



BANCO DE PORTUGAL  
EUROSYSTEM

# European fiscal rules and the calculation of structural balances

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## Outline

1. Motivation
2. Structural balances in the context of the Stability and Growth Pact (SGP)
3. Methodologies for calculating cyclically-adjusted budget balances
4. Temporary measures
5. Structural balances in Portugal: values and fulfilment of EDP requirements
6. Final remarks



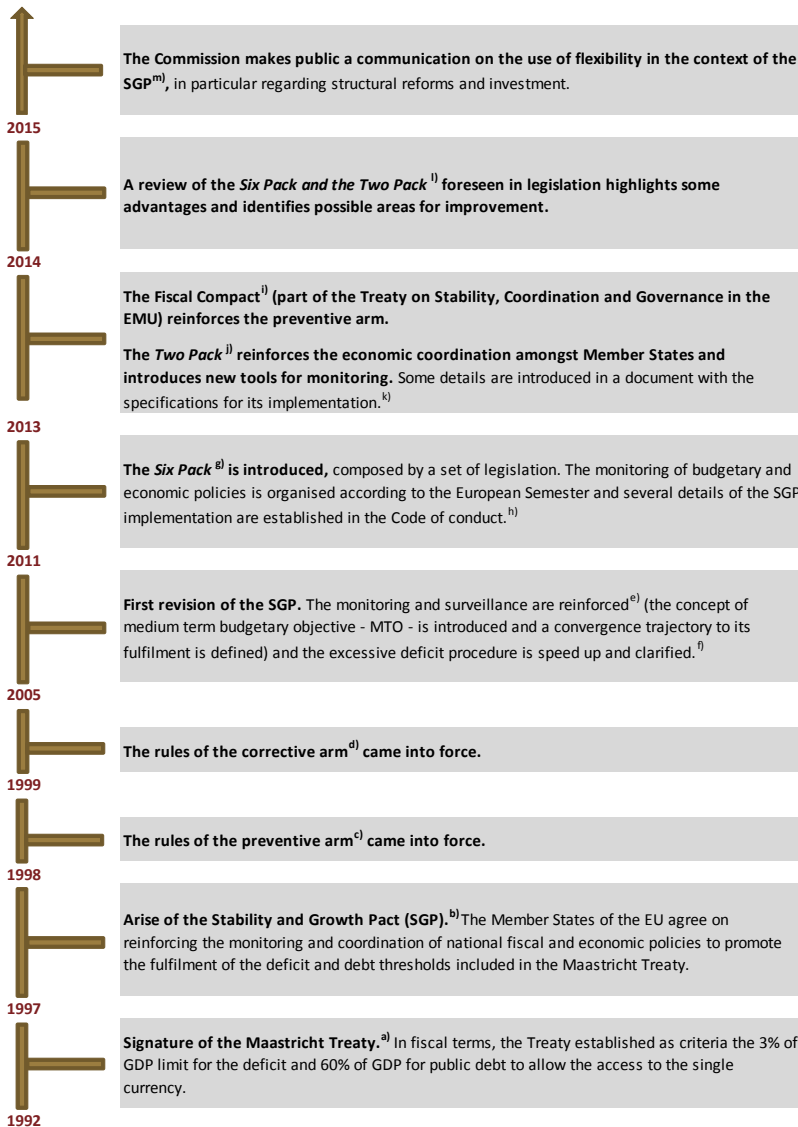
- **The concept of structural budget balance has gained prominence in the last decades, in particular in the context of the Stability and Growth Pact (SGP).**
- **The concept itself is not easy to understand:** different methodologies for cyclical adjustment lead to different results, revisions of past values, not possible to capture all cyclical influences, difficulties in identifying temporary measures...
- **The increasing complexity of the SGP rules makes difficult to understand the role of structural balances.**



**The aim of this Special Issue (published in the October Economic Bulletin of Banco de Portugal) was to clarify these issues, in the simplest way possible.**



## 2. Structural balances in the context of the SGP



The SGP is a complex set of legislation which evolved over time...

... but the Special Issue includes a very useful chronology of events with the associated online links.

An important reference:  
**Vade Mecum on the SGP**

*Now updated annually: last update March 2016*



## 2. Structural balances in the context of the SGP

- **The legislation underpinning the initial version of the SGP was adopted in 1997:** 3% of GDP reference value for the actual deficit and the requirement to achieve a budgetary position close to balance or in surplus in the medium term.
- **The SGP was first amended in 2005 and involved changes both to the preventive and corrective arms:** introduction of a country-specific medium term budgetary objective (MTO) – defined in structural terms based on the respective general government debt ratio and the fiscal pressure caused by the ageing of population. In both arms, the legislation specified the size of the structural balance correction for the countries that still had not reached the MTO or that had excessive deficits.

**Structural Balance = Headline Balance - Cyclical Component - Temporary Measures**



- **The SGP was revised for a second time in 2011 through a set of laws known as the Six-Pack:** one important innovation was the specification of the concept of significant deviation from the adjustment path towards the MTO and the definition of the corrective mechanism upon identification of this situation.
- **In March 2012, 25 European Union countries<sup>2</sup> signed the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (TSCG) which contains the Fiscal Compact:** it set a lower limit for the MTO (-0.5% of GDP or -1.0% of GDP only for countries with a debt ratio below 60 per cent of GDP and with low sustainability risk in public finances) and defined that it should be included in national legislation, preferably at constitutional level.

**The current MTO for Portugal is a structural balance of -0.5 per cent of GDP.**

*[Recently the minimum limit for the MTO was revised and currently stands at a surplus of 0.25 per cent of GDP]*



### Annual adjustment of the structural balance towards the MTO in the context of the preventive arm of the SGP

	Condition	Required annual fiscal adjustment (p.p. of GDP)	
		Debt < 60% and no sustainability risk	Debt > 60% or sustainability risk
Exceptionally bad times	Real growth < 0% or output gap < -4%	No adjustment needed	
Very bad times	$-4\% \leq \text{output gap} < -3\%$	0	0.25
Bad times	$-3\% \leq \text{output gap} < -1.5\%$	0 if growth below potential, 0.25 if growth above potential	0.25 if growth below potential, 0.5 if growth above potential
Normal times	$-1.5\% \leq \text{output gap} < 1.5\%$	0.5	> 0.5
Good times	output gap $\geq 1.5\%$	> 0.5 if growth below potential, $\geq 0.75$ if growth above potential	$\geq 0.75$ if growth below potential, $\geq 1$ if growth above potential

Source: European Commission.



NEW

### The commonly agreed position on flexibility within the SGP (February 2016)

#### The structural reforms clause:

- Allows for a temporary deviation from the MTO or the adjustment path towards it if structural reforms: **i)** have a verifiable positive impact on the long-term sustainability of public finances; **ii)** are major; and **iii)** are fully implemented.
  - ✓ the 3% of GDP threshold should not be breached;
  - ✓ the allowed deviation should not exceed 0.5% of GDP;
  - ✓ restricted to one single time per period of adjustment towards the MTO;
  - ✓ the maximum initial distance is 1.5% of GDP;
  - ✓ if the country is granted also the investment clause, the cumulative temporary deviation may not exceed 0.75% of GDP.

➔ **Special case: The pension reform clause**





NEW

### The investment clause:

- Allows for a temporary deviation from the MTO or the adjustment path towards it if investment: **i)** has a positive, direct and verifiable long-term budgetary effects on growth and on the sustainability of public finances.
  - ✓ GDP growth is forecast to be negative or to remain well below its potential (resulting in negative output gap greater than 1.5%);
  - ✓ an appropriate safety margin with respect to the 3% of GDP deficit reference value is preserved;
  - ✓ projects co-funded by the EU on Structural and Investment Funds, Trans-European Network, Connecting Europe Facility and EFSI;
  - ✓ the allowed deviation should not exceed 0.5% of GDP;
  - ✓ restricted to one single time per period of adjustment towards the MTO;
  - ✓ the maximum initial distance is 1.5% of GDP;
  - ✓ if the country is granted also the structural reforms clause, the cumulative temporary deviation may not exceed 0.75% of GDP.



### The role of the structural balance under the corrective arm:

- Under an EDP, recommendations are made to the Member State in question that specify the deadline year for correcting the situation (one year as a rule) and an adjustment path in terms of the nominal and **structural balances**.
- The Commission analyses compliance with these targets ex post as part of the assessment of the **effective action**.
- In this analysis, aside from the comparison between the change in the “observed” structural balance and the objective laid down in the EDP, the Commission calculates an “**adjusted fiscal effort**”.
- Even when both indicators (observed and adjusted fiscal effort) do not meet the requirements defined, a careful analysis is undertaken for the decision over the effective action, taking into account other factors.



#### European Commission

- Relevant methodology in the context of the SGP.
- Cyclical component:

$$BB_{\%GDP}^{cycle} = \varepsilon_{BB_{\%GDP}, GDP} * \text{output gap} = \frac{\Delta BB_{\%GDP}}{GDP} * \frac{(GDP - GDP^{pot})}{GDP^{pot}}$$

- Semi-elasticity of the budget balance as a percentage of GDP , relative to GDP:

	Individual elasticities (relative to GDP) <sup>a)</sup>	Weights (%) <sup>b)</sup>	Semi-elasticities <sup>c)</sup>
<b>Revenue</b>		<b>41,08</b>	<b>-0,02</b>
Taxes on households income	1,97	14,02	0,06
Taxes on firms income	1,33	7,91	0,01
Indirect taxes	1,00	34,21	0,00
Social contributions	0,79	29,09	-0,03
Other revenue	0,00	14,77	-0,06
<b>Expenditure</b>		<b>46,42</b>	<b>-0,53</b>
Unemployment benefits	-6,04	2,18	-0,07
Other expenditure	0,00	97,82	-0,45
<b>Budget balance</b>			<b>0,51</b>

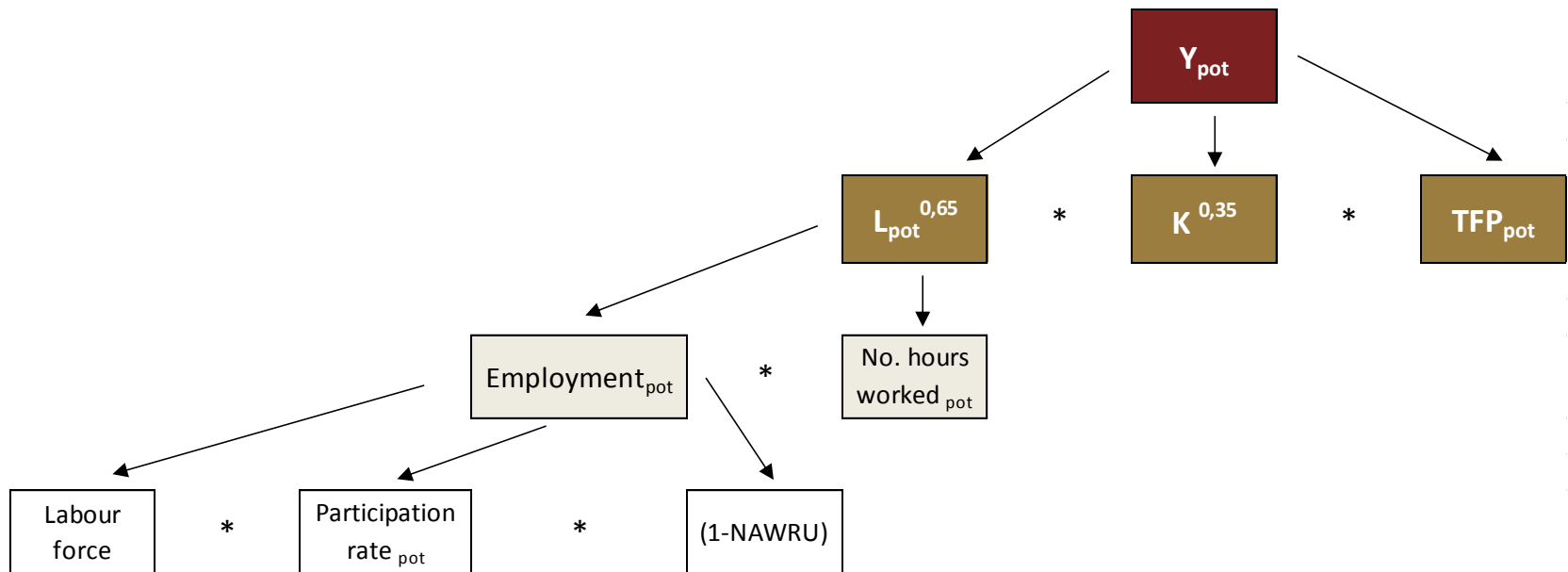
Sources: Mourre *et al.* (2014) and Banco de Portugal.



#### European Commission (cont.)

- Cobb-Douglas production function (Havik *et al.* (2014)):

$$Y = L^\alpha K^{1-\alpha} * TFP$$



Sources: European Commission and Banco de Portugal.



#### European Commission (cont.)

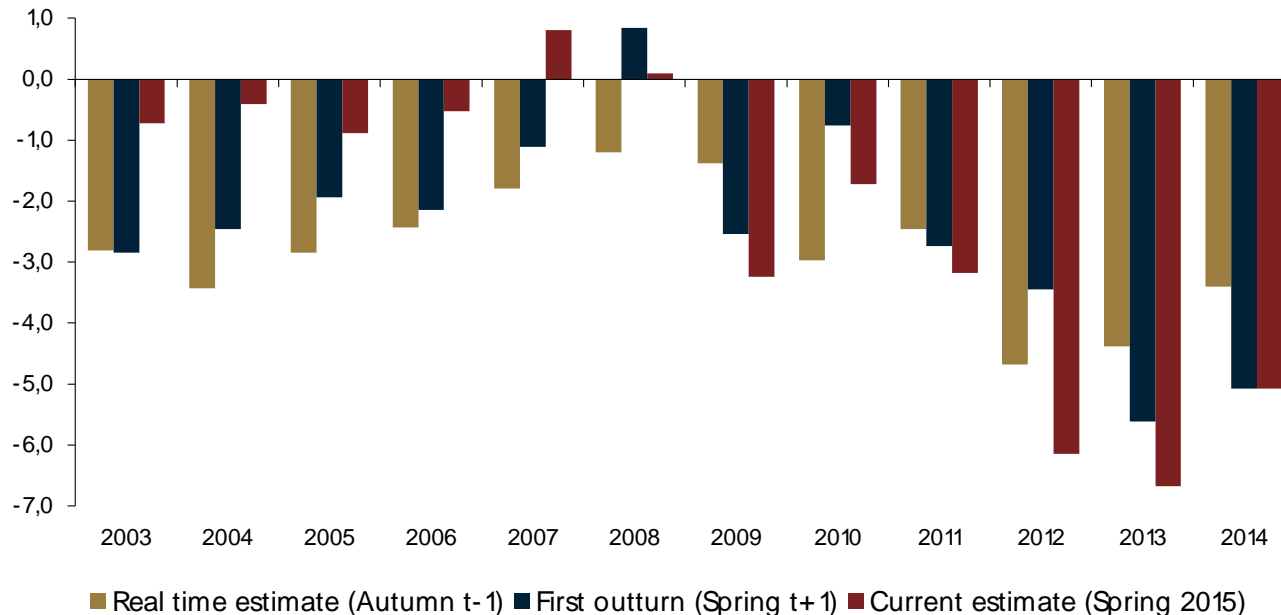
- **Main cons:**

- Complexity of the methodology;
- Difficulties in duplicating results;
- Not symmetrical, by construction;
- Frequent revisions;
- Does not take into account composition of growth effects.



#### European Commission (cont.)

Output gap in the European Commission methodology: revisions since the real-time estimate (Portugal)





#### European System of Central Banks

- Adopted in 2001 (Bouthevillain *et al.* (2001)).
- It assumes that the budgetary components affected by the economic cycle have macroeconomic bases (defined in real terms) that are different from GDP and that explain better their evolution:

- Taxes on households income (private sector wage bill), Taxes on corporate income (private sector GDP), Taxes on production and imports (private sector consumption), social security contributions (private sector wage bill), and, on the expenditure side, unemployment-related expenditure (number of unemployed).

$$BB_{\% \text{ GDP}}^{\text{cycle}} = \frac{\sum_{i=1}^4 R_i^{\text{cycle}} - E_U^{\text{cycle}}}{\text{GDP}} = \frac{\sum_{i=1}^4 \varepsilon_{R_i, X_i} * \left( \frac{X_i - X_i^{\text{trend}}}{X_i^{\text{trend}}} \right) * R_i - \varepsilon_{E_U, X_U} * \left( \frac{X_U - X_U^{\text{trend}}}{X_U^{\text{trend}}} \right) * E_U}{\text{GDP}}$$



#### European System of Central Banks (cont.)

- **Main pros:**

- Symmetrical;
- (Reasonably) Transparent and easy to implement;
- Allows a disaggregated analysis of structural revenue and expenditure items;
- Allows the calculation of composition of growth effects.

The composition effect may be estimated through the difference between the cyclical component described above and that obtained by multiplying an aggregate semi-elasticity by the output gap. Banco de Portugal's latest estimate for this semi-elasticity was 0.50, however this is being updated as it was calculated in 2006.





#### OECD and IMF

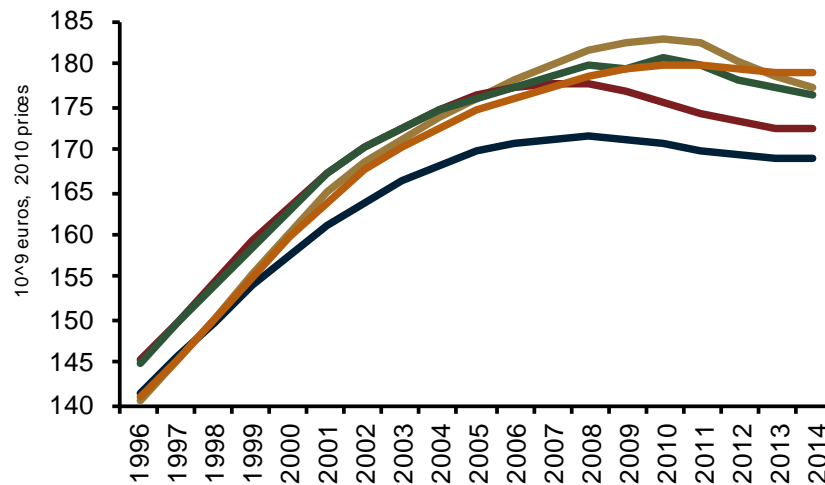
- Both use production function approaches:
  - OECD: *Giorno et al. (1995)*; *Beffy et al. (2006)*; *Price et al. (2014)*
  - IMF: *Hagemann (1999)*; *Bornhorst et al. (2011)*
- General recommendations for the calculation.
- The specific application is the responsibility of country desk experts.
- No details available and lack of harmonisation amongst countries.



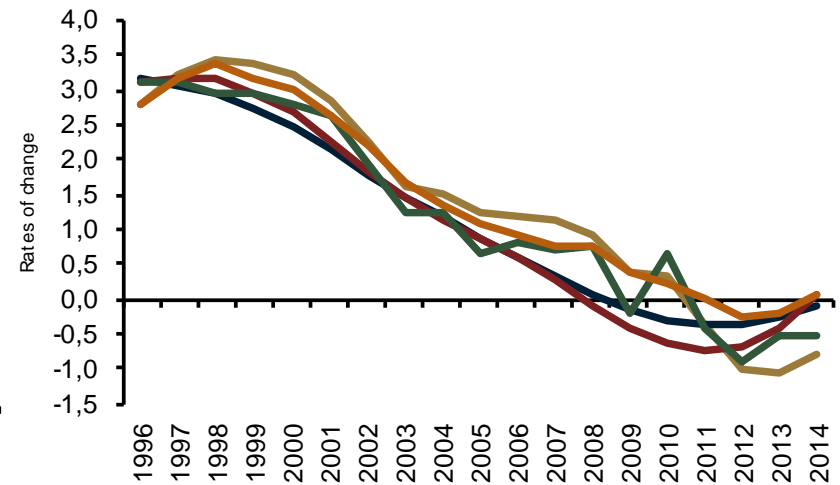
### 3. Methodologies for calculating cyclically-adjusted budget balances

## RESULTS

#### Potential GDP: Portugal



- European Commission - production function
- European Commission - HP (lambda=100)
- BcP - HP (lambda=30)
- IMF - production function
- OECD - production function



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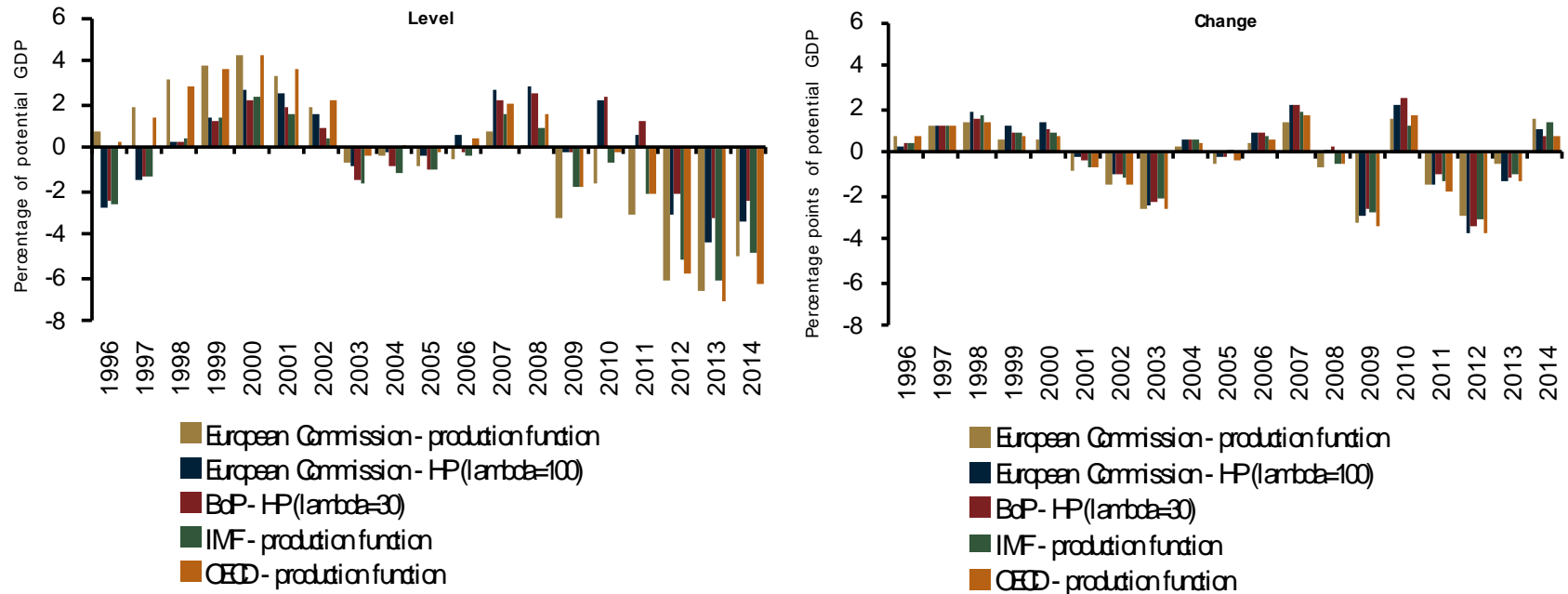
**Sources:** European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.



### 3. Methodologies for calculating cyclically-adjusted budget balances

#### RESULTS (cont.)

#### Output gap: level and change (Portugal)



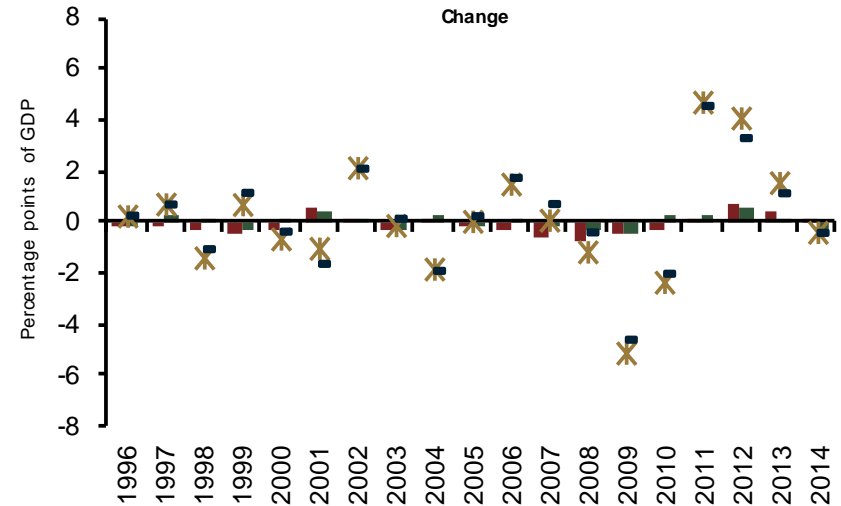
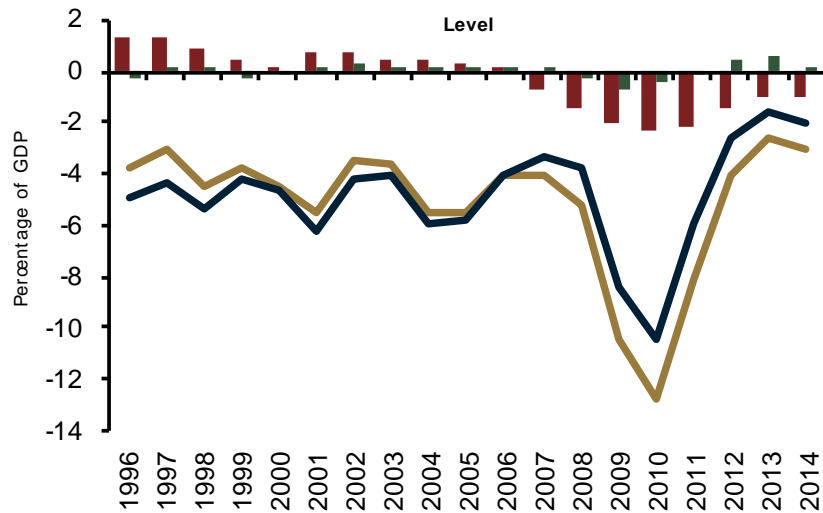
**Sources:** European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.



### 3. Methodologies for calculating cyclically-adjusted budget balances

## RESULTS (cont.)

### Cyclically-adjusted balances: level and change (Banco de Portugal and European Commission)



■ Total difference (BoPEQ)     ■ of which: composition effect  
— Banco de Portugal     — European Commission


■ Total difference (BoPEQ)     ■ of which: composition effect  
x Banco de Portugal     ■ European Commission

Sources: European Commission (*Spring 2015 Economic Forecasts*) and Banco de Portugal.



- Conceptually, **temporary measures** may be defined as measures that increase the observed balance over a very limited time, one year for example (one-off measures), or that basically modify their time profile in the medium to long term (self-reversing measures), but with no impact on the underlying budgetary position.
- Temporary measures that worsen the budget balance must be identified with caution, as they may create perverse incentives for policymakers (like for example the impact of natural disasters or judicial decisions).
- Borderline cases include the effects of past events whose full impact is recorded in the present balance, deliveries of large-value military equipment and the budgetary impact of the support to the financial system.



- In 2006, the **European Commission** revised the indicative list of measures and defined four principles to take into account for their identification: **(i)** the impact must be concentrated in one or a very limited number of years; **(ii)** the budgetary effect must be significant, i.e. above 0.1 per cent of GDP; **(iii)** the measures must be non-recurrent, and this criterion must be assessed in the context of related measures; **(iv)** as a rule, deficit-increasing measures should be not be considered.  **updated**
- Currently the European Commission releases the overall amount of temporary measures included in total revenue and expenditure for each Member State, but without a breakdown by measure and only from 2010.
- The definition adopted at the **Eurosystem** level shares the basic principles defined by the European Commission.
- In its publications, Banco de Portugal has considered as special factors one-off transactions that increase the general government deficit, but that may not be treated as temporary measures under the Eurosystem definition.



NEW

### EC – Report on public finances in EMU 2015 (Part II, 3)

#### Guiding principles for the classification of one-off measures:

**Principle I** – One-off measures are intrinsically non-recurrent

**Principle II** – The one-off nature of a measure cannot be decreed by law or by an autonomous government decision

**Principle III** – Volatile components of revenue and expenditure should not be considered one-off

**Principle IV** – Deliberate policy actions that increase the deficit do not, as a rule, qualify as one-offs

**Principle V** – Only measures having a significant impact on the general government balance should be considered one-offs



**An indicative list of “typical” one-off measures  
Standard cases not to be considered one-offs**



## 4. Temporary measures

Temporary measures and special factors in Portugal  
Impact in the budget balance as a percentage of GDP

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Tax amnesty (2002/2003 e 2013)			0,8	0,1											0,7
Securitisation of tax arrears 2003				1,2											
Personal income tax surcharge 2011												0,4	0,1		
Exceptional taxation scheme for capital held abroad (RERT)											0,0		0,2		
EU contribution relative to previous years (2005)						-0,1									
Auction for UMTS licences (2000)	0,3														
Other concessions			0,5					0,1	1,0		0,1		0,2		
<i>BPN</i>											-1,0	-0,3	-0,1		-0,1
Execution of a guarantee granted to <i>BPP</i>											-0,3				
Reclassification of the equity injection in <i>CGD</i>													-0,4		
Reclassification of the equity injection in <i>Banif</i>														-0,4	
Delivery of military equipment										-0,2	-0,7				
Transfer of PPP's assets to GG											-0,4	-0,1			
Recording of Madeira debt											-0,5				
Reclassification of <i>Via Madeira</i>												-0,2			
Reclassification of debt of two public transport corporations ( <i>Carris</i> and <i>STCP</i> )															-0,7
Assumption of guaranteed debt of <i>Fundo de Contragarantia Mútuo</i>															-0,1
<b>TOTAL</b>	<b>0,3</b>		<b>1,3</b>	<b>1,3</b>		<b>-0,1</b>		<b>0,1</b>	<b>1,0</b>	<b>-0,2</b>	<b>-2,8</b>	<b>-0,2</b>	<b>0,0</b>	<b>0,3</b>	<b>-0,9</b>

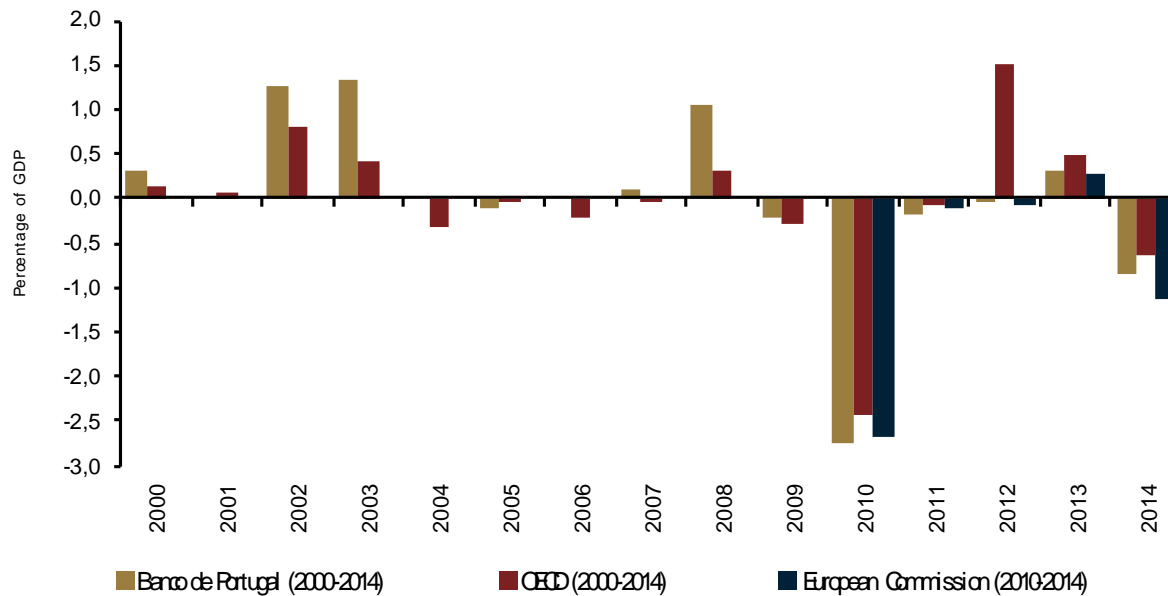
Sources: Statistics Portugal, Ministry of Finance and Banco de Portugal.

- The Special Issue presents in annex a table with the temporary measures and special factors considered by Banco de Portugal.





### Temporary measures and other one-off factors : Portugal

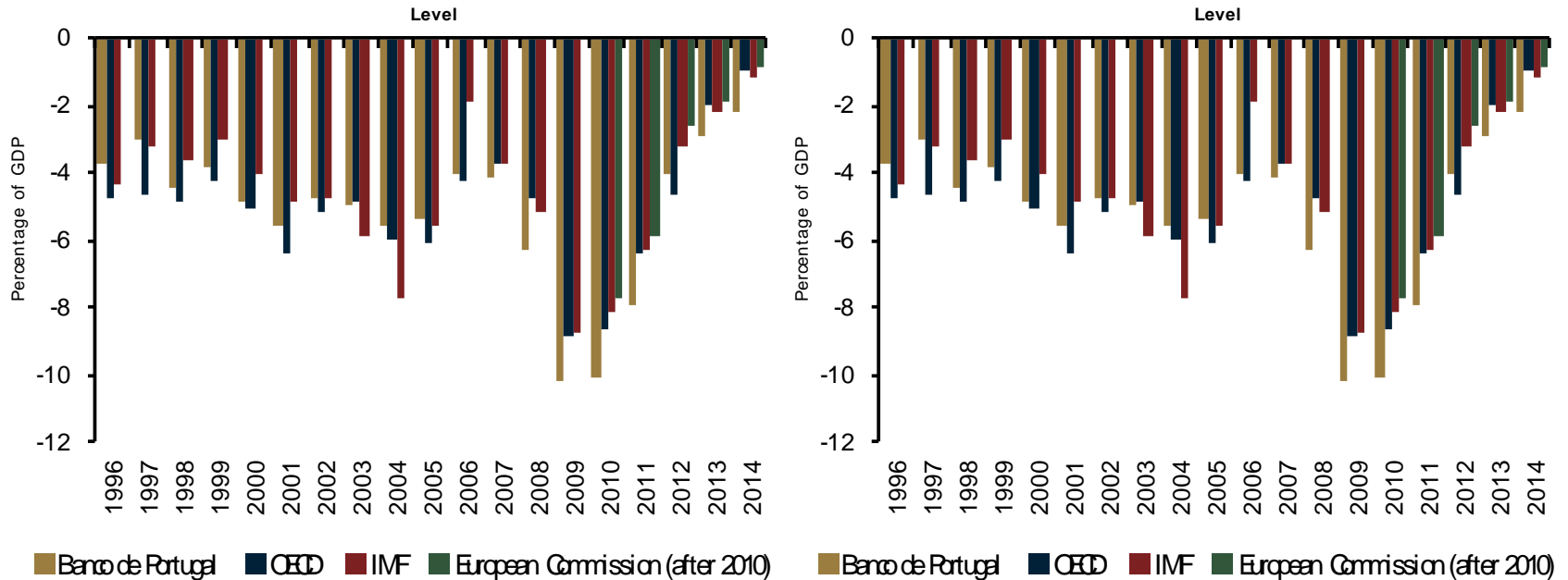


**Sources:** European Commission (*Spring 2015 Economic Forecasts*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.



## 5. Structural balances in Portugal: values and fulfilment of EDP requirements

### Structural balance in Portugal: level and change (Banco de Portugal, European Commission, OECD and IMF)



**Sources:** European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.



## 5. Structural balances in Portugal: values and fulfilment of EDP requirements

### Structural balance in Portugal: level and change

As a percentage of GDP

	2010	2011	2012	2013	2014	2011	2012	2013	2014	2010-2014
	<i>levels</i>					<i>changes</i>				
Banco de Portugal	-10,0	-8,0	-4,1	-2,9	-2,2	2,1	3,9	1,2	0,7	7,9
European Commission	-7,7	-5,8	-2,6	-1,8	-0,8	1,9	3,3	0,7	1,0	6,9
OECD	-8,6	-6,4	-4,7	-2,0	-1,0	2,2	1,7	2,6	1,0	7,6
IMF	-8,2	-6,3	-3,2	-2,2	-1,2	1,9	3,1	1,0	1,0	7,0

**Sources:** European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.

- Substantial differences in terms of levels but much smaller in terms of changes.



## 5. Structural balances in Portugal: values and fulfilment of EDP requirements

### Assessment of the fulfilment of the requirements of the corrective arm of the Pact in Portugal

As a percentage of GDP	2013	2014	2015	
	European Commission	European Commission	Stability Programme	European Commission
<b>Budget balance</b>				
Actual balance	-4,8	-4,5	-2,7	-3,1
EDP requirement	-5,5	-4,0	-2,5	
<b>Fiscal effort - Change in structural balance</b>				
Fiscal effort	0,7	1,0	-0,3	-0,8
Cumulative change since 2013	0,7	1,7	1,4	0,9
EDP requirement	0,6	1,4	0,5	
Cumulative EDP requirement since 2013	0,6	2,0	2,5	
<b>Adjusted fiscal effort - Adjusted change in structural balance</b>				
Adjusted fiscal effort	-0,8	0,8	-	-1,2
Cumulative adjusted change since 2013	-0,8	0,0	-	-1,2
EDP requirement	0,6	1,4	0,5	
Cumulative EDP requirement since 2013	0,6	2,0	2,5	

Source: European Commission.

Note: The adjusted fiscal effort in 2013 was obtained as the difference between the cumulative adjusted change in 2014 and the 2014 value.

**Winter forecast: -0.5%**



## 5. Structural balances in Portugal: values and fulfilment of EDP requirements

- The **traditional approach** that uses the change in the structural balance as an indicator of the budgetary policy stance is well documented in the literature. However, it has been subject to some criticism.
- Literature has arisen recently (since 2010 in particular), which proposes the use of bottom-up indicators built on a metric for the discretionary measures adopted by the fiscal authorities (**narrative approach**). This approach also presents substantial calculation difficulties.
- In 2013 the European Commission proposed a mixed indicator called **Discretionary Fiscal Effort** (DFE), which in general terms uses the narrative approach for revenues and the traditional approach for expenditure.



- The differences between the current estimates of the structural balance in Portugal computed by the European Commission, the IMF, the OECD and Banco de Portugal are very significant.
- However, these differences narrow sharply when the annual changes are considered instead of the indicator's levels.
- Greater transparency could perform a very important role in boosting the credibility and the degree of utilisation of the indicator.
- Even having in mind all its inherent limitations, this is undoubtedly a fundamental indicator whose usefulness goes far beyond the assessment of the Stability and Growth Pact requirements.
- Using this indicator to assess fiscal policy does not replace the need however to undertake complementary analysis of the actual balance, based on information as granular as possible.
- The quality of the analysis undertaken depends on the knowledge of the methodologies and limitations underlying its computation.



**Thanks a lot for the attention!**