



Report on the methodology to calculate revenue and expenditure trends and the reference growth rate

Executive summary

The Draft Ministerial Order **duly complies with** the legal provision establishing a revision of the sensitivity to the economic cycle of the budget of the general government sector as a whole and all of its subsectors as a consequence of the revisions made at EU level.

Nonetheless, the AIReF **recommends supplementing the Draft Order with additional information** to enhance transparency and make it easier to reproduce the calculations for all subsectors.

Moreover, guidelines are included that would **allow a better adaptation of the EU methodology** to the particularities of the Spanish economy.

The mission of AIReF, the Independent Authority for Fiscal Responsibility, is to ensure strict compliance with the principles of budgetary stability and financial sustainability contained in article 135 of the Spanish Constitution.

AIReF:

José Abascal, 2, 2nd floor. 28003 Madrid. Tel. +34 910 100 742

E-mail: Info@airef.es.

Website: www.airef.es

1. Introduction

Pursuant to Ruling 11/2015 issued by the President of the AIR^eF on the contents and methodology of the report on the Draft Ministerial Order concerning the calculation of revenue and expenditure trends and the reference growth rate of the Spanish economy, **this report focuses on the amendments proposed by the Draft Order and is divided into two separate sections as follows:**

- **Assessment of the Draft Order:** An appraisal is made of the amendments made to the Order including both substantive and formal aspects. Particular attention is paid to the information provided with the two-fold objective of enhancing transparency and making replication of the calculations easier.
- **Guidelines on possible methodological improvements:** The report assesses potential improvements to be considered when applying the methodology.

2. Assessment of the Draft Ministerial Order

2.1. Amendments made

The Draft Order covered by this report **amends Order ECC/2741/2012**, of 20th December, developing the methodology of Organic Law 2/2012, of 27th April, on Budget Stability and Financial Sustainability (LOEPySF, *Ley Orgánica 2/2012, de 27 de abril, de Estabilidad Presupuestaria y Sostenibilidad Financiera*)

The scope of the amendments is very limited. They merely adopt the new government revenue and spending elasticities with respect to the output gap, as estimated by the OECD and adopted by the European Union in May 2014 (see Box 1), in order to determine the impact of the cycle on government accounts of Member States.¹ Specifically:

¹ See Mourre, G., Astarita, C. and S. Princen (2014) “Adjusting the budget balance for the business cycle: the EU methodology” European Economic Papers 536.

- **This update revises up the cyclical component of the budget balance for Spain.** The change comes from revising up the elasticities of corporate income tax, social security contributions and employment benefits expenditure that more than offset the reduction in personal income tax elasticity. The OECD maintains the assumption of a unitary elasticity for indirect taxes and the assumption of a zero elasticity for non-tax revenue (see Table 1).
- Furthermore, **the sectoral distribution of the cyclical balance between the subsectors, together with the singularity of the regional funding system in Spain, requires an additional amendment in order to calculate the cyclical balance of the Autonomous Regions (AR).** The cyclical sensitivity of the state transfers of revenues from the regional funding system is revised down (from 1.45 to 1.34).

Table 1. Updated revenue and expenditure elasticities

Revenue	M.O. 493/2014	Draft M.O.
Personal Income Tax	1.92	1.84
Corporate Tax	1.15	1.56
Indirect Taxes	1.00	1.00
Social Security Contributions	0.68	0.72
Expenditure	M.O. 493/2014	Draft M.O.
Unemployment Expenditure	-3.30	-5.83

Source: Ministry of Economy and Competitiveness

These two changes give rise to a **partial amendment that affects appendix II** of Order ECC/2741/2012. The following remain unchanged:

- **The overall approach to the cyclically-adjusted balance of the general government as a whole**, which follows the EU methodology, as set out in the LOEPySF. This approach is based on estimating (i) a parameter that summarises the cyclical sensitivity of the budget (semi-elasticity to the output gap) and (ii) another parameter that represents the cyclical position of the economy, which also follows the EU methodology for estimating potential GDP. The latter methodology appears in appendix I of Order ECC/2741/2012.

- **The approach and criteria for distributing the cyclical balance of the general government sector as a whole between its subsectors** and for calculating the cyclical balance of each Autonomous Region (AR) and Local Corporation (LC). Distribution is based solely on the different revenue and expenditure structures of each unit. The approach therefore assumes a common cyclical position or output gap at national (including social security fund), regional and local government levels. Furthermore, it is understood that the aggregate elasticities accurately reflect the performance of economic units at a regional and local level. That means the different cyclical sensitivity is explained by the differences in the budget structures themselves.
- **All the additional parameters necessary for completing these calculations.** Basically, these refer to the weights in GDP of the revenues and expenditure of different government entities.

As a result of all the above, the Draft Order adopts the **semi-elasticity calculated for Spain by the EU**, which will be used to determine the cyclically-adjusted balance of the government sector as a whole. This means **revising the value up** from 0.48 to 0.54. This revision implies that the variation in the budget balance shows a closer relationship with the cycle. For Spain, revising up the semi-elasticity means that the economic recession stemming from the recent financial crisis has had greater importance in explaining the deterioration of public-sector finances.

The **Draft Order indicates that this new total semi-elasticity will be maintained** until the EU modifies the reference period (2002-2011) for calculating the weights of the different revenues and expenditure in GDP or their elasticity.

Box 1. EU methodology for the cyclically-adjusted budget balance and rationale for amending the Ministerial Order

The cyclically-adjusted budget balance is related to the budget situation that would prevail if the economy were using all its productive resources without any elements of friction (i.e. running at its potential). By comparing this with the observed balance, a measurement of the impact of automatic stabilisers and, by extension, of discretionary fiscal action² can be obtained.

The cyclically-adjusted balance with respect to potential GDP (CAB) is obtained by subtracting the cyclical component, $\varepsilon * OG$, from the actual balance as a percentage of GDP, $\frac{B}{Y}$. The cyclical component is the product of the cyclical sensitivity ε (or semi-elasticity³) times the output gap (OG), which measures the cyclical position of the economy through the relative difference between observed and potential real GDP.

$$CAB = \frac{B}{Y} - \varepsilon * OG$$

The EU approach identifies the components of the different government sector revenues and expenditure that react automatically to the economic cycle. These components give the cyclical sensitivity of the budget balance. On the side of tax revenue, personal income tax, corporate income tax, indirect taxes and social contributions are considered to have a cyclical component, whereas only unemployment benefits react automatically to the cycle on the expenditure side.

Estimating the semi-elasticity (ε) requires knowing (i) the elasticity of the output gap of each item of revenue and expenditure considered ($\eta_{R,i}, \eta_{Gu}$), (ii) the specific weight of each tax and social security contributions in total revenues ($\frac{R_i}{R}$) and the specific weight of unemployment benefits in total tax expenditure ($\frac{G_U}{G}$) and (iii) the ratios of revenues and expenditure in GDP ($\frac{R}{Y}, \frac{G}{Y}$).

$$\varepsilon = \left(\sum_{i=1}^4 \eta_{R,i} \frac{R_i}{R} - 1 \right) \frac{R}{Y} - \left(\eta_{Gu} \frac{G_U}{G} - 1 \right) \frac{G}{Y}$$

The elasticities of the items described above to the cycle ($\eta_{R,i}, \eta_{Gu}$) have recently been re-estimated by the EU and the OECD, using new data bases and improved methods, giving rise to a new value: semi-elasticity. The objective of the Draft Ministerial Order is to incorporate these improvements in the case of Spain and apply them to the different subsectors of the general government sector.

² Once corrected for one-off, temporary measures, the structural balance that is used to assess the stance of fiscal policy and the fiscal effort.

³ Budget semi-elasticity indicates the change in budget balance as a percentage of GDP. If the output gap increases by 1 percentage point (i.e., if real GDP increases by 1% for a given potential GDP).

2.2. Appraisal of the amendments made and recommendations

Taking into account the information provided by the Draft Ministerial Order, **the AIR^eF understands that there is due compliance with the legal provision revising the sensitivities** of the budget of the government sector as a whole and of its subsectors as a consequence of the revisions made at a European level.

However, the AIR^eF considers that the Draft Ministerial Order contains certain constraints that affect the distribution of the cyclical balance among the subsectors and, consequently, its structural position, which must be balanced. For this reason **the AIR^eF recommends making the following amendments to the Draft Ministerial Order to ensure greater transparency and to make it easier to calculate the cyclical balances** of the different subsectors and agents. The following aspects should be specified:

- **The parameters necessary to calculate the semi-elasticities in each subsector and for each individual Autonomous Region.** To that end, the final Ministerial Order must include a replica of table 1 included in the Draft Order for each subsector, along with the weightings necessary to calculate the semi-elasticity of each Autonomous Region.
- **The public statistical sources of all the sets used in calculating the weights of the revenue and expenditure items** for all subsectors. The final Ministerial Order must include details of the items to include in each subsection of revenues and expenditure and their source of origin, whether it is the national accounts or budget implementation data from the different agents.
- **The methodology for calculating the elasticity (1.34) of the transfers from the funding system paid by the State** with respect to the output gap. This elasticity is calculated by the Ministry of Economy and Competitiveness from the elasticities of the taxes transferred to the Autonomous Regions. But the Draft Order does not provide enough detail on how it is calculated. Bearing in mind the amount of transfers from the funding system paid out by the State and the complexity of the system, the Ministry needs to specify how it calculates this elasticity in order

to assess its suitability. More specifically, it is important to know if the weightings used in calculating the elasticity of the funding system transfers paid out by the State to the Autonomous Regions reflect the real situation of the funding system currently in force.

- **The items to include as transfers from the funding system** to which the proposed cyclical elasticity of 1.34 is applicable. The changes that have occurred in the regional funding system during the relevant years for calculating the weightings (2002-2011) make it difficult to track this item when calculating semi-elasticities. Therefore, it is necessary to know what funds are included at any given moment in time.

Finally, the AIR^eF suggests the following amendments to the wording:

- In section 2 of Appendix II, the last sentence of the second last paragraph should be completed with the words: "... except those associated with the Autonomous Regions funding system."
- In section 3 of appendix 2, the concept of Local Corporations should be replaced by *Diputaciones Forales* (provincial councils with special taxation privileges in the Basque Country, in Alava, Vizcaya and Guipúzcoa).
- When reference is made to elasticity with regard to the Guarantee Fund, it should be replaced by elasticity with regard to the Funds associated with the regional funding system.

3. Guidelines on possible methodological improvements

3.1. Disaggregation of institutional boundaries

The Draft Order maintains the three subsectors of the original Order: the central government, including social security funds, the ARs and the LCs. The Ministry of Economy and Competitiveness justifies including social security funds in the Central Government aggregate because the economic cycle affects the consolidated sector as a whole and unemployment benefits —the only expenditure considered cyclical under the EU methodology— can be financed indistinctly by social security contributions, taxes or government debt.

A greater institutional disaggregation, however, would facilitate both budgetary planning and monitoring compliance with budget-stability targets at all levels of the government sector. More specifically, the **AIR^eF deems it advisable to adjust the boundaries established in the European System of National Accounts so that a distinction can be made between the following subsectors:** a) Central government comprising the State and the agencies of the central administration; b) ARs; c) LCs and d) social security funds.

Furthermore, given the special characteristics of the State Public Employment Service (SEPE, as it is known by its Spanish acronym), it would help to specify the cyclical component of the SEPE within the social security funds. The reason for this is that even though the SEPE falls within the Social security funds subsector in national accounting terms, it is an independent agency of the central government that would receive a state transfer to offset its deficit in the event of an imbalance. Given that unemployment benefits—which are managed by the SEPE—are the only expenditure item that is considered to have a cyclical component, dealing with the item as a whole without further disaggregation does not allow an adequate assessment of the social security budget stability targets.

3.2. Particularities of the regional funding system

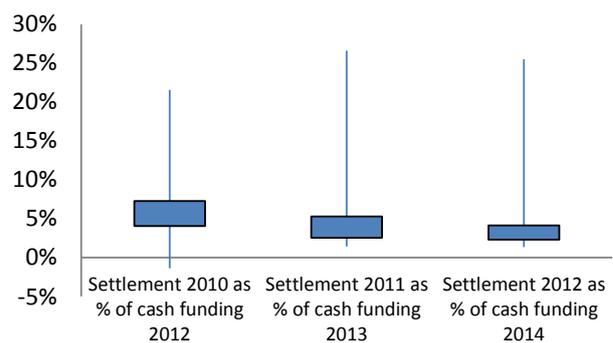
In an effort to keep the calculation of the structural balance of the ARs as close to the aggregate method proposed by the EU as possible, the Ministry of Economy and Competitiveness has opted for a simplified approach, based on the following assumptions: (i) the cyclical position of the ARs is similar to the output gap of the economy as a whole; (ii) the elasticity of the different revenues and expenditure does not depend on the region where they are made; and (iii) the elasticity of the transfers from the regional funding system to the output gap is assumed to be equal to 1.34.

The Draft MO approach to the funding system, whereby it establishes an elasticity to funding-system-related transfers, **does not adequately reflect the impact of the funding system when calculating disaggregated balances.** There is a considerable time lag in the resources of the regional funding system paid out by the General State Administration, between the revenues generated in an AR and the revenues it finally receives. The system of interim payments and a final settlement introduces a time gap difference between the accrual and the cash collected due to the fact that it is impossible to know in real time the tax revenues collected from the different transferred taxes covered by the interim payments. Every year, the difference between the advance payment received in t-2 and the final amount due

to each AR has to be settled. These settlements have a distorting effect on the balance of the different ARs. For example, in times of recession, there is usually a positive bias to revenue forecasts. This occurred in 2009, when interim payments made to the ARs exceeded the final amount by

more than €18bn. The gap is corrected two years later, when the final settlement is made and so affects the t+2 budget, and distorts the balances of both t and t+2.⁴ By way of example, graph 1 highlights the weight of the settlement of the interim payments for the imbalance with regard to the interim payments made in t-2 for 2012-2014. The graph shows information concerning the distribution of the settlements made to the ARs, including minimum and maximum values and first and third

Graph 1. Settlement of interim payments in cash terms, weight in total AR funding from resources paid via the interim payment system



Source: AIRef, from data published by MINHAP
 N.B.: the graph shows, minimum and maximum values, first and third quartiles for all ARs except for Navarra and the Basque Country.

⁴ In the case of 2009, as the distortion resulting from an over-forecasting of revenues was so great, to avoid impacting the ARs at the toughest time of the recession they were allowed to defer payment of the negative settlement to the State for 5 years initially. This period was later increased to 10 years and currently, since 2012, stands at 20 years.

quartiles. The quantitative importance of the settlements can be seen in the graph. They account for around 6% of the total cash funding from resources paid in advance to most regions, and even as much as 20% in some ARs.

On the understanding that the Draft Order must be compatible with the institutional environment provided by the AR funding system in force, the proposed methodology needs to be adjusted to offset imbalances caused by the interim payment settlements. One quick and simple alternative would be to transfer the amounts from the interim payments to their accrual period (in other words, two years before they are booked as cash entries) and re-estimate future settlements in accordance with accrued revenues.

3.3. Considerations about statistical sources

The EU methodology followed by the Draft Order implies **the coexistence of the European System of Accounts (ESA) 2010 and 1995. This induces distortions in the cyclical sensitivity of the budget.** Whereas the new elasticities and weights are estimated using the ESA 95 methodology, the output gap applied, observed budgetary balances and GDP are obtained using the new ESA 2010.

Moreover, **the use of average weights** (2002-2011) may not adequately reflect the most recent budget structure, due to changes in the regional funding system.

APPENDIX- Legal grounds of the report

Organic Law 6/2013, of 14th November, on the establishment of an Independent Authority for Fiscal Responsibility (AIReF)

Article 15 Report on the methodology to calculate revenue and expenditure trends and the reference growth rate

Any amendments to the Ministerial Order governing the methodology used to calculate revenue and expenditure forecasts and for the reference growth rate as referred to in articles 12.3 and 21.2 b) of Organic Law 2/2012, 27th April, on Budget Stability and Financial Sustainability, shall be the subject of a report by the Independent Authority for Budget Responsibility prior to their approval.

Royal Decree 215/2014, of 28th March, approving the Organic Statute of the AIReF

Article 13 Report on the methodology for calculating revenue and expenditure trends and the reference growth rate

1. Any amendments to the Ministerial Order governing the methodology used to calculate revenue and expenditure forecasts and for the reference growth rate as referred to in articles 12.3 and 21.2 b) of Organic Law 2/2012, of 27th April, on Budget Stability and Financial Sustainability, shall be the subject of a report by the Independent Authority for Budget Responsibility prior to their approval.

2. The draft Ministerial Order shall be submitted to the Independent Authority for Budget Responsibility, accompanied by all the reports and other background information that have been taken into account.

3. The preamble to the Order shall expressly mention acceptance of the criteria of the Authority or, if the Order is approved against the Authority's recommendations, the reasons why those recommendations were not followed.