

General government employment over the past decade

Marta Martínez Matute and Javier J. Pérez



7 November 2017

GENERAL GOVERNMENT EMPLOYMENT OVER THE PAST DECADE

The authors of this article are Marta Martínez Matute and Javier J. Pérez, of the Directorate General Economics, Statistics and Research.

Introduction

On National Accounts data, in 2016 general government accounted for somewhat more than 20 % of the Spanish economy's total wage bill, while the public sector represented more than 15 % of the total employees in the economy. These figures are similar to those of the main OECD advanced economies. General government is therefore a leading actor in the national labour market. Its decisions on personnel influence the direction of worker flows between economic sectors, the wage-setting processes in the overall economy and, in short, aggregate economic performance (see Hernández de Cos, Moral Benito and Pérez, 2016, and Hernández de Cos and Pérez, 2015).

Public-sector employment policies have gained prominence recently in Spain in the framework of the debate on the Spanish budget for 2017. Firstly, more job offers have been approved in the public sector than in any year since 2008.¹ And secondly, the staff replacement rate² has either been held at or raised above 100 % in the priority sectors,³ having been set at 50 % for the other sectors. Owing to these two developments, the change of trend in general government hiring policies apparent since 2015 with respect to those in the central years of the economic crisis has continued (see Chart 1).⁴ Finally, with regard to the recent economic policy measures in public-sector employment, the central government has entered into an agreement with the main trade unions to limit general government substitution employment contracts (provisional contracts to stand in for employees justifiably absent from work) in essential public services such as education, human health, justice, social services or local police, among others, with a view to reducing over the next three years, by up to 90 %, job positions occupied temporarily and the number of persons in temporary employment at the date of the agreement.⁵ The purpose is to reduce the ratio of temporary to total employment in these sectors below 8 %. According to the Spanish Labour Force Survey ("EPA" by its Spanish abbreviation), this ratio was 23 % in 2016 for general government as a whole, although it exceeded this level in education and public health (24 % and 33 %, respectively). In the total economy excluding general government, the ratio of temporary to total employment was 27 % last year.

Against this background, this article reviews the behaviour of the replacement rate and public-sector job offers in the past decade, describing the structure and composition of the latter and, in addition, providing an international perspective. The analysis shows that the behaviour of public-sector employment between 2007 and 2016 was uneven over this

¹ See Royal Decree 702/2017 of 7 July 2017.

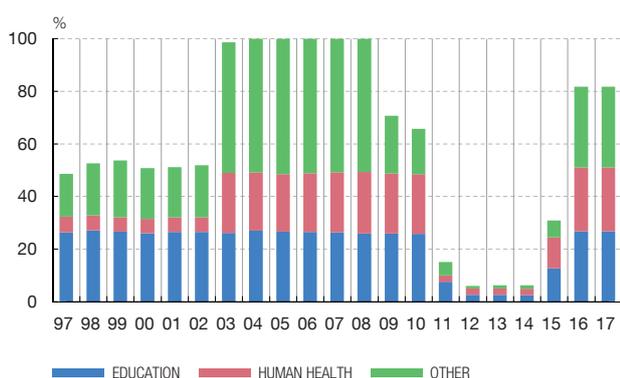
² The staff replacement rate is the ratio of the number of new public sector employees that can be recruited by a particular government sector to the number of terminations in the previous year due to retirement, leave of absence without retention of job position, death, voluntary resignation or any other reason.

³ The sectors for which a replacement rate of 100 % is envisaged include: human health; education; administration of justice; social services; controlling and combating fraud in tax, labour, government subsidies and Social Security; fire prevention and extinction; active employment policies; citizens' advice in public services; direct provision of public transport services; and safety and emergencies. The latter three sectors are the only ones in which the replacement rate has increased (from 50 %) this year with respect to that approved for 2016.

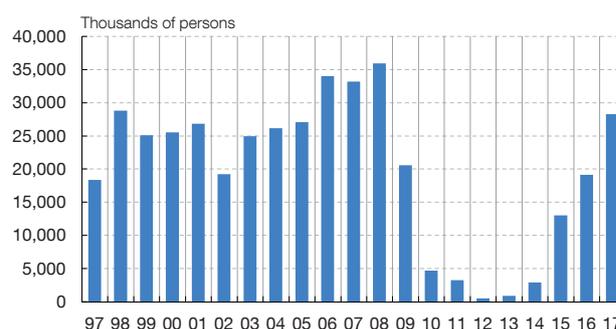
⁴ For a description of these measures, see Montesinos, Pérez and Ramos (2014) and the *Informe CORA* (CORA Report) (2013).

⁵ For 2017 this agreement is reflected in Royal Decree 702/2017 of 7 July 2017.

1 GENERAL GOVERNMENT EMPLOYEE REPLACEMENT RATE AND CONTRIBUTIONS FROM THE SECTORS (a) (b)



2 PUBLIC-SECTOR JOB OFFERS (c)



SOURCE: Spanish State budget, various years.

- a In the various legal reference texts, the government provides the replacement rate permitted for each sector. These rates are used to calculate the aggregate rate for general government, weighting each sector by its share in total general government employment per the Spanish Labour Force Survey (INE). The average weight of each sector in the period 1986-2017 was as follows: Education 25.49%, Human health 22.37%, and Other 52.14%. Within the Other category, more detailed weights were calculated for certain groups (for example, Administration of justice) using the greater disaggregation provided by the Central Register of General Government Staff prepared by the Ministry of Finance and the Civil Service.
- b The replacement rate set in the 2017 State budget is very similar to that for 2016, the maximum rate of 100% only being exceeded for workers in certain areas (safety and emergencies and personnel providing public transport services and citizens' assistance in public services) who cannot be quantified from the available data but who, in any event, represent a small fraction of the general government workforce. Therefore the replacement rates set for 2016 and 2017 are similar in the chart. For details of the amounts set for the replacement rate and the specific worker groups subject to them in previous years, see Montesinos, Pérez and Ramos (2014).
- c The time series on public-sector job offers is constructed from Council of Ministers references and the various royal decree-laws regulating such jobs. It is calculated as the sum of job positions offered internally and the new job positions specified in the legal references.

time and across the general government sub-sectors. In this respect the policies adopted in the past decade have changed the composition of public-sector employment so as to increase the weights of regional government, of permanent employment and of the education and public health sectors.

Public-sector employment in an international context

The differences in the number of public-sector employees between countries reflect a complex array of factors relating to each country's social and cultural preferences in the scope, level and method of provision of public services and goods.⁶ For example, as regards the method of provision, some countries prefer direct production by public-sector employees, while others opt for private provision of services which, nevertheless, are financed by public expenditure. Therefore, a lower weight of general government employment in the total economy of a certain country at a certain point in time does not necessarily mean a lower level of public expenditure. Similarly, the weight of general government as an employer is not an exhaustive indicator of the level of incidence of public-sector activity on the economy, given that this is determined by the aforementioned factors, to which should be added others of an institutional and economic policy nature, relating, for example, to subsidy policies, social transfers or degree of public-private cooperation.

Although international comparisons may be distorted by the different practices of countries in delimiting the number of general government employees, they can nevertheless be made using homogeneous definitions within the framework of the National Accounts.⁷

⁶ See, for example, OECD (2009) or Montesinos, Pérez and Ramos (2014).

⁷ The general government sector is defined in the National Accounts as all institutional units which are non-market producers whose output is intended for individual and collective consumption, and mainly financed by compulsory payments made by units belonging to other sectors, and/or all institutional units principally engaged in the redistribution of national income and wealth.

On National Accounts data (see Chart 2), general government employment in Spain in 2015⁸ as a percentage of the total population was 6.3%, a level similar to that of countries such as Italy, Portugal or Germany, and below that of countries with a greater public-sector presence in the direct provision of goods and services, such as Sweden or France, and under the European Union (EU) average (8.4%). The relative position with respect to these countries remains unaltered if the calculation is based on public-sector employment as a proportion of the labour force and total employment of the economy, which in Spain in that year amounted to 12.8% (17.6% in the EU) and 16.4% (19.5% the EU), respectively. By contrast, if the number of general government employees is measured with respect to total public expenditure, the number of public-sector employees per million euro spent in Spain (6.2) is higher than in the three largest euro area countries, i.e. France, Italy and Germany (4.1 on average), although lower than in other countries such as Greece, Portugal and Sweden (7 on average). In the EU this ratio decreased in general with respect to 2007, standing on average at 9.3% in 2015.

It should be noted that general government does not include a sub-set of the so-called public corporations, specifically those that are public producers classified in the financial institutions or non-financial corporations sectors which administer and finance a group of activities, principally providing non-market goods and services, intended for the benefit of the community.⁹ The problems of delimitation and international uniformity among countries mentioned above for general government are much greater in this case and therefore the statistics available refer to strictly national sources. From a broad international perspective (see Chart 3), the employment of these corporations is generally much smaller than the employment of general government. However, as in the case of general government employment, the differences between countries are substantial. Notably, the employees of public corporations as a proportion of the labour force exceed 10% in Poland, Greece, Ukraine, the Czech Republic and Russia, and are between 5% and 10% in the Netherlands, Slovenia, Slovakia, Switzerland and New Zealand.¹⁰ In the particular case of Spain, the sum of employment of public corporations (0.7% of the labour force) and of general government (13.1% of the labour force) in 2011 was similar to that of countries such as Germany and Switzerland, which, although having fewer employees in the general government sector, had a larger corporate public-sector. The figures for Spain are lower than the average of the 30 countries considered in the two dimensions analysed. This average was 14.5% in the case of general government employment and 4.6% for public corporations.

The National Accounts do not generally provide sufficient detail to enable cross-country comparison of other significant dimensions of general government employment, such as its distribution by activity (for example, human health and social work activities, or public education), by tier of government or by type of contract. In the national analysis, these limitations can be partly remedied by using alternative sources (see Box 1). Therefore, for a more granular examination of the time variation of general government employment in Spain in the following section, we take as a basis the data provided by the EPA.

Behaviour of public-sector employment in Spain since the economic crisis

Looking at an extensive time span, on EPA data the number of general government employees increased steadily from 1987 at a faster pace than did the population, particularly up to the beginning of the 2000s (see Chart 4.1). Thus the number of employees increased from 1.5

⁸ Latest year for which comparable data are available for all the countries shown in Chart 2.

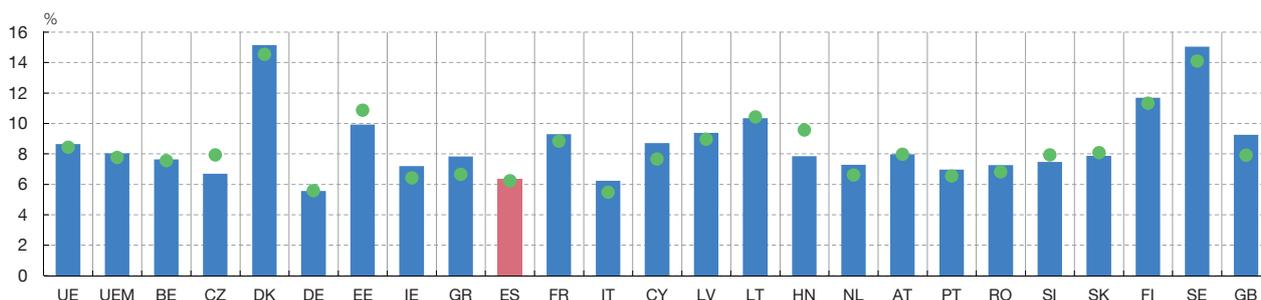
⁹ See Martínez Manzanedo (2010). They are defined as legal entities owned or controlled by general government which produce most of their goods and services at economically significant prices.

¹⁰ There does however seem to be a weak negative relationship between general government employment and public corporation employment, since countries which tend to have a greater weight in general government employment tend to have lower levels of public corporation employment.

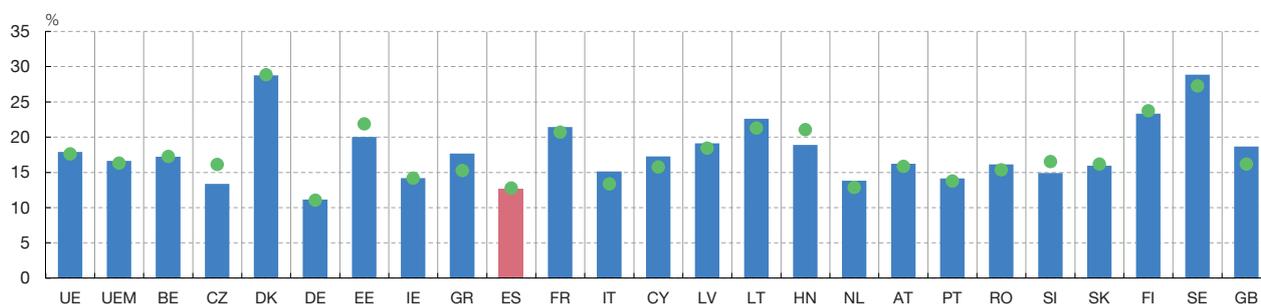
GENERAL GOVERNMENT EMPLOYMENT IN SPAIN IN THE EUROPEAN CONTEXT ACCORDING TO THE NATIONAL ACCOUNTS (a) (b) (c) (d)

CHART 2

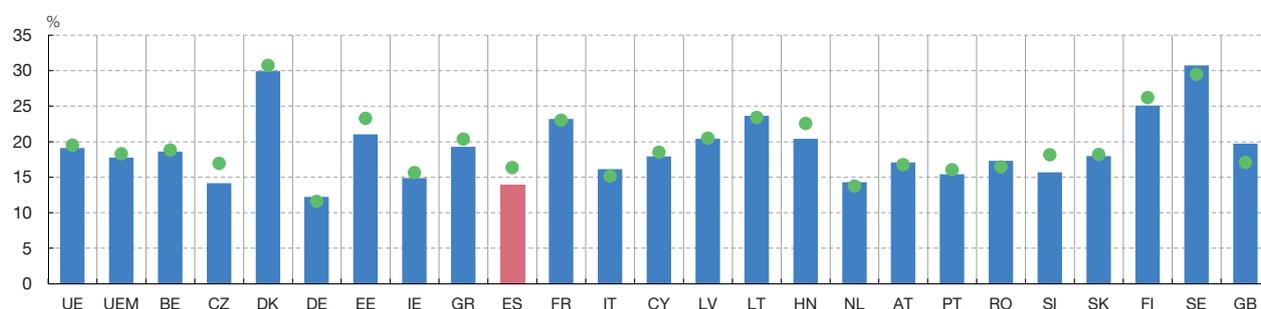
1 GENERAL GOVERNMENT EMPLOYMENT AS A PERCENTAGE OF THE POPULATION



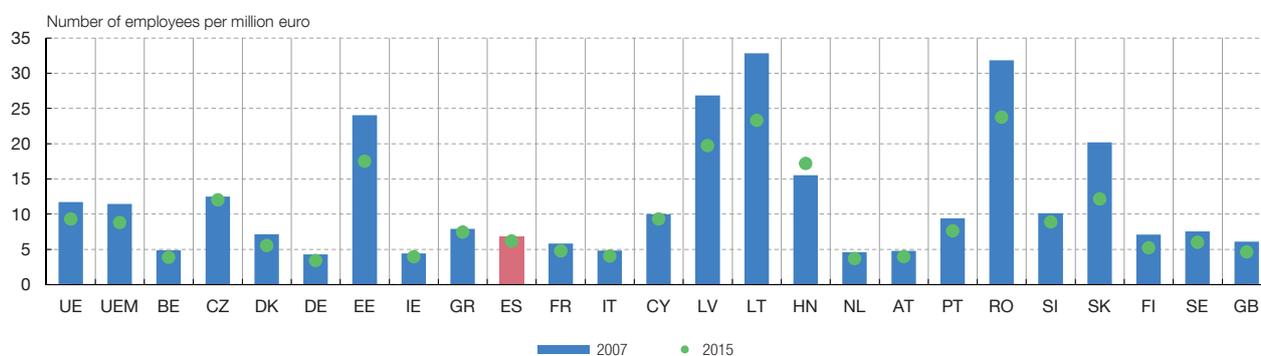
2 GENERAL GOVERNMENT EMPLOYMENT AS A PERCENTAGE OF THE LABOUR FORCE



3 GENERAL GOVERNMENT EMPLOYMENT AS A PERCENTAGE OF TOTAL EMPLOYMENT

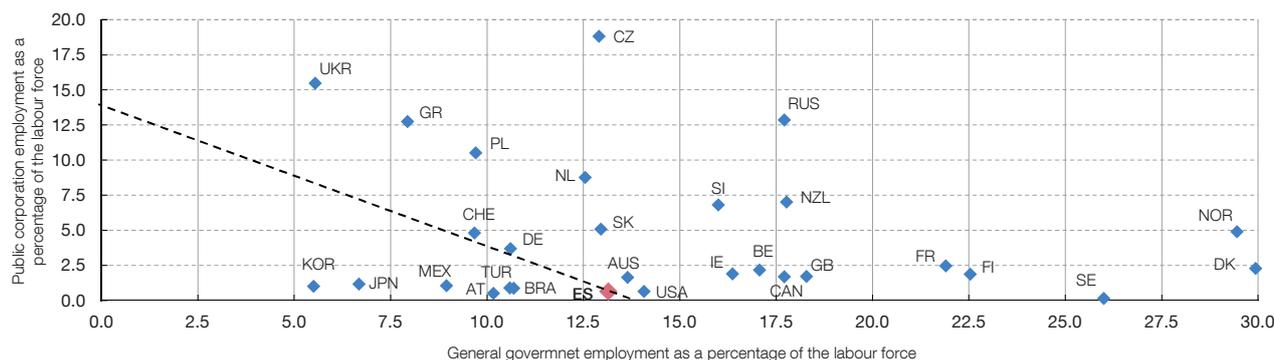


4 GENERAL GOVERNMENT EMPLOYMENT IN RELATION TO PUBLIC EXPENDITURE



SOURCES: Eurostat and INE.

- a The European Union (EU) and of the Economic and Monetary Union (EMU) aggregates are calculated as the simple average of the ratios of the individual countries.
- b The most recent figure for Portugal is that for 2014.
- c Analysis excludes Croatia, Bulgaria, Poland, Malta and Luxembourg, since they do not provide information on the main aggregates.
- d Country acronyms per Standard ISO 3166-1 alfa-2 (http://utils.mucaatu.com/iso_3166-1.html).



SOURCE: OECD (2009, 2011 and 2013). The statistics of the various countries are based, according to the OECD, on national sources and may not be strictly comparable amongst themselves.

- a Data refer to 2011, except in the cases of JPN (2008) and BE, AUS, EEUU, AT and KOR (all countries 2005).
- b BE: Belgium; AT: Austria; AUS: Australia; CZ: Czech Republic; UKR: Ukraine; GR: Greece; RUS: Russia; PL: Poland; NL: Netherlands; SI: Slovenia; NZL: New Zealand; CHE: Switzerland; SK: Slovakia; NOR: Norway; DE: Germany; KOR: South Korea; JPN: Japan; MEX: Mexico; TUR: Turkey; BRA: Brazil; ES: Spain; USA: United States of America; IE: Ireland; CAN: Canada; GB: United Kingdom; FR: France; FI: Finland; SE: Sweden; DK: Denmark.
- c The diagonal line represents the various distributions between general government and public corporations which sum the same percentage of public-sector employment (defined as the sum of general government employment and public corporation employment) as that observed for Spain (13.8% in 2011).
- d The country acronyms are those specified in standard ISO 3166-1 alfa-2 and alfa-3 (http://utils.mucattu.com/iso_3166-1.html).

million in 1987 to 2.8 million in 2007, and only in three years of that period (1993, 1994 and 2006) did public-sector employment decrease slightly. This process is largely associated with the expansion of the welfare state, public services and the transfer of powers to the regional (autonomous) governments. Expressed as a percentage of private-sector employment, this trend meant that general government's weight as an employer increased in the 1980s and the first half of the 1990s to a peak of 27 % in 1996. However, following the notable expansion of private-sector employment associated with Spain's membership of the euro area (see Chart 4.2), this ratio decreased to a low of 20.1 % in 2007 (see Chart 4.3).

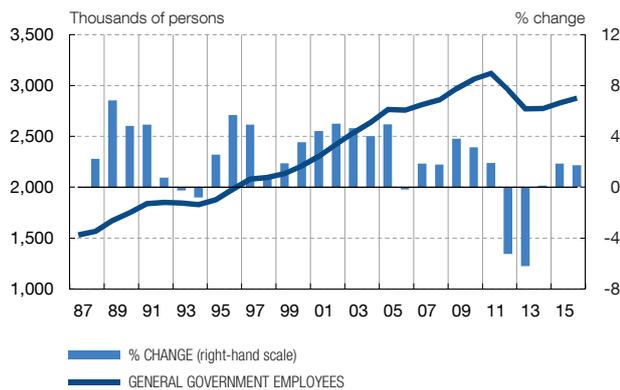
Focusing on the past decade, the behaviour of general government employment in Spain has passed through different phases. In the early years of the recent economic crisis, between 2009 and 2011, the EPA data show that there was an increase in the number of public-sector employees (see, again, Chart 4), unlike what happened in most European countries.¹¹ This development reflected certain expansionary countercyclical fiscal policy measures adopted in 2008-2009¹² and the momentum derived from the previous years' job offers in the public sector, since the selection and recruitment processes last beyond the year in which the vacancies are advertised, despite the gradual restrictions introduced since 2009 on the replacement rate and public-sector recruitment (see, again, Chart 1). These restrictions were stepped up from 2010, causing public-sector employment to drop in 2012 and 2013, after which it stabilised in 2014. Finally, from 2015 the constraints on the employee replacement rate were relaxed and it moved above 80 % in aggregate terms in 2016 and 2017, from levels only slightly higher than 5 % in 2012, 2013 and 2014.¹³

11 See Pérez *et al.* (2016).

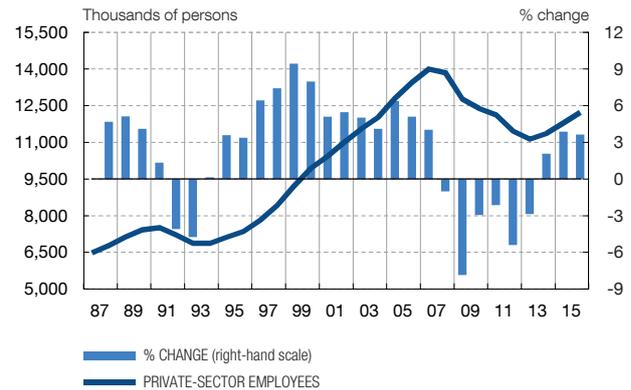
12 See Montesinos, Pérez and Ramos (2014).

13 Aggregate replacement rates are Banco de España calculations. In the various legal reference texts, the government provides the maximum replacement rate for each sector. These rates are used to calculate the aggregate rate for general government, weighting each sector by its share in total general government employment per EPA data. The average weight of each sector in the period 1986-2017 was as follows: Education 25.49 %, Human health 22.37 %, and Other 52.14 %. Within the Other category, more detailed weights were calculated for certain groups (for example, Administration of justice) using the greater disaggregation provided by the Central Register of General Government Staff (see Box 1 for more details on this source).

1 GENERAL GOVERNMENT EMPLOYMENT



2 PRIVATE-SECTOR EMPLOYMENT (b)



3 WEIGHT OF GENERAL GOVERNMENT EMPLOYMENT IN THE POPULATION



4 PUBLIC EXPENDITURE PER GENERAL GOVERNMENT EMPLOYEE (a)



SOURCE: Spanish Labour Force Survey (INE). For public expenditure: IGAE.

- a The public expenditure time series excludes capital transfers derived from aid to Financial Institutions .
- b Private-sector employment is defined as total employment minus general government employment, in both cases according to the Spanish Labour Force Survey.
- c Calculation in real terms performed using the GDP deflator.

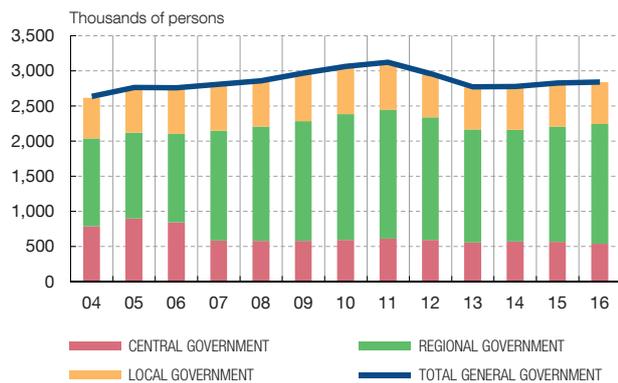
According to the EPA, public-sector employment reached a historical high of 3.1 million in 2011, after increasing by 310,000 persons between 2007 and 2011. In 2012 and 2013 there was a decrease of nearly 350,000 employees, part of which was recovered between 2014 and 2016. In this latter year the number of general government employees was somewhat above 2,840,000, a slightly higher level than in 2007 (by 30,000 jobs). These aggregate figures are, however, a composite of differing patterns across general government sub-sectors, branches of activity and types of employment contract.

BREAKDOWN BY TIER OF GOVERNMENT

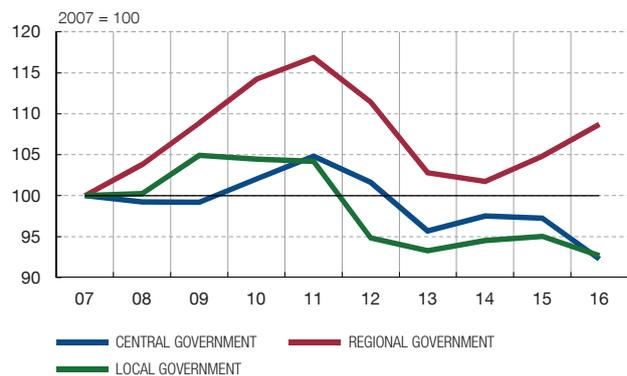
Analysis by tier of government (see Charts 5.1 and 5.2) shows the following employment structure in 2016: 60 % of Spanish general government employment was accounted for by regional government, with 1.7 million employees; 21 % by local government, with 0.60 million employees; and the remaining 19%, by central government, including Social Security (central government), with 0.54 million employees. The recent behaviour of the various tiers of government shows special features which are discussed below.

Between 2007 and 2011, regional government employment increased sharply by 17 % in cumulative terms, which was largely reversed by the subsequent decrease in 2012-2014, with a cumulative fall of 30 % in those three years. In 2015-2016 the number of regional government employees rose fairly strongly, by 7 %. Thus, according to the EPA, between

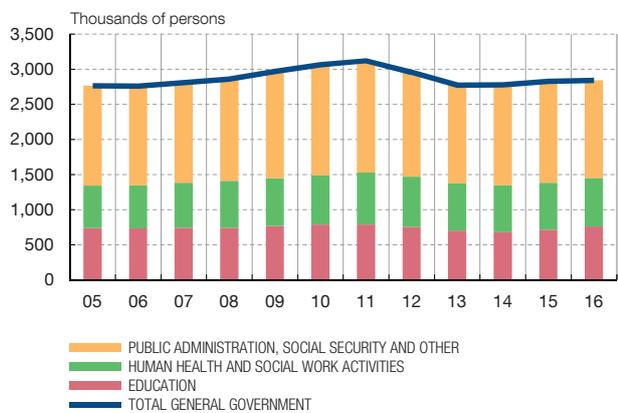
1 GENERAL GOVERNMENT EMPLOYMENT LEVEL BY TIER OF GOVERNMENT (a)



2 RECENT BEHAVIOUR BY TIER OF GOVERNMENT



3 GENERAL GOVERNMENT EMPLOYMENT LEVEL BY ACTIVITY



4 RECENT BEHAVIOUR BY ACTIVITY
Year-on-year rate



5 GENERAL GOVERNMENT EMPLOYMENT LEVEL BY CONTRACT TYPE



6 RECENT BEHAVIOUR BY CONTRACT TYPE
Year-on-year rate



SOURCE: Spanish Labour Force Survey (INE).

a Since 1987 Q1 the INE has used labour force surveys to estimate a homogeneous time series of employment in general government and its sub-sectors. According to information provided by the INE: "From 2007 Q1 the code of the variable "tier of government" follows a strictly institutional criterion derived from an exhaustive identification relationship of the Social Security bodies. Until 2006 Q2 a mixed functional-institutional criterion was applied such that the Social Security category was deemed to include social service or health care providers belonging hierarchically to other tiers of government (central or regional). In practice, although this circumstance does not affect the homogeneity of the time series of results for total public-sector employees, it does however constitute a break in the time series of results in the aforementioned categories of the variable "tier of government". Specifically, from 2007 Q1 there is a redistribution of some public sector Social Security employees, most of whom, as a result of the application of this criterion, become transformed into regional government employees". For this reason, the related time series have been corrected to avoid a step in them.

2007 and 2016 the regional government sector expanded its workforce by nearly 9 %, equivalent to around 137,000 people.

The rise in central and local government employment between 2007 and 2011 was significantly smaller than that of regional government, at 5 % and 4 % for central and local government, respectively, and the same was true of the immediately ensuing adjustment. However, for these tiers of government the period 2015-2016 saw a continuation of the process of net loss of employees, such that in 2016 both had fewer employees than in 2007, down by 7.8 % and 7.3 % for central and local government, respectively, or around 45,000 and 47,000 fewer jobs.

BEHAVIOUR BY ACTIVITY

Analysis by activity (see Charts 5.3 and 5.4) using EPA data shows that around 49 % of public-sector employment in 2016 was in the category “Public administration, Social Security and other”, while the other 51 % was split between education (27 %) and human health and social work activities (24 %).

The sectoral behaviour of public-sector employment shows a pattern similar to that described above for the breakdown by tier of government. Thus, employment in human health and social work activities peaked in 2011, growing more than 15 % with respect to the level in 2007, while employment in education and other activities expanded more slowly (6 % and 12 %, respectively). In 2012-2014 there was a partial correction of the increases recorded in all sectors. Subsequently, the period 2015-2016 saw a significant recovery of employment in the education sector, which fed through with less vigour to human health, while the process of job reduction continued in the other sectors. In all, between 2007 and 2016, the areas of education and human health saw cumulative increases of 2.7 % and 7.4 %, respectively (around 20,000 and 47,000 additional employees), while the sector “Public administration, Social Security and other” showed a cumulative fall of 2.5 %, equivalent to a loss of 36,000 employees.

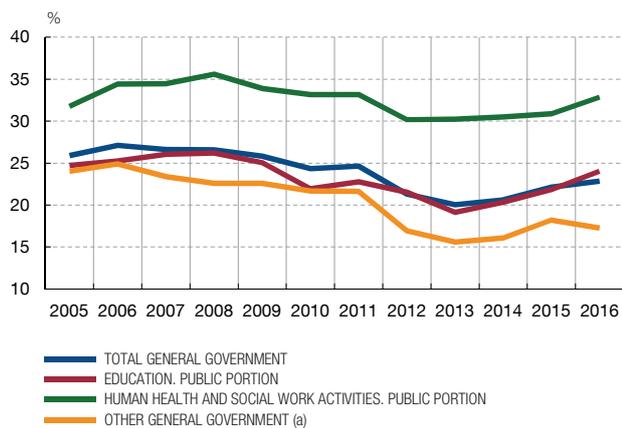
BEHAVIOUR BY TYPE OF CONTRACT

Classification of general government employees by type of contract, distinguishing between permanent and temporary (see Charts 5.5 and 5.6), shows that in 2016 nearly 80 % of public-sector employees had permanent contracts and the remainder had contracts of a temporary nature. With respect to 2007, the percentage of permanent contracts increased by 4 percentage points and temporary contracts decreased by the same amount. This change in the composition of permanent and temporary employees reflects the fact that most of the net expansion of public-sector employment between 2007 and 2011 was concentrated in permanent employees (who increased by nearly 15 % in that period), compared with a more moderate increase in temporary employees (somewhat less than 3 % in cumulative terms). Furthermore, in the subsequent adjustment phase between 2011 and 2013, the number of temporary workers decreased by 28 %, while permanent workers contracted by somewhat less than 6 %. However, in 2015-2016 the recovery of public-sector employment was concentrated in the temporary segment (+17 %), as against a slight decrease in permanent workers (-1 %).

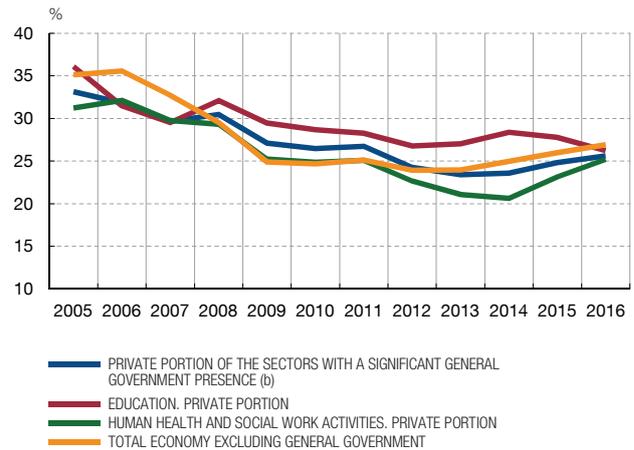
Overall, between 2007 and 2016, the general government workforce with permanent contracts expanded by 6.3 % (130,000 persons), while the temporary workforce decreased by 13.2 % (99,000 persons).

The ratio of temporary to total employment in the general government sector has been historically lower than that in the private sector (see Chart 6), both overall and in the area of education (60 % of which is public and 40 % private) in particular. However, in human

1 GENERAL GOVERNMENT TEMPORARY EMPLOYMENT RATIO BY SECTOR



2 TEMPORARY EMPLOYMENT RATIO IN THE PRIVATE PORTION BY SECTOR

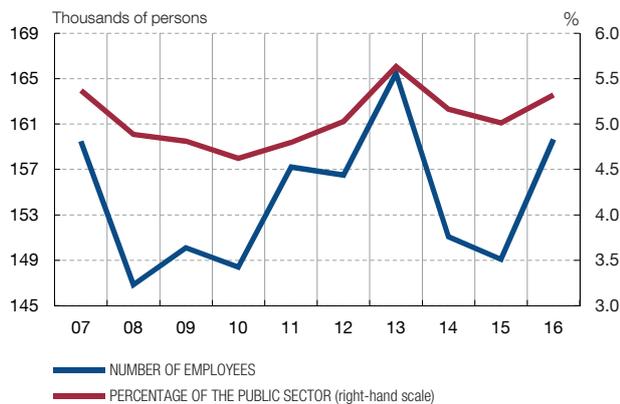


SOURCE: Spanish Labour Force Survey (INE).

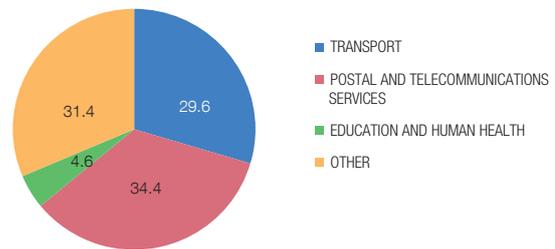
- a Other general government includes workers in sector O (Public administration and defence; compulsory social security) and other general government sectors other than Education and Human health and social work activities.
- b Sectors O (Public administration and defence; compulsory social security), P (Education) and Q (Human health and social work activities) of the NACE classification.

EMPLOYMENT IN PUBLIC CORPORATIONS

1 NUMBER OF EMPLOYEES AND PERCENTAGE OF THE PUBLIC SECTOR (a)



2 SECTORAL DISTRIBUTION IN 2016



SOURCE: Spanish Labour Force Survey (INE).

- a Public-sector employees are defined as the sum of general government employees and public corporation employees.

health and social work activities (where nearly 50 % of workers are public), the ratio of temporary employment in the private-sector part in 2016 was 25 % while that in the public portion was 33 %.

PUBLIC CORPORATIONS

As mentioned above, there are public corporations through which general government channels the provision of certain goods and services and which are classified outside the scope of the general government sector. On EPA data, public corporations in 2016 employed 159,700 workers, more than half in the transport, postal and telecommunications sectors, a number similar to that of 2007 (see Chart 7). In recent years, the behaviour of public corporation employment has generally been the opposite to that of the general government sector, with net job destruction at the beginning of the crisis (-7 % between

2007 and 2010), an increase between 2010 and 2013 (of 11.5 %), and a fresh decrease between 2013 and 2016 (of 3.5 %). Overall, between 2007 and 2016 the employment of public corporations lost weight slightly in total public-sector employment (defined as the sum of general government and public corporations), decreasing from 5.37 % in 2007 to 5.32 % at the end of the period analysed.

07.11.2017.

REFERENCES

- HERNÁNDEZ DE COS, P., E. MORAL BENITO and J. J. PÉREZ (2016), “El empleo y los salarios públicos durante la crisis: análisis desde una perspectiva internacional y regional”, *Papeles de Economía Española*, 147, pp. 68-91.
- HERNÁNDEZ DE COS, P. and J. J. PÉREZ (2015), “El impacto de los salarios y el empleo público. Una perspectiva macroeconómica”, *Presupuesto y Gasto Público*, 79, pp. 11-26.
- INFORME CORA (CORA REPORT) (2013), “Reforma de las Administraciones Públicas” (General Government Reform), Comisión para la Reforma de las Administraciones Públicas, Ministerio de Hacienda y Administraciones Públicas. Available (only in Spanish) at: <http://transparencia.gob.es/transparencia/dam/jcr:b1c69477-9882-41a5-9f6d-5cbb46fa12b4/reforma-AAPP.PDF>
- MARTÍNEZ MANZANEDO, R. (2010), “La empresa pública en la contabilidad nacional”, *Presupuesto y Gasto Público*, 60, pp. 97-107.
- MINISTERIO DE HACIENDA Y FUNCIÓN PÚBLICA (MINISTRY OF FINANCE AND THE CIVIL SERVICE) (2017), *Boletín Estadístico del Personal al Servicio de las Administraciones Públicas*, Registro Central de Personal, January.
- MONTESINOS, A., J. J. PÉREZ and R. RAMOS (2014), *El empleo de las Administraciones Públicas en España: caracterización y evolución durante la crisis*. Documentos Ocasionales, nº 1402, Banco de España.
- (2015), “Los cambios en la estructura y composición del empleo público durante la crisis”. *Cuadernos de Información Económica*, nº 249, November, FUNCAS.
- OECD (2009), “Employment in general government and public corporations”, in *Government at a Glance 2009*, OECD Publishing.
- (2011), “Employment in general government and public corporations”, in *Government at a Glance 2011*, OECD Publishing.
- (2013), “Employment in general government and public corporations”, in *Government at a Glance 2013*, OECD Publishing.
- PÉREZ, J. J., M. AOURIRI, M. CAMPOS, D. CELOV, D. DEPALO, E. PAPAPETROU, J. PESLIKAITE, R. RAMOS and M. RODRÍGUEZ (2016), *The fiscal and macroeconomic effects of government wages and employment reform*, European Central Bank Occasional Paper Series, No 176, August.

Various statistical sources can be used to analyse the behaviour of public-sector employment in Spain. The National Accounts provide an appropriate conceptual framework for measuring the number of general government employees, since they are prepared according to comparable international criteria. However, the National Accounts data on the number of public-sector employees are annual and are published with a significant lag, which limits their use in conjunctural analyses of the economy. Also, more importantly, the National Accounts do not provide a disaggregation of general government employment in any important dimension (tier of government, hours worked, activity, or type of contract). In the Spanish case, these limitations can be remedied through the use of other alternative statistical sources (see Table 1).

First, in the framework of the quarterly National Accounts, the INE reports the number of general government employees aggregated with the private (market) portion of the "Public administration and defence; compulsory social security", "Education", "Human health activities" and "Social work activities" areas, known as the APEDUSAN aggregate. This variable is of limited use in analysing conjunctural changes in general government employment because the dynamics of its private (market) components differ significantly from those of the genuinely public portion. This limitation advises caution in the use of this statistical source to investigate the behaviour of general government employment.

Second, the Ministry of Employment and Social Security publishes monthly the number of social security contributors by activity as defined in the Spanish National Classification of Economic Activities

(*Clasificación Nacional de Actividades Económicas – CNAE*). Since 2014 it has been possible to perform an aggregation of the activities relating to general government. However, in order to infer from this figure the level of public-sector employment, it must be taken into account that a high percentage of general government employees are not included in the general Social Security regime, but rather in a special government employee regime. Although this special regime is not applicable to any civil servants hired since 1 January 2011 (as a result of Royal Decree-Law 13/2010), the weight of the stock of general government employees is still high.¹

Third, the Ministry of Finance and the Civil Service publishes half-yearly the Statistical Bulletin of General Government Staff, which draws on the information in the Central Register of General Government Staff ("RCP" by its Spanish abbreviation). This statistical bulletin furnishes information on the employees of the various tiers of government,² i.e. those serving in the State, regional and local governments and in universities. The RCP contains only

¹ According to the 2016 annual report of the mutual societies MUFACE, ISFAS and MUGEJU, at the end of 2015 they had 961,027 members who were serving employees. Taking into account that the EPA for 2016 Q4 put the number of general government employees at 2,822,200, approximately one-third of general government employees belong to the special Social Security regime for government employees.

² This statistic has been published since 1990 and, according to the RCP, the criteria according to which it is compiled are intended to be stable and uniform. Statistical support is provided by the structure defined by Law 6/1997 of 14 April on the Organisation and Functioning of Central Government and by its equivalent for the regional governments.

Table
STATISTICAL SOURCES FOR MEASURING THE NUMBER OF GENERAL GOVERNMENT EMPLOYEES

	Thousands of persons				Rate of change			
	2007	2012	2015	2016	2007	2011	2015	2016
General government								
National Accounts	2,843	2,913	2,905	2,927	2.1	-0.1	0.7	0.8
Central Register of General Government Staff (a)	2,539	2,560	2,499	2,501	3.6	-0.3	-0.1	0.1
Spanish Labour Force Survey (EPA)	2,810	2,956	2,826	2,841	1.9	1.9	1.8	0.5
Social Security registrations (b)	—	—	2,245	2,288	—	—	2.6	1.9
Continuous Sample of Working Histories (b)	2,610	2,782	2,662	2,673	1.3	2.0	1.7	0.4
APEDUSAN aggregate (c)								
National Accounts, APEDUSAN	3,645	3,840	3,877	3,960	2.6	0.2	0.7	2.1
EPA, APEDUSAN	3,442	3,844	3,790	3,875	2.2	2.0	1.7	2.2
Social Security registrations, APEDUSAN (b)	2,802	3,123	3,106	3,176	7.8	1.6	3.2	2.2

SOURCES: Ministerio de Hacienda y Función Pública, Ministerio de Empleo y Seguridad Social, INE and Banco de España.

a *Boletín Estadístico del Personal al Servicio de las Administraciones Públicas*.

b Excluding MUFACE and other mutual companies.

c The aggregation of the sectors "Public administration and defence; compulsory Social Security", "Education", "Human health activities" and "Social work activities" gives rise to the so-called "APEDUSAN sector".

serving employees³ and excludes those classed as senior officials and workers with a fixed-term contract for less than six months.⁴

The EPA, published quarterly by the INE, allows general government employees to be selected on the basis of activity and tier of government. Like the RCP, the EPA provides considerable detail on the characteristics of general government workers, specifically in terms of activity (education, human health and social work activities, other), tier of government (central, Social Security, regional, local) and type of contract (permanent, temporary), along with other characteristics such as age and gender. Also, the EPA provides estimates of the number of workers in public corporations, with a more complete coverage

than the RCP. Furthermore, unlike the RCP, the EPA provides analysts with microdata containing individual information on such additional characteristics as employees' working hours or length of service.

Finally, the social security administrative labour records include a database (Continuous Sample of Working Histories, "MCVL" by its Spanish abbreviation) which provides individual information on the full working life of a random sample of employees registered with the Social Security system between 2005 and 2015. The MCVL contains information on all the job changes of these workers since 1980. The public-sector job data cover all individuals who have worked in non-market sectors for at least one year. One of the main advantages of these data is that they give information on individuals' wages, personal characteristics and detailed-level sector of activity. However, it should be noted that, as with the Social Security registration data, general government employees not included in the Social Security general regime are outside the scope of this data source.

³ It therefore excludes, in particular, personnel in training, under work-experience contracts, on reserve or in a second job.

⁴ As well as those providing their services in Constitutional Bodies and in the Council of State. For more details, see Annex I of the *Informe Cora* (Cora Report) (2013).