
A First Approach to a Public Financial Information System for Social Benefits

Noemí Peña-Miguel¹, Javier Corral-Lage, J. Iñaki De La Peña Esteban
University of the Basque Country (UPV/EHU)

Abstract:

This paper proposes an aggregate accounting model for spending or accounting calculations in the form of a multi-year information system to supplement and expand information on a basic social assistance benefit. This model would be managed at national level, and would provide detailed information on changes over time in the items funded, with a view to assuring maximum accountability.

The system proposed would provide information on trends in the origin and application of funds for financing and managing possible basic social assistance benefit payments.

¹ *The authors belong to the Finance Economy I Department Lehendakari Aguirre Avenue, 83. 48015. Bilbao, Phone: 0034946013819
Corresponding authors' e-mail: noemi.pena@ehu.eus*

Introduction

Thorough, ongoing assessment of public management tasks has long since ceased to be a mere ideal, or indeed a mere legal requirement, and has become an inescapable economic necessity (Fernández, 2009). Ordinary people are demanding to know where public funds are sourced from, how spending by public administrations is arranged, how funding is used in pursuit of objectives and how the whole process is monitored from the outset. The high level of devolution in Spain makes these tasks extremely complex, but this should not be seen as an impediment but rather as an additional stimulus for optimising the use of public resources.

In the last third of the 20th century criticisms began to be levelled at the “myth of benevolence” of the public sector (Brennan & Buchanan, 1980) and even the alleged superiority of the majority rule in collective decision-making was called into question (Arrow, 1951). Baumol (1967) attributed intrinsically low productivity to the public sector, while Niskanen (1971) asserted that bureaucracy behaved highly inefficiently, and assumed that its objective was merely to maximise its own funding allocations. Along similar lines, Wolf (1979) drew up a theory of “public sector failures” caused by the special supply and demand characteristics of public goods and services.

In the 1990s the doctrine of New Public Management gained popularity, particularly following the publication of its basic postulates in a paper by Osborne & Gaebler (1992). This doctrine sought to change the traditional bureaucratic approach and redirect public sector management towards attainment and quality of results, encouraging the participation of the public, fostering decentralised decision-making, striving for continuous improvement and seeking to support ongoing innovation (Fernández, 2009). Two of the basic postulates of New Public Management in particular deserve to be highlighted:

- a) public management oriented towards results and quality of results, over and above concern for procedures (legality) and mere resource consumption; and
- b) public management oriented towards customers/citizens (Osborne / Gaebler, 1992; Gore, 1994).

One of the criticisms levelled at the way in which public administrations manage their affairs is that how the services and goods that they manage are funded is of secondary concern to them: pressure, vested political interests and demands for coverage of particular risk or expenditure items arise first, and only afterwards is any thought given to how their provision is to be funded or implemented. This heavily distorts the choice of resources and results in major inefficiencies in the management of the corresponding basic “pillar” of social protection (Ruesga *et al.*, 2012; Theriou 2015; Athanasenas *et al.*, 2015; Thalassinou and Liapis 2013; Duguleanu and Duguleanu, 2016). Moreover, when financing is merely a secondary consideration

detailed financial information on such provisions, broken down item by item, is hardly contemplated at all. This has led us to look for a model of financial information capable of providing information on the origin and application of funds that could enable a basic social assistance benefit (BSAB) to be financed (Fetai 2015).

Importance of Public Financial Information

In the 1990s much more attention began to be paid to matters of openness in the public sector, as reflected in papers such as that of Kopits and Craig (1998), with the support of international organisations such as the OECD (2001). However, in practice a largely entrepreneurial public sector (Utrilla de la Hoz, 2006) and certain public/private partnership arrangements (e.g. shadow tolling and the so-called “German method” of deferred payment) have resulted in a lack of transparency.

This lack of transparency has led stakeholders (including customers, shareholders and suppliers) to demand more financial information from the public sector, including details of its performance on economic, social and environmental issues. The general public are a major shareholder in this sense: the current crisis and the continual cases of fraud that have accompanied it have led them to demand that publicly-run firms and private firms that receive subsidies or transfers from the public sector publish reliable financial information, particularly on the following points:

- a) efficiency in the allocation and use of public resources; and
- b) transparency in management for the sake of accountability.

Maximum transparency needs to be attained in accountability for basic social assistance benefit. That transparency must be based on a financial information model capable of providing data that are easily accessible, understandable and comparable in terms of the origin and application of the funds allocated to each benefit (Allegret *et al.*, 2016). Our objective here is to propose an information model based on the tried and tested argument that good information encourages lawful budgetary practices and recommendable ethical behaviour, which means demanding more of public sector managers. González-Páramo (2001) states that “a transparent budget discourages creativity in accounting and finance is probably the best possible support for budgetary stability targets”.

In short, effective optimisation in the management of monetary social benefits extends not just encouraging transparency but also to establishing substantial regulations and budgetary institutions that can handle the theoretical postulates of continuous improvement in government programmes. Accountability to certain institutions and rules is necessary but is not in itself sufficient for the implementation of a form of public sector management that complies with the general principles of efficacy, efficiency and economy (Fernández 2009).

Furthermore, conventional budgetary information is limited to a single financial year, and as such has proven insufficient to assure accountability in the broadest sense, including compliance with the law and the provision of information on financial and economic situations and on efficiency and efficacy in resource management. Thus, to achieve the current objectives of public accounting, more widespread, longer-term information is required (AECA, 2001).

In the case of social benefits, the financial information systems in place are not as useful as might be desired because they are subject to different public and private frameworks and thus fail in many cases to give an accurate picture of the overall financial and economic situation. There are a great many different benefits, which are managed in Spain by a great many different organisations (provincial councils, local authorities, central government, etc); greater control of and accountability for the management of these benefits are therefore needed. Funding for social assistance benefits form part of the budgets drawn up and settled each year by the general social security system and by each regional autonomous community.

In this context we believe that there is a need for a specific financial information model capable of monitoring and recording spending on each social benefit and the revenue required to fund it, even if the benefit involved is classed as eligible for funding and management by the general social security system. The volume of funding allocated to such items is sufficient for it to require exhaustive monitoring over a long period, e.g. 12 years (the equivalent of 3 legislatures in Spain). This means that once the amount payable in benefits and the way in which it is to be funded are known, continuity can be assured regardless of which party is in government.

We also believe that compulsory minimum standards should be set for the presentation of information, and that the demands of stakeholders should be harmonised (i.e. a consensus should be reached). “Stakeholders” in this case means the organisations that draw up the financial accounts of public administrations and national accounts, political representation bodies, parliamentary bodies, external control bodies, financial intermediaries, economic and financial analysts and rating services, domestic and international public organisations, other public bodies that provide resources to help fund benefits, other private bodies and associations, the media, the general public, people interested in public-sector activities and, of course, the recipients of BSAB themselves (AECA, 2001). What these stakeholders demand is essentially the following:

- a) compliance with the requirements of law and the accountability of managers for the use of the resources entrusted to them, including checks that resources are used in accordance with legally approved budgets and other provisions of law;
- b) knowledge of the financial status of organisations, so as to be able to assess sources and types of revenue, allocation and use of resources,

whether or not revenue is sufficient to fund current expenditure and whether current fiscal policies are sustainable; and to forecast the timing and volume of the treasury flows required and the need to use reserve funds;

- c) knowledge of the financial and social impact of the activities of organisations on the economy, so as to assess the contribution made by public administrations to their surrounding areas (AECA, 2001).

This paper therefore sets out to draw up a standardised, meaningful overall information system that meets the requirements indicated in terms of efficiency, efficacy and economy. Our reasons for doing this are as follows:

1. Meeting financial information objectives, and thus satisfying the needs of users, may require the inclusion of additional information other than that required under regulations, as indicated in the report *Marco Conceptual para la Información Financiera de las Entidades Públicas* (AECA 2001) [“Conceptual Framework for Financial Information on Public Bodies”]. Spending on social benefits is already envisaged within the general national budget in Spain, but we propose a system or model that can provide detailed information on the origin and application of the resources or funds available to cover that spending.
2. The social security system needs to adapt to changes in the economic and demographic situation, as reflected in the Toledo Pact² (1995) and indicated by numerous researchers (Pinilla, 2006; Devesa *et al* 2011, Conde, 2012). The introduction of a BSAB could help to bring about a faster, more positive change in the social security system, and could help to make that change into an improvement in social protection, as regards both the basic amounts paid out and their extension to the whole population.

Transparency as regards the sources of funding used for different types of benefit is a prerequisite for change. The idea is to set up a financial information system to achieve this. Moreover, the introduction of BSAB payments could also help to bring about a more open procedure for calculating earnings-related pensions, taking the recipient’s entire contribution payment history into account.

² “The Toledo Pact (Spanish: Pacto de Toledo) is an ambitious reform of the Spanish social security system approved by the Spanish parliament on 6 April 1995, aimed at streamlining and guaranteeing the future of the Spanish social security system”

3. The outlay required to pay for this expenditure item is large enough to require efficient monitoring based on the principles of efficacy, efficiency and economy.

The system proposed here provides information on changes over time in the origin and application of the resources used to fund and to manage potential BSAB payments. The idea is for this to be used as a management accounting tool to provide the following:

- a) sufficient information to enable tactical and operational decisions to be made (e.g. in provisioning the equalisation fund for the benefit and establishing the amount and time-frame for the reserve fund), so that the system is capable of conveying enough meaningful information for strategic decision-making;
- b) maximum accountability in regard to the basic benefit under consideration, based on the establishment of a financial and accounting information model capable of providing data which are easily accessible, understandable and comparable in regard to the origin and application of the funds used to cover benefit payments.

The financial information system proposed allows for the monitoring of benefits and assures accountability in regard to their management. It facilitates the measuring, control and monitoring of changes over time in the management of basic benefits so that the whole of society is aware of where the resources required came from and how they are used. The system would entail responsible, open, clear, lawful disclosure of financial, economic and social information to meet the requirements of the knowledge society. The idea is to seek maximum accountability in regard to the BSAB under consideration.

The information model created to handle all this is based on an actuarial balance sheet. This provides transparency and at the same time serves as an indicator of the solvency, sustainability and financial soundness of the system for financing basic benefits.

Conceptual Framework and Budgetary Principles for Financial Information on Public Bodies

The conceptual framework is the theory that underlies accounting regulations, the objective of which is to provide meaningful, reliable information on the economic and financial situation of organisations. In the context of public administrations the object is for their annual accounts to give a true picture of their situation, for the financial information disclosed to be an accurate reflection of their economic and financial activities, and consistent with the principles of legality, efficacy, efficiency, economy, equity and public ethics (AECA, 2001).

Fulfilling these objectives of financial information, and thus meeting the needs of users, calls for additional information, including non-financial statements, in order to offer the most comprehensive, detailed description possible with the data available. This requires an additional information system that can expand on data, items and changes in them over time in order to show information in an accurate light (International Public Sector Accounting Standards, 2013).

In this context budgeting principles for financial information on public bodies must not be forgotten (see Table 1). Spanish Public General Act [*Ley Orgánica*] 2/2012 of April 27 on Budgetary Stability and Financial Sustainability sets out the general principles by which the public sector is to be governed. In this case “public sector” means not just the central government and its dependent bodies but also the administrations of Spain’s regional autonomous communities, local corporations, social security administrations and their dependent bodies, other publicly-run enterprises, mercantile companies and bodies covered by public law and answerable to public administrations (Spanish Official Journal n° 103, dated 30/04/2012). In the case that concerns us here, the General Treasury of the Social Security System is the organisation charged with managing BSAB. As such it must follow these principles:

Table 1. Budgeting principles for financial information on public bodies

| PRINCIPLE | OBJECTIVES |
|--|--|
| Budgetary stability | To attain structural equilibrium or a budget surplus |
| Financial sustainability | To be capable of financing current and future spending commitments within public borrowing and deficit limits |
| Multi-annual timing | To achieve compatibility between drawing up medium-term budgets and the principle of one-year periods under which budgets are approved and implemented |
| Transparency | To provide sufficient, suitable information to enable users to check the financial situation of an organisation, its compliance with the objectives of budgetary stability and financial sustainability and its observance of European regulations in this field |
| Efficiency in the allocation and utilisation of public resources | To establish a multi-year planning framework and budgeting programme in line with the economic situation, economic policy objectives and compliance with the principles of budgetary stability and financial sustainability |
| Liability | To hold public bodies liable for any failure to comply with the obligations laid down by the Act |
| Institutional loyalty | To ensure that each administration respects the lawful exercise of its powers, assesses the impact of its actions and cooperates with other administrations |

Source: Public General Act 2/2012 of April 27 on Budgetary Stability and Financial Sustainability

Given the particular characteristics of basic social assistance benefit, the information system for it requires 3 additional principles over and above those listed above by which public administrations are governed (see Table 2): universality, citizen orientation and social/inter-territorial justice and equity.

Table 2. *Additional principles for financial information on BSAB*

| PRINCIPLE | OBJECTIVES |
|---|---|
| Universality | <ul style="list-style-type: none"> a) To meet the information requirements of all users. b) To offer information on the matter under study, describing the concepts and forecasts made in monetary and non-monetary terms in order to provide useful, reliable, truthful information on the management of the benefit in question. |
| Citizen orientation | <ul style="list-style-type: none"> a) To meet the concerns of society on environmental and ethical matters, committing to fight against large-scale inequalities in the distribution of wealth from the perspective of respect for free enterprise within a market economy. b) To see that the environment, understood as the natural world and cultural heritage (as per the ruling of the Constitutional Court of June 26, 1995) is protected. c) To work to a code of practice based on openness, engagement with the community (Cubillo, 2002) and budgetary rationality (Peña et al, 2012). |
| Social/inter-territorial justice & equity | <ul style="list-style-type: none"> a) To analyse events and the consequences of decisions made. b) To work in a framework in which the impact of actions taken is considered. c) To promote inter-generational solidarity (Commission of the European Communities, 2007) through nationwide family policies. d) To work for transparency in accountability for the efficient use of resources and for budgetary rationality as a socially responsible objective. e) To take such actions as may be necessary for intra-and inter-generational equity to be sustainable (Peña et al, 2012). |

Source: Own work

Financial and Accounting Information Model

Definition

Governments use their budgets to allocate resources to cover spending estimated on a year by year basis. Those resources are obtained in the form of the taxes paid by companies and individual citizens. Socially responsible governments need to take into account how its budgeted spending decisions influence society, individuals and future generations, as it is they who decide on the distribution of resources among generations (OECD, 2009). There are 3 principles that must be considered in regard to generational income/spending equity (Barrell and Weale, 2010):

- a) each cohort or generation must pay for its own spending;

- b) the government must redistribute resources among the generations to optimise them over time;
- c) resources must be reallocated in such a way that all living generations have similar standards of living.

The tools available to governments for analysing/simulating the economic effects of their decisions include the following:

- a) Accounting calculation or aggregate accounting models for spending based on the legislation in force in each country and on the statistical information available. Such models may include high levels of detail and heterogeneity, and may be similar to micro-simulation models with no predefined behaviour.
- b) Dynamic general equilibrium models designed on the basis of a general equilibrium approach that incorporates a model of relations between economic and demographic variables using dynamic formulae (Escudé, 2010).
- c) Dynamic population micro-simulation models based on population micro-data with maximum heterogeneity. These enable different characteristics of individuals to be identified over time (Klevmarken, 2008).
- d) Generational accounting models intended to assess the sustainability of long-term public sector policies as a whole, in which the demographic factor (population ageing) is particularly significant (Abío *et al.*, 2005).

Out of the 4 models listed above, we have decided to use the aggregate accounting model (AAM) for spending, as we believe it is the model that best fits the financial information system for BSAB studied here. Moreover, it is a model that is used by the Organisation for Economic Cooperation and Development (OECD) and the European Union's Working Group on Ageing Populations and Sustainability (AWG). Dynamic general equilibrium models provide a framework in which sets of assumptions can be easily understood and compared. However, for the model to be complete sound theory of expectation formation would be needed (Kehoe, 1987), and such a model does not fit into this study because of the concept of basic necessity that underlies BSAB.

Dynamic micro-simulation models use IT applications that establish a structure of taxation and benefits operating on economic units at micro level, particularly households and individuals. Simulations produced under such models could be used to estimate the repercussions of the distribution of income, levels of inequality and poverty and, more generally, the social welfare that would result from changes in policy in a particular period. However, that is not the objective pursued here, so the use of such models is not considered feasible. The benefit studied here is intended to cover the basic needs of all citizens, not to analyse whether levels of inequality and poverty improve: this can be taken as given in view of the idea of redistribution that by definition underlies BSAB (Peña-Miguel, 2013).

Generational accounting models are based on inter-temporal budget constraints in the public sector. In the case studied here there are no such constraints, given that the benefit in question is to be funded mainly from contributions that are already being made, forecasts for which are drawn up using different potential scenarios (Peña *et al*, 2014).

The AAM is a model that, once the amount to which each individual in the Spanish population is entitled in a given year (for the purposes of the study the year considered is 2010) and the relevant funding possibilities are determined, enables forecasts for the future to be drawn up based on 5 hypothetical scenarios, resulting in clear, reliable financial and accounting information through which it is possible to determine the origins and applications of the resources needed to fund basic social assistance benefit. The model is drawn up on the basis of the methodological framework applied by the AWG and the OECD.

The Aggregate Accounting Model (AAM)

AAMs involve a financial/actuarial approach, as they are based on the determination of a succession of treasury statuses rather than stressing the commitments undertaken by the system (García-García, 2009). They are widely used by public administrations and official bodies, e.g. by the Ageing Working Group, the technical working group of the EU's economic policy committee responsible for spending forecasts.

The World Bank uses a different model based on aggregate accounting, known as PROST (Pension Reform Options Simulation Toolkit), and the ILO (International Labour Organization) also has its own aggregate model known as the ILO Pension Model. The specific information model for BSAB is based on the following:

- a) an aggregate accounting model for forecasting spending on BSAB and the revenue required to fund it;
- b) various hypotheses concerning the economy and demographics as a whole, particularly future demographic trends such as changes over time in fertility rates, migration flows and life expectancy, and in economic conditions, particularly future labour market participation and employment rates, wages, productivity rates and interest rates (European Economy 2/2012); and
- c) so-called institutional factors all rules of the pension system that determine the level of coverage of the system, access to and the amount of pensions (Boado *et al* 2011).

One advantage of this model is that it works as both a tool for providing the required level of transparency and an indicator of the solvency, sustainability and financial soundness of the system in place for funding BSAB. As an information system, it can also provide incentives for improving financial management by eliminating or minimising the long-standing divergences between the time frame of policy

planning and that of the system itself. We believe that the model also has the following advantages:

- separation and clarification of sources of funding;
- reserve fund;
- modernisation and public information;
- analysis and monitoring of changes over time in the system;
- possibility of recording the effect of trends in different items of future cash flow (Valdés-Prieto, 2002). Thus, when the funding system for social benefits is not in a steady state this model is capable of anticipating demographic and economic changes and changes in the rules that determine what benefits are payable, because it provides meaningful information that is significantly different from that obtained from current cash flow.

The model proposed is an AAM with modifications: the main change introduced is that instead of the cash accounting criterion used to date we use an accrual system so as to provide more copious and more transparent information. In other words, the information system designed seeks to show the following:

1. the resources available and the total real and accrued obligations each year, i.e. accountability for financial resources;
2. the commitment for future generations entailed by the need to provision and equalisation fund that will be a drain on future resources, i.e. Awareness of current and future economic capabilities and financial needs;
3. the real and forecast cost of the benefit for the coming years, i.e. identifying and assessing resources; and
4. the operation, consistency and integration of the all-round financial management system for BSAB.

Using an AAM with the accrual method means that the additional accounting principles looked at in Section 3 (universality, citizen orientation and inter-territorial justice and social equity) need to be developed, along with adequate technological systems and greater flexibility in information. The model marks a change in the way in which public funding is managed, and we hope that it will provide an adequate response to the increasing demand in society for transparency in the management of public finances.

Proposal for a specific information system for social assistance benefit

The model used to collect financial information on social assistance benefit is presented in the form of a multi-year balance sheet (see Table 3). It follows the accounting and actuarial balance sheet layout used by other researchers to analyse the pension systems (Boado- Penas, 2011). Like actuarial balance sheets, it offers incentives to improve management by eliminating or at least reducing the habitual discrepancies between the time frame used by politicians and election planners and

that of the system itself. The short term outlook adopted by politicians often fails to fit into the reality of a system with an indefinite time frame.

However, the model is not an actuarial balance sheet *per se*, because it does not calculate the amounts for items at their current value for base year prices but rather establishes values by means of forecasts that are corrected based on facts checkable on the effective balance sheet date.

The intention with this financial information system is to depoliticise the management of BSAB by taking measures with a long-term planning time frame so as to achieve greater inter- and intra-generational equity. We believe that it may therefore be useful in management accounting, and could be used not only to attain the desired levels of accountability but also as a tool for monitoring and managing the sources of funding needed to cover any potential BSAB scheme.

The asset-side items are contributions already being paid by the state and by Spain's regional autonomous communities that would be reassigned to cover BSAB, and contributions paid by wage earners as necessary to cover that benefit. Alongside this state funding, it is advisable to provision a reserve fund which can be used to provide funding when necessary to avoid time lags and deficits. Sufficient reserve funding to cover 2 months of payments is considered here.

We also consider an equalisation or stabilisation fund to cater for adverse economic effects in the short term. This fund would serve to offset the difference between the origin and application of funds in the second half of each period, and would work as follows: a constant contribution rate of wages is set so that funding is generated at the beginning of each period and used later. From the 4th year onwards the contribution rate is recalculated to generate the equalisation fund so that contributions can be kept constant over a four-year time frame.

This enables the amounts required each year to fund the benefits paid to different groups of people to be calculated, along with the percentage of the respective totals represented by each asset-side account and each liability-side account.

The forecasts made to calculate each asset and liability item in the balance sheet as shown in Table 3 are the following:

- 1) Demographic trends: a breakdown of the population structure by age groups provides information on the potential number of contributors and the number of people who will reach pension age in the coming years. The general population data that need to be studied include breakdowns of the population by age and gender, fertility rates, the percentage of births for each gender, mortality rates, immigration and emigration rates and their variations (Plamondon *et al*, 2000).
- 2) Economic trends: the main economic variables considered in our study are the following:

- GDP: the percentage of GDP earmarked for BSAB is used to measure the level of expenditure that an efficient, forward-looking public administration could undertake without problems even in the most adverse circumstances (Casassas, 2011).
 - Variations in the consumer price index for basic products to be covered by basic income benefit: given that the financing model proposed is intended to fund this basic benefit for 12 years, and that the benefit is intended to cover spending on basic necessities, variations in the prices of the relevant goods must be taken into account.
 - The variation in the discount rate for the benefit.
- 3) The labour market: the main variables that determine the structure of and potential changes in the labour market are the trend in wages, the variation in the number of individuals who switch from one employment status to another, e.g. from employed to unemployed, from employed to retired and from unemployed to employed and the number of new individuals who join the market.

Table 3: Basic social assistance benefit balance sheet for a 12-year period

| YEAR | 2010 | | 2011 | | 2012 | | 2013 | |
|--|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| APPLICATION OF FUNDS | | | | | | | | |
| Item | | | - | | - | | - | |
| AE1. Regional GMI | 766,731,832.18 | 0.40% | 767,498,564.01 | 0.40% | 755,218,586.99 | 0.40% | 753,708,149.81 | 0.41% |
| AE2. Non-contributory pensions, Act on social integration of the disabled, mandatory old-age & invalidity insurance & others | 13,828,125,845.88 | 7.26% | 13,841,953,971.73 | 7.28% | 13,620,482,708.18 | 7.30% | 13,593,241,742.76 | 7.32% |
| AE3. Contributory pensions (35%) | 36,877,687,000.00 | 19.37% | 36,914,564,687.00 | 19.42% | 36,323,931,652.01 | 19.46% | 36,251,283,788.70 | 19.52% |
| AE4. Unemployment: contributory level (85%) | 20,954,200,000.00 | 11.01% | 20,975,154,200.00 | 11.03% | 20,639,551,732.80 | 11.06% | 20,598,272,629.33 | 11.09% |
| AE5. Non-contributory pension quota | 142,576,820.00 | 0.07% | 142,719,396.82 | 0.08% | 140,435,886.47 | 0.08% | 140,155,014.70 | 0.08% |
| AET. STATE CONTRIBUTIONS (TOTAL) | 72,569,321,498.06 | 38.12% | 72,641,890,819.56 | 38.21% | 71,479,620,566.45 | 38.29% | 71,336,661,325.31 | 38.41% |
| B. WAGE CONTRIBUTIONS | 117,782,307,365.79 | 61.88% | 117,490,978,875.54 | 61.79% | 115,180,080,687.50 | 61.71% | 114,409,475,463.15 | 61.59% |
| TOTAL APPLICATION OF FUNDS | 190,351,628,863.85 | 100.00% | 190,132,869,695.10 | 100.00% | 186,659,701,253.95 | 100.00% | 185,746,136,788.47 | 100.00% |
| ORIGIN OF FUNDS | | | | | | | | |
| P1. WORKERS' BENEFIT | 97,623,139,260.11 | 51.29% | 100,376,501,993.0 | 52.79% | 102,744,705,522.1 | 55.04% | 103,466,179,267.2 | 55.70% |

| PAYMENTS | | | 4 | | 3 | | 7 | |
|--------------------------------------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| P2. UNEMPLOYMENT BENEFIT PAYMENTS | 10,591,690,597.43 | 5.56% | 10,881,378,809.74 | 5.72% | 11,135,401,619.00 | 5.97% | 11,217,017,499.95 | 6.04% |
| P3. PENSION BENEFIT PAYMENTS | 54,871,899,662.63 | 28.83% | 57,638,888,755.10 | 30.32% | 59,812,455,789.17 | 32.04% | 60,929,228,635.12 | 32.80% |
| P4. OTHER BENEFIT PAYMENTS | 9,399,027,829.36 | 4.94% | 9,874,858,971.68 | 5.19% | 10,241,567,164.97 | 5.49% | 10,427,341,653.71 | 5.61% |
| PT. TOTAL BENEFIT PAYMENTS | 172,485,757,349.54 | 90.61% | 178,771,628,529.55 | 94.02% | 183,934,130,095.27 | 98.54% | 186,039,767,056.05 | 100.16% |
| D. RESERVE FUND (2 months' payments) | 7,186,906,556.23 | 3.78% | 7,710,729,154.56 | 4.06% | 8,094,130,551.11 | 4.34% | 8,014,861,580.77 | 4.31% |
| C. EQUALISATION FUND (every 4 years) | 10,678,964,958.08 | 5.61% | 3,650,512,010.99 | 1.92% | -5,368,559,392.44 | -2.88% | -8,308,491,848.35 | -4.47% |
| TOTAL ORIGIN OF FUNDS | 190,351,628,863.85 | 100.00% | 190,132,869,695.10 | 100.00% | 186,659,701,253.95 | 100.00% | 185,746,136,788.47 | 100.00% |
| EQUILIBRIUM | - € | | - € | | - € | | - € | |

| YEAR | 2,014 | | 2015 | | 2016 | | 2017 | |
|--|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
| APPLICATION OF FUNDS | | | | | | | | |
| Item | - | | - | | - | | - | |
| AE1. Regional GMI | 761,245,231.31 | 0.39% | 768,857,683.63 | 0.39% | 776,546,260.46 | 0.39% | 784,311,723.07 | 0.39% |
| AE2. Non-contributory pensions, Act on social integration of the disabled, mandatory old-age & invalidity insurance & others | 13,729,174,160.19 | 6.95% | 13,866,465,901.79 | 6.97% | 14,005,130,560.81 | 7.01% | 14,145,181,866.42 | 7.04% |
| AE3. Contributory pensions (35%) | 36,613,796,626.59 | 18.52% | 36,979,934,592.86 | 18.60% | 37,349,733,938.79 | 18.69% | 37,723,231,278.17 | 18.78% |
| AE4. Unemployment: contributory level (85%) | 20,804,255,355.63 | 10.53% | 21,012,297,909.18 | 10.57% | 21,222,420,888.28 | 10.62% | 21,434,645,097.16 | 10.67% |
| AE5. Non-contributory pension | 141,556,564.84 | 0.07% | 142,972,130.49 | 0.07% | 144,401,851.80 | 0.07% | 145,845,870.32 | 0.07% |

| quota | | | | | | | | |
|--------------------------------------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|
| AET. STATE CONTRIBUTIONS (TOTAL) | 72,050,027,938.57 | 36.45% | 72,770,528,217.95 | 36.60% | 73,498,233,500.13 | 36.77% | 74,233,215,835.13 | 36.96% |
| B. WAGE CONTRIBUTIONS | 125,602,591,603.3 | 63.55% | 126,038,984,009.5 | 63.40% | 126,374,297,598.9 | 63.23% | 126,614,040,777.9 | 63.04% |
| TOTAL APPLICATION OF FUNDS | 197,652,619,541.9 | 100.00% | 198,809,512,227.5 | 100.00% | 199,872,531,099.1 | 100.00% | 200,847,256,613.0 | 100.00% |
| ORIGIN OF FUNDS | | | | | | | | |
| P1. WORKERS' BENEFIT PAYMENTS | 105,800,461,816.2 | 53.53% | 108,118,192,504.7 | 54.38% | 110,403,696,629.0 | 55.24% | 112,652,167,226.8 | 56.09% |
| P2. UNEMPLOYMENT BENEFIT PAYMENTS | 11,480,062,489.09 | 5.81% | 11,749,279,151.75 | 5.91% | 12,022,694,811.00 | 6.02% | 12,303,467,260.28 | 6.13% |
| P3. PENSION BENEFIT PAYMENTS | 62,917,089,923.95 | 31.83% | 65,076,625,915.63 | 32.73% | 67,065,085,150.94 | 33.55% | 68,957,241,895.62 | 34.33% |
| P4. OTHER BENEFIT PAYMENTS | 10,762,404,437.35 | 5.45% | 11,119,288,301.12 | 5.59% | 11,422,849,397.40 | 5.72% | 11,694,073,014.88 | 5.82% |
| PT. TOTAL BENEFIT PAYMENTS | 190,960,018,666.6 | 96.61% | 196,063,385,873.2 | 98.62% | 200,914,325,988.3 | 100.52% | 205,606,949,397.6 | 102.37% |
| D. RESERVE FUND (2 months' payments) | 820,041,935.11 | 0.41% | 850,561,201.09 | 0.43% | 808,490,019.19 | 0.40% | 782,103,901.54 | 0.39% |
| C. EQUALISATION FUND (every 4 years) | 5,872,558,940.11 | 2.97% | 1,895,565,153.21 | 0.95% | -1,850,284,908.45 | -0.93% | -5,541,796,686.08 | -2.76% |
| TOTAL ORIGIN OF FUNDS | 197,652,619,541.9 | 100.00% | 198,809,512,227.5 | 100.00% | 199,872,531,099.1 | 100.00% | 200,847,256,613.0 | 100.00% |
| EQUILIBRIUM | - € | | - € | | - € | | - € | |

| YEAR | 2018 | | 2019 | | 2020 | | 2021 | |
|--|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|
| APPLICATION OF FUNDS | | | | | | | | |
| Item | - | | - | | - | | - | |
| AE1. Regional GMI | 792,154,840.30 | 0.36% | 800,076,388.70 | 0.36% | 808,077,152.59 | 0.37% | 816,157,924.11 | 0.37% |
| AE2. Non-contributory pensions, Act on social integration of the disabled, | 14,286,633,685.08 | 6.53% | 14,429,500,021.93 | 6.57% | 14,573,795,022.15 | 6.62% | 14,719,532,972.37 | 6.66% |

| | | | | | | | | | |
|---|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|--|
| mandatory old-age & invalidity insurance & others | | | | | | | | | |
| AE3. Contributory pensions (35%) | 38,100,463,590.96 | 17.42% | 38,481,468,226.86 | 17.53% | 38,866,282,909.13 | 17.65% | 39,254,945,738.22 | 17.77% | |
| AE4. Unemployment: contributory level (85%) | 21,648,991,548.13 | 9.90% | 21,865,481,463.61 | 9.96% | 22,084,136,278.25 | 10.03% | 22,304,977,641.03 | 10.09% | |
| AE5. Non-contributory pension quota | 147,304,329.02 | 0.07% | 148,777,372.31 | 0.07% | 150,265,146.03 | 0.07% | 151,767,797.49 | 0.07% | |
| AET. STATE CONTRIBUTIONS (TOTAL) | 74,975,547,993.48 | 34.29% | 75,725,303,473.42 | 34.50% | 76,482,556,508.15 | 34.72% | 77,247,382,073.23 | 34.96% | |
| B. WAGE CONTRIBUTIONS | 143,701,216,739.22 | 65.71% | 143,778,436,300.34 | 65.50% | 143,780,182,749.61 | 65.28% | 143,716,401,695.01 | 65.04% | |
| TOTAL APPLICATION OF FUNDS | 218,676,764,732.70 | 100.00% | 219,503,739,773.76 | 100.00% | 220,262,739,257.76 | 100.00% | 220,963,783,768.25 | 100.00% | |
| ORIGIN OF FUNDS | | | | | | | | | |
| P1. WORKERS' BENEFIT PAYMENTS | 114,840,163,477.52 | 52.52% | 116,966,878,644.60 | 53.29% | 119,016,042,619.24 | 54.03% | 120,979,502,088.09 | 54.75% | |
| P2. UNEMPLOYMENT BENEFIT PAYMENTS | 12,583,637,860.21 | 5.75% | 12,861,363,883.73 | 5.86% | 13,134,153,765.34 | 5.96% | 13,403,161,553.02 | 6.07% | |
| P3. PENSION BENEFIT PAYMENTS | 70,892,923,905.75 | 32.42% | 73,904,183,164.00 | 33.67% | 76,495,235,405.17 | 34.73% | 79,742,653,768.22 | 36.09% | |
| P4. OTHER BENEFIT PAYMENTS | 11,957,696,648.34 | 5.47% | 12,437,113,882.55 | 5.67% | 12,795,217,427.20 | 5.81% | 13,274,241,917.08 | 6.01% | |
| PT. TOTAL BENEFIT PAYMENTS | 210,274,421,891.82 | 96.16% | 216,169,539,574.89 | 98.48% | 221,440,649,216.96 | 100.53% | 227,399,559,326.41 | 102.91% | |
| D. RESERVE FUND (2 months' payments) | 777,912,082.37 | 0.36% | 982,519,613.84 | 0.45% | 878,518,273.68 | 0.40% | 993,151,684.91 | 0.45% | |
| C. EQUALISATION FUND (every 4 years) | 7,624,430,758.51 | 3.49% | 2,351,680,585.03 | 1.07% | -2,056,428,232.88 | -0.93% | -7,428,927,243.07 | -3.36% | |
| TOTAL ORIGIN OF FUNDS | 218,676,764,732.70 | 100.00% | 219,503,739,773.76 | 100.00% | 220,262,739,257.76 | 100.00% | 220,963,783,768.25 | 100.00% | |
| EQUILIBRIUM - € - € - € - € | | | | | | | | | |

Source: Own work

Conclusion

With its multi-year time frame and the breakdown of items that it includes, the financial information system proposed provides enhanced information on the origin and application of funds earmarked for covering basic social assistance benefit in Spain. It reveals details on how the funds for this benefit would be applied depending on the employment status of the recipient, and also on the origin of the funding used and the time frame covered. All this reduces political risks in the sense of the decisions made by politicians, which have conventionally used time frames for planning of only 4 years, and sometimes of only one year, given that the accounting information systems currently used in public sector budgeting are based on one-year periods.

We believe that the model proposed here can be used in management accounting as a tool not just for attaining accountability but also for the control and management of the sources of funding required to cover potential BSAB. Implementing a financial/accounting information system for such benefits would help in the reorganising of the current tangle of minimum income subsidies being paid around the country.

We use an AAM with a modified accounting criterion: an accrual basis rather than a cash basis. This is intended to provide information on the following:

1. the resources available and the total real and accrued obligations each year, i.e. accountability for financial resources;
2. the commitment for future generations entailed by the need to provision and equalisation fund that will be a drain on future resources, i.e. Awareness of current and future economic capabilities and financial needs;
3. the real and forecast cost of the benefit for the coming years, i.e. identifying and assessing resources; and
4. the operation, consistency and integration of the all-round financial management system for BSAB.

The model marks a change in the way in which public funding is managed, and we hope that it will provide an adequate response to the increasing demand in society for transparency in the management of public finances.

References

- Abio G., Berenguer, E., Bonin, H., Borgman, C., Gil, Joan., Patxot, C. 2005. *Contabilidad Generacional en España*. Instituto de Estudios Fiscales.
- AECA 2001. *Marco Conceptual para la Información Financiera de las Entidades Públicas*.
- Allegret, J.P., Raymond, H., Rharrabti, H. 2016. *The Impact of the*

- Eurozone Crisis on European Banks Stocks, Contagion or Interdependence. *European Research Studies Journal*, 19(1), 129-147.
- Arrow, K.J. 1951. *Social Choice and individual values*, Yale University Press, New Haven.
- Athanasenas, A., Chapsa, X., Michailidis, A. 2015. Investigating Social Protection Convergence in the EU-15: A Panel Data Analysis. *European Research Studies Journal*, 18(2), 79-96.
- Barrell, R., Weale, M. 2010. Fiscal policy, fairness between generations, and national saving. *Oxford Review of Economic Policy* 26 (1), pp. 38–47.
- Baumol, W. J. 1967. Macroeconomics of unbalanced growth: The anatomy of urban crisis. *The American Economic Review*, 57 (3) pp 416-426.
- Boado, Mc; Settergren, O; Vidal-Meliá, C. 2011. El balance actuarial del sistema de reparto. Modelo «sueco» frente a modelo «EE.UU.»: posible aplicación al caso español. *Revista española de Financiación y Contabilidad*. Vol XL. Nº 149. Enero-marzo 2011.
- Boldeanu, T.F., Tache I. 2016. The Financial System of the EU and the Capital Markets Union. *European Research Studies Journal*, 19(1), 60-70.
- Brennan, G. Y Buchanan, J. M. 1980. *The power to tax: analytical foundations of a tax constitution*. Cambridge University Press, Cambridge (MA).
- Casassas, D; Raventos, D (Eds) 2011. *La Renta Básica en la era de las grandes desigualdades*. Montesinos Ensayos.
- Conde Ruiz, Ji. 2012. *Spain Pension Reform*. FEDEA. Documento de trabajo 2012-03.
- De La Peña, J.I. Y Peña-Miguel, N. 2014. Coste de un nivel básico de previsión social en España. *Economía Española y Protección Social*, VI, Año 2014. In press.
- Devesa, Je., Devesa, M., Encinas, B., Dominguez, I., Nagore, A.Y., Meneu, R. 2011. Cuánto mejorará la sostenibilidad del sistema de pensiones de jubilación de la Seguridad Social tras la reforma de 2011. *Asociación Española de Salud y Seguridad Social*.
- Duguleana, L., Duguleana, C. 2016. Structural Aspects of the European Union Economy. *European Research Studies Journal*, 19(1), 93-128.
- Escude, G. 2010. Modelos de Equilibrio General Dinámico y Estocástico (EGDE). Una introducción. Documentos de Trabajo 2010 n° 47. Banco Central de la República Argentina. *Investigaciones Económicas*.
- European Economy 2012. *The 2012 Ageing Report. Economy and budgetary projections for the 27 EU MEMBER States (2010-2060)*.
- Fetai, B. 2015. Financial Integration and Financial Development: Does Financial Integration Matter?. *European Research Studies Journal*, 18(2), 97-106.
- Fernandez, R. 2009. Fiscalización de la gestión pública en los Órganos de Control Externo de las Comunidades Autónomas. *Presupuesto y Gasto Público* 57/2009: 135-154. Secretaría General de Presupuestos y Gastos. 2009, Instituto de Estudios Fiscales.
- Garcia-Garcia, M. 2009. Modelos de valoración de la viabilidad/solvencia/sostenibilidad financiera de los sistemas de pensiones de reparto. Trabajo de investigación del Máster Oficial Interuniversitario en Banca y Finanzas Cuantitativas. Universidad de Valencia.
- González-Páramo, J. M. 2001. Costes y beneficios de la disciplina fiscal: La Ley de Estabilidad Presupuestaria en perspectiva, Instituto de Estudios Fiscales, Madrid.
- Gore, A. 1994. *Crear una Administración pública que funcione mejor y cueste menos*. Informe del National Performance Review. Instituto Vasco de Administración Pública. Vitoria.
- International Public Sector Accounting Standards (IPSAS, 2013).
http://www.ifac.org/sites/default/files/publications/files/Volume%201_0.pdf
- Keohe, T. 1987. Modelos dinámicos de equilibrio general. *Cuadernos Económicos de I.C.E.* 1987/3.

- Klevmarken, A. 2008. Dynamic Microsimulation for Policy Analysis. Problems and Solutions”, en Anders Klevmarken y Bjorn Lidgren (coords.), *Simulating an Ageing Population. A Microsimulation Approach Applied to Sweden*, Bingley, Emerald Group.
- Kopits, G.Y Craig, J. 1998. Transparency in government operations», IMF Occasional Paper 158, Washington DC.
- Ley Organiza 2012. De 27 De Abril, De Estabilidad Presupuestaria Y Sostenibilidad Financiera. Boe, nº 103 de 30/04/2012.
- Niskanen, W.A. 1971. *Bureaucracy and representative government*, Aldine Press, Chicago.
- OCDE 2001. OECD best practices for budget transparency”. PUMA/SBO(200)6/FINAL, París.
- Osborne, D.Y Gaebler, T. 1992. *Reinventing government: How the entrepreneurial spirit is transforming the Public Sector*, Addison-Wesley, Reading (MA) (edición en castellano: *La reinención del gobierno. La influencia del espíritu empresarial en el Sector Público*, Paidós, Barcelona.
- Pacto De Toledo 1995. Texto refundido de la Ley General de la Seguridad Social, aprobado por Real Decreto Legislativo 1/1994, de 20 de junio (LGSS).
- Peña Miguel, N., De La Peña J.I., Fernandez-Sainz, A. 2013. Factores determinantes de una renta básica a través del análisis del consumo familiar. *Revista internacional de Ciencias Sociales Interdisciplinarias*. vol: 2, nº: 2.
- Peña Miguel, N., De La Peña J.I., Fernandez, C. 2012. Principios presupuestarios públicos para una propuesta de renta básica para el ciudadano. *Revista internacional de Ciencias Sociales Interdisciplinarias*. vol: 1 nº: 2.
- Pinilla, R. 2006. Más allá del bienestar ». *La renta básica de la ciudadanía como innovación social basada en la evidencia*. 2006. Icaria Editorial, S.A.
- Plamondon, P., Drouin, A., Binet, G., Cochon, M., McGillivray, W.R., Begard, M.Y Perez-Montas, H. 2000. *Actuarial practice in social security*. ILO/ISSA. Ginebra.
- Ruesga *et al.* 2012. *Hacia un nuevo modelo de financiación de la seguridad social en España*. Fondo de investigación de la protección social de la Seguridad Social.
- Thalassinos, E. and Liapis, K. 2013. A Comparative Analysis for the Accounting Reporting of Employee Benefits between IFRS and other Accounting Standards: A Case Study for the Biggest Listed Entities in Greece. *International Journal of Economics and Business Administration*, 1(1), 99-124.
- Theriou, G.N. 2015. Strategic Management Process and the Importance of Structured Formality, Financial and Non-Financial Information. *European Research Studies Journal*, 18(2), 3-28.
- Utrilla De La Hoz, A. 2006. *El sector público empresarial autonómico y local*, Instituto de Estudios Económicos, Madrid.
- Valdes-Prieto, S. 2002. *Políticas y mercados de pensiones*. Ediciones Universidad Católica de Chile, Santiago de Chile.
- Wolf, C. 1979. A theory of nonmarket failure: framework for implementation analysis», *Journal of Law and Economics*, 22 (1) pp 107-139.