



Autonomous Communities funding system:
the Valencian case and the federal reform
proposal

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List of abbreviations

Abbreviation	Meaning
CAT	Catalonia
GAL	Galicia
AND	Andalusia
AST	Asturias
CAN	Cantabria
RIO	La Rioja
MUR	Murcia
VAL	Valencia
ARA	Aragón
CLM	Castilla-La Mancha
ICAN	Canary Islands
EXT	Extremadura
IBAL	Balearic Islands
MAD	Madrid
CAS	Castile and León

ABSTRACT

One of the recurring issues in the context of Valencian regional policy is the question of the funding system. Over the years, the different autonomous governments have tried to negotiate an improvement in the resources provided by the state. However, civil society, economic and social actors still consider this situation unfair.

In addition, the conflict that exists nowadays between the central administration and Catalonia has caused the appearance of differing voices calling for a reform of the territorial organization of the State based on federalism, as a solution for the territorial problems.

This paper analyses the last settlement of the Autonomous Communities funding system from the perspective of Comunidad Valenciana with the purpose of clarifying if there really is such a prejudice, as well, it provides a reflection on the suitability of carrying out a reform of the current financing system.

Keywords: Autonomous Communities, Taxes, Debt, Comunidad Valenciana, Federalism, Government Spending.

1. Introduction

The current territorial organization of Spain entered into force in 1981. Despite its recent creation, the regional funding system has been reformed on several times, which has not prevented the disagreement of many autonomous communities.

Comunidad Valenciana is one of those that traditionally has disagreed with the different reforms, since it is systematically among the regions that receive the least resources from the state. What is more, the 2008 Recession exacerbated this problem for over a decade. As it is explained below, in the last settled year the region continued without improving its financing.

The goal of this paper is to analyse each one of the mechanisms that the system has – The Guarantee Fund, The Global Sufficiency Fund and The Convergence Funds– and their functioning, focusing on the Valencian case. Likewise, this study shows the negative impacts of this situation on the economic development of the region, the well-being of citizens and public accounts.

Lastly, the comparison with the German system, since Germany is one of the most representative cases of current federalism, allows to elucidate the pros of the cons of the Spanish system, as well as, propose an alternative solution.

One of the most important conclusions that has been reached is that the current financing system not only prejudices the region but has contributed to worsening its indebtedness. However, the Spanish system has a good premise and positive aspects compared to the German one, even both systems have some points in common that makes easier the comparison.

2. The Autonomous Communities

Spanish Constitution recognises and guarantees the right to autonomy of the nationalities and regions of which it is composed, and the solidarity amongst them all, as well as, safeguards the establishment of a just and adequate economic balance between the different areas of Spanish territory (arts. 2 and 138¹). Therefore, Spain is a decentralized country. The state delegates some powers on the Autonomous Communities (*Comunidades Autónomas* in Spanish), which are territorial bodies that have self-government, hold free elections every four years and pass their own laws.

However, the constitution does not specify which are these nationalities and regions, not either their competence level. When the decentralisation process took place in the late 1970s and early 1980s, existing territories (provinces and isles) could form different Autonomous Communities according to their will, so the new entities did not get the same set of devolved powers, it varies depending on each Statute of Autonomy². Article 148 gathers all the competences that the *Comunidades Autónomas* may acquire. As a result, the “Magna Carta” does not determine the political map of Spain.

Since 1983 the state has been divided into 17 Autonomous Communities, until 1995 when Ceuta and Melilla were constituted as Autonomous Cities.

3. Comunidad Valenciana in the context of the Spanish economy and regional differences

Comunidad Valenciana has a gross domestic product of 110,978,859 million euros, making it the fourth most economically important, the region accounts for almost the 10% of the national total. The GDP is distributed as follows: 71% services, 20% industry, 7% construction and 2% agriculture, similar to the national average. The economic sectors with the greatest presence in the region are the automotive, machinery and capital goods, the chemical sector (phytosanitary and transforming chemistry), tourism, the plastic sector (technical plastics and biopolymers) and the agri-food sector.

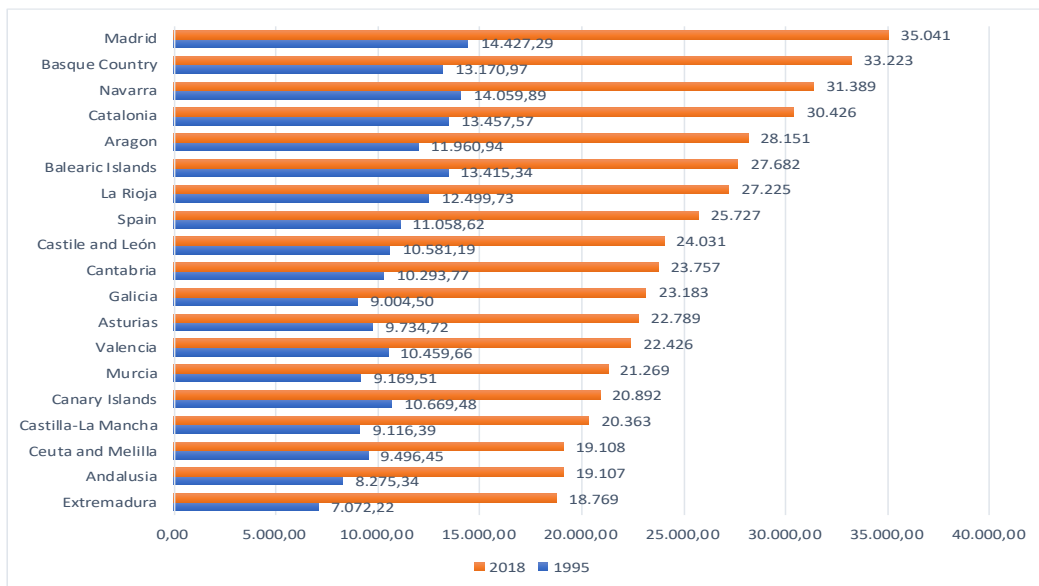
As a matter of fact, the region is in a privileged location, the Mediterranean area of Spain, which concentrates almost half of the Spanish population, economic activity, employment and exports.

However, as explains graph 1 below its GDP per capita is lower than the Spanish average. In addition, the Autonomous Community with the highest income almost doubles the one with the lowest. Therefore, there are regional differences in this regard. Although the regions that started with higher incomes have grown faster, the differences have not increased significantly in the last 25 years.

¹ Mentioned articles of Spanish Constitution can be consulted in Annex I

² Basic institutional regulation of each Autonomous Community

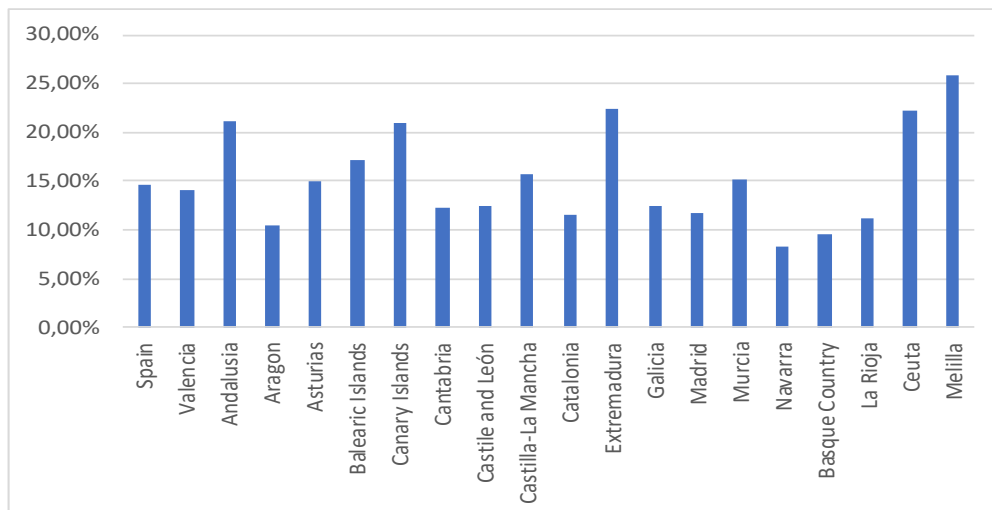
Graph 1 GDP per capita by Autonomous Community (1995 vs 2019) in current euros



Source: own elaboration based on data from Instituto Nacional de Estadística and Fedea

Moreover, the unemployment rate stands at 14,1%, that is slightly below than the Spanish average (14,7%). Even so, its upward or downward swings are more pronounced than the national average, because of the characteristics of Valencian productive activity, where labor-intensive activities predominate. In fact, during 2013, the unemployment rate reached a 29%, three points above the Spanish rate.

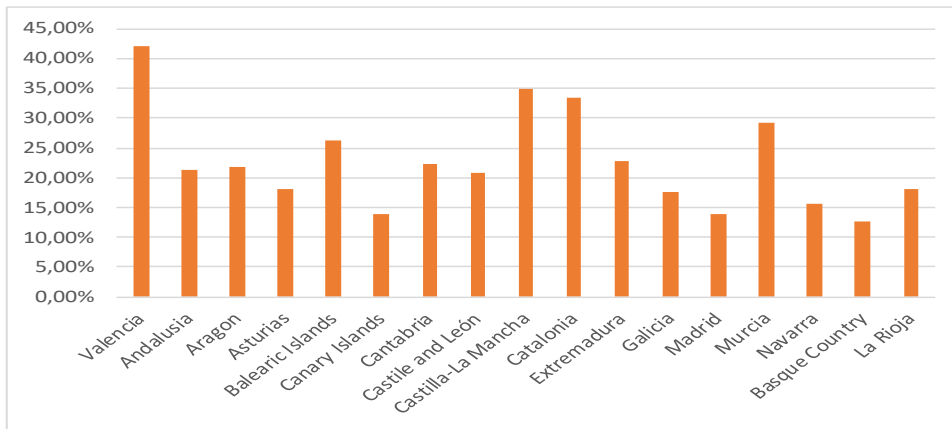
Graph 2 Unemployment rate by Autonomous Community (2019)



Source: own elaboration based on data from Instituto Nacional de Estadística

In respect of the debt-to-GDP ratio, it reaches 42,1%, being the highest among all the Autonomous Communities. Although its total value is the second highest, 48.433 million euro, only surpassed by Catalonia.

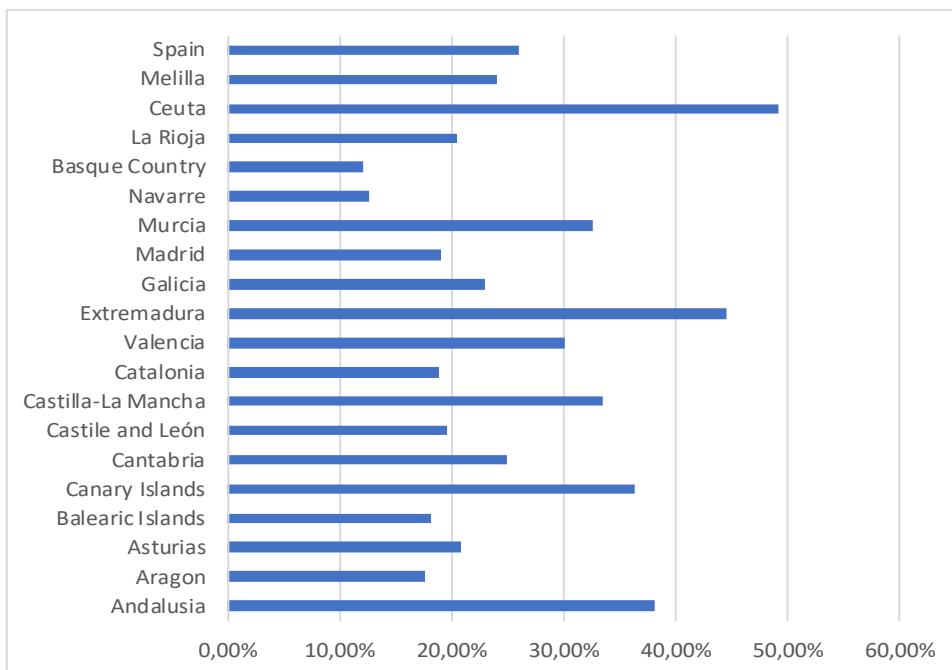
Graph 3 Debt-to-GDP ratio by Autonomous Community (2019)



Source: own elaboration based on data from Banco de España

According with graph 4 below, the percentage of people at risk of poverty or social exclusion in Comunidad Valenciana is higher than the national average. The gap among Autonomous Communities are so great that a line can be drawn in the middle of Iberian Peninsula dividing the country into two separates halves. The northern half concentrates the regions with less poverty, only Cantabria and Galicia exceed the 20%, while all southern regions reaches the 30%.

Graph 4 Population at risk of poverty or social exclusion (2018)



Source: own elaboration based on data from Instituto Nacional de Estadística

4. Autonomous Communities Funding System

To begin with, the legal framework that establishes the sources of funding of the Autonomous Communities is The Organic Law of 8/1980 of September 22, 1980. According to Article 4:

One. In accordance with section 1 of article 157 of the Constitution, and without prejudice to the provisions of the rest of the articles, the resources of the Autonomous Communities shall be constituted by:

- a) Income from their assets and other private law.*
- b) Their own taxes, fees and special contributions.*
- c) The taxes assigned, totally or partially, by the State.*
- d) Participation in the Fundamental Public Services Guarantee Fund.*
- e) Surcharges that could be established on State taxes.*
- f) Participations in State revenues through the funds and mechanisms established by law.*
- g) The yield of credit operations.*
- h) The product of fines and penalties within the scope of its competence.*
- i) Their own public prices.*

Two. Where appropriate, the Autonomous Communities may also obtain income from:

- a) The allocations established in the General State Budgets, in accordance with the provisions of this Law.*
- b) Transfers of the Inter-territorial Compensation Funds, whose resources have the character of general burden of the State for the purposes provided for in articles 2, 138 and 158 of the Constitution.*

Nevertheless, Basque Country and Navarre have the power to maintain, determine and regulate their own tax system, what is known as *régimen foral*. The rest constitutes the common system, as explained below, which is regulated by the Law of 22/2009 of December 18, 2009.

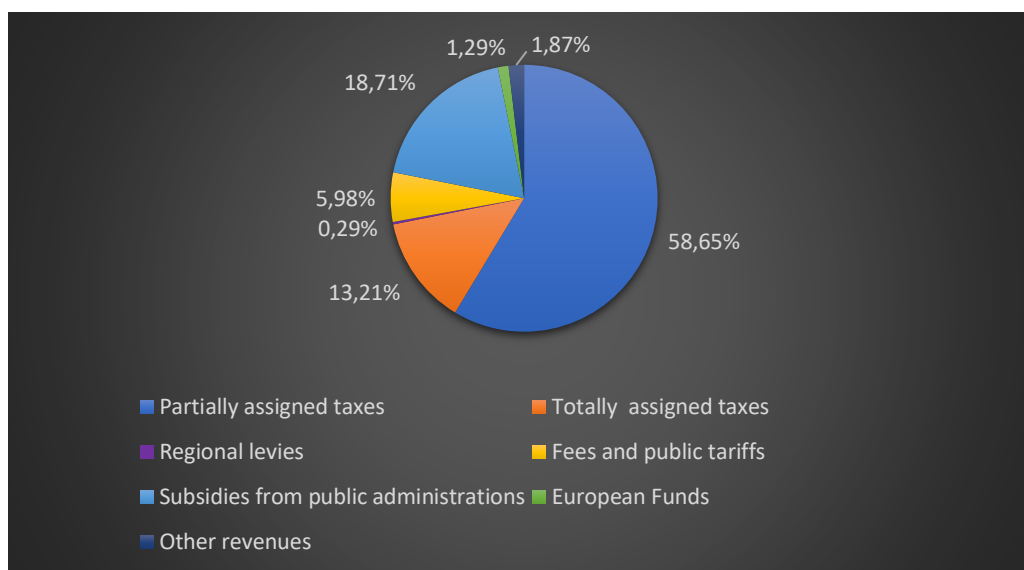
Autonomous Communities share some tax revenues with Spanish State, specifically, the 50% of the VAT and the personal income tax, as well as the 58% of the excise taxes. The rest are completely allocated to regional authorities, being the most important: inheritance tax, wealth tax, property transmission and gambling tax. The regional governments assume regulatory powers on totally assigned taxes, but excise taxes and VAT are regulated by central administration. Nonetheless, Autonomous Communities are free to set some minimum and maximum rates on the personal income tax.

Along with the taxes, there is a set of funds that contributes to redistribute the resources amongst Autonomous Communities, these are: The Fundamental Public Services Guarantee Fund, Global Sufficiency Fund and Convergence Fund. In accordance with

Article 11³, Spanish State transfers all these resources throughout the year by payments on accounts based on a forecast. Two years later, if the amount settled for that fiscal year is higher than the transferred one, central administration compensates for the difference. Otherwise, autonomous government must reimburse it.

Taking the example of Comunidad Valenciana, as shows graph 5 shared taxes with the State are the main source of financing of Autonomous Communities. While regional levies, totally assigned taxes, fees and public tariffs represents around the 20% of their budgeted revenue. Besides, as shows table 1 below, in the last settled fiscal year, personal income tax and VAT accounts for most of their tax revenue.

Graph 5 Valencian Community budgeted revenue in 2019



Source: own elaboration based on data from GVA Oberta

Table 1 Partially assigned taxes revenue and settlement of Valencian Community (2017)

	Tax revenue	Payments on account	Settlement 2017
Personal income tax	3.746.754,01	3.583.533,11	163.220,90
VAT	3.607.886,05	3.786.404,30	-178.518,25
Excise taxes	1.478.577,82	1.484.994,70	-6.416,88
- Alcohol	55.100,17	55.308,45	-208,28
- Intermediate products	1.356,78	1.444,98	-88,20
- Beer	19.814,37	18.789,34	1.025,03
- Tobacco	520.353,16	522.110,36	-1.757,20
- Hydrocarbons	738.530,16	733.921,82	4.608,34
- Electricity	143.423,18	153.419,75	-9.996,57

Source: own elaboration based on data from GVA Oberta

Hence, the taxes that entail a higher collection are those collected by the central treasury, while those collected by regional treasuries constitute fewer resources. This is what is called vertical imbalance. Besides, territories with a higher degree of development will be able to raise the necessary amounts to finance public policies with a lower tax effort, what constitutes other type of imbalance, the horizontal one, since the state has the

³ Articles from the Law of 22/2009 of December 18, 2009 can be consulted in Annex II

obligation to guarantee a minimum level of public services for all the territories (Loscos Fernández, 2013: 183-186)

Therefore, as will be explained below, due to its purposes, the guarantee fund can be defined as a horizontal fund, while the other three are vertical funds.

4.1. The Fundamental Public Services Guarantee Fund

Also known as Guarantee Fund, has as a purpose ensuring that each territory receives the same resources per adjusted inhabitant to finance essential public services. It is funded principally by the 75% of tax capacity of all Autonomous Communities, in other words, the count of all tax revenue, in conjunction with a state contribution which is established in letter A and epigraphs I and II of letter B from Article 5, as well as letter g) from Article 3, in accordance with the funding law.

Table 2 Overall fiscal capacity disaggregated by Autonomous Community in million euro (2017)

	Personal income tax [1]	VAT [2]	Excise taxes [3]	Partially assigned taxes [4]=[1]+[2]+[3]	Totally assigned taxes [5]	Tax capacity [6] = [4] + [5] * 0,75
CAT	8.952.819,45	6.465.513,35	2.364.312,00	17.782.644,80	3.049.014,06	15.623.744,14
GAL	2.047.304,23	1.932.199,91	842.698,21	4.822.202,35	768.577,04	4.193.084,54
AND	4.848.733,91	5.351.675,24	2.146.016,05	12.346.425,21	2.528.185,90	11.155.958,33
AST	929.734,94	787.888,52	329.806,65	2.047.430,11	367.710,25	1.811.355,27
CAN	500.006,02	460.294,62	196.081,97	1.156.382,61	295.366,97	1.088.812,18
RIO	284.596,89	240.581,30	119.734,62	644.912,82	118.569,75	572.611,93
MUR	894.086,88	962.425,77	492.209,17	2.348.721,82	447.766,91	2.097.366,55
VAL	3.691.958,13	3.607.886,05	1.478.577,82	8.778.422,00	2.065.755,80	8.133.133,35
ARA	1.222.396,18	1.040.778,86	497.804,78	2.760.979,83	580.036,75	2.505.762,43
CLM	1.212.330,90	1.349.513,80	691.020,76	3.252.865,46	614.364,49	2.900.422,47
ICAN	1.406.318,61	-	76.161,58	1.482.480,19	565.647,83	1.536.096,01
EXT	533.503,15	657.553,88	337.391,40	1.528.448,43	262.645,89	1.343.320,74
IBAL	1.144.459,49	1.198.958,47	420.616,87	2.764.034,83	502.762,68	2.450.098,14
MAD	10.502.699,99	5.920.372,35	1.554.818,38	17.977.890,73	2.855.217,46	15.624.831,14
CAS	1.910.365,30	1.847.912,68	924.488,70	4.682.766,68	810.718,10	4.120.113,58
Total	40.081.314,09	31.823.554,82	12.471.738,97	84.376.607,88	15.832.339,88	75.156.710,82

Source: own elaboration based on Ministerio de Hacienda data

Table 3 Contribution to Guarantee Fund in million euro (2017)

Autonomous contribution (75% of fiscal capacity) [1]	75.156.710,82
State contribution (2007) [2]	8.055.000,00
GITE 17/07 [3]	0,9789
State contribution 2017 [4] = [2] * [3]	7.885.039,50
Total Contribution in 2017 [5] = [2] + [4]	83.041.750,32

Source: own elaboration based on Ministerio de Hacienda data

Table 3 displays the calculation of the contribution to the fund. The contribution from the State in the base year⁴ (2007) is weighted by the index GITE 17/07, that is to say, the growth rate of the state tax aggregate revenue in the years 2007 and 2017 (ITE),

⁴ The current system entered into force in 2009, so 2007 is the first settled year

after deducting the payments on accounts and the last settlement made, which are 75.827.959,16 M€ and 74.225.305,91 M€ respectively. So, GITE 17/07 is 0,9789 (ITE 2017 / ITE 2007), as consequence, the State contribution in 2017 is 7.885.039,5 M€ and the total contribution to the fund is 83.041.750,32 M€.

Table 4 Relative weight of adjusted population

Equivalent population for health core purposes	38%
Population	30%
School age population (0-16)	20,50%
Population 65+	8,50%
Land area	1,80%
Population dispersion	0,60%
Reserve for island regions	0,60%

Source: own elaboration based on Ministerio de Hacienda data

The expenditure needs are calculated taking into consideration a set of variables, as table 4 shows above, which are illustrate in letter b) of Article 9 of the Law of 22/2009 of December 18, 2009. In the case of Comunidad Valencina, its adjusted population is 4.808.332, that means a reduction in relation to its census population, which stands at 4.933.148 inhabitants.

Table 5 Settlement of Guarantee Fund in million euro (2017)

	Adjusted population in % [1]	Contribution to Guarantee Fund [2] = [1] * Total [table 5]	75% of fiscal capacity [3]	Transfers from Guarantee Fund [4] = [2] - [3]	Payments on account [5]	Settlement [6] = [4]-[5]
CAT	17,03	14.144.178,50	15.623.744,14	-1.479.565,64	-958.696,02	-520.869,62
GAL	6,66	5.531.093,34	4.193.084,54	1.338.008,80	1.244.669,55	93.339,24
AND	18,78	15.591.753,13	11.155.958,33	4.435.794,80	4.318.237,64	117.557,16
AST	2,50	2.077.891,26	1.811.355,27	266.535,99	192.515,34	74.020,65
CAN	1,35	1.117.473,23	1.088.812,18	28.661,05	-20.400,14	49.061,18
RIO	0,74	617.730,74	572.611,93	45.118,81	53.397,49	-8.278,68
MUR	3,30	2.743.767,15	2.097.366,55	646.400,60	667.435,52	-21.034,91
VAL	11,04	9.165.720,22	8.133.133,35	1.032.586,87	991.633,78	40.953,09
ARA	3,20	2.657.708,29	2.505.762,43	151.945,85	84.214,72	67.731,14
CLM	4,85	4.031.332,36	2.900.422,47	1.130.909,90	1.077.411,20	53.498,70
ICAN	4,91	4.076.524,80	1.536.096,01	2.540.428,78	2.659.870,07	-119.441,29
EXT	2,59	2.152.977,73	1.343.320,74	809.656,99	779.503,59	30.153,40
IBAL	2,54	2.112.030,88	2.450.098,14	-338.067,26	-170.259,61	-167.807,65
MAD	14,47	12.015.385,77	15.624.831,14	-3.609.445,37	-3.152.475,51	-456.969,85
CAS	6,03	5.006.182,91	4.120.113,58	886.069,33	803.462,38	82.606,95
Total	100,00	83.041.750,32	75.156.710,82	7.885.039,50	8.570.520,00	-685.480,50

Source: own elaboration based on data from Ministerio de Hacienda

As shows table 5, after the settlement of the fund, Valencia has a positive balance with the central administration.

4.2. The Global Sufficiency Fund

This fund consists in the calculation of Autonomous Community overall financing needs after subtracting the sum of its tax capacity and the transfers from Guarantee Fund. As

specifies below table 6, the value of the fund in the base year (in this case 2016) is taken and a series of corrections are made, due to changes in tax rates or transfers of new services, in accordance with Article 21 of Law of 22/2009 of December 18, 2009. Ultimately, the value is multiplied by the rate GITE 17/07.

Table 6 Settlement of Global Sufficiency Fund in 2017

	Value in the base year (2016) [1]	Corrections [2]	Value in the base year (2017) [3] = [1] + [2]	Contribution to Sufficiency Fund [4] = [3] * 0,9789	Payments of account [5]	Settlement [6] = [4] - [5]
CAT	711.292,62	-17.651,25	693.641,36	679.005,53	728.877,68	-49.872,15
GAL	540.682,09	-6.649,70	534.032,39	522.764,31	558.897,86	-36.133,55
AND	467.399,18	-18.260,93	449.138,25	439.661,44	474.002,09	-34.340,65
AST	169.312,93	-2.578,36	166.734,57	163.216,47	174.632,76	-11.416,29
CAN	440.310,38	-1.295,09	439.015,29	429.752,07	458.165,33	-28.413,26
RIO	190.856,67	-740,33	190.116,34	186.104,89	198.466,17	-12.361,28
MUR	-176.529,18	-3.250,12	-179.779,30	-175.985,96	-186.440,28	10.454,32
VAL	-1.281.050,70	-11.137,05	-1.292.187,76	-1.264.922,59	-1.343.869,79	78.947,20
ARA	251.054,86	-3.227,75	247.827,10	242.597,95	259.421,47	-16.823,52
CLM	75.618,17	-4.752,39	70.865,78	69.370,51	75.352,31	-5.981,80
ICAN	70.872,87	-4.129,85	66.743,02	65.334,75	70.846,31	-5.511,56
EXT	401.233,93	-2.581,81	398.652,12	390.240,56	416.470,81	-26.230,25
IBAL	-623.092,59	-2.752,51	-625.845,11	-612.639,77	-651.673,42	39.033,65
MAD	-661.486,97	-14.476,52	-675.963,49	-661.700,66	-700.322,11	38.621,45
CAS	393.894,61	-6.056,63	387.837,98	379.654,59	406.240,61	-26.586,02
CEU	31.668,07	0,00	31.668,07	30.999,88	33.020,93	-2.021,05
MEL	25.357,37	0,00	25.357,37	24.822,33	26.440,64	-1.618,31
Total	1.027.394,29	-99.540,30	927.853,99	908.276,27	998.529,37	-90.253,10

Source: own elaboration based on data from Ministerio de Hacienda

4.3. The Convergence Funds

These are The Cooperation Fund and The Competitiveness Fund. Both have the function of reducing the gap in terms of financing per adjusted inhabitant and to promote territorial economic balance.

4.3.1. The Cooperation Fund

According to Article 24.2 of Law of 22/2009 of December 18, 2009 are beneficiaries:

a) *Those Autonomous Communities of common system with a GDP per capita of less than 90% of the average corresponding to the Autonomous Communities of the common system. GDP per capita will be measured in terms of the average for the last three years, which initially refers to the 2007-2009 period.*

b) *Those with a population density less than 50% of the average density corresponding to the Autonomous Communities of common system, both data referring to the last year, which is initially 2009.*

c) *That having a population growth of less than 90% of the average corresponding to the Autonomous Communities of common system, have a population density per square kilometre lower than the resulting figure of multiplying by 1.25 the average density of the Autonomous Communities common regime. Population growth will be measured in terms of the value corresponding to the last three years, initially referring to the 2007-2009 period. The density is the one corresponding to the last year of the period.*

In 2017 the Autonomous Communities benefiting from The Cooperation Fund are Andalucía, Asturias, Murcia, Valencia, Castilla-La Mancha, Canary Islands, Extremadura and Aragón. For example, in the case of Comunidad Valencia, its average GDP per capita between 2015 and 2017 is lower than the 90% of the common system regions.

The allocation of The Cooperation Fund in the base year was 1,200 million euros, being updated by applying the variation of the ITE available in the period between 2009 and the settled year, as shows table 7 below.

Table 7 Calculation of the amounts distributed by The Cooperation Fund (2017)

Amount of Cooperation Fund [1]	1.200.000,00
GITE 07/09 [2]	0,5863
GITE 17/07 [3]	0,9789
GITE 09/17 [4] = [2] / [3]	1,6696
Total amount of Cooperation Fund [5] = [1] * [4]	2.003.547,67
First distribution [6] = [5] * 2/3	1.335.698,45
Second distribution [7] = [5] * 1/3	667.849,22

Source: own elaboration based on data from Ministerio de Hacienda

In first place, two thirds of the fund are distributed to Autonomous Communities according to their relative population in relation to the total population of the ones that form the fund, weighted by the distance of the GDP per capita of each Autonomous Community from the average. Then, the remaining third is distributed to the territories that have a population growth of less than 50% of the average corresponding to the Autonomous Communities of common system, under no circumstances an Autonomous Community can be beneficiary of more than 40% of this part of the fund, in that happens, the excess will be distributed among all the beneficiaries of the first distribution.

Table 8 Distribution of The Cooperation Fund (2017)

	Relative population [1]	Average GDP per capita (2015-2017) [2]	Distance GDPpc from the average [3] = 1 + [mean - [2] / [2]]	First distribution [4] = 1.335.698 * [1] * [3]	Relative population [1]	Second distribution [2] = [1] * 667.849
GAL	9,55%	21.473,55	0,94	119.461,78	10,92%	72.940,33
AND	29,46%	17.908,62	1,11	437.970,62	33,69%	224.983,41
AST	3,66%	21.136,27	0,95	46.627,15	4,19%	27.970,29
CAN	2,05%	21.732,07	0,92	25.238,43	2,34%	15.623,61
RIO	1,11%	25.605,70	0,73	10.848,43	1,27%	8.476,81
MUR	5,15%	19.917,43	1,01	69.763,43		
VAL	17,42%	21.209,66	0,95	220.936,78	19,92%	133.041,07
ARA	4,61%	26.404,28	0,69	42.587,04	5,27%	35.178,88
CLM	7,18%	19.001,93	1,06	101.524,92	8,21%	54.820,51
ICAN	7,39%	19.946,31	1,01	99.856,78		
EXT	3,82%	16.810,17	1,17	59.518,81	4,36%	29.149,41
CAS	8,60%	22.581,91	0,88	101.240,17	9,83%	65.664,91
MEAN		20.188,16				

Source: own elaboration based on data from Ministerio de Hacienda

4.3.2. The Competitiveness Fund

Furthermore, The Competitiveness Fund is intended to reduce the gap in homogeneous financing per capita between Autonomous Communities. To that end, as reports table 9 below, the resources meant to fund singular competences are deducted from the resources provided by the system (transfers from the previous funds and tax revenues). The result is the financing in homogeneous terms. In addition, the amount distributed in The Cooperation Fund is added, and ultimately, is divided by adjusted population.

Table 9 Calculation of Homogeneous financing index (2017)

	Resources provided by the system [1]	Non-homogeneous competences [2]	Homogeneous financing [3] = [1] - [2]	Total Cooperation Fund [4]	Homogeneous financing by adjusted population [5] = [3] + [4] / adjusted	Homogeneous financing index [6] = [5] / μ [5]
CAT	20.031.098,75	2.327.790,12	17.703.308,63		2.385,88	100,54
GAL	7.451.552,49	299.798,50	7.151.753,99	192.402,11	2.531,06	106,66
AND	19.750.067,35	806.739,23	18.943.328,12	662.954,04	2.397,02	101,01
AST	2.844.892,82	74.705,85	2.770.186,97	74.597,44	2.609,75	109,97
CAN	1.910.162,70	128.062,90	1.782.099,79	40.862,04	3.109,66	131,04
RIO	994.706,27	69.808,60	924.897,67	19.325,24	2.913,72	122,78
MUR	3.266.903,38	18.303,01	3.248.600,37	69.763,43	2.305,41	97,15
VAL	10.611.842,08	316.499,02	10.295.343,06	353.977,85	2.214,76	93,33
ARA	3.735.560,38	84.088,14	3.651.472,25	77.765,92	2.674,76	112,71
CLM	5.067.510,36	11.441,25	5.056.069,12	156.345,42	2.464,69	103,86
ICAN	4.653.891,55	267.905,12	4.385.986,43	99.856,78	2.097,62	88,39
EXT	2.990.991,87	7.815,88	2.983.176,00	88.668,22	2.719,77	114,61
IBAL	2.316.090,48	111.274,96	2.204.815,52		1.989,96	83,85
MAD	16.561.962,15	1.024.695,33	15.537.266,83		2.464,96	103,87
CAS	6.759.208,70	15.396,44	6.743.812,26	166.905,08	2.631,41	110,88
	108.946.441,32		103.382.116,98		2.373,13	100,00

Source: own elaboration based on Ministerio de Hacienda data

In order to discourage downward tax competition among Autonomous Communities, the latest financing law introduced a distinction between tax capacity and fiscal capacity. The first term is the real tax collection, while the latter is the amount that would obtain by applying the tax rates that used to apply the State before ceding it to regional authorities (López Laborda, 2015).

As reveals table 10 hereunder, the calculation of fiscal capacity and its index (which is calculated the same way than the homogeneous financing index) is necessary to determine which Autonomous Communities take part of fund, since only those whose homogeneous financing index is lower than 100 and/or lower than the fiscal capacity index will have access to this resource.

The law sets an allocation of 4.900 million euros, which is weighted by 75% and updated by the GITE index 09/17, and then, it is reduced to its 70%. That is: $(4.900 * 0,75 = 3.675) * 1,6696 = 6.135$, and afterwards, $6.135 * 0,70 = 4.295$. This amount is finally weighted taking into account the adjusted population, as shows below table 11.

Table 10 Autonomous Communities benefiting from the Competitiveness Fund in 2017

	Homogeneous financing index [1]	Fiscal capacity [2]	Fiscal capacity / adjusted population [3]	Fiscal capacity index [4] = [[3] / (Total [3] / adjusted population)* 0,25] + 0,75	Homogeneous financing index < 100	Homogeneous financing index < fiscal capacity index
CAT	100,54	20.186.949,72	2.720,60	105,91		X
GAL	106,66	5.347.475,43	1.842,93	95,94		
AND	101,01	14.508.011,40	1.773,72	95,15		
AST	109,97	2.320.811,29	2.129,07	99,19		
CAN	131,04	1.322.117,68	2.255,30	100,62		
RIO	122,78	714.130,40	2.203,69	100,04		
MUR	97,15	2.636.211,89	1.831,49	95,81	X	
VAL	93,33	10.333.770,84	2.149,14	99,42	X	X
ARA	112,71	3.125.623,15	2.241,82	100,47		
CLM	103,86	3.705.361,96	1.752,08	94,91		
ICAN	88,39	1.821.672,53	851,83	84,68	X	
EXT	114,61	1.715.181,04	1.518,60	92,25		
IBAL	83,85	3.224.060,75	2.909,88	108,06	X	X
MAD	103,87	19.702.347,68	3.125,74	110,51		X
CAS	110,88	5.196.474,45	1.978,67	97,48		
		95.860.200,19	2.200,46			

Source: own elaboration based on Ministerio de Hacienda data

Table 11 Preliminary allocation to the Competitiveness Fund (2017)

	Adjusted population [1]	Weight [2]	Preliminary allocation [3] = [2]
CAT	7.420.029	31,96%	1.372.628,40
MUR	1.439.379	6,20%	266.270,18
VAL	4.808.332	20,71%	889.491,54
ICAN	2.138.543	9,21%	395.608,27
IBAL	1.107.970	4,77%	204.962,96
MAD	6.303.265	27,15%	1.166.038,64
	23.217.518		4.295.000,00

Source: own elaboration based on Ministerio de Hacienda data

This allocation is preliminary because the law establishes a maximum and minimum limit for the fiscal capacity index with a view to balance the distribution among Autonomous Communities. Thus, the index of Balearic Islands and Madrid is 106 now, while the index of Murcia, Valencia and Canary Islands is set at 100. The whole process is developed below in tables 12 and 13.

In the cases of Catalonia, Murcia, Valencia and Madrid, the sum of homogenous financing and the preliminary allocation by adjusted population is higher than the target of funding (column [5] of table 18), for this reason, this excess must be corrected. The remainder resulting from the revision, 1,571 million euros, is distributed among the rest of the beneficiary regions in proportion to their population. This operation is repeated as many times as necessary to exhaust available funds or until leading all regions to their funding target.

Table 12 Verification of the limits set for the preliminary distribution

	Homogeneous financing by adjusted population [1]	Preliminary allocation / Adjusted population [2]	Total [3] = [1] + [2]	Objective index [4]	Objective index in € [5] = [4] / 100 * 2373	Correction - euros per inhabitant [6] = [5] - [3]	Correction [7] = [6] * adjusted population
CAT	2.385,88	184,99	2.570,87	105,91	2.513,37	-57,51	-426.688,88
MUR	2.305,41	184,99	2.490,40	100	2.373,13	-117,28	-168.804,25
VAL	2.214,76	184,99	2.399,75	100	2.373,13	-26,63	-128.028,10
ICAN	2.097,62	184,99	2.282,61	100	2.373,13		
IBAL	1.989,96	184,99	2.174,95	106	2.515,52		
MAD	2.464,96	184,99	2.649,94	106	2.515,52	-134,43	-847.347,62
MEAN	2.373,13						

Source: own elaboration based on Ministerio de Hacienda data

Table 13 Distribution of the Competitiveness Fund in 2017

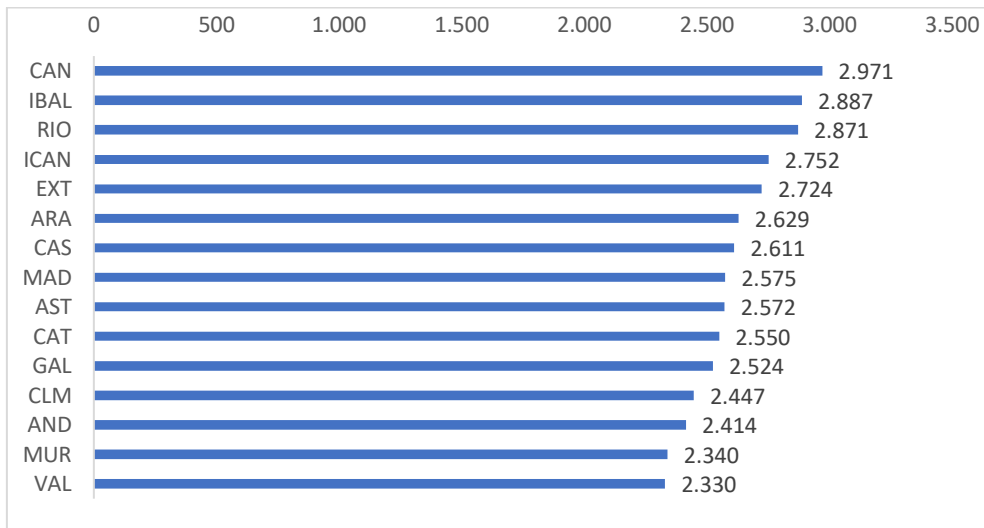
	First distribution [1]	Correction [2]	Second distribution [3]	Correction [4]	Total [5]
CAT	1.372.628	-426.689			945.940
MUR	266.270	-168.804			97.466
VAL	889.492	-128.028			761.463
ICAN	395.608		1.034.763	-841.000	589.371
IBAL	204.963		536.106	-159.000 €	582.069
MAD	1.166.039	-847.348			318.691
	4.295.000	-1.570.869	1.570.869	-1.000.000	3.295.000

Source: own elaboration based on Ministerio de Hacienda data

After the settlement of the fiscal year, it is possible to estimate the financing per inhabitant, which indicates the amount of money that each citizen receives on average to finance their basic needs.

De la Fuente (2019a) makes his estimate based on homogeneous financing previously calculated, including competitiveness funds, and incorporating a series of adjustments to obtain a more realistic result. According to graph 6 below, the two island regions, together with Cantabria and La Rioja (both constituted by one province) are the best financed. On the contrary, Valencia, Murcia and Andalusia are the ones with the lowest resources per inhabitant.

Graph 6 Homogeneous financing by adjusted population



Source: own elaboration based on data from de la Fuente (2019a)

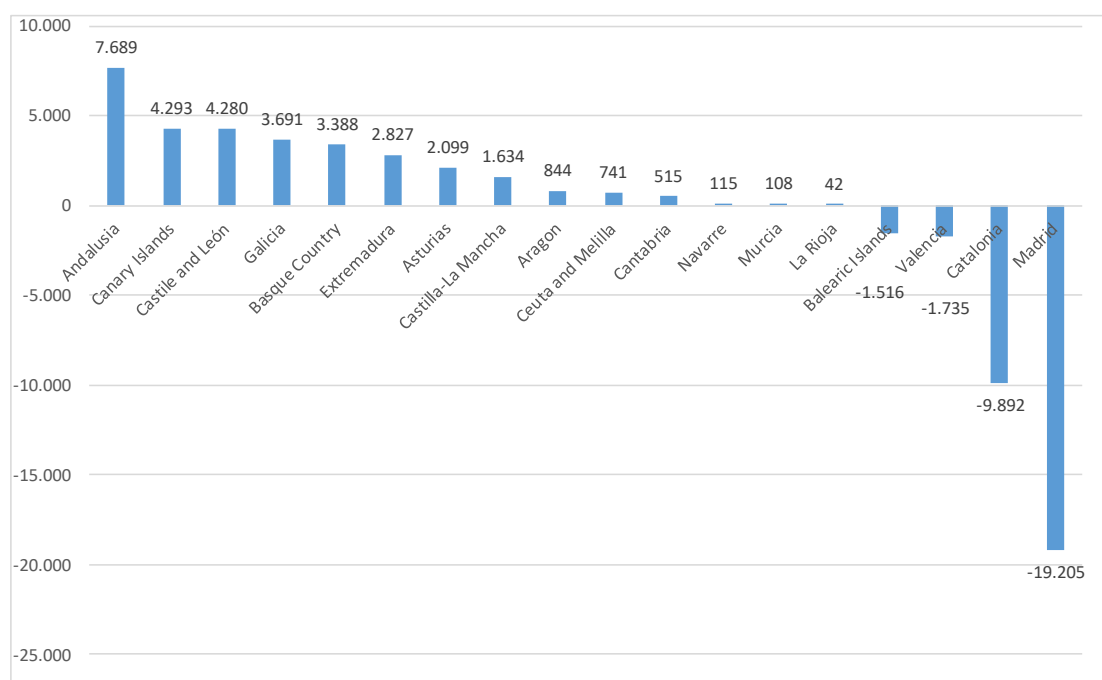
5. Fiscal balances

A fiscal balance of a territory with the Central Administration is the difference between the benefits that its residents obtain from the actions of this administration and their tax contribution. In order to calculate the balance it is necessary to take into account all the spending programs and the taxes that contribute to fund them, and then, distribute the allocations and refunds among the territories according to some criterion that allows quantifying what part of each item corresponds to each one of them. The final result of the exercise is a single number per region that measures its net aggregate contribution to land redistribution, or its net aggregate profit. (de la Fuente, 2019b: 1).

The fiscal balances are published by the government, although they have not been calculated again since 2014. Furthermore, the calculation method is controversial, due to the difficulty of measuring the investment made by the State and its effects in homogeneous terms.

As graph 7 shows below, the results change compared to homogeneous financing per inhabitant, since other items of income and expenses such as investment in infrastructure, social contributions or local taxes are taken into account. In this case, Andalusia becomes the most benefited by the overall expenditure of the administration in its territory, while Balearic Islands, Valencia, Catalonia and Madrid have a negative balance.

Graph 7 Fiscal balance of 2014 (millions of euros)



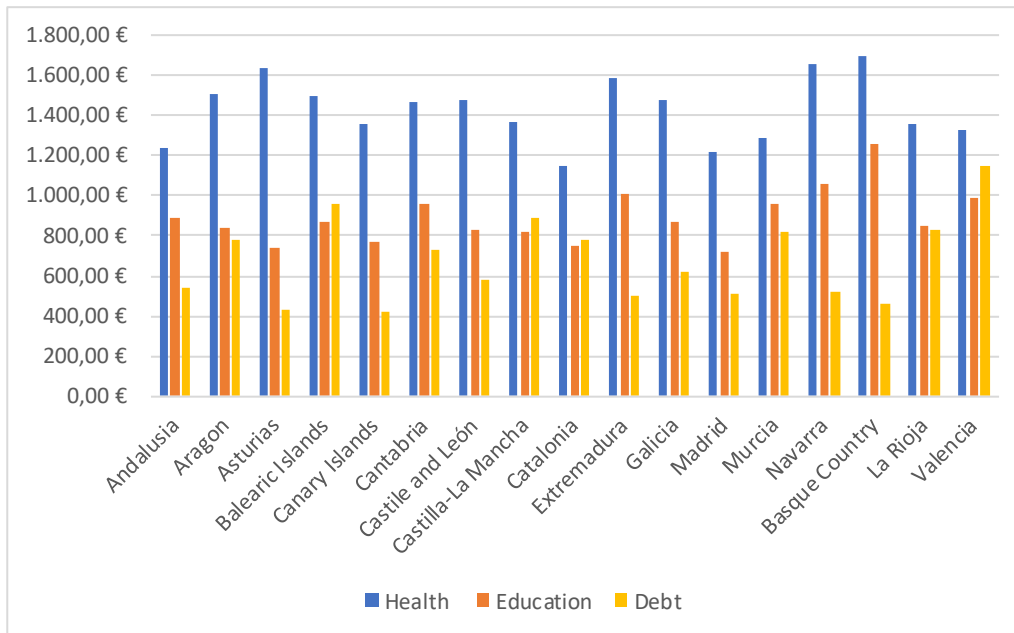
Source: own elaboration based on Ministerio de Hacienda data

6. Government spending and welfare state

Autonomous Communities draft a budget for each fiscal year that contains the economic goals to be achieved, the detailed expenses and income of each public entity and company, and the economic policies that will be carried out to accomplish them. Besides, it must be adopted by the regional parliament. In Spain, the expenditures budgeted by regional governments have a great impact on the lives of citizens, since the Autonomous Communities are in charge of many functions related to the welfare state, such as education and health.

The budget of Comunidad Valenciana for the year 2019 amounted to 22,096 million euros. The distribution of public spending was as follows: 29.98% was for health, 22.29% for education, 6.98% for social services, 26% for the payment of public debt and the remaining 14.76% for the rest of the budget items (environment, security, etc).

Graph 8 Allocation of public spending by inhabitant disaggregate by type of expense and Autonomous Community (2018)



Source: own elaboration based on data from Ministerio de Hacienda and Instituto Nacional de Estadística

According to graphs 8 above, health expenses represents the most important item in the Autonomous Communities budget, followed by education. However, in some such as Valencia, Balearic Islands and Castilla-La Mancha, the public debt item is the second highest. In fact, Valencia is the one that spends the most in debt in relation to its population.

In particular, Comunidad Valenciana spend in 2018 1.323€ and 983€ per inhabitant in health and education respectively. In fact, health spending is one of the lowest, ignoring Basque Country and Navarre which are not part of the common system, Asturias spends the most per head in health (1.633€) while Extremadura the most in education (1.003€). Besides, Catalonia invested the least per inhabitant in both budget items.

The budgets of the autonomous communities are subject to compliance with The Organic Law 2/2012 of April 27 of 2012, which establishes a series of principles that they must comply with, as well as the rule that conditions public spending. This refers to the fact that the expenditure of Public Administrations cannot increase above the reference growth rate of the medium-term Gross Domestic Product of the Spanish economy. As a complement to the rule, it is provided that, when the income obtained is higher than the expected, it will not be used to finance new expenses, but rather to reduce the level of public debt.

The treasury surplus represents the excess liquidity and the solvency that the public accounts have in the short term, in this case, Comunidad Valenciana has a negative treasury surplus, that means the entity will have trouble meeting its obligations and will have to incur debt.

Table 14 Treasury surplus of Valencian Community at December 31, 2018

(+)Collection rights	234.810.023,70
(-)Outstanding obligations	3.131.760.212,69
(+)Cash and cash equivalents	296.202.274,27
Treasury surplus	-2.600.747.914,72

Source: own elaboration based on data from Sindicatura de Comptes

Additionally, the liquidity ratios show very low results. The current ratio measures the ability to pay in the short term and the quick ratio the ability to meet daily cash needs. Therefore, public accounts have a liquidity problem.

Table 15 Liquidity ratios of Valencian Community at December 31, 2018

Current assets [1]	800.100.952,19
Non-current assets [2]	20.695.840.017,07
-Cash and cash equivalents [3]	292.602.274,27
Total assets [4] = [1] + [2]	21.495.940.969,26
Total Equity [5]	-30.096.545.145,67
Current liabilities [6]	39.366.096.947,64
Non-current liabilities [7]	12.226.389.167,29
Total equity and liabilities [8] = [5]+[6]+[7]	21.495.940.969,26
Current ratio [9] = [1] / [6]	0,02032
Quick ratio [10] = [3] / [6]	0,00743

Source: own elaboration based on data from Sindicatura de Comptes

Another notable aspect of Law 2/2012 is the setting of a series of objectives to ensure budgetary stability and financial sustainability. One of the most important is the deficit target, the amount of expenses that can exceed income under normal conditions, which is agreed each year between the state and the autonomous communities. As states table 16 below Valencian government has not approached the deficit target since the outbreak of the 2008 crisis.

Table 16 Evolution of Deficit target of Valencian Community (2006-2018)

	Deficit target	Real deficit (in million €)	Real deficit (%GDP)
2018	-0,40%	-1.574	-1,40%
2017	-0,60%	-888	-0,81%
2016	-0,70%	-1.571	-1,49%
2015	-0,70%	-2.621	-2,59%
2014	-1,00%	-2.428	-2,48%
2013	-1,60%	-2.150	-2,15%
2012	-1,50%	-3.610	-3,69%
2011	-1,30%	-5.075	-5,00%
2010	-2,40%	-3.644	-3,57%
2009	-0,75%	-3.144	-3,09%
2008	-0,75%	-2.238	-2,11%
2007	-0,03%	-401	-0,04%
2006	-0,05%	138	0,01%

Source: own elaboration based on data from GVA

This is confirmed by observing the commercial debt of the Valencian autonomous government and comparing it with the rest of the regions, as it is the second largest both

in terms of total volume and as percentage of GDP, that can be observed below in table 17. Most of this amount is owed to the health sector. In addition, the average payment period for suppliers is above the average of the rest, which shows cash difficulties.

Table 17 Commercial debt by Autonomous Community in 2018

	Health sector			Total				Health sector debt / Total debt
	Debt from previous years	Debt from 2018	Total	Debt from previous years	Debt from 2018	Total	%GDP	
AND	2.174,85	260.015,43	262.190,28	15.551,51	474.826,02	490.377,53	0,31%	53,47%
ARA	460,72	59.691,19	60.151,91	494,51	141.825,13	142.319,64	0,38%	42,27%
AST	16,69	55.164,22	55.180,91	321,53	97.636,49	97.958,02	0,42%	56,33%
IBAL	18,88	127.933,13	127.952,01	23,83	162.015,97	162.039,80	0,52%	78,96%
ICAN	6,56	112.490,42	112.496,98	220,87	146.260,71	146.481,58	0,32%	76,80%
CAN	167,89	181.380,17	181.548,06	221,83	234.215,86	234.437,69	1,70%	77,44%
CAS	133,10	75.649,62	75.782,72	345,26	145.841,64	146.186,90	0,25%	51,84%
CLM	34,75	146.509,63	146.544,38	647,22	184.675,87	185.323,09	0,44%	79,08%
CAT	1.619,83	840.403,27	842.023,10	2.822,29	1.376.090,14	1.378.912,43	0,60%	61,06%
EXT	576,53	91.849,39	92.425,92	744,59	125.214,98	125.959,57	0,65%	73,38%
GAL	0,83	84.394,76	84.395,59	114,50	182.191,56	182.306,06	0,29%	46,29%
MAD	0,00	217.990,12	217.990,12	120,22	335.431,53	335.551,75	0,15%	64,96%
MUR	0,00	138.270,49	138.270,49	1,06	183.170,38	183.171,44	0,59%	75,49%
NAV	27,88	39.486,78	39.514,66	31,47	104.687,41	104.718,88	0,51%	37,73%
BAS	0,00	98.064,17	98.064,17	0,00	235.930,22	235.930,22	0,32%	41,56%
RIO	23,84	51.611,17	51.635,01	195,23	90.664,61	90.859,84	1,09%	56,83%
VAL	454,50	566.338,03	566.792,53	1.360,54	714.328,25	715.688,79	0,64%	79,20%
Total	5.716,85	3.147.241,99	3.152.958,84	23.216,46	4.935.006,77	4.958.223,23	0,41%	63,59%

Source: own elaboration based on data from Ministerio de Hacienda

Table 18 Average period of payment to suppliers in 2018 by Autonomous Community

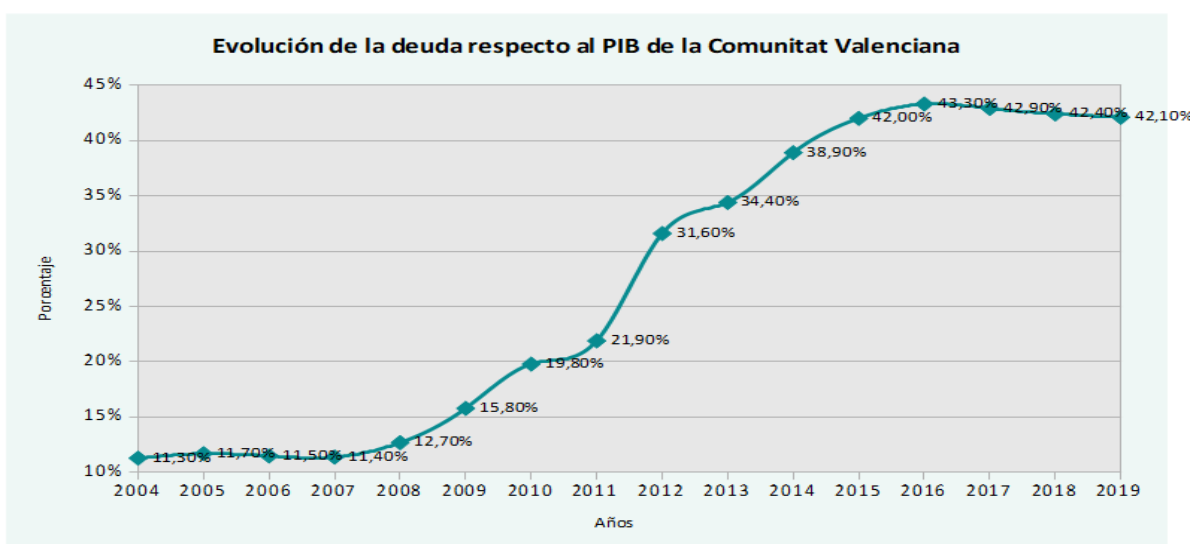
	Average period of payment to suppliers in 2018											
	January	February	March	April	May	June	July	August	September	October	November	December
Andalusia	-1,97	-2,76	-3,55	19,95	20,17	20,22	18,17	20,66	22,11	20,58	20,81	22,49
Aragon	19,33	23,42	20,93	40,23	37,95	30,35	29,93	32,1	33,29	32,48	25,38	23,85
Asturias	8,48	3,27	4,37	28,29	28,15	26,72	26,51	26,6	27,35	26,05	21,5	23,66
Balearic Islands	27,77	12,79	15,34	43,83	29,86	31,24	40,42	37,33	46,16	42,15	43,91	48,92
Canary Islands	4,05	16,1	17,07	22,43	21,79	21,15	22,99	21,61	22,9	26,44	25,21	23,59
Cantabria	53,35	57,84	18,34	38,79	35,65	36,56	46,69	55,7	64,75	68,8	77,09	80,34
Castile and León	-0,61	-0,11	4,29	25,59	27,05	27,91	26,79	32,1	36,43	26,17	22,35	23,97
Castilla-La Mancha	17	15,26	23,61	50,18	31,09	28,02	32,05	35,08	39,5	41,85	47,36	38,15
Catalonia	25,37	23,84	24,84	45,58	45,9	46,16	44,19	49,7	47,81	41,86	37,36	34,93
Extremadura	21,89	16,56	19,96	37,14	42,66	48,71	54,41	45,75	38,23	34,93	34,07	31,28
Galicia	7,75	9,6	-8,57	12,46	13,15	10,91	12,75	14,11	14,01	14,77	14,23	16,93
Madrid	1,46	0,4	-0,38	21,99	20,96	21,96	21,35	28,56	28,59	27,65	26,76	27,82
Murcia	42,57	34,54	31,35	39,93	34,69	32,24	25,21	26,89	29,25	31,1	29,48	35,11
Navarre	-1,86	-2,11	-2,99	26,18	25,53	26,16	28,23	30,47	29,83	25,74	25,58	23,03
Basque Country	-5,45	-7,87	-8,45	21,63	20,29	20,91	20,37	23,49	23,5	19,12	17,97	18,12
La Rioja	27,61	19,42	21,94	41,35	37,75	34,32	36,11	40,22	39,77	38,41	37,66	24,16
Valencia	33,11	35,03	32,13	51,54	47,07	46,63	48,27	58,49	62,12	58,01	52,01	34,87
Average	16,40	15,70	14,13	35,42	33,70	33,45	33,31	38,13	39,47	35,66	33,24	30,54

Source: own elaboration based on data from Ministerio de Hacienda

As reports graph 9 below, public debt remained low until the outbreak of the 2008 financial crisis and Spanish housing bubble, when there was a dramatic drop in economic

activity, and consequently in tax collection. Even though the economy has undergone a growth above the national average in the last five years, the debt stays at the same levels. Currently, the 80% of the Valencian outstanding debt belongs to the *Fondo de Liquidez Autonómico* (FLA), which is a line of credit that the State makes available to the regions in order to comply with debt maturities and obtain resources to finance debt (Herrero et al., 2017). This mechanism was introduced in 2012, when some regional governments as Valencia Catalonia got their debt rated as “junk bond”.

Graph 9 Evolution of Valencian Community Debt-to-GDP ratio (2004-2019)



Source: GVA oberta

Table 19 Ratio of public debt to current income (2017)

	Public debt [1]	Current income [2]	Public debt / Current income [3]
Andalusia	34.259.904,00	29.408.023,56	116,50%
Aragon	7.958.793,00	4.740.366,83	167,89%
Asturias	4.244.384,00	3.665.414,74	115,80%
Balearic Islands	8.816.348,00	3.600.646,46	244,85%
Canary Islands	7.042.365,00	7.014.012,67	100,40%
Cantabria	3.033.407,00	2.142.136,24	141,61%
Castile and León	11.869.625,00	8.918.990,94	133,08%
Castilla-La Mancha	14.429.530,00	7.001.685,55	206,09%
Catalonia	77.739.645,00	27.730.430,71	280,34%
Extremadura	4.401.437,00	4.752.763,16	92,61%
Galicia	11.210.128,00	9.262.459,58	121,03%
Madrid	32.783.306,00	17.617.761,13	186,08%
Murcia	8.794.596,00	4.054.570,47	216,91%
Navarre	3.628.235,00	3.666.611,63	98,95%
Basque Country	10.149.056,00	10.107.954,33	100,41%
La Rioja	1.569.771,00	1.181.419,20	132,87%
Valencia	46.187.314,00	14.228.175,24	324,62%

Source: own elaboration based on data from Banco de España and Ministerio de Hacienda

The ratio of public debt to current income (that is, income from tax collection, state funds, and capital transfers) places the Comunidad Valenciana above the rest of the autonomous communities as seen in table 19, with the 324,62%. In accordance with IVIE (2018) comparing the debt-to-GDP ratio and the ratio of public debt to current income the level of indebtedness in regions such as Extremadura, Cantabria and Asturias decreases, while Valencian rises under this index, this is because the first receive more resources from the regional financing system.

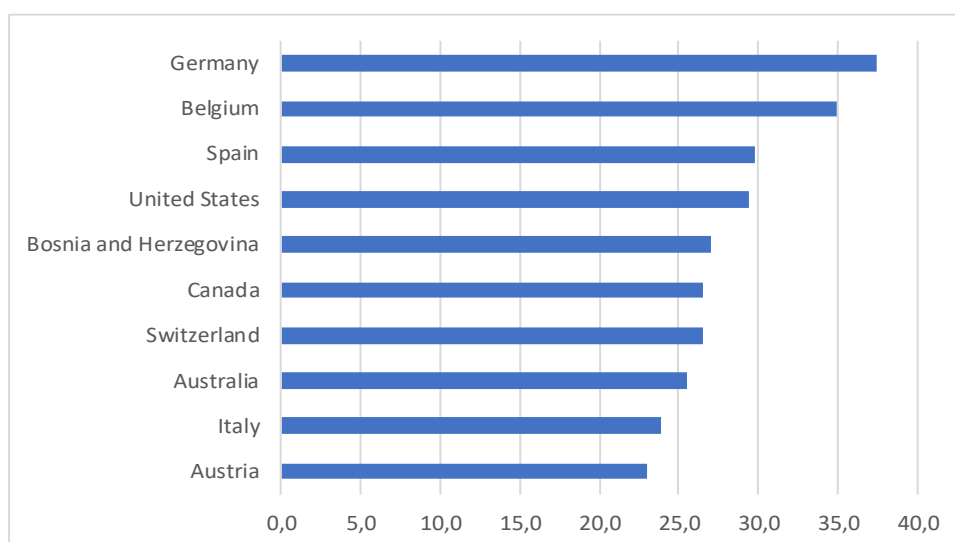
Hence, most of government spending are fixed costs such as education and health, while Autonomous Communities incomes are volatile, since tax revenue account for most of the resources contributed by the system. What is more, the only financial support mechanism provided by the state is the FLA, which is limited to improving debt conditions. As states Conthe (2017) a “Budgetary Stabilization Fund” is necessary in order to allow Autonomous Communities to accumulate resources during upward economic cycle, and then release them in the contracting stages and, thus, be able to finance stable spending.

7. Comparison with the federal system

According to Aja (1999) the autonomous system contains the essential elements of current federalism, since there is a double level of powers, regional institutions have a wide field of powers and the Statutes of Autonomy operate like the constitutions of the federal entities. Therefore, there is the same power structure as in a federal state, although the Spanish Constitution does not define it as such.

In fact, Spain is placed third in the Regional Authority Index (RAI) elaborated by Oxford University experts, that measures the degree of decentralization of 81 countries. As seen below in graph 10 it is only surpassed by Germany and Belgium, thus, it makes sense a comparison with any of these countries.

Graph 10 The 10 most decentralized countries according to RAI (2018)



Source: own elaboration based on data from Arjan H. Schakel (2018)

Taking the German system as an example, according to Bundesministerium der Finanzen (2019) the Federation has full rights over the main taxes and distributes them equitably with the Länder and local authorities, which includes corporate tax. The VAT is distributed this way: 49,6% Federation, 47,2% Länder and 3,2% Local Authorities. While the 42,5% of the income tax revenue is allocated equally between Federation and Länder, and the remaining 15% for the municipalities. The big difference between both models has to do with corporate tax, since in Germany the central government and regional authorities distribute the 50% each other, but in Spain its collection is not ceded.

In addition, the Federation receives all the excise taxes, while the states have control of minor levies revenues such as the inheritance tax and the property transmission tax. As well, although in Spain Autonomous Communities are free to set some tax rates (for example, in the case of the income tax), in Germany this is not the case, since all the important tax schedules are equal for all Länder, as they are set through federal legislation. That is, Spanish regions have more fiscal autonomy.

With regard to government spending, the distribution is quite similar in both countries. Nevertheless, in Germany health is not a regional duty, contrary to Spain, federal states are responsible for the public order and safety.

However, the VAT is distributed differently. In Germany the 75% is allocated proportionally to population, and the remaining 25% is saved as a supplement for those states whose income tax, corporation tax and Länder taxes per capita are lower than the per capita average of all the Länder.

After that, it is calculated the federal states fiscal capacity, which consists of the sum of all their revenues and the 64% of the municipalities revenues, since the Länder must ensure equality among the services offered by their local authorities and provide them with the necessary resources. Besides, German law establishes a 12% cut of the excess from the previous year tax collection per head, which works as an incentive for regional treasuries.

Those Länder whose fiscal capacity per adjusted population is above the national average transfer resources to the ones below the average, what is called financial compensation. This mechanism is similar to the Spanish Guarantee Fund, but in this case the federal states do not make a contribution. The amounts received by the financially weakest states and the amounts paid by wealthiest ones depends on how much their financial capacity per inhabitant falls or exceeds from the national average. This is accomplished through a linear-progressive topping-up, if the state is above the national average, or otherwise, a linear-progressive skimming-off schedule, in order to ensure that the amounts receives and paid coincides.

Moreover, in the financial equalisation process some population adjustments are made. Nevertheless, the formula used to adjust population is simpler in Germany, as it just consists in multiplying the city states by 1.35 (Hamburg, Bremen and Berlin), and other three states (Mecklenburg-Pomerania, Brandenburg and Saxony-Anhalt) by 1.05, 1.03 and 1.02, respectively.

As well, those states that are still below the 99,5% of the national average, transfer equal to 77.5% of the amount necessary to reach this reference. What is more, the eastern states receive additional transfers with the purpose of reducing structural unemployment and lack of infrastructures in this area of the country. In addition, the Federation provides funds for those states whose population is small in order to offset the fixed costs of their administrative and government bodies.

To sum up, in Germany the VAT allocation and the financial equalisation works as a mechanism to reduce the horizontal differences, while the remaining transfer do the same with the vertical imbalances.

De la Fuente, Thöne and Kastrop (2016) have made an in-depth study comparing both systems. As can be seen in tables 20 and 21, taking the fiscal capacity as an index in which the maximum value is 100, in Germany at the end of the process there is more equity between the states, setting aside the city states whose gross fiscal capacity is boosted a 35%, and at the same time the principle of solidarity is fulfilled.

In fact, the difference between the lowest (North-Rhine Westphalia and Lower Saxony 93,4%) and the highest (Saxony-Anhalt, 106,4%) is thirteen percentage points. The city states are densely populated territories, so special needs are required, however, the case of Bremen is curious because it is benefited by the system despite being one of the wealthiest states.

In the case of the Spanish system, despite it is based on a less arbitrary and more precise adjusted population calculation, the final result is more uneven. The difference between Cantabria and Valencia, the ones that receive more and less respectively, is around 30 percentage points, what is more, the income per capita index is lower in Valencia than in Cantabria. This is because vertical transfers (that is, the sufficiency fund and the convergence funds) meet ambiguous and sometimes unreasonable criteria.

Table 20 Financing per head by Länder (2014)

	[1] Gross fiscal capacity	[2] Financing after VAT allocation	[3] After hori- zontal equali- sation	[4] After vertical equalisation	[5] After federal transfers for specific needs	Note: Income per capita indica- tor
NW	98.5	94.6	96.0	95.6	93.4	99.3
BY	121.0	114.2	103.5	102.3	99.8	116.0
BW	114.4	107.9	101.6	100.4	98.1	113.1
NI	92.5	95.4	96.4	95.7	93.4	91.0
HE	115.5	110.6	102.5	101.2	98.8	115.7
RP	97.2	93.6	95.6	95.5	93.6	90.8
SH	93.2	94.1	95.8	95.6	93.8	83.5
SL	83.5	90.3	94.5	95.3	94.7	94.5
HH	141.4	133.5	132.6	131.0	127.9	159.3
HB	94.8	94.7	120.3	127.0	126.5	129.5
SN	65.9	86.1	93.2	95.0	104.6	74.2
ST	64.1	86.2	93.5	95.4	106.4	69.9
TH	64.5	86.0	93.2	95.0	105.5	69.8
BB	73.5	88.5	94.3	95.7	104.8	70.8
MV	65.2	85.7	93.8	95.9	106.6	67.1
BE	90.0	91.1	119.4	126.8	132.8	92.1
Average	100.0	100.0	100.0	100.0	100.0	100.0
Std. Dev.	22.0	12.8	11.5	12.5	12.5	24.7

- Key: NW = North Rhine-Westphalia; BY = Bavaria; BW = Baden-Wurttemberg; NI = Lower Saxony; HE = Hesse; RP = Rhineland-Palatinate; SH = Schleswig-Holstein; SL = Saarland; HH = Hamburg; HB = Bremen; SN = Saxony; ST = Saxony-Anhalt; TH = Thuringia; BB = Brandenburg; MV = Mecklenburg-Western Pomerania; BE = Berlin.

Source: de la Fuente, Thöne and Kastrop (2016)

Table 21 Financing per adjusted head in the Spanish system (2013)

Average value in Spain, excluding Basque Country, Navarre, Ceuta and Melilla = 100

	[1] gross fiscal capacity	[2] financing after Guarantee Fund	[3] financing after vertical transfers	Note: Income per capita
Canarias*	54.8	100.5	100.3	87.4
Extremadura	71.1	94.5	114.6	70.1
C. la Mancha	82.2	97.1	102.7	82.7
Andalucía	82.4	96.8	96.9	76.2
Murcia	84.9	96.4	94.3	83.2
Galicia	86.8	97.6	106.5	90.0
Valencia	93.1	96.3	92.5	89.2
Cast. y León	93.3	98.9	109.2	96.8
Asturias	99.4	98.9	106.8	90.7
Rioja	100.0	98.9	119.5	110.5
Aragón	102.6	97.6	104.2	111.7
Cantabria	106.2	96.0	124.4	93.5
Cataluña	118.4	102.6	97.4	119.9
Baleares	122.9	107.7	104.4	106.9
Madrid	141.4	108.2	96.9	138.7
average	100.0	100.0	100.0	100.0
Std. deviation	20.6	3.9	8.9	17.4

- Source: de la Fuente (2015).

- Note (*) Figures for the Canary Islands include the so called REF resources, linked to the region's special fiscal status. See de la Fuente (2012 and 2015) for additional details.

Source: de la Fuente, Thöne and Kastrop (2016)

According to the simulation from de la Fuente, Thöne and Kastrop (2016), applying the German model in Spain, a more equitable result is obtained. Madrid, Valencia, Murcia and Catalonia benefit from this calculation, Andalusia does not change significantly, and the rest lose. At the same time, the principle of solidarity is still fulfilled, as the less developed regions expand their fiscal capacity through the equalisation process.

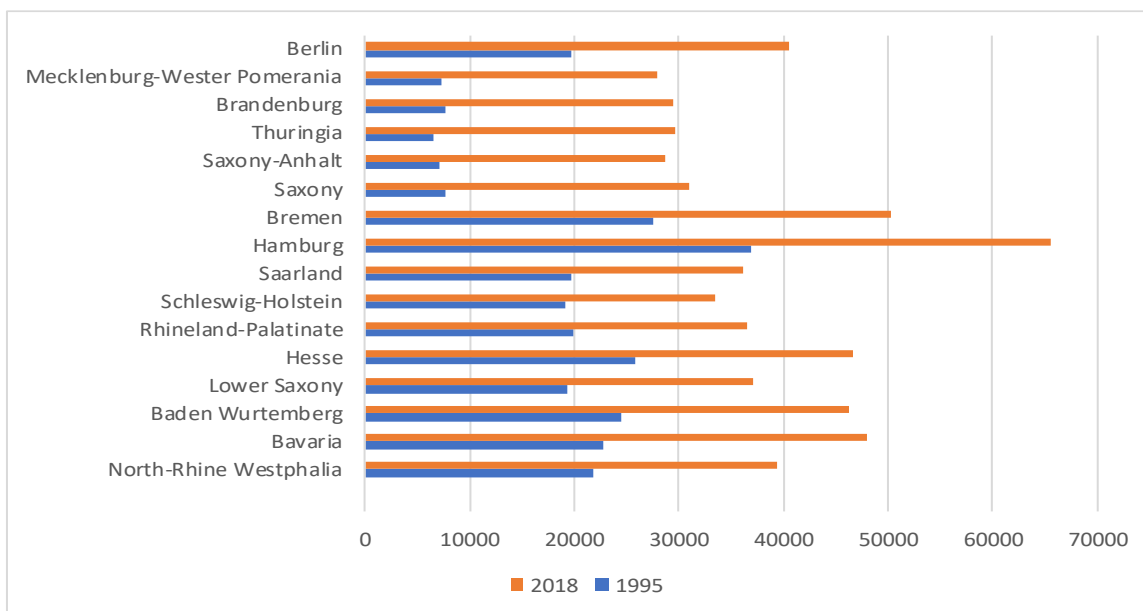
Table 22 Results of applying the German equalisation system in Spain with data 2013

	Gross fiscal capacity	After VAT allocation	After horizontal equalisation	After vertical equalisation	Spanish system financing per inhabitant	Net gain %GDP	Income per capita
Catalonia	118.4	107.5	103.6	102.2	97.4	0.36%	119.9
Galicia	86.8	86.0	95.0	97.1	106.5	-1.05%	90.0
Andalusia	82.4	95.0	97.6	97.7	96.9	0.09%	76.2
Asturias	99.4	91.2	96.5	97.4	106.8	-1.01%	90.7
Cantabria	106.2	94.4	97.5	97.7	124.4	-2.68%	93.5
La Rioja	100.0	91.0	96.4	97.4	119.5	-1.93%	110.5
Murcia	84.9	94.1	97.3	97.6	94.3	0.37%	83.2
Valencia	93.1	96.3	98.2	97.8	92.5	0.54%	89.2
Aragon	102.6	94.5	97.5	97.7	104.2	-0.58%	111.7
Castilla-La Mancha	82.2	87.4	95.4	97.2	102.7	-0.66%	82.7
Canary Islands	54.8	90.8	96.3	97.4	100.3	-0.32%	87.4
Extremadura	71.1	86.0	95.0	97.1	114.6	-2.48%	70.1
Balearic Islands	122.9	103.5	101.9	100.5	104.4	-0.34%	106.9
Madrid	141.4	128.5	110.7	109.1	96.9	0.79%	138.7
Castille and Leon	93.3	85.7	94.9	97.1	109.2	-1.26%	96.8
Total	100.0	100.0	100.0	100.0	100.0	0.00%	100.0

Source: own elaboration based on data from de la Fuente, Thöne and Kastrop (2016)

Another aspect that should be highlighted in the German system is the tremendous growth of the states of this country after reunification in 1991, some of them multiplying their income by five, nevertheless, as in Spain, regional differences persist, as states graph 11.

Graph 11 GDP per capita in German federal states in current euros (1995 vs 2018)



Source: own elaboration based on data from statistic-bw.de

8. Conclusion

Firstly, after analysing the results of the funding system settlement in 2017, there is no doubt that the Valencian Community is the most affected. This has caused excessive indebtedness of public accounts, standing at 42,1% of GDP. Therefore, public debt is the second largest item in the budget, which prevents more resources from being allocated to other items. Furthermore, the region, despite having a dynamic economy, is below the national average of income per capita (21.269€ and 24.031€ respectively) and obtains the least resources from the State per inhabitant (2.330€). Eventually, these factors are hampering economic and social development in the region.

However, the current funding system of Autonomous Communities has characteristics in common with the German system, so it can be said that Spanish system is more advanced in some respects, for example, in terms of fiscal autonomy. As well, the adjusted population formula, unlike in Germany, is based on fair and accurate criteria.

Despite the above, the simulation demonstrates that applying the German system the results would be more equitable. Therefore, it is obvious that the current system in Spain fails. Specifically, the vertical transfers make the gap among Autonomous Communities bigger. This is due to the fact that The Global Sufficiency Fund and The Convergence Funds are based on confusing, ambiguous and even contradictory criteria. Nonetheless, in Germany vertical transfers have a clear purpose, reduce the gap between eastern states and the rest, while in Spain despite the north-south regional differences, some northern regions are among the most favoured.

In addition, Spanish Autonomous Communities have assigned health spending, which constitute most of their commercial debt. These expenditures are fixed cost and are necessities to maintain welfare state, while their tax revenue (mainly VAT, personal income tax and excise taxes) are more economically sensitive. A plausible solution would be, on one hand, to increase fiscal responsibility reducing the contribution to The Guarantee Fund, that would allow Autonomous Communities to keep more of their tax revenue and avoiding the indebtedness, as well, introducing mechanisms that incentives regional governments to increase their tax collection annually.

On the other hand, The Global Sufficiency Fund and The Convergence Funds could merge to constitute a sole vertical fund in order to redistribute the resources without disrupting fiscal capacity of each territory. Moreover, a savings fund, or better said, a stabilization fund, can be created to allocate part of the Autonomous Communities revenues during the periods of economic growth.

In conclusion, Spain can be considered a federal country de facto, since it is one of the most decentralized countries in the world, at least in terms of government spending, although there is a little scope for improving tax autonomy and tax responsibility. That is to say, the current regional funding system provides a good basis, but it is necessary to reach consensus on a long-term reform in order to eliminate existing imbalances.

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Annex I. Selected articles from Spanish Constitution

Article 2

The Constitution is based on the indissoluble unity of the Spanish nation, the common and indivisible country of all Spaniards; it recognises and guarantees the right to autonomy of the nationalities and regions of which it is composed, and the solidarity amongst them all

Article 138

1. The State guarantees the effective implementation of the principle of solidarity vested in Article 2 of the Constitution, safeguarding the establishment of a just and adequate economic balance between the different areas of Spanish territory and taking into special consideration the circumstances pertaining to those which are islands.

2. The differences between the Statutes of the different Autonomous Communities may in no case imply economic or social privileges.

Article 148

1. The Autonomous Communities may assume competences over the following matters:

- i) organisation of their institutions of self-government;
- ii) changes in the municipal boundaries within their territory and, in general, the functions appertaining to the State Administration regarding local Corporations, whose transfer may be authorised by legislation on local government;
- iii) town and country planning and housing;
- iv) public works of benefit to the Autonomous Community, within its own territory;
- v) railways and roads whose routes lie exclusively within the territory of the Autonomous Community and transport by the above means or by cable which also fulfils the same conditions;
- vi) ports of haven, recreational ports and airports and, in general, those which are not engaged in commercial activities;
- vii) agriculture and livestock raising, in accordance with general economic planning;
- viii) woodlands and forestry;
- ix) environmental protection management;
- x) planning, construction and operation of hydraulic projects, canals and irrigation of benefit to the Autonomous Community; mineral and thermal waters;
- xi) inland water fishing, the shellfish industry and aquaculture, shooting and river fishing;
- xii) local fairs;
- xiii) promotion of the economic development of the Autonomous Community within the objectives set by national economic policy;
- xiv) handicrafts;

- xv) museums, libraries and music conservatories of interest to the Autonomous Community;
 - xvi) the Autonomous Communities monuments of interest:
 - xvii) the promotion of culture, of research and, when applicable. the teaching of the language of the Autonomous Community;
 - xviii) the promotion and planning of tourism within its territorial area;
 - xix) the promotion of sports and the proper use of leisure;
 - xx) social assistance:
 - xxi) health and hygiene;
 - xxii) the supervision and protection of its buildings and facilities; coordination and other powers relating to local police forces under the terms to be laid down by an organic law.
1. After five years have elapsed, the Autonomous Communities may, by amendment of their Statutes, successively expand their powers within the framework established in Article 149.

Annex II. Selected articles from Law of 22/2009 of December 18, 2009

Article 3

g) The amounts of the complementary endowment for the financing of health care and of the insularity compensation endowment included in the General State Budget Law for 2007, for an amount for the Autonomous Communities as a whole of 655 million of euros.

Article 5

A. Resources to reinforce the welfare state for a total of 4,900 million euros, distributed as follows.

I. 75% of these resources will be distributed among the Autonomous Communities of the common system based on the relative weight of the variation of their adjusted population between 1999 and 2009, in relation to the variation of the total adjusted population in the Autonomous Communities of common regime, for the same period. The adjusted population will be calculated for the reference years using the variables and weights shown in article 9.

II. The remaining 25% will be distributed among the Autonomous Communities of the common system in response to:

a) The relative weight of the adjusted population of each Autonomous Community in 2009, in relation to the total adjusted population of the Autonomous Communities of common regime, on that same date. The adjusted population will be calculated using the variables and weights that appear in article 9.

b) The relative weight of the potentially dependent population of each Autonomous Community corrected by the weighting factor in relation to the total corresponding to all

the Autonomous Communities of common regime, according to the data of the Resolution of May 21, 2009, of the Institute of Seniors and Social Services (IMSERSO), by which the Agreement of the Council of Ministers of May 8, 2009 is published, which approves the inter-administrative cooperation framework and credit distribution criteria of the General State Administration for the financing during 2009 of the agreed level provided for in Law 39/2006, of December 14, promoting personal autonomy and care for people in situations of dependency.

c) The relative weight of the number of persons recognized as dependents with the right to benefit, registered in the SAAD Information System (SISAAD), in relation to the total corresponding to all the Autonomous Communities of common regime, according to the data and weightings used in the Resolution of May 21, 2009, of the IMSERSO, by which the Agreement of the Council of Ministers of May 8, 2009, which approves the framework of inter-administrative cooperation and criteria for the distribution of credits of the General Administration, is published of the State for the financing during 2009 of the agreed level foreseen in Law 39/2006, of December 14, on the promotion of personal autonomy and care for people in situations of dependency.

Variable a) will be weighted at 50% while b) will be weighted at 40% and c) at 10%, for the purposes of distributing the percentage of additional resources in this section II.

B. Other additional resources.

I. Resources for the Autonomous Communities with dispersion above the average: The State will contribute a fund of 50 million for the Autonomous Communities with a common regime whose dispersion is above their average, which will be assigned based on the relative weight of their number of singular population entities in 2009 in relation to the total number of Autonomous Communities that meet this condition. The dispersion will be measured in terms of inhabitant per singular population entity, the dispersion being higher than the average if the aforementioned ratio is lower than the average, referring to the values for 2009.

II. Resources for the Autonomous Communities with a population density below the average: The State will contribute a fund of 50 million that will be distributed among the Autonomous Communities of common regime whose population density is less than their average, based on the relative weight of their population. adjusted for the year 2009 in relation to the total of the Autonomous Communities that meet this condition. The population density will be measured in terms of inhabitant per square kilometre, referring to the values for 2009. The adjusted population will be calculated using the variables and weights that appear in article 9.

Article 9

b) Participation of the Autonomous Communities in the Guarantee Fund: The Autonomous Communities participate in the Guarantee Fund corresponding to 2007, according to their distribution according to the following variables, which determine the unit of need or adjusted population:

Population. The distribution for this variable is made proportionally to the population contained in the Register for each Autonomous Community, as of January 1, 2007, prepared by the National Statistics Institute (INE). The weight of this variable is 30 percent.

Surface. The distribution according to this variable is carried out according to the territorial area, in km², of each Autonomous Community published by the INE. The weight of this variable is 1.8 percent.

Dispersion. The allocation for this variable is made in proportion to the number of unique entities, population nuclei, of each Autonomous Community, according to the data provided by the INE obtained from the Municipal Register of 2007. The weighting of this variable is 0.6 percent.

Insularity. The imputation for this variable is made proportionally to the distance in kilometres, weighted by sections, between the coasts of the peninsula and the island capitals, based on the information provided by the Ministry of Public Works or the competent department. The weight of this variable is 0.6 percent.

Equivalent protected population distributed in seven age groups, according to the methodology described in the Report of the Working Group on the Analysis of Health Expenditure, published in September 2007. The distribution for this variable is made proportionally to its value for 2007, according to the statistics prepared by the Ministry of Health and Consumption. The weight of this variable is 38 percent.

According to said methodology, for the purposes of determining the equivalent protected population, the protected population is weighted by 1,031 for children from 0 to 4 years old, by 0.433 between 5 and 14, by 0.547 between 15 and 44, by 0.904 between 45 and 54, 1,292 between 55 and 64, 2,175 between 65 and 74, and finally 2,759 from 75 years.

Population over the age of sixty-five. The allocation, according to this variable, is carried out according to the population over sixty-five years old of the Register for each Autonomous Community, as of January 1, 2007, prepared by the INE. The weight of this variable is 8.5 percent.

Population between 0 and 16 years old. The allocation, according to this variable, is carried out according to the population between 0 and 16 years of the Register for each Autonomous Community, as of January 1, 2007, prepared by the INE. The weight of this variable is 20.5 percent.

Article 21

The following will be the cause of revision of the value of the Global Sufficiency Fund in the base year:

1. Transfer of new services, extensions or reviews of valuations of previous transfers, agreed by the respective Mixed Commission and approved by Royal Decree. The review will be made ex officio by the Ministry of Economy and Finance, in accordance with the valuation of the transfer referred to the base year that is included in the respective Royal Decree. Said revision will take effect from the beginning of the year following the approval of the Royal Decree of transfer, as long as its publication has been made before the approval by the Government of the draft of the General State Budget Law. In any case, given that, at the time of the transfer, the ITE that is applied to convert into 2007 base year values, the effective cost is provisional, the final value of the revision of the Global Sufficiency Fund caused by the transfer will adjust an once the final value of the ITE corresponding to the year of the transfer is known.

2. Effectiveness of assignment of taxes in accordance with the rules established in the Law regulating it. For the review to be carried out, it must be agreed by the respective Mixed Commission, according to the estimated value that the collection would have had in the Autonomous Community or City with Autonomy Statute of the tax that is transferred, in the base year.

The new value obtained by the Global Sufficiency Fund will take effect from the beginning of the year following that in which it was reviewed.

For the purposes of the provisions of the preceding paragraph, in the case of taxes that do not exist in the base year, the collection in the Autonomous Community or City with Statute of Autonomy of the tax that is assigned, in that base year, will be that corresponding to year of effectiveness of the assignment, deflated to the ITE that is applied to update its Global Sufficiency Fund.

The variations in the state tax rates of the Special Manufacturing Taxes and VAT will determine a revision of the provisional or definitive Global Sufficiency Fund for the amount of the increase or decrease in estimated collection for each Autonomous Community or City with Statute of Autonomy. Said review will be made by the Ministry of Economy and Finance ex officio, without the need for an agreement in the Mixed Commissions, for these purposes.