European Commission

ISSN 2443-8014 (online)

The Macroeconomic Imbalance Procedure

Rationale, Process, Application: A Compendium

INSTITUTIONAL PAPER 039 | NOVEMBER 2016

EUROPEAN ECONOMY

Economic and Financial Affairs

European Economy Institutional Papers are important reports analysing the economic situation and economic developments prepared by the European Commission's Directorate-General for Economic and Financial Affairs, which serve to underpin economic policy-making by the European Commission, the Council of the European Union and the European Parliament.

Views expressed in unofficial documents do not necessarily represent the views of the European Commission.

This paper exists in English only and can be downloaded from http://ec.europa.eu/economy_finance/publications/.

More information on the European Union is available on http://europa.eu.

Luxembourg: Publications Office of the European Union, 2016

KC-BC-16-039-EN-N (online)
ISBN 978-92-79-54353-1 (online)
doi:10.2765/958247 (online)

KC-BC-16-039-EN-C (print)
ISBN 978-92-79-54352-4 (print)
doi:10.2765/245440 (print)

European Commission
Directorate-General for Economic and Financial Affairs

The Macroeconomic Imbalance Procedure

Rationale, Process, Application: A Compendium

EUROPEAN ECONOMY Institutional Paper 039

FOREWORD

The Macroeconomic Imbalance Procedure (MIP) was introduced in the midst of the economic and financial crisis, with a view to strengthen EU macroeconomic surveillance in areas not covered by the Stability and Growth Pact (SGP). It is now time to take stock of MIP implementation and draw lessons for the future. This Compendium on the MIP serves the purpose of increasing transparency on the main objectives and features of the procedure, and on the way the MIP is applied.

As compared with the SGP, which focuses on budgetary policy and is rules-based, the MIP has a broader focus and discretionary elements. Judgment plays a larger role in the MIP because there are no obvious rules-based criteria for the identification and assessment of macroeconomic imbalances. The drivers of macroeconomic instability are multi-dimensional phenomena, which need to be assessed together and account for country-specific features. For these reasons, the Commission analyses underlying MIP decisions are based on a wide range of indicators and analytical tools aimed at assessing economic conditions and their implications from a forward-looking perspective, as well as on a thorough assessment of policies.

Since its introduction, the application of the MIP has converged towards more stable practices through incremental learning and feedback, reinforced by continuous interaction between the Commission and the Council. The procedure was applied actively and with the stability-oriented focus that was the basis for its introduction in the first place. Experience suggests that MIP surveillance raised awareness of challenges faced by Member States and created a basis for consensus towards policy responses. The MIP reinforced dialogue between the Commission, the Council, and the Member States concerned. Overall, even though it is too early to make a definitive judgement, the experience garnered to date through its implementation and available data indicate that MIP surveillance helped strengthen policy commitments and compliance with EU recommendations.

As indicated in the June 2015 Five Presidents' report and in the October 2015 *Commission Communication on Steps towards completing EMU*, an effective implementation of the MIP is among the priorities of the Commission. This procedure is a tool to identify potentially harmful imbalances, ensure adequate follow up and policy response, with a particular relevance for the euro-area. This report aims to provide an overview of how the framework functions and how its application has evolved over time.

Marco Buti

Director General

Economic and Financial Affairs

ABBREVIATIONS

Member States

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EI	Ireland
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IT	Italy
LV	Latvia
LT	Lithuania
LU	Luxembourg
MT	Malta
NL	The Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom
EA	Euro area
EU	European Union

Other

AGS	Annual Growth Survey
AMR	Alert Mechanism Report
AWG	Working Group on Ageing Populations and Sustainability
BAMC	Bank Asset Management Company
BEPGs	Broad Economic Policies Guidelines
BPM5/ESA95	Balance of Payments and International Investment Position Manual, fifth edition / European System of National and Regional Accounts
BPM6/ESA10	Balance of Payments and International Investment Position Manual, sixth edition/ European System of National and Regional Accounts
CAP	Corrective Action Plan
CF	Cohesion Fund
CPI	Consumer Price Index
CR	Country Report
CSRs	Country Specific Recommendations
DG ECFIN	Directorate-General Economic and Financial Affairs

DG EMPL	Directorate-General Employment, Social Affairs and Inclusion
DG GROW	Directorate-General Internal Market, Industry, Entrepreneurship and SMEs
DG TAXUD	Directorate-General Taxation and Customs Union
DSA	Debt Sustainability Analysis
EAFRD	European Agricultural Fund for Rural Development
EBA	External Balance Assessment
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs Council
EFSF	European Financial Stability Facility
EFSM	European Financial Stabilisation Mechanism
EIP	Excessive Imbalance Procedure
EMFF	European Maritime and Fisheries Fund
EMS	Export Market Share
EMU	Economic and Monetary Union
EPC	Economic Policy Committee
ERDF	European Regional Development Fund
ERM	Exchange Rate Mechanism
ESF	European Social Fund
ESI(F)	European Structural and Investment (Funds)
ESRB	European Systemic Risk Board
ESM	European Stability Mechanism
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
IDR	In-Depth Review
IMF	International Monetary Fund
LIME	Lisbon Methodology
MIP	Macroeconomic Imbalance Procedure
NIIP	Net International Investment Position
NRP	National Reform Programme
OECD	Organisation of Economic Co-operation and Development
OGWG	Output Gap Working Group
PPS	Post-Programme Surveillance
QMV	Qualified Majority Voting
R&D	Research and Development
REER	Real Effective Exchange Rate
RQMV	Reversed Qualified Majority Voting
SCP	Stability and Convergence Programmes
SGP	Stability and Growth Pact
SPB	Structural Primary Balance
SWD	Staff Working Document
TFEU	Treaty on the Functioning of the European Union
ULC	Unit Labour Cost

ACKNOWLEDGEMENTS

This report was prepared in the Directorate-General of Economic and Financial Affairs under the supervision of Marco Buti (Director-General), Servaas Deroose (Deputy-Director General) and Anne Bucher (Director, Structural Reforms and Competitiveness Directorate).

The production of the report was coordinated by Alessandro Turrini (Head of Unit – Macroeconomic Imbalances and Adjustment) and Aurora Mordonu. The main contributors were Jean-Charles Bricongne, Jonas Fischer, Aurora Mordonu, Anda Patarau, Alessandro Turrini. Analytical inputs were provided by Katia Berti, Aron Kiss, Josefina Monteagudo, Daniel Monteiro, Peter Pontuch, Lukas Vogel, Stefan Zeugner.

Riccardo De Bosio and Adja Sissoko provided statistical assistance, while Barbara Secreto ensured secretarial support.

The report has benefited from useful comments and suggestions received from many colleagues in the Directorate-General for Economic and Financial Affairs, in other DGs and in the Secretary General of the European Commission.

Comments on the report would be gratefully received at the following email address:

aurora-maria.mordonu@ec.europa.eu.

EXECUTIVE SUMMARY

This Compendium takes stock of the implementation of the Macroeconomic Imbalance Procedure (MIP) five years after its introduction. The Compendium presents the MIP rationale; reiterates the legal and procedural aspects of the MIP; discusses principles, criteria and analytical frameworks used in the MIP implementation; and reviews the MIP application in practice. By doing that, this report provides a wealth of information that helps to understand what the MIP is, how it works, and how its application has evolved since its introduction. The objective of this publication is to present the MIP and its implementation in a spirit of transparency, in line with the October 2015 Commission Communication on "On Steps towards completing Economic and Monetary Union" also with a view to future MIP decisions.

The MIP was established after the 2008-2009 financial crisis with the aim of strengthening EU economic governance in order to support macro-financial stability. The introduction of the euro was followed by a narrowing of interest rate differentials and large capital flows from the euro-area core to the euro area periphery and the economies of the new Member States. At the same time, these flows were matched by growing current account imbalances, inflation differentials and divergent price competitiveness; and in some cases with a contribution to the financing of asset market bubbles in recipient countries, notably housing. The 2008-2009 crisis was accompanied by a general reappraisal of risk in financial markets and acted as a trigger for sudden stops and reversals in current account financing and for the burst of asset bubbles.

The events following the financial crisis underscored the necessity to strengthen the macroeconomic surveillance framework in the EU in aspects beyond fiscal policy. Macro-financial and macro-structural aspects driving the accumulation of both external (e.g., large current account imbalances) and internal imbalances (excess debt accumulation or the building up of housing bubbles) revealed themselves as key factors in triggering balance of payment crises and debt crises, and the need for financial assistance in some cases. With a view to provide an integrated response to economic and social challenges, the EU's economic governance framework was organised in an annual cycle, known as the European Semester, of which the application of the MIP is an integral part.

The main rationale for a supra-national surveillance mandate builds on the fact that macroeconomic imbalances and economic policies in one country have relevance also for other Member States. This is due not only to the fact that in highly integrated economic areas economic developments in one country spill over to other countries, but also to the fact that, if left unaddressed, macroeconomic imbalances may compromise the proper functioning of the monetary union and the common policies and institutions of the Union, such as the Single Market.

The MIP legal framework consists of Regulation (EU) No 1176/2011 on the "prevention and correction of macroeconomic imbalances", and Regulation (EU) No 1174/2011 on "enforcement measures to correct excessive macroeconomic imbalances," which find their legal basis in the Treaty articles dealing with economic policy coordination (Articles 121 and 136 of the Treaty on the functioning of the European Union). Regulation No 1176/2011 outlines the procedure, while Regulation No 1174/2011 details an enforcement mechanism, including pecuniary sanctions applying only to euro-area economies. Regulation No 1176/2011 foresees that if the Commission identifies macroeconomic imbalances in a Member State and proposes action, the Council can issue recommendations, on the basis of a Commission recommendation, to the Member State concerned.

Regulation No 1176/2011 defines imbalances in a rather general, but still comprehensive manner, requiring economic interpretation. A difference is made between “imbalances” and “excessive imbalances”, both implying possible recommendations by the Council upon Commission proposal and the activation of surveillance. Surveillance of countries identified with imbalances takes place in the framework of the MIP "preventive action". The identification of excessive imbalances implies a stronger surveillance process, possibly leading to the launch of the corrective arm of the MIP, the Excessive Imbalance Procedure (EIP), which also contemplates sanctions for the euro-area countries.

As compared with the surveillance framework of the SGP, MIP surveillance is not equally driven by numerical rules and automatic triggers. A scoreboard of indicators with indicative thresholds serves as a filtering device for detecting *prima-facie* cases of possible imbalances deserving further investigation. Regulation No 1176/2011 rules out a mechanistic reading of the scoreboard. The scoreboard is maintained, updated and modified by the Commission services in consultation with the Council and the Parliament. An annual Alert Mechanism Report (AMR) presents findings from the economic reading of the scoreboard, discusses macroeconomic risks linked to imbalances from a horizontal perspective, and selects the countries that require further investigation in In-Depth Reviews (IDRs) to assess the possible presence of imbalances.

It is the analysis carried out in the IDRs that provides the basis for the identification of the imbalances, their nature and their assessment by the Commission. IDR analysis, which is an integral part of European Semester Country Reports, makes use of updated and specific information at the country level and analytical tools developed by the Commission services and discussed in Council Committees.

No simple and mechanistic criteria are available for the identification of macroeconomic imbalances because drivers of macroeconomic instability are multi-dimensional phenomena whose severity needs to be assessed along several aspects and taking into account also country-specific features, notably linked to the adjustment capacity of the economy. Consequently, the Commission analysis has been consistent with a number of *basic principles and criteria*:

- The identification and assessment of imbalances needs to be consistent with the main rationale of the MIP; namely, that of preserving macroeconomic stability.

- The presence of imbalances is assessed not only from a backward, but especially from a forward-looking perspective. It takes into account the risks for macroeconomic stability linked to the disorderly correction of *unsustainable trends* or the propagation of shocks in a context of generalised *vulnerabilities*.

- Elements linked to growth and employment are part of the assessment of these risks, including from the viewpoint of the capacity of the economy to adjust in the presence of existing imbalances. This is particularly relevant for the social consequences of the crisis and because long, drawn-out negative employment and social developments can have a negative impact on potential GDP growth in a variety of ways and risk compounding macroeconomic imbalances.

- Imbalances are evaluated not only from a national perspective, but also in relation to their implications for the euro area and the EU. As foreseen by Regulation No 1176/2011, the MIP applies symmetrically, implying, inter-alia, surveillance of current account deficits as well as surpluses, while taking into account that the need for policy action to reduce vulnerabilities is particularly pressing in Member States showing persistently large current-account deficits.

- The assessment of macroeconomic imbalances, notably whether imbalances are to be considered excessive, is based on the gravity of such imbalances. This means on the basis of the sheer size of the imbalances as revealed by relevant indicators, their evolution, and the MIP-relevant policy response of the Member States concerned, while taking into account the adjustment capacity and spillovers.

- Although the assessment of macroeconomic imbalances tends to remain relatively stable over time, the assessment is updated when necessary in light of the annual review process. This is done mainly on the basis of the evolution of relevant indicators summarising imbalances and the policy response.

MIP surveillance endeavours to both avoid the accumulation of unsustainable trends or vulnerabilities and ensure a proper adjustment of existing imbalances. MIP surveillance was introduced in a period in which a number of Member States were already undergoing a process of unwinding of existing imbalances. Hence, the

aim of the MIP in the first years of its implementation was especially to monitor the correction of imbalances and issue recommendations aimed at adjusting policy frameworks in order to make adjustment effective and durable, while containing social costs. MIP surveillance covered a broad set of policy areas and was embedded in the enhanced EU economic surveillance. Recommendations in the framework of the preventive arm of the Stability and Growth Pact (SGP), the Europe 2020 strategy, the Broad Economic Policy Guidelines, the Employment Guidelines, and the MIP, were integrated into a single package of Council Country Specific Recommendations (CSRs), and aligned into the European Semester.

As opposed to fiscal surveillance under the SGP, where the concerned policy domains and policy instruments are rather well defined and with a rather clear connection to the final objective – i.e., ensuring sustainable public finances – in the case of the MIP, the range of policy fields concerned is wider and the link between policy instruments and objectives often indirect. This is not only because the MIP objectives are broader and more diverse (ranging from the reduction of unsustainable current account imbalances to the prevention of asset bubbles, to the recovery of competitiveness), but also because multiple policy fields may need to be activated to achieve certain objectives (e.g., policies to restore competitiveness could in principle span a very wide set of policy fields). Countries subject to MIP surveillance consistently received a higher number of CSRs compared with other countries, and in a wider range of policy fields. The distribution of MIP-relevant CSRs across policy fields reflected the challenges faced by countries under MIP and the specific objectives of the MIP surveillance, notably financial stability and structural adjustment.

To better modulate the MIP surveillance, the Commission initially further differentiated the categorisation of the macroeconomic imbalances identified in the IDRs as compared with the three categories foreseen in Regulation No 1176/2011 ("no imbalances", "imbalances", "excessive imbalances").

For countries for which excessive imbalances were identified, upon the recommendation of the Commission, the Council so far adopted more detailed and time-bound CSRs in the context of MIP preventive action, keeping open the possibility of proposing to initiate the EIP at a later stage should risks further deteriorate. An enhanced framework of *specific monitoring* process has been applied to all countries under MIP surveillance to ensure the implementation of policy commitments. The EIP has, so far, not been launched for any countries identified as having excessive imbalances.

All in all, it is relatively early for a definitive assessment of the MIP surveillance, but the experience with the first five years of MIP application suggests that the procedure helped raise awareness of challenges faced by Member States concerned and created a basis for consensus towards policy responses, as was highlighted in the Commission Communication on the six-pack review. ([1]) Application of the MIP was subject to incremental learning and feedback, and reinforced by a continuous dialogue between the Commission and the Council, with convergence towards more stable practices. The track record also suggests that MIP surveillance was associated with stronger progress with the implementation of policy recommendations. The Commission and the Council also participate in an intensive economic dialogue with the European Parliament to ensure greater transparency and accountability of its decisions under the European Semester, including the MIP.

An effective implementation of the MIP is among the priorities of the Commission, as indicated in the June 2015 report *Completing Europe's Economic and Monetary Union* by Jean Claude Juncker, in close cooperation with Donald Tusk, Jeroen Dijsselbloem, Mario Draghi, and Martin Schultz; as well as in the October 2015 Commission Communication on "On Steps towards completing Economic and Monetary Union". This means, first of all, a transparent and stable framework, where the rationale underlying the decisions taken in the context of the MIP is

([1]) Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee, and the Committee of the Regions: Economic governance review. Report on the application of Regulations (EU) No 1173/2011, 1174/2011, 1175/2011, 1176/2011, 1177/2011, 472/2013 and 473/20131. Brussels, 28.11.2014 COM(2014) 905 final

clearly communicated. In this respect, in the Spring 2016 European Semester package the Commission has taken steps to improve the communication of its MIP-relevant analysis in the Country Reports and has simplified and streamlined the categorisation of macroeconomic imbalances, with the idea of keeping it stable in the future. The follow up to the identification of excessive imbalances should imply an adequate activation of surveillance to ensure a sufficiently strong policy response in line with the challenges faced. With a view to better take into account the euro area dimension in the activation of the MIP, euro area considerations will be better integrated into the analysis and the recommendations of the Commission.

CONTENTS

LIST OF TABLES

LIST OF GRAPHS

LIST OF BOXES

1. INTRODUCTION

1.1. The origins of the Macroeconomic Imbalance Procedure (MIP)

The experience with the first ten years of the euro revealed that the surveillance of macroeconomic imbalances had to be enhanced. The period after the introduction of the euro was characterised by a narrowing of interest rate differentials and large capital flows from the euro-area core to the euro area periphery and the economies of the New Member States. Downhill capital movements underpinned sustained growth rates in a number of countries in the euro area periphery and countries of recent accession to the EU. At the same time, these flows were accompanied by growing current account imbalances, inflation differentials and divergent price competitiveness; and in some cases housing market bubbles in recipient countries.

Even before the 2008-2009 financial crisis, there was increased awareness that growing divergences in inflation, price competitiveness, and current account balances across the euro area and the EU had to be closely monitored, with a view to ensuring a smooth functioning of the monetary union and preventing the risk of sudden stops in capital flows (see Box 1.1). The 2008-2009 crisis was accompanied by a general reappraisal of risk in financial markets and acted as a trigger for a sudden stop of capital flows and reversals in current account financing. Initially, the impact on external financing was felt mostly in those non-euro area Member States that had been accumulating large current account deficits. As the economic and financial crisis unfolded, financial assistance was also required for some euro-area countries.

This recent financial crisis underscored the need to strengthen macroeconomic surveillance and broaden the scope, in addition to fiscal surveillance: macro-financial and macro-structural aspects pertaining both to external imbalances (current accounts, external debt) and internal imbalances (private indebtedness, housing market dynamics, financial sector liabilities) revealed themselves as key factors in triggering balance of payment crises and needs for financial assistance. ([2])

1.2. Main features, aim, and scope

The Macroeconomic Imbalance Procedure (MIP) was introduced as part of the so called "Six-Pack" legislation that entered into force on 13 December 2011. It comprises two regulations amending the existing fiscal surveillance framework (SGP regulations), an additional regulation on sanctions related to budgetary surveillance in the euro area, a directive on fiscal frameworks ([3]) and two MIP regulations. One of the two MIP regulations, Regulation No 1176/2011, details the procedure, while the other regulation, Regulation No 1174/2011, introduces the MIP enforcement mechanism. ([4]) Overall, the aim of the Six-Pack was to enhance the surveillance of economic and social policies in the EU Member States, by organising the EU economic governance system annually in a cycle, known as the European Semester.

The MIP aims to address potentially harmful macroeconomic imbalances. The MIP details surveillance elements to prevent and correct macroeconomic imbalances, thereby broadening surveillance and economic policy coordination to "entail compliance with the guiding principles of stable prices, sound and sustainable public finances and monetary conditions and a sustainable balance of payments". ([5]) The definition of imbalances provided in Regulation No 1176/2011 is sufficiently broad to encompass macro stability

([2]) Some of the Member States concerned by financial assistance programmes like Latvia, Ireland, Spain, had a good track record with the respect of the SGP rules before the crisis unfolded.

([3]) Council Regulation (EU) No 1177/2011 amending Regulation (EC) No 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure, Regulation (EU) No 1175/2011 of the European Parliament and of the Council amending Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies, Regulation (EU) No 1173/2011 of the European Parliament and of the Council on the effective enforcement of budgetary surveillance in the euro area and Council Directive 2011/85/EU on requirements for budgetary frameworks of the Member States.

([4]) The legal basis of the MIP is discussed in detail in chapter 2.

([5]) See Recitals 1-9 and 17 of Regulation (EU) No 1176/2011 on the broad aim of the MIP.

Box 1.1: The genesis of the MIP

Awareness of the need of increased surveillance of macroeconomic imbalances predates the financial crisis. Growth, inflation and competitiveness differentials, as well as current account imbalances were regularly monitored since the start of EMU by the Commission and discussed in Council Committees. The emergence of significant competitiveness divergences, current account imbalances, and housing market booms in the second half of the 2000s in some euro-area countries and New Member States were perceived as potentially risky developments by a number of observers and were identified as requiring increased surveillance by the Commission in its report taking stock on the first EMU decade. ([1])

The crisis prompted the unwinding of imbalances accumulated in the first EMU decade with negative spillovers across the EU. After the bankruptcy of Lehman Brothers in 2008 capital moved away from risky assets, notably stocks and low grade corporate bonds. The banking sector deleveraged not only by means of asset sales, but also by reducing credit supply. Some EU countries where the private or the public sector was heavily relying on external funding were hit hard as financing from abroad, both market and bank-based, stopped flowing. Current account reversals were recorded first in countries outside the euro area, and balance of payments assistance became necessary for Latvia, Hungary and Romania. The recession, coupled with the tightening of lending standards, translated into housing markets busts in several countries, notably Spain, Ireland, and the Baltics. The balance sheets of a number of major banks were impaired and re-capitalisation required government bail-out in some countries. The debt crisis in Greece required putting in place an inter-governmental framework for crisis management involving financial assistance to a euro-area Member. The Greek debt crisis was followed by debt crises in other euro area countries, and financial assistance programmes followed for Ireland, Portugal, Spain, and Cyprus.

The crisis led to a rethinking of European economic governance in the EU. The European Council of 26 March 2010 delegated work to a Task Force on Economic Governance chaired by the President of the European Council, acting in cooperation with the Commission, representatives of Member States, the ECB, and the rotating EU Council Presidency. ([2]) In its May 2010 Communication, the Commission proposed to organise the reform of EU governance along four pillars: reforming the Stability and Growth Pact (SGP), enhancing the surveillance of macroeconomic imbalances, integrating economic surveillance along a revised calendar (the EU Semester), creating a permanent system for crisis management for the euro area. ([3]) Proposals for a revised framework for economic governance were prepared by the Commission on September 2010. The lines of reform detailed in the proposals were largely endorsed in the report by the Task Force on Economic Governance in October 2010. Revised Regulations were adopted by the European Parliament and the Council on 16 November 2011.

([1]) European Commission, "EMU@10-Successes and challenges after ten years of Economic and Monetary Union", *European Economy*, 2008.
European Commission, "Quarterly report on the Euro Area" Special report on "Competitiveness developments within the euro area", March 2009.
([2]) The objectives of that task force were to (i) achieve greater budgetary discipline, (ii) reduce divergences in competitiveness between Member States when they are too big so as to reach more even development within the Union, (iii) have an effective crisis mechanism to be able to deal with problems such as those faced by the Eurozone in the years of the crisis, and (iv) linked to the former, to strengthen the economic governance in institutional terms to be able to act more quickly and in ore coordinated and efficient manner (remarks by Herman van Rompuy, President of the European Council following the first meeting of the Task force on economic governance, Brussels 21 May 2010)).
([3]) Commission Communication, "Reinforcing economic policy coordination", COM (2010) 250, 12 May 2010.

risks originating from different types of economic conditions and trends, such as current account imbalances, foreign and domestic public and private indebtedness, diverging competitiveness trends, housing bubbles, etc.

The MIP has both a precautionary objective and the objective of ensuring an effective correction of macroeconomic imbalances. The MIP surveillance endeavours to avoid unsustainable booms in good times and unsustainable trends leading to losses of

competitiveness. In this respect, it has a precautionary objective fully embedded in the overall framework of economic policy surveillance. The MIP also aims to ensure a smooth correction of existing imbalances. The MIP surveillance was launched in a period in which a number of Member States were already involved in a process of unwinding existing imbalances. In such a context, the aim of the MIP was to monitor and support the correction of imbalances and support recommendations as part of the European Semester aimed at adjusting policy frameworks with a view to effective and durable adjustment, while containing economic and social costs.

Employment and social aspects receive attention in MIP surveillance. The adjustment process following the unwinding of imbalances is often associated with labour market distress and worsening social conditions linked to increased joblessness, inactivity, stagnating incomes. Surveillance under MIP aims at fostering adjustment while addressing its social implications.

The MIP details a number of steps to identify imbalances in Member States, to recommend policy action, and to ensure adequate monitoring and enforcement. All countries concerned by MIP surveillance are screened by means of a set of indicators (the MIP "scoreboard") whose economic reading, complemented by additional relevant information is contained in an annual Alert Mechanism Report (AMR) issued by the Commission (see Sections 3 and 4 for more details). The AMR indicates the countries for which In-Depth Reviews (IDRs) are to be prepared on the basis of prima-facie evidence suggesting the possible presence of imbalances. IDR findings are communicated by the Commission to the European Parliament, the Council, and the Eurogroup. Countries identified with imbalances in IDRs are subject to possible recommendations issued by the Council, upon a recommendation by the Commission as part of the broader set of country-specific recommendations under the European Semester cycle.

The MIP implies two types of action: preventive and corrective. Regulation No 1176/2011 foresees preventive action for countries identified with imbalances. MIP-relevant country-specific recommendations are issued to address imbalances and foster adjustment, and the implementation of the recommended policies is subject to a process of specific monitoring. For countries with excessive imbalances, the Council, upon a recommendation of the Commission, can recommend policy action in combination with an enhanced surveillance procedure. This is referred to as "Excessive Imbalance Procedure (EIP)" in Regulations No 1176/2011 and 1174/2011, and corresponds to the corrective arm of the MIP. ([6]) The EIP foresees the possibility of sanctions in the event of repeated non-compliance by euro area Member States.

MIP surveillance is wide in coverage and does not follow automatic numerical rules. It is broad in scope since it needs to cover all different areas where macroeconomic risks may appear (excessive debt, competitiveness losses, housing bubbles, etc.). A broad range of policy areas are potentially of MIP pertinence, as the correction of imbalances may require action on a wide range of fronts. In comparison to EU fiscal surveillance, numerical rules play a role only at the start of the MIP process, in the form of a prima-facie screen of possible risks in the AMR by means of the scoreboard. As challenges are multi-faceted and recommendations may concern a large array of policy instruments, numerical targets and triggers applied across the board cannot solely capture the underlying economic complexity.

MIP surveillance is integrated into the annual EU multilateral surveillance cycle – the European Semester. The MIP is consistent with other aspects of the EU surveillance. Inter-alia, MIP-related recommendations add to and need to take into account the existing EU recommendations and commitments by Member States in the framework of budgetary surveillance under the SGP, the Europe 2020 strategy, economic surveillance linked to the Broad Economic Policies Guidelines (BEPGs), the Employment Guidelines (EG), and national commitments in the framework of Exchange Rate Mechanism (ERM) II. MIP-related recommendations also need to take into account

([6]) Hence, the distinction between preventive and corrective action in the MIP is not based on a different aim of surveillance (preventing versus correcting imbalances) but on the extent of activation of surveillance.

warnings and recommendations by the European Systemic Risk Board (ESRB).

1.3. Rationale

The main rationale for a supra-national surveillance mandate builds on the fact that macroeconomic imbalances in one country have relevance also for other Member States. This is the case especially for countries belonging to the monetary union.

- First, the economic policies of highly integrated countries are a matter of common concern in light of deep trade and financial links; this gives origin to potential *spillovers* and cross-border repercussions. Typical examples are policies in one country that can potentially have relevant effects on macro-financial stability, competitiveness or trade balances of its partners. Supranational surveillance and coordination is thus required to take into account the presence of spillovers.

- Second, if left unaddressed, macroeconomic imbalances may compromise the proper *functioning of the monetary union and the common policies and institutions of the Union.* For instance, as witnessed in the run up to the crisis, large and persistent inflation and competitiveness divergences would be matched by a gradual accumulation of external imbalances and the risk of a sudden stop or reversal of capital flows with possibly disruptive implications in terms of financial market integration and leading to divergences in economic conditions. Moreover, persistent competitiveness divergences tend to reduce the effectiveness of the single monetary policy in pursuing price stability and stabilisation objectives, and could, over time, affect the extent to which Member States are able to fulfil single market commitments.

- Third, the emergence of major macroeconomic imbalances in one country (e.g., external debt, household debt, corporate debt) may lead to the insolvency of large financial institutions, sovereign debt crises, or difficulties in maintaining exchange rate arrangements, potentially leading to a loss of market access and the need for triggering *financial assistance*. Prudent behaviour on the part of countries to avoid excess borrowing is therefore in the common interest, as is responsible lending.

Supra-national surveillance supports effective policy making at national level in several respects, including by anchoring priorities and helping national authorities to commit to their long-term reform agenda, and by offering a framework for mutual exchange and the establishment of best practices. The MIP applies to all EU countries, but is of particular importance for euro-area countries. It provides surveillance of imbalances for a group of countries sharing the same currency, while keeping largely autonomous policies in the fiscal and financial domain.

1.4. Structure of the report

The report is structured as follows. Chapter 2 presents the legal underpinnings of the MIP. Chapter 3 provides details on implementation aspects and discusses the economic criteria used by the Commission in MIP analysis. Chapter 4 takes stock of MIP outcomes since inception, including on the basis of data analysis.

2. THE MIP LEGAL FRAMEWORK

2.1. Introduction

The main elements of the Macroeconomic Imbalance Procedure (MIP) are contained in the EU secondary legislation. The regulation describing the functioning of the MIP foresees a number of steps to be followed in the implementation of the MIP by the Commission and the Council, and implications for the Member States under MIP surveillance. A second regulation focuses on an enforcement mechanism with pecuniary sanctions for euro-area countries.

Some aspects of the functioning of the MIP depend on the practice followed by the Commission and Council in applying the MIP. Although relatively detailed, Regulation No 1176/2011 does not specify which actions are to be taken in all contingencies, and leaves some elements in applying the MIP to the discretion of the Commission and the Council. This reflects the challenge of legislating on a complex, evolving, and multi-faceted matter such as macroeconomic imbalances.

This chapter is organised as follows: it starts with a description of the legal basis of the MIP; sketches the broad stages through which the MIP unfolds; presents the MIP regulations; and ends with descriptions of procedural aspects that are not included in the regulations.

2.2. Legal basis and subject matter

Regulation (EU) No **1176/2011** details the procedure and applies to all EU Member States concerned by the MIP, while **Regulation (EU)** No **1174/2011** provides for an enforcement mechanism for the euro area countries.

The MIP regulations find their legal basis in the Treaty articles dealing with economic policy coordination. The main Treaty basis for MIP surveillance is Article 121 of the Treaty on the Functioning of the European Union (TFEU), providing the rationale for multilateral surveillance in the EU, the Broad Economic Policy Guidelines, and the Country-Specific Recommendations consistent with these guidelines. More precisely, the MIP aims to supplement Article 121 TFEU with specific rules for the detection, prevention and correction of macroeconomic imbalances (Recital 9 to Regulation No 1176/2011). The Treaty basis for the enforcement mechanism of Regulation No 1174/2011 is Article 136 TFEU, in combination with Article 121 TFEU, which provides the grounds for strengthened surveillance and coordination for euro-area countries (see Box 2.1).

The MIP is embedded in the EU economic governance cycle defined by the European Semester. Article 1(2) of Regulation No 1176/2011 states that "This Regulation shall be applied in the context of the European Semester as set out in Regulation (EU) No 1175/2011 of the European Parliament and of the Council of 16 November 2011 amending Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies".

In implementing the MIP, the Commission and the Council are bound to respect a number of national prerogatives, including the role of national parliaments and social partners. Recital 25 of Regulation No 1176/2011 states that the Commission and the Council should fully respect the role of national parliaments and social partners, as well as differences in national systems, such as the system for wage formation. Article 1(3) states that "this Regulation takes into account Article 28 of the Charter of Fundamental Rights of the European Union, and accordingly does not affect the right to negotiate, conclude or enforce collective agreements or to take collective action in accordance with national law and practices". Article 6(1) of Regulation No 1176/2011 requires that "the recommendations of the Council and of the Commission shall fully observe Article 152 TFEU and shall take into account Article 28 of the Charter of Fundamental Rights of the European Union".

Box 2.1: Treaty basis for MIP surveillance

Article 121 TFEU

1. Member States shall regard their economic policies as a matter of common concern and shall coordinate them within the Council, in accordance with the provisions of Article 120.

2. The Council shall, on a recommendation from the Commission, formulate a draft for the broad guidelines of the economic policies of the Member States and of the Union, and shall report its findings to the European Council.
The European Council shall, acting on the basis of the report from the Council, discuss a conclusion on the broad guidelines of the economic policies of the Member States and of the Union.
On the basis of this conclusion, the Council shall adopt a recommendation setting out these broad guidelines. The Council shall inform the European Parliament of its recommendation.

3. In order to ensure closer coordination of economic policies and sustained convergence of the economic performances of the Member States, the Council shall, on the basis of reports submitted by the Commission, monitor economic developments in each of the Member States and in the Union as well as the consistency of economic policies with the broad guidelines referred to in paragraph 2, and regularly carry out an overall assessment.
For the purpose of this multilateral surveillance, Member States shall forward information to the Commission about important measures taken by them in the field of their economic policy and such other information as they deem necessary.

4. Where it is established, under the procedure referred to in paragraph 3, that the economic policies of a Member State are not consistent with the broad guidelines referred to in paragraph 2 or that they risk jeopardising the proper functioning of Economic and Monetary Union, the Commission may address a warning to the Member State concerned. The Council, on a recommendation from the Commission, may address the necessary recommendations to the Member State concerned. The Council may, on a proposal from the Commission, decide to make its recommendations public.
Within the scope of this paragraph, the Council shall act without taking into account the vote of the member of the Council representing the Member State concerned.
A qualified majority of the other members of the Council shall be defined in accordance with Article 238(3)(a).

5. The President of the Council and the Commission shall report to the European Parliament on the results of multilateral surveillance. The President of the Council may be invited to appear before the competent committee of the European Parliament if the Council has made its recommendations public.

6. The European Parliament and the Council, acting by means of regulations in accordance with the ordinary legislative procedure, may adopt detailed rules for the multilateral surveillance procedure referred to in paragraphs 3 and 4.

Article 136 TFEU

1. In order to ensure the proper functioning of Economic and Monetary Union, and in accordance with the relevant provisions of the Treaties, the Council shall, in accordance with the relevant procedure from among those referred to in Articles 121 and 126, with the exception of the procedure set out in Article 126(14), adopt measures specific to those Member States whose currency is the euro:
(a) to strengthen the coordination and surveillance of their budgetary discipline;
(b) to set out economic policy guidelines for them, while ensuring that they are compatible with those adopted for the whole of the Union and are kept under surveillance.

2. For those measures set out in paragraph 1, only members of the Council representing Member States whose currency is the euro shall take part in the vote.
A qualified majority of the said members shall be defined in accordance with Article 238(3) (a).

3. The Member States whose currency is the euro may establish a stability mechanism to be activated if indispensable to safeguard the stability of the euro area as a whole. The granting of any required financial assistance under the mechanism will be made subject to strict conditionality.

The Commission and the Council participate in an economic dialogue with the Parliament to ensure greater transparency and accountability (Article 14 of Regulation No 1176/2011). The Commission, Council and European Council, as well as Member States concerned, may be invited to discuss matters pertaining to economic surveillance in the framework of the European Semester in the European Parliament. This is also related to matters related to the MIP.

The EU legislation, among other objectives, aims to streamline surveillance and reduce duplications. To that end, the legislation applicable to euro area countries (the "two-pack") adopted in 2013 clearly states that MIP surveillance does not extend to those Member States subject to a macroeconomic adjustment programme linked to stability support (Article 11 of Regulation (EU) No 472/2013). This is precisely because countries subject to such circumstances will have their macroeconomic and financial situation regularly assessed under the programme.

Regulation No 1176/2011 provides a broad definition of imbalances. Regulation No 1176/2011 defines imbalances in a fairly general and open manner, requiring economic interpretation. A difference is made between "imbalances" and "excessive imbalances", the latter deserving a stronger activation of surveillance. Regulation No 1176/2011 provides the following definitions:

Article 2 of Regulation No 1176/2011.

Definitions. For the purpose of this Regulation:

***Imbalances*:** "*any trend giving rise to macroeconomic developments which are adversely affecting, or have the potential to adversely affect, the proper functioning of the economy of a Member State or of the economic and monetary union, or of the Union as a whole*". (Article 2(1))

***Excessive imbalances*:** *"severe imbalances, including imbalances that jeopardise or risk jeopardising the proper functioning of the economic and monetary union"*. (Article 2(2))

2.3. The MIP: main stages

The Macroeconomic Imbalance Procedure evolves through a number of stages that can be described as follows (Figure 2.1).

- **Screening (Articles 3 and 4 of Regulation No 1176/2011).** The Commission analyses economic developments across Member States and selects countries which potentially face the risk of macroeconomic imbalances to be further investigated as a subsequent step in In-Depth Reviews (IDRs). The conclusions on the selection of countries are communicated to the Parliament, the Council, and the Economic and Social Committee and made public in the Alert Mechanism Report (AMR). The Council discusses and assesses the AMR. The Eurogroup discusses the report as far as it relates to euro area Member States.

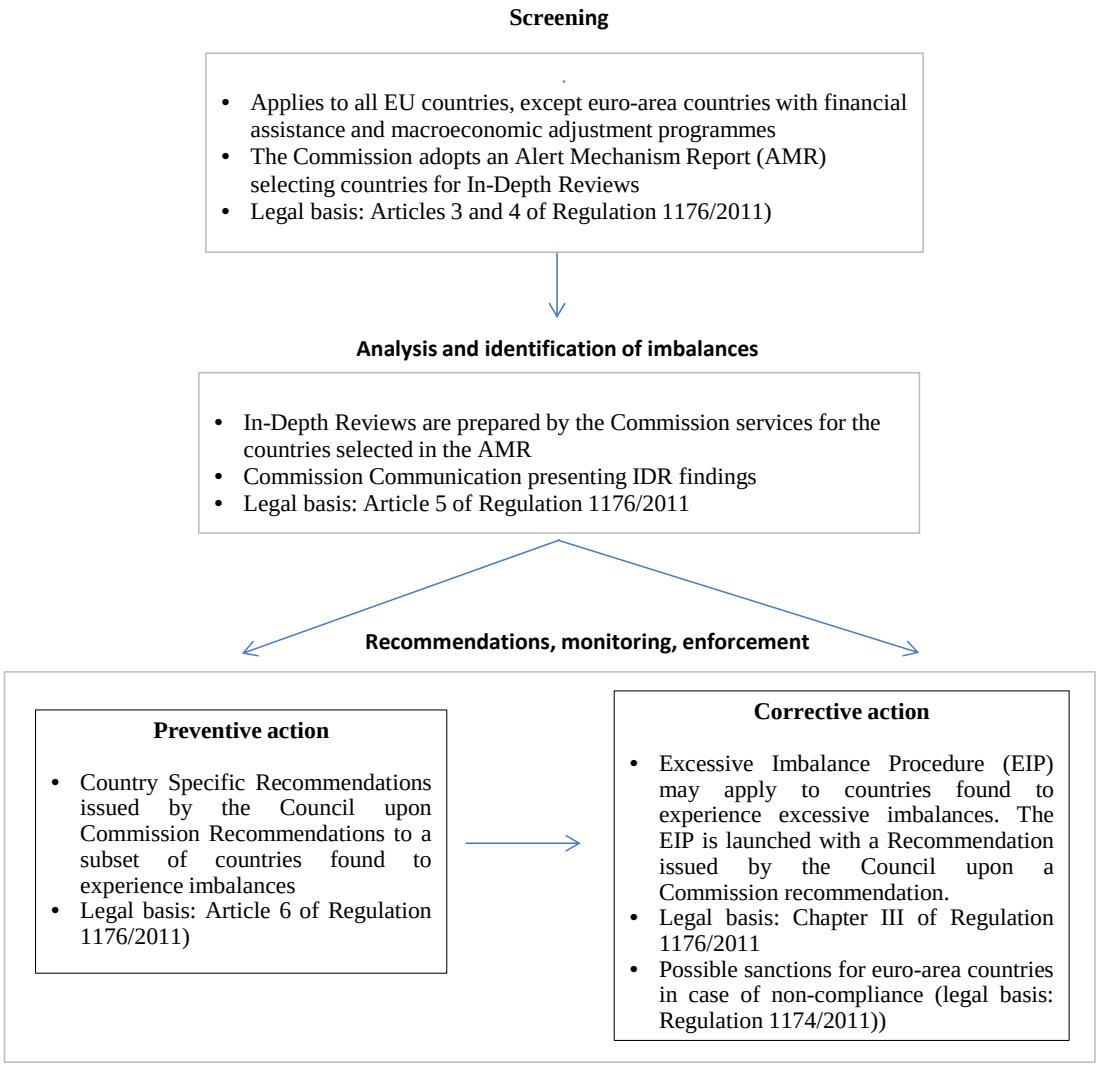
- **Identification and analysis of imbalances (Articles 5 and 6(1) of Regulation No 1176/2011)**. The Commission carries out IDRs for the countries selected in the AMR. The conclusions from IDRs on the existence and gravity of imbalances are separately communicated to the Parliament, Council and Eurogroup accordingly and made public. The Council discusses the IDRs and their conclusions.

- **Recommendations, monitoring and enforcement (Articles 6 to 12 of Regulation No 1176/2011 and Regulation No 1174/2011).** The Council recommends policies for countries with imbalances upon a recommendation by the Commission.

- Under **preventive action**, the Commission proposes to the Council the adoption of Country Specific Recommendations (CSRs) to be addressed to Member States in policy areas covered by the MIP. MIP-related CSRs are part of the broader set of CSRs in the European Semester. The Commission and the Council monitor action in response to CSRs.

- The Council, upon a recommendation of the Commission, may launch the **corrective arm of the MIP**, the **Excessive Imbalance Procedure**, for countries identified with

Graph 2.1: **The Macroeconomic Imbalance Procedure: main stages**



Source: European Commission.

excessive imbalances. Recommendations are implemented by means of a Corrective Action Plan (CAP) submitted by the Member State. The Council, upon a recommendation of the Commission, may endorse the CAP and monitor its implementation. In case of non-compliance, financial sanctions for euro-area countries may apply based on Regulation No 1174/2011.

2.4. Screening

2.4.1. The Alert Mechanism Report (AMR)

The AMR is the initial step of the MIP. The AMR serves to select countries for which *prima-facie* evidence indicates the possible presence of macroeconomic imbalances (Article 3(3)). This subset of countries is, thereafter, subject to an IDR.

The AMR screens for the possible presence of macroeconomic imbalances by means of a

broad-based quantitative and qualitative assessment. The analysis by the Commission takes into account a scoreboard of indicators (Article 4 of Regulation No 1176/2011). The scoreboard "shall be used as a tool to facilitate early identification and monitoring of imbalances" (Article 4(1)). Scoreboard indicators are assessed, inter-alia, against their respective thresholds (Articles 3(1) and 4(4) of Regulation No 1176/2011). The Regulation specifies that, in the reading of the scoreboard, the Commission uses economic judgement (Article 3(2) of Regulation No 1176/2011). The assessment also draws on other relevant economic and financial indicators not included in the scoreboard, and additional relevant information. Section 2.4.2 below describes the process that has led to the scoreboard currently used in the AMR. Section 3.3.2 discusses the rationale underlying the selection of the scoreboard variables and the use made by the scoreboard in the Commission analysis. Section 4.3.1 reports the actual AMR outcomes since the entry into force of the MIP.

Council conclusions are taken into account by the Commission in the preparation of IDRs. The Council discusses the AMR report and adopts conclusions (Article 3.5 of Regulation No 1176/2011). The MIP regulation states that also the Eurogroup shall discuss the report as far as it relates to euro area countries (Article 3(5) of Regulation No 1176/2011). The Regulation foresees that the Commission transmits the report also to the European parliament and the European Economic and Social Committee (Article 3(4) of Regulation No 1176/2011).

2.4.2. The scoreboard

The scoreboard is a set of indicators that permit benchmarking the position of Member States on a number of aspects relevant for the assessment of macroeconomic risks. The regulation states that the scoreboard "shall comprise a small number of relevant, practical, simple, measurable and available macroeconomic and macro-financial indicators for Member States" (Article 4(2)). The Regulation does not stipulate which indicators are to be present in the scoreboard, but mentions broad areas expected to be covered, relevant for both *internal* and *external imbalances*

Article 4(3) of Regulation No 1176/2011.

"The scoreboard shall, inter alia, encompass indicators which are useful in the early identification of:

(a) internal imbalances, including those that can arise from public and private indebtedness; financial and asset market developments, including housing; the evolution of private sector credit flow; and the evolution of unemployment;

(b) external imbalances, including those that can arise from the evolution of current account and net investment positions of Member States; real effective exchange rates; export market shares; changes in price and cost developments; and non-price competitiveness, taking into account the different components of productivity."

The indicators in the scoreboard are read, inter-alia, against thresholds defined ex-ante. These thresholds are normally expected to be specific for each indicator and common for all countries. The regulation, however, mentions explicitly that thresholds may be different for different group of countries with similar characteristics, where appropriate. If specific features of the monetary union and relevant economic circumstances justify it, thresholds can be different for countries in the euro area and outside the euro area. Heterogeneous economic circumstances, such as catching up effects, could also require differentiation in establishing the thresholds (Article 4(4)).

Thresholds may indicate values for the indicators either above or below prudent levels, and both upper and lower thresholds could be present. As indicated in Article 4(4) of Regulation No 1176/2011, some indicators may have upper and/or lower thresholds "unless inappropriate". As discussed in section 3.4 of this report, the case for the presence of both upper and lower thresholds has been considered as relevant in developing the scoreboard particularly the case for indicators measuring external imbalances, such as current account and competitiveness.

Regulation No 1176/2011 provides the basis for monitoring both current account deficits and surpluses, while recognising that the assessment need not be fully symmetric. Recital 17 of Regulation No 1176/2011 mentions that "the need for policy action is particularly pressing in Member States showing persistently large current account deficits and competitiveness losses". Article 3(2) of Regulation No 1176/2011 stipulates that the "assessment of large current account deficits may differ from that of Member States that accumulate large current account surpluses". Recital 17 adds that "in Member States that accumulate large current account surpluses, policies should aim to identify and implement measures that help strengthen their domestic demand and growth potential."

The Commission is in charge of the preparation of the scoreboard, as per Recital 12 of the Regulation. Moreover, the same recital also states that "the Commission should closely cooperate with the European Parliament and the Council when drawing up the scoreboard and the set of macroeconomic and macro-financial indicators for Member States". At the technical level, the Commission interacts with Council Committees (in particular, the Economic Policy Committee) and their Working Groups. The Commission is required by the legislation to make the scoreboard public (Article 4(6)) and to update the values of the scoreboard variables at least on an annual basis (Article 4(8)).

The Commission is also responsible for the update and the maintenance of the scoreboard. As stipulated in Article 4(7) of the regulation, "the Commission shall assess on a regular basis the appropriateness of the scoreboard, including the composition of indicators, the thresholds set and the methodology used, and it shall adjust or modify them where necessary". Recital 12 of the Regulation states that "the Commission should present suggestions for comments to the competent committees of the European Parliament and of the Council on plans to establish and adjust the indicators and thresholds. The Commission should inform the European Parliament and the Council of any changes to the indicators and thresholds and explain its reasons for suggesting such changes".

2.5. Analysis and identification of imbalances

The preparation of In-Depth Reviews (IDRs generally applies to the subset of countries identified in the AMR. Taking into account the outcome of the discussion of the AMR by the Council and the Eurogroup, the Commission prepares IDRs for the subset of countries indicated in the AMR (Article 5 of Regulation No 1176/2011). IDRs could also be prepared for countries not selected in the AMR "in the event of unexpected, significant economic developments that require urgent analysis for the purpose of this Regulation", as stated in Article 5(1).

The scope of the IDR is potentially broad, while the analysis is country-specific. The analysis in the IDR examines a broad range of economic variables and country-specific information on policy and institutional settings. "The in-depth review shall build on a detailed analysis of country-specific circumstances, including the different starting positions across Member States; it shall examine a broad range of economic variables and involve the use of analytical tools and qualitative information of country-specific nature. It shall acknowledge the national specificities regarding industrial relations and social dialogue" (Article 5(1)). In particular, IDRs make use of a number of analytical tools developed by the Commission and discussed with Council Committees and Working Groups (see section 3.3 and Annex A4). The Commission shall also give due consideration to any other information which the Member State concerned considers to be relevant and has communicated to the Commission, also in the context of surveillance missions (Article 5(1)).

IDRs also build on the information collected during surveillance missions to the Member States concerned. These missions need to conform to the provisions contained in Article 13 of Regulation No 1176/2011. The missions should aim at assessing the economic situation of the Member State under surveillance and difficulties in complying with the objectives of the MIP regulation. The Commission may invite representatives of the ECB to missions to euro-area countries or countries participating in ERMII.

The aim of IDRs is to identify imbalances and assess their severity. The IDRs look into whether imbalances exist in the country under analysis, assess the nature and severity of imbalances, in particular whether imbalances can be considered excessive (Article 5(2)).

IDRs assess developments in each country taking also into account economic developments in the Union and euro area as a whole. Article 5(2) of the Regulation stipulates that the Commission "shall examine the origin of the detected imbalances against the background of prevailing economic circumstances, including the deep trade and financial interlinks between Member States and the spillover effects of national economic policies". It is stated that the Commission "shall also consider the relevance of economic developments in the Union and the euro area as a whole", as well as existing EU and ESRB recommendations, and policy plans announced in the Member States under analysis.

On the basis of the analyses in the IDR, the Commission communicates the outcome to the European Parliament, the Council, and the Eurogroup. Articles 5(3) and 6(1) of Regulation No 1176/2011 require the Commission to communicate the conclusions of the IDR analysis in terms of existence, nature and gravity of the imbalances.

2.6. Recommendations, monitoring and enforcement

2.6.1. Preventive action

In Regulation No 1176/2011, preventive action refers to a system of surveillance that applies to countries that are found to experience imbalances. Surveillance foresees recommendations issued in the framework of the European Semester and monitoring of action taken. Preventive action applies to countries identified with imbalances as well as to countries with excessive imbalances for which the EIP is not opened.

Following a recommendation from the Commission, the Council may address recommendations to the countries experiencing imbalances. MIP-related recommendations are the instrument foreseen by the Regulation to prevent and correct macroeconomic imbalances. They constitute policy guidance pertaining to a relatively broad range of policy domains which help address the imbalances that have been identified, building *inter alia* on the findings of the IDRs. Article 6(4) of Regulation No 1176/2011 states that the recommendations are proposed by the Commission to the Council and that the procedure should conform to Article 121(2) of the TFEU. The Commission makes a proposal for recommendations to the Council, which decides by qualified majority voting (QMV). Article 6(2) requires the Council to inform the European Parliament of its recommendations and to make the recommendations public. Article 6(3) states that "the recommendations of the Council and of the Commission shall fully observe Article 152 TFEU and shall take into account Article 28 of the Charter of Fundamental Rights of the European Union".

MIP-related CSRs are part of the overall set of recommendations under the European Semester cycle. Article 6(4) states that "the Council shall review its recommendation annually in the context of the European Semester". For a more detailed description of the practical procedural aspects for the formulation and monitoring of MIP recommendations, see section 4.3.4.

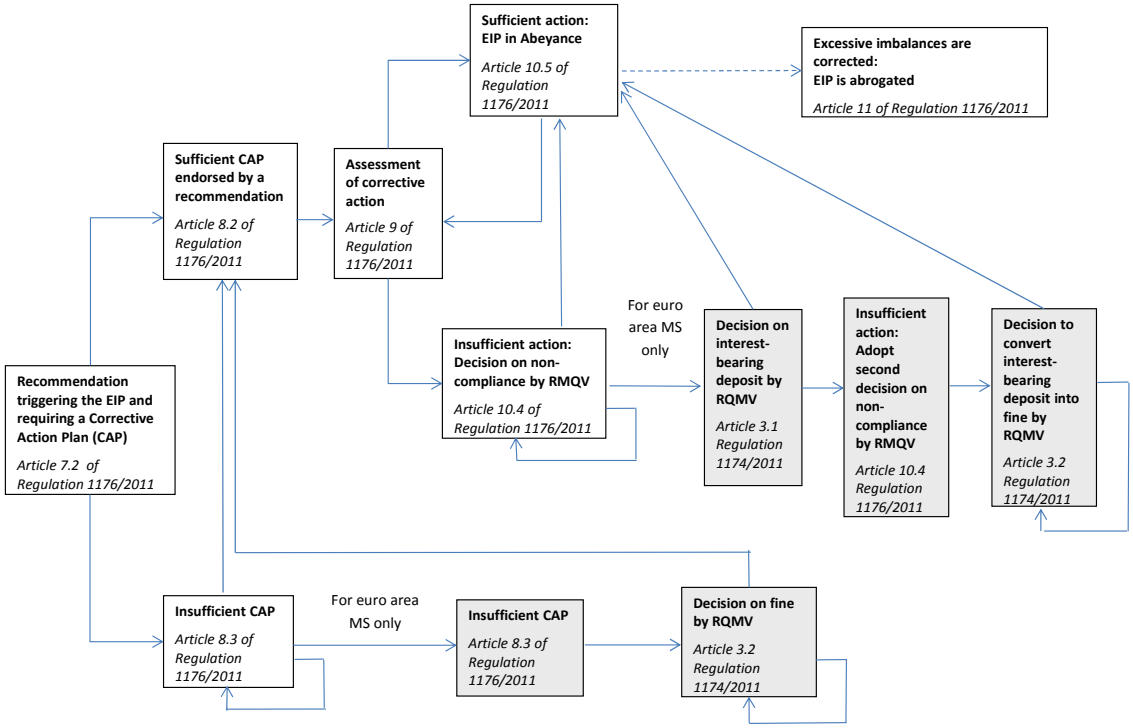
In the practical application of the MIP, a process of *specific monitoring* has been introduced to monitor the implementation MIP-related CSRs and policies to address imbalances and foster adjustment (see section 3.3.3).

2.6.2. Corrective Action: The Excessive Imbalance Procedure (EIP)

The EIP in a nutshell

The EIP provides for an enhanced surveillance procedure for countries with "excessive imbalances". The relevant articles describing the EIP are contained in chapter III of Regulation No 1176/2011. Regulation No 1174/2011 contains the legal basis for pecuniary sanctions to euro-area Member States in case of non-compliance with the EIP.

Graph 2.2: **The Excessive Imbalance Procedure: a flow chart**



Source: European Commission.
Shaded areas indicate steps foreseen for euro-area countries only.

The EIP differs from surveillance under MIP preventive action in several respects.

It requires a full articulation of policy measures with a time frame for their execution.

With a view to ensure ownership by Member States, the policy measures being subjected to EIP surveillance are submitted by the Member State concerned, embedded in a Corrective Action Plan (CAP) aimed at addressing the main policy challenges identified by the Commission and the Council.

The Council endorses the CAP in a recommendation addressed to the Member State with deadlines and a time frame for progress reports by the Member State concerned. On this basis, the Commission carries out regular monitoring and reports on the national actions taken.

Repeated inadequacy of the CAP submitted by the Member State concerned or the lack of compliance with the EIP recommendation endorsing the CAP can lead to sanctions if the Member State concerned belongs to the euro area.

The EIP unfolds according to steps described in chapter III of Regulation No 1176/2011. Figure 2.2 provides a synthetic description of the EIP process.

Starting and closing the EIP

The Council, upon recommendation by the Commission, may trigger the EIP for a Member State with excessive imbalances. ([7]) Article 7(2) of Regulation No 1176/2011 sets forth that the Council, on a recommendation from the Commission, may adopt a recommendation which: *(i)* establishes that excessive imbalances exist; *(ii)* identifies the nature and implications of the imbalances, *(iii)* specifies a set of policy recommendations to be followed; *(iv)* indicates a deadline by which the Member State concerned is

([7]) Article 7(1) of Regulation No 1176/2011 states that the Commission shall inform the European Parliament, the Council, the Eurogroup and the ESRB if considers that the Member State concerned is affected by excessive imbalances.

to submit a Correction Action Plan (CAP). This recommendation is adopted by qualified majority voting (QMV). The Council may make its recommendations public.

The corrective arm can be triggered at any time for Member States where excessive imbalances have been identified. The MIP regulation does not require a recommendation under Article 7.2 of Regulation No 1176/2011 to be issued immediately after the identification of excessive imbalances in the IDR. Article 7.2 of Regulation No 1176/2011 also states that the Recommendation by the Council establishes the existence of excessive imbalances. ([8])

The EIP is closed when the excessive imbalances are corrected. Article 11 of Regulation No 1176/2011 states that "the Council, on a recommendation by the Commission, shall abrogate recommendations issued under Articles 7, 8, or 10 as soon as it considers that the Member State concerned is no longer affected by excessive imbalances". The article affirms that the Council, based on a Commission recommendation, abrogates any existing EIP-related recommendation as soon there is evidence pointing to the correction of the excessive imbalance. Irrespective of whether the existing EIP-related policy recommendations were fully executed, the correction of the imbalance is sufficient for the abrogation of existing recommendations and the closing of the EIP. Conversely, the full execution of policy recommendations addressed by the Council is sufficient to put the procedure in abeyance, but not sufficient for the closing of the EIP. ([9])

The Corrective Action Plan (CAP) and its design

The Corrective Action Plans (CAPs) are drafted by Member States' authorities. According to Article 8.1 of Regulation No 1176/2011, it is the Member State that is responsible for the preparation of the CAP on the basis of the policy recommendations contained in the Council recommendation under Article 7.2 (Article 8.1 of Regulation No 1176/2011). The CAP shall include all the policy actions that the Member State has implemented or intends to implement geared towards a correction of the excessive imbalances and a timetable for those actions. The CAP shall take into account the economic and social impact of the measures contained and be consistent with the Broad Economic Policy Guidelines and the Employment Guidelines. The CAP can be updated in case "relevant major changes in economic circumstances" emerge (Article 9.4 of Regulation No 1176/2011).

The MIP regulation does not specify the time horizon of the CAP. Article 8.1 of Regulation No 1176/2011 states that the CAP includes "specific" policy actions and a timetable. The fact that the policy actions contained in the CAP need to be specific implies that the time frame of the CAP cannot extend to the very long term. However, due to the fact that the CAP is expected to permit the correction of the excessive imbalances identified, the time horizon of the CAP may need to extend over a required medium-term time frame that would largely depend on the particular type of imbalances identified.

Assessing and endorsing the CAP

The Council, on the basis of a Commission report, assesses the CAP within 2 months of its submission (Article 8.2 of Regulation No 1176/2011). The Commission report is to be made public. The aim of the Commission and Council assessment is to judge whether the submitted CAP is sufficiently ambitious to be expected to correct the identified excessive imbalance.

The Commission and Council assessment leads to one of two possible outcomes:

(i) if, upon a Commission recommendation, **the CAP is considered sufficient**, the Council issues **a recommendation under Article 8.2 of Regulation No 1176/2011 which endorses the CAP** and lists the specific actions required and deadlines for the implementation of identified measures and their assessment. The regulation also mentions that this recommendation needs to take into account that there may be long lags between

([8]) The analysis for the assessment of excessive imbalances could be contained in an already existing IDR and Regulation No 1176/2011 does not specify whether a new IDR or an IDR update would be needed in case an existing IDR does not identify excessive imbalances.

([9]) Regulation No 1176/2011 does not specify in which way the evidence pointing to the correction of the excessive imbalance is produced and the decision is communicated.

the implementation of corrective actions and the actual resolution of imbalances;

(ii) if, upon a Commission recommendation, the Council considers **the CAP insufficient,** it shall adopt a **recommendation asking the submission of a new CAP** to the Member State concerned, under Article 8.3 of Regulation No 1176/2011. The deadline for the submission of a new CAP is specified to be within two months.

The Council recommendations both under Article 8.2 and Article 8.3 of Regulation No 1176/2011 are adopted by qualified majority voting and are to be made public.

If two successive proposals for a CAP are deemed insufficient, then a fine may be imposed for euro area countries (see below).

Monitoring and assessing corrective action

The Member State concerned prepares progress reports on the implementation of the recommendation under Article 8.2 of Regulation No 1176/2011 which endorses the CAP. The frequency of the progress reports is determined in the Council recommendation endorsing the CAP (Article 9.1 of Regulation No 1176/2011).

The implementation of the CAP is monitored by the Commission. The Commission organises enhanced surveillance missions according to Article 13 of the MIP regulation, and makes an assessment of the progress made and whether the CAP implementation is on track (Article 9.2 of Regulation No 1176/2011). Missions to euro-area or ERM II countries take place in liaison with the European Central Bank. During missions, the Commission involves social partners and other national stakeholders where appropriate.

In the event of major changes in economic circumstances, the Council, upon recommendation by the Commission, may amend the recommendation under Article 8.2 of Regulation No 1176/2011 that endorses the CAP. The procedure to be followed for revising the recommendation is the same as that foreseen in Article 8.2. Where appropriate, the Council invites the Member State concerned to submit a revised CAP, which will be subject to an assessment following the same procedure laid down in Article 8.

On the basis of a Commission report, the Council assesses whether corrective action has taken place in line the recommendation under Article 8.2 of Regulation No 1176/2011. The assessment by the Council takes place according to the time frame described in the recommendation (Article 10.3 of Regulation No 1176/2011). The Commission report is made public.

(i) **if the Council considers that the Member State has not taken corrective action**, based on a Commission recommendation, the Council shall adopt a decision establishing non-compliance together with a **recommendation setting new deadlines** for corrective action. This Council recommendation is adopted automatically within 10 days unless rejected by qualified majority voting (reversed QMV) (Article 10(4) of Regulation No 1176/2011). The Council informs the European Council and makes public the conclusions from the missions by the Commission. Non-compliance for euro-area countries may lead to sanctions (see next section).

(ii) **If instead, the Council considers that corrective action has been taken, then the procedure is held in "abeyance".** Monitoring continues according to the schedule set in the Recommendation under Article 8.2 (Article 10.5 of Regulation No 1176/2011). The Council makes public the reasons underlying the decision to hold the procedure in abeyance. ([10])

The regulation does not specify if countries under the EIP need to be analysed in the Alert Mechanism Report or if IDRs are foreseen for these countries, although the regulation makes clear that close and continuous monitoring is

([10]) Regulation No 1176/2011 is not explicit on how the procedure evolves if all EIP policy recommendations are fully executed and the excessive imbalance is not corrected. The EIP cannot be closed, because Article 11 of Regulation No 1176/2011 states that this can be the case only upon the establishment that the excessive imbalances are corrected. However, the persistence of a situation where excessive imbalances are still present and the EIP is still operating while policy recommendations are absent, seems contrary to the spirit of the MIP and *de facto* makes surveillance void of content. Hence, it seems appropriate having an interpretation of the regulation according to which, in such a case, new measures would normally be requested to the Member State concerned.

carried out by the Commission and the Council in the case of EIP countries. However, both the 6-pack and the 2-pack are guided by an ambition to avoid surveillance overlaps and double work streams. The regulation also does not specify that an IDR is needed to establish that the excessive imbalance is corrected, but implies that a regular assessment and reporting on the economic situation and on the state of play with respect to the correction of excessive imbalances is necessary.

Enforcement mechanism

The sanctions regime is applicable to euro area Member States only. The sanctions regime for euro area countries is based on the separate Regulation (EU) No 1174/2011 which provides the enforcement measures complementing Regulation (EU) No 1176/2011.

Financial sanctions apply in case of repeated submission of an insufficient CAP or lack of corrective action.

(i) **Insufficient CAP**.

Article 3(2) of Regulation No 1174/2011 states that an annual fine shall be imposed when two subsequent Corrective Action Plans are considered insufficient by the Council.

(ii) **Lack of corrective action**.

Article 3(1) of Regulation No 1174/2011 states that an interest bearing deposit shall be imposed to Member States that have not taken corrective action according to the Council (Article 10(4) of Regulation No 1176/2011).

Article 3(2) states that in case of two successive Council decisions establishing lack of corrective action, an annual fine shall be imposed.

The yearly amount of deposits and fines is 0.1 % of GDP in the preceding year (Article 5 of Regulation No 1174/2011). Article 3(2) further clarifies that in case of sanctions the 0.1% of GDP fine is annual, meaning that, in absence of the required action, fines are paid every year. Article 7 also points out that in case corrective action is delivered before the expiration of the same year where a deposit or fine is applied, sanctions are lifted and amounts returned to the Member State concerned *pro rata temporis*. The fines shall be assigned to the European Financial Stability Facility (EFSF) and to the stability mechanism to provide financial assistance created to replace the EFSF, i.e. the ESM (Article 3(4)).

The adoption of sanctions is done by Reversed Qualified Majority Voting (RQMV) in all cases for deposits and sanctions (Article 3(3) of Regulation No 1174/2011). RQMV has been introduced in the context of enforcement of the new economic governance package or the so-called "Six-Pack". Under RQMV a Commission recommendation to impose a sanction on a Member State is deemed to be adopted unless the Council decides by QMV to reject the recommendation within a specified period. This semi-automatic decision-making procedure makes it very difficult for Member States to form a blocking majority because of the high majority threshold. According to RQMV, the Council recommendation, based on a Commission recommendation, is automatically adopted if not rejected by QMV within 10 days (reversed QMV). Only euro-area Member States participate in the voting; the Member State concerned does not participate in voting (Article 5).

The Commission may propose to reduce or cancel the deposit or the fine. This can happen under "exceptional circumstances" or following a reasoned request by the Member State and within 10 days from the Council decision to impose a sanction (Article 3(6)).

The MIP and the operation of the European Structural and Investment (ESI) Funds

The compliance with recommendations in the framework of the European Semester, and as part of it also the MIP, is part of the macroeconomic conditionality on the respect of economic governance that applies to ESI funds since 2014. Article 23 of Regulation (EU) No 1303/2013 prescribes elements of conditionality for the operation of the European Structural and Investment Funds (ESIFs) linked to sound economic governance. These elements of conditionality apply to all Member States, through two distinct strands: (1) the possibility for the Commission to require a Member State to re-programme part of its commitments and payments,

i.e., to shift it across priorities, when this is justified by the economic and employment challenges identified through different economic governance mechanisms (Article 23(1)-23(8)); and (2) the obligation for the Commission to propose a suspension of part or all of commitments and payments when certain steps of the different economic governance procedures are reached (Article 23(9)-23(12))**.**

Under the first strand, the Commission has the possibility to ask a Member State to re-programme the funding. This is done when justified to address economic challenges as identified through the overall set of Country Specific Recommendations (CSRs), including in the framework of Articles 121 and 148(4) TFEU, provided that they are potentially relevant in the context of the ESIFs. These recommendations could be relevant also in the context of MIP preventive action. Moreover, reprogramming could be requested to support the implementation of relevant Council recommendations in the context of the EIP. Failure to respond to the reprogramming request in a satisfactory way gives the Commission the right to propose to the Council that it suspends part or all of payments for the ESIF programmes or priorities concerned.

Under the second strand of macroeconomic conditionality, **a lack of compliance with the EIP will lead to the Commission proposing to the Council to suspend part of the commitments under the ESIFs and can go as far as suspending part or all of the commitments or payments.** According to Article 23(9) (b) and (c) of Regulation (EU) No 1303/2013, where the Council adopts two successive recommendations under the same EIP establishing insufficient Corrective Action Plans or establishing no effective action, the Commission shall make a proposal to the Council to suspend part or all of the commitments or payments for the programmes of a Member State concerned.

3. APPLYING THE MIP

3.1. Introduction

A number of aspects relating to the application of the MIP are not detailed in Regulations No 1176/2011 and 1174/2011, but left to the interpretation of the Commission and the Council. This chapter focuses on methodological and practical aspect of the implementation of the MIP. It presents the concept of macroeconomic imbalances from an economic viewpoint, their categorisation and the economic criteria followed by the Commission in the preliminary screen operated by the AMR and those underlying the IDR analysis concerning the identification of imbalances, the evaluation of their severity, and the identification of policy challenges. The analytical tools developed and used by the Commission in cooperation with working groups of Council committees are presented in Annex 4. The chapter also discusses the organisation of the process leading to MIP-related recommendations, the modalities followed to carry out surveillance, as well as the involvement of all relevant EU institutions and other stakeholders (see Box 3.1).

3.2. What is a macroeconomic imbalance?

Macroeconomic imbalances are trends or states of the economy that could jeopardise macroeconomic stability if not corrected. Regulation No 1176/2011 provides a broad definition of what macroeconomic imbalances could be (see Chapter 2). The economic interpretation of imbalances needs to be consistent with the stability-oriented objectives of the MIP (Chapter 1). Against this background, macroeconomic imbalances are unsustainable trends or states of the economy that create vulnerabilities and contribute to macro-financial risks (as discussed in greater depth in section 3.3.2.2).

As the MIP is ultimately designed to prevent and correct imbalances via policy action, the MIP serves to identify and analyse the nature and root cause of the imbalances with a view to identify areas for policy measures. The identification and assessment of imbalances requires evaluating the likelihood and impact of episodes of macro-financial instability, for instance current account reversals, banking crises, or asset market crashes. The continuous assessment of imbalances takes into account both economic and policy developments.

A number of assessment criteria are followed in the AMR and IDR analyses. Although the Regulation No 1176/2011 does not provide numerical or rules-based criteria for the identification and assessment of macroeconomic imbalances and excludes a mechanistic reading of the scoreboard, a number of assessment criteria are followed in the MIP analysis. The criteria taken into account in the AMR and IDR analyses build on a notion of macroeconomic imbalances referring to macroeconomic stability risks.

3.2.1. The categorisation of MIP imbalances

The categorisation of imbalances in the sense of the MIP was differentiated to take into account the different degrees of gravity of the challenges. The Commission has qualified the findings beyond the narrow three-category framework of Regulation No 1176/2011 ("no imbalance", "imbalance" and "excessive imbalance"), with a view to better articulate the findings from the IDRs and reflect the different natures of risks across countries.

The categorisation of imbalances needs to be understood in light of the type of monitoring of policy action put in place. Starting with the identification of excessive imbalances for Spain and Slovenia in 2013, the Commission did not propose immediately the start of the Excessive Imbalance Procedure, but issued detailed and time bound recommendations, and assessed whether policy commitments included in the National Reform Programmes were consistent with these recommendations. With a view to monitor the implementation of the enhanced commitments of these countries, a process of specific monitoring was put in place. On the basis of the positive experience with Spain and Slovenia, in 2014 specific monitoring was extended to all countries with excessive imbalances and selected euro-area countries with imbalances with systemic relevance.([11]) In 2016, specific monitoring

([11]) Communication from the Commission to the European Parliament, the Council, the European Central Bank and the Eurogroup, "Results of in-depth reviews under

Table 3.1: **MIP categorisation of imbalances**

Categories used in 2014 and 2015	Streamlined categories
No imbalances	No imbalances
Imbalances, which require policy action and monitoring	Imbalances*
Imbalances, which require decisive policy action and monitoring	
Imbalances, which require decisive policy action and specific monitoring	
Excessive imbalances, which require decisive policy action and specific monitoring	Excessive imbalances*
Excessive imbalances with Corrective Action Plan (EIP)	Excessive imbalances with Corrective Action Plan (EIP)

* Under streamlined categories, specific monitoring is applied both in the case of "imbalances" and "excessive imbalances", modulated according to the severity of the challenges
Source: European Commission.

concerned all countries in MIP. See also sections 3.3.3 and 4.4.

The categorisation of imbalances has evolved over time.

- In 2012, during the first year of MIP implementation, the Commission identified no countries with excessive imbalances. The imbalances for France, Italy, Hungary, and Slovenia were dubbed as "serious", while those of Cyprus and Spain as "very serious".

- Starting from 2013, the identification of imbalances was further characterised according to the policy action needed. For some countries these imbalances required *monitoring and policy action*, for other countries, the requirement was one of *monitoring and decisive policy action.*

- In 2013, the Commission identified excessive imbalances in Spain and Slovenia. These excessive imbalances were deemed to require "strong" and "urgent" policy action for the case of Spain and Slovenia, respectively. A process of *specific monitoring* involving missions and reports summarising action taken in the MIP context was launched for both countries.

- In 2014, specific monitoring continued to apply to countries identified with excessive imbalances and was extended to selected euro-area countries where imbalances called for decisive policy action and on the basis of the euro-area wide relevance of their imbalances. In 2015, the same categorisation as in 2014 was maintained.

- Hence, in the 2014 and 2015 cycles, the categorisation of imbalances was kept constant and specified not only whether imbalances are excessive or not, but also the type of policy action and the type of monitoring required. Depending on the severity of the imbalances and the track record with respect to policy measures, imbalances may have required either “policy action” or “decisive policy action”; “monitoring” or “specific monitoring”. There were *six MIP categories*: "no imbalances"; "imbalances, which require monitoring and policy action"; "imbalances, which require monitoring and decisive policy action; "imbalances, which require specific monitoring and decisive policy action"; "excessive imbalances, which require specific monitoring

Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances", Brussels, 5.3.2014 COM(2014) 150 final.
http://ec.europa.eu/economy_finance/economic_governance/documents/2014-03-05_in-depth_reviews_communication_en.pdf

and decisive policy action"; "excessive imbalance with EIP".

The MIP categorisation of imbalances was stabilised and streamlined in 2016. In the October 2015 Commission Communication on "On Steps towards completing Economic and Monetary Union", the Commission announced the intention to move towards a more transparent implementation of the MIP. In particular, the Commission committed to stabilise the categorisation used in its conclusions on imbalances. In spring 2016, the MIP categories were streamlined from 6 categories to 4 categories: "no imbalances", "imbalances", "excessive imbalances", and "excessive imbalances with EIP" (see Table 3.1). ([12]) With a view to ensure that the streamlining of categories does not imply a weakening of the MIP surveillance, the Commission put in place in 2016 *specific monitoring* for all countries identified with either imbalances or excessive imbalances. Monitoring is modulated according to the severity of the challenges and depending on whether the identified imbalances are excessive or not.

3.3. Assessing macroeconomic imbalances

3.3.1. Analysis in the Alert Mechanism Report (AMR)

The aim of the Alert Mechanism Report (AMR) is to screen EU Member States for *potential* macroeconomic imbalances and identify countries to be analysed further in the IDRs. The AMR also provides for cross-country comparisons that are particularly relevant for a better comprehension of the overall economic context. The time frame for the analysis is the *medium-term*, and the analysis is both backward and forward-looking.

The AMR is issued each year in autumn, at the beginning of the European Semester, simultaneously with the Annual Growth Survey (AGS), the document that sets out the main economic policy priorities for the EU for the following year. ([13]) The AMR takes the form of a Commission Communication to the European Parliament, the Council, the European Central Bank, and the European Economic and Social Committee. The Council discusses the AMR and usually adopts its conclusions in February of the subsequent calendar year. So far, the Council has broadly endorsed the Commission's selection of the countries in the AMR for an IDR.

The selection of countries for an In-Depth Review follows a prudent approach. The AMR has identified countries for which IDRs were to be prepared for the first time. Regarding countries already analysed in IDRs, the AMR has systematically indicated that IDRs are to be prepared for all countries identified as having imbalances in the preceding year. Consequently, the Commission considered prudent practice the preparation of a new IDR to assess how existing imbalances evolved, with a view to continuously monitor existing risks and to eventually update conclusions on the presence and severity of imbalances.

The analysis in the AMR is based on the MIP scoreboard of indicators. The configuration of the MIP scoreboard was designed in 2011 and for the first time used in the 2012 AMR. Since then it evolved marginally.

- The initial scoreboard design included 10 headline indicators and 19 auxiliary indicators. It was discussed in the Economic Policy Committee (EPC) and the Lisbon Methodology (LIME) Working Group. ([14]) The European Parliament ([15]) and the Council ([16]) provided

([12]) Communication from the Commission to the European Parliament, the Council, the European Central Bank, and the Eurogroup, "2016 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011", Strasbourg, 8.3.2016 COM(2016) 95 final, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_comm_en.pdf.

([13]) During the first cycle of MIP implementation, the first AMR was issues in February 2012 and not in November 2011. The delay was due to that the MIP had just been adopted at year end 2011.

([14]) "Scoreboard for the surveillance of macroeconomic imbalances: envisaged initial design", – SEC (2011) 1361 final, 8.11.2012, subsequently published in European Economy—Occasional Papers, 92.

([15]) "Scoreboard for the surveillance of macroeconomic imbalances: envisaged initial design", European Parliament Resolution of 15 December 2011, 2011/2926.

([16]) "An early warning scoreboard for the surveillance of macroeconomic imbalances", Council Conclusions of 8 November 2011, 15781/2/11 REV 2.

Box 3.1: Main actors involved in the implementation of the MIP surveillance

The MIP implementation takes a broad involvement of Commission services. DG ECFIN is the main provider of the analysis in the AMR and for large part of the IDRs and plays a coordination role in certain aspects of MIP surveillance. Given that the policy challenges linked to macroeconomic imbalances are also found in structural policies, key analytical inputs in IDRs are received from other DGs. The Secretariat General of the Commission coordinates the European semester as a whole, and inputs for the formulation of CSRs are provided by the competent DGs.

Eurostat contributes to the harmonised production of data used in the context of the MIP. It also provides expertise regarding the statistical quality of indicators and their availability. Key statistical domains underlying the MIP are managed by both the European Statistical System (ESS) and the European System of Central Banks (ESCB). The actors in charge of these two statistical systems closely co-operate to ensure the quality of the statistics used in the MIP context.

The Commission works in close cooperation with Council Committees throughout each MIP cycle. Between November and June, the Economic and Policy Committee (EPC) discusses the results of the AMR, IDRs and CSRs. ([1]) The EPC provides technical feedback on the conclusions of the AMR and the IDRs and on the practice followed by the Commission in implementing the MIP and holds thematic discussions on MIP-relevant topics. The Lisbon Methodology (LIME) Working Group closely cooperates with the Commission to ensure high-quality and consistent analysis in AMR and IDRs, reporting to the EPC. The analytical tools for the assessment of macroeconomic imbalances developed by the Commission staff are reviewed in LIME, and members provide feed-back. The Commission recommendations for CSRs are discussed in Council committees (Economic and Financial Committee, Employment Committee, EPC) before the final Recommendations adopted by the Council.

The Commission keeps the European Parliament informed of the results of the application of the Regulation and interact with representatives of the social partners. The Commission and the Council keep the Parliament informed in the context of their regular economic dialogue (Article 14 of the MIP regulation). In particular, , the Commission reports annually to the Parliament on the application of the Regulation, also on updates of the scoreboard, if any. The Commission also presents its findings to both the Council and the Parliament in the context of the European Semester (Article 15 of the Regulation). Regular meetings between the Commission, the Council and European social partner representatives take place in the context of the Tripartite Social Dialogue and the Macroeconomic Dialogue, where economic surveillance is discussed among other topics.

([1]) The EPC Committee was set up by a Council decision in 1974 to provide advice and to contribute to the work of the ECOFIN Council and the Commission.

opinions, broadly endorsing the Commission initial proposal for the scoreboard design.

- An eleventh headline indicator on the financial sector was added in 2012, after having consulted the ESRB as requested by Article 4.5 of Regulation No 1176/2011.

- In Autumn 2013, small technical changes in the scoreboard consisted of revisions in data sources and threshold updates; at the same time employment and social variables were added among the auxiliary indicators in light of the commitment by the Commission to better take into account the social dimension in its economic surveillance. ([17]) Annex A1 reports the indicators in the headline MIP scoreboard and the auxiliary indicators, their statistical definitions, and data sources.

- Three employment and social variables, previously auxiliary indicators, have become headline scoreboard indicators in 2015. ([18]) The inclusion of activity rate, long-term unemployment, and youth unemployment as indicators in the scoreboard aims at better

([17]) Communication from the Commission to the European Parliament and the Council "Strengthening the social dimension of the economic and monetary union" COM(2013) 690, Brussels, 2.10.2013.

([18]) "Adding employment indicators to the scoreboard of the Macroeconomic Imbalance Procedure to better capture employment and social developments" http://ec.europa.eu/economy_finance/economic_governance/documents/employment_indicators_mip_en.pdf

taking into account the analysis of employment and social developments in the MIP, without changing the MIP focus. The ECOFIN Council, in its 15 January 2016 conclusions on the AMR, while "acknowledging the importance of addressing social and labour market challenges", expressed concern "about the inclusion by the Commission of three additional employment indicators to the main scoreboard" and underlined "that social and labour market indicators are not relevant for identifying macro-financial risks and developments in these indicators cannot trigger steps in the MIP process". ([19])

- The fourteen variables of the scoreboard and their respective thresholds are listed in table 3.2.

The AMR analysis goes beyond the reading of the scoreboard. Regulation No 1176/2011 excludes a mechanistic reading of the scoreboard and indicates that additional quantitative and qualitative elements that the Commission services are expected to take into account when carrying out the AMR analysis. ([20]) Therefore, the Commission has given consideration not only to horizontal, cross-country comparisons, but also to country-specific information.

The AMR provides a review of indicators relevant for the built up of risks, without however having the formal objective of predicting the probability of crises. Early warning systems have been developed by academics and international institutions with a view to identify in advance, potentially harmful trends that could lead to crises and macro-financial disruptions (see Box 3.2 for a description). ([21]) The performance of such early warning systems in predicting crises is mixed, but they have helped to build over time consensus on the need to regularly monitor relevant indicators. Although the MIP scoreboard is not intended to predict the probability of the occurrence of crises, it provides, the possibility of tracking the evolution of indicators suggestive of the building up of risks. Many internal and external imbalances (such as the unsustainable acceleration of house prices or unsustainable financial inflows from abroad, or accumulation of competitiveness losses) develop during booms, while sowing the seeds for abrupt future corrections and large economic and social costs. ([22])

The AMR analysis also aims to track the evolution of existing imbalances. The MIP was implemented for the first time in a particular historical context, where most countries in the EU were still running large current account imbalances and were accumulating large stocks of net foreign liabilities and of public and private debt. Imbalances were identified in a number of countries since the first application of the MIP in 2012. The AMR proved useful in tracking the unwinding of imbalances in a comparative perspective.

3.3.1.1. Scoreboard variables

The design of the scoreboard responds to a number of principles: *i)* capturing the most relevant internal and external *sources of macroeconomic imbalances*, allowing for a broad coverage of potential macro-financial risks; *ii)* signalling the potential build-up of risks at an early stage by *combining stock* variables (e.g., net foreign liabilities) *with flow variables* (e.g., the current account balance) and variables capturing longer-term determinants of potential imbalances (e.g., developments in competitiveness); iii) signalling *adjustment issues*; *iv)* serving communication purposes by relying on a *limited set of transparent indicators; iv)* requiring high *statistical quality; vi) ensuring parsimony*.

The MIP scoreboard covers a number of areas: ([23])

([19]) http://data.consilium.europa.eu/doc/document/ST-5318-2016-INIT/en/pdf.

([20]) Article 3.2 of Regulation No 1176/2011.

([21]) The OECD (Röhn et al. (2015)) has punt in place a scoreboard of indicators to measure economic resilience, with indicators and thresholds set in such a way to predict large recessions.

([22]) The predictive performance of MIP scoreboard has been analysed in Kamps et al. (2014).

([23]) Growth variables are not included in the headline scoreboard, although some of them appear among the auxiliary indicators. Growth is not directly relevant for the MIP objectives: countries may grow on a balanced path at relatively low growth rates or, conversely, witness growth spurts that go together with the accumulation of macro-financial risks (e.g., housing bubbles). Minimum rates of growth may, however, be necessary to generate sufficient resources to bring down existing stocks of debt or net foreign liabilities. In a nutshell, growth is a key

Box 3.2: Early warning systems

The aim of early warning systems is to isolate a limited number of variables that help predicting the occurrence of financial crises. Existing studies have focused on banking crises, currency crises, debt crises, and have followed different approaches that help shedding light from different corners.

Early warning indicators. This is the approach followed in the seminal paper by Kaminsky et al. (1998) and in a number of subsequent applications, including Kaminsky, 1999; Demirgüc-Kunt and Detragiache, 1999; Alessi and Detken, 2011; Baldacci et al. 2011; Hermansen and Röhn (2015). The approach aims at selecting a number of indicators and associated thresholds, likely to be crossed before the occurrence of crises. Thresholds are most often chosen in such a way to minimize some function increasing with the odd of "missed crises" ("type I errors") and "false alarms" ("type II errors"), for instance to noise-to-signal ratio (which equals the probability of a type II error divided by one minus the probability of a type I error). Aggregate early warning indicators could be built on the basis of indicators for each single variable in isolation. For instance, the S0 indicator used by the European Commission for the assessment of short-term fiscal stress (Berti et al., 2012) weighs individual indicators on the basis of their signalling power (e.g., the ratio of fiscal stress periods when the variable crosses the associated thresholds on the total number of stress periods). The main advantage of early warning indicators is that they provide a simple rule of thumb for policy makers. The main drawback of this approach is that it considers a number of variables in isolation, so that it does not help selecting shaping an overall view about underlying crisis determinants and does not permit to take into account the interactions among many variables (e.g., are crises more likely if thresholds are crossed simultaneously by a given group of variables?).[1]

Multivariate discrete choice models. The main idea is to regress binary indicators on the occurrence of crises on a number of explanatory variables by means of discrete choice regressions models (logit, probit). Contributions are found for instance in Frankel and Rose (1996), Demirgüc-Kunt and Detriagiache (1998), Berg and Pattillo (1999); Bussiere and Fratzscher (2006), Ahrend, R. and A. Goujard (2012a). This approach permits to simultaneously establish the statistical significance of a number of explanatory variables and their possible interactions, so that the selection of the empirical model can be based on its performance from the viewpoint of statistical inference. This approach does not provide directly for an early warning rule but help shaping a view on the relative importance of different factors in driving the risk of crises.

Binary recursive trees and other methodologies. These models (see, e.g., Chamon et al., 2007; Manasse and Roubini, 2009; Manasse et al., 2013), permit to select a reduced number of variables and thresholds whose simultaneous crossing is particularly frequent ahead of the occurrence of crises. The selection takes place in a recursive fashion: the sample is split according to a first variable with relative threshold, and then according to new splits applied to the lower branches of the tree. This approach puts emphasis on the fact that before crisis episodes not only the values of certain variables are different than under "tranquil times" but the relations among variables themselves are altered. The advantage of this method is that of providing a very simple decision rule depending on few variables that takes into account interactions. The main disadvantage is the lack of robustness of results with respect to sample and variable sequencing. Other methodologies have accounted for the pre-crisis regime change in the relations among relevant variables, notably by means of Markov switching models of (Cerra and Saxena, 2002; Abiad, 2003).

Overall, early warning systems had mixed results in predicting out-of-sample crises. Despite the predictive power is in general better than that of interest rate spreads or ratings, the performance is less than fully satisfactory especially over the short-term (Berg et al., 2004), due to a number of difficulties that are common to all approaches, notably the fact that the criteria used for identifying past crises empirically may not be able to capture the characteristics of future crises and that the determinants of past crises may not be the same as the determinants of future crises.

[1] An attempt to take into account the interaction among a small group of variables is found in Borio and Lowe (2002).

- *External sustainability*. The aim is to capture risks linked to large and growing stocks of foreign liabilities, including the sudden withdrawal of private external financing (current account stops and reversals). Large stocks of foreign assets and current account surpluses do not raise comparable risks, but deserve monitoring as they are the counterpart

complement to variables more directly capturing the possible presence of imbalances.

of external liabilities and deficits in partner countries and may reflect growing creditor risk and a possible misallocation of resources.

- *Trade performance and competitiveness*. The aim is to observe structural, long-term developments that may ultimately result in protracted trade balance deficits and the accumulation of net foreign liabilities. Competitiveness deterioration may also be responsible for reduced potential growth, which makes debt repayment more difficult.

- *Private sector indebtedness*. The aim is to monitor the stock of debt of the private sector (households and non-financial corporations) to analyse risks linked to excessive indebtedness, including debt overhang, non-performing loans, and the implications for the financial sector and the rest of the economy.

- *Government debt*. Government is the main debtor in most countries. Although surveillance of government debt is the object of the SGP, monitoring government debt under the MIP is necessary to have a complete picture of the sources of macro-financial risks and to assess the interactions between government debt and other sectors of the economy.

- *Financial sector*. The aim is to monitor the building up of financial sector-related risks, their interaction with the balance sheets of the other sectors of the economy, and the way in which the financial sector could amplify shocks in the real economy.

- *Housing and mortgage markets*. The objective is to observe the risks linked to house price bubbles and large downward corrections in price valuations, notably in relation with private sector and financial sector balance sheets.

- *Employment and social developments.* The aim is to reinforce the employment and social dimension in the MIP. Employment indicators are included in the scoreboard with the aim of identifying adjustment issues. This would help to better identify policy measures to correct imbalances, while taking into account social aspects. As highlighted in the original scoreboard proposal and reiterated in the Council opinion on the MIP scoreboard, unemployment serves the role of a contextual variable, helping to qualify the implications of the macroeconomic imbalances and the quality of the adjustment process. Three other variables that help to assess the quality of the adjustment in terms of labour market developments have been moved from the auxiliary indicators to the headline scoreboard indicators.

Variables representing the stock of debt are generally complemented by flow variables, which capture changes over time. This is the case for foreign liabilities (complemented by the current account balance) and private debt (complemented by credit growth). There is an exception with government debt: the government budget balance does not appear among scoreboard variables, as it is the object of close scrutiny under the SGP. While stock variables are static estimates, referring the most recent available year, flow variables, being more volatile, are either transformed into 3-year moving averages or percentage changes over a 3-year or 5-year window.

Scoreboard thresholds have been set on the basis of statistical criteria. The definition of the thresholds proposed by the Commission was discussed in LIME and the EPC. Thresholds were defined in such a way as to represent alert levels (e.g., in the case of a variable capturing private debt, excessively high debt levels). Simple statistical criteria were chosen, relying on the distribution of the indicators across the whole panel of EU countries and using *distribution quartiles* as cut-off values. Values above threshold are therefore to be considered unusual, because they are sufficiently different as compared to those normally observed. The choice of final thresholds was largely based on such an approach but a number of *adjustments* reflected:

- the opportunity of *symmetric thresholds* (to identify risks associated with both very high or very low values for the underlying variable) and the different risks associated with very high or very low observed values (e.g., very negative versus very positive current account balances);

- the presence of possible *different trends across EU countries*, linked notably to euro-area membership as indicated in Article 4.3 of Regulation No 1176/2011;

- the fact that thresholds serving as an alert level may *already* be *present in EU surveillance* (e.g. the 60% threshold for the government debt/GDP ratio enshrined in the Treaty); and

- the lack of representativeness of the available sample for certain variables.

Table 3.1 below reports threshold values and the criteria for their determination. ([24])

The scoreboard is supported and complemented by a set of auxiliary indicators. Auxiliary indicators, also referred to as second-layer indicators, cover an even broader spectrum of domains than the headline scoreboard: macroeconomic conditions, including GDP growth; investment and productivity growth; competitiveness; R&D spending; foreign direct investment (FDI); home prices; private sector indebtedness; labour markets; and social conditions. Auxiliary indicators have no thresholds and are used to complement the reading of the headline scoreboard. See Annex 1 for the detailed description of auxiliary indicators.

3.3.1.2. Principles of scoreboard reading

The reading of the MIP scoreboard requires a comprehensive, non-mechanistic economic assessment. In particular, the "flashing" of a particular indicator (i.e., the indicator assuming a value above threshold), although taken into account in the overall analysis, has no immediate and direct implications for AMR outcomes, notably for selecting the countries to be analysed in IDRs. Similarly, the number of variables flashing has no direct implications for reading of the scoreboard. No other across-the-board decision rule has so far been applied for the reading of the scoreboard. In particular, no synthetic indicator summarising the content of the scoreboard has been constructed and used. ([25])

The economic reading of the scoreboard is based on clear principles and aims to make the best use of all available information. ([26]) In particular, it relies on:

- *comparisons* of scoreboard indicators *across countries* to take into account the possible presence of common trends affecting several countries at the same time as well as *over time* to assess the possible presence of country-specific trends;

- plausible interpretations of *driving factors* and *implications*;

- taking into account *interactions* among the indicators; and makes use of *information not contained in the headline scoreboard*, notably information contained in auxiliary indicators or other indicators and analytical tools which help interpretations, causes, and implications of scoreboard indicators, including also the latest forecasts.

Additional information is used to provide an interpretation of the underlying *determinants and implications* of scoreboard variables.

([24]) For a detailed presentation of scoreboard indicators, their economic rationale, statistical aspects and economic interpretation, see European Commission, "Scoreboard for the Surveillance of Macroeconomic Imbalances" - *European Economy*, Occasional Paper 92, 2012, and Commission Staff Working Document SWD (2012) 389 "Completing the Scoreboard for the MIP: Financial Sector Indicator", published as an annex to the AMR of November 2012.

([25]) The advantage with ex-ante simple decision rules is transparency and consistency; the disadvantage is loss of information and the impossibility of operating relevant distinctions. The benefits of rules-based criteria prevail over their costs when the object of economic surveillance is well summarised in few numerical indicators with a close connection to policy indicators. Fiscal surveillance is a case in point. Numerical fiscal rules have been in place at a country level and at the EU level for decades. No equivalent practice exists for for stability-oriented macroeconomic surveillance at large, where the object of surveillance is multi-faceted and monitoring concerns a whole battery of indicators and the connection between these indicators, macro-financial risks and available policies is complex.

([26]) "The crossing of one or more indicative thresholds need not necessarily imply that macroeconomic imbalances are emerging, as economic policy-making should take into account interlinks between macroeconomic variables. Conclusions should not be drawn from an automatic reading of the scoreboard: economic judgement should ensure that all pieces of information, whether from the scoreboard or not, are put in perspective and become part of a comprehensive analysis" (recital 14, Regulation No 1176/2011).

- *Auxiliary indicators* represent a relevant source of complementary information. For instance, the determinants of the deterioration in export market shares revealed by the headline scoreboard is better understood if complemented by auxiliary indicators that help disentangle whether a loss in market share was mainly due to price effects or quantity effects, or to a loss of market share vis-a-vis advanced economies or emerging countries. Auxiliary indicators also help to understand the implications of scoreboard variables, for example checking the extent to which external liabilities take the form of FDI, which is less volatile and therefore less risky.

- *Analytical tools* are also helpful to qualify scoreboard indicators and assess their drivers For instance, cyclically-adjusted current account balances, could be used to assess whether current account dynamics are mostly linked to cyclical developments or to other factors.

- *Additional information* outside auxiliary indicators is also often needed for an appropriate comprehension of determinants and implications of scoreboard variables. For instance, the composition of output between tradable and non-tradable activities helps in understanding whether the observed improvement in current account positions is matched by a structural adjustment of the economy towards the traded sector. A better interpretation of the implications of high values of the indicator for private sector debt is helped by the breakdown between private sector debt between household and non-financial corporations.

The economic reading of the scoreboard focuses attention on specific configurations of variables exhibiting potentially worrying levels. One of the common findings from empirical research aimed at identifying simple rules for the detection of macro-financial risks, is that such risks are generally associated neither to the trespassing of prudent levels for a particular variable, nor to the number of variables exhibiting values above prudent levels, but to specific combinations of variables simultaneously going beyond certain levels (e.,g., Manasse and Roubini, 2009). Hence, what matters for the identification of macro-financial risks is not the counting of variables hitting alert levels, but the particular configurations assumed by the scoreboard values. In some cases, countries that have been proposed for IDRs had a large number of scoreboard variables above the threshold; in other cases, despite few flashes, the configurations were considered sufficiently detrimental to justify an IDR. The economic reading of the scoreboard pays attention to the realisation of one or several of the following configurations:

Large and growing stock imbalances. This is the case in which indicators capturing financial positions (e.g. debt levels above prudent values) are coupled with strong upward dynamics revealed by "flow" variables. This scoreboard configuration signals a possibly unsustainable situation where already imbalanced financial positions are getting increasingly imbalanced (e.g., a high current account deficit leading the accumulation of already high external financial liabilities).

Interlinked stock imbalances. In this case, financial positions appear simultaneously imbalanced for several sectors of the economy. This configuration signals little room for manoeuvre to offset potential risks. For instance, a highly indebted government sector with limited capacity of absorbing financial sector risks linked to excess private debt.

Stock imbalances underpinned by trends in the real economy. This is a case where high debt levels coupled with developments in the real economy aggravate the prospects for debt sustainability. For instance, a large stock of net foreign liabilities could be matched by worsening competitiveness and trade performance, high levels of private indebtedness could be coupled with a sustained growth of housing prices, high public debt could be coupled with competitiveness deterioration rooted in a structural productivity problem.

Table 3.2: **Scoreboard indicators: thresholds and rationale**

Indicators and current source	Thresholds, based on old statistical standards (European System of Accounts 1995, Balance of Payments 5)		Rationale
Current account balance (% of GDP, 3-year average)	Period	1960 -07 (# obs: 857)	The upper value of the threshold is set at +6% despite the fact that the upper quartile of the distribution of the three-year backward average is +2%. This reflects the acknowledgment that the urgency for policy intervention is greater in the case of current account deficits.
	Upper threshold	6%	
	Lower threshold	-4%	The lower threshold is given by the lower quartile of the distribution of MIP scorecboard indicator on current account of all the EU Member States.The threshold is computed on a long tome period to take into account exceptional imbalances in recent decades.
Eurostat (National Accounts, Balance of Payments 6)	Source	AMECO database (National Accounts, European System of Accounts 95)	
Net international investment position (% GDP)	Period	1995-07 (# obs: 319)	The lower threshold is given by the lower quartile of the distribution of ratio NIIP/GDP of all the EU Member States.
	Lower threshold	-35%	
Eurostat (National Accounts, Balance of Payments 6)	Source	Eurostat (Balance of Payments 5)	
Real effective exchange rate (3-year % change, HICP deflator, 42 trading countries)	Period	1995-07 (# obs: 125)	Symmetric thresholds are considered to capture unsustainable REER appreciation (i.e. a loss of competitiveness) or REER depreciation (i.e. potential problems related to domestic demand of price convergence). A differentiation of thresholds between EA and non-EA Member States is adopted to reflect nominal exchange rate variability and trend real appreciation in EU catching-up economies. For EA countries the thresholds corresponding to the lower and upper quartiles of the distribution of the three-year percentage change of the REER in the sample of EA countries are -/+5%. Fon non-EA countries, the standard deviation of the latter distribution is substracted from the lower quartile and added to the upper quartile in order to cater for exchange rate flexibility.
	Upper threshold	5%/11%	
	Lower threshold	-5%/-11%	
AMECO database	Source	AMECO database	
Export market share, % of world exports (5-year % change)	Period	1995 - 07 (# obs: 236)	The lower threshold is given by the lower quartile of the distribution for all the EU Member States. A country might lose shares of export market not only if exports decline but also if its exports do not grow at the same rate of world. Hence, the reasons why a country may not have exploited new market opportunities or sharpened comparative advantages in traded products may be a source of concerns.
	Lower threshold	-6%	
Eurostat, IMF (Balance of Payments 6)	Source	Eurostat (Balance of Payments 5)	
Nomial unit labour cost index (3-year % change)	Period	1995 - 07 (# obs: 149)	For EA Member states, the upper threshold is set at 9%, based on the upper quartile of the distribution of EA countries. For non-EA Member States, the upper threshold is set at 12 %. The threshold for non-EA countries is not based on the statistical distribution of these countries since this series reflects the fact that the majority of non-euro area countries have experienced a major trade liberalisation in the period available (since 1995), which entails a natural process of factor price equalisation towards the levels of the trade partners.
	Upper threshold	9%/12%	
Eurostat (National Accounts, European System of Accounts 2010)	Source	AMECO ECFIN database (National Accounts, European System of Accounts 95)	
House price index, deflated (y-o-y % change)	Period		The upper threshold is set at 6%. Given the scarcity of comparable time series, a threshold based on the statistical distribution of the MIP indicators for EU countries would suffer from limited representativeness. Using an OECD dataset of 19 OECD countries, a long series of historical data (1970-2007) gives a lower upper quartile of the distribution of 6%.
	Upper threshold	6%	
Eurostat (National Accounts, European System of Accounts 2010 and price statistics)	Source		

(Continued on the next page)

Table (continued)

Private sector credit flow, consolidated (% GDP)	Period	1995 - 07 (# obs: 312)	
	Upper threshold	14%	The upper threshold is given by the upper quartile of the distribution of the ratio of private credit sector flows/GDP of all the EU Member States.
Eurostat (National Accounts, European System of Accounts 2010, Financial Accounts)	Source	Eurostat (National Accounts, European System of Accounts 95, Financial Accounts)	
Private sector debt, consolidated (% GDP)	Period	1995 - 07 (# obs: 308)	
	Upper threshold	133%	The upper threshold is set at 133% on the basis of the upper quartile of the distribution of the ratio of private sector debt/GDP (in consolidated terms) of all EU Member States.
Eurostat (National Accounts, European System of Accounts 2010, Financial Accounts)	Source	Eurostat (National Accounts ESA 95, Financial Accounts)	
General gross government debt, EDP concept (% GDP)	Period		
	Upper threshold	60%	The threshold for the general government debt is set at the level of the SGP Treaty reference value of 60% of GDP.
Eurostat (Government Financial Statistics)	Source	Eurostat (Government Financial Statistics)	
Unemployment rate (3-year average)	Period	1995 - 07 (# obs: 292)	
	Upper threshold	10%	The upper thresholds is given by the upper quartile of the distribution of MIP scorecboard indicator on unemployment of all EU Member States.
Eurostat (Labour Force Survey)	Source	AMECO database (Labour Force Survey)	
Total financial sector liabilities, non consolidated (y-o-y change)	Period	1995 - 10 (# obs: 381)	
	Upper threshold	16.5%	The upper threshold is given by the upper quartile of the distribution of MIP scorecboard indicator on total financial liabilities of all EU Member States.
Eurostat (National Accounts, European System of Accounts 95, Financial Accounts)	Source	Eurostat (National Accounts, European System of Accounts 95, Financial Accounts)	
Activity rate, % of total population aged 15-64 (3-year change in p.p.)	Period	1995 - 07	
	Lower threshold	-0.2p.p.	The lower threshold is given by the upper quartile of the distribution of the change over three years of MIP scorecboard indicator on activity rate of all EU Member States.
Eurostat (Labour Force Survey)	Source	AMECO database (Labour Force Survey)	
Long-term unemployment rate, % of active population aged 15-74 (3-year change in p.p.)	Period	1995 - 07	
	Upper threshold	0.5p.p.	The upper threshold is given by the upper quartile of the distribution of the change over three years of MIP scorecboard indicator on long-term unemployment of all EU Member States.
Eurostat (Labour Force Survey)	Source	AMECO database (Labour Force Survey)	
Youth unemployment rate, % of active population aged 15-24 (3-year change in p.p.)	Period	1995 - 07	
	Upper threshold	2p.p.	The upper threshold is given by the upper quartile of the distribution of the change over three years of MIP scorecboard indicator on youth unemployment of all EU Member States.
Eurostat (Labour Force Survey)	Source	AMECO database (Labour Force Survey)	

Source: European Commission.

The AMR scoreboard also helps tracking employment and social developments and to make a link with the adjustment process. The adjustment to imbalances often implies reduced domestic demand dynamics and a worsened labour market situation. For instance, this is typically the case when external adjustment takes the form of current account reversals, when banking crises or the unwinding of housing market bubbles curb credit growth, or when large stocks of debt imply protracted deleveraging. The ensuing weakness in the labour market can translate into high levels of youth joblessness, long-term unemployment, exit from the labour force of vulnerable categories. Tracking these developments helps identifying social challenges that needs to be addressed by policy.

AMR analysis complements the economic reading of the scoreboard with country-specific information. AMR reports contain short sections devoted to each country subject to AMR analysis. Complementing the reading of the scoreboard with country-specific information helps refine the interpretation of scoreboard outcomes in several respects:

- it permits to better assess trends from a *forward-looking perspective*; on the basis of the most updated Economic Forecast;
- it permits accounting for relevant information not contained in the scoreboard (e.g., policy settings, governance of the financial sector, of non-financial corporations, of the government sector, etc). Such information is rarely fully captured by statistical indicators, but may be of relevance in the assessment of the possible building up of macro-financial risks and need to be taken into account in the decision whether to open an IDR;
- it allows for a better *interpretation of the main drivers* of observed trends and to sketch a consistent storyline, to be further supported by possible IDR analysis; and
- it allows for a *prima-facie assessment of the overall implications of scoreboard outcomes* and assessment of risks ahead of a possible IDR analysis, taking into account information relating to specific country-level economic conditions and policy settings.

Existing analyses

Findings in analytical reports in previous MIP cycles and in existing studies feed through AMR analysis. AMR analysis builds on the findings in previous MIP cycles, and makes use of existing analysis where necessary. ([27])

- The findings and outcomes from previous AMRs have a bearing on the decisions regarding which countries to select for a new IDR.
- Previous IDR analysis, having shed light on the existence and characteristics of imbalances in a number of countries, is thus also a point of departure in AMR analysis.

From AMR analysis to AMR outcomes

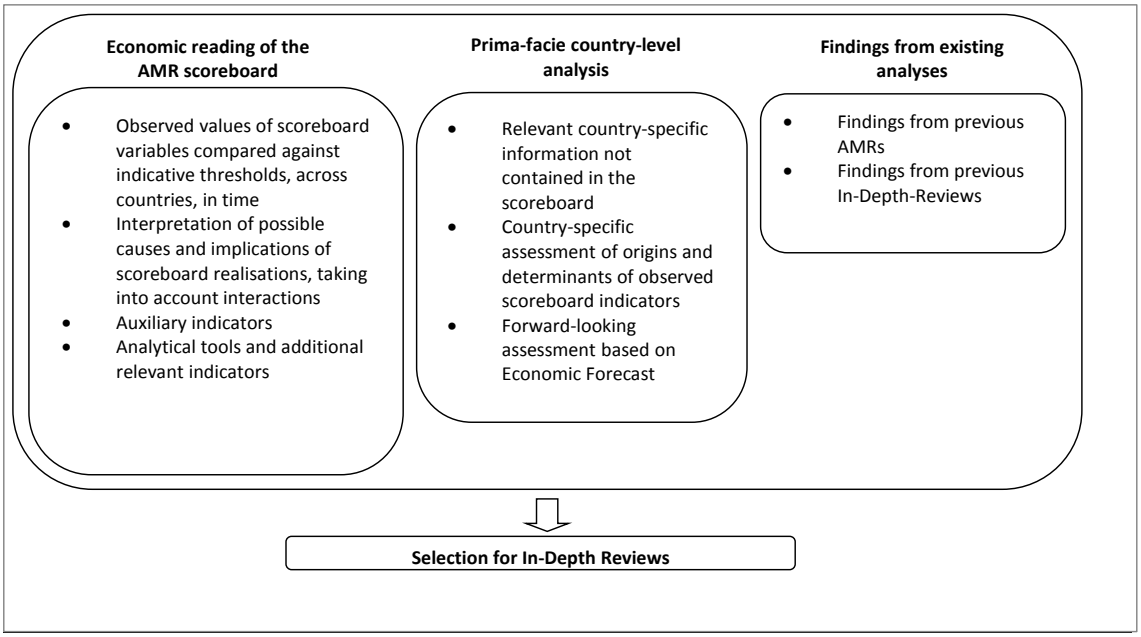
The outcome of AMR analysis is the selection of countries requiring an In-Depth Review. This selection takes into account the economic reading of the scoreboard, additional relevant country-specific information, and the results of existing analysis, notably in the MIP framework. Figure 3.1 summarises the way in which AMR analysis provides the basis for AMR outcomes.

3.3.2. Analysis in the In-Depth Review (IDR)

The principal aim of IDR analysis is to identify possible imbalances, and to assess their nature and severity. The identification and assessment of imbalances is the core of IDR analysis, as required by Article 5.2 of Regulation No 1176/2011. IDRs may also flag policy challenges and priorities for ensuring the correction of the identified imbalances. In carrying out the analysis, the Commission services take into account existing Council recommendations and policy commitments of the Member State concerned (Article 5.2).

([27]) Regular or ad-hoc reports and analyses by international organisations and institutions, including ECB, ESR, OECD, IMF, central banks, academia, private financial institutions, also feed through AMR analysis.

Graph 3.1: **Analysis in the Alert Mechanism Report**



Source: European Commission.

The IDR outcome is the Commission conclusion concerning the existence of imbalances and their categorisation. The analysis by the Commission services provides the basis for the conclusion on the existence of imbalances and their categorisation in terms of being excessive or not. The Commission conclusion for each country analysed in the IDRs is included in a Communication from the Commission to the European Parliament and the Council.

IDRs are published in early spring. The preparatory work for the IDRs relies on a permanent dialogue between the Commission and the Member States' authorities. Every year, Commission services discuss policies and economic developments with the authorities during fact-finding surveillance missions (organised usually in January). Bilateral meetings at technical level also take place in Brussels.

With the aim of strengthening integrated surveillance, in 2015 the IDRs became part of the Commission's Country Reports (CRs). In the first years of the MIP implementation, IDRs were separate analytical documents published in March while other Commission analyses linked to the European Semester surveillance cycle were published in May as a Staff Working Document (SWD), together with the CSR proposals. To streamline the process and give Member States more time to take the analysis of the Commission into account when issuing their National Reform Programmes (NRPs), and to promote an exchange of views with stakeholders before moving to the discussion on follow up through CSRs, since 2015 the analyses of the MIP and non-MIP related issues were combined into a single document, with publication taking place in late February or early March.

The 2016 Country Reports include a synthetic table summarising the main elements of the IDR analysis - "MIP assessment matrix". In line with the commitment to enhance transparency in the implementation of the MIP taken by the Commission in the October 2015 Commission Communication on "On Steps towards completing Economic and Monetary Union", starting with the 2016 Country Reports IDR analysis is summarised in a "MIP assessment matrix" that, separately for each source of imbalance and adjustment issues, reports the main findings regarding the gravity of identified challenges, evolution of risks, the policy response taken by the authorities, and policy gaps.

The Commission conclusions regarding the identification and the severity of imbalances are

reported in a Commission communication to the European Parliament, the Council, the European Central Bank, and the Eurogroup. The Commission conclusions are not published in the IDRs. The IDRs present the assessment by the Commission services. While the conclusions taken on the basis of the IDR assessment are reported in a separate Communication published at the same time or shortly after the IDRs.

3.3.2.1. Aim and scope of IDR analysis

The scope of IDR analysis is country-specific and potentially broad. As opposed to the AMR, where the focus spans the whole spectrum of possible macro-financial risks, the analysis in IDRs is targeted at the specific challenges of the country under analysis. The analysis is as broad as required. A prudent and rigorous approach to IDR analysis starts with a screening of all possible relevant sources of risk, gradually moving towards focusing on those that are most problematic. Final IDR publications may, therefore, report only a small subset of the information processed and elaborated during the process leading to the finalisation of the IDR

The IDR analysis extends to adjustment issues and policy challenges. It includes not only an assessment of the sources and severity of risks, but also possible issues during the adjustment and relevant policy challenges. The policy areas touched upon by the IDR analysis could be wide ranging, as it could be the case that the corrective action requires measures in a number of different policy domains. This is, for instance, the case when imbalances are linked to structural competitiveness problems rooted in low productivity growth. Addressing such types of imbalances may require action simultaneously on a number of fronts, comprising taxation, infrastructure, structural reforms in labour and product markets, etc.

IDRs also discuss the implications of macroeconomic imbalances for employment and social conditions. This responds to the Commitment taken by the Commission to better take into account the social dimension in the implementation of the MIP.

IDR analysis takes a country perspective and a medium-term orientation. IDR analysis aims at building a storyline providing a consistent interpretation of the origins and implications of the main macroeconomic trends that could be identified as imbalances. The perspective is therefore dynamic, and puts that emphasis on starting conditions and the most significant events (e.g., policy shocks, external shocks, etc.) that have marked the recent history of the country under examination. The aim is to move away from the pure description of the evolution of statistical indicators and provide a unitary interpretation of the most significant developments, their underlying causes, and implications from a medium-term perspective.

IDR analysis makes use of information from a large number of sources and a battery of analytical tools. The analytical endeavour of IDRs requires, first of all, information on the main economic and policy developments of the country under analysis. The exploitation of national sources permits the analysts to go beyond the standard set of indicators used in the AMR analysis, which is restricted by the requirement of cross-country comparability. High frequency indicators are used to assess recent trends and turning points. Analytical tools are used with a number of aims:

- Refine the determination of *alert levels* for key macroeconomic variables. While the MIP scoreboard includes the same indicative thresholds for all Member States, economic theory and empirical evidence indicate that thresholds are likely to be highly country-specific. For instance, government debt sustainability depends on country-specific factors underlying the prospects for budget balances; the assessment of current account balances need to take into account the implications for the evolution of the NIIP positions.

- Dig deeper into the *main features of the observed trends*. For instance, "shift-share" analysis permits to decompose the evolution of aggregate trade flows into components linked to the geographical composition, the composition by sectors, or changes in price and non-price competitiveness.

- Assess *causal links and interactions* among macroeconomic variables. Econometric techniques and model-based analysis help underpinning the economic interpretation given to variable co-movements.

- Assess ex-ante the *implications of economic shocks and ongoing trends*. Model-based analysis allows gauging the impact of selected shocks to the economic environment and analyse their implications in terms of macro-financial risks.

Annexes A4 illustrate a selection of analytical tools that have backed IDR analysis and benefited from feedback in the LIME Working Group.

3.3.2.2. Identification of imbalances

The definition of imbalances provided in Regulation No 1176/2011 contributes to some extent to define the boundaries of surveillance under the MIP. Regulation No 1176/2011 gives a very broad definition of macroeconomic imbalance. ([28]) However, a number of elements help isolate MIP-relevant imbalances as follows:

- Imbalances in the sense of MIP imply the lack of "proper functioning" of an economy. Hence, *a problem that merely consists of disappointing economic performance* (e.g., a period of growth below potential) *does not appear sufficient to qualify per se as an imbalance*;

- Imbalances in the MIP sense often have cross-border relevance, in that they could potentially affect the performance of the whole euro-area or the Union and are subject to supra-national economic surveillance. Hence, *minor issues of mostly local relevance* (e.g., a housing bubble limited in geographical scope) *may not be considered imbalances in the sense of the MIP;*

- *The identification of an imbalance does not mean that an adverse situation compromising the functioning of an economy is already present*: what is sufficient is the possibility of its occurrence. This is consistent with the preventive role of MIP surveillance;

- *The notion of excessive imbalance does not differ from that of imbalance by nature but by intensity* ("severity").

The definition of imbalance provided in Regulation No 1176/2011 requires however an adequate economic interpretation. This is necessary to avoid the risk that the object of the MIP surveillance remains excessively broad and to ensure a consistent application of the procedure.

- In the spirit of the rationale and the origin of the procedure, the typical situations that can be interpreted as not in line with a "proper functioning of the economy" are episodes of *macroeconomic instability*, more precisely, *disorderly corrections* in financial and asset markets, such as sudden hikes in risk premia, the occurrence of banking crises, current account reversals, asset market crashes, etc.

- In light of the interpretation above, the notion of imbalance comprises the presence of *unsustainable trends*, for instance the rapid accumulation of external liabilities or major and protracted competitiveness losses, and situations of *vulnerability*, such as highly leveraged financial positions or high stocks of external debt. ([29])

- In summary, the *MIP-relevant macroeconomic imbalances are defined as unsustainable trends or vulnerabilities that, if not corrected, could have harmful implications for macroeconomic stability for the country itself, the euro area or the EU.*

Moreover:

([28]) Imbalances are defined as "any trend giving rise to macroeconomic developments which are adversely affecting, or have the potential adversely to affect, the proper functioning of the economy of a Member States or of the economic and monetary union or of the Union as a whole", while the excessive imbalances are "severe imbalances that jeopardise of risk jeopardising the proper functioning of the economic and monetary union" (Article 2 of Regulation No 1176/2011).

([29]) As the ultimate objective of the MIP is to ensure that adequate measures are put in place to prevent the formation of macroeconomic imbalances or correct them once in place, MIP-relevant imbalances are those that can potentially addressed by policy. This excludes situations where the underlying drivers of macroeconomic instability are out of the competence of economic policy makers (e.g., natural catastrophe, war, etc).

- Unsustainable trends or vulnerabilities are identified as imbalances only if potentially relevant from the viewpoint of the *likelihood* and *impact* of their implications on macroeconomic stability.

- Typical *root causes of unsustainable trends are the presence of distortions or incorrect expectations* that prevent a prompt and smooth correction by markets. The typical case is that of asset market bubbles. The continuous progression of asset prices above fundamentals could be linked to distortions (e.g., the actual or expected intervention by public authorities aimed at subsiding or financing the bubble) or incorrect expectations in a context of coordination failures and "multiple equilibria". Similarly, excess growth in private, government or external debt could be linked to the expectation of a bail out or simply incorrect expectations regarding future incomes. *Vulnerabilities are generally instead the result of multi-faceted causes accumulated over time, linked to the interplay between policy settings, institutions, and market incentives* (e.g., the accumulation of large shares of mortgage debt in foreign currency could be the result of sudden financial liberalisation not matched by prudential and regulatory measures.

- While *unsustainable trends*, if not corrected, *may by themselves be sufficient causes of macro-financial instability*, the presence of *vulnerabilities raises the risk of macro-financial instability in the presence of shocks*. This also means that the fact that Regulation No 1176/2011 makes only reference to "trends" should not be understood as implying that the level of stock variables (e.g., private debt, etc.) cannot qualify as an imbalance in the implementation of the MIP if this creates vulnerability and increases macro-financial risks. ([30])

- Unsustainable trends or vulnerabilities may be linked to the simultaneous behaviour of a number of economic and financial variables. Hence, as discussed previously, *what may matter is not so much that the value of a particular economic variable but the realisation of particular configurations*.

- Still in light of the interpretation above, the *growth* performance of an economy *is not the object of MIP surveillance per se, but it could if* there is a reasonable presumption that the pace of growth or its characteristics (e.g., whether it is mainly driven by domestic demand or net exports) may pose a *problem in terms of macroeconomic stability* at some stage. In some cases, high growth may go together with the accumulation of macro-financial risks (e.g., buoyant domestic demand fuelling housing bubbles or current account deficits), in other cases low potential growth pose a risk in terms of the resources needed to finance high stocks of debt.

The analysis aimed at identifying macroeconomic imbalances focuses on macro-financial implications from a forward-looking perspective. Quantifying the likelihood and impact of a disorderly correction over the medium term is a very challenging task. In practice, the assessment can hardly depend exclusively on a fully-fledged and consistent quantitative framework and inevitably incorporates a substantial element of judgement. In most cases, such quantifications would be just as reliable as the underlying assumptions, which are most often quite imprecise, in particular in the early stages when imbalances are slowly accumulating. Nevertheless, the use of adequate statistical information and quantitative analytical tools, which would differ depending on the specific source of risk investigated, provides a solid basis for a consistent assessment (see Box 3.3).

The analysis concerns primarily country-specific issues, but implications for the euro-area and the EU need also to be assessed, which may require that the analysis takes a broader perspective and the cross-border spillovers are taken into account.

- The assessment of spillovers should in principle aim at assessing the implications for other countries arising from the crystallisation

([30]) Imbalances could coincide not only with variables exhibiting positive trends but also with the absence of a downward trend in certain variables.

Box 3.3: **Methodologies for assessing the likelihood and impact of macro-financial instability**

The main difficulties with IDR analysis aimed at identifying imbalances lies with the assessment of macro-financial implications of existing situations and trends. Is the country under analysis characterised by unsustainable trends leading to disorderly macro-financial developments? Are there relevant vulnerabilities that seriously compromise macro-financial stability in case of shocks? Answering these questions require a forward-looking analysis of the **likelihood** and **impact** of episodes of macro-economic instability.

- As a rule, the likelihood of the emergence of macro-financial problems linked to unsustainable trends is assessed by comparing flow variables summarising the evolution of financial positions with prudent benchmarks. More elaborated analyses could be based on the simulation of the consequences linked to the protraction of existing trends on financial positions (e.g., on government debt or on NIIP). The likelihood of the emergence of macro-financial problems is inferred from the time horizon at which, under plausible assumptions, financial positions reach become highly imbalanced, reaching values hardly encountered in the past or clearly incompatible with orderly market developments.

- Not only flow variables but also stock variables are relevant for the assessment of risks, since they are key for the assessment of vulnerabilities. Larger stock imbalances could lead to a faster destabilisation in case of shocks. Consistently, as a rule, larger stock imbalances are associated with higher risk premia. The presence of vulnerabilities can be gauged on the basis of the comparison of the level of financial positions with prudent benchmarks and the analysis of the composition and characteristics of stock imbalances (e.g., in terms of composition by type of holders and originators, instrument, duration, currency composition, etc).

- The assessment of the impact of macro-financial instability requires simulating the implications on the economy arising from the materialisation of risks, e.g., a sudden rise in interest rates, a sudden drop in asset valuations, etc. Such an assessment need to take into account the interdependence among macro-economic variables and identify to the extent possible causal relations. The use of applied macroeconomic models helps in this respect, taking into account the underlying assumptions and limitations.

of risks linked to imbalances accumulated in a given country. ([31])

- A complementary aim of spillover analysis is the backward-looking assessment of what the accumulation of imbalances in one country has implied for other countries. ([32])

- Finally, the aim of spillover analysis could be to assess the cross-border impact of policy shocks that could help correcting imbalances.

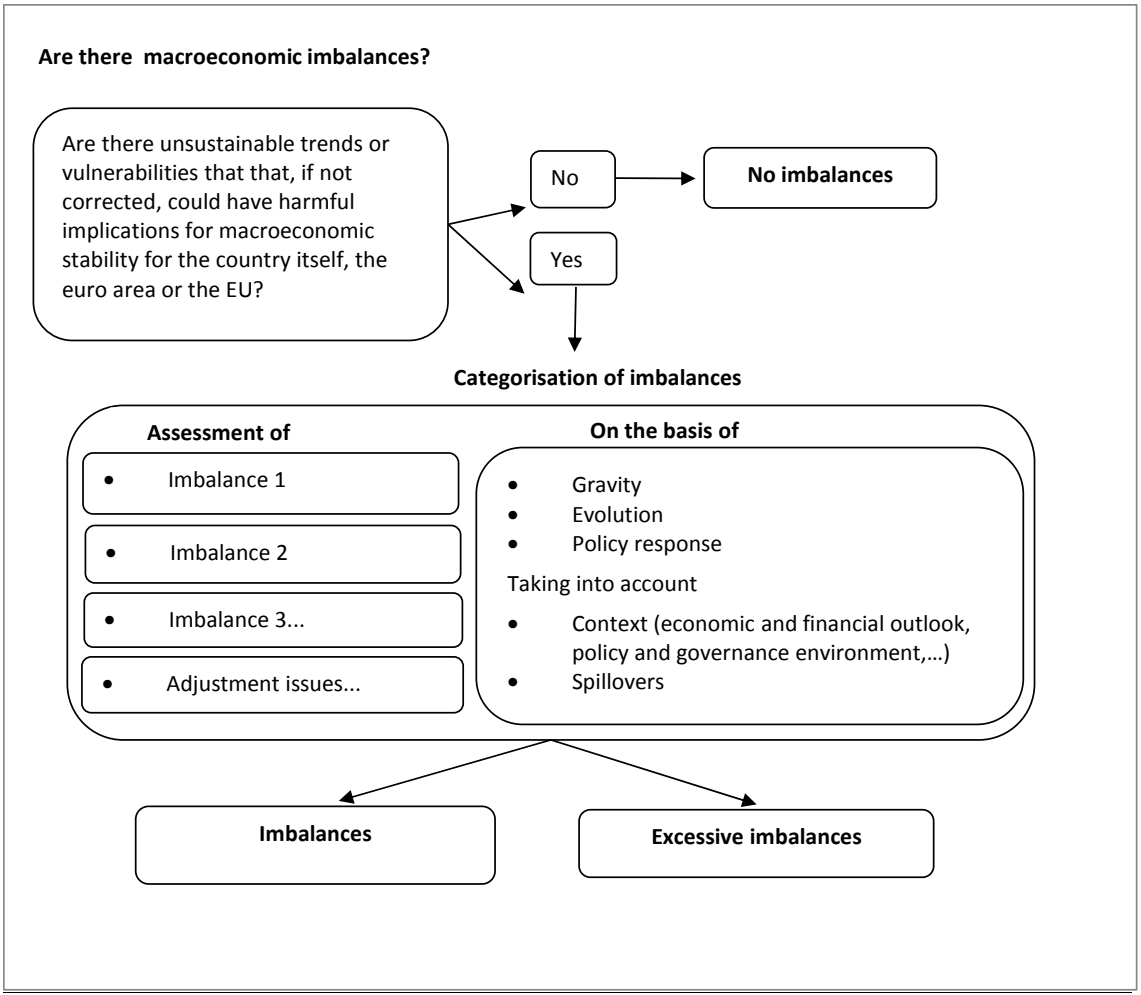
- Data on trade and financial cross-country interlinks provide prima-facie information on the extent to which shocks originating in one country could spill over to another country via the trade or the financial channel. In particular, the analysis of bilateral indicators of trade and financial exposure provides an indication on the order of magnitude of potential spillovers on a geographically disaggregated basis. The measurement of spillover effects needs however to take into account the reaction of economic variables to shocks, which require economic models (see Annex A.4.5).

The main *sources* of imbalances are identified separately and spelled out. As discussed above,

([31]) Such an exercise involves the same difficulties with the assessment of the risk and impact of disorderly corrections of imbalances discussed in the previous paragraph, plus the additional difficulty of measuring the extent to which shocks would reverberate across borders.

([32]) Model-based work was carried out with the aim of estimating the cross-border impact of the combination of shocks that underlies that accumulation of imbalances in a given country. For instance, Kollman et al. (2015) analyse in an estimated DSG model the composition of schocks that drove the growth of the German since the early 2000s and find that most of these shocks but not all worsened the trade balance for the rest of the euro area. For an analysis of trade balance and financial account spillovers see also European Commission (2012a).

Graph 3.2: **Identifying and assessing macroeconomic imbalances**



Source: European Commission.

imbalances may be linked to the simultaneous presence of a number of conditions. In this sense, it may not be obvious to separate which economic variable is a source of imbalance and which is not. For instance, a large stock of net foreign liabilities coupled with protracted competitiveness losses could be considered as sufficient for the detection of macroeconomic imbalances, but it would not be obvious to judge if the country under analysis suffers from the presence of two imbalances or only one (corresponding to the simultaneous presence of two factors: NIIP stock and competitiveness losses). Consistently, Commission conclusions determining the presence of imbalances so far have not referred to the exact number of imbalances identified. Nonetheless, the analysis in the IDRs identifies the sources of imbalances and the clusters of variables that need to be monitored.

3.3.2.3. Assessing the severity of imbalances

Regulation No 1176/2011 requires that IDRs need not only identify imbalances, but assess them in terms of severity, i.e. specify whether the identified imbalances are excessive or not (in Regulation No 1176/2011 excessive imbalances are defined as "severe"). In practice, the assessment of severity of identified imbalances was subject to further qualifications, as reflected in the MIP categorisation used in the IDR conclusions communicated to the European Parliament and the Council (see Section 3.2.1).

Box 3.4: Current account surpluses as macroeconomic imbalances

Current account surpluses do not pose a sustainability issue for the country concerned. However, prolonged large surpluses may reflect sub-optimal investment and reduced growth potential. Moreover, large and growing surpluses imply increasing exposure of the country concerned as an international creditor, since a growing share of assets are out of the control of domestic regulators and policy makers and may bear exchange rate risk. Large current account surpluses may matter also for partner countries, as surpluses are the counterpart of deficits somewhere else. Risks of disorderly rebalancing are higher when some countries run large surpluses and other run large deficits, while they are relatively contained when countries run broadly-balanced positions. Moreover, to the extent that protracted large surpluses reflect weak dynamics of domestic demand, they can be associated with subdued dynamics of next exports and growth in partner countries, which in turn, under certain conditions, may imply reduced room for correcting existing external imbalances or for deleveraging in the presence of high internal debt. In the above respects, surpluses deserve attention from the viewpoint of supra-national macroeconomic surveillance (e.g., Blanchard and Milesi Ferretti, 2011) and for the identification of imbalances that may matter for the monetary union or the EU.
Against this background, both in the legislation and in practice it is clear that the MIP applies to both deficits and surpluses, although not necessarily with the same concerns in mind or with the same degree of urgency.

The assessment of the severity of imbalances is primarily based on the intensity of the challenges posed by the imbalances identified. Excessive imbalances are those imbalances that are more severe, i.e. potentially more harmful. As for the case of the identification of the imbalances, the assessment of the challenges posed by imbalances aims first of all at gauging the *likelihood* and *impact* of episodes of macro-financial instability associated with the imbalances.

The assessment concerns also adjustment issues. The challenges posed by the identified imbalances do not depend only on likelihood and impact of associated episodes of financial instability, but also on the capacity of the economy to prevent and correct such imbalances. For example, if an economy needs to rebalance against the risk of a current account crisis, it needs to have the necessary flexibility to be able to re-gain price and non-price competitiveness and to start growing increasingly on the back of exports. A very rigid economy with limited sources of productivity and export growth will face much bigger adjustment issues. The larger the adjustment issues, the larger the challenges posed by the imbalances.

The assessment of the severity of imbalances concerns the overall situation of the economy. The assessment of severity is not made separately for each variable capturing a source of macro-financial risks, but on the overall combination of factors in their entirety. Commission conclusions on macroeconomic imbalances do not make distinctions on which variables or combination or variables are considered as simple imbalances or excessive imbalances.

The assessment of the importance of economic imbalances is based on three main criteria:

- *Gravity*. Gravity refers to the "sheer size" of imbalances; the analysis aims at providing a “snapshot” of their level. Large flow variables suggesting unsustainable trends, or vulnerabilities underpinned by large stock variables or stock variables that manifest themselves in combinations, or that are compounded by flow trends in the real economy are considered, ceteris-paribus, of a higher gravity. The analysis can consider also the relevant characteristics of financial imbalances. For instance, the risks related to an indebted non-financial private sector are measured not only on the ratio of its debt to GDP, as they depend also on other elements, including the debt distribution across income levels, the specificities of outstanding debt products; the counterpart risks onto the banking system, etc.

- *Evolution*. The criterion permits to distinguish if the identified imbalances exhibit any tendency to further aggravate or to correct. For

instance, the assessment of large current account deficits needs to take into account whether deficits are already in the process of shrinking for non-cyclical reasons and if a forward looking assessment suggests that a further reduction is foreseen.

- *Policies*. This criterion permits to distinguish when countries are characterised by large policy gaps in terms of action needed to address imbalances and whether already enacted or planned policies are helping to address the identified imbalances. Non-compliance with policy recommendations cannot represent by themselves sufficient ground to identify imbalances. Policy compliance, however, is relevant in the assessment of risks and imbalances to the extent that it affects the expected implications of imbalances.

The assessment takes into account other factors:

- *Spillovers*. The aim of the MIP is also that of identifying, preventing and correcting situations that could be harmful for the euro area or the EU as a whole. The cross-border and systemic supra-national implications of the identified imbalances are therefore taken into account in the assessment.

- *Context*. (i) The assessment of imbalances needs to take in due account the overall, national and supra-national economic context, its evolution and outlook, as this is key in the assessment of the implications of identified imbalances. (ii) The overall governance framework is taken into account as this is important for the effectiveness of corrective policies and the credibility of policy commitments.

Graph 3.2 summarises graphically the principles and criteria taken into account in the identification and assessment of imbalances in IDR analysis. This assessment scheme is reproduced in the MIP assessment matrix contained in IDRs since 2016. The various elements of the assessment receive different attention in IDRs depending on the specific relevance for the country concerned. The final conclusion by the Commission (the IDR outcome) reports the main sources of macroeconomic imbalances and risks, and a view on the degree of severity of the imbalances.

Boxes 3.5 and 3.6 provide examples on the application of the principles used to identify and assess imbalances as well as to change their category.

3.3.2.4. Identification of policy challenges and recommendations

Following the identification of imbalances, the Commission may propose recommendations to the Council. These recommendations would be in the framework of the European Semester CSRs or as part of the implementation of the EIP and would aim at the correction of the identified imbalances. The IDRs provide the analytical basis for the formulation of MIP-relevant recommendations.

The discussion on past implementation of the MIP in Chapter 4 further elaborates on the role that the above criteria played in the categorisation of imbalances. In particular, data analysis presented in section 4.3.2 provides a quantification of how the categorisation of MIP imbalances was correlated with indicators summarising the three criteria above.

3.3.2.5. Updating the assessment of imbalances

Countries identified with imbalances are continuously monitored. Countries already identified as having imbalances are subject to the AMR and IDR analysis. Countries could also be subject to closer monitoring of corrective action under specific monitoring (see section 3.3.3). As a result of this continuous process of analysis and monitoring, the assessment of imbalances could be revised over time and consequently, the imbalances classified into a lower or higher category. It could also be the case that the IDR analysis indicates that previously identified imbalances have been corrected.

An update of the classification of imbalances across MIP categories depends largely on the evolution of imbalances and policy progress. In principle, the criterion used for deciding whether

Box 3.5: **Application of the principles to identify and assess imbalances: some examples**

Identification of macroeconomic imbalances. The existence of an imbalance reflects a forward looking risk assessment for the Member State concerned taking also into account implications for euro area and EU. This implies that even if the starting point in terms of current economic situation may appear similar at first level, the implied risks may be different.

- In 2014 both Sweden and Germany had large current account surpluses of broadly similar size. However, in light of the more balanced Net International Investment Position of Sweden, the need for Swedish households to keep sufficient savings to deal with a high stock of debt, evidence of under-investment in Germany, and more relevant cross border implications of the German surplus, in 2015 the current account surplus of Germany was identified as a source of macroeconomic imbalance while that of Sweden was not.
- In 2015 both Sweden and Estonia recorded among the fastest growth rates in housing prices across the EU. However, based on the level of housing prices, the level and dynamics of household debt, and the policy response to curb hosing prices via macro-prudential policies, in 2016 housing price dynamics were considered as source of imbalance in Sweden but not in Estonia.

Assessing the severity of imbalances. Imbalances are assessed according to the gravity, evolution and the policy response, taking into account other factors including spillovers. In 2014, both Ireland and Croatia had a combination of high private and government debt as well as net external liabilities. The imbalances of Croatia were considered to be excessive. In the case of Ireland instead, the improvements in competitiveness and the current account position, the reduction of household debt, and policy progress, notably on the front of financial sector stabilisation and public finances, were taken into account in the forward-looking assessment of macro-stability risks, and the 2014 IDR concluded that Ireland had imbalances requiring specific monitoring and decisive policy action.

Updating the MIP classification. The assessment of imbalances is updated on the basis of the evolution of relevant indicators to gauge macro-financial risks and the policy response, taking into account how such developments contributed to a reappraisal of the gravity of macro-stability risks.

- Spain was found to have excessive imbalances in the IDR of 2013 on the basis of large stocks of internal debt, both private and public, and large net external liabilities, posing risks to financial stability. However, in 2014, after a successful completion of the financial sector programme that contributed to dispel systemic concerns about macro-financial stability, and against the backdrop of an improving current account balance and restored competitiveness, the IDR concluded that overall risks were reduced and that Spain had macroeconomic imbalances which require specific monitoring and decisive policy action.
- In 2015 Portugal was identified with excessive imbalances in light of a combination of high government, external and private debt. Despite a stabilisation in government and the net investment position and the reduction of private debt as a share of GDP, the conclusion of excessive imbalances for Portugal was confirmed in 2016. This outcome was mainly linked to that these developments were not sufficient to conclude that the gravity of macro-stability risks were reduced.

to change the category is whether there are significant changes in the factors underlying the assessment of macroeconomic imbalances. If the identification of imbalances in previous rounds has led to policy recommendations, the assessment of policy compliance (in the sense of judging whether the policy action has been taken and brings results) acquires relevance in the decision to possibly de-escalate the procedure. As imbalances are often quite persistent phenomena, Member States' categories remain rather stable over time (see section 4.3.2)

In-Depth Reviews (IDRs) highlight policy gaps and policy challenges and contribute, among other factors, to the formulation of CSRs. Since the

Box 3.6: **Analytical tools used in In-Depth Review analysis**

The Commission, in consultation with the LIME Working Group of the EPC has developed a number of analytical tools for the analysis of macroeconomic imbalances in the framework of the MIP. Although such tools find a role also in AMR analysis, their contribution is found especially in the IDR analysis. The analytical tools used in MIP analysis are regularly updated and the list is enriched on the basis of analytical improvements and new analytical demands. Annex 1 to the report describes selected tools developed in recent years.

The contribution of analytical tools to the analysis is found in several areas:

- Interpreting economic interactions and causality, evaluation of the implications of alternative scenarios. Applied Macroeconomic models, such as the Commission QUEST DSGE model, are the main tool for disentangling cause and effect while taking into account the complexity of the relations among economic variables in an inter-temporal setting.

- Assessing the drivers and determinants of selected economic developments. For instance, shift-share analysis permits to distinguish the various dimension of the evolution of aggregate trade data. Cyclically-adjusted current account balances permit to disentangle to what extent current account dynamics are linked to cyclical developments. Regressions based current account norms permit to assess to what extent current accounts reflect fundamental drivers of the saving-investment balance. Regression-based wage benchmarks allow assessing if observed wage developments are in line with underlying fundamentals.

- Assessing the implications of selected economic developments. For example, debt sustainability analysis permits to assess the longer-term implications associated with current public finance variables on the basis of assumptions on the future evolution of key economic variables.

- Assessing spillovers. Bilateral data on trade and financial integration provides prima-facie information on the magnitude of cross-border interdependencies. Model-based analysis permits to assess the cross-border impact of selected shocks.

policy context is a key ingredient for the evaluation of macro-financial risks linked to imbalances, the IDR analysis inevitably highlights what is missing in the current or expected policy framework to address the identified imbalances.

The scope of relevant policies from a MIP perspective can be quite broad. As opposed to other types of macro-surveillance focusing on a well-defined type of issues and where there are policies that are closely connected to the economic variables which are the focus of surveillance (a case in point is EU fiscal surveillance), in the case of the MIP, many different policy fields could be concerned with often a relevant but only indirect link to surveillance objectives. A typical example is that of large current account imbalances. The policy fields concerned range from the overall macroeconomic policy stance (since the dynamics of domestic demand have first-order relevance for current account dynamics) to the whole set of policies that can help competitiveness and adjustment capacity in the medium term, including labour and product market reforms, infrastructure and R&D, human capital formation, etc.

The time frame for addressing policy gaps depends on the specific context and range from the very short-term to the medium-term. In some cases, the identified imbalances may imply serious risks already in the short-term that require prompt policy action. For instance, action to support balance sheet positions of the financial sector may be required over a short time horizon, while a longer horizon is natural for policies aimed for instance at raising total factor productivity growth on a stable basis.

Many MIP-relevant policies imply deep structural reforms rather than parametric measures. In some cases, the required policy corrections can be implemented by means of a change in specific policy levers. For example, preventing the build-up of housing bubbles may

require containing the growth rate of prices of real estate assets. In some cases, this may require for example an increase in tax rates on housing transactions, in other cases a fully-fledged reform may be needed. In many instances, the measures recommended to improve the adjustment capacity of countries having to rebalance their economies went beyond parametric measures and aimed at reforming certain aspects of the labour and the product market. In other instances, effective policies require a reform in specific aspects of the dispute settlement system in civil justice or more fundamental reforms of the functioning of the justice system.

MIP-related policy recommendations need to take into account the specific institutions of the countries concerned and social conditions. Regulation No 1176/2011 makes reference to the need for MIP recommendations to take into account differences in the way Member States organise their own policy frameworks, with specific reference to collective bargaining, wage formation, and certain welfare state policies. Social developments, including inequality, poverty and social exclusion, need to be taken into account to better define the context in which the adjustment to imbalance takes place and to design appropriate preventive and corrective policies.

MIP recommendations are part of the set of Country Specific Recommendations (CSRs) issued in the European Semester framework. CSRs are generally published by the Commission in May, endorsed by the European Council in June, and adopted by the ECOFIN Council in July. The practice by the Commission and the Council since the entry into force of the MIP has been to highlight which CSRs are *fully or partly* relevant for the MIP in the recitals introducing the CSRs. The policy challenges highlighted in IDRs are aimed at flagging policy gaps from the viewpoint of the prevention and correction of the identified imbalances. As such, together with National Reform Programmes, they are among the inputs taken into account by the Commission and the Council in the formulation of CSRs.

MIP-relevant CSRs may also be relevant from the viewpoint of other surveillance processes. Some policy recommendations may be indicated as relevant for more than one EU surveillance process. This is notably in the case of the MIP, where recommendations may need to span several policy areas to address broad-based imbalances and ensure an effective adjustment process. For instance, in the case in which high government indebtedness compounds other source of imbalances (e.g., deteriorating productivity and competitiveness or high private debt) recommendations in the framework of the SGP may also be flagged as MIP relevant. Alternatively, in countries where labour market reforms are needed to ensure an effective correction of existing imbalances that helps contain social costs, recommendations that are relevant in the context of the Employment Guidelines may also be flagged as MIP-relevant.

3.3.3. Monitoring

Monitoring policy measures to address the imbalances is a key element of the MIP implementation. The ultimate goal of MIP surveillance is to foster policy progress aimed at preventing the occurrence of harmful imbalances or ensuring their correction and a reduction of macro-stability risks. The monitoring of policy compliance is therefore key for the assessment of outstanding challenges, for the evaluation of policy needs and policy gaps, and for the formulation of MIP recommendations.

Monitoring is carried out in the framework of the European Semester. Policy progress is monitored by the Commission for all countries receiving CSRs. Regular contact with policy authorities – including by means of missions and bilateral meetings in Brussels between representatives of Member States concerned and Commission services' country teams – permit a continuous update of the assessment of policy progress, thereby providing the basis for a regular re-assessment of outstanding challenges and policy gaps ultimately feeding into revised policy recommendations. This monitoring process applies to all CSRs, irrespective of whether countries are under MIP surveillance or CSRs are flagged as MIP-relevant or not.

A process of specific monitoring is currently also activated for countries under MIP surveillance and is aimed at monitoring the implementation of policies that are relevant from an MIP viewpoint, i.e., for the prevention and correction of macroeconomic imbalances.

- Specific monitoring was initially applied after the identification of excessive imbalances in Spain and Slovenia in 2013. The Commission did not launch immediately the Excessive Imbalance Procedure, but issued detailed and time bound recommendations, and assessed whether policy commitments included in the National reform Programmes were consistent with these recommendations. With a view to monitor the implementation of the enhanced commitments of these countries, a process of specific monitoring was put in place.

- On the basis of the positive experience with specific monitoring applied to Spain and Slovenia, specific monitoring was extended in 2014 to all countries with excessive imbalances for which the EIP was not launched, and to selected euro-area countries with imbalances with systemic relevance. The 2014 Commission communication reporting IDR outcomes established the practice of extending specific outcomes to all countries with excessive imbalances. The extension to selected euro-area countries with imbalances of systemic relevance was aimed at providing a strong basis for monitoring action in response to imbalances with euro-area wide relevance and to monitor the implementation of the recommendations issued to the euro-area.

- In 2016, and in light of the streamlining of MIP categories established in the Communication reporting IDR outcomes, specific monitoring concerned all countries in the MIP. While until 2016 specific monitoring consisted of two missions followed by reports in the autumn and in the winter, in 2016 monitoring was taking place in the autumn only, and it was modulated on the basis of the scope of the challenges and the severity of the imbalances.

Specific monitoring is designed to enhance the continuous follow-up on the implementation of reforms relevant to address identified imbalances. Specific monitoring reports are discussed in the Council committees preparing the ECOFIN (EPC/EFC). Specific monitoring does not replace the encompassing Commission monitoring of reform implementation in response to country-specific recommendations that is presented in the country reports, but strengthens the basis for such an assessment.

Specific monitoring includes an intensified dialogue with national authorities, missions, and progress reports. Each specific monitoring report is preceded by fact-finding missions, involving also ECB staff for euro-area and ERM-II countries. The specific monitoring reports provide updates on economic developments as well as a detailed overview of policy measures taken in response to the MIP-relevant CSRs, with a view to assess overall compliance and assess progress with addressing the underlying challenges. Specific monitoring reports are made public. The reports are discussed in the ECOFIN committees. Discussions take place in the EPC, which produces a report delivered to the EFC. The ECOFIN is informed by the EFC.

3.3.4. Follow-up to the identification of excessive imbalances

Specific monitoring is more encompassing for countries with excessive imbalances. For countries for which excessive imbalances were identified, but the Commission did not recommend the launch of the Excessive Imbalance Procedure, the Commission has nevertheless recommended to the Council more detailed and time-bound CSRs. Specific monitoring, was originally introduced to follow up to the commitments of countries with excessive imbalances. In 2016, specific monitoring was extended to all countries under MIP surveillance but its activation is commensurate with the severity of the imbalances, with more encompassing mission and reports to assess progress with policy commitments for countries identified with excessive imbalances.

The Council, upon a recommendation by the Commission, may launch the corrective arm of the MIP, i.e., the Excessive Imbalances Procedure (EIP) in case excessive imbalances are identified. The EIP has so far never been launched, the reason being that the identification of excessive imbalances was followed by strengthened policy commitments in National Reform Programmes followed up by implementation (see section 4.4).

4. TAKING STOCK OF MIP OUTCOMES

4.1. Introduction

The aim of this chapter is to review the MIP outcomes, referring to specific country cases and analysing the available data. First, the chapter provides an overview of the various MIP cycles since the first implementation of the MIP. Subsequently, the chapter reviews the outcomes of AMRs and the IDRs and the policy recommendations linked to the MIP for the Member States concerned. Available data are analysed to assess how MIP outcomes were associated with the economic and policy situation of countries under MIP surveillance. Finally, the chapter discusses the impact of the MIP, focusing on the role it played in strengthening policy action.

4.2. MIP cycles 2012-2016: an overview

The first application of the MIP took place in 2012, in the midst of the economic downturn following the 2008-2009 financial crisis, while large imbalances were in the process of unwinding in a number of Member States. Therefore, in the first years of its implementation, the MIP was mainly aimed at supporting ongoing policy action in Member States to correct existing imbalances, and at managing the economic adjustment, with the prevention of new harmful imbalances playing a role in relatively few countries.

The annual MIP surveillance cycle starts with the AMR and ends with Council recommendations. In November of a given year, the Commission publishes a Communication that includes the AMR with a view to the following the year's European Semester cycle. ([33]) The AMR signals countries with potential imbalances, which should be the subject of IDRs. IDRs are then published in the Spring of the following year. CSRs follow the publication of IDRs, issued by the Commission in May. CSRs are then discussed in Council Committees soon after issuance, endorsed by the European Council in June, and adopted by the ECOFIN Council in July. Table 4.1 provides an overview of the landmarks between AMR and IDR conclusions for the five rounds of MIP that took place between 2012 and 2016.

The set of countries subject to MIP surveillance has been rather stable over time. The relative stable number of countries under MIP surveillance reflects that imbalances take time to be corrected. The number of countries identified with imbalances and receiving MIP-related recommendations rose from 12 in 2012 to 17 in 2015, mainly due to countries entering MIP surveillance after exiting financial assistance programmes or after joining the EU (Croatia). In 2016 the countries subject to MIP surveillance fell to 15, in light of easing macro-stability risks (see section 3.2.3). Countries entered the MIP surveillance and exited in light of an IDR identifying no imbalances (Denmark and Malta in 2014, Belgium, Hungary, Romania and the United Kingdom in 2016). The first and only IDRs produced for Luxembourg in 2014 and Austria and Estonia in 2016 concluded that these countries were not experiencing imbalances in the MIP sense.

Imbalances were identified in most of the countries analysed in IDRs (Table 4.1, third column). As economic and financial distress eased, a number of countries exited financial assistance programmes, and the MIP surveillance was extended to these countries (Ireland, Portugal, Romania, Cyprus, see Box 4.1. The assessment of imbalances evolved, with the reclassification of imbalances up and down the MIP categories, reflecting economic developments and policy action taken (see section 4.3.3). The categorisation of MIP imbalances evolved as described in Table 4.1 (last column). Excessive imbalances were identified in each MIP cycle since 2013.

4.3. Reviewing MIP outcomes

4.3.1. AMR outcomes

All Member States were analysed in AMRs, except those receiving financial assistance linked to a macroeconomic adjustment programme. AMR analysis does not include countries covered by financial assistance programmes (although the scoreboard report

([33]) The annual cycle has been conducted this way since its inception, with one exception: in 2011, the AMR was delayed until February 2012 as a result of its impending adoption; but this had no impact on the subsequent steps of the MIP.

Box 4.1: **Country coverage of the MIP**

Essentially not all EU countries are covered by MIP surveillance, as Article 11 of Regulation 472/2013 states that the MIP does not extend to countries concerned by a macroeconomic adjustment programme linked to financial assistance.

Cyprus had an IDR in 2012 when it was found to experience "very serious imbalances". Shortly after, in June 2012, Cyprus requested financial assistance under an ESM/IMF economic adjustment programme. Soon after the completion of the financial assistance programme in 2016, an IDR was produced for Cyprus.

Ireland exited its EFSM/EFSF/IMF economic adjustment programme with financial assistance in December 2013 and was the object of an IDR in 2014 for the first time. Ireland had not been included in the 2013 AMR because at the time of the publication of the report (November 2013) the country was still under an economic adjustment programme with financial assistance.

Portugal exited its EFSM/EFSF/IMF economic adjustment programme with financial assistance in June 2014, and it was then included under MIP surveillance thereafter. The AMR of November 2014 covered Portugal, reintegrating the country under the regular MIP surveillance cycle. Portugal had its first IDR in 2015.

Spain has been under MIP despite financial support. In 2012 Spain was provided ESM financial assistance to recapitalise its banking sector. Since financial assistance for Spain did not include a fully-fledged macroeconomic adjustment programme, Spain remained under MIP coverage.

Romania was included in the MIP in 2014 while being covered by a balance of payment programme. Romania had a balance of payments financial assistance programme between 2009-2011 followed by two balance of payment programmes with no actual disbursement in 2011-2013 and 2013-2015. Romania was subject to macroeconomic adjustment programmes under balance of payments assistance. Romania was included in the MIP in 2014 despite the programme, as Regulation 472/2013 requiring to suspend the MIP in case of financial assistance of macroeconomic adjustment programmes only applies to euro-area countries.

figures also for these countries). These countries are therefore not selected for an IDR. ([34])

The number of scoreboard "flashes" shows no clear cut general trend, although the number of flashes fell for a majority of countries in recent AMR reports (Graph 4.1). For some countries, the number of "flashes" (cases where the value of scoreboard indicators exceed their indicative threshold) has been growing, in others the numbers have decreased, while others have remained relatively stable over time. Quite often, the number of flashes did not exhibit a clear trend. The evolution of flashes at country level depends on the variable considered and is linked to the specific macroeconomic dynamics followed since 2012.

Scoreboard flashes linked to stock imbalances were persistent, while the number of flashes associated with flow variables fell over time (Graph 4.3). Government debt, private debt, and the NIIP, remained elevated across AMR vintages and were often above the indicative scoreboard thresholds. At the same time, flow variables such as current account balances, REER growth, ULC growth, have undergone some adjustment in most countries, and the number of flashes consistently decreased. Flashes related to current account balances have dropped from more than ten in 2011 to five in 2014, out of which several now signal surpluses and no longer deficits. The reduction of flashes in ULC reflects labour market slack during adjustment, which finds its counterpart in the growing number of flashes for the unemployment variable. Flashes on losses of export market shares, credit growth, and financial sector liabilities have remained broadly stable.

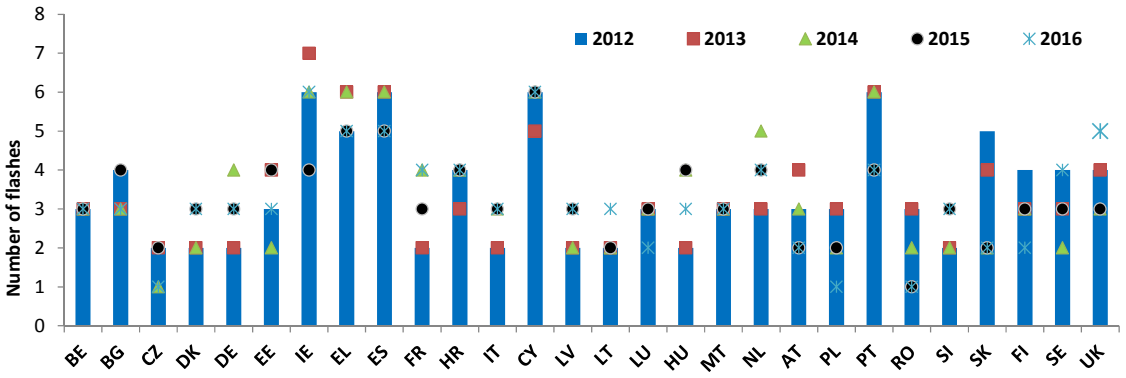
([34]) See Section 2 for the legal and institutional rationale for excluding countries under financial assistance programmes from the MIP coverage.

Table 4.1: **MIP outcomes: from AMR to IDR conclusions**

	AMR	Conclusion after IDR: No imbalances	Imbalances	Of which: Excessive imbalances	Of which: EIP activated	Comments
2012	IDRs for 12 Member States: BE, BG, DK, ES, FR, IT, CY, HU, SI, SE, FI, UK. No IDR necessary for 11 Member States: CZ, DE, EE, LV, LT, LU, MT, NL, PL, AT, SK. Non eligible for AMR assessment: programme countries (4): EL, IE, PT, RO.		All Member States (12) for which an IDR was prepared.	None.	No.	Imbalances in CY and ES were categorised as very serious. Both countries requested financial assistance shortly after the publication of the IDRs. The Commission categorised the imbalances in FR, IT, HU and SI as serious.
2013	IDRs for 14 Member States: BE, BG, DK, ES, FR, IT, HU, MT (new), NL (new), SI, SE, FI, UK. No IDR necessary for 9 Member States: CZ, DE, EE, LV, LT, LU, PL, AT, SK. Non eligible for AMR assessment: programme countries (5): EL, IE, PT, RO, and CY shortly after publication of AMR.		All Member States (13) for which an IDR was prepared	ES, SI.	No.	The Commission categorised the imbalances in FR, IT and HU as requiring decisive policy actions. The Commission put in motion a specific monitoring for EA countries ES and SI, with reference to the CSR addressed to the euro area urging rebalancing. CY had no IDR because it became subject to financial assistance between the publication of the AMR and the IDRs. ES had an IDR because financial assistance did not include a full macroeconomic adjustment programme, covering the financial sector only.
2014	IDRs for 17 Member States: BE, BG, DE (new), DK, IE (new), ES, FR, HR (new, after accession), IT, LU (new), HU, MT, NL SI, SE, FI, UK. No IDR was necessary for 7 Member States: CZ, EE, LV, LT, PL, AT, SK. Non eligible for AMR assessment: programme countries (4): EL, CY, PT, RO	*DK, MT, LU.*	Most Member States (14) for which an IDR was prepared.	IT, HR, SI.	No.	The Commission categorised the imbalances in IE, ES, FR, IT and HU as requiring decisive policy action. Specific monitoring was applied to all EA and non-EA excessive imbalance countries (HR, IT, SI) and to EA countries with imbalances (IE, ES, FR) in light of systemc implications and spillovers as indicated in the CSR for the EA. ES was stepped down from excessive imbalances to imbalances. DK was stepped down from imbalances to no imbalances. IE was reintegrated into the MIP after the completion of its financial assistance programme.
2015	IDRs for 16 Member States: BE, BG, DE, IE, ES, FR, HR, IT, HU, NL, PT (new), RO (new), SI, SE, FI, UK. No IDR necessary for 10 countries: CZ, DK, EE, LV, LT, LU, MT, PL, AT, SK. Non eligible for AMR assessment: programme countries (2): EL and CY.		All Member States for which an IDR was prepared (16).	HR, BG, FR, IT, PT.	No.	The Commission categorised the imbalances in HR, BG, FR, IT, PT, HU and DE as requiring decisive policy action. Specific monitoring was applied to all EA and non-EA excessive imbalance countries (BG, FR, HR, IT, PT) and to EA countries with imbalances (IE, ES, SI) in light of systemc implications and spillovers as indicated in the CSR for the EA. PT (after completion of its financial assistance programme) and RO were integrated under the MIP surveillance. SI was stepped down from excessive imbalances to imbalances.
2016	AMR selected IDRs for 18 Member States: AT (new), BE, BG, DE, EE (new), IE, ES, FR, HR, IT, HU, NL, PT, RO, SI, SE, FI, UK. No IDR was prepared for CZ, DK, LV, LT, LU, MT, PL, SK. IDR prepared for CY after programme exit. Non eligible for AMR assessment: programme countries (1): EL.	EE, AT, BE, RO, HU, UK.	All Member States for which an IDR was prepared (18+ Cyprus).	HR, BG, FR, IT, PT, CY.	No.	The Commission streamlined the MIP categories as follows: no imbalances, imbalances, excessive imbalances, excessive imbalances with EIP. Specific is applied to all countries identified with imbalances or excessive imbalances. BE, HU, RO, UK, were stepped down from imbalances to no imbalances. CY (after completion of its financial assistance programme) was integrated under the MIP surveillance.

Source: European Commission.
Note: The years are the years for which the AMR and IDRs apply.

Graph 4.1: **Evolution of the total number of flashes per Member State, AMRs from 2012 until 2016, all EU countries**

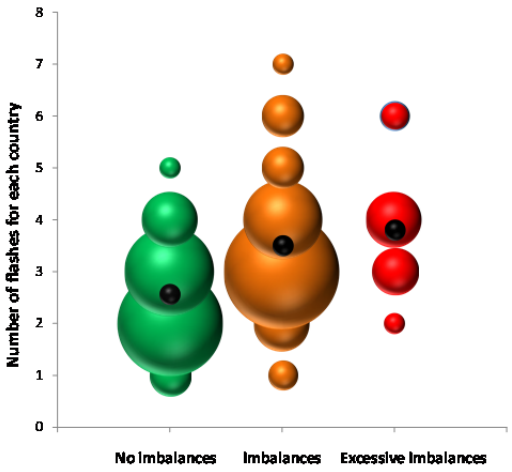


Source: DG ECFIN (based on EUROSTAT data).
The indicators are lagged 2 years, hence the AMR at year t uses scoreboard data up to year t-2.
The number of flashes is calculated based on the latest available data (July 2016).

Flashes linked to house price dynamics have remained roughly constant until the 2016 AMR vintage, where house price flashes were more frequent than in previous years in light of buoyant house prices growth confined to selected countries.

Scoreboard flashes were incorporated in the Commission analysis, without being the only or main determinants of the AMR outcomes. An overview of all the scoreboard vintages (see Annex A1) demonstrates that scoreboard flashes were frequent in countries judged experiencing imbalances. ([35]) The association between the number of flashes and the AMR and IDR assessment of imbalances is however not clear-cut, reflecting, as discussed in section 3.1.2, that MIP analysis is not based on a mechanistic reading of the scoreboard. For instance, in some cases, financial sector problems linked to governance aspects were not captured in the scoreboard, despite contributing to the identification of excessive imbalances as in the case of Slovenia and Bulgaria. As illustrated in Graph 4.2, countries identified with imbalances had in general more flashes than countries that were not selected for IDRs or that were not identified with imbalances. The number of scoreboard flashes for excessive imbalance countries instead is not much higher than that for countries with imbalances. ([36])

Graph 4.2: **Number of flashes for each country, by MIP imbalance category, 2012-2016**

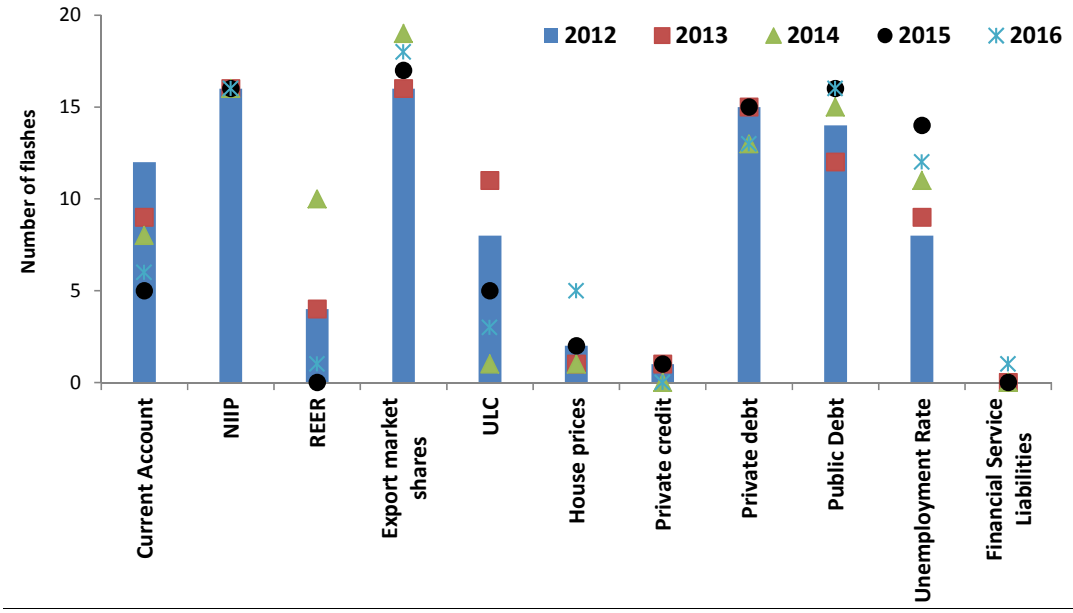


Source: European Commission.
All EU countries are included, except programme countries.
The black dots represent the mean of the distribution.
The number of flashes is calculated based on the latest available data (July 2016).

([35]) Magazzino et al. (2015) find results similar to the scoreboard when using 28 variables aggregated in six areas and the score of each area has been derived after weighting the score of each variable within that area through the correlation coefficients.

([36]) The severity of imbalances is not only linked to the number of variables that may signal the presence of macro-stability risks, but also to the value taken by the variables. The fact that the counting of flashes does not take into account the magnitude of the excess of the scoreboard variables with respect to threshold could be among the reasons underlying

Graph 4.3: **Evolution of flashes per scoreboard indicator, AMRs from 2012 until 2016, all EU countries**



Source: DG ECFIN (based on EUROSTAT data).
The indicators are one year lagged, hence the AMR at year t uses scoreboard data from t-1.
The number of flashes is calculated based on the latest available data (July 2016).

The set of countries selected for an IDR remained rather stable over the various MIP cycles (see Table 4.1). In terms of scoreboard variables, the broad stability of the set of countries selected for IDRs was justified by the inevitably slow adjustment of stock variables, despite the clear improvement of a number of flow indicators (see also table A.1.7 in Annex 1). During the first MIP cycle that took place in 2012, 12 Member States were selected in the AMR for in-depth analysis: Belgium, Bulgaria, Denmark, Spain, France, Italy, Cyprus, Hungary, Slovenia, Sweden, Finland and the United Kingdom. The subsequent AMR selected for the 2013 IDR cycle the same countries that had been selected in 2012, with the addition of Malta and the Netherlands; while for Cyprus, MIP surveillance was replaced by the in-depth monitoring conducted under a macroeconomic adjustment programme. During the 2014 cycle, Germany, Luxembourg, Croatia and Ireland (previously subject to a financial assistance programme) were added to the IDR list, which included 17 countries. The 2015 exercise saw Portugal (previously subject to a financial assistance programme) and Romania added to the list of IDR countries; while Denmark, Luxemburg and Malta exited MIP surveillance as they were found with no imbalances in the 2014 IDR, and subsequent AMR analysis did not selected them for an in-depth review. In 2016, Austria and Estonia were selected in the AMR for an IDR.

4.3.2. IDR outcomes

The number of countries identified with imbalances in IDRs has been slightly growing over time. The trend was mostly driven by the inclusion of post programme countries in the MIP cycle once their macroeconomic adjustment programmes ended. Moreover, when joining the EU on 1 July 2013, Croatia was identified to be experiencing broad-based imbalances. In 2016, the number of IDR countries identified with imbalances fell to 13, from 16 in 2015, in light of easing macro-stability risks. Commission conclusions on imbalances were further differentiated to take into account the different degree of gravity of the challenges (Table 4.3). The Commission qualified the findings beyond the narrow three-category framework of Regulation

the small difference between the average number of flashes recorded in countries identified with imbalances and with excessive imbalances.

No 1176/2011, with a view towards better articulating the findings from IDRs and reflecting the different natures of risks across countries (see section 3.2.3).

IDRs identified excessive imbalances in a number of Member States. Excessive imbalance countries received more detailed CSRs with a tighter time frame for their implementation, which was subject to specific monitoring (see section 3.2.4). The EIP could be triggered at any time in light of evidence pointing to an aggravation of imbalances or insufficient policy action.

The categorisation of imbalances was in some cases updated. Belgium, Finland, Sweden and the UK had quite stable outcomes of their IDRs, as they remained under the category of countries with imbalances. For other countries, such as France, Italy and Bulgaria, the imbalances were found to be more severe during different IDR vintages. For others, like Spain and Slovenia, the severity of imbalances diminished in 2014 and 2015, respectively. The arguments underlying the decisions to change the categorisation of imbalances were presented in the IDRs and in the Communication accompanying the IDRs.

The sources of imbalances analysed in IDRs are country-specific and persistent. In some countries, imbalances cover many areas (internal, external and competitiveness issues), such as in Cyprus, Croatia, Ireland and Spain. In other countries, such as Sweden, imbalances are contained to a few areas. The sources of imbalances identified tend to remain relatively stable over time. This is visible from Table 4.2 which shows that the focus of IDR analysis remained broadly unchanged from one year to the other for the same country.

Some combinations of challenges across areas were more frequent than others. In some countries (e.g. Portugal, Spain, Ireland) large negative imbalances in the *net external positions* reflect among other factors buoyant domestic demand during the pre-crisis period while in others (e.g., Germany) the large positive net external position may reflect also weak domestic demand. In other countries (e.g. Cyprus, Spain, Slovenia, Hungary, and Bulgaria), problems in the *financial sector* went hand in hand with high levels of *indebtedness in the private sector*. In some countries (e.g., France, Italy, Belgium) stock government debt imbalances are compounded by trends in the real economy resulting into *competitiveness losses.* Imbalances in *housing markets and high household deb*t are intertwined in some countries (e.g. in Ireland, Spain, the Netherlands, Sweden, and the United Kingdom).

4.3.3. IDR conclusions and economic and policy developments

The categorisation of imbalances took into account the economic situation of countries and their policy response. Table A1.7 in Annex A1 provides, for each country subject to IDRs, an overview of (i) the evolution of the economic indicators relevant for the identified imbalances, as specified in the Commission IDR conclusions; (ii) progress of compliance with CSR implementation expressed as number of CSRs per progress category as found in Commission Staff Working Documents and Country Reports analysing compliance with respect to CSRs ("no progress", "limited progress", "some progress", "substantial progress", "full implementation"); and (iii) conclusions concerning the categorisation of imbalances. The evidence provided in Table A1.7 indicates that the evolution of changes in the categorisation of imbalances was linked to the evolution of some relevant indicators capturing economic developments or policy compliance.

Statistical analysis confirms that the categorisation of imbalances was associated with relevant indicators for imbalances and the record of compliance with CSRs. The details of the analysis are presented in Annex 2.

- Cross-country correlations reveal that countries with a higher *categorisation* of imbalances are in general characterised by higher values of a number of indicators measuring the extent of imbalances. A higher categorisation of imbalances is associated with a lower value of the indicator of progress with CSRs (imbalances are assessed as less severe the higher the progress with CSRs).

Table 4.2: **Areas where challenges have been found in the IDRs**

Year	External rebalancing	Price/non-price competitiveness	Household debt and housing markets	Corporate indebtedness	Public debt risks	Financial sector, banks	Labour Market	Other
2012	BG, ES, CY, HU, FR, SE, FI, SI, DK	BE, DK, FR, IT, SI, FI, UK, BG, SE, HU	DK, ES, SE, UK, FR, FI	BG, SI, ES, BE, SE, FI, CY	BE, IT, CY, HU, FR	ES, CY, SI, FI	SI, DK, HU, BG	
2013	BG, ES, HU, FI, FR, NL, SE, DK, SI	BE, BG, DK, FR, IT, FI, SI, UK, SE, HU	DK, ES, HU, NL, SE, UK, FI	BG, HU, SI, FR, BE, SE, FI	BE, FR, IT, HU, MT, FI, SI	BE, ES, MT, SI, FI, DK, HU	FR, BE, BG, FI, SI, HU	HU
2014	DE, IE, ES, HR, HU, FR, NL, BG, SE, FI, DK, SI	BE, FR, HR, IT, SI, FI, UK, BG, DK, HU	IE, ES, HU, NL, SE, UK, FI, DK	IE, HR, HU, SI, ES, BG, SE	IE, FR, HR, IT, HU, SI, FR	BE, IE, ES, IT, SI, BG, DK, HU, HR, LU	FR, BE, ES, BG, FI, HU, IE, HR	SI, FR
2015	DE, HR, IE, ES, HU, PT, RO, NL, SI, FI, BG	BE, FI, FR, IE, IT, SI, ES, PT, BG, SE, RO	IE, ES, NL, SE, UK, BE, FI	IE, BG, HR, PT, ES, HU, SE, SI, FI	IE, BE, FR, HR, HU, IT, ES, PT, SI	BG, BE, HU, IE, IT, PT, RO, HR, SI, HU	FR, PT, ES, HR, SI, BG, HU, RO	RO, HR, FR, HU
2016	BG, DE, ES, HR, NL, PT, IE, SE, HU, RO, UK, SI, FI, EE, CY	FR, HR, IT, SI, FI, SE, PT, BE, EE, HU, AT, RO, BG	IE, ES, HR, NL, PT, FI, SE, BE, EE, HU, UK, CY	BG, IE, ES, HR, PT, SI, SE, FI, CY	IE, ES, FR, HR, IT, SI, PT, BE, RO, HU, CY	BG, IE, HR, IT, SI, PT, ES, HU, AT, RO, CY	FR, PT, ES, BG, HR, HU, SI, RO, CY	BG, ES, HR, IT, PT, RO, SI

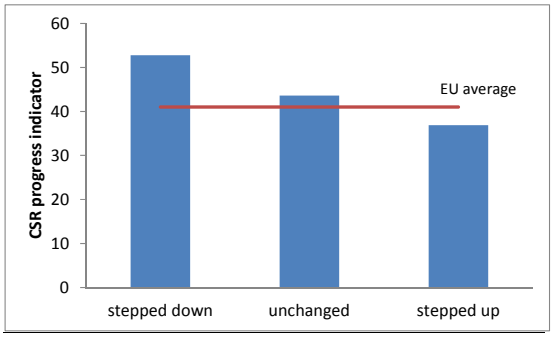
Source: European Commission.
Note: This table reflects challenges for countries under MIP surveillance referred to either in the Commission Communications presenting IDR results or in the executive summary of IDRs.

- The *change* in imbalance categorisation displays quite a strong correlation with the CSR progress indicator (see Graph 4.4) and a correlation with the expected sign with changes in indicators of imbalances, especially for what concerns stock imbalances.

- These findings are confirmed in econometric analysis aimed at capturing simultaneously the relation between changes in MIP categories and economic and policy progress, taking into account the country-specific challenges identified in IDR analysis.

All in all, the evidence supports the view that in practice the classification of imbalances across MIP categories was generally consistent with the principles used by the Commission services in the assessment of macroeconomic imbalances, as discussed in Chapter 3. MIP categories are associated with the level of some indicators capturing the gravity of macroeconomic imbalances and with policy progress; changes in the MIP categorisation are driven mostly by the evolution of some relevant indicators of imbalances and by the policy response.

Graph 4.4: **Average CSR progress indicator, breakdown by change in MIP classification (countries with IDRs over the 2013-2015 period)**



Source: European Commission.
CSR progress indicator in year t assesses CSRs given in year t-1. The indicator is composed at the level of full CSR.

Table 4.3: **Outcome of In-Depth reviews**

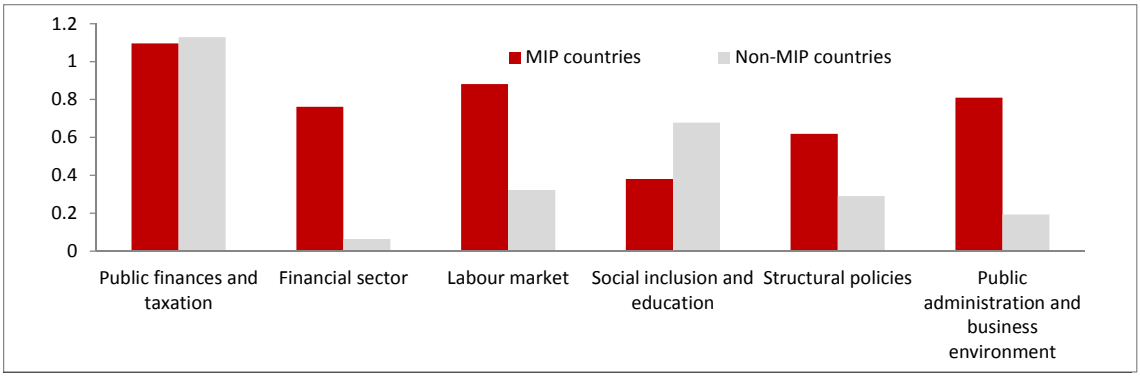
2012	2013	2014	2015	2016
Communication from the Commission to Communication from the Commission to Communication from the Commission to Communication from the Commission to Communication from the Commission to the European Parliament, the European the European Parliament, the Council, the the European Parliament, the Council, the the European Parliament, the Council, the Council, the Council, the European Central European Central Bank and the European Central Bank and the European Central Bank and the Bank, the European Economic and Social Eurogroup Results of in-depth reviews Eurogroup Results of in-depth reviews Eurogroup Committee, the Committee of the Regions under Regulation (EU) No 1176/2011 on under Regulation (EU) No 1176/2011 on 2015 European Semester: Assessment of 2016 European Semester: Assessment of and the European Investment Bank Action the prevention and correction of the prevention and correction of growth challenges, prevention and progress on structural reforms, for Stability, Growth and Jobs, Brussels, macroeconomic imbalances, Brussels, macroeconomic imbalances, Brussels, correction of macroeconomic imbalances, prevention and correction of 30.5.2012 COM(2012) 299 final 10.4.2013 COM(2013) 199 final 5.3.2014 COM(2014) 150 final and results of in-depth reviews under macroeconomic imbalances, and results Regulation (EU) No 176/2011, Brussels, of in-depth reviews 26.2.2015 COM(2015) 85 final under Regulation (EU) No 1176/2011				
No imbalance	**No imbalance**	**No imbalance**	**No imbalance**	**No imbalance**
none	none	DK, MT, LU	none	AT, BE, EE, HU, RO, UK
Imbalances, which are not excessive but need to be addressed	**Imbalances, which deserve monitoring and policy action**	**Imbalances, which require monitoring and policy action**	**Imbalances, which require monitoring and policy action**	
BE, BG, DK, FI, SE,UK	BE, BG, DK, FI, MT, NL, SE, UK	BE, BG, DE, NL, FI, SE, UK	BE, NL, RO, FI, SE, UK	
Serious imbalances (, which are not excessive but need to be addressed)	**Imbalances, which require monitoring and decisive policy action**	**Imbalances, which require monitoring and decisive policy action**	**Imbalances, which require monitoring and decisive policy action**	**Imbalances**
FR, IT, HU, SI	IT, HU, FR	HU	HU, DE	NL, FI, SE, DE, IE, ES, SI
Very serious imbalances (, which are not excessive but need to be urgently addressed)	**Excessive imbalances requiring continuous strong policy action (specific monitoring was put in place shortly after)**	**Imbalances, which require specific monitoring and decisive policy action**	**Imbalances, which require specific monitoring and decisive policy action**	
ES, CY	ES	IE, ES, FR	IE, ES, SI	
	Excessive imbalances requiring urgent policy action (specific monitoring was put in place shortly after)	**Excessive imbalances, which require specific monitoring and decisive policy action**	**Excessive imbalances, which require specific monitoring and decisive policy action**	**Excessive imbalances**
	SI	HR, IT, SI	BG, FR, HR, IT, PT	BG, FR, HR, IT, PT, CY

Source: European Commission.

4.3.1. Country-specific recommendations

Countries identified with imbalances received CSRs aimed at addressing the challenges highlighted in IDRs. MIP-relevant recommendations were integrated in the EU Semester and issued simultaneously with other recommendations on the basis of the Integrated Guidelines and the preventive arm of the SGP. MIP-relevant CSRs were tagged as such in the

Graph 4.5: **Average number of CSRs for MIP and non-MIP countries per policy area (average 2013, 2014 and 2015)**



Source: European Commission.
Public finances and taxation includes the following areas: Fiscal policy and fiscal governance; Long-term sustainability of public finances, including pensions; Reduce the tax burden on labour; Broaden tax bases; Reduce the debt bias; Fight against tax evasion, improve tax administration & tackle tax avoidance
Financial sector includes the following areas: Financial services; Housing market; Access to finance; Private indebtedness
Labour market includes the following areas: Employment protection legislation & framework for labour contracts; Unemployment benefits; Active labour market policies; Incentives to work, job creation, labour market participation; Wages & wage setting
Social inclusion and education includes the following areas: Childcare; Health & long-term care; Poverty reduction & social inclusion; Education; Skills & life-long learning
Structural policies includes the following areas: Research & innovation; Competition & regulatory framework; Competition in services; Telecom, postal services & local public services; Energy, resources & climate change; Transport
Public administration and business environment includes the following areas: Business environment; Insolvency framework; Public administration; State-owned enterprises; Civil justice; Shadow economy & corruption

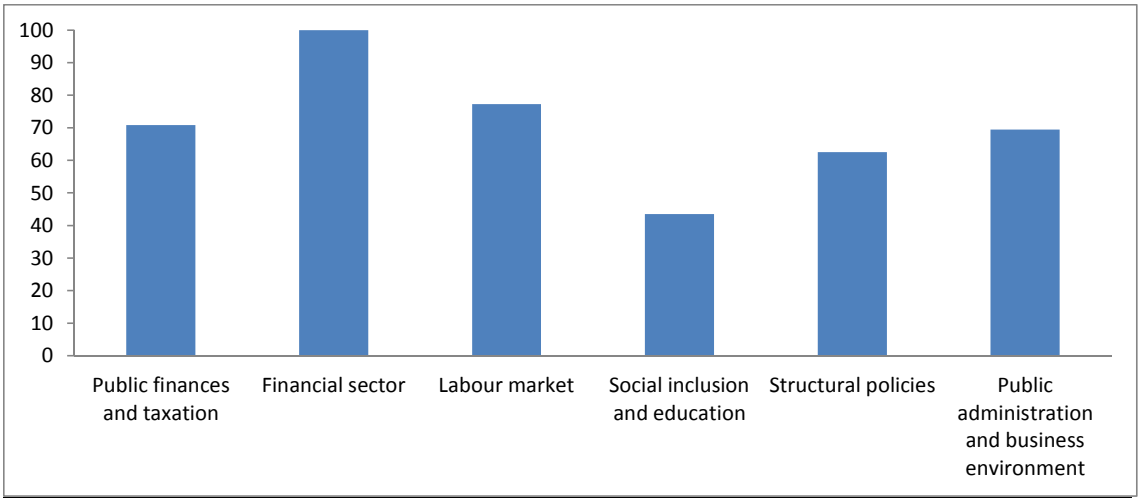
recitals preceding the Council recommendations. It is specified which CSRs are relevant in the sense of the MIP by mentioning that they find their legitimacy also on the basis of Article 6 of Regulation (EU) No 1176/2011.

In general, countries under MIP surveillance received a higher number of CSRs. This evidence is illustrated in Graph 4.5. In light of the additional challenges faced by MIP countries, CSRs were on average more numerous for countries for which imbalances were identified.

MIP countries received CSRs especially in areas relevant for macroeconomic stability. As discussed in Chapter 3, while the focus of the MIP is macroeconomic stability, addressing macroeconomic imbalances may require policy action in a wide range of policy fields, especially when imbalances are broad-based or concern areas that require intervention simultaneously on a large number of fronts, which is the case for instance when declining competitiveness is at the source of macroeconomic risks. Graph 4.6 shows that MIP countries received a relatively higher number of CSRs especially regarding the financial sector, the labour market and the business environment and other structural policies. Conversely, a lower number of CSRs were issued in the field of social exclusion and education. CSRs related to public finances and taxations were issued roughly in equal number to MIP and non-MIP countries. All in all, the distribution of CSRs by field reflects especially the macro stability challenges that MIP countries face in terms of financial sector stability and the structural adjustment required in labour and product markets.

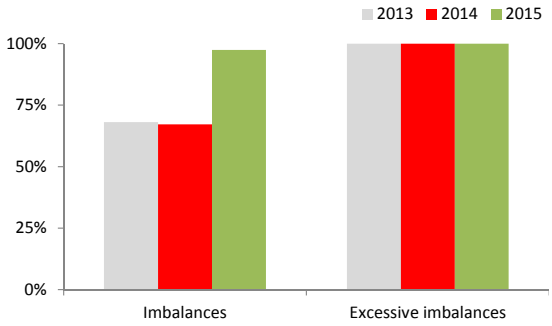
The distribution of MIP-relevant CSRs for MIP countries also reflects the typical challenges of MIP countries. MIP countries are subject to recommendations that may or may not be indicated as MIP-tagged. Graph 4.6 shows that in general, a majority of CSRs were considered to be MIP relevant. The distribution of the share of MIP-relevant CSRs on the total across policy fields reflects the policy challenges of MIP countries. All CSRs relating to the financial sector, and a majority of CSRs regarding the labour market, the business environment, structural policies and public finances were indicated as MIP-relevant. Conversely, a minority of CSRs relating to social exclusion and education were indicated as MIP-relevant.

Graph 4.6: **Fraction of MIP related CSRs in total number of CSRs (MIP and non-MIP related) for MIP countries, average 2013, 2014 and 2015**



Source: European Commission.
Policy areas defined in Graph 4.5.

Graph 4.7: **MIP-relevant CSRs**



Source: European Commission.
CSRs given at year t (and assessed in t+1).

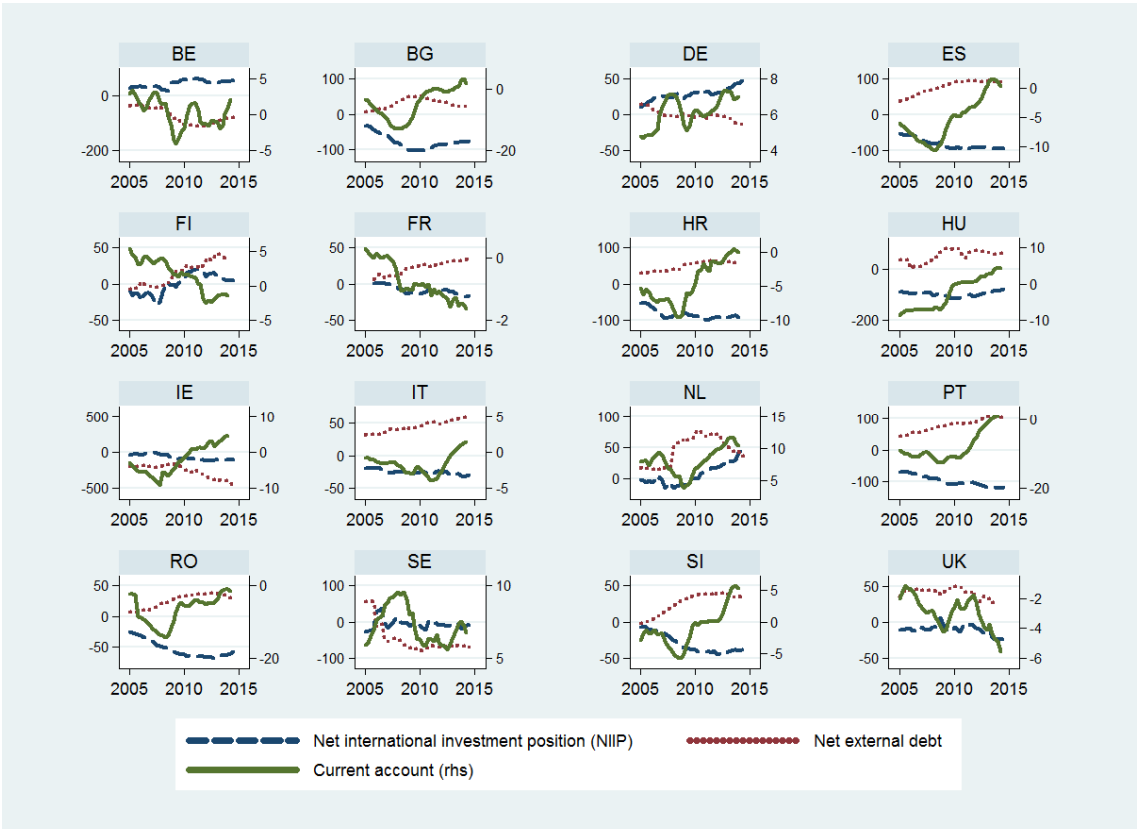
MIP-related CSRs have become preponderant for countries under MIP surveillance. CSRs under the MIP have always been a large share of total CSRs, especially for countries with excessive imbalances, where *de facto* all CSRs were MIP relevant (Graph 4.7). Since a single CSR can incorporate recommendations in different policy fields, it happens frequently that policy measures relevant for addressing imbalances are present across most or all CSRs, especially in countries with excessive imbalances. Moreover, since the recitals introducing the Council recommendations indicate as MIP-relevant CSRs in their entirety, it could be the case that MIP-relevant CSRs also include some policy measures not directly aimed at addressing imbalances. ([37]) The growth in the share of MIP-relevant CSRs for countries with imbalances was to an extent driven by the streamlining of CSRs in 2015. The total number of CSRs was reduced, but MIP-relevant CSRs were kept in most cases.

4.4. Gauging the impact of MIP surveillance

This section discusses the MIP effectiveness based on the first 5 years of experience with the MIP application. A thorough analysis of the impact of the MIP would require establishing causal relations between the activation of MIP surveillance and policy action and then, in turn, between policies and the economic outcomes. Such an analysis raises major difficulties and is beyond the scope of this compendium. However, the following section, this report will attempt to relate the evolution of MIP surveillance with the policy response in Member States.

([37]) For instance, a CSR highlighting labour market challenges could include policy measures to foster labour market adjustment and competitiveness recovery, relevant for addressing imbalances, and also measures not strictly linked to the correction of macroeconomic imbalances, for instance aimed at a better labour market integration of specific categories of labour force participants.

Graph 4.8: **Net international investment position (NIIP), external debt and current account balance (% of GDP) of countries identified with imbalances in 2015**



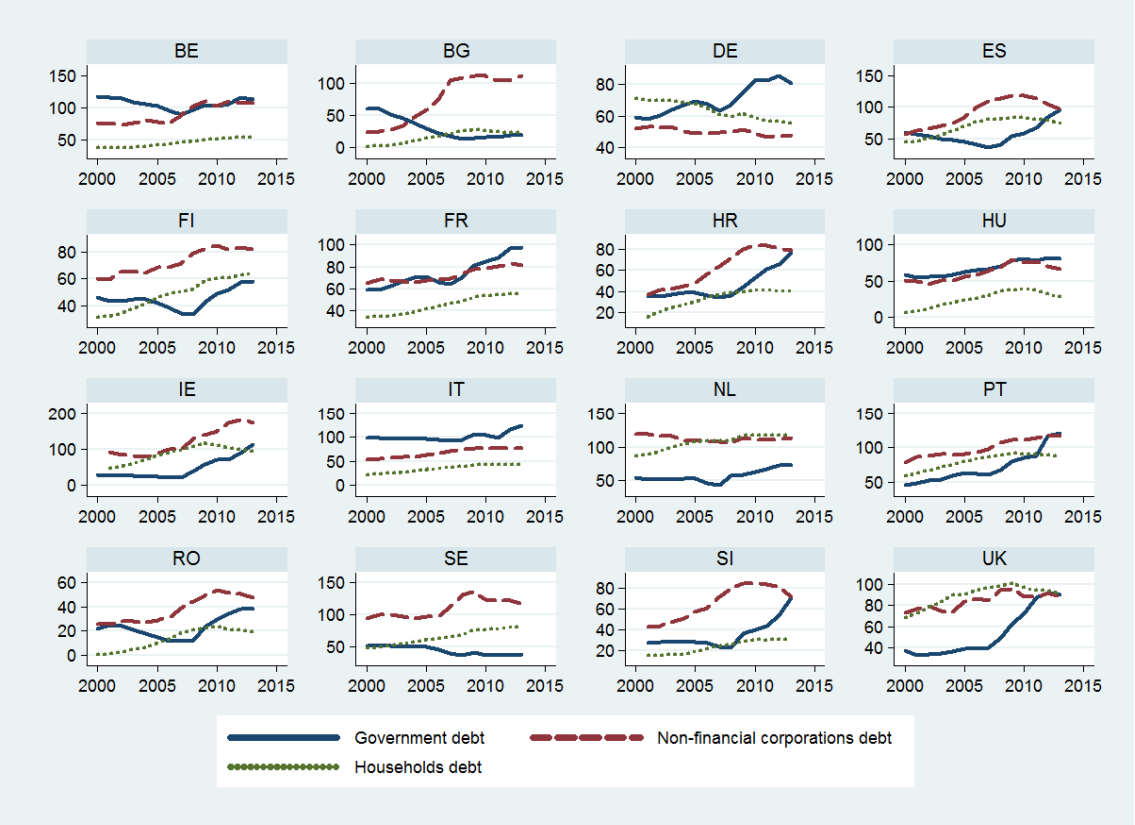
When available, figures are expressed in BPM6/ESA10. In case of missing values, figures are expressed in BPM5/ESA95, resulting in breaking points.
Source: Eurostat.

The MIP entered into force in the midst of the post-crisis recession, and the economic environment has changed considerably since then. During the first rounds of its implementation, the main challenges were related to unsustainable current account deficits, high and growing private debt levels and housing price bubbles in various phases. While flow variables (current account balances, price dynamics) have undergone important adjustments since the inception of the MIP, "stock imbalances", like external liabilities or other forms of debt remain elevated (see Graphs 4.8 and 4.9). Moreover, since external rebalancing in the euro area went hand in hand with a reduction of domestic demand in deficit countries while initial surpluses remained or increased further, the euro area now registers a large surplus which reflects a weakness of domestic demand in the monetary union and points to the challenge of moving from an asymmetric to a more symmetric adjustment. Looking forward, other concerns include adjustment challenges, notably linked to unemployment, the lingering impact that deleveraging pressures have on medium-term growth, the sustainability of private and public debt levels, and of external liabilities in a context of very low inflation.

The MIP has helped shape national reform agendas. While the main causes of the evolution of the ongoing rebalancing are linked to market-driven processes, the introduction of MIP surveillance has arguably contributed to policy frameworks supportive of adjustment. A number of elements support this conclusion.

- First, the MIP was used actively as a surveillance tool.

Graph 4.9: **Gross debt by sectors (% of GDP)**



Source: European Commission.

- Second, the MIP surveillance contributed to a shared understanding among Member States of their specific and common policy challenges and the policy response. It also improved policy dialogue between Member States, the Council and the Commission thanks to more frequent multilateral and bilateral discussions and contacts, including via specific missions.

- Third, the MIP increased peer pressure and, not least, in light of potentially stronger enforcement tools, enhanced policy compliance.

The following paragraphs elaborate further on these points.

MIP analysis has contributed to increased awareness of common challenges and policy solutions and helped shape the national policy debate. The analyses contained in AMRs were useful not only to select countries for further analysis in IDRs but also to trigger discussions at high political level on horizontal issues of EU relevance linked to macroeconomic imbalances. The AMR scoreboard has been useful as an instrument of communication. IDRs contributed to focus the attention on key dimensions of imbalances at country level and had an impact on the national policy debate. Missions and consultations with stakeholders helped shaping meaningfully national reform agendas. These considerations underpin the conclusions of the 2014 Commission Communication on the six-pack and the two-pack review ([38]) and the October 2015 Communication on "Steps towards Completing Economic and Monetary Union".

([38]) Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee, and the Committee of the Regions: Economic governance review. Report on the application of Regulations (EU) No 1173/2011, 1174/2011, 1175/2011, 1176/2011, 1177/2011, 472/2013 and 473/20131. Brussels, 28.11.2014 COM(2014) 905 final.

Member States have generally responded constructively to specific monitoring. Policy commitments included in National Reform Programmes (NRP) have often been more ambitious and more targeted towards addressing imbalances once specific monitoring was activated. The detailed reporting on progress with policy implementation has supported peer pressure and allowed the Council to follow, in detail, policy developments in the countries concerned. Specific monitoring also provides indications whether further reforms are needed or surveillance steps are warranted.

Results of specific monitoring were broadly encouraging.

- The two countries where specific monitoring was activated first, Spain and Slovenia, saw risks reduced and market confidence improvement, against the backdrop of sustained policy commitments (Box 4.2). For Spain and Slovenia, the category of the imbalances was thus changed from "excessive imbalances" to "imbalances", in 2014 and 2015 respectively.

- The specific monitoring reports activated for Ireland in the context of post-programme surveillance in 2014 indicate continued progress amid stabilising financial markets and improving confidence.

- Broadly positive progress amid some implementation risks were also registered for Italy in the specific monitoring reports activated since 2014 although the judgement of excessive imbalances was maintained.

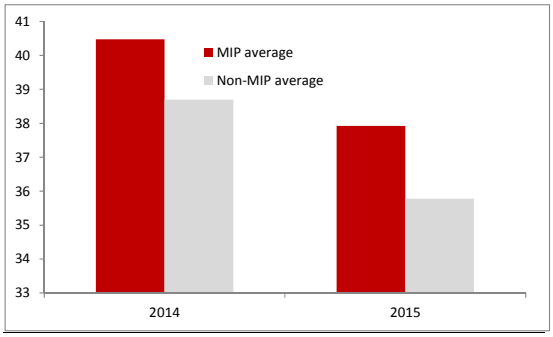
- For Croatia, specific monitoring reports since 2014 indicate some progress with important implementation challenges but excessive imbalances were maintained through 2015.

- The specific monitoring linked to the identification of excessive imbalances for Bulgaria in 2014 was followed by an enhanced policy response, of which the effectiveness is still under monitoring.

- Following insufficient progress in 2014, the French government undertook strengthened policy commitments the following year in response to the identification of excessive imbalances.

Available evidence indicates that the record of compliance with CSRs was stronger in MIP countries. Graph 4.10 reports the value of the average CSR compliance indicator for 2013 and 2014 separately for countries under MIP surveillance and non-MIP countries. In both years the average value of the CSR progress indicators is higher for MIP countries. While this evidence does not necessarily imply causality since the need and urgency of reforms would be expected to be higher in countries with imbalances, it supports the view that MIP surveillance contributed to policy compliance.

Graph 4.10: **CSR progress indicator for MIP versus non-MIP countries (arithmetic average)**



Source: European Commission.
CSR progress in year t refers to CSRs of year t-1. CSR progress is assessed at the level of sub CSR.

Econometric analysis confirms that the degree policy compliance in countries subject to MIP surveillance. The analysis illustrated in Annex 3 permits to assess the impact of the categorisation of MIP imbalances on the CSR progress indicator. The evidence indicates that stepped up MIP surveillance has a positive and clearly significant impact on policy compliance rates (see Annex 3 for further details). Despite the usual caveats that apply to analyses employing synthetic policy compliance indicators, the results support the effectiveness of MIP surveillance, monitoring and peer pressure.

Although the MIP framework has been in application only for a short number of years, and it is thus still too early to establish a firm judgement on its 'effectiveness', the MIP has

Box 4.2: Specific monitoring in Spain and Slovenia

The 2013 European semester cycle was the first with specific monitoring. The countries concerned were Spain and Slovenia, which both had been found with excessive imbalances. Both countries engaged in a constructive dialogue with the Commission on reform plans, presented National Reform Programmes, and supported the enhanced reporting on implementation. Specific monitoring was also done for these countries in the 2014 cycle and is ongoing for the 2015 cycle. In March 2014, the MIP imbalances of Spain was deescalated from excessive to imbalances requiring decisive action. The same happened for Slovenia in February 2015. In both cases the relatively strong progress with reforms contribute to this assessment of reduced risks:

- **Spain**. In the first 2013 cycle of MIP implementation Spain was found to have severe imbalances that were escalated to excessive in the 2014 cycle when market pressures had increased substantially and a financial assistance programme for the recapitalisation of financial institutions was put in place. In the 2014 specific monitoring round the general assessment was that the implementation of MIP relevant country specific recommendations had continued apace. Several important reforms were passed by Parliament in the 4th quarter of 2013 to strengthen public finance management, concerning the local administration, the pension system, measures to avoid the build-up of commercial arrears and the establishment of an independent fiscal institution. Product market reforms were also adopted in the last quarter of 2013, aimed to address regulatory fragmentation in Spain's internal market. In the 2015 round the assessment was that there has been some progress with structural reforms relevant for the adjustment of imbalances. Progress was made with the gradual implementation of the public administration reform, the reform of corporate insolvency framework and the operationalisation of the independent fiscal council. Reforms to the network industries as well as reforms to firm's access to finance were also on track. In other areas there were implementation risks such as part of the implementation of the law on market unity. Active labour market policies needed additional measures to be more effective. More progress was called for as regards the adoption of the reform of professional services, labour market duality, long term unemployment, labour market mobility, research and innovation, and business environment.

- **Slovenia**. In the first MIP cycle in 2013 Slovenia was struggling with severe imbalances which were built up in the boom period preceding the global crisis. In the 2014 specific monitoring round the general assessment was that imbalances have been unwinding thanks to macroeconomic adjustment and policy action but that the magnitude of the necessary corrections means that substantial risks are still present. Considerable progress was made in 2013 in repairing the banks' balance sheets. Policy action has included asset quality reviews, stress tests, recapitalisation of state owned banks and transfer of non-performing-loans to the Bank Asset Management Company. A new legislative framework for corporate restructuring was introduced in December 2013. The 2013 labour market reform addressed segmentation and introduced greater flexibility and the pension reform improved the sustainability of the pension system in the medium-term. In the 2015 round substantial further progress with reforms was welcomed and improved export performance and growth conditions reduced risks compared to the previous year, in particular those linked to external sustainability. In particular measures related to banking and corporate sector restructuring and the management of state assets were implemented by end-January 2015. The Slovenian Sovereign Holding, responsible for the management and divestment of state assets, became fully operational and a new corporate governance code for state-owned enterprises was adopted in December 2014.

contributed to a supportive policy environment for adjustment. However, the precise extent to which the policy recommendations derived from the procedure have contributed to foster the observed correction of imbalances and reduce macroeconomic risks is difficult to accurately assess. A meaningful assessment would require a longer period than the 5-year experience that the MIP can provide to date. Looking forward, a key test will be whether the instrument can prevent a build-up of imbalances and risks during "good times".

Table A1.1: **MIP Scoreboard from the 2016 AMR (published in November 2015)**

Year 2014	External imbalances and competitiveness					Internal imbalances						New employment indicators[1]		
	Current account balance - % of GDP (3 year average)	**Net international investment position** (% of GDP)	**Real effective exchange rate - 42 trading partners, HICP deflator** (3 years % change)	**Export market share - % of world exports** (5 years % change)	**Nominal unit labour cost index (2010=100)** (3 years % change)	**House price index (2010=100), deflated** (1 year % change)	**Private sector credit flow, consolidated** (% of GDP)	**Private sector debt, consolidated** (% of GDP)	**General government gross debt** (% of GDP)	**Unemployment rate** (3 year average)	**Total financial sector liabilities, non-consolidated** (1 year % change)	**Activity rate - % of total population aged 15-64** (3 years change in p.p.)	**Long-term unemployment rate - % of active population aged 15-74** (3 years change in p.p.)	**Youth unemployment rate - % of active population aged 15-24** (3 years change in p.p)
Thresholds	-4/6%	-35%	±5% (EA) ±11% (Non-EA)	-6%	9% (EA) 12% (Non-EA)	6%	14%	133%	60%	10%	16.5%	-0.2%	0.5%	2%
BE	-0.1	57.2	-0.5	-10.7	5.6	-1.1p	1.0	181.4	106.7	8.2	4.9	1.0	0.8	4.5
BG	0.9	-73.4	-2.6	6.7	12.5p	1.5p	-0.3	124.3	27.0	12.2	7.2	3.1	0.6	-1.2
CZ	-0.5	-35.6	-10.0	-5.0	3.8	1.8	1.8	72.7	42.7	6.7	4.4	3.0	0.0	-2.2
DK	6.9	47.0	-1.2	-17.3	5.1	3.1	1.7	222.8	45.1	7.0	6.6	-1.2	-0.1	-1.6
DE	6.9	42.3	-0.3	-8.3	7.6	1.5p	1.1	100.4	74.9	5.2	4.2	0.4	-0.6	-0.8
EE	-0.5	-43.6	4.7	24.5	13.0	12.8	6.4	116.1	10.4	8.7	12.2	0.5	-3.8	-7.4
IE	1.8	-106.7	-3.5	-6.1	-2.2	11.1	13.7	263.3	107.5	13.0	16.0	0.6	-2.0	-5.2
EL	-2.6	-124.1	-5.6	-17.5	-11.6p	-4.9e	-2.7	130.5	178.6	26.2	-7.6	0.1	10.7	7.7
ES	0.7	-94.1	-1.0	-11.5	-4.1p	0.1	-7.1	165.8	99.3	25.1	-1.9	0.3	4.0	7.0
FR	-1.0	-19.5	-1.2	-13.1	4.8	-1.6	3.3	143.2	95.6	10.1	5.4	1.3	0.6	1.5
HR	0.5	-88.6	-0.9	-18.0	-5.9	-2.0p	0.3	120.6	85.1	16.9	0.9	2.0	1.7	8.8
IT	0.8	-27.9	0.2	-14.0	3.6	-4.6p	-0.9	119.3	132.3	11.8	-0.7	1.8	3.5	13.5
CY	-4.9	-139.8	-1.4	-26.7	-7.7p	0.3p	-8.5	348.3	108.2	14.6	0.7	0.8	6.1	13.6
LV	-2.5	-60.9	0.4	9.9	12.9	5.1	-11.9	96.4	40.6	12.6	10.4	1.8	-4.1	-11.4
LT	1.3	-46.4	1.4	35.3	8.3	6.3	-1.2	52.5	40.7	12.0	16.3	2.3	-3.2	-13.3
LU	5.8	36.0	0.5	11.2	7.6	3.7	0.5	342.2	23.0	5.7	21.5	2.9	0.3	5.9
HU	2.7	-73.8	-7.0	-14.9	6.7	3.1	-0.5	91.3	76.2	9.6	8.5	4.6	-1.5	-5.6
MT	2.6	39.5	0.0	-18.2	7.0	2.6	7.8	146.4	68.3	6.2	5.8	4.5	-0.4	-1.5
NL	10.9	60.8	0.8	-11.0	5.4p	-0.5	-1.6p	228.9p	68.2	6.8	8.2p	0.9	1.3	2.7
AT	1.8	2.2	1.9	-15.7	7.8	1.4	0.2	127.1	84.2	5.3	-1.5	0.8	0.3	1.4
PL	-2.3	-68.3	-1.3	4.8	2.5p	1.1	4.7	77.9	50.4	9.8	0.6	2.2	0.2	-1.9
PT	0.0	-113.3	-1.8	-4.7	-2.3e	3.6	-8.7	189.6	130.2	15.4	-6.1	-0.4	2.2	4.5
RO	-2.1	-57.2	-1.1	21.5	2.3p	-3.6p	-2.4	62.2	39.9	6.9	1.1	1.6	-0.1	0.1
SI	5.1	-43.7	1.2	-11.8	-0.2	-6.6	-4.6	100.1	80.8	9.6	-0.4	0.6	1.7	4.5
SK	1.0	-69.4	1.3	3.2	2.2	1.5	3.9	76.2	53.5	13.8	7.0	1.6	0.0	-4.0
FI	-1.5	-0.7	2.7	-24.0	8.0	-1.9	0.4	150.0	59.3	8.2	8.7	0.5	0.2	0.4
SE	6.5	-6.5	-3.7	-9.8	7.1	8.6	6.5	194.4	44.9	8.0	13.4	1.6	0.0	0.1
UK	-4.3	-25.3	10.2	-8.7	1.9	8.3	3.4	157.7	88.2	7.2	4.4	1.2	-0.5	-4.4

Source: European Commission, Eurostat and DG ECFIN (for the indicators on the REER). Notes: Flags: e: estimated. p: provisional.

Table A1.2: **MIP Scoreboard from the 2015 AMR (published in November 2014)**

Year 2013	External Imbalances and Competitiveness									Internal Imbalances						
	Current Account Balance as % of GDP		Net International Investment Position as % of GDP	Real Effective Exchange Rate (42 IC - HICP deflator)		Export Market Shares		Nominal ULC		% y-o-y change in Deflated House Prices	Private Sector Credit Flow as % of GDP, consolidated	Private Sector Debt as % of GDP, consolidated	General Government Sector Debt as % of GDP	Unemployment Rate		% y-o-y Change in Total Financial Sector Liabilities
	3 year average	p.m.: level year		% change (3 years)	p.m.: % y-o-y change	% change (5 years)	p.m.: % y-o-y change	% change (3 years)	p.m.: % y-o-y change					3 year average	p.m.: level year	
Thresholds	-4/6%	-	-35%	5% & ±11%	-	-6%	-	9% & 12%	-	6%	14%	133%	60%	10%	-	16.5%
BE	-1.6	0.1	*45.8*	-0.3	1.5	-9.1	3.6	8.6	2.0	0.0	1.1	163.0	104.5	7.7	8.4	-2.4
BG	*0.4*	2.6	*-76.2*	-1.0	0.1	*5.7*	*6.3*	14.8p	7.2p	-0.1	6.7	134.8	18.3	12.2	13.0	3.3
CZ	-1.7	-1.4	-40.1	-3.1	-2.3	-7.7	-0.8	3.7	0.5	-1.2	3.1p	73.7p	45.7	6.9	7.0	9.8p
DK	6.1	7.1	*39.7*	-2.6	1.0	-17.9	2.3	3.4	1.4	2.8	-1.4	222.6	45.0	7.4	7.0	-0.1
DE	6.7	6.8	42.9	-1.9	2.2	-10.7	2.4	6.4	2.4	1.8p	1.2p	103.5p	76.9	5.6	5.3	-6.3p
EE	-1.2	-1.4	-47.1	3.1	2.9	14.0	3.4	9.6	6.8	7.3	5.4	119.4	10.1	10.3	8.6	8.9
IE	1.1	4.4	*-104.9*	-3.9	1.6	-4.9	1.7	1.3	4.2	0.3	-5.7	266.3	123.3	14.2	13.1	1.0
EL	-3.9	0.6	-121.1	-4.4	-0.6	*-27.3*	2.9	-10.3p	-7.0p	-9.3e	-1.1p	135.6p	174.9	23.3	27.5	-16.3
ES	-0.7	1.4	-92.6	-0.4	1.9	*-7.1*	4.4	-4.6p	-0.6p	-9.9	-10.7p	172.2p	92.1	24.1	26.1	-10.2
FR	-1.3	-1.4	-15.6	-2.3	1.6	-13.0	2.4	3.9	1.1	-2.6	1.8e	137.3e	92.2	9.8	10.3	-0.6
HR	-0.1	0.8	*-88.7*	-4.0	1.2	-20.9	3.5	*0.9*	*1.4*	-18.1p	-0.2	121.4	75.7	15.8	17.3	3.4
IT	-0.9	1.0	-30.7	0.0	1.9	-18.4	1.3	4.1	1.3	-6.9p	-3.0	118.8	127.9	10.4	12.2	-0.7
CY	*-4.0*	-3.1	-156.8	-0.8	1.1	*-27.2*	*-3.9*	-5.9p	-5.9p	-5.5	-11.2p	344.8p	102.2	11.9	15.9	-19.5
LV	-2.8	-2.3	-65.1	-1.7	-0.9	8.4	3.1	10.5	7.3	6.6	0.8	90.9	38.2	14.4	11.9	5.2
LT	-1.2	1.6	-46.4	-0.6	0.9	22.1	8.9	6.0	3.0	0.2	-0.2	56.4	39.0	13.5	11.8	-1.8
LU	5.5	4.9	216.4	0.7	1.5	2.2	9.9	10.5	3.6	4.9	27.7	356.2	23.6	5.3	5.9	8.8
HU	2.2	4.1	-84.4	-4.0	-1.4	-19.2	4.1	5.9	0.8	-5.0	-1.0	95.5	77.3	10.7	10.2	-0.3
MT	4.0	3.2	49.2	-1.3	1.4	*-4.0*	-0.2	9.5	0.9	-2.1	0.4p	137.1	69.8	6.4	6.4	0.7
NL	*9.8*	9.9	31.3	0.4	2.7	*-9.2*	*2.1*	6.3p	1.6p	-7.8	2.1p	229.7p	68.6	5.5	6.7	-3.2
AT	1.4	1.0	-0.2	0.7	2.1	-17.0	1.8	6.4	2.6	2.5e	0.2	125.5	81.2	4.5	4.9	-3.6
PL	-3.3	-1.3	-68.0	-4.3	0.2	*-0.4*	6.6	3.9p	0.9p	-4.4e	2.9	74.9	55.7	10.0	10.3	7.6
PT	-2.5	0.7	-116.2	-0.6	0.3	-5.3	7.7	-3.0e	1.9e	-2.5	-2.4e	202.8e	128.0	15.0	16.4	-5.3
RO	-3.3	-0.8	-62.4	0.3	3.9	16.4	16.3	0.7p	4.2p	-4.6p	-1.5p	66.4p	37.9	7.0	7.1	3.1
SI	2.8	5.6	-38.2	-0.7	1.3	*-16.6*	3.3	1.3	1.4	-5.8	-4.0	101.9	70.4	9.1	10.1	-10.5
SK	*0.2*	*2.1*	*-65.1*	2.1	0.9	*-2.2*	*3.9*	2.5	0.3	-0.5	5.4	74.8	54.6	14.0i	14.2	-0.3
FI	-1.7	-1.4	8.8	0.1	2.9	-32.2	-2.8	9.5	1.7	-1.3	0.7	146.6	56.0	7.9	8.2	-11.8
SE	6.1	6.6	-10.8	5.1	1.7	-15.0	0.1	8.1	1.1	4.7	3.7	201.1	38.6	7.9	8.0	9.1
UK	-3.2	-4.2	-15.6	3.4	-1.5	-11.7	-1.7	3.8	1.5	1.6	3.4p	164.5p	87.2	7.9	7.6	-7.4p

Source: European Commission, Eurostat and DG ECFIN (for the indicators on the REER). Notes: Flags: e: estimated. p: provisional.

Table A1.3: **MIP Scoreboard from the 2014 AMR (published in November 2013)**

Year 2012	External Imbalances and Competitiveness									Internal Imbalances						
	Current Account Balance as % of GDP		Net International Investment Position as % of GDP	Real Effective Exchange Rate (42 IC - HICP deflator)		Export Market Shares		Nominal ULC		% y-o-y change in Deflated House Prices	Private Sector Credit Flow as % of GDP, consolidated	Private Sector Debt as % of GDP, consolidated	General Government Sector Debt as % of GDP	Unemployment Rate		% y-o-y Change in Total Financial Sector Liabilities
	3 year average	p.m.: level year		% change (3 years)	p.m.: % y-o-y change	% change (5 years)	p.m.: % y-o-y change	% change (3 years)	p.m.: % y-o-y change					3 year average	p.m.: level year	
Thresholds	-4/6%	-	-35%	5% & ±11%	-	-6%	-	9% & 12%	-	6%	14%	133%	60%	10%	-	16.5%
BE	-1.1	-3.5	*47.6*	-4.3	-2.3	*-15.1*	-5.3	6.0	3.6	0.0	1.8	161.1	104.0	7.7	7.6	-5.7
BG	*-0.7*	*-0.8*	*-78.2*	-4.0	-2.0	*4.7*	*-5.2*	12.4p	4.5p	-5.3	2.0	128.1	18.0	11.3i	12.3	10.2
CZ	-2.4	-1.6	-46.1	0.4	-2.8	*-3.4*	-3.7	3.1	2.6	-3.9	2.7p	70.7p	45.5	7.0	7.0	5.9p
DK	5.7	5.5	*37.8*	-7.7	-2.9	-18.6	-5.0	1.1	1.9	-5.1	7.0	227.1	45.6	7.5	7.5	3.0
DE	6.3	7.1	34.7	-9.0	-3.3	-15.8	-4.6	2.7	3.3	2.0	1.3p	103.7p	79.0	6.2	5.5	3.2p
EE	-0.1	-2.1	-52.2	-3.6	-0.8	10.9	1.0	-2.4	3.4	3.7	10.8	125.8	9.7	13.0	10.0	11.9
IE	-1.5	1.6	*-112.0*	-12.2	-4.3	-14.3	0.0	-10.0	0.5	-11.9	-1.8	281.5	121.7	14.4	14.7	-1.5
EL	-7.4	-2.4	-109.2	-5.0	-4.4	*-26.9*	-6.8	-3.2p	-3.3p	-12.3e	-5.7p	130.5p	156.9	18.4	24.5	-3.3
ES	-2.5	-0.3	-90.0	-5.3	-2.4	*-15.2*	-5.6	-5.6p	-2.9p	-16.8	-9.9p	184.8p	84.4	22.0	24.8	2.8
FR	-1.1	-1.5	-11.3	-7.8	-3.2	-17.4	-4.2	3.7	1.8	-1.9	4.4e	138.2e	89.2	9.4	9.8	1.2
HR	-0.8	-0.3	*-89.9*	-8.3	-2.6	-22.8	-7.4	*-1.6*	*-0.2*	-2.2p	-3.3	123.4	64.4	14.1	16.1	0.8
IT	-2.3	-0.5	-28.6	-6.2	-1.9	-24.8	-4.9	2.7	2.1	-5.4p	-0.9	120.8	122.2	9.2	10.7	7.4
CY	*-6.7*	*-6.9*	-147.3	-5.9	-2.0	*-26.8*	*-9.3*	0.9	-2.6	-2.0	-0.6	331.4	79.5	8.7	11.9	8.8
LV	-1.2	-3.2	-66.8	-8.6	-1.5	9.4	4.2	-6.5	2.7	-0.8	-2.0	97.2	40.9	16.9	15.0	5.2
LT	-1.8	-1.2	-53.0	-6.7	-2.0	*29.0*	6.1	-4.3	2.2	-3.2	0.6	61.2	39.9	15.5	13.4	0.4
LU	6.3	5.8	207.2	-2.4	-1.5	-11.6	0.4	5.5	4.2	2.3	0.6	340.6	21.4	4.8	5.1	14.9
HU	1.0	1.9	-94.1	-1.0	-2.2	-19.9	-10.0	4.8	3.5	-9.3	-6.3	101.8	78.5	11.0	10.9	-5.9
MT	0.9	3.6	53.7	-7.6	-2.0	*5.2*	*-0.8*	8.7	4.3	0.5	-1.2p	145.6	67.9	6.5	6.3	5.8
NL	*8.7*	*9.5*	*45.8*	-6.0	-1.8	*-12.2*	*-3.2*	3.2p	3.6p	-8.0	1.8p	230.2p	66.5	4.7	5.3	2.3
AT	2.0	1.5	-3.1	-4.7	-1.8	-20.6	-5.9	3.9	3.0	9.7e	0.5	128.3	81.7	4.3	4.3	0.0
PL	*-4.6*	-3.5	-65.4	1.2	-2.4	*1.1*	-2.2	5.1	1.8	-5.5e	3.6	74.0	54.4	9.8	10.1	10.4
PT	-6.1	-2.0	-113.8	-4.0	-1.6	-15.7	-4.6	-6.0e	-2.9e	-8.3	-2.7e	207.8e	124.8	13.6e	15.8	-3.7
RO	-4.6	-4.5	-67.3	-1.9	-6.1	13.8	-6.8	-1.0	2.7	-10.6	0.3	71.7	37.3	7.0	6.8	4.9
SI	0.9	2.6	-45.2	-4.5	-1.2	*-20.4*	-7.1	0.5	0.6	-8.1	-2.9	112.9	53.4	8.1	8.9	-0.7
SK	*-1.8*	*2.2*	*-64.1*	-3.2	0.1	*3.2*	*0.9*	1.2	1.0	-5.9	3.1	71.2	52.1	14.1i	14.0	2.8
FI	-0.8	-1.9	14.7	-8.2	-2.6	-30.4	-5.7	6.1	5.2	-0.7	7.3	147.1	53.0	8.0	7.7	0.0
SE	5.9	5.8	-9.0	10.1	-0.8	-18.7	-5.8	4.0	4.1	0.7	1.3	202.3	36.4	8.1	8.0	4.6
UK	-2.7	-3.7	-14.9	5.8	4.3	-19.8	-1.8	4.1	2.4	-0.4	3.6p	175.8p	85.8	7.9	7.9	-4.0p

Source: European Commission, Eurostat and DG ECFIN (for the indicators on the REER). Notes: Flags: e: estimated. p: provisional.

Table A1.4: **MIP Scoreboard from the 2013 AMR (published in November 2012)**

Year 2011	External Imbalances and Competitiveness									Internal Imbalances						
	Current Account Balance as % of GDP		Net International Investment Position as % of GDP	Real Effective Exchange Rate (42 IC - HICP deflator)		Export Market Shares		Nominal ULC		% y-o-y change in Deflated House Prices	Private Sector Credit Flow as % of GDP, consolidated	Private Sector Debt as % of GDP, consolidated	General Government Sector Debt as % of GDP	Unemployment Rate		% y-o-y Change in Total Financial Sector Liabilities
	3 year average	p.m.: level year		% change (3 years)	p.m.: % y-o-y change	% change (5 years)	p.m.: % y-o-y change	% change (3 years)	p.m.: % y-o-y change					3 year average	p.m.: level year	
Thresholds	-4/6%	-	-35%	5% & ±11%	-	-6%	-	9% & 12%	-	6%	14%	133%	60%	10%	-	16.5%
BE	-0.7	-1.3	*48.1*	-1.6	0.6	*-10.3*	-2.0	6.1	2.8	0.9	19.3	165.0	102.1	7.8	7.2	8.1
BG	*-3.4*	*0.1*	*-85.9*	1.9	1.0	*16.6*	*10.4*	20.2	2.4	-9.6	1.0	127.9	15.7	9.5i	11.3	5.4
CZ	-2.7	-2.1	-45.3	-0.6	2.0	*6.4*	0.3	3.2	0.6	-1.6	2.1p	68.6p	41.0	6.9	6.7	4.5p
DK	4.9	5.7	*28.7*	-2.5	-0.7	-15.8	-3.8	4.2	0.0	-4.3	4.5	222.7	46.4	7.0	7.6	1.6
DE	5.9	6.1	*33.7*	-4.9	-0.7	-9.6	-1.6	5.7	0.6	1.6	2.4p	103.9p	77.6	6.9	5.9	3.0p
EE	1.4	0.0	-55.6	-0.8	1.0	22.9	14.8	-3.4	-0.8	3.1	-0.8	124.9	6.0	14.2	12.3	1.0
IE	-4.2	-2.7	*-112.2*	-9.6	-1.1	-13.1	-6.2	-12.8	-3.2	-15.3	16.3	277.9	111.1	13.5	14.7	-2.4
EL	-10.3	-9.9	-85.2	1.8	0.6	*-19.1*	-5.4	7.5p	-0.2p	-7.7e	-6.5p	130.6p	171.3	13.4	17.9	-3.2
ES	*-4.3*	-3.2	*-91.4*	-2.5	0.2	*-8.6*	-0.6	-1.2p	-1.1p	-10.1	-4.2p	195.3p	69.2	19.7	21.4	3.1
FR	-0.9	-1.0	-7.5	-4.4	-0.7	-15.8	-2.1	5.4	0.9	3.9	6.4e	135.3e	85.0	9.2	9.2	6.7
HR	-2.4	-0.9	*-92.0*	-4.4	-2.7	-16.2	-5.8	*5.1*	*-0.3*	-5.9p	-0.5	126.5	59.9	11.9	13.9	1.4
IT	-2.8	-3.1	-23.4	-3.3	0.0	-19.6	-2.9	5.2	0.7	-2.1p	2.8	120.4	116.4	8.2	8.4	3.2
CY	*-8.0*	*-3.4*	*-71.7*	-3.0	0.1	*-16.8*	*-5.4*	8.1	2.7	-9.3	22.3	330.7	66.0	6.5	7.9	-0.9
LV	2.5	-2.8	-74.4	-2.5	0.7	26.1	7.5	-19.5	0.2	3.6	-2.1	115.4	42.7	17.7	16.2	-4.1
LT	-0.7	-3.8	-52.2	1.7	0.5	*24.5*	13.5	-7.9	0.7	2.4	-1.0	64.8	37.3	15.7	15.4	2.1
LU	6.8	5.9	191.5	0.0	0.7	-7.0	-1.5	9.6	2.4	1.2	20.2	347.3	18.5	4.8	4.8	12.0
HU	0.1	0.8	-106.7	-4.2	-0.4	-2.7	-3.6	4.1	1.6	-6.9	-4.5	115.4	81.0	10.7	10.9	6.2
MT	-1.9	5.0	39.2	-5.0	-0.8	*10.6*	*-1.3*	10.1	4.0	-2.3	3.5p	156.8	69.8	6.7	6.4	8.7
NL	*7.2*	*9.1*	*34.1*	-2.4	-0.4	*-8.7*	*-3.2*	4.6	1.0	-4.0	3.6	228.0	61.3	4.2	4.4	9.3
AT	2.4	1.6	-1.9	-1.9	0.4	-12.8	-2.0	6.0	0.7	0.9e	3.1	130.3	82.1	4.5	4.2	1.3
PL	*-4.7*	-5.2	-62.7	-11.6	-2.2	*12.2*	*-1.1*	4.4	1.1	-5.4e	7.9	74.7	54.8	9.2i	9.7	4.8
PT	-8.9	-6.2	-101.0	-3.0	0.7	-8.9	0.9	-0.6	-2.0	-6.5	0.4	204.2	111.1	11.8e	12.9	-4.6
RO	-4.6	-4.6	-65.6	-3.3	2.8	49.4	6.7	-0.5	-5.8	-17.6	2.8	72.9	34.2	6.9	7.2	4.4
SI	-0.2	0.2	-40.2	-1.1	-0.8	*-7.0*	-1.2	8.3	-0.7	1.0	0.4	113.4	46.2	7.1	8.2	-1.3
SK	*-3.4*	*-3.8*	*-65.5*	3.4	1.0	*21.1*	*3.6*	6.3	1.1	-5.2	2.7	71.1	43.5	13.4i	13.7i	1.0
FI	0.5	-1.8	18.1	-2.8	-0.1	-23.9	-6.0	9.4	2.3	-0.1	3.5	142.4	48.5	8.1	7.8	27.6
SE	5.9	5.8	-9.2	2.9	4.1	-13.2	-0.9	5.6	2.6	0.8	5.5	200.3	36.1	8.2	7.8	3.2
UK	-2.4	-1.7	-4.4	-8.2	0.5	-25.9	-2.2	6.5	-0.1	-4.2	0.1p	173.5p	81.9	7.8	8.1	10.6p

Source: European Commission, Eurostat and DG ECFIN (for the indicators on the REER). Notes: Flags: e: estimated. p: provisional.

Table A1.5: **MIP Scoreboard from the 2012 AMR (published in February 2012)**

Year 2010	External Imbalances and Competitiveness									Internal Imbalances						
	Current Account Balance as % of GDP		Net International Investment Position as % of GDP	Real Effective Exchange Rate (42 IC - HICP deflator)		Export Market Shares		Nominal ULC		% y-o-y change in Deflated House Prices	Private Sector Credit Flow as % of GDP, consolidated	Private Sector Debt as % of GDP, consolidated	General Government Sector Debt as % of GDP	Unemployment Rate		% y-o-y Change in Total Financial Sector Liabilities
	3 year average	p.m.: level year		% change (3 years)	p.m.: % y-o-y change	% change (5 years)	p.m.: % y-o-y change	% change (3 years)	p.m.: % y-o-y change					3 year average	p.m.: level year	
Thresholds	-4/6%	-	-35%	5% & ±11%	-	-6%	-	9% & 12%	-	6%	14%	133%	60%	10%	-	16.5%
BE	-0.7	1.5	*50.9*	0.5	-2.6	*-14.2*	-6.9	7.8	-0.5	1.4	2.9	155.6	99.6	7.7	8.3	-0.7
BG	*-11.2*	*-1.5*	*-95.4*	9.7	-2.9	*14.9*	*-1.2*	32.7	5.0	-12.2	2.6	137.8	15.9	7.6i	10.3i	-5.4
CZ	-2.6	-3.6	-46.1	12.0	1.2	*10.2*	-5.3	6.2	0.0	-2.3	2.7p	68.1p	38.2	6.1	7.3	3.1p
DK	3.9	5.7	*14.0*	0.2	-4.4	-13.4	-10.9	10.3	-0.8	0.3	-2.9	222.1	42.9	5.6	7.5	9.7
DE	5.8	5.7	*35.4*	-3.7	-5.2	-8.8	-6.5	7.5	-1.2	-1.0	0.2p	107.7p	80.3	7.5	7.1	-0.9p
EE	-1.5	1.8	-71.2	4.6	-3.7	8.4	2.5	12.8	-4.9	2.1	-7.6	140.5	6.5	11.9i	16.7	*-9.5*
IE	-6.4	-3.2	*-88.0*	-5.4	-7.1	-13.0	-14.0	-3.2	-7.4	-10.4	2.6	261.1	87.4	10.8	13.9	6.3
EL	*-12.1*	-9.9	-98.3	2.9	-1.2	*-20.0*	-14.2	13.1	0.3	-8.1e	5.6p	128.8	146.0	10.0	12.7	7.7
ES	*-6.3*	-3.9	*-89.1*	-0.3	-3.1	*-10.5*	*-9.1*	5.7	-1.6	-3.6	0.9	201.5	60.1	16.4	19.9	-2.3
FR	-0.9	-0.8	-8.5	-2.2	-4.1	-18.2	-10.4	7.5	0.9	3.6	4.6e	131.8e	81.5	8.6	9.3	3.3
HR	-5.1	-1.2	*-95.9*	2.0	-3.3	-13.4	-12.5	*11.2*	*-1.1*	-9.4p	5.7	127.3	52.8	10.3	12.3	3.9
IT	-2.7	-3.5	-24.7	-1.9	-4.5	-19.8	-8.9	8.9	-0.1	-2.2b	4.4	121.2	115.3	7.6	8.4	3.3
CY	*-12.1*	*-9.8*	*-35.6*	0.0	-4.1	*-19.4*	*-15.4*	7.2	1.0	-8.0	22.2	315.3	56.5	5.1	6.3	-2.6
LV	-0.6	2.3	-81.9	6.7	-7.9	20.5	-5.2	-4.6	-9.1	-8.5	2.6	132.4	46.8	14.9	19.5	-0.4
LT	-3.7	-0.3	-55.4	7.2	-5.3	*13.7*	4.4	0.3	-6.9	-8.6	-5.9	74.6	36.3	12.5	17.8	-0.7
LU	7.1	7.1	153.6	1.2	-1.6	-0.6	-8.3	14.1	-1.1	4.4	-53.4	346.1	19.6	4.9	4.6	13.9
HU	-2.5	0.3	-109.4	-1.2	1.6	2.4	-8.2	7.0	-0.3	-5.8	-4.2	116.1	80.9	9.7i	11.2	-0.2
MT	-3.9	-5.9	35.1	-0.7	-5.0	*16.4*	*-3.1*	9.2	0.2	-1.0	-5.0p	160.4	67.6	6.6	6.9	2.7
NL	*5.6*	*7.4*	*24.5*	-1.5	-3.9	*-8.5*	*-5.8*	7.1	-1.3	-2.6	2.8	229.4	59.0	3.8	4.5	5.8
AT	3.3	2.9	-5.2	-2.1	-3.4	*-14.7*	-10.7	9.2	0.1	4.4e	1.0	133.4	82.4	4.3	4.4	-1.9
PL	*-5.2*	*-5.1*	-65.2	-1.4	6.0	*20.1*	*-2.5*	12.0b	2.1b	-6.2e	5.8	70.1	53.6	8.3i	9.7	13.3
PT	-10.9	-10.1	-104.3	-3.1	-3.1	-7.8	-9.3	4.2	-1.2	-1.0	5.3	201.5	96.2	10.4e	12.0e	11.5
RO	-6.9	-4.5	-63.8	-10.8	1.6	51.9	-0.7	29.5	2.4	-14.0	3.4	77.8	29.9	6.4	7.0	4.6
SI	*-2.0*	-0.1	-42.4	1.2	-2.6	*-3.7*	-10.2	16.1	0.5	-1.3	1.9	115.6	37.9	5.9	7.3	-3.4
SK	*-4.2*	*-3.7*	*-63.1*	10.9	-4.2	*31.3*	*-4.7*	9.7	-0.9	-5.0	3.1	68.7	41.1	12.1	14.5	2.0
FI	1.8	1.2	19.7	-1.2	-5.7	-20.3	-12.3	13.2	-1.4	4.8	7.4	145.8	47.1	7.7	8.4	9.0
SE	6.8	6.0	2.9	-3.3	6.5	-13.4	-1.5	8.3	-2.6	6.4	4.0	200.8	36.7	7.7	8.6	2.6
UK	-3.0	-2.6	-6.0	-20.4	0.9	-24.0	-7.4	9.0	1.8	2.7	-0.3p	177.0p	76.4	7.0	7.8	8.4p

Source: European Commission, Eurostat and DG ECFIN (for the indicators on the REER). Notes: Flags: e: estimated. p: provisional.
For further details on the data revision, see the statistical annex of AMR 2014.

Table A1.6: **Auxiliary indicators: list of indicators and their data source**

Indicators	Source	
	Institution	Statistical domain
% change (1 year) of Real GDP	Eurostat	National Accounts
Gross fixed capital formation as % of GDP	Eurostat	National Accounts
Gross domestic expenditure on R&D as % of GDP	Eurostat	Business Statistics/NA
Current plus capital account (Net Lending/Borrowing as % of GDP)	Eurostat	BoP/NA
Net external debt as (% of GDP)	Eurostat	BoP/NA
Foreign direct investment in the reporting economy, flows (% of GDP)	Eurostat	BoP/NA
Foreign direct investment in the reporting economy, stocks (% of GDP)	Eurostat	BoP/NA
Net trade balance of energy products as % of GDP	Eurostat	International Trade/National Accounts
% change (3 years) of real effective exchange rates - euro area trading partners	DG ECFIN	
% change (5 years) of export performance against advanced economies	Eurostat/OECD	BoP
% change (5 years) of terms of trade	Eurostat	National Accounts
% change (1 year) of export market shares - in volume	IMF/Eurostat	
% change (1 year) of labour productivity	Eurostat	National Accounts
% change (10 years) of nominal unit labour cost index (2010=100)	Eurostat	National Accounts
% change (10 years) of unit labour cost performance relative to EA	DG ECFIN	
% change (3 years) of nominal house price index	Eurostat	Price Statistics/NA
Residential construction as % of GDP	Eurostat	National Accounts
Private sector debt as % of GDP - non consolidated	Eurostat	NA --> FA
Financial sector leverage (debt to equity), non-consolidated	Eurostat	NA --> FA
% change (1 year) of Employment rate	Eurostat	National Accounts
Young people neither in employment nor in education and training (% of total population aged 15-24)	Eurostat	LFS
People at risk of poverty or social exclusion (% of total population)	Eurostat	SILC
People at risk of poverty after social transfers (% of total population)	Eurostat	SILC
Severe materially deprived people (% of total population)	Eurostat	SILC
People living in households with very low work Intensity (% of total population aged 0-59)	Eurostat	SILC

Source: European Commission.

Table A1.7: **Macroeconomic indicators, CSR progress indicator and IDR outcomes**

Country	Year(1)	Main indicators linked to the identification of imbalances	Number of CSRs, of which:	No progress	Limitted progress	Some Progress	Substantial progress	Full implementation	IDR outcome
BE	**2013**	EMS(2011)=1.9; ULC(2012)=3.6; REER(2012)= -1.9; Public debt (2012)=104.0							
	2014	EMS(2012)=1.8; ULC(2013)=2.0; REER(2013)=1.2; Public debt (2013)=104.5	7		4	3			**Imbalances, which require monitoring and policy action**
	2015	EMS(2013)=1.9; ULC(2014F)=-0.1; REER(2014F)=1.1; Public debt (2014F)=106.4	6		3	2	1		**Imbalances, which require monitoring and policy action**
BG	**2013**	CA(2011)=0.09; NIIP (2011)= -85.9; NFC debt (2011) =103.4; FS liabilities (2011)=4.6 ; FS Leverage (2011) =413							
	2014	CA(2012)=-0.84; NIIP (2012)= -78.7; NFC debt (2013) =104.3; FS liabilities (2012)=11.4; FS Leverage (2012) =438.4	7	2	4	1			**Imbalances, which require monitoring and policy action**
	2015	CA(2013)=3.0; NIIP (2013)= -77.9; NFC debt (2013) =111.2; FS liabilities (2013)=3.2; FS Leverage (2013) =384.6	6	2	4				**Excessive imbalances, which require specific monitoring and decisive policy action**
DE	**2013**	CA(2012)= 6.1; NIIP (2012)= 28.7							
	2014	CA(2012)= 7.1; NIIP (2012)= 34.7	4		2	2			**Imbalances, which require monitoring and policy action**
	2015	CA(2013)= 6.7; NIIP (2013)= 42.9	4		3	1			**Imbalances, which require monitoring and decisive policy action**
DK	**2013**	EMS(2011)= 0.8; ULC (2012)= 1.9; REER(2012)= -3.1; HPI(2011)= -4.3; HH debt (2012)= 91.2							
	2014	EMS(2012)= 0.8; ULC (2013)= 1.9; REER(2013)= 2.9; HPI(2012)= -5.4; HH debt (2013)= 89.0	3		1	1	1		**No IDR**
	2015	EMS(2013)= 0.8; ULC (2014)= 1.9; REER(2014)= 1.8; HPI(2013)= -2.8; HH debt (2014F)= 87.4	3		1	1	1		**No IDR**
IE	**2013**	CA(2011)=1.23*; NIIP (2011)=na; EMS(2011)=1.0; ULC(2012)=0.5; REER(2012)=-3.6; HH debt (2012)=98.2; HPI(2011)= -15.4; NFC debt (2012)= 212; Public debt (2012)=121.7							
	2014	CA(2012)=1.6; NIIP (2012)=-109.6; EMS(2012)=1.0; ULC(2013)=4.2; REER(2013)=1.2; HH debt (2013)=96; HPI(2012)= -11.9; NFC debt (2013)= 200.6; Public debt (2013)=123.3							**Imbalances, which require specific monitoring and decisive policy action**
	2015	CA(2013)=4.4; NIIP (2013)=-102.1; EMS(2013)=1.1; ULC(2014F)=-3.9; REER(2014F)=0.8; HH debt (2014F)=88.7; HPI(2013)= 1.3; NFC debt (2014F)=191.9; Public debt (2014F)=110.8	7		2	5			**Imbalances, which require specific monitoring and decisive policy action**
ES	**2013**	CA(2011)=-3.2; NIIP (2011)=-91.4; EMS(2011)=1.9%; ULC(2012)=-3.0; REER(2012)=-1.8; HH debt (2012)=79.4; HPI(2011)= -15.4; Public debt (% of GDP) (2012)=84.4							
	2014	CA(2012)=-0.3; NIIP (2012)=-90.0; EMS(2012)=1.8; ULC(2013)=-0.4; REER(2013)=1.5; HH debt (2013)=75.2; HPI(2012)= -9.9; Public debt (2013)=92.1	9		8	8		1	**Imbalances, which require specific monitoring and decisive policy action**
	2015	CA (2013)=1.4; NIIP (2013)=-92.6; EMS (2013)=1.9; ULC (2014F)=-0.2; REER(2014F)=0.4; HH debt (2014F)=71.5; HPI(2013)= -10.4; Public debt (2014F)=98.3	8			8			**Imbalances, which require specific monitoring and decisive policy action**

(Continued on the next page)

Table (continued)

FR	**2012/2013**	EMS(2011)=3.7; ULC (2012)=1.8; REER(2012)= -2.7 ; Public debt (2012)=89.2					
		EMS(2012)=3.5; ULC (2013)= 1.1 ; REER(2013)=1.4 ; Public debt (2013)=92.2	6		2	4	**Imbalances, which require specific monitoring and decisive policy action**
		EMS(2013)=3.6; ULC (2014F)=1.3; REER(2014F)=1.2; Public debt (2014F)=95.3	7		4	3	**Excessive imbalances, which require specific monitoring and decisive policy action**
HR	**2013**	CA(2011)=-1.32; NIIP(2011=-91.97; NFC debt (2012)=86.7; Public debt (2012F)= 64.45;					
	2014	CA(2012)=-0.69; NIIP(2012)=-89.90; NFC debt (2013)=86.2;Public debt (2013F)= 75.68					**Excessive imbalances, which require specific monitoring and decisive policy action**
	2015	CA(2013)=0.39; NIIP(2013)=-88.66; NFC debt (2014F)=87; Public debt (2014F)= 81.45;	7		5	2 1	**Excessive imbalances, which require specific monitoring and decisive policy action**
IT	**2013**	EMS(2011)=2.8; ULC (2012)=1.4; REER(2012)= -1.3; Public debt (2012)=122.2					
	2014	EMS(2012)=2.6; ULC (2013)= 1.4 ; REER(2013)=1.6 ; Public debt (2013)=127.9	6		5	1	**Excessive imbalances, which require specific monitoring and decisive policy action**
	2015	EMS(2013)=2.7; ULC (2014F)=2.3; REER(2014F)=1.7; Public debt (2014F)=131.9	8		4	4	**Excessive imbalances, which require specific monitoring and decisive policy action**
HU	**2013**	CA(2011)=0.8; NIIP(2011)=-106.7; Public debt (2012)= 78.5; FS liabilities (2011)=7.1					
	2014	CA(2012)=1.9; NIIP(2012)=-94.1; Public debt (2013)= 77.3; FS liabilities (2012)=-6.7	6		4	2	**Imbalances, which require monitoring and decisive policy action**
	2015	http://gocar.be/en/autovlan/second-hand-car-used/VW/Golf/16-CR-TDi-BLUEMOTION-77635-KMNAVIGATIE-AIRCO-PDC-qbbagwpm	7		7		**Imbalances, which require monitoring and decisive policy action**
MT	**2013**	Public debt (2012)=67.5; FS liabilities (2011)=10.7; FS leverage (2011)= 18.0					
	2014	Public debt (2013)=69.5; FS liabilities (2012)=5.6; FS leverage (2012)= 16.7	5		2	3	**No IDR**
	2015	Public debt (2014)=68.6; FS liabilities (2013)=1.9; FS leverage (2013)= 15.5	5	1	2	2	**No IDR**
NL	**2013**	HPI(2011)= -4.3; HH debt (2012) =119.2					
	2014	HPI(2012)= -8.8 ; HH debt (2013)=117.3	4		1	2 1	**Imbalances, which require monitoring and policy action**
	2015	HPI(2013)= -8.0; HH debt (2014F)=114.4	4		1	2 1	**Imbalances, which require monitoring and policy action**
PT	**2013**	CA(2011)=-6.2; NIIP(2011)=-101; NFC debt (2012)= 136.7; Public debt (2012)= 124.8					
	2014	CA(2012)=-2.1; NIIP(2012)=-113.8 ; NFC debt (2013)= 132.1; Public debt (2013)= 128.0	4		1	2 1	**Financial assistance programme**
	2015	CA(2013)=0.7; NIIP(2013)=-116.2; NFC debt (2014F)= 122.9; Public debt (2014F)= 128.9	4			4	**Excessive imbalances, which require specific monitoring and decisive policy action**
RO	**2013**	CA(2011)=-4.6; NIIP(2011)=-65.4;					
	2014	CA(2012)=-4.5; NIIP(2012)=-67.3;	8	1	4	2 1	**Precautionary programme**
	2015	CA(2013)=-0.8; NIIP(2013)=-62.6;	8	1	6	1	**Imbalances, which require monitoring and policy action**

(Continued on the next page)

Table (continued)

SI	**2013**	EMS(2011)=0.2; ULC (2012)=0.6; REER(2012)= -0.7; FS liabilities (2011)=-2.2; FS leverage (2011)=737.8					
	2014	EMS(2012)=0.2; ULC (2013)=1.4; REER(2013)=1.2; FS liabilities (2012)=-3.4; FS leverage (2012)=740.1	9	6	2	1	**Excessive imbalances, which require specific monitoring and decisive policy action**
	2015	EMS(2013)=0.2; ULC (2014F)=-1.3; REER(2014F)=1; FS liabilities (2013)=-10.4; FS leverage (2013)=591.8	8	1	6	1	**Imbalances, which require specific monitoring and decisive policy action**
FI	**2013**	EMS(2011)=0.5; ULC (2012)=5.2; REER(2012)= -1.8					
	2014	EMS(2012)=0.5; ULC (2013)=1.7; REER(2013)=2.7	5		3	2	**Imbalances, which require monitoring and policy action**
	2015	EMS(2013)=0.4; ULC (2014F)=1.2; REER(2014F)=2.2	5		4	1	**Imbalances, which require monitoring and policy action**
SE	**2013**	HPI(2011)= 0.8; HH debt (2012)=80.5					
	2014	HPI(2012)= 0.0 ; HH debt (2013)=82.2	4	2	1	1	**Imbalances, which require monitoring and policy action**
	2015	HPI(2013)= 4.7; HH debt (2014F)=83.3	4	2	2		**Imbalances, which require monitoring and policy action**
UK	**2013**	EMS(2011)=3.6; ULC (2012)=2.4; REER(2012)=5.4; HPI(2011)= -4.7; HH debt (2012)=91.2					
	2014	EMS(2012)=3.5; ULC (2013)=1.4; REER(2013)=-2.6; HPI(2012)= -0.2 ; HH debt (2013)=89	6	2	3	1	**Imbalances, which require monitoring and policy action**
	2015	EMS(2013)=3.5; ULC (2014F)=1.2; REER(2014F)=7.7; HPI(2013)= 1.3; HH debt (2014F)=86.7	6	1	4	1	**Imbalances, which require monitoring and policy action**

Source: European Commission.
(1) The year when assessment is undertaken for the CSRs of the previous year. Hence 2015 CSRs are not included as they will be assessed in 2016. All CSRs are considered for the assessment, not just the MIP related CSRs.

(2) Indicators are the relevant macroeconomic indicators for the country concerned, linked to the potential imbalance the country experienced at a certain time during the period 2013-2015. Indicators are collected from 2015 Country Reports from Table 1.1 "Key economic, financial and social indicators". These are different from scoreboard indicators because they do not suffer data transformations as in the scoreboard.
CA stands for Current account balance (% of GDP), balance of payments.
EMS stands for Export market share, goods and services (%).
FS leverage stands for Financial sector leverage.
FS liabilities stand for Total financial sector liabilities, non-consolidated (y-o-y)
HPI stands for Deflated house price index (y-o-y).
NIIP stands for Net international investment position (% of GDP)
ULC stands for Unit labour costs (ULC) (whole economy, y-o-y)
REER stands for Real effective exchange rate (HICP, y-o-y)

(3) All countries that have been in an IDR at least twice during the period 2012-2015 are included, in order to track the evolution of indicators and CSR progress. Luxembourg and Cyprus are not included therefore.

ANNEX 2

THE CATEGORISATION OF MIP IMBALANCES: A STATISTICAL INVESTIGATION

The assessment of MIP imbalances rests on a number of principles and criteria (see Chapter 3 for a discussion), notably the gravity of imbalances and risks, how they have been evolving, what was the policy response. The present analysis aims at shedding light on the role played by these factors in driving the level and change of the categorization of MIP imbalances in the practice.

MIP categories, indicators of macroeconomic imbalances and of progress with CSR implementation: evidence from cross-country correlations

Table A2.1 displays *cross-country correlations* between scores for MIP categories used in 2014 and 2015 (1= "no imbalances". 2="imbalances, which require monitoring and policy action"; 3="imbalances, which require monitoring and decisive policy action; 4="imbalances, which require specific monitoring and decisive policy action"; 5="excessive imbalances, which require specific monitoring and decisive policy action"), selected economic indicators, and a synthetic indicator of progress on CSR implementation. Such correlation analysis provides prima-facie evidence on the above relations and has the obvious limitation of linking the MIP categorisation to the different economic variables separately, without considering the constellation of risks reflected in the overall combination of economic indicators. The correlations are shown separately for 2014 and 2015. All countries in the sample were identified at least with imbalances. ([39]) The sample comprises a group of countries for which an IDR was prepared in both years.

- Correlation coefficients indicate that MIP imbalance categories display the expected relation with the level of a number of economic indicators. Imbalances were generally characterised as more severe in countries with higher current account deficits, a higher stock of net external liabilities, larger government debt, bigger export market losses, stronger increases in real effective exchange rate. A relation opposite to expectations is found for private sector debt, possibly linked to the fact that a number of countries with relatively high private sector debt (such as the Netherlands, Sweden, the UK) were judged not to have particularly high risks and had relatively low MIP categorisation. The explanation for the negative relationship between MIP categories and the variables measuring price growth (ULC and house prices) and the growth in credit and financial sector liabilities is presumably that, after 2012, price and credit growth variables were adjusting downward at a faster pace in countries with larger stock imbalances.

- The CSR progress indicator is related as expected to MIP categories. Countries with a stronger compliance score were assessed to have less important risks linked to macroeconomic imbalances.

- Changes in economic indicators exhibit, in general, the same relationship with MIP categories as levels, although relations are generally less strong and in few cases the sign is opposite. This means that imbalances were generally more likely to be assessed as severe if indicators capturing imbalances were not only high in level but also rising.

- The change in the MIP categorisation is mostly linked to CSR progress and the evolution of stock imbalances. This is visible from the correlations displayed in Table A2.1. Countries under MIP that maintained their MIP imbalance categorisation tend to have, in the same year, a somewhat higher CSR progress indicator than the EU average. Countries stepped down/up in the MIP imbalance classification are the countries where on average the CSR progress indicator was the highest/the lowest.

([39]) The CSR progress indicator is calculated as the simple average of CSR progress for all CSRs. It is based on five possible categories: no progress; limited progress; some progress; substantial progress; full progress, to which values between 0 and 100 are assigned: 0, 25, 50, 75 and 100, respectively (see Deroose and Griesse, 2014). The indicator at the level of full CSR is available starting from 2013. The indicator at sub-CSR level is available starting from 2014. The indicators used for the correlations in Table 4.5 make use of compliance scores computed by assigning compliance scores for the different parts of each CSR referring to different policy fields. The policy fields are described in the footnote to Graph 4.4.

Table A2.1: **Cross-country correlations between MIP imbalance categories (or change in categorisation), relevant macroeconomic indicators and CSR progress indicator (12 IDR countries, 2014-2015)**

	MIP imbalance categories				Change in MIP imbalance categories			
	2014		2015		2014		2015	
	Level	Y-o-y change	Level	Y-o-y change	Level	Y-o-y change	Level	Y-o-y change
Current Account Balance (% GDP)	-0.1	0.5	-0.1	0.1	0.0	-0.4	-0.1	0.0
Net International Investment Position (% GDP)	-0.4	0.1	-0.6	-0.5	0.4	-0.1	0.1	0.1
% y-o-y change in Real Effective Exchange Rate (42 IC, HICP deflator)	0.1	0.2	-0.1	-0.1	0.1	0.2	-0.1	-0.1
% change (5 years) in Export Market Shares	-0.2	0.1	0.4	0.1	-0.1	0.0	0.4	-0.1
% change (3 years) in Nominal ULC	-0.7	-0.5	-0.2	0.1	0.2	0.1	0.6	0.2
% y-o-y change in Deflated House Price Index	-0.6	0.1	-0.5	-0.1	0.3	-0.1	0.2	-0.1
Private Sector Credit Flow (% GDP, consolidated)	-0.7	0.3	-0.1	0.3	0.4	0.1	0.6	0.2
Private Sector Debt (% GDP, consolidated)	-0.4	0.2	-0.5	-0.1	-0.4	0.7	0.0	0.5
General Government Debt (% GDP)	0.5	0.3	0.2	0.4	0.3	-0.7	-0.2	-0.3
% y-o-y change in Total Financial Sector Liabilities	-0.2	-0.3	-0.5	-0.7	0.3	0.0	0.2	-0.2
CSR progress indicator	-0.2		-0.4		-0.4		-0.7	

Source: European Commission.

(1) Only countries with an IDR for each year during the period 2014-2015 are considered: Belgium, Bulgaria, Germany, Spain, Finland, France, Hungary, Italy, Netherlands, Sweden, Slovenia, the United Kingdom (twelve countries). All countries in the sample were identified with at least imbalances.
(2) The MIP category at year t is correlated with economic variables at year t-1, and with the CSR progress indicator at year t, which measures compliance with CSRs up to t-1.
(3) The source of the economic indicators considered in this table is the same as that of the MIP scoreboard. The variables are not transformed in multi-year averages. The CSR progress indicator is computed at the level of the whole CSR.
(4) The change in MIP categorisation takes the value 0 if the category is maintained, -1 if the MIP is stepped down and +1 if the MIP is stepped up.

What drives changes in MIP categories? An econometric assessment

The analysis focuses on countries under IDR and takes a cross-section perspective. The question addressed is the following: which are the economic and policy characteristics of countries that have been escalated or de-escalated in the MIP?

To this end, a *numerical indicator for the MIP categorization of imbalances* (ranging from 1=no imbalances to 5=excessive imbalances requiring specific monitoring and decisive policy action) is constructed, and its year-on-year change is regressed on the *synthetic CSR progress indicator and* a *"synthetic indicator of economic conditions"*, capturing the relevant variables summarizing the imbalances identified in IDRs, expressed both in level and as a year-on-year change.

The dependent variable registers by how much a country was stepped up or down in MIP surveillance. The advantage with the explanatory variables is that they are synthetic country-level indicators summarizing information pertinent to each country, i.e., the extent to which progress has been registered on the front of CSR recommendations and the size and evolution of the indicators summarizing only those imbalances that have been identified as affecting the country in IDRs.

More precisely, the potential variables considered in the synthetic indicator of economic conditions are as follows: export market shares growth, unit labour costs growth, general government gross

debt, growth in financial sector liabilities, financial sector leverage, net international investment position (NIIP) , corporate debt, households' debt, house prices growth, current account balance, and real effective exchange rate (REER) growth. All debt variables are expressed as a share of GDP. The indicator corresponds to the simple sum of the relevant indicators that are pertinent with imbalances identified in IDRs (see Table A.5.2). As measurement units differ across indicators cross-country comparisons are allowed by standardizing each variable composing the indicator and the indicator itself over the whole sample (thereby obtaining 0 mean, unit standard deviation variables). The variables have been aggregated in such a way that an *increase in the level of the indicator reflects a reduction in the extent of overall imbalances* and risks (e.g., the growth rate of housing prices enters the indicator with minus sign). The variables with a "symmetric" treatment in the MIP scoreboard, i.e., the current account balance and the REER growth, have been included with, respectively, positive and negative sign (their omission does not change the results). Three variants of this synthetic indicator are constructed: one including all possible variables, one including only “stock variables” (see footnote to the next table), one including only “flow variables”.

Due to data availability for the CSR progress indicator the coverage comprises three years: 2013, 2014 and 2015. In the regressions, year effects are included while there are no country effects, to permit sufficient variation in the data across countries.

The specification includes three explanatory variables: the CSR progress indicator, the synthetic economic conditions indicator and the change in the latter indicator. Specifications including the synthetic indicator for stock and flow variables respectively are also considered. Results, which hold also once fixed effects are included, are as follows:

- *The CSR progress indicator has explanatory power on MIP categories* which is significant at the 1% level and with the expected sign in all cases: policy progress makes an MIP stepping down more likely.

- *The synthetic indicator for economic conditions in levels is not significant, while the one in changes is*, at the 5% level, and with the expected negative sign. Hence, a reduction in the value of the indicator, which indicates an aggravation of imbalances, is associated with a stepping up in the imbalance categorisation.

- *Stocks variables are the ones displaying a significant impact (in change),* as revealed by the specifications including separately the synthetic indicator for stock and flow variables. A possible interpretation is that, despite improvements in flow variables in a number of countries, the MIP categorization was not updated because stock imbalances remained. This result can be seen in column (2) using "stock" notions only, or in column (4) where "stock" variables are introduced, next to flow variables.

Table A2.2: **The determinants of changes in MIP imbalances categorization. Regression results (12 IDR countries, 2013-2015)**

Dependent variable: Variation of MIP classification of member States	[1]	[2]	[3]	[4]
Explanatory variables				
CSR progress indicator	-0.074***	-0.097***	-0.069***	-0.095***
	(0.027)	(0.03)	(0.026)	(0.03)
Synthetic indicator of economic conditions, level	-0.003			
	(0.099)			
Synthetic indicator of economic conditions, change	-0.254**			
	(0.126)			
Synthetic indicator of economic conditions using only stock variables, level		-0.197		-0.225
		(0.194)		(0.205)
Synthetic indicator of economic conditions using only stock variables, change		-0.683***		-0.679***
		(0.244)		(0.253)
Synthetic indicator of economic conditions using only flow variables, level			0.017	0.063
			(0.147)	(0.16)
Synthetic indicator of economic conditions using only flow variables, change			-0.146	-0.072
			(0.191)	(0.212)
Country F.E.	No	No	No	No
Year F.E.	Yes	Yes	Yes	Yes
Number of observations	36	36	36	36
Pseudo R-squared	0.2	0.27	0.15	0.27

Note: * p<0.1; *p<0.05; *** p<0.01. Standard errors are reported in parentheses. Estimation method: ordered probit dummy variables.
The synthetic indicator of economic conditions, using "stocks" notions only, is a sum of the normalized values of the following variables: general government gross debt, financial sector leverage, NIIP, corporate debt and households' debt.
The synthetic indicator of economic conditions, using "flows" notions only, is a sum of the normalized values of the following variables: export market shares, unit labour costs, house prices, current account, financial sector liabilities' growth and REER.
Columns (1) to (4) display results for the sample with just the 12 countries with an IDR over the whole period. The CSR progress indicator is calculated at the level of the full CSR.
Source: Commission's calculations.

ANNEX 3

MIP SURVEILLANCE AND POLICY PROGRESS: AN EMPIRICAL ASSESSMENT

Assessing to what extent MIP surveillance strengthens policy progress requires controlling for other factors that play a role in driving reform outcomes. To this purpose, a regression specification has been tested where an indicator of progress with respect to EU recommendations (*CSR compliance score* defined below) is put in relation with a *variable scoring the MIP categorisation* (see Tables 3.1 and 4.3) existing at the time when CSR progress is assessed. The relation is estimated taking into account additional control variables that are likely to influence the extent to which countries are likely to comply with policy recommendations.

Each data point corresponds to recommendations at a disaggregated policy field, defined at a more detailed level than that found in Council CSRs as published. ([40]) The *CSR* compliance score distinguishes five degrees of progress, ranging from 0 (no progress) to 100 (full achievement). The sample comprises all Member States with an IDR for the years 2014 and 2015.

The *control variables* are as follows: a dummy indicating whether the recommendation is hard to comply with because politically costly, GDP growth, the sovereign spread with respect to the benchmark German 10-year interest rate on government bonds, dummies indicating legislative elections at most one year before or by next year, and dummies indicating the main policy area of the sub-CSR (public finances and taxation; financial sector; labour market, education & social policies; structural policies; public administration and business environment).

Results show that:

- The MIP categorisation variable, being positive and significant, suggests that MIP surveillance favours policy progress.

- Recommendations classified as politically costly have a negative impact on policy progress. This variable is a dummy taking the value one if the sub-CSRs belong to fields where compliance might be harder to achieve in large of large redistributive effects or redistribution concentrates among well-organised interest groups. The sub-CSRs belonging to the following fields have been considered "hard-to-comply-with": Long-term sustainability of public finances, including pensions; Employment protection legislation & framework for labour contracts; Wages & wage setting; Health & long-term care; Competition in services; Telecom, postal services & local public services; Energy, resources & climate change; Transport; Public administration; State-owned enterprises; Civil justice; Shadow economy & corruption. It is found that the coefficients of this indicator are negative, though with limited significance (significance at the 10% level for ordered probit and no significance at this level for ordinary least squares). This variable being partly judgemental, specifications have been tested with (columns (1) and (2)) and without it (columns (3) and (4), and results are robust.

- GDP growth has a positive impact but limited significance. This is as expected since higher growth should make reforms easier to implement by raising the available political, but the effect could go in the opposite way if increased complacency plays in the sense of delaying reforms.

- Interest rate spreads have a positive coefficient and a variable significance. The positive sign is consistent with the view that market pressure could ceteris paribus induce policy progress.

- As expected, the impact of elections to come is more negative than the one of recent elections.

([40]) Progress with respect to recommendations is defined at the following level of disaggregation. Public finances: fiscal policy and fiscal governance; long-term sustainability of public finances; tax burden on labour; broadening of tax bases; taxation debt bias; tax evasion, tax administration. Financial sector: Financial services; housing market; access to finance; private indebtedness. Labour market, social inclusion and education: employment protection legislation and framework for labour contracts; unemployment benefits; active labour market policies; incentives to work, job creation, labour market participation; Wages and wage setting; childcare; health & long-term care; poverty reduction and social inclusion; education; skills and life-long learning. Structural policies: research and innovation; competition and regulatory framework; competition in services; telecom, postal services and local public services; energy, resources and climate change; transport. Public administration and business environment: business environment; insolvency framework; public administration; state-owned enterprises; civil justice; shadow economy and corruption.

Table A3.1: **MIP surveillance and CSR progress, data at detailed recommendation level (2014-2015, EU countries with an IDR in both years)**

Dependent variable: CSR compliance score Explanatory variables	[1]	[2]	[3]	[4]
Estimation method:	Ordered probit	OLS	Ordered probit	OLS
MIP imbalance category	0.153*	0.124**	0.162**	0.134**
	(0.081)	(0.056)	(0.076)	(0.055)
Hard-to-comply with recommendation, dummy	-0.204*	-0.211		
	(0.115)	(0.156)		
GDP growth	0.109	0.052	0.114	0.056
	(0.075)	(0.074)	(0.073)	(0.073)
Interest rate spread in previous year	0.202**	0.128	0.197**	0.123
	(0.087)	(0.08)	(0.086)	(0.08)
Elections in previous year	0.012	0.284*	0.025	0.299*
	(0.133)	(0.149)	(0.134)	(0.156)
Elections by following year	-0.261***	-0.141*	-0.235***	-0.114
	(0.081)	(0.072)	(0.081)	(0.075)
Country and year F.E.	Yes	Yes	Yes	Yes
Clustering at country-year level	Yes	Yes	Yes	Yes
Number of observations	543	543	543	543
Pseudo R-squared	0.08		0.08	
R-squared		0.15		0.15
RMSE		1.28		1.28

Note:*, ** and ***: coefficients significant at the 10%, 5% and 1% level respectively. Student-t are reported in parenthesis. Standard errors are robust with-respect to clustering at the country-year level.
Dependent variable: CSR compliance score defined at disaggregated policy field (see footnote to Graph 4.4.). 0=no progress; 25=limited progress; 50=some progress; 75=substantial progress; 100=full achievement. The scores are transformed as log(1+score) to smooth the effect of the retained scaling.
MIP categories: no imbalances=1; imbalances requiring monitoring and policy action=2; imbalances requiring monitoring and decisive policy action=3; imbalances requiring specific monitoring and decisive policy action=4; excessive imbalances requiring specific monitoring and decisive policy action=5. The MIP categorisation refers to the preceding year. The correspondence between the classifications in MIP categories used in 2013 and 2014 is the one displayed in table 4.3, with the two categories qualified as being excessive imbalances in 2013 corresponding to excessive imbalances category 5 of 2014.
The "hard-to-comply with recommendations" variable is a dummy variable taking value 1 for sub-CSRs belonging to the following fields: Long-term sustainability of public finances, including pensions; Employment protection legislation & framework for labour contracts; Wages & wage setting; Health & long-term care; Competition in services; Telecom, postal services & local public services; Energy, resources & climate change; Transport; Public administration; State-owned enterprises; Civil justice; Shadow economy & corruption. Each sub-CSR has been reviewed, and in few cases the variable was kept with value 0 also for the fields above if the associated recommendation concerns relatively minor measures or it is formulated in a very general way.
Interest rate spreads are expressed as the difference of the 10-year government bond yield with the one of Germany.
"Elections in previous year" and "Elections in following year" are dummies equal to one if legislative elections have taken place at most one year before the related year or if these elections are to take place in at most one year, respectively.
Source: European Commission, Eurostat, World Bank political database, national sources, own calculations.
Source: Commission's calculations.

ANNEX 4
SELECTED ANALYTICAL TOOLS USED IN THE MIP FRAMEWORK

A4.1. EXTERNAL SUSTAINABILITY ANALYSIS

Assessing external sustainability under the MIP focuses on current account balances (flows) and the net international investment position (NIIP-stocks). These external balances are driven by, and have implications for, the real and financial sides of macroeconomic aggregates, and thus reflect the internal imbalances of an economy. The assessment of external balances relies on tools and data developed by Commission staff in cooperation with Member States in the LIME Working Group.

Assessing the evolution of flows is done from three perspectives: 1) each sector's net borrowing position that describes whether it is the private or the public sector that (de)saves; 2) the trade position, that describes how foreign and domestic demand affect goods and services flows; and 3) the financial flows perspective, which describes how a country finances its external balances, and how such financing affects external assets and liabilities.

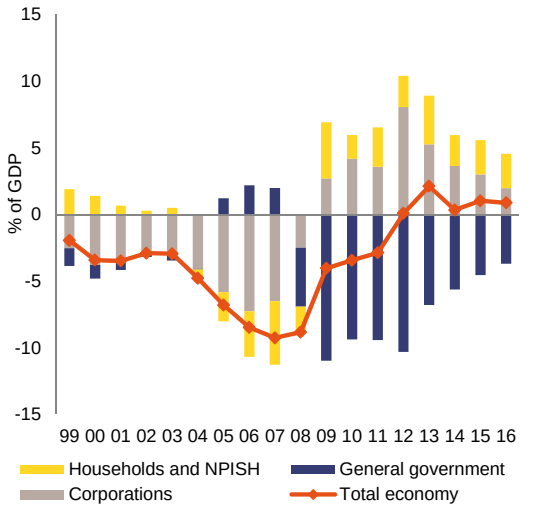
The financial flows perspective is directly linked to the stocks of external assets and liabilities (NIIP) that a country has accumulated. This is done in two ways: first, by examining the composition of the external position by instrument to help identify potential vulnerabilities. Second, by comparing the actual level of current account to the level consistent with sustainable aggregate external position. To this end, the Commission defines what constitutes sustainable positions and uses algebraic tools to compare the resulting benchmarks to current account flows.

The Commission also uses formal tools to assess current accounts from the viewpoint of economic concepts. The tools help to gauge in how far the current account is explained by fundamentals or policy actions, and how sensitive it is to underlying changes? These tools provide further insights as to the underlying drivers and the necessary actions that are needed to correct positions.

Anatomy of external balances – real side

The assessment of current account developments and sustainability rests on a range of tables and graphs that provide data decompositions to identify trends and challenges. MIP assessment of current accounts highlights the savings-investment perspective, which provides the most direct link between external and internal macroeconomic imbalances. An economy's current account balance equals the sum of net lending/borrowing of its sectors, i.e. aggregate saving minus aggregate investment. External balance assessment thus focuses on decomposing current account changes into the saving and investment decisions of a country's sectors (see Graph A4.1). A range of analytical data representations provides further details (e.g. investment by type, operating surplus by industry, etc.), that inform the overall assessment. Such anatomical graphs and tables inform to what extent demand is driving the, or is constrained by, external balances, as well as on implications for GDP (see also empirical current account benchmarks below).

Graph A4.1: **Net lending and borrowing by sector, Spain**



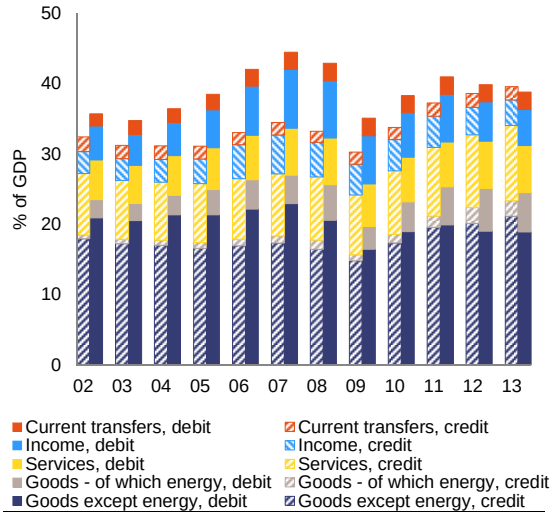
Source: Eurostat.

Gauging the impact of the business cycle relies on estimates of cyclically-adjusted current account balances. External balances may increase in case of a domestic cyclical downturn (coupled with a cyclical decline in demand), or a cyclical boom in trade partners. The business cycle impact on the current account is measured via a structural

approach that takes into account trade openness, income elasticities and trade-weighted output gaps of partner economies. The resulting estimates allow gauging how far external balances adjust when cyclical conditions normalize.

External sustainability analysis likewise draws on the trade perspective of the current account. For instance, depending on whether it stems from declining imports or expanding exports, an increase in the trade balance may have different implications for GDP and domestic imbalances. The feedback of external balances on domestic activity depends on the open-ness of an economy, and thus on its allocation between tradable and non-tradable industries. They thus constitute a focus of analytical representations used in MIP work. In that vein, gauging an economy's export potential relies on various indicators and tools to assess cost and non-cost competitiveness of a country's exports (see section A1.7).

Graph A4.2: **Current account gross components, Spain**

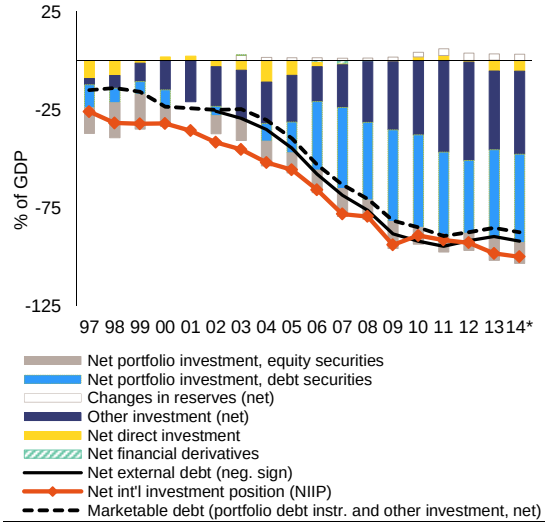


Source: Eurostat.

Anatomy of external balances – financial side

External sustainability is ultimately shaped by an economy's net financial asset position vis-à-vis the rest of the world. Current account balances entail financing flows to and from the world. Past cumulated financing flows define the bulk of a country's NIIP, the stock equivalent of the financial and current account balance. If the NIIP in turn corresponds to large net external liabilities, it may pose risks to external sustainability, and be susceptible to sudden stops (of private-sector financial flows). This, however, depends on the composition of the NIIP between different instruments, e.g. debt vs. equity. Detailed charts and tables aid to assess the composition of the NIIP. Particular attention is devoted to gross external assets and liabilities. Asset-liability mismatches between instruments or sectors may entail funding or return risks for sectors or an entire economy. Developments in gross external positions may feed back to the domestic financial sector and thus entail risks even for external creditor countries.

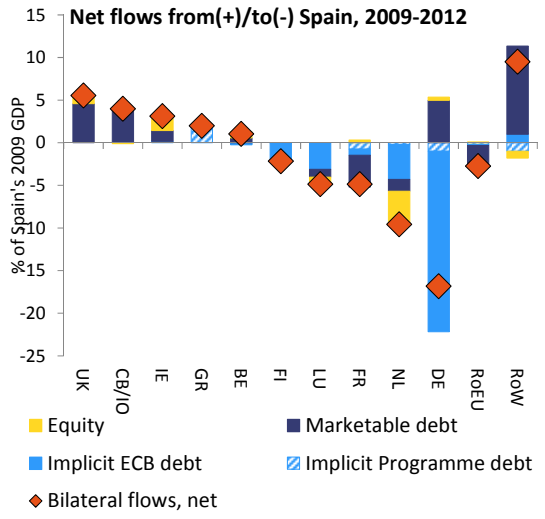
Graph A4.3: **Decomposition of Net International Investment Position by instrument**



Source: Eurostat BPM5/ESA95.

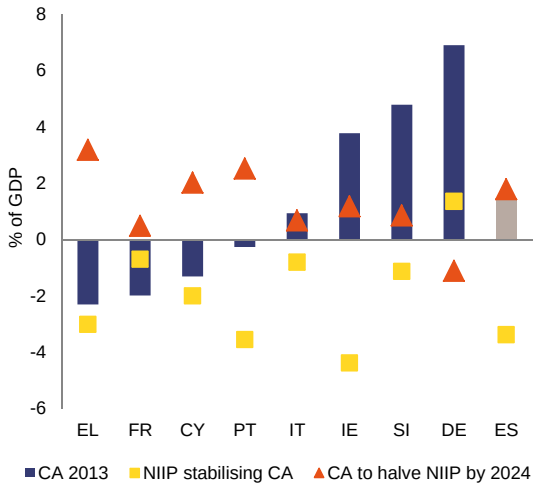
Net financial flows mirror the current account balance, and are linked to the funding of the private and public sectors in an economy. In the wake of the financial crisis, MIP work reviews on analytical tables of external financial flows, with a particular focus on ECB funding vs. private financial flows. In order to assess the cross-country spillovers from such financial flows, the Commission created a detailed database on bilateral cross-border financial flows and stocks.

Graph A4.4: **Bilateral net financial flows, Spain**



Source: Eurostat.

Graph A4.5: **NIIP-based CA benchmarks**



Source: Eurostat.

NIIP-based current account benchmarks

A country's NIIP indicates what current account balance is required to keep it at a sustainable position. Since changes in the NIIP mainly depend on the current account balance, a target level for the former implicitly defines a benchmark for the latter. A simple algebraic framework thus provides the current account balance required to stabilize the NIIP at its level, or to raise it to -35% of GDP over the long term. To that end, the Commission uses a tool that provides such computation on the basis of medium and long-term forecasts of growth and inflation. The tool also incorporates interest rate forecasts to provide estimates of not only of required current account, but also their real-term component, namely the trade balance. Akin to the fiscal DSA, the tool allows for simulating the impact of shocks to inflation, growth, or the interest rate. Under the scope of the MIP, NIIP-based current account benchmarks form one tool to indicate whether a current account or trade balance is 'sustainable'. Sensitivity analysis provides estimates on the risks a particular trade balance may entail.

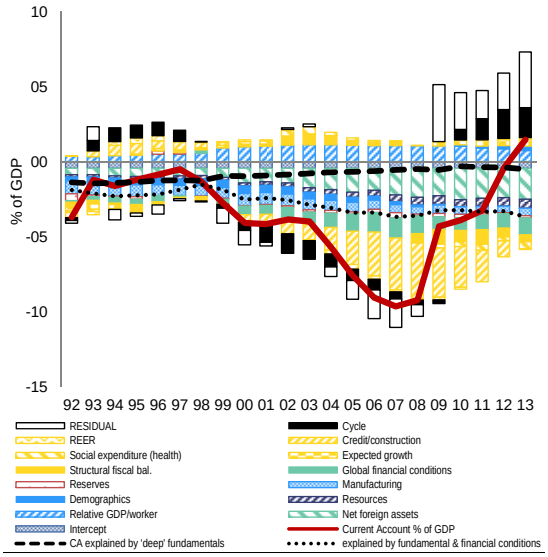
Empirical current account drivers

Empirical current account benchmarks permit to assess the main drivers of current accounts and to compare actual current account levels to benchmarks. The regressions show what part of the current account balance is explained by fundamentals and other (policy) drivers. In this respect, they permit to assess to what extent current account changes were explained by fundamentals or policy factors, and which among those variables played a major role. The predicted fundamental current account is also commonly used as a benchmark against which to compare the headline current account balance. The regression results show what part of a current account deviation from this benchmark can be explained by policy factors, and what part is due to the regression residual. From a positive viewpoint, the regression residual is the part of the current account that cannot be empirically explained. From a normative viewpoint, it can be interpreted as the part of the current account balance that is not justified by fundamentals.

Empirical current account benchmarks are specified as a 'reduced-form regression' capturing the main determinants of the saving-investment balance. Since the current account balance equals the difference between aggregate saving and investment, particular attention is devoted to their drivers as explanatory variables of

the current account. In addition, trade and financial aspects are factored into the estimates as well. The methodology is a variant of the External Balance Assessment (EBA) approach developed by the IMF. ([41]) The Commission regularly updates the results for all Member States.

Graph A4.6: **Empirical current account drivers, Spain**



Source: Eurostat.

DSGE-based current account assessment

For several Member States, the Commission has assessed current account balances through specific implementations of the QUEST model. QUEST and similar DSGE-based estimations are based on fully-fledged structural models, which differ from the purely empirical 'reduced form' estimations used in CA benchmarks. Precisely for this reason, comparing results from both approaches can be quite informative. DSGE-based results rest on a large degree of information from a particular country, whereas empirical estimations incorporate information from a large number of countries.

([41]) See Phillips et al. (2013).

A4.2. GOVERNMENT DEBT SUSTAINABILITY ANALYSIS

The Commission's DSA framework incorporates a whole set of tools (based on different methodologies) to ensure a comprehensive assessment of risks to public debt sustainability ([42]). First, traditional (deterministic) public debt projections are run over a 10-year horizon under a series of alternative scenarios. The aim is to assess the possible debt-to-GDP ratio trajectory over the coming decade, with the idea that an increase or a stabilisation of the debt ratio at a high level may motivate sustainability concerns. The different debt projection scenarios are designed in a way to capture possible alternative future macroeconomic developments, as well as the discretionary fiscal policy of the government. The baseline scenario, for instance, is defined as a "no-fiscal policy change" scenario, where, beyond the Commission 2-year forecast horizon, discretionary fiscal policy is assumed to remain unchanged at the last Commission forecast year (2017, at the time of writing this note) over the remaining of the projection period. ([43]) All other macroeconomic assumptions used in these baseline debt projections are taken from Commission forecasts over the forecast horizon and based on long-term assumptions agreed with the Economic Policy Committee Working Group on Ageing Populations and Sustainability (AWG) and Output Gap Working Group (OGWG) thereafter.

As anticipated, the baseline (deterministic) debt projections are accompanied by projections under alternative scenarios. These are aimed at assessing: i) how the debt ratio would evolve in scenarios of fiscal policy change, either according to EU fiscal rules (the so called "Stability and Growth Pact (SGP) scenario"), ([44]) or according to (country-specific) historical fiscal behaviour ([45]) (the "structural primary balance (SPB) historical scenario" and the "combined historical scenario"), as well as the fiscal reaction function scenario ([46]); ii) how debt projections relying on Member States' forecasts from the Stability and Convergence Programmes (the so called "SCP scenario") differ from those based on Commission forecasts, still in the context of a no-fiscal policy change scenario. When needed, because of country specificities that are not captured by this set of standard debt projection scenarios, the Commission's DSA is integrated with a limited number of additional ad-hoc country-specific scenarios designed to reflect those specificities. ([47])

As customary for deterministic debt projections, the Commission framework also includes sensitivity scenarios. These are aimed at assessing the impact on baseline debt ratio evolution of possible downward and upward changes in the main macroeconomic assumptions (government primary balance, interest rates, real GDP growth, inflation, nominal exchange rate).

Stochastic public debt projections run on a 5-year horizon complement traditional deterministic projection in the Commission's DSA. ([48]) This tool allows featuring the impact of uncertainty in macroeconomic conditions on public debt dynamics in a more comprehensive way, by simulating a very large number of shocks to the government primary balance, nominal GDP growth, interest rates on government debt and the exchange rate, accounting for the size and

([42]) For details, see European Commission (2014a) and European Commission (2016).

([43]) This is translated into a government structural primary balance kept constant at last Commission forecast year (2017) over the remaining of the 10-year projection horizon.

([44]) The SGP institutional scenario assumes full compliance with Council recommendations for countries under EDP, followed by convergence of the government structural balance to the medium-term objective (MTO), as from the preventive arm of the Pact, for EDP as for non-EDP countries. The scenario reflects the matrix of structural fiscal adjustment as from the recent Commission. Communication on flexibility in SGP rules (see COM (2015) 12 final, 13/01/2015) and the commonly agreed position on flexibility, as confirmed by the ECOFIN Council of 8 December 2015 (Council document number 14345/15).

([45]) Historical mean reversion is assumed in this case in terms of a gradual (4-year) convergence of the structural primary balance to the last 10-year historical average after the last Commission forecast year (2017).

([46]) In the fiscal reaction function scenario the government primary balance beyond the Commission forecast horizon is determined from an estimated fiscal reaction function.

([47]) See the Commission 2015 Country Report for Hungary, Section 2.2, for an example (SWD (2015) 36 final/2, 18/03/2015).

([48]) For details, see Berti (2013).

Table A4.1: **Public debt projections under baseline and alternative scenarios**

ES - Debt projections baseline scenario	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Gross debt ratio	**93.7**	**99.3**	**100.8**	**101.3**	**100.4**	**100.6**	**100.3**	**99.6**	**98.4**	**97.0**	**95.5**	**94.2**	**93.1**	**91.8**
Changes in the ratio (-1+2+3)	*8.3*	*5.6*	*1.5*	*0.5*	*-0.9*	*0.2*	*-0.3*	*-0.7*	*-1.2*	*-1.4*	*-1.5*	*-1.3*	*-1.2*	*-1.2*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-3.5**	**-2.5**	**-1.6**	**-0.6**	**0.1**	**0.3**	**0.4**	**0.5**	**0.7**	**0.9**	**1.2**	**1.3**	**1.3**	**1.4**
(1.1) Structural Primary Balance *(1.1.1-1.1.2+1.1.3)*	***1.5***	***1.6***	***0.6***	***0.3***	***0.2***	***0.4***	***0.4***	***0.5***	***0.7***	***0.9***	***1.2***	***1.3***	***1.3***	***1.4***
(1.1.1) Structural Primary Balance (before CoA)	*1.5*	*1.6*	*0.6*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
(1.1.2) Cost of ageing						*-0.2*	*-0.3*	*-0.4*	*-0.6*	*-0.8*	*-1.1*	*-1.2*	*-1.3*	*-1.4*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***-4.6***	***-3.7***	***-2.1***	***-0.9***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.4***	***-0.4***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3)	**4.3**	**2.5**	**-0.4**	**-0.7**	**-0.8**	**0.5**	**0.1**	**-0.2**	**-0.4**	**-0.4**	**-0.3**	**0.0**	**0.2**	**0.2**
(2.1) Interest expenditure	*3.4*	*3.4*	*3.1*	*3.0*	*2.8*	*2.7*	*2.7*	*2.7*	*2.7*	*2.8*	*3.0*	*3.2*	*3.4*	*3.5*
(2.2) Growth effect	*1.5*	*-1.3*	*-3.0*	*-2.6*	*-2.4*	*-0.8*	*-0.9*	*-0.9*	*-1.2*	*-1.3*	*-1.4*	*-1.4*	*-1.4*	*-1.4*
(2.3) Inflation effect	*-0.5*	*0.4*	*-0.5*	*-1.0*	*-1.1*	*-1.4*	*-1.7*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.8*	*-1.8*	*-1.8*
(3) Stock flow adjustments	**0.4**	**0.6**	**0.3**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Per memo														
Structural balance	-1.9	-1.8	-2.5	-2.6	-2.6	-2.3	-2.3	-2.1	-2.0	-1.9	-1.8	-1.9	-2.1	-2.0

Source: European Commission.

correlation of historical shocks to the variables concerned. ([49])

The distinctive advantage of this tool lies in the explicit recognition of the probabilistic nature of the DSA. In substance, this translates into the possibility of attaching a certain probability to the debt ratio of a country being higher than a specified value in a given projection year (by looking at the distribution percentiles obtained from the Monte Carlo simulation). This provides some important additional input to the discussion of upward and downward risks to the projected debt ratio, which informs the debt sustainability assessment.

A DSA is completed by an analysis of risks related to the structure of public debt financing and government contingent liabilities. This is the reason why the Commission's DSA presented in the Fiscal Sustainability Report 2015 includes a "heat map" on the structure of public debt by maturity, creditor base (resident versus non-resident) and currency of denomination. ([50]) This is meant to support the assessment of possible vulnerabilities for public finances related to a strong reliance on short-term market financing, to capital holdings by non-residents being more "volatile", as well as to exchange rate fluctuations. This allows further qualifying conclusions on the projected debt ratio path obtained from previous tools.

To the same purpose of qualifying debt projection results, the Commission's DSA also provides key information on risks from government contingent liabilities related to the banking sector, the existence of public-private partnerships and, more generally, government guarantees that might be called. Eurostat data on state guarantees and government contingent liabilities related to the support to financial institutions are reported.

Additionally, given the importance of risks related to vulnerabilities in the banking sector, a heat map is also included. The heat map allows indirectly capturing signals of bank-related vulnerabilities through the analysis of some "leading indicators" of banking contingent liability risks (private sector credit flow, bank loan-to-deposit ratio, the share and the change in the share of non-performing loans, the change in the nominal house price index, together with an estimated theoretical probability of government contingent liabilities due to banking losses greater than 3% of GDP based on the SYMBOL model ([51])). ([52])

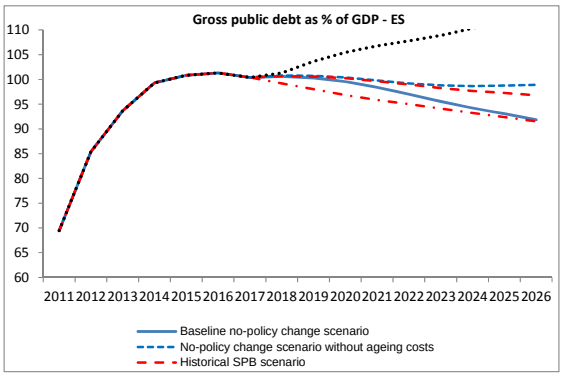
([49]) This is done with a Monte Carlo simulation, in which random vectors of quarterly shocks to the primary balance, short- and long-term interest rates, nominal GDP growth and exchange rate over the 5-year projection period are extracted from a normal distribution with zero mean and variance-covariance matrix identical to that of historical shocks (see Berti (2013), for technical details).

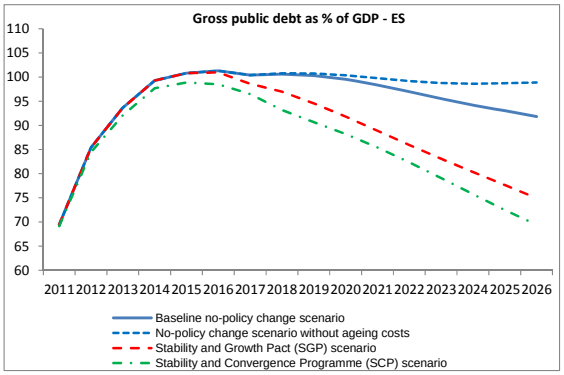
([50]) Thresholds of risk used in this heat map are calculated using the "signals' approach" (see Annex 3 to European Commission, 2014, for more details).

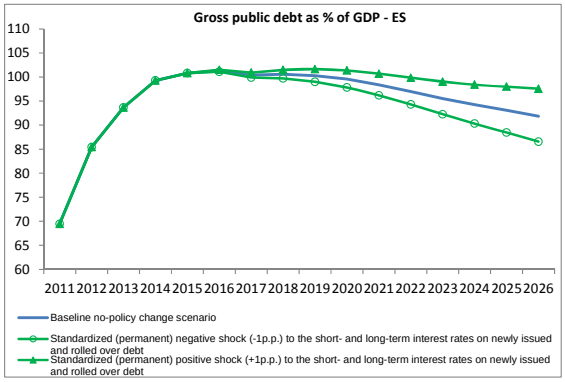
([51]) For more details on the SYMBOL model and its use for the analysis of government contingent liabilities, see the European Commission (2016).

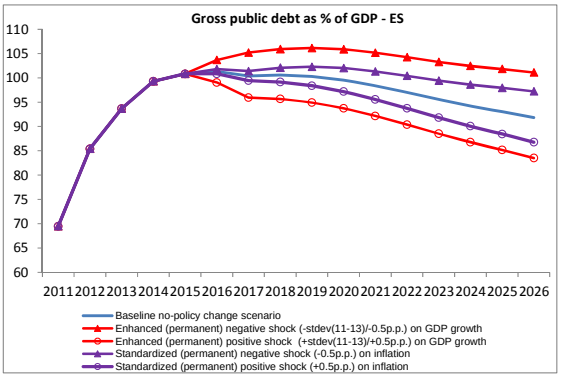
([52]) Also in this heat map on government contingent liability risks, critical thresholds are determined based on the signals' approach, with specific focus on *risks of fiscal stress* (for methodological details, see European Commission (2014a), and Berti et al. (2013) Some of the variables included in this heat map are common to the MIP scoreboard, but their use in the DSA is "restricted" to provide early signals of *fiscal* stress, based on their historical track record in anticipating fiscal crises. For these reasons, specific thresholds of fiscal stress have been calculated for these variables (and these do not necessarily coincide with thresholds used in the MIP scoreboard).

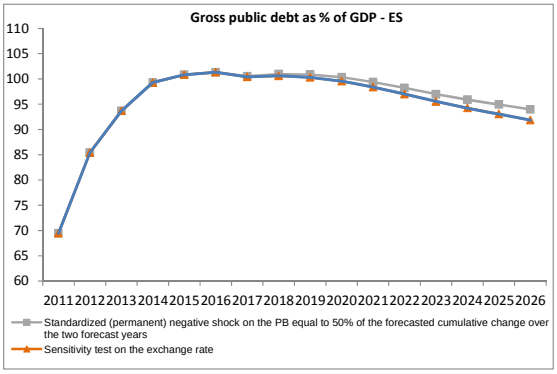
Graph A4.7: **Public debt projections under baseline and alternative scenarios**

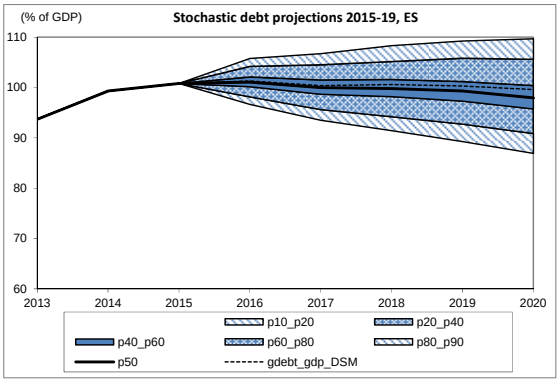


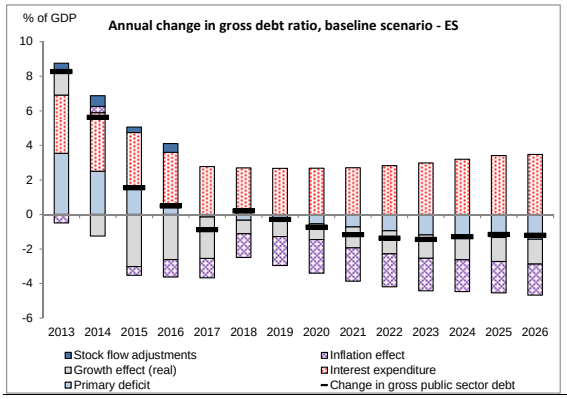


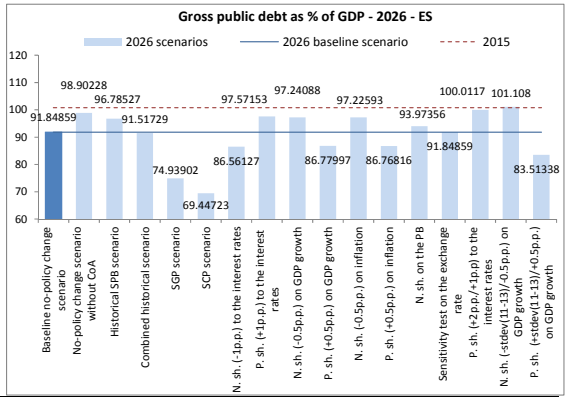












Source: European Commission.

A set of charts is finally incorporated in the Commission's DSA to make it possible to quickly assess the realism of the underlying macroeconomic assumptions. Forecast error plots are reported, which allow analysing the Commission forecast track record for the country concerned on key variables like the government balance, real GDP growth and inflation. Probability distributions (based on historical records) of the government structural primary balance over all EU countries in the last 35 years are also reported. The latter make it possible to specifically assess the realism of fiscal assumptions made under the different debt projection scenarios, by assessing how common/ uncommon a certain level of government structural primary balance and/or the implied structural fiscal adjustment is relative to cross-country historical records and/or country-specific historical behaviour.

Table A4.2: **Public debt projections under baseline and alternative scenarios (continued)**

Risks related to the structure of public debt financing

Public debt structure - ES (2014)	Change in share of short-term public debt (p.p.): -0.9	Share of public debt by non-residents (%): 38.8 (2013)	Share of public debt in foreign currency(%): 0.4 (2013)

Risks related to government's contingent liabilities

Government's contingent liabilities - 2014			
		ES	EU
State guarantees (% GDP) (2013)		18.4	10.5
of which One-off guarantees		*18.4*	*10.2*
Standardised guarantees		*:*	*0.4*
Contingent liabilities of gen. gov't related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov't under guarantee[3]	0.83	3.07
	Securities issued under liquidity	0.00	0.45
	Special purpose entity	4.46	0.91
	Total	5.29	4.43

Government's contingent liability risks from banking sector - ES (2014):	Private sector credit flow (% GDP):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p.):	Change in nominal house price index:	Probability of gov't cont. liabilities (> 3% of GDP) linked to banking losses (SYMBOL):	
						bank recap. at 8% 0.09%	bank recap. at 10.5% 0.41%
	-7.4	134.5	6.9	-1	0.4		

Financial market information

Sovereign Ratings as of May 15, ES	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Baa2		Baa2	P-2
S&P	BBB	A-2	BBB+	A-2
Fitch	BBB+		BBB+	F2

Financial market information as of November 2015, ES		
Sovereign yield spreds (bp)*	2-year	38
	10-year	105
CDS (bp)	5-year	100.5

Source: European Commission.

A4.3. PRIVATE DEBT ANALYSIS

The assessment of private sector indebtedness in the context of the MIP uses a set of analytical tools selected by Commission staff in collaboration with Member States in the LIME Working Group. The use of these tools is organized in a three-step analytical procedure. This procedure first screens developments in private debt and identifies possible unsustainable cases ("Is a deleveraging likely in the near future?"), then quantifies the extent of deleveraging needs ("By how much would private indebtedness need to fall to achieve sustainability?"), and finally assesses credit market pressures affecting the outlook ("Will an adjustment occur in the short-to-medium term and how?"). Where applicable, the three-step analytical procedure is complemented with monitoring of an on-going deleveraging process.

Preliminary screening of indebtedness developments

A screening of private indebtedness is performed at the institutional sector level (households and non-financial companies) using a number of complementary indicators, in order to identify potential unsustainable developments.

Household and corporate ([53]) debt as a share of GDP. This gauges debt relative to the capacity to repay as proxied by the GDP (alternatively GDP can be replaced by sector-specific income variables: e.g. gross disposable income for households, gross operating surplus for companies).

Household and corporate debt-to-assets ratio. This shows to what extent financial and non-financial assets cover outstanding debt liabilities. The indicator of debt-to-assets is affected by valuation effects, in particular on the denominator (asset valuation), which may conceal unsustainable developments in the upward phase of the cycle. The notional version of the debt-to-asset ratio is therefore useful to remove valuation effects (see the definition and a more detailed discussion in next section).

Debt service-to-income ratios are mostly suitable to assess short-term sustainability or solvency of outstanding liabilities.

A cross-country comparison of these variables, a qualitative one or one through quantitative data analysis techniques ([54]), is then used to **identify relative outlier cases**. The latter may signal unsustainable developments that are likely to require a correction at the end of the upturn phase of the cycle. Figure 1 shows the debt to GDP indicator for households and firms.

Estimation of deleveraging needs

There is no single widely accepted method to estimate the extent of deleveraging needs; the analysis instead relies on alternative indicators. Deleveraging needs are defined as the portion of private debt that is at a given date considered unsustainable. It is therefore the difference between the current level of debt and a sustainable benchmark. In the past MIP cycles, two estimation methods have been used for this purpose.([55]) One defines a sustainable benchmark by estimating debt that is consistent with households' and firms' assets corrected for valuation effects.([56]) The second method is based on the typical extent of deleveraging in past episodes, and is a function of the preceding debt increase.([57])

The first estimation method defines deleveraging needs based on a sustainability analysis benchmark, which is corrected for asset-price booms. In defining sustainable debt, we use the notional leverage ratio which, unlike the standard leverage ratio, corrects for valuation changes affecting assets (financial and non-financial) and liabilities.([58]) In particular, the notional leverage ratio reacts more to a debt build-up which is mostly backed by asset price increases (the ratio behaves like a non-stationary series during such a boom). In practice, the sustainable

([53]) Consolidated to exclude the effects of inter-company lending.

([54]) For instance, one can use principal component analysis and composite indicator techniques to compare these variables across all Member States.

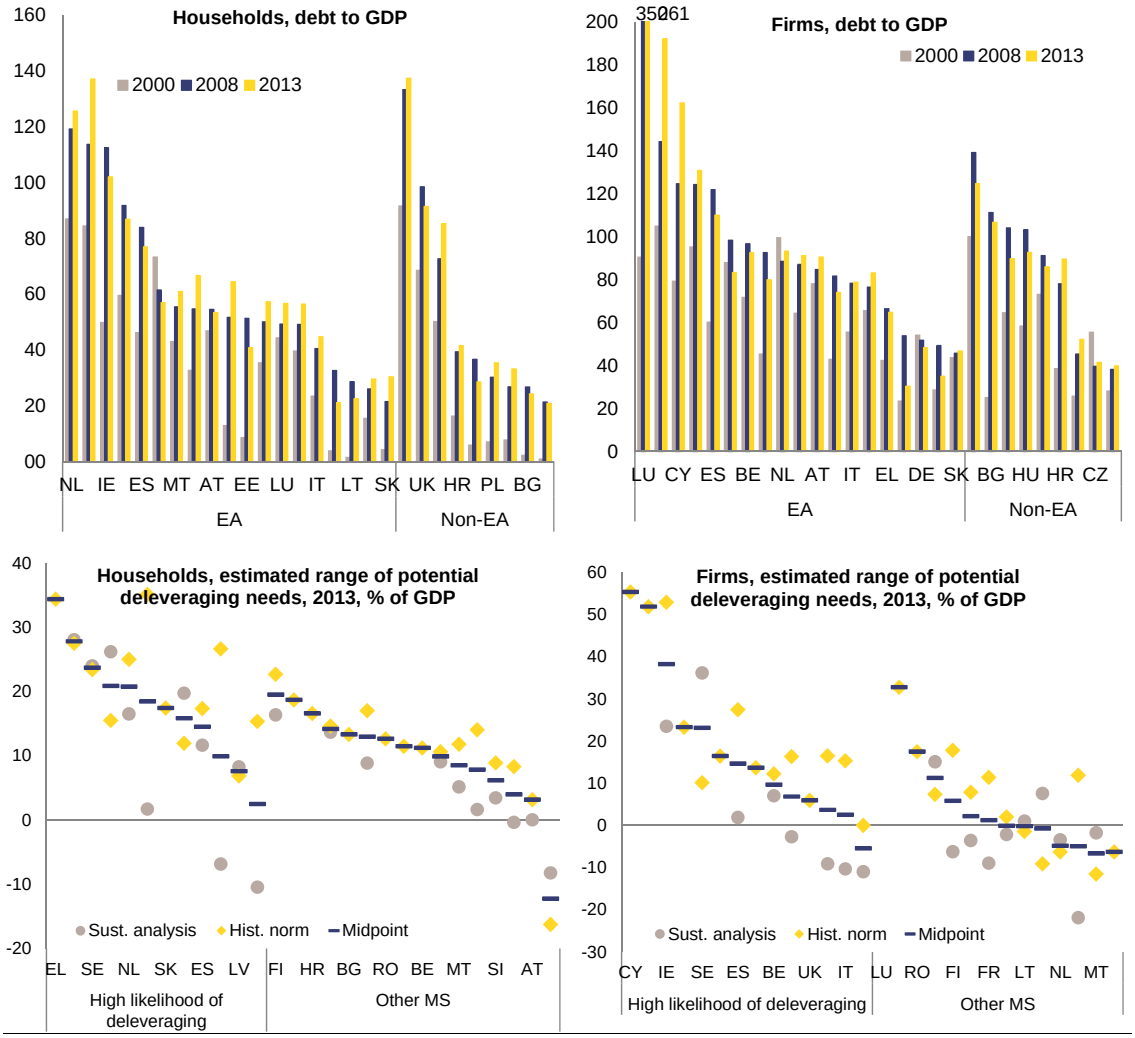
([55]) A detailed description of the two methods can be found in European Commission (2014b).

([56]) Method based on Cuerpo et al. (2015).

([57]) Based on evidence by Bornhorst, and Ruiz-Arranz (2013).

([58]) Notional leverage (debt/assets) ratio adjusts the numerator and the denominator for valuation effects. This is done by choosing a starting level of both debt and assets in a given year in the past and cumulating subsequent flows.

Graph A4.8: **Private sector debt per sector and deleveraging needs**



Source: European Commission.

change in debt is calculated as the amount of debt which would make notional leverage ratio follow the dynamics of the standard leverage ratio (debt to total assets), the latter empirically behaving like a stationary series. The annual gap between changes in actual debt and in its sustainable counterpart is then calculated to obtain an estimate of the excess gap. An assumption regarding the starting year for this accumulation is needed. ([59])

The second estimation method develops a historical norm based on past deleveraging episodes. Historical evidence of credit cycles shows that past household and corporate deleveraging episodes brought about a reduction of indebtedness of at least two-thirds of the boom increase. ([60]) A second measure of deleveraging needs is therefore conventionally defined for both firms and households as the gap between the latest indebtedness figure (D/GDP) and the level where two-thirds of the boom-period increase have been adjusted. Caution is needed as this estimation method can overestimate deleveraging needs in the case of economies which started the period with a

([59]) In previous MIP cycles, a common choice for the starting year was the year 2000, implicitly assuming that debt at that year was sustainable. This choice was motivated by the fact that this year immediately precedes the boom of the 2000s.

([60]) Bornhorst and Ruiz-Arranz (2013).

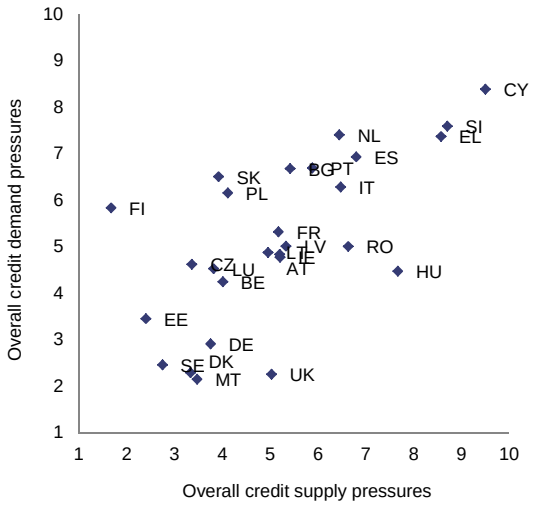
low indebtedness and then underwent some catching-up.

The estimates of deleveraging needs (illustrated by the midpoint in figure 2) should be taken only as rough estimates and need to be complemented with additional qualification factors. One such factor is the micro-level distribution of debt across households and firms. Aggregate measures of indebtedness may understate or overstate actual excessive debt at the level of the household or the firm, depending on how debt correlates with income prospects and total assets. Similarly, a factor requiring a correction of the estimates of deleveraging pressures in the corporate sector is cross-border lending and borrowing of large corporations (this effect is significant for Member States that are corporate financial hubs). Finally, different institutional setups of credit and housing markets may also require an adjustment of the estimate of deleveraging needs.

Extent and acuteness of deleveraging

Whether and how the deleveraging needs gap will be closed depends on deleveraging pressures stemming from credit demand and supply conditions. In the last step of the analysis we recognise that the estimated potential deleveraging needs will lead to actual reduction in indebtedness if supply-side and demand-side deleveraging pressures are elevated. Moreover, the urgency or acuteness of deleveraging pressures will also determine the degree to which deleveraging is achieved through active repayment of debts (through negative credit flows), rather than through credit moderation and adjustment through nominal growth of the economy.

Graph A4.9: **Example of credit demand and supply pressures, 2013**



Source: Commission own calculations.

Credit demand and supply conditions are the driver of deleveraging pressures, determining whether and how the potential deleveraging needs will be corrected. The horizon and speed of deleveraging, the degree of active deleveraging, possible over-/under-shooting, and the rise of bad debts during deleveraging, all depend on a broad set of economic conditions and sentiment, and on the financial sector's strength. These are jointly labelled as credit demand and supply conditions. One element that is taken into account is whether several sectors of the economy are indebted at the same time. ([61])

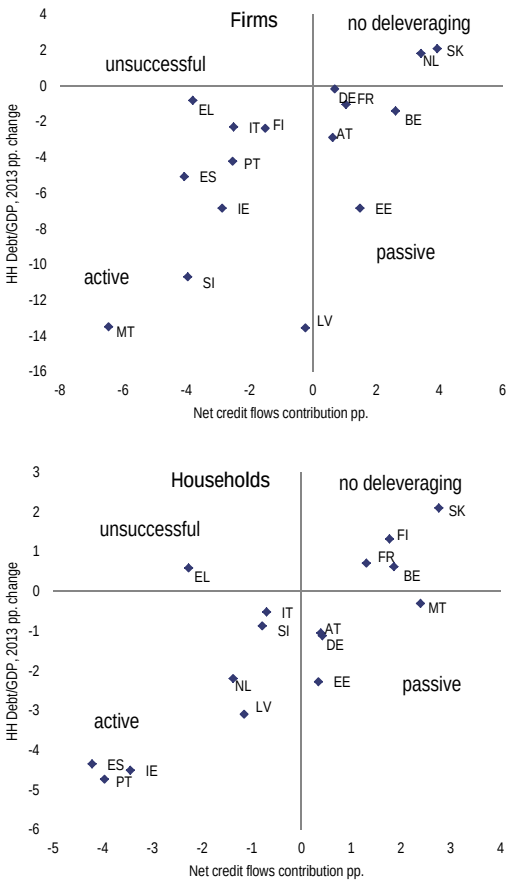
Although no variable is exclusively demand- or supply-related, one may focus on variables that predominantly reflect one of the two sides of credit market conditions. The set of credit supply-related indicators should cover variables reflecting financial soundness, as well as direct credit survey data. As for credit demand, measures of perceived economic conditions, macroeconomic variables (e.g., unemployment and housing market developments) should again be jointly used with credit survey data. Previous MIP cycles used ECFIN's aggregate indicator of credit demand and supply pressures, based on the above data. ([62]) An example of the relative indicator of credit market pressures is presented in the chart below.

([61]) Bricongne and Mordonu (2015).
([62]) See European Commission (2014b).

Monitoring the type of adjustment

In countries where a private sector deleveraging is on-going (i.e. where the household or corporate debt/GDP ratio is decreasing), particular attention is paid to **how adjustment is achieved**. To this end, a decomposition of the change of the debt/GDP ratio into its main drivers is used. These drivers are: i. net credit flows, ii. other changes in the numerator (e.g., valuation changes, debt write-downs, reclassifications), iii. real GDP growth, and iv. inflation. The extent to which the deleveraging process relies on net credit flows enables to identify the *deleveraging mode* (see illustration in graph A4.10).

Graph A4.10: **Deleveraging modes**



(1) The one-year change in the debt/GDP ratio as at 2013Q4 and the contribution of net credit flows.
Source: Eurostat, own calculations

- An *active deleveraging* mode is one mostly driven by negative net credit flows, which lead to a nominal contraction of the sector's balance sheet. If this weakens economic conditions, the adjustment may face headwinds from falling or stagnating economic activity, or very low inflation.

- A *passive deleveraging* mode is one where the debt-to-GDP ratio is gradually reduced while net credit flows remain moderately positive (debt grows at a rate lower than nominal GDP). The effect of this adjustment on economic activity is milder than in the active mode.

- An *unsuccessful deleveraging* mode is one where the debt-to-GDP ratio stagnates, or even increases, despite significant negative net credit flows. This occurs due to deflationary pressures on GDP.

A4.4. HOUSING MARKETS

The assessment of housing markets in the context of the MIP uses a set of indicators and analytical tools selected by Commission staff in collaboration with Member States in the LIME Working Group. The use of these tools is organized in a three-step analytical procedure: (i) cyclical developments are used to characterize the recent house price dynamics and identify boom/bust patterns; (ii) the cyclical analysis is supplemented by indicators of over-/under-valuation (price to income ratio, price to rental ratio, and a fundamental model of house prices) and (iii) institutional features characterizing housing markets which through demand and supply conditions influence house price dynamics.

Analysis of the house price cycle

Positioning a country at a certain time with respect to other countries' developments and historical episodes of house prices allows forming a relative view on the current developments. At first, troughs and peaks are identified for every country. In the cross country comparison, one can identify countries where house prices increased and where no correction has happened, countries where house prices increased and a correction has already taken place or countries with no major increase and correction. The event analysis allows the comparison of the latest house price cycle with previous cycles, shedding light on the severity of the latest cycle. An indicator of "severity" is calculated by combining the magnitude and duration of the peak-to-trough and trough-to-peak phases.

Indicators of over-/under-valuation

Three valuation indicators are used: price to income ratio, price to rental ratio, and an econometric model of equilibrium house prices. In theory, price to income and price to rental ratios tend to revert to their long-term average, and therefore the deviation from the average of the actual value provides information on over / undervaluation. Conclusions based on these indicators have to be considered with caution due to their simplifying assumptions (e.g. unchanged housing preferences for or against ownership) and due to that mean-reversion properties are not confirmed by empirical evidence in several countries. To complement these two ratios, a Vector Error Correction Model is estimated for a panel of 21 EU countries, using a system of five fundamental variables; the relative house price, total population, real housing investment, real disposable income per capita and real long-term interest rate. A country-specific estimation on top of the panel estimates is conducted whenever the time series allow for a sound econometric analysis, leading to a valuation gap calculated as a simple average of the individual and the panel estimate. The gap is interpreted as a third valuation indicator.

Institutional features influencing housing and mortgage markets

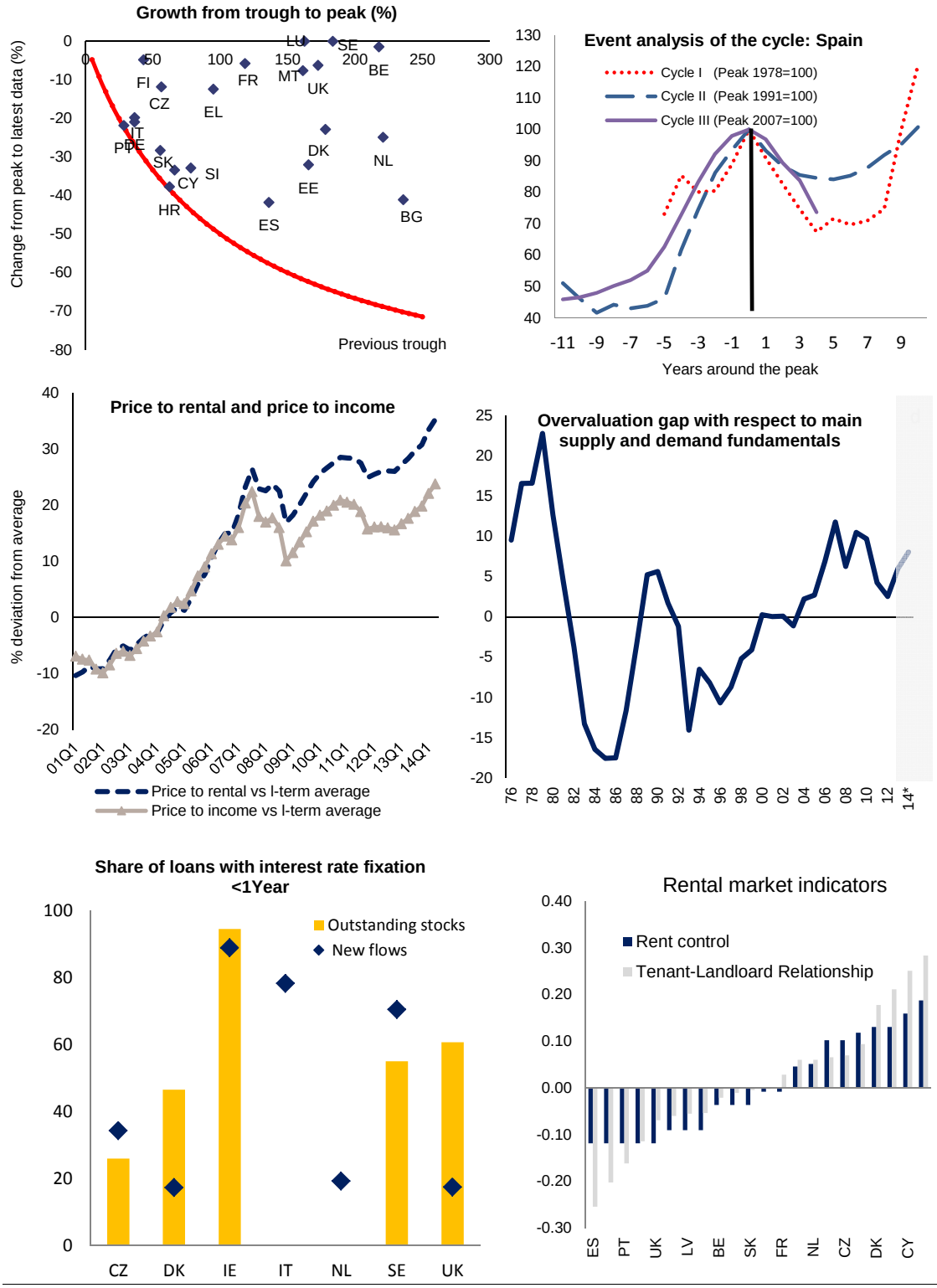
Institutional features shape house prices through the impact on demand and supply conditions. The Commission takes into account institutional features of housing and mortgage markets such as: taxation, lending practices and regulation, land availability and housing supply, and rental markets.

- **Tax treatment of owner-occupied housing may create incentives in favour of home ownership and indebtedness.** Mortgage interest tax relief and no use of recurrent property taxes based on updated cadastral values are features that may contribute to overheating of the housing market.

- **Land regulation is affecting the dwelling supply.** Planning regulation and physical constraints tend to relate negatively to the responsiveness of housing investment, acting as propagation channels for demand shocks, as confirmed by the Hilber and Vermuelen (2010) and Saiz (2010) studies for UK and US cities, respectively. ([63]) Restrictions imposed by regulation can potentially be even more important in countries where land-use intensity is particularly high (i.e. geographical restrictions compound the effects).

([63]) Hilber and Vermuelen (2010); Saiz (2010).

Graph A4.11: **Indicators and tools for analysing house prices**



Source: European Commission.

- **Regulatory rules regarding the mortgage market shape lending and borrowing practices.** High LTV ratios, the use of variable interest rates and longer typical maturities tend to encourage risky debt-taking for home-purchasing purposes. Although credit demand is not necessarily higher on average with flexible rate mortgages, a variable interest rate could be a potential source of instability due to its pro-cyclical nature. There is no one size fits all approach, but sound lending practices tend to favour fixed versus variable rates. In some countries, codes of conduct for lending practices require banks to offer variable rates only to households that could also afford fixed rates or that could withstand some adverse risk scenarios.

- **Rental markets also influence housing market outcomes.** Rental markets as an alternative to ownership may increase or release pressure on housing supply. Rental market regulation should seek to minimise the use of rent controls and to balance tenants' and landlords' incentives by ensuring both security of tenancy and protection of landlords' property rights.

A4.5. SPILLOVERS

The close interconnectedness of EU economies means that imbalances or other unfavourable developments in a given country may significantly impact other Member States. As mentioned in the Macroeconomic Imbalances Procedure (MIP) Regulation ([64]), because of the deep trade and financial interlinks among Member States and because of the spill-over effects of national economic policies on the Union at large, an effective framework for preventing and correcting imbalances requires that proper consideration be given to the potential that cross-border effects carry to affect macro-financial stability and rebalancing in partner economies.

Spill-over analysis in the context of the MIP involves i) a screening of the strength of the interlinkages of the member state concerned and ii) subsequent assessment of the spill-over impact or exposure with respect to other Member States, notably as aggravated by identified imbalances or unfavourable developments. Spill-overs can have an inward or outward direction. Outward spill-overs are of particular relevance in the context of an economic and monetary union, while economic vulnerabilities related to macroeconomic imbalances may be augmented by a high degree of exposure to inward spill-overs.

This annex describes the main tools and databases used to assess inter-linkages among EU Member States and the associated spill-over effects across different channels. The approaches mentioned in this annex have been discussed and selected in collaboration with Member States in the context of the LIME working group of the Economic Policy Committee.

Data on bilateral flows and stocks provide for a first reading of spill-over potential. In particular, bilateral data shows the magnitude of country exposures along different relevant dimensions such as trade, financial investment and bank claims. In this respect, the Commission has relied on a number of databases, such as:

- The UN Comtrade and Service trade statistics, which provides data on bilateral trade flows;
- The World Input Output Database (WIOD), which allows for the derivation of bilateral trade flows in value added terms;
- A Commission-developed database on bilateral financial flows and stocks ([65]);
- Consolidated banking statistics from the Bank for International Settlements, which provides data on bilateral bank claims.

Model-based analysis allows for the proper gauging of cross-border spill-over effects. The economic impact from spill-overs depends, inter alia, on the magnitude of the initial shock, on the existence of amplifying or dampening mechanisms, and on the possible interaction among transmission channels. These factors can be dealt with by resorting to economic and financial models translating shocks into impacts over a given channel or capturing multiple cross-border interlinkages at the same time. In this respect, the Commission has relied on a multi-country version of the Commission's QUEST3 model as the main workhorse tool, complementing it on occasion with special-purpose tools such as CoVaR analysis of sovereign risk co-movements.

Screening of cross-country interlinkages

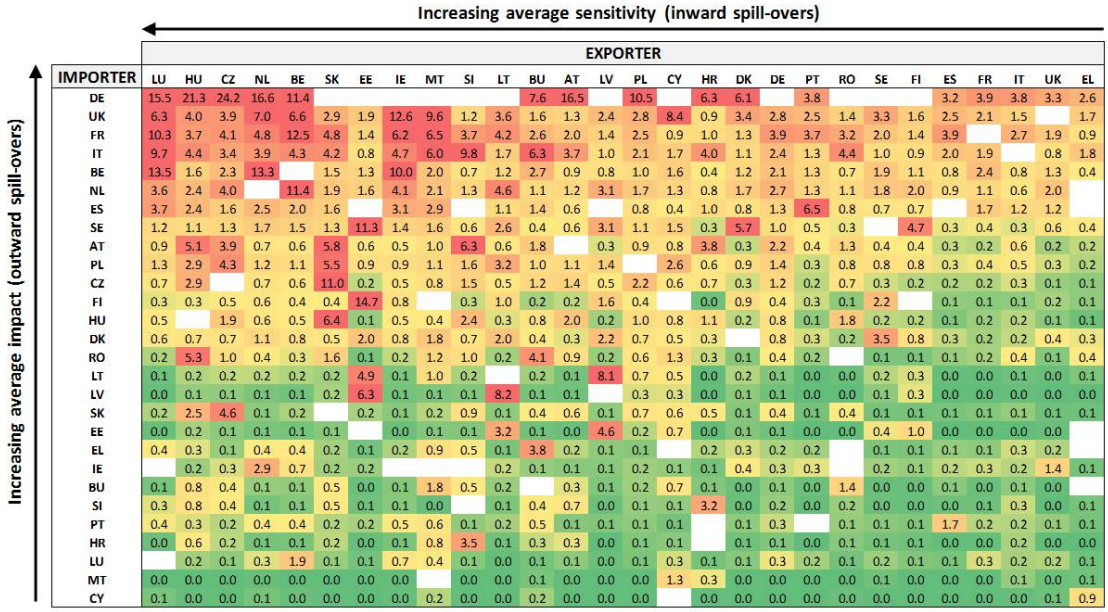
An analysis of the data on trade, financial investment and bank claims allows for a first assessment of interlinkages. In particular, when depicted in heat maps, it can illustrate the magnitude of different types of exposures and their geographical nexus. While not intended to quantify the spill-overs themselves, the heat maps also allow for a ranking of countries in terms of overall outward spill-over potential and inward spill-over exposure. Identified "heat anomalies" in the maps often reflect important regional linkages.

Figure A4.12 **exemplifies one such map, depicting the intensity of trade linkages based on gross export flows.** Countries on the "Importer" column are ranked according to the average value of their imports as a % of exporter GDP (a measure of the overall outward spill over

([64]) See, e.g., recitals 27 and 17 of Regulation no. 1176/2011.

([65]) For a presentation, see Hobza and Zeugner (2014).

Graph A4.12: **Trade linkages - Imports as a % of exporter GDP**



IMPORTER	LU	HU	CZ	NL	BE	SK	EE	IE	MT	SI	LT	BU	AT	LV	PL	CY	HR	DK	DE	PT	RO	SE	FI	ES	FR	IT	UK	EL
DE	15.5	21.3	24.2	16.6	11.4							7.6	16.5		10.5		6.3	6.1		3.8				3.2	3.9	3.8	3.3	2.6
UK	6.3	4.0	3.9	7.0	6.6	2.9	1.9	12.6	9.6	1.2	3.6	1.6	1.3	2.4	2.8	8.4	0.9	3.4	2.8	2.5	1.4	3.3	1.6	2.5	2.1	1.5		1.7
FR	10.3	3.7	4.1	4.8	12.5	4.8	1.4	6.2	6.5	3.7	4.2	2.6	2.0	1.4	2.5	0.9	1.0	1.3	3.9	3.7	3.2	2.0	1.4	3.9		2.7	1.9	0.9
IT	9.7	4.4	3.4	3.9	4.3	4.2	0.8	4.7	6.0	9.8	1.7	6.3	3.7	1.0	2.1	1.7	4.0	1.1	2.4	1.3	4.4	1.0	0.9	2.0	1.9		0.8	1.8
BE	13.5	1.6	2.3	13.3		1.5	1.3	10.0	2.0	0.7	1.2	2.7	0.9	0.8	1.0	1.6	0.4	1.2	2.1	1.3	0.7	1.9	1.1	0.8	2.4	0.8	1.3	0.4
NL	3.6	2.4	4.0		11.4	1.9	1.6	4.1	2.1	1.3	4.6	1.1	1.2	3.1	1.7	1.3	0.8	1.7	2.7	1.3	1.1	1.8	2.0	0.9	1.1	0.6	2.0	
ES	3.7	2.4	1.6	2.5	2.0	1.6		3.1	2.9		1.1	1.4	0.6		0.8	0.4	1.0	0.8	1.3	6.5	0.8	0.7	0.7		1.7	1.2	1.2	
SE	1.2	1.1	1.3	1.7	1.5	1.3	11.3	1.4	1.6	0.6	2.6	0.4	0.6	3.1	1.1	1.5	0.3	5.7	1.0	0.5	0.3		4.7	0.3	0.4	0.3	0.6	0.4
AT	0.9	5.1	3.9	0.7	0.6	5.8	0.6	0.5	1.0	6.3	0.6	1.8		0.3	0.9	0.8	3.8	0.3	2.2	0.4	1.3	0.4	0.4	0.3	0.2	0.6	0.2	0.2
PL	1.3	2.9	4.3	1.2	1.1	5.5	0.9	0.9	1.1	1.6	3.2	1.0	1.1	1.4		2.6	0.6	0.9	1.4	0.3	0.8	0.8	0.8	0.3	0.4	0.5	0.3	0.2
CZ	0.7	2.9		0.7	0.6	11.0	0.2	0.5	0.8	1.5	0.5	1.2	1.4	0.5	2.2	0.6	0.7	0.3	1.2	0.2	0.7	0.3	0.2	0.2	0.2	0.3	0.1	0.1
FI	0.3	0.3	0.5	0.6	0.4	0.4	14.7	0.8		0.3	1.0	0.2	0.2	1.6	0.4		0.0	0.9	0.4	0.3	0.1	2.2		0.1	0.1	0.1	0.2	0.1
HU	0.5		1.9	0.6	0.5	6.4	0.1	0.5	0.4	2.4	0.3	0.8	2.0	0.2	1.0	0.8	1.1	0.2	0.8	0.1	1.8	0.2	0.2	0.1	0.2	0.2	0.1	0.1
DK	0.6	0.7	0.7	1.1	0.8	0.5	2.0	0.8	1.8	0.7	2.0	0.4	0.3	2.2	0.7	0.5	0.3		0.8	0.3	0.2	3.5	0.8	0.3	0.2	0.2	0.4	0.3
RO	0.2	5.3	1.0	0.4	0.3	1.6	0.1	0.2	1.2	1.0	0.2	4.1	0.9	0.2	0.6	1.3	0.3	0.1	0.4	0.2		0.1	0.1	0.1	0.2	0.4	0.1	0.4
LT	0.1	0.2	0.2	0.2	0.2	0.2	4.9	0.1	1.0	0.2		0.2	0.1	8.1	0.7	0.5	0.0	0.2	0.1	0.0	0.0	0.2	0.3	0.0	0.0	0.1	0.0	0.1
LV	0.0	0.1	0.1	0.1	0.1	0.2	6.3	0.1	0.1	0.1	8.2	0.1	0.1		0.3	0.3	0.0	0.1	0.1	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0
SK	0.2	2.5	4.6	0.1	0.2		0.2	0.1	0.2	0.9	0.1	0.4	0.6	0.1	0.7	0.6	0.5	0.1	0.4	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
EE	0.0	0.2	0.1	0.1	0.1	0.1		0.0	0.1	0.1	3.2	0.1	0.0	4.6	0.2	0.7	0.0	0.1	0.1	0.0	0.0	0.4	1.0	0.0	0.0	0.0	0.0	
EL	0.4	0.3	0.1	0.4	0.4	0.2	0.1	0.2	0.9	0.5	0.1	3.8	0.2	0.1	0.1		0.2	0.3	0.2	0.2		0.1	0.1	0.1	0.1	0.3	0.2	
IE		0.2	0.3	2.9	0.7	0.2	0.2				0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.4	0.3	0.3		0.2	0.1	0.2	0.3	0.2	1.4	0.1
BU	0.1	0.8	0.4	0.1	0.1	0.5	0.0	0.1	1.8	0.5	0.2		0.3	0.1	0.2	0.7	0.1	0.0	0.1	0.0	1.4	0.0	0.0	0.1	0.0	0.1	0.0	
SI	0.3	0.8	0.4	0.1	0.1	0.5	0.1	0.1	0.0		0.1	0.4	0.7	0.0	0.1	0.1	3.2	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.1	0.3	0.0	0.1
PT	0.4	0.3	0.2	0.4	0.4	0.2	0.2	0.5	0.6	0.1	0.2	0.5	0.1	0.1	0.1	0.1		0.1	0.3		0.1	0.1	0.1	1.7	0.2	0.2	0.1	0.1
HR	0.0	0.6	0.2	0.1	0.1	0.2	0.0	0.1	0.8	3.5	0.1	0.3	0.3	0.0	0.1	0.1		0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0
LU		0.2	0.1	0.3	1.9	0.1	0.1	0.7	0.4	0.1	0.0	0.1	0.1	0.0	0.1	0.3	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.1	0.3	0.2	0.2	0.1
MT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.1	0.0	0.0	0.0	1.3	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
CY	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9

Source: UN Comtrade and Service trade statistics for 2012, IMF World Economic Outlook, own calculations

potential of the country along the trade channel) while countries on "Exporter" row are ranked according to importance of their exports as a share of GDP (a measure of inward spill-over exposure along the trade channel).

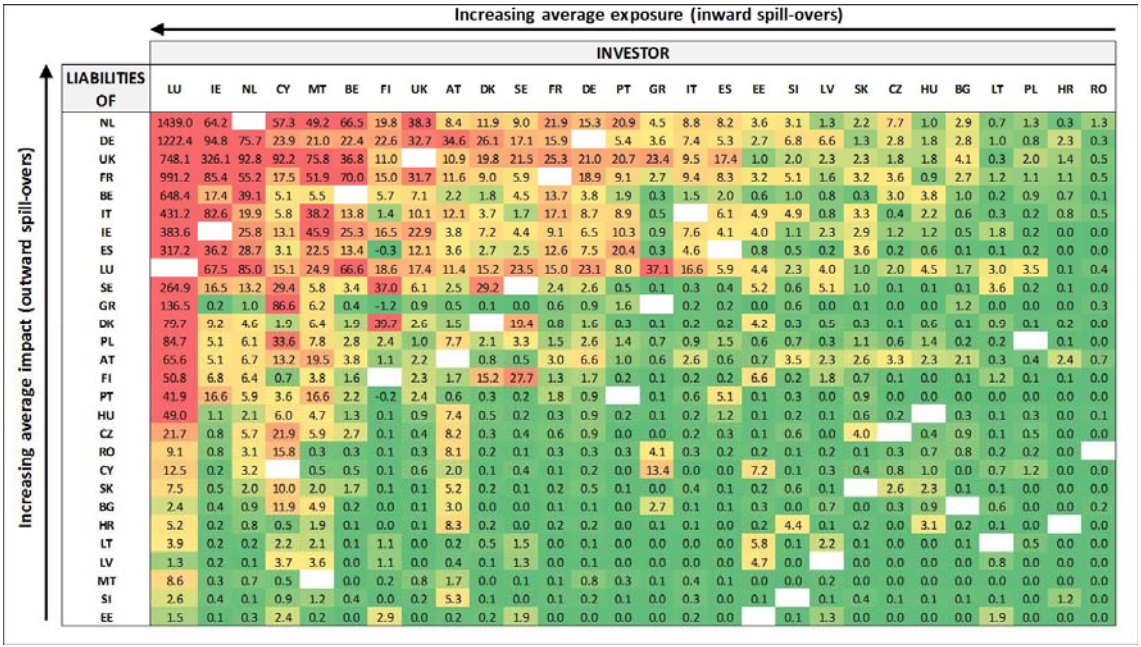
As can be observed, bigger and export-oriented economies are seen to carry the potential to project larger outward spill overs over the trade channel ([66]). Conversely, economies that are more open are more exposed to inward spill-overs. An alternative presentation based on exports in value added as derived from the WIOD ([67]) can also be considered in this context.

Financial and banking linkages can be depicted from either a "valuation exposure" or "funding dependence" perspective. Figure A4.13 provides an example of a heat map time showing financial linkages as measured by total gross foreign liabilities ([68]) as a percentage of the GDP of investor Member States. As such, it depicts the exposure of Member States to valuation changes in counterpart EU countries. An alternative presentation of the heat map based on the same database can be considered, depicting financial assets as a percentage of counterpart GDP. In this case, the spill-over perspective is that of the funding dependency of a given Member State on partner EU countries. For illustration purposes, gross liabilities are shown, although different financial instruments reflecting different risks could likewise be considered. Bank claims data from the Bank for International Settlements allows for similar maps covering specifically the banking sectors of Member States.

Channels other than trade, financial and banking can also be of relevance. For instance, confidence and institutional channels can deliver an important impact in an economic and monetary union, and smaller countries with apparently modest linkages can be significantly impactful in such a context ([69]). Indicators such as consumer confidence ([70]) and sovereign bond yield correlations can serve as simple descriptors, although they do not permit to establish causality.

([66]) This is an intuitive result, which also follows from the definition of the variable represented in the map.
([67]) Using, e.g., the methodology of Koopman (2014).
([68]) Gross liabilities comprise equity investment and debt, excluding official debt amounts linked to TARGET2 balances and euro area financial assistance programmes.
([69]) For a review of different transmission channels, see European Commission (2014c).
([70]) See European Commission (2013b).

Graph A4.13: **Financial linkages – valuation channel**



LIABILITIES OF	LU	IE	NL	CY	MT	BE	FI	UK	AT	DK	SE	FR	DE	PT	GR	IT	ES	EE	SI	LV	SK	CZ	HU	BG	LT	PL	HR	RO
NL	1439.0	64.2		57.3	49.2	66.5	19.8	38.3	8.4	11.9	9.0	21.9	15.3	20.9	4.5	8.8	8.2	3.6	3.1	1.3	2.2	7.7	1.0	2.9	0.7	1.3	0.3	1.3
DE	1222.4	94.8	75.7	23.9	21.0	22.4	22.6	32.7	34.6	26.1	17.1	15.9		5.4	3.6	7.4	5.3	2.7	6.8	6.6	1.3	2.8	1.8	2.8	1.0	0.8	2.3	0.3
UK	748.1	326.1	92.8	92.2	75.8	36.8	11.0		10.9	19.8	21.5	25.3	21.0	20.7	23.4	9.5	17.4	1.0	2.0	2.3	2.3	1.8	1.8	4.1	0.3	2.0	1.4	0.5
FR	991.2	85.4	55.2	17.5	51.9	70.0	15.0	31.7	11.6	9.0	5.9		18.9	9.1	2.7	9.4	8.3	3.2	5.1	1.6	3.2	3.6	0.9	2.7	1.2	1.1	1.1	0.5
BE	648.4	17.4	39.1	5.1	5.5		5.7	7.1	2.2	1.8	4.5	13.7	3.8	1.9	0.3	1.5	2.0	0.6	1.0	0.8	0.3	3.0	3.8	1.0	0.2	0.9	0.7	0.1
IT	431.2	82.6	19.9	5.8	38.2	13.8	1.4	10.1	12.1	3.7	1.7	17.1	8.7	8.9	0.5		6.1	4.9	4.9	0.8	3.3	0.4	2.2	0.6	0.3	0.2	0.8	0.5
IE	383.6		25.8	13.1	45.9	25.3	16.5	22.9	3.8	7.2	4.4	9.1	6.5	10.3	0.9	7.6	4.1	4.0	1.1	2.3	2.9	1.2	1.2	0.5	1.8	0.2	0.0	0.0
ES	317.2	36.2	28.7	3.1	22.5	13.4	-0.3	12.1	3.6	2.7	2.5	12.6	7.5	20.4	0.3	4.6		0.8	0.5	0.2	3.6	0.2	0.6	0.1	0.1	0.2	0.0	0.0
LU		67.5	85.0	15.1	24.9	66.6	18.6	17.4	11.4	15.2	23.5	15.0	23.1	8.0	37.1	16.6	5.9	4.4	2.3	4.0	1.0	2.0	4.5	1.7	3.0	3.5	0.1	0.4
SE	264.9	16.5	13.2	29.4	5.8	3.4	37.0	6.1	2.5	29.2		2.4	2.6	0.5	0.1	0.3	0.4	5.2	0.6	5.1	1.0	0.1	0.1	0.1	3.6	0.2	0.1	0.0
GR	136.5	0.2	1.0	86.6	6.2	0.4	-1.2	0.9	0.5	0.1	0.0	0.6	0.9	1.6		0.2	0.2	0.0	0.6	0.0	0.1	0.0	0.0	1.2	0.0	0.0	0.0	0.3
DK	79.7	9.2	4.6	1.9	6.4	1.9	39.7	2.6	1.5		19.4	0.8	1.6	0.3	0.1	0.2	0.2	4.2	0.3	0.5	0.3	0.1	0.6	0.1	0.9	0.1	0.2	0.0
PL	84.7	5.1	6.1	33.6	7.8	2.8	2.4	1.0	7.7	2.1	3.3	1.5	2.6	1.4	0.7	0.9	1.5	0.6	0.7	0.3	1.1	0.6	1.4	0.2	0.2		0.1	0.0
AT	65.6	5.1	6.7	13.2	19.5	3.8	1.1	2.2		0.8	0.5	3.0	6.6	1.0	0.6	2.6	0.6	0.7	3.5	2.3	2.6	3.3	2.3	2.1	0.3	0.4	2.4	0.7
FI	50.8	6.8	6.4	0.7	3.8	1.6		2.3	1.7	15.2	27.7	1.3	1.7	0.2	0.1	0.2	0.2	6.6	0.2	1.8	0.7	0.1	0.0	0.1	1.2	0.1	0.1	0.0
PT	41.9	16.6	5.9	3.6	16.6	2.2	-0.2	2.4	0.6	0.3	0.2	1.8	0.9		0.1	0.6	5.1	0.1	0.3	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HU	49.0	1.1	2.1	6.0	4.7	1.3	0.1	0.9	7.4	0.5	0.2	0.3	0.9	0.2	0.1	0.2	1.2	0.1	0.2	0.1	0.6	0.2		0.3	0.1	0.3	0.0	0.1
CZ	21.7	0.8	5.7	21.9	5.9	2.7	0.1	0.4	8.2	0.3	0.4	0.6	0.9	0.0	0.0	0.2	0.3	0.1	0.6	0.0	4.0		0.4	0.9	0.1	0.5	0.0	0.0
RO	9.1	0.8	3.1	15.8	0.3	0.3	0.1	0.3	8.1	0.2	0.1	0.3	0.3	0.3	4.1	0.3	0.2	0.2	0.1	0.2	0.1	0.3	0.7	0.8	0.2	0.2	0.0	
CY	12.5	0.2	3.2		0.5	0.5	0.1	0.6	2.0	0.1	0.4	0.1	0.2	0.0	13.4	0.0	0.0	7.2	0.1	0.3	0.4	0.8	1.0	0.0	0.7	1.2	0.0	0.0
SK	7.5	0.5	2.0	10.0	2.0	1.7	0.1	0.1	5.2	0.2	0.1	0.2	0.5	0.1	0.0	0.4	0.1	0.2	0.6	0.1		2.6	2.3	0.1	0.1	0.0	0.0	0.0
BG	2.4	0.4	0.9	11.9	4.9	0.2	0.0	0.1	3.0	0.0	0.0	0.1	0.1	0.0	2.7	0.1	0.1	0.3	0.0	0.7	0.0	0.3	0.9		0.6	0.0	0.0	0.2
HR	5.2	0.2	0.8	0.5	1.9	0.1	0.0	0.1	8.3	0.2	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.2	4.4	0.1	0.2	0.0	3.1	0.2	0.1	0.0		0.0
LT	3.9	0.2	0.2	2.2	2.1	0.1	1.1	0.0	0.2	0.5	1.5	0.0	0.1	0.0	0.0	0.0	0.0	5.8	0.1	2.2	0.1	0.0	0.0	0.1		0.5	0.0	0.0
LV	1.3	0.2	0.1	3.7	3.6	0.0	1.1	0.0	0.4	0.1	1.3	0.0	0.1	0.0	0.0	0.0	0.0	4.7	0.0		0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
MT	8.6	0.3	0.7	0.5		0.0	0.2	0.8	1.7	0.0	0.1	0.1	0.8	0.3	0.1	0.4	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI	2.6	0.4	0.1	0.9	1.2	0.4	0.0	0.2	5.3	0.1	0.0	0.1	0.2	0.1	0.0	0.3	0.0	0.1		0.1	0.4	0.1	0.1	0.1	0.1	0.0	1.2	0.0
EE	1.5	0.1	0.3	2.4	0.2	0.0	2.9	0.0	0.2	0.2	1.9	0.0	0.0	0.0	0.0	0.2	0.0		0.1	1.3	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0

Source: Hobza and Zeugner, Current accounts and financial flows in the euro area, own calculations. Data for 2012.

Model-based assessment of spill-overs

The multi-country version of the Commission's QUEST3 model is the main tool used in the context of the in-depth reviews to simulate and assess the cross-border impact of different shocks. QUEST is a New-Keynesian DSGE model whose different versions have been used in the past by the Commission staff for policy assessment and scenario simulation ([71]). Multi-country versions of QUEST have been used, for example, to study the cross-border impact of structural reforms, fiscal consolidations, investment stimuli and exchange rate movements. Figure A4.14 presents an illustrative selection of results from QUEST simulations as published in Commission staff documents. More detail on the use of estimated versions of QUEST for the analysis of imbalances and spillovers can be found in section A1.8.

Results from the spill-over literature and from standard analytical frameworks, such as GVAR models, can be used to further inform the analysis. Published analysis and research is frequently taken in consideration in the in-depth reviews. In the context of spill-over analysis, existing GVAR models from the literature can be used in their standard or adapted form to study shock transmission ([72]). Compared with the more theoretically-correct DSGE models, the GVAR framework is usually empirically-driven allowing for a richer specification of transmission channels. However, the structural interpretation of simulated GVAR shocks is often lacking.

([71]) For a description of the baseline model, see Ratto et al.(2009). For an example of the use of QUEST in a multi-country setting, see In 't Veld (2013) and European Commission (2013c). More detail on the use of estimated versions of QUEST for the analysis of imbalances and spillovers can be found in section A1.8.

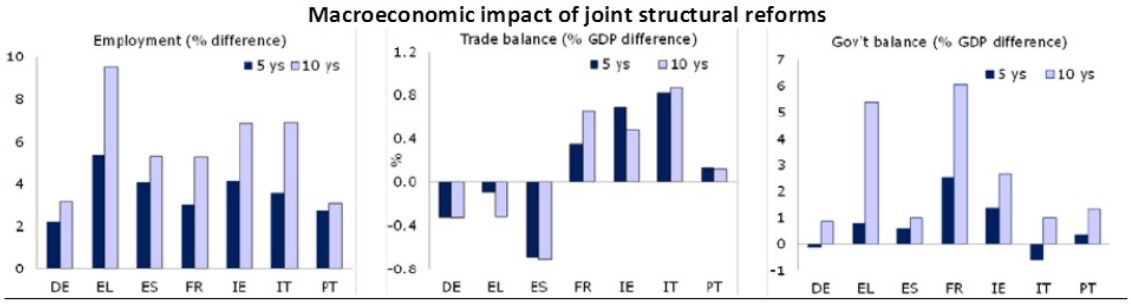
([72]) For a benchmark model see Dees et al. (2007). For a New Keynesian model in a GVAR framework see Dees et al. (2013).

Table A4.2: **Excess CoVaR: conditional co-risk estimates in basis points, 31 October 2014 (1)**

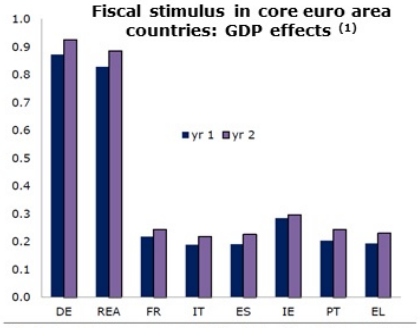
Affected country	Source country											
	AT	BE	DE	EL	ES	FI	FR	IE	IT	NL	PT	Average
AT	16	11	7	2	13	11	15	6	8	8	-3	8
BE	0	15	2	3	4	15	4	7	7	4	5	5
DE	1	3	5	2	2	3	4	1	2	1	2	2
EL	-5	-13	128	100	58	283	74	99	80	-73	79	71
ES	14	32	11	14	26	28	12	20	16	4	25	18
FI	1	3	3	1	1	6	3	3	2	2	1	2
FR	3	7	5	0	3	10	10	1	3	-1	2	4
IE	2	15	18	65	-3	-11	16	42	24	19	15	11
IT	3	12	9	10	5	16	13	6	26	-1	13	8
NL	2	4	6	5	2	4	4	4	1	8	1	3
PT	-1	24	16	27	2	25	29	20	31	-7	48	16
Average	3	12	9	13	3	11	11	8	10	3	7	8

Source: Bloomberg, Datastream and Commission staff calculations
Note: Greece is excluded when calculating the averages in the last row and column. Data are only available until September 2011.

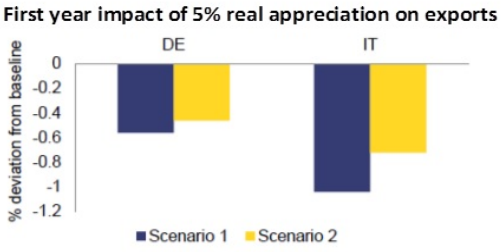
Graph A4.14: **Examples of QUEST simulation results**



(1) Percentage point difference from baseline.
Source: QUEST simulations.



(1) First and second year GDP effect (% difference from baseline) for a temporary increase in public investment of 1 % of GDP in Germany and rest of EA.
Source: QUEST simulations, in 't Veld (2013).



Source: Commission services
Note: Scenario 1 = 5% euro REER appreciation due to a reduction in risk premia in the euro area vis-à-vis the rest of the world. Scenario 2 = 5% euro REER appreciation due to a monetary policy loosening in the United States and Japan.

Source: European Commission.

Specific tools have been employed to complement macro-model analysis and to deal with particular issues. For instance, the Conditional Value at Risk (CoVaR) methodology has been applied to assess how changes in the CDS spreads of a given sovereign affect changes in the CDS spreads of other sovereigns in a distress scenario (the 99th percentile of the spread distribution) when controlling for common risk factors (see Table A4.2 for the estimated impact, as measured in basis points). Also, the WIOD database has been used in previous in-depth reviews to assess the impact on Member States' exports of a decline in the domestic demand of large euro area economies ([73]).

([73]) See the 2014 in-depth reviews for France, Italy and Spain..

A4.6. TRADE PERFORMANCE AND COMPETITIVENESS

As part of the MIP procedure, the Commission assesses trade performance and external competitiveness on the basis of a broad set of indicators and analytical tools, which have been discussed with the Member States in the LIME Working Group. ([74]) Three indicators form the basis on the trade performance and external competitiveness block in the MIP scoreboard: exports market shares, real effective exchange rates, and Unit Labour Costs (ULC).

The assessment of competitiveness is not based on a set of fixed indicators, but on a large set of optional, complementary indicators and analytical tools. This guarantees flexibility in the analysis while at the same time keeping some consistency across countries. Both *outcome* indicators (e.g. export performance) and *means-to-compete* indicators (e.g. cost-based indicators) are used. The former go deeper into describing and characterising the performance of exports and imports, the latter into factors that help understanding the observed trade performance. Aggregate, sectoral and, when feasible, firm-level-based indicators are used. The assessment focuses on the identification of the main challenges and bottlenecks faced by countries, which also helps identifying where policy action is needed.

Although analytical tools and indicators target the external dimension of competitiveness, encompassing indicators such as productivity (the ultimate driver of sustainable competitiveness) are also incorporated into the analysis.

Analysing trade performance and developments

The ability of a country to successfully participate in the expansion of international trade is a significant indication of the competitiveness of its external sector. The developments of export market shares can be decomposed in order to shed light into the dynamism of a country's export basket and of its destination markets: To what extent is a country specialised in sectors with dynamic global demand and in dynamic destination countries? Is the pattern changing, for example, as a consequence of the crisis? How does it compare to other countries? ([75])

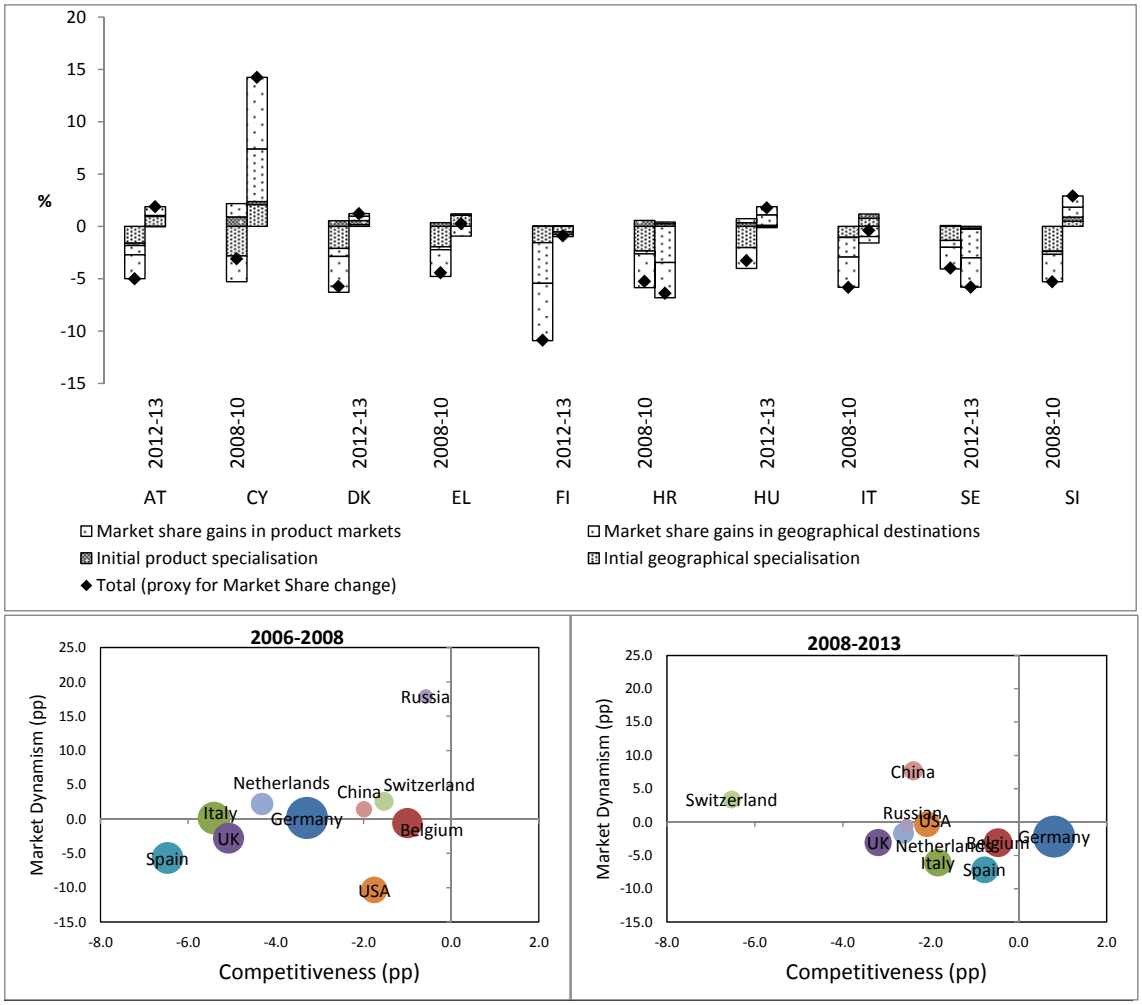
A relatively popular methodology to assess a country's market share gains in both geographical destinations and in product markets is the constant-market-share decomposition. Constant-market-share decomposition identifies "favourable" initial geographical specializations and product compositions as well pure competitiveness factors. ([76]) The specialisation components are rather structural and to some extent can be considered "exogenous" to the exporting country – in the short run – in the sense that given a country's initial specialization, the dynamism of the products it exports and its destination markets is beyond the country's control. The competitiveness components show performance within product markets and within geographical markets measured as market share gains (or losses) in destination countries and in sectors. The two competitiveness components can be seen as the outcome of a country's export strategy within geographical and product markets, e.g. competitive or non-competitive prices, sufficient or insufficient customization to local tastes and high or low quality of products. Hence the market share gains components reflect both price and non-price competitiveness drivers of exports. See Box A1.1 for a detailed explanation. Graph A4.15 shows the indicator (for goods) for a selection of countries (those that lost more than 15% of their export market share, in goods and services, in the last five years). For the case of France, the second part of Graph A4.15 zooms in

([74]) A LIME working group workshop on external competitiveness was held in March 2012 to take forward work on the analytical tools and indicators to underpin the Macroeconomic Imbalance Procedure. The workshop acknowledged the multidimensional dimension of competitiveness, guided the development of some of the indicators (e.g. quality of exports) and the need to go deeper into sectoral disaggregation.

([75]) Market shares evolution can be disentangled into basic, and easy-to interpret, components shedding light on the factors behind observed differences over time and across countries. A relatively popular methodology to assess a country's market share gains in both geographical destinations and in product markets is the constant-market-share decomposition, which identifies "favourable" geographical specializations and product compositions. A note describing the methodology and results was presented and discussed with Member States at LIME.

([76]) A note describing the methodology and results was presented and discussed with Member States at LIME.

Graph A4.15: **Market share change decomposition, goods**



Source: Comtrade, ECFIN calculations.
Note: For the purpose of an easier interpretation the different components are presented as annual growth rates over each period considered. An arithmetical average instead of a geometrical average is used to allow components ' additivity.

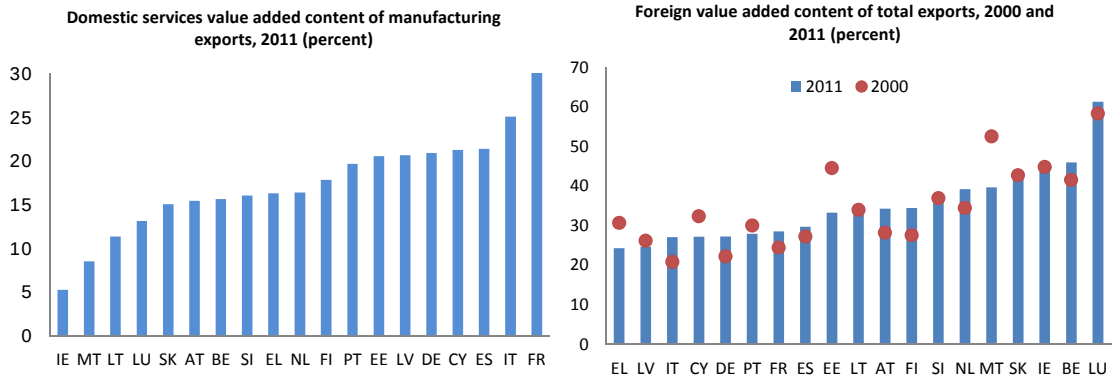
and plots competitiveness (the endogenous component) and the dynamism of its main exports destination markets (the exogenous component).

Despite some data limitations, trade in services is taken into account. ([77]) In addition to indicators on exports of services (evolution and market shares), information on services as inputs for exports provides is an important angle when assessing countries' competitiveness, which is often forgotten. Graph A4.16 shows the domestic value added content of market services embodied in manufacturing exports in 2011 (see Box A1.1 for an explanation of the indicator). For example, Irish manufacturing, at one end of the spectrum, use domestic services to a much lesser extent than French manufacturing industries. ([78]) A policy

([77]) It can be argued that developments in services, being less tradable, are less important from a competitiveness point of view. That will be wrong for several reasons: i) technological change is increasing the tradability of many services in such a way that trade in services has increased and is expected to keep increasing over time; ii) given that services have in general lower scope for standardisation than goods, they typically allow for a larger degree of differentiation and can therefore be associated with higher prices and value added; iii) services are highly embedded in the economy thus playing a significant role in a country's competitiveness; directly but also via its role as intermediates in the production of traded goods.

([78]) Note that a high content of domestic services in value added does not necessarily indicate healthy domestic

Graph A4.16: **Trade in value added, euro area countries**



Source: WIOD, "http://www.wiod.org"
Note: Calculated as percentage of total manufacturing exports.

implication is that countries whose manufacturing exports use a high proportion of domestic services could therefore potentially boost their export performance by addressing underperformance in their service sectors.

Imports also need to be taken into account. The assessment cannot focus only on how promoting a stronger export performance can contribute to growth and to the rebalancing of the economy through improvements of the current account. Imports are used in the production of goods, including exports. They can be characterised, for example, according to their use from an aggregate demand composition view point: capital goods, intermediates, imports of fuel and consumer goods. This characterisation is not innocuous and imports of capital goods and intermediates goods and services likely contribute to increase the future flow of production and the competitiveness of the economy.

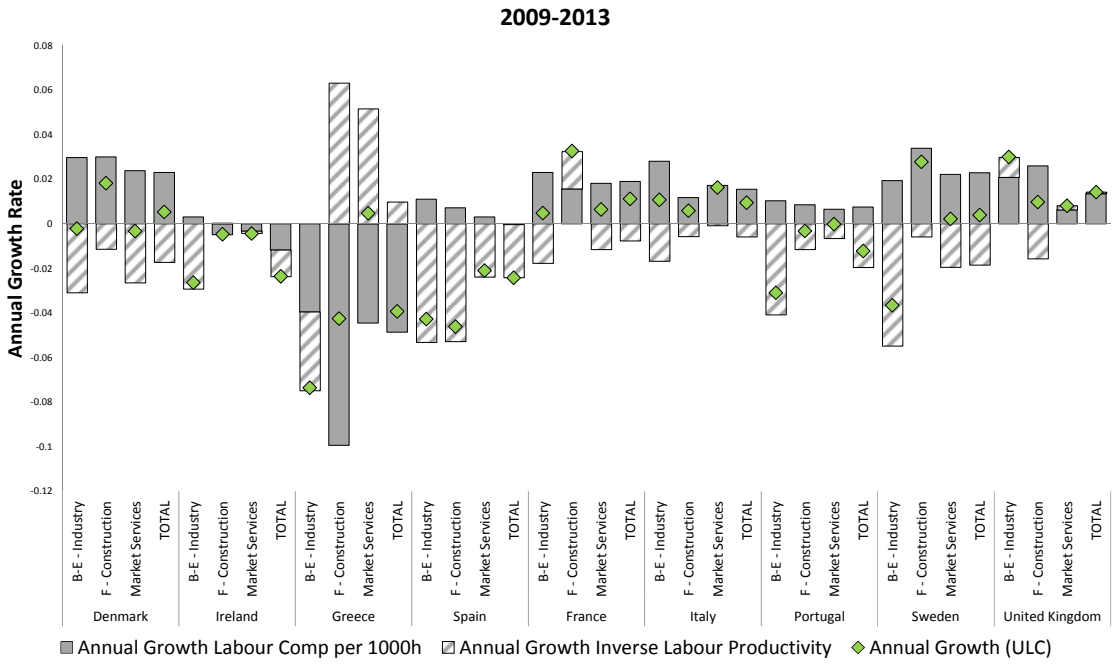
The interplay between a country's imports and its exports reflects its participation in global value chains. In the current context of globalisation the participation of countries in global value chains provides new views of their performance and competitiveness. For example, information on the import content of domestic goods, in particular on the import content of exports, provides a richer interpretation of external trade figures in various respects: i) reassess trade relationships with other countries: imports are, to some extent, driven by exports (or vice versa); ii) new net export figures can be obtained by deducting embedded intermediate inputs from gross exports: value added exports, rather than gross exports, matter for growth and jobs; iii) give insight of the extent of vertical integration of the country/industry. Products originating in complex international value chains are often expected to be superior (in terms of price or quality/uniqueness) to those produced mainly in single locations, since they are likely to exploit the globally best components (e.g. combining the know-how from mature economies with inexpensive labour and raw materials from less advanced economies). As an illustration, Chart A4.16 shows the foreign value added content of exports. A large share of foreign value added content in a country's exports, or value added in trade, is sometimes regarded as indicative of a less significant role in the production process, e.g. the assembly of different parts of a particular product or of a smaller economy which is obliged to import more value added. However, import of intermediate goods and services can be used by firms to improve their competitiveness.

service sectors. This is partly because small and open economies tend to source more intermediate goods and services from abroad than large countries. Moreover, a high value added content of domestic services can be compatible with low productivity, in particular for non-tradable services as manufacturing firms cannot easily find foreign substitutes for them.

Cost/price competitiveness

One possible cause of deteriorating market shares may be unfavourable developments of

Graph A4.17: **Decomposition of sectoral ULCs**

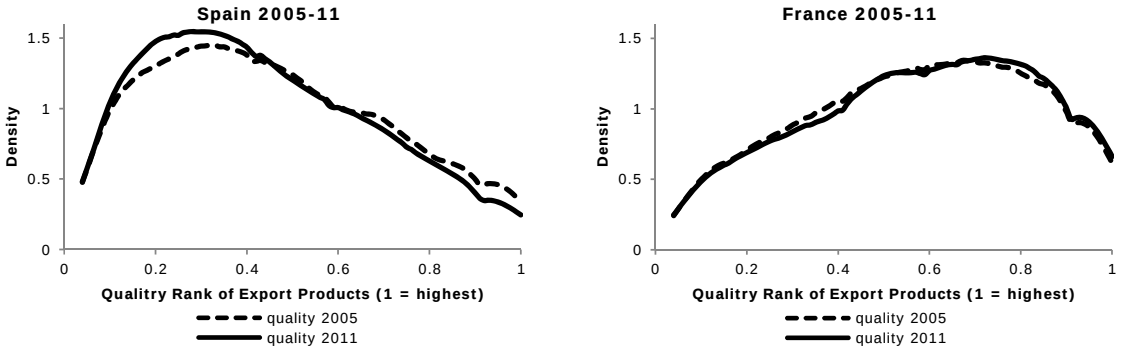


Source: ECFIN calculations based on Eurostat.

unit labour costs. ULC developments can be broken down into wage and productivity developments. From a policy perspective, increases in ULC due to growing nominal wages in reaction to labour market demand pressures should be addressed differently from increases in ULC due to a productivity slowdown. If productivity growth is constrained by sectoral overregulation or by lack of competition or of R&D and innovation, gaining cost competitiveness should be approached by reducing overregulation and increasing competition, R&D and innovation rather than by reducing wages. Graph A4.19 shows that a combination of wage increases and a rather flat productivity performance since 2009 are behind the general increasing trend in ULC observed in the so-called surplus countries.

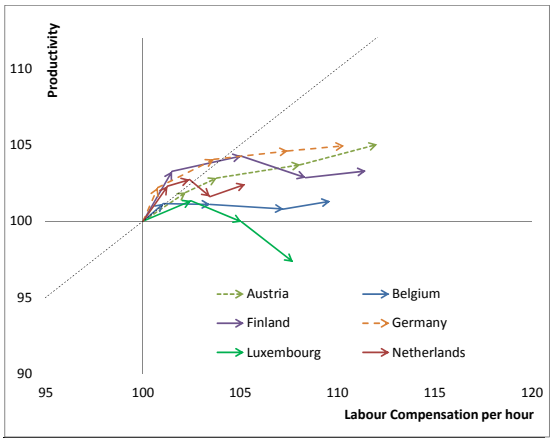
Cost competitiveness at sectoral level could provide important insights into what is driving countries' competitiveness at large. Better understanding aggregate ULC by looking at its sectoral composition is a first step into answering the question of how to gain cost-competitiveness. For example, Graph A4.17 shows that industry sector ULCs have generally experienced larger decreases than ULCs in other sectors: the decrease in Spain is mainly caused by an increase in labour productivity; in Greece by negative wage developments and increases in labour productivity. In some countries (France, Italy and the UK) ULC in industrial sectors have increased. Other price-based sectoral indicators that have been discussed with Member States at LIME are sectoral REERs. Although proper measures are hard to compute (comparable prices at sectoral level are needed), sectoral-ULCs can be used as deflators.

Graph A4.18: **Distribution of quality of goods in France and Spain**



Source: ECFIN calculations based on COMEXT and ORBIS.

Graph A4.19: **ULC evolution and decomposition in surplus countries**



Source: ECFIN calculations based on Eurostat data
Note: Productivity and wage evolution (2009=100). ULC increased (decreased) over the period considered if end point is to the right (left) of the diagonal

Non-cost competitiveness

In order to analyse the ability of industries to compete in quality, work on measuring quality of exported goods has been carried out and a set of quality indicators are now available. ([79]) World demand has over time shifted more towards knowledge-intensive goods and differentiated products have increased their shares of total demand relative to homogenous goods. Quality distributions and its dynamics are illustrated in Graphs A4.18 for French and Spanish exports to a common destination (EU market). The quality of a good is given on the horizontal axis by normalized quality rankings, between 0 and 1. Other useful quality-based indicators include the share of export value (as a share of total export value of the country) by quality category, the share of value in top quality products.

The use of services to differentiate otherwise rather homogeneous products can also be seen as a non-cost competitiveness "instrument" for exporting firms. As already mentioned, in modern economies, services have become increasingly interconnected. The consequence is that increased productivity growth in services with strong forward linkages with the rest of the economy would translate into increase competitiveness for the industries using services inputs. This can be proxied by an indicator that combines information on services forward linkages (or supply linkages, from input-output tables) with services productivity growth.

([79]) The indicator provides product-level quality ranks of exported manufacturing products generated from export prices and costs or mark-ups of exported products. The methodology and results were discussed at LIME. See Vandenbussche (2014).

Box A4.1: **Selected indicators to assess competitiveness and trade performance**

If assessing competitiveness is not an easy task, this is not due to the lack of indicators but rather to the multifaceted nature of the concept. This Box provides more detailed explanation of some of the indicators presented and discussed with Member States at LIME.

- **Decomposing exports market share evolution: a *constant-market share* approach**.[1] A country's exports market share evolution (proxied by its exports growth minus global, world, exports growth) can be decomposed into four components:
    - the dynamism of the destination markets (geographical specialization). It measures whether imports by destination markets grow at a faster pace than worldwide imports;
    - the dynamism of the country's product basket or (product specialization). It measures whether the products a country exports face a high global demand (higher than the average);
    - the competitiveness in destination markets (market share gains in geographical destinations). It measures whether the growth of a country's exports to destination country *i* is larger than the growth of total imports by country *i;*
    - the competitiveness in product markets (market share gains in product markets). It measures whether the growth of a country's exports of product *j* is larger than the growth of total exports (worldwide) of product *j*.

- **Services value added content of exports.** The services value added content of manufacturing exports refers to services used as intermediate inputs (both directly and indirectly) in goods exported. In other words, to services embedded in the goods exported by the country. The calculation is carried out using input-output tables for EU countries. The indicator can be computed only for domestic services or for total services (therefore inputs of services of domestic as well as foreign origin).

- **Foreign value added content of exports**[2] are calculated using the same methodology as services value added content of manufacturing exports. The foreign and domestic value added content shares (%) show how much of the value of exports is generated abroad and domestically respectively. As the calculation uses basically the intermediate flows matrix, the foreign value added content of exports does not include the imports of capital goods used, as part of the capital stock of the economy, in the production of exports. In other words, it does not measure the contribution of capital of foreign origin used to produce goods and services exported.

- **Sectoral ULC and REER**.[3] The ULC-based REER commonly used to assess competitiveness is based on the economy-wide ULC. Using disaggregated, sectoral ULC can provide additional, important insights: for example, if an economy shifts resources towards a sector with low ULC, the conventional indicator will show a gain in competitiveness. A new, complementary measure computes a ULC-based REER by sector (using the same methodology as for the overall economy REER) and then aggregates over all sectors in economy (weighted by the share of sectoral GVA).

[1] The methodology and results were also discussed with Member States at LIME Working Group. See Quarterly Report on the Euro Area 2/2012, Chapter 3, for further details.
http://ec.europa.eu/economy_finance/publications/qr_euro_area/2012/qrea2_en.htm.
[2] See Quarterly Report on the Euro Area 2/2012, Chapter 3, for further details.
http://ec.europa.eu/economy_finance/publications/qr_euro_area/2012/qrea2_en.htm.
[3] The methodology and results were discussed with Member States at LIME Working Group. See Quarterly Report on the Euro Area 2/2014 for further details.
http://ec.europa.eu/economy_finance/publications/qr_euro_area/2014/pdf/qrea2_section_4_en.pdf).

(Continued on the next page)

Box (continued)

- **Quality of exports. Export Products by Quality Rank. Share of Top Quality Export Products**.[1] A quality metric is constructed using export prices and variable costs (labor costs and material costs, from ORBIS) at product-level (CN8). This gives a "markup"-based metric that can be used to assess quality rankings of products in one destination market. The indicator allows for a ranking of countries based on the overall quality distribution of their products, it allows also for the calculation of quality ladders within a CN8 product and for an estimation of the price elasticity of quality i.e. how much can quality raise price? It can be aggregated at sector-level to determine "Quality champions" and also, a sector-level indicator can be merged with other sector-level datasets to assess for example the relationship between skill-intensity and quality.

For the sake of providing additional examples, other available indicators are: Sectoral wage and productivity evolution (i.e. sectoral ULC decomposition); Revealed Comparative Advantage (for goods and services); Trade Balances by broad economy category by partner; Evolution of tradable and non-tradable shares in GDP and employment.

[1] The methodology and results were discussed with Member States at LIME Working Group. See Hylke Vandenbussche (2014): "Quality in Exports". Economic Paper 528|September 2014: http://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp528_en.pdf

A4.7. WAGE BENCHMARKING

Wage benchmarking is one of the tools used to assess whether wage and labour cost developments support macroeconomic rebalancing or, to the contrary, are a source of potential macroeconomic imbalances. The assessment relies on a comparison of actual wage developments with hypothetical benchmarks consistent with Member States' internal or external economic equilibrium.

Three benchmarks for wage developments, based on a standard framework, are considered. ([80]) The first one is a benchmark for wage growth consistent with internal labour market conditions. It is calculated as the wage growth predicted on the basis of changes in labour productivity, prices and the unemployment rate. The second benchmark is closely related to the first one but it relates to the level of wages. It is calculated as the wage level predicted on the basis of the level of productivity, prices and the unemployment rate. The third benchmark is relevant for external equilibrium. It is computed as the wage growth consistent with a stable evolution of cost competitiveness (real effective exchange rate based on unit labour costs).

Assessing wage developments against fundamentals

Nominal wage growth is first compared to a benchmark reflecting internal labour market equilibrium. The benchmark is based on the estimation of a dynamic wage equation. The estimation proceeds in two steps. In the first step, a long-run equilibrium level of nominal wages is estimated as a function of the price level, labour productivity, and the unemployment rate. The second step estimates the short-term dynamics. In particular, it is estimated how wage growth responds to productivity growth, inflation and the change in unemployment, and how fast the convergence of nominal wages is towards their estimated long-term equilibrium.

The results show that, in the long-run, the wage level is closely aligned with the price level and productivity, and that unemployment has a significant negative effect on wages. ([81]) When the short-run wage dynamics is explored, it is found that the association of wage and price developments remains very close also in the short run; wage and productivity movements are less aligned than in the long run; unemployment has a negative effect on wage growth also in the short run; and, finally, wages are estimated to move towards their estimated long-run equilibrium level, reducing the gap by about 20% in a given year.

The estimation of short-run wage dynamics is used to predict wage growth for all Member States and all years. Graph A4.20 compares actual nominal wage growth in Member States to the benchmark for the years 2002-2014. Up to the financial crisis, wage growth in most countries did not diverge substantially from the prediction based on fundamentals. Wage growth was often lower than predicted in Austria, Bulgaria, Finland, Italy, Spain, and, from 2003, in Germany and Poland; in contrast wage growth was consistently higher than the benchmark in Greece, Hungary, Lithuania, the UK, and for some years in the Czech Republic, Estonia, and Latvia.

With the crisis, predicted wage growth fell considerably in 2009 in light of the sudden drop in productivity and the increase in unemployment. As productivity rebounded in 2010, benchmark wage growth recovered, outpacing actual wage growth in most countries. Graph A4.20 also indicates a marked adjustment in wages post-2008 in a number of countries, including the Czech Republic, Greece, Hungary, Ireland, Lithuania, Poland, Portugal, Slovakia, Spain and the UK.

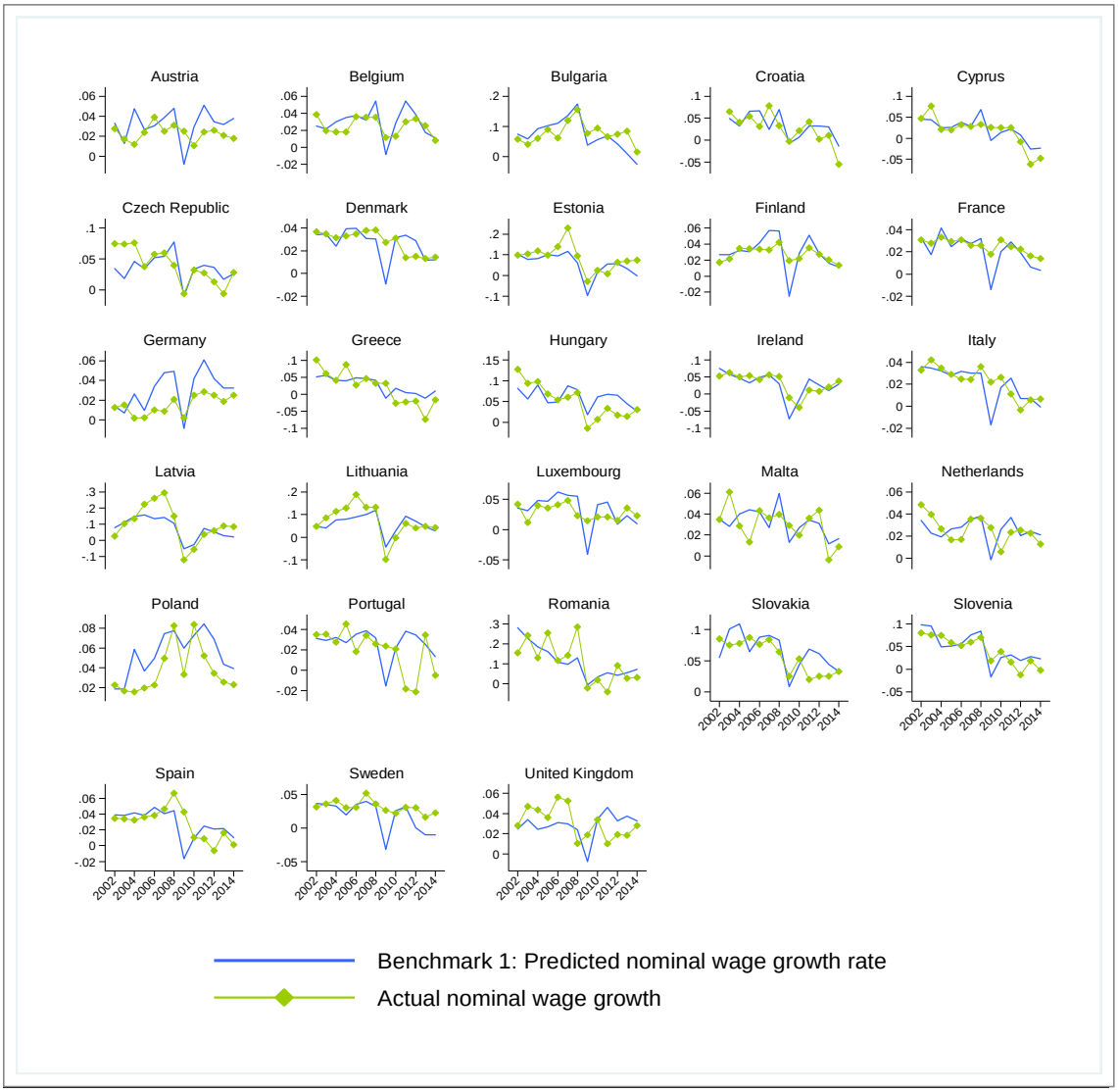
Assessing wage levels across countries

Important complementary information is provided by benchmarking wage levels, which is the second method. The wage level benchmark is based on the first step estimation described in the previous section. The benchmark is based on the assumption that wages in each country varied around an equilibrium level over the course of the

([80]) The analysis is based on the methodology laid out in Koltay (2013). The details about calculations presented can be found in Arpaia and Kiss (2015).

([81]) For details of the estimation methodology, see the references in the previous footnote.

Graph A4.20: **Benchmark for wage growth: prediction from wage equation**



Source: Arpaia, A. and A. Kiss, "Benchmarks for the assessment of wage developments: Spring 2015", Analytical web note 2/2015, European Commission, DG EMPL.

sample period (1995-2014). In other words, the possibility of misalignments that may have persisted over 20 years is ruled out by construction. This is likely not an overly strong assumption, given that this period covers about two full business cycles.

The gap between the actual wage level and the level benchmark for the period of 1995 to 2014 shows several findings (Graph A4.21). The largest volatility of wage levels relative to the benchmark can be observed in the Baltic countries, where a large gap built up before the crisis, while a significant adjustment took place after 2009. In these countries and Bulgaria, an increasing trend of wages relative to benchmark can be observed, while the opposite trend of prolonged wage moderation can be seen overall in the case of Austria, Germany, Hungary, Poland and Slovakia.

For a number of countries, the gap between actual wages and the benchmark exhibits a sudden increase in 2009, at the onset of the crisis. This is the artefact of labour hoarding: production fell more abruptly than employment, reducing productivity and thus predicted wages. In some

Graph A4.21: **Gap between actual wages and wage level benchmark, 1995-2014**

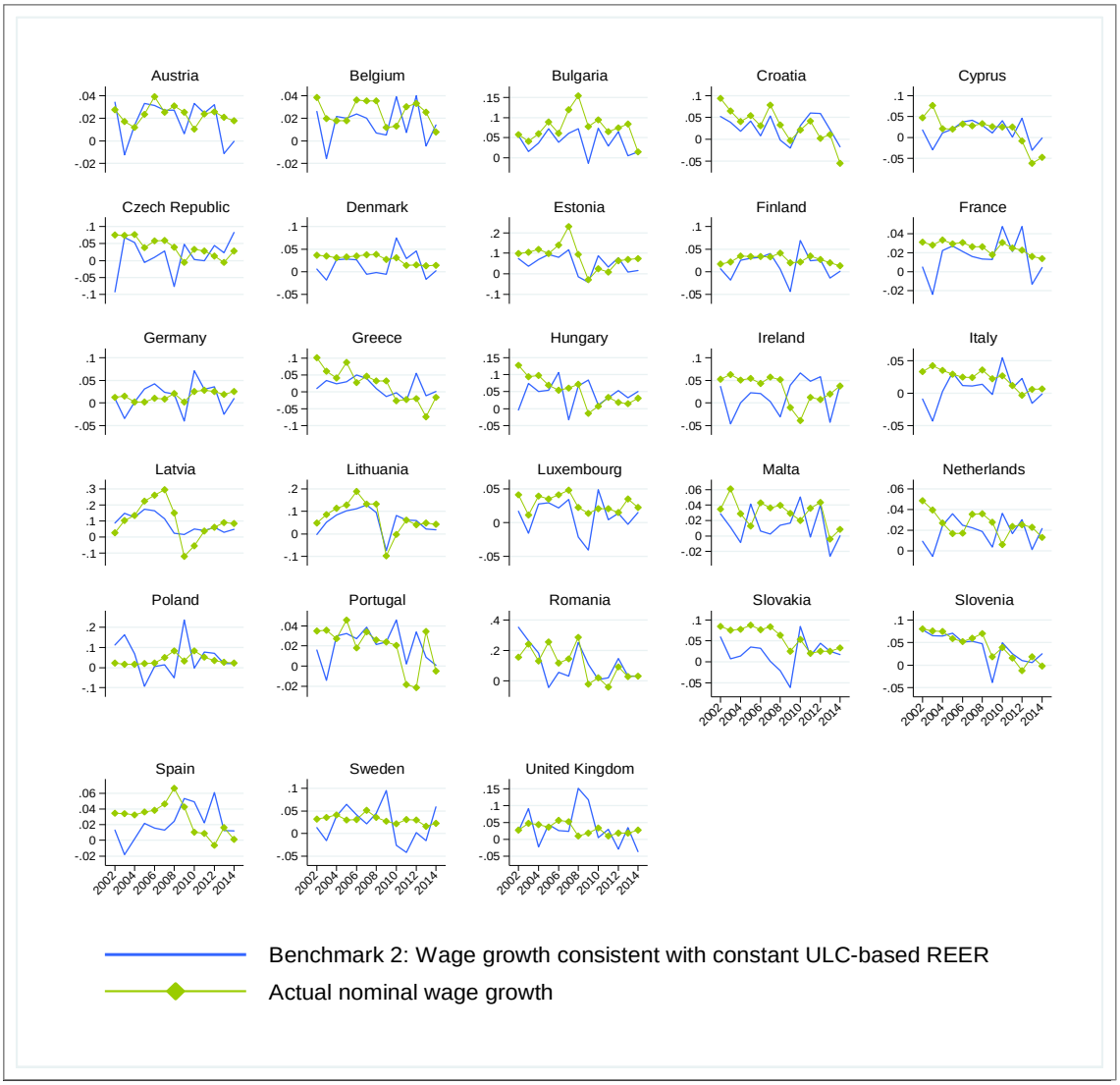
Source: Arpaia, A. and A. Kiss, "Benchmarks for the assessment of wage developments: Spring 2015", Analytical web note 2/2015, European Commission, DG EMPL.

countries this effect dissipates quickly either due to rebounding employment or wage moderation (e.g., Austria, Denmark, Germany, Greece, Ireland, the Netherlands, Portugal, Slovakia, Slovenia, Spain), while in other countries part of the increase in the gap remained in the medium term (e.g. in Finland, France, Italy, Luxembourg, Sweden).

Assessing wage developments against external cost competitiveness

The second benchmark of wage growth is informative of the pressures that stem from current account adjustment. The real effective exchange rate (REER) based on unit labour cost (ULC) is a weighted average of one county's currency relative to a basket of its main competitors adjusted for the effects of differential inflation of unit labour costs. It is a key component of external performance. The benchmark is the wage growth consistent with unchanged REER. It permits to assess whether, keeping labour productivity and unit labour cost developments in partner countries unchanged, developments in nominal labour cost (both its wage and non-wage component) are consistent with unchanged costs

Graph A4.22: **Benchmark for wage growth: constant ULC-based REER**



Source: Arpaia, A. and A. Kiss, "Benchmarks for the assessment of wage developments: Spring 2015", Analytical web note 2/2015, European Commission, DG EMPL.

competitiveness. When actual nominal wage growth is below the benchmark, cost competitiveness improves; the opposite occurs when it is above benchmark.

This is only one of possible benchmarks against which one can assess cost competitiveness adjustment needs. In some cases desirable developments in price competitiveness need not imply constancy of the REER. For example, countries that need to correct current account imbalances and improve their net foreign assets position will have to deviate from a constant REER, keeping ULC growth below the constant REER benchmark. Similarly, if a country has stronger productivity growth in the tradable sector than partner countries, the REER would appreciate due to rising wages throughout the economy (this is the so-called Balassa-Samuelson effect), but without significant implications for the export performance. For these reasons, this benchmark should be read together with a broader set of indicators that are informative of the overall external competitiveness.

The actual growth of nominal compensation per employee and the constant-REER wage benchmark are compared (Graph A4.22**).** At first sight, it is clear that this benchmark can yield different results from the one relevant for the internal equilibrium presented above. It is also apparent that the benchmark based on a constant REER is more volatile than the internal-equilibrium benchmark, as the external benchmark needs to reflect not only changes in relative price and productivity, but also of the nominal exchange rate.

Regarding country-specific developments, the chart shows sizeable wage adjustment occurring since 2010 in several vulnerable countries, including the Baltics, Greece, Cyprus, Spain, Ireland, and to a lesser extent Portugal. On the other hand, over the 2012-2014 period a positive gap between the actual wage growth and the external benchmark is observable for a number of countries, including those with a current account surplus.

A4.8. ASSESSING IMBALANCES: INSIGHTS FROM MACROECONOMIC MODELS

Dynamic stochastic general-equilibrium (DSGE) models are one of the tools to analyse macroeconomic imbalances. DSGE models can be used to assess the drivers of macroeconomic imbalances as well as the potential contribution of economic policy to imbalance correction. They can also be used to quantify the demand-side and supply-side drivers of growth and to assess the impact of macroeconomic dynamics and structural policies on public finances and debt dynamics.

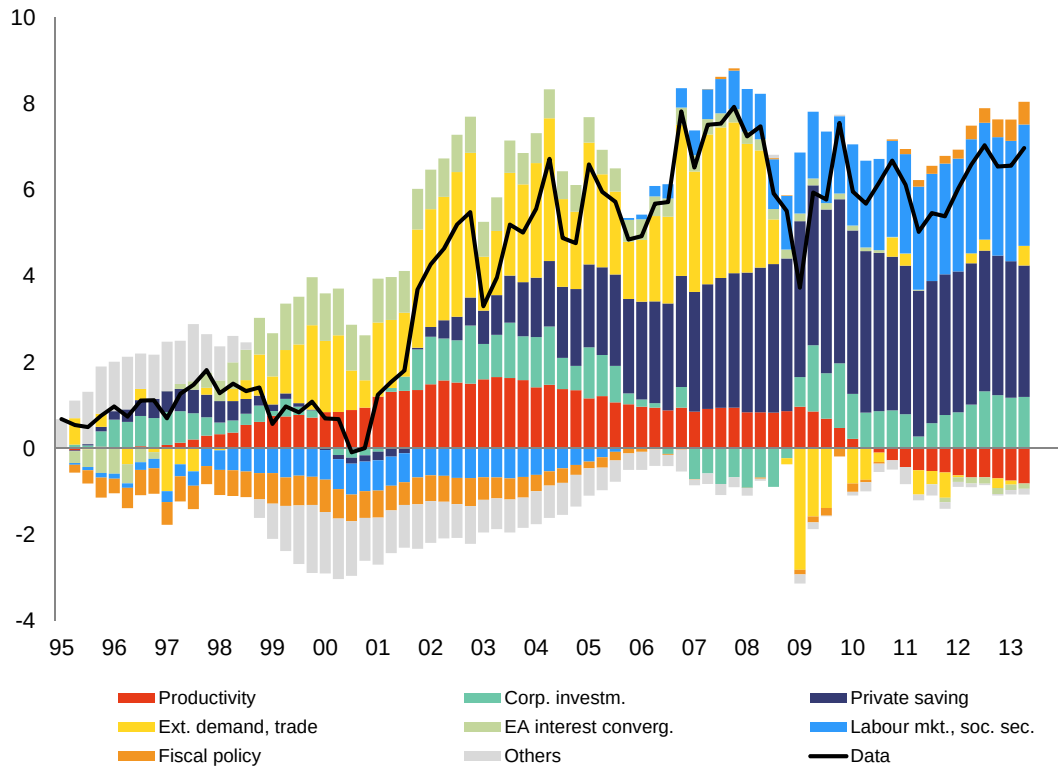
DSGE models interpret the fluctuations of economic time series as generated by macroeconomic shocks to demand and supply equations. The term 'shock' to a certain variable (e.g. technology, savings, investment, wages etc.) indicates a deviation of that variable from the average response to its direct determinants. Without shocks to behavioural and technological relationships, the model economy would settle down on a steady state growth path. The contribution of possible drivers is fundamentally determined by the estimated size and sign of the associated shocks to the model and their transmission to the various endogenous variables. Economic shocks can have a lasting impact on the economy because they are either themselves persistent (for example demographic or technology shocks) or because it takes time for the economy to adjust to shocks.

Estimated multi-country versions of the European Commission's QUEST model have been used to quantify the relative importance of different drivers for the build-up and persistence of imbalances. The quantitative relevance of different drivers is analysed based on shock decompositions for main macroeconomic variables. Shock decompositions allow us to trace fluctuations of variables to specific sources. In the process of estimating the DSGE model the econometrician not only estimates structural parameters, but also uncovers shocks which affect individual structural equations. The historic evolution of individual economic time series can be fully decomposed into contributions of present and past shocks, which allows quantifying the importance of certain economic developments in domestic and foreign goods, factor and financial markets. DSGE models provide, hence, a unified structure to jointly assess, country by country, the relevance of alternative hypotheses about the underlying drivers of macroeconomic imbalances. Estimated DSGE models assess the impact of particular shocks on all endogenous variables and compare them to the data. Hence, to be a relevant force in the model, a particular set of shocks must explain the dynamics of various time series. An explanation of the trade balance or current account dynamics must, e.g., be compatible with observed consumption, investment, inflation and GDP behaviour of the country in question over the same horizon.

Estimated models have been used to date in IDRs for several countries. These models provide a joint testing of the quantitative importance of potential drivers of macroeconomic imbalances over the estimation horizon. Examples include the estimated models for Spain and Germany. For Spain, the analysis identified as main source behind the Spanish boom the easy access to international financing with low interest rates. It was found that in the years before the creation of the euro area, the shock for international capital flows played an important role in boosting economic activity. In the subsequent years, other factors took over this role, especially factors related to the labour market, which, inter alia, reflected the significant increase in population recorded in the expansion period. Relaxation of credit conditions contributed to the prolongation of the period of, especially in the period 2004-2008. ([82]) The analysis for Germany focused on the drivers of Germany's external surplus since the early 2000s. It shows that the country's trade and current account surplus does not lend itself to mono-causal explanations; it rather represents a sequence of domestic and foreign demand and supply shocks with varying importance over time (Graph A4.23). More precisely, the main forces driving the German trade balance can be summarised as follows according to the model-based analysis: In the period 2001-04, expanding foreign demand in the rest of the euro area and the rest of the world played an important role for the rise in the trade balance, but domestic demand factors, such as a deterioration of corporate financing conditions, which coincided with the end

([82]) For a detailed discussion of the methodology and the results, see in 't Veld et al. (2014).

Graph A4.23: **Shock decomposition of Germany's trade balance (% of GDP)**



Source: European Commission.

of the "dot-com" boom, were also at play. The decline of risk premia in the rest of the euro area in the context of EMU contributed to Germany's trade surplus by promoting capital outflows, but does in itself not explain the steep increase in the surplus after the year 2000. During 2004-08 an increasing contribution came from an apparent shock to savings, which may be linked at least partly to demographic developments and which implied lower domestic demand and kept the trade balance surplus persistently high. Reduced benefit generosity as a key element in the German labour market reforms has made a positive and growing contribution to the trade surplus by strengthening the price competitiveness of German exports and initially dampening domestic demand according to the model results. Strong foreign demand leading to high exports continued to play a large role. After 2009, the contribution of external demand has declined and the positive contribution of the savings shock has stabilised, while the surplus has been upheld by the impact of earlier reforms. Tighter financing conditions for firms during the financial crisis have also contributed to the trade surplus by reducing domestic investment demand. The persistently high external surplus, including during a period of significant swings in world demand and trade, give support to the notion that the surplus is first and foremost due to the saving and investment behaviours of domestic economic agents. The bundle of factors is also compatible with comparatively low inflation and output growth in Germany until 2010. ([83])

Estimated multi-region DSGE models also provide an assessment of the cross-country spillover of economic shocks and policies. The sign and size of spillover constitutes a metric to assess the potential harmfulness of imbalances from a cross-country perspective. The sign and size of spillover is indicated by the role of foreign shocks in the shock decomposition. Impulse response functions (IRFs) indicate the cross-border transmission of the relevant drivers of imbalances.

([83]) The detailed discussion of the model and the estimation results is published in Kollmann et al.(2015).

More generally, IRFs illustrate the response of the endogenous variables (such as interest rates, exchange rates, output, inflation, consumption, investment, exports and imports) to a particular shock under the given economic structure, including the estimated parameter values. They show that the strength and direction of spillover from 'imbalances' depends on their underlying drivers, the behaviour of households and firms, and on the conduct of macroeconomic policy, such as the exchange rate regime and the response of monetary and fiscal policy. Comparison of IRFs can also be used to study counterfactuals, e.g. how changes in the conduct of monetary and fiscal policy or structural reforms affect the transmission of and resilience of the economy against shocks.

The results of the estimated model for Germany illustrate the dependence of spillover on the drivers of the current account dynamics and the macroeconomic environment. Among the most important drivers, interest rate convergence in the EA, which is one factor behind the widening of the German trade and current account surplus in the early 2000s according to Graph A4.23, has benefitted the aggregate euro area. The reduction in country risk premiums on rest of the EA (REA) assets during the second half of the 1990s had persistent effects on trade balances. Capital flows to the REA reduced investment and increased savings in Germany. The high share of Germany in REA imports strengthened German exports, however, which reversed the negative impact of lower domestic demand on German GDP. For the rest of EA, the deteriorating trade balance was the result of rising domestic demand, fuelled by the willingness of foreign lenders to increase loan supply to these countries. Hence, the trade balance deterioration was accompanied by stronger activity in the rest of EA. Higher world growth as a second driver identified in Graph A4.23 has benefitted the whole EA by increasing the demand for exports and improving trade balances, although the gain for Germany has been more persistent than for the REA. High world growth is the only relevant driver for which an increase of the German trade balance is not associated with a declining trade balance in the REA. There is neither a negative external balance nor a negative income/domestic demand spillover to the REA associated with a rising German trade balance in this case. The German labour market reforms of the mid-2000s ('Hartz reforms') have strengthened the German trade surplus according to the estimated model. The reduction in the unemployment benefit replacement rate, which has been an important component of the reforms, has dampened wage growth in Germany and led to a long lasting increase in competitiveness which is only gradually eroded as real wages adjust in the longer run. The IRFs for a reduction in the replacement rate show that the rise in the German trade balance is driven by the improvement in price competitiveness relative to main trading partners (real effective exchange rate depreciation) and a temporary fall in domestic demand. The trade balance of the REA deteriorates, but REA real GDP increases. The German labour market reform constitutes a positive supply shock to the German economy itself. Given the country's significant share in EA employment and activity, it is also a positive shock to EA aggregate supply. EA monetary policy tends to respond with an accommodating interest rate reduction in 'normal times' that leads to an increase in demand and economic activity in the REA and a depreciation of the euro. Overall, the reduction of the replacement rate in Germany has a small temporary positive effect on REA activity in the model. Spillover to REA GDP in the short and medium term would be less favourable in the absence of accommodating monetary policy (e.g. at the zero bound). Higher savings in Germany, which have been identified as an important contributor to the observed low German GDP growth and inflation, the falling wage share, and the rising trade balance, have a negative GDP spillover on the REA. The negative demand shock does not only have negative effects on the REA trade balance (lower exports to Germany), but the impact on REA GDP is also negative. Although there is a relatively strong negative GDP spillover to the REA in relation to the size of the effect on German GDP, there is a positive impact on domestic demand in the REA, however. Lower prices and domestic demand in Germany have put downward pressure in nominal interest rates that has supported domestic demand in the EA. In sum, the different drivers of the German surplus have different spillover effects on the REA. Their impact on the REA trade balance has been predominantly negative, but their impact on REA GDP has been more mixed. The only exception to this is higher world growth, which should have benefitted all EA countries. But nor do all other drivers behind the German surplus have negative GDP spillovers. In fact, interest rate

convergence in EMU has boosted growth in periphery countries in the early 2000s. Labour market reforms in the mid-2000s raised growth in Germany and this has not been detrimental to growth in the REA. Similar reforms undertaken by deficit countries should strengthen growth and competitiveness there. However, although the higher savings rate may not have been unjustified from the German perspective, it has not helped growth in the EA and had a negative impact on trade balances elsewhere.

The European Commission's QUEST model is also used to assess the impact of macroeconomic and structural policies on domestic and external imbalances and rebalancing. The impact of public investment and service sector reform on the trade balance has been analysed in the case of Germany. The Country Report for Italy in 2015 included an assessment of the impact of fiscal and structural reforms on public finances and the dynamics of public debt in relation to GDP. In a more general exercise, the potential impact of structural reforms on GDP has been illustrated in country reports through a benchmarking analysis, assuming half the gaps in structural indicators vis-à-vis best practice are closed. ([84])

([84]) Varga and in 't Veld (2014).

REFERENCES

Abiad, A. (2003), "Early-warning systems: A survey and a regime-switching approach", IMF Working Paper WP/03/32.

Ahrend, R. and A. Goujard (2012a), "International Capital Mobility and Financial Fragility – part 1. Drivers of Systemic Banking Crises: The Role of Bank-Balance-Sheet Contagion and Financial Account Structure", OECD Economics Department Working Papers, No. 902, OECD Publishing.

Ahrend, R. and A. Goujard (2012b), "International Capital Mobility and Financial Fragility – part 3. How Do Structural Policies Affect Financial Crisis Risk?: Evidence from Past Crises Across OECD and Emerging Economies", OECD Economics Department Working Papers, No. 966, OECD Publishing.

Alessi, L. and C. Detken (2011), "Quasi real time early warning indicators for costly asset price boom/bust cycles: A role for global liquidity", *European Journal of Political Economy, 2011, vol. 27, issue 3.*

Arpaia, A. and A. Kiss (2015), "Benchmarks for the assessment of wage developments: Spring 2015", Analytical web note 2/2015, European Commission, DG EMPL.

Baldacci, E., J. McHugh and I. Petrova (2011), "Measuring Fiscal Vulnerability and Fiscal Stress: A Proposed Set of Indicators", IMF Working Paper WP/11/94.

Berg, A. and C. Pattillo (1999), "Are currency crises predictable? A test" IMF Staff Papers Vol. 46, No. 2

Berg, A., E. Borensztein and C. Pattillo (2004), "Assessing Early Warning Systems: How Have They Worked in Practice?", IMF Working Paper WP/04/52.

Berti, K., M. Salto and M. Lequien (2012), "An early-detection index of fiscal stress for EU countries", *European Economy, Economic Paper 475*.

Berti, K. (2013), "Stochastic public debt projections using the historical variance-covariance matrix approach for EU countries", *European Economy, Economic Paper 480.*

Blanchard, O., and G.M. Milesi Ferretti (2011), "(Why) should current account imbalances be reduced?", IMF Staff Discussion Note, SDN/11/03.

Borio, C. and P. Lowe (2002), "Asset prices, financial and monetary stability: exploring the nexus", BIS Working Papers No 114.

Bornhorst, F . and . M. Ruiz-Arranz (2013), "Indebtedness and Deleveraging in the euro area", Euro Area Policies: 2013 Article IV Consultation, Selected Issues Paper, IMF Country Report No. 13/232.

Bricongne, J.-C. and A. Mordonu (2015), "Interlinkages between household and corporate debt in advanced economies" Discussion Paper 017.

Bussiere, M. and M. Fratzscher (2006), "Towards a new early warning system of financial crises" *Journal of International Money and Finance 25 953-973.*

Cerra, V. and S.C. Saxena (2002), "What Caused the 1991 Currency Crisis in India?", IMF Staff Papers Vol 49, No 3

Chamon, M., P. Manasse and A. Prati (2007), "Can We Predict the Next Capital Account Crisis?", IMF Staff Papers Vol. 54, No. 2.

Cuerpo, C., I. Drumond, J. Lendvai, P. Pontuch and R. Raciborski (2013), "Indebtedness, Deleveraging Dynamics and Macroeconomic Adjustment" Economic Papers 477.

Cuerpo, C. I. Drumond, J. Lendvai, P. Pontuch and R. Raciborski (2015), "Private sector deleveraging in Europe", Economic Modelling vol. 44.

Dees, S., F. di Mauro, M. H. Pesaran and L.V. Smith (2007), "Exploring the International Linkages of the Euro Area: A Global VAR Analysis", *Journal of Applied Econometrics*.

Dees, S., M.H. Pesaran, L.V. Smith and R.P. Smith (2013), "Constructing multi-country rational expectations models", Oxford Bulletin of Economics and Statistics.

Demirgüc-Kunt, A. and E. Detragiache (1998), "Financial liberalization and financial fragility" Policy Research Working Paper Series 1917, The World Bank.

Demirgüc-Kunt, A. and E. Detragiache, (1999), "Monitoring Banking Sector Fragility; A Multivariate Logit Approach", IMF Working Papers WP/99/147.

Deroose, S. and J. Griesse (2014), "Implementing economic reforms – are EU Member States responding to European Semester recommendations?", ECFIN Economic Brief, Issue 37.

European Commission (2016) "Fiscal sustainability report 2015", European Economy Institutional Paper 018

European Commission (2014a), "Assessing public debt sustainability in EU Member States: A Guide", European Economy-Occasional Papers 200.

European Commission (2014b), "Private sector deleveraging: where do we stand?", Quarterly report on the euro area, vol. 12(3) 2014.

European Commission (2014c), "Quarterly report on the Euro Area" Volume 13 Issue 4.

European Commission (2013a), "Benchmarks for assessing wage developments", European Economy, Occasional Papers no. 146.

European Commission (2013b), "Quarterly report on the Euro Area" Volume 12 Issue 3.

European Commission (2013c), "Quarterly report on the Euro Area" Volume 12 Issue 4.

European Commission (2012a), "Current account surpluses in the EU", *European Economy 9/2012*.

European Commission (2012b), "Fiscal Sustainability Report 2012", *European Economy 8/2012*.

European Commission (2012c), "Scoreboard for the surveillance of macroeconomic imbalances: envisaged initial design", European Economy-Occasional Papers 92. 2012.

European Commission (2011), "Public Finances in EMU ", *European Economy 3/2011*.

European Commission (2009), "Quarterly report on the Euro Area" Special report on "Competitiveness developments within the euro area", March 2009.

Frankel, J. A. and A. K. Rose (1996), "Currency crashes in emerging markets: An empirical Treatment" *Journal of International Economics 41 351-366*.

Hermansen, M. and O. Röhn (2015), "Economic resilience: the usefulness of early-warning indicators in OECD countries", OECD Economics Department Working Paper no. 1250.

Hilber H., and W. Vermuelen (2010), "The impacts of restricting housing supply on house prices and affordability", November 2010 Department for Communities and Local Government

Hobza, A. and S. Zeugner (2014), "The 'imbalanced balance' and its unravelling: current accounts and bilateral financial flows in the euro area", European Economy, Economic Papers 520.

in 't Veld, J. (2013), "Fiscal consolidations and spillovers in the Euro area periphery and core", European Economy, Economic Papers 506. 2013.

in 't Veld, J., R. Kollmann, B. Pataracchia, M. Ratto and W. Roeger (2014), "International capital flows and the boom-bust cycle in Spain", *Journal of International Money and Finance 48 (PB), 2014, 314-335*.

Kaminsky, G., S. Lizondo and C. Reinhart (1998), "Leading Indicators of Currency Crisis" IMF Staff Papers Vol. 45, No 1.

Kaminsky, G. (1999), "Currency and Banking Crises: The Early Warnings of Distress" IMF Working Paper WP/99/178 1999.

Kamps, C., R. De Stefani, N. Leiner-Killinger, R. Rüffer and D. Sondermann (2014), "The identification of fiscal and macroeconomic imbalances unexploited synergies under the strengthened EU governance framework", ECB Occasional paper Series No 157

Kollmann, R., M. Ratto, W. Roeger, J. In't Veld and L. Vogel (2015), "What drives the German current account? And how does it affect other EU Member States?" *Economic Policy 30 (81) 47-93.*

Koopman, R., Z. Wang and S.J. Wei (2014), "Tracing Value-Added and Double Counting in Gross Exports", *American Economic Review 104(2) 459-494*.

Koltay G. (2013), "Benchmarks for the assessment of wage developments", European Economy, Occasional Papers, No. 146, European Commission,

Magazzino, C., F. Felici and V Bozic (2015), "A New approach to the Scoreboard", *Journal of Economic Studies Vol. 42 No. 4*

Manasse, P. and N. Roubini (2009), "Rules of thumb" for sovereign debt crises", *Journal of International Economics, Elsevier, vol. 78(2).*

Manasse, P., R. Savona and M. Vezzoli (2013), "Rules of Thumb for Banking Crises in Emerging Markets", Working Papers wp872, Dipartimento Scienze Economiche, Università di Bologna.

Phillips, S., L. Catão, L. Ricci, R. Bems, M. Das, J. Di Giovanni, D. Filiz Unsal, M. Castillo, J. Lee, J. Rodriguez and M. Vargas (2013), "The External Balance Assessment (EBA) Methodology", IMF Working Paper WP/13/272 2013.

Ratto, M. W. Roeger and J. in 't Veld (2009), "QUEST III: An Estimated Open-Economy DSGE Model of the Euro Area with Fiscal and Monetary Policy", *Economic Modelling*.

Röhn, O., A. Caldera Sánchez, M. Hermansen, and M. Rasmussen (2015), " Economic resilience: A new set of vulnerability indicators for OECD countries", OECD Economics Department Working Paper no. 1249.

Saiz A. (2010), "The geographic determinants of housing supply", *The Quarterly Journal of Economics*, August.

Salto M., and A. Turrini (2010), "Comparing alternative methodologies for real exchange rate assessment", European Economy, Economic Papers 427 2010.

Vandenbussche, H. (2014), "Quality in Exports", European Economy, Economic Papers 528.

Varga, J. and J. in 't Veld (2014), "The potential growth impact of structural reforms in the EU. A benchmarking exercise", European Economy, Economic Papers 541, 2014.

LINKS TO RELEVANT LEGISLATIVE TEXTS AND OTHER RELEVANT DOCUMENTS

Legal texts

Treaty on the Functioning of the European Union (TFEU) -The main Treaty basis for MIP surveillance is Article 121 TFEU. The Treaty basis for the enforcement mechanism of Regulation 1174/2011 is instead Article 136 TFEU, in combination with Article 121 TFEU.
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

Regulation (EU) No 1176/2011 of the European Parliament and of the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:306:0025:0032:EN:PDF

Regulation (EU) No 1174/2011 of the European Parliament and of the Council of 16 November 2011 on enforcement measures to correct excessive macroeconomic imbalances in the euro area
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:306:0008:0011:EN:PDF

Regulation (EU) No 472/2013 of the European Parliament and of the Council on the strengthening of economic and budgetary surveillance of Member States in the euro area experiencing or threatened with serious difficulties with respect to their financial stability (ART 11)
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:140:0001:0010:EN:PDF

Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013, laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:347:0320:0469:en:PDF

Alert Mechanisms Reports

2012 Alert Mechanism Report of 2012 COM(2012) 68 final of 14.2.2012
http://ec.europa.eu/economy_finance/economic_governance/documents/alert_mechanism_report_2012_en.pdf

2013 Alert Mechanism Report COM(2012) 751 final of 28.11.2012
http://ec.europa.eu/economy_finance/economic_governance/documents/alert_mechanism_report_2013_en.pdf

2014 Alert Mechanism Report COM(2013) 790 final of 13.11.2013
http://ec.europa.eu/europe2020/pdf/2014/amr2014_en.pdf

2015 Alert Mechanism Report COM(2014) 904 final of 28.11.2014
http://ec.europa.eu/europe2020/pdf/2015/amr2015_en.pdf

In-depth reviews

http://ec.europa.eu/economy_finance/economic_governance/macroeconomic_imbalance_procedure/mip_reports/index_en.htm

Communications announcing IDR findings

Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank: Action for Stability, Growth and Jobs, Brussels, 30.5.2012 COM(2012) 299 final
http://ec.europa.eu/europe2020/pdf/nd/eccomm2012_en.pdf

Communication from the Commission to the European Parliament, the Council, the European Central Bank and the Eurogroup: Results of in-depth reviews under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, Brussels, 10.4.2013 COM(2013) 199 final
http://ec.europa.eu/economy_finance/publications/occasional_paper/2013/pdf/com%282013%29_199_final_en.pdf

Communication from the Commission to the European Parliament, the Council, the European Central Bank and the Eurogroup: Results of in-depth reviews under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, Brussels, 5.3.2014 COM(2014) 150 final
http://ec.europa.eu/economy_finance/economic_governance/documents/2014-03-05_in-depth_reviews_communication_en.pdf

Communication from the Commission to the European Parliament, the Council, the European Central Bank and the Eurogroup 2015 European Semester: Assessment of growth challenges, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 176/2011, Brussels, 26.2.2015 COM(2015) 85 final
http://ec.europa.eu/europe2020/pdf/csr2015/cr2015_comm_en.pdf

Other relevant documents

Communication from the commission to the European Parliament, the European Council, the Council, the European Central bank, the economic and social committee and the Committee of the Regions "Reinforcing economic policy coordination", Brussels, 12.5.2010 COM(2010) 250 final
http://ec.europa.eu/economy_finance/articles/euro/documents/2010-05-12-com%282010%29250_final.pdf

Commission Staff Working Paper 'Scoreboard for the surveillance of macroeconomic imbalances: envisaged initial design,' – SEC (2011) 1361 final, 8.11.2012
http://www.europarl.europa.eu/RegData/docs_autres_institutions/commission_europeenne/sec/2011/1361/COM_SEC%282011%291361_EN.pdf

Commission Staff Working Document SWD (2012) 389 'Completing the Scoreboard for the MIP: Financial Sector Indicator' published as an annex to the AMR of November 2012
http://ec.europa.eu/economy_finance/economic_governance/documents/alert_mechanism_report_2013_financial_sector_en.pdf

'Adding employment indicators to the scoreboard of the Macroeconomic Imbalance Procedure to better capture employment and social developments'
http://ec.europa.eu/economy_finance/economic_governance/documents/employment_indicators_mip_en.pdf

European Parliament Resolution of 15 December 2011, 2011/2926. 'Scoreboard for the surveillance of macroeconomic imbalances: envisaged initial design'
http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0583+0+DOC+XML+V0//EN

Council Conclusions of 8 November 2011, 15781/2/11 REV 2' An early warning scoreboard for the surveillance of macroeconomic imbalances'
http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2015781%202011%20REV%202

Communication from the Commission to the European Parliament and the Council "Strengthening the social dimension of the economic and monetary union" COM(2013) 690, Brussels, 2.10.2013
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0690:FIN:EN:PDF

The Five Presidents' report "Completing Europe's Economic and monetary Union", 22 June 2015
http://ec.europa.eu/priorities/economic-monetary-union/docs/5-presidents-report_en.pdf

The EMU package on the implementation of the Five Presidents' Report, 21 October 2015
http://europa.eu/rapid/press-release_IP-15-5874_en.htm

European Commission DG ECFIN webpage on the MIP
http://ec.europa.eu/economy_finance/economic_governance/macroeconomic_imbalance_procedure/index_en.htm

EUROPEAN ECONOMY INSTITUTIONAL SERIES

European Economy Institutional series can be accessed and downloaded free of charge from the following address:
http://ec.europa.eu/economy_finance/publications/eeip/index_en.htm

Titles published before July 2015 can be accessed and downloaded free of charge from:

- http://ec.europa.eu/economy_finance/publications/european_economy/index_en.htm
  (the main reports, e.g. Economic Forecasts)
- http://ec.europa.eu/economy_finance/publications/occasional_paper/index_en.htm
  (the Occasional Papers)
- http://ec.europa.eu/economy_finance/publications/qr_euro_area/index_en.htm
  (the Quarterly Reports on the Euro Area)

Alternatively, hard copies may be ordered via the "Print-on-demand" service offered by the EU Bookshop: http://bookshop.europa.eu.

HOW TO OBTAIN EU PUBLICATIONS

Free publications:

- one copy:
  via EU Bookshop (http://bookshop.europa.eu);

- more than one copy or posters/maps:
  - from the European Union's representations (http://ec.europa.eu/represent_en.htm);
  - from the delegations in non-EU countries (http://eeas.europa.eu/delegations/index_en.htm);
  - by contacting the Europe Direct service (http://europa.eu/europedirect/index_en.htm) or calling 00 800 6 7 8 9 10 11 (freephone number from anywhere in the EU) (*).

  (*) The information given is free, as are most calls (though some operators, phone boxes or hotels may charge you).

Priced publications:

- via EU Bookshop (http://bookshop.europa.eu).

KC-BC-16-039-EN-N

Publications Office

ISBN 978-92-79-54353-1