected by project appropriations which are sufficient to cover total project costs and cannot be diverted at the discretion of the executive;
- Availability of funding which allows for planning and commitment of investment projects based on reliable forecasts and timely cash flows from the Treasury;
- Transparency of budget execution: major investment projects are tendered in a competitive and transparent process, monitored during project implementation and independently audited ;
- Project management: an accountable project manager is identified and is working in accordance with improved implementation plans and provides standardized procedures and guidelines for project adjustment;
- Monitoring of public assets: assets are properly recorded and reported and their depreciation is recognized in financial statements.

Based on these 15 indicators, countries are given a score between 0 (no key features are in place) and 10 (all key features are in place). The evaluation conducted by the IMF gave a mean PIMA score of 7/10 to the European countries in their sample. The current evaluation framework would consider that the public investment management capacity in a given country would be of sufficient quality if the country obtains a PIMA score of at least 8/10.

Annex 1: Procedural information

Lead DG, Decide Planning/CWP references

The lead Directorate General is the Directorate General for Economic and Financial Affairs (DG ECFIN).

The initiative is foreseen in the 2018 Commission Work Programme (CWP) under the header "Deeper and Fairer Economic and Monetary Union": "*We will also propose to create a dedicated euro area budget line within the EU budget in order to provide for four functions: structural reform assistance;* ***a stabilisation function****; a backstop for the Banking Union; and a convergence instrument to give pre-accession assistance to Member States on their way to euro membership.*" (Authors' highlight)[30]

Political steer and support for this initiative is also reflected in a number of Commission Communications. The Commission Communication on "new budgetary instruments for a stable euro area within the Union framework" from 6 December 2017 and the Reflection Paper on the deepening of the Economic and Monetary Union have called for the creation of a stabilisation function. Earlier, the White Paper on the Future of Europe and the Five Presidents' Report have suggested the creation of such an instrument as well.[31]

Organisation and timing

The works for this initiative have been launched in December 2017.

The following Directorates General were invited to the Inter-Service Steering Group (ISSG): BUDG, ECFIN, EMPL, JRC, SG, SJ

The Inter-Service Steering Group was chaired by the Secretariat General.

The Inter-Service Steering Group has met for a number of three times to discuss the file. The last meeting of the steering group took place on 19 March 2018. The minutes of this meeting are reported at the end of this annex. In addition, there was a conference call with JRC colleagues located at the Ispra site.

[30] see Commission Communication on "Commission work programme 2018 – an agenda for a more united, stronger and more democratic Europe" – COM(2017) 650: https://ec.europa.eu/info/sites/info/files/cwp_2018_en.pdf

[31] Communication on new budgetary instruments for a stable euro area within the Union framework - COM(2017) 822: https://ec.europa.eu/info/sites/info/files/economy-finance/com_822_0.pdf
6 December Package. Commission Communication on "Further steps towards completing Europe's economic and monetary union: a roadmap" - COM(2017) 821: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0821&from=EN ;
Reflection paper on the deepening of the economic and monetary union - COM(2017) 291: https://ec.europa.eu/commission/sites/beta-political/files/reflection-paper-emu_en.pdf
White paper on the future of Europe - COM(2017)2025: https://ec.europa.eu/commission/sites/beta-political/files/white_paper_on_the_future_of_europe_en.pdf
Five Presidents' Report: Completing Europe's Economic and Monetary Union: https://ec.europa.eu/commission/sites/beta-political/files/5-presidents-report_en.pdf

Consultation of the RSB

An informal upstream meeting was held on 28 February 2018 with RSB representatives and the participation of SG, DG BUDG and JRC. During this discussion Board members provided early feedback and advice on the basis of an annotated outline. Board members' feedback did not prejudge in any way the subsequent formal deliberations of the RSB. The Impact Assessment report was examined by the Regulatory Scrutiny Board on 25 April 2018. Based on the Board's recommendations, the Impact Assessment has been revised in accordance with the following points:

Main considerations	**Modifications to take into account the RSB remarks.**
The Board understands that the policy intention is to contribute to a stabilisation function at EU level to address large asymmetric shocks. The Board notes that the scheme is a new tool to address a well-understood problem but controversial project for the completion of the Economic and Monetary Union. The Board acknowledges the economic research and analysis that feed into the report. However, the report still contains significant shortcomings that need to be addressed. As a result, the Board expresses reservations and gives a positive opinion only on the understanding that the report shall be adjusted in order to integrate the Board's recommendations on the following key aspects:	Specific comments below were duly acknowledged and incorporated.
(1) The report does not sufficiently explain how the scheme would work in practice and how it would interact with the other governance instruments.	See detailed reply in "Further considerations and adjustment requirements". The description of the main policy option was augmented in Section 5.2. The interaction with other instruments is discussed at the end of Section 4.2.
(2) The report does not provide an adequate baseline. It does not sufficiently explain how the scheme would be funded, how this relates to the MFF and whether there is a critical mass of funding which is needed to make the scheme work effectively.	See detailed reply in "Further considerations and adjustment requirements". The baseline is now described and justified in more details in Section 4.1. The link with the MFF and other funding considerations are further described in Section 5.2. The size of the option is discussed under the new Section 6.1.3.
(3) The preferred option does not stem logically from the structure of the analysis and the problem assessment. The report does not relate the choice of preferred option to evidence of stakeholders' views.	See detailed reply in "Further considerations and adjustment requirements". Analysis of preferred option was further detailed. Stakeholders' views are now summarized in the introduction, detailed in the new Section 3.3 and included in the choice of options presented in Section 6.5.
Further considerations and adjustment requirements.	
(1) **The report should provide more detail regarding the conditions for activation, the link with fiscal governance, the degree of automaticity, and the room to apply judgment when deciding about disbursing funds.** The report should better explain how the scheme would work, in particular the procedure to trigger funding. The	The workings of the scheme is now explained in greater detail, see in particular section 5.2. It provides additional details on the conditions, eligibility and timing of activation. Additional evidence on the correlation of the unemployment rates and ex post output gaps confirms the timeliness of triggering. The text discusses the

issue of timing of the activation is important because it determines the point in the business cycle at which a country becomes eligible. In this vein, the report should guide the reader through how the scheme works to prevent bad outcomes, and what would happen in the event of a large macroeconomic shock. The report should also explain any interactions between stabilisation and fiscal governance. In particular, it should analyse the extent to which the obligation to respect the fiscal governance rules could hamper the stabilisation objective, given that – under the preferred option – the stabilisation instrument would not directly shrink the public deficit. The report should also better explain what kind of political decision is involved in granting funding access to a Member State. Who would decide, when and with what margin of discretion?	decision making for the instrument in more detail, delineating the degree of automaticity and discretion more clearly. The interaction with other instruments is discussed in more detail now at the end of Section 4.2. It provides additional elements on the interaction of a stabilisation function with the European fiscal framework, more specifically with the fiscal rules enshrined in the Stability and Growth Pact. The necessary minimum compliance with the Pact is designed to support the enforcement of fiscal rules without generating excessive rigidities in the functioning of the scheme. The interaction with financial assistance provided by the ESM is spelled out in additional detail as well.
(2) **The report should elaborate further the baseline scenario.** It should clarify what continuation of the status quo would mean for the resilence of the euro area. This should project the implications of the backstop put in place by the Single Resolution Fund and of potential support from the proposed EMF, including to the envisaged stabilisation function.	Section 5.1 describes in more detail the baseline scenario. The possible evolution of the ESM/EMF and its instruments is discussed in more detail, also in respect to its interaction with the stabilisation function. The risks associated with not acting beyond such a baseline are spelled out in more detail.
(3) **The report should more clearly explain the composition and funding arrangements for the scheme.** In particular, it should better develop the relation to the MFF and the EU budget. It should explain whether the scope is Euro Area (with or without ERM2 participants) or EU-27 and indicate whether a critical mass of funding would be necessary to ensure effectiveness of the scheme. The issue of subsidised loans should also be fully developed, especially regarding how high the grant element would be, how it would be funded and by whom. The report should provide clearer projections on the possible distribution of funds and acknowledge which variables are unpredictable and why. Other elements that need clarifications are possible caps and backstops that would prevent the risk of moral hazard and funding arbitrage.	The funding arrangements of option 2 areare now described further in Section 5.2. The "budgetary technique" with respect to the MFF is explained thoroughly. The geographical scope was clarified and different considerations explained. The size necessary for the scheme to provide important stabilisation was discussed further along different stylised options, see Section 6.1.3. The text now provides further detail on the operation and design (options) of the interest rate subsidy. The presentation of the distribution of support, which is covered throughout Sections 6.1 and 6.3, was reworked. Section 6.1.3 explains how past crisis periods are used to calibrate the loan support to the available funds. Specific dispositions on caps and backstops to avoid cost overruns are also described in Box 1.
(4) **The report should better elaborate how the choice of the preferred option was made and based on which criteria.** In this context, it should discuss Member States' likely diverging views for the various options and the proposed solution. It should justify the selection of preferred policy option taking into account political feasibility and proportionality. Under the preferred option, it should clarify the degree of commitment for an insurance mechanism as a longer-term solution.	The conclusions on the different options and the choice of the preferred options were detailed further, see Section 6.5. It now includes more detail about political feasibility and proportionality. The position of different stakeholders is also covered in much detail in a new subsection 3.3 and in a revised Annex 2.The possibility of a phased-in approach, allowing for the creation of an insurance mechanism in the longer term is presented in more detail.
(5) **The report should explain what success of this initiative would look like.** It should clarify what arrangements would be put in place to monitor the performance of the scheme, and to collect evidence that this delivers improved outcomes relative to the baseline. The report should also	The description of the monitoring of the scheme has been extended in Section 7. It provides a more thorough link with the objectives pursued and provides additional detail on the frequency of monitoring.An indicative list of macroeconomic indicators to be used for monitoring purposes is

clearly explain how the evaluation of the initiative would take place.	provided in Box 3.
(6) **The report should present its arguments in the logic of an impact assessment.** It should not base its analysis on the resulting Commission proposal. Rather, the analysis in the impact assessment should support the proposal.	References to the upcoming Commission proposal were removed. Text now provides a more inductive sequence of arguments, deriving policy options and considerations more directly from the problem definition.
The Board notes that this impact assessment will eventually be complemented with specific budgetary arrangements and may be substantially amended in line with the final policy choices of the Commission's MFF proposal. Some more technical comments have been transmitted directly to the author DG.	

Annex 2: Stakeholder consultation

Due to the compressed timeline for the preparation of the legal draft and the impact assessment, there was no public consultation in the traditional sense and no public inception impact assessment.

The discussion on creating a stabilisation function for the euro area is not new; it has been an important part of the overall process towards deepening the economic and monetary union (EMU) over the past years. During this period, the Commission has put forward several ideas for discussion, which have indeed steered the public debate.

Public discussion

A number of reports have been produced over the past few years emphasizing the need for a macroeconomic stabilisation function: the **Four Presidents report** in 2012, the **Five Presidents Report** in 2015, as well as the **Reflection Paper on Deepening the EMU** in May 2017.

In December 2017, then, the Commission published a **Communication on new budgetary instruments for a stable Euro Area**, explaining the concept and design features of a stabilisation function with increasing level of detail, in the run-up to the proposal for a new Multiannual Financial Framework (MFF).

The political declarations from Member States in this debate have been mixed, with some expressing strong support in principle for a stabilisation instrument while others have shown scepticism. France has been amongst the most ambitious advocates for central fiscal capacity, with President Macron (2017) proposing a permanent, fully-fledged euro area budget that would finance common public goods include migration, defence and disruptive innovation. The national ministries of economy or finance from Italy and Spain have issued papers lining out proposals for specific funds providing macroeconomic stabilisation (see below). While views floated in the German government appear mixed, the coalition agreement includes a reference to "devoting specific budget funds to economic stabilization, social convergence and structural reform in euro zone. Those funds could form the basis for a future 'investment budget' for the euro zone." In contrast, other Member States have been more sceptical of the need for an instrument for the absorption of large economic shocks, as reflected in recent speech by Dutch Prime Minister Rutte (2018). This was mirrored when the finance ministers of six euro area Member States (Estonia, Finland, Ireland, Latvia, Lithuania, the Netherlands) plus Denmark and Sweden did not mention a central fiscal capacity in their priorities for EMU reform.

Other stakeholders than Member States as well as academia have generally been supportive of the idea overall. The European Parliament's Committees on Budgets and Economic and Monetary Affairs issued a report on a budgetary capacity for the Eurozone in 2015 and the European Parliament adopted a resolution outlining a roadmap for the creation of a budgetary capacity for the Eurozone in 2017. The European Central Bank

has seen a fiscal capacity as an important part of EMU deepening (Coeuré, 2016). Other European actors such as the European Economic and Social Committee have emphasized the need for a fiscal union while the European Stability Mechanism has offered to support financially a macroeconomic stabilisation function if one is created. In the more academic literature, there is a wide array of papers supporting the case for a stabilisation function for Europe. Broad studies on fiscal union have put forward the notion of a common stabilisation capacity for coping with large shocks and share risks. This is in particular the case of surveys from international organisations such as the IMF and the OECD (e.g. Allard et al. (2013); Berger et al., 2018; OECD, 2018). These international institutions have made detailed proposals for a central fiscal stabilization capacity, with variants of an insurance mechanism and a common unemployment scheme. A non-exhaustive list of specific proposals from economic papers includes Dullien (2009, 2013), Enderlein et al. (2013), Pisani-Ferry et al. (2013), Delbecque (2013), Dolls et al. (2014), Drèze and Durré (2014), Lellouch and Sode (2014), Beblavy and Maselli (2014, 2015), Carnot et al. (2015, 2017), Benassy-Quéré et al. (2018), Arnold et al. (2018), Dullien et al. (2018) and Claveres and Stratsky (2018). Some academics have however also warned against the notion of a stabilisation function, or at least drawn attention to its risks (Feld and Osterloh, 2013; Hebous and Weichenrieder, 2015).

Discussions among Member States and the European institutions

First discussions at the Economic Financial Committee and among their alternates confirm varied views. Notably, besides some supportive and some sceptical Member States, there is a sizeable group of Member States who acknowledge the merit of in-depth discussions but do not yet hold a firm view. The proposal to be presented by the Commission in May could seek to bridge these gaps among Member States, although it is likely that extensive subsequent discussions will be needed in order to create a consensus on both the necessity and operational characteristics of such an instrument.

After the December Communication, the Commission organised several **outreach missions in Member States** to consult the main institutional stakeholders on the process of deepening the EMU. These missions consisted of targeted meetings during the visits with: Sherpas, high level representatives of Ministries of Economy and Finance and Ministries responsible for cohesion policy, national parliaments' committees, think tanks and other stakeholders.

These are the missions that took place:

- Belgium: 14 March and 21 March, meetings with Federal Parliament and Finance Ministry, Budget Ministry.
- Bulgaria: 13th / 14th February, meetings with Ministry of Finance, Cohesion policy, Central bank, National parliaments' committees, Social partners, Think tanks.
- Germany: 1st February, meetings with Ministry of Finance, Chancellery, Members of Parliament, Ministry for Economic Affairs.

- Spain: March 15, meetings with Economic experts on EMU, Secretary General of Treasury and Financial Policy, Secretary of State for the Budget.
- France: 6th February, meetings with Treasury, European affairs, Foreign affairs, central bank, think tanks.
- Italy: 5 February, meetings with Treasury, central bank, Academics.
- Netherlands: 5-6 February, meetings with Symposium Raad van State (Council of State conference) - Conference on EMU deepening and Meeting with Dutch Central Bank, Treasury, Bureau for Economic Policy Analysis (CPB), employers' organisation, MPs of Finance Committee.
- Austria: 23 February, meetings with Sherpa, Minister for EU affairs in the Federal Chancellery, Foreign Ministry, ministry of finance, Ministry of Sustainability and Tourism, Central Bank, Think Tanks and Social Partners.
- Poland: 9th February, meetings with Ministry of Finance , National Bank of Poland, Committee on the European Union in the Parliament, Ministry of Foreign Affairs, Ministry of Investment and Economic Development.
- Finland: 30th January, meetings with Prime minister Office, Finance Ministry, Ministry of Energy and Climate, Ministry of Innovation, researchers.

In addition, several discussions took place on this topic among Ministers of Finance in the **Ecofin** and **Eurogroup**, preceded by discussions in **EFC/EWG** and **EFC-A/EWG-A**.

These are the meetings in which this topic was discussed:

- Economic and Financial Committee, of 4-5 September 2017
- Informal ECOFIN - Tallinn, of 15-16 September 2017
- Eurogroup Working Group + on Fiscal framework: fiscal capacity, fiscal rules and institutions, of 27 October 2017
- Eurogroup in inclusive format of 6 November 2017
- Eurogroup in inclusive format of 4 December 2017
- Economic and Financial Committee, of 11-12 January 2018
- Eurogroup meeting of 22 January 2018
- ECOFIN Council of 23 January 2018
- Eurogroup Working Group, of 1-2 March 2018
- Eurogroup Working Group + Dinner seminar - The future of the European fiscal architecture, of 8 March 2018
- Eurogroup meeting of 12 March 2018

Annex 3: Analytical methods

This impact assessment uses various types of quantitative tools.

The problem definition relies on a retrospective analysis of the unfolding of the recent crisis and an econometric analysis of business cycles in the euro area. This analysis is based on standard macroeconomic indicators (GDP growth, output gap, public deficit and debt, sovereign spreads). The analysis also builds on more advanced tools and metrics, such as a principal component analysis to identify the common fluctuations in the business cycles of the EA Member States, the revenue windfalls/shortfalls and the fiscal stance to analyse the reaction of the governments to the crisis or the income stabilisation coefficients of the various tax systems.

To assess the potential activity and the calibration according to the financial envelope of the stabilisation function or the insurance mechanism, simulations are run based on past data (1985 to 2017). These simulations apply the proposed rules for the functioning of these mechanisms to past fluctuations in the euro area. Doing so, it is possible to compare the different options (trigger, calibrations), estimate the frequency of activation of the schemes, isolate the periods when the schemes would have been active and identify the beneficiaries. These simulations also allow calibrating the budget for both the loans support and the insurance mechanism and exemplifying their non-permanent transfer properties. The analysis was performed on data mostly from Eurostat, using the software R. The approach and the applicable caveats, including data availability, are described in the text.

An econometric analysis in panel is also mobilised to assess the positive effect of preferential interest rates provided by the stabilisation function on public investment. This analysis builds on and simplifies other works conducted by the Commission (European Commission, 2017 E) to estimate the impact of various factors on public investment dynamics. The analysis was performed using Stata, the approach and the applicable caveats are described in box 2.

The stabilisation impact of both the stabilisation function and the insurance mechanism is assessed through simulations of a macroeconomic model (QUEST).QUEST is the global macroeconomic model that the Directorate General for Economic and Financial Affairs (DG ECFIN) uses for macroeconomic policy analysis and research. It is a structural macro-model in the New-Keynesian tradition with rigorous microeconomic foundations derived from utility and profit optimisation and including frictions in goods, labour and financial markets. Models of this class are used for shock analyses and shock decompositions, for example to assess the main drivers of growth and imbalances. Many applications deal with fiscal and monetary policy. This model is also used to analyse the impact of structural reforms in the EU. The main caveat of such a model in the context of the simulations presented here are the modelling assumptions which constrain the stabilisation channels and the sensitivity of the results to the calibration.

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Annex 5: Glossary and acronyms

Acronyms

EA: Euro area
EC: European Commission
ECB: European Central Bank
EDP: Excessive deficit procedure
EFSM: European financial stabilisation mechanism
EMF: European Monetary fund
EMU: Economic and monetary Union
ESM: European stability mechanism
EU: European Union
GDP: Gross domestic product
GFCF: Gross fixed capital formation
IMF: International monetary fund
MFF: Multiannual financial framework
MIP: Macroeconomic imbalances procedure
OECD: Organisation for economic eo-operation and development
OMT: Outright Monetary Transactions
SRF: Single resolution fund
TFEU: Treaty on the functioning of the European Union
ZLB: zero lower bound

Glossary

Activity rate: The activity rate of the loan mechanism proposed as part of the stabilisation function measures the support which is provided by the scheme as a fraction of the theoretical maximum. At each point in time, not all countries receive support (see trigger) and not all support are equal to the maximum (see severe shock), therefore the activity rate will remain below 100% and increases as the economic downturn becomes more severe or widespread.

Automatic stabilisers: Features of the tax and spending regime, which react automatically to the economic cycle and reduce its fluctuations. As a result, the budget balance in per cent of GDP tends to improve in years of high growth, and deteriorate during economic slowdowns.

Banking Union The European Banking Union regroups activities of supervision of banks, resolution of bank failures and insurance of deposits at the EU level, through the single supervisory mechanism (SSM), the single resolution mechanism (SRM) and European deposit insurance scheme.

Cyclically-adjusted budget balance: See structural budget balance.

Eligibility In order to be eligible to support under the stabilisation function, Member States must meet certain criteria (regarding the conduct of the economic policies). Eligibility is a precondition to receive support if and when the economic conditions justify it (see trigger).

Excessive Deficit Procedure (EDP): A procedure according to which the Commission and the Council monitor the development of national budget balances and public debt in order to assess and/or correct the risk of an excessive deficit in each Member State.

Its application has been further clarified in the Stability and Growth Pact.

Fiscal consolidation: An improvement in the budget balance through measures of discretionary fiscal policy, either specified by the amount of the improvement or the period over which the improvement continues.

Fiscal policy Fiscal policy refers to the decisions influencing the level and composition of government expenditure and revenue, budget deficits and government debt. Fiscal policy is a pivotal element of macroeconomic stability. In a monetary union, such as the euro area, sovereign states retain responsibility for their fiscal policies. Fiscal discipline and coordination are nevertheless needed to have a significant impact on economic growth, macroeconomic stability and inflation.

Medium-term budgetary objective (MTO): According to the reformed Stability and Growth Pact, stability programmes and convergence programmes present a medium-term objective for the budgetary position. It is country-specific to take into account the diversity of economic and budgetary positions and developments as well as of fiscal risks to the sustainability of public finances, and is defined in structural terms (see structural balance).

Multiannual Financial Framework (MFF) The MFF lays down the maximum annual amounts (ceilings) which the EU may spend in 5 different categories of expenditure (headings) over a period of at least five years. The current MFF covers 2014-2020 for a total amount of EUR 1 trillion. It provides a framework for financial programming and budgetary discipline by ensuring that EU spending is predictable and stays within the agreed limits.

Output gap: The difference between actual output and estimated potential output at any particular point in time.

Own resources Own resources are the EU's revenue. The different types of own resources and the method for calculating them are set out in a Council Decision on own resources. It also limits the maximum annual amounts of own resources that the EU may raise during a year to 1.20 % of the EU gross national income (GNI). EU expenditure must be completely covered by such revenue. Revenues in excess of expenditures can be refered to as the margin.

Pro-cyclical fiscal policy: A fiscal stance which amplifies the economic cycle by increasing the structural primary deficit during an economic upturn, or by decreasing it in a downturn. A neutral fiscal policy keeps the cyclically-adjusted budget balance unchanged over the economic cycle but lets the automatic stabilisers work.

Public investment: The component of total public expenditure through which governments increase and improve the stock of capital employed in the production of the goods and services they provide.

Severe shock: In the context of the loan support, severe shock refers to the annual increase in unemployment beyond which the maximum support is made available to the Member State. Below this magnitude, the support is proportionate to the increase in unemployment.

Structural budget balance: The actual budget balance net of the cyclical component and one-off and other temporary measures. The structural balance gives a measure of the underlying trend in the budget balance.

Stabilisation function: The concept of stabilisation function is also referred to as stabilisation capacity, fiscal capacity or central (or common) fiscal stabilisation capacity (CFC).It consists of a pooling of public resource which would be used to reinforce fiscal policies coordination in the union (see fiscal policy).

Trigger The trigger of the stabilisation function identifies thanks to economic indicators when support should be provided to Member States who are eligible.