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Is Catalonia being fiscally mistreated?

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Abstract

This note critically appraises the claim that Catalonia is being fiscally mistreated, both in terms of the financing of its regional government and in terms of its net fiscal balance with the Spanish Central Government. Its conclusion is that nationalist complaints regarding these matters are not well founded. Looking at the available data, Catalonia's fiscal situation is similar to that of other regions with similar levels of income per capita relative to the national average, both within Spain and abroad. This does not mean that all is well with Spain's system of regional financing or with the distribution of Central Government expenditure across the country's regions, but there are no traces of an anti-Catalan bias in either area.

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1. Introduction

Over the last few years, economic considerations have come to play a central role in the case for Catalan independence. Local nationalists have placed increasing emphasis on the idea that the Spanish Central Government is subjecting Catalonia to an unprecedented level of fiscal abuse that has no equal anywhere in the civilized world. This position is often synthesized in a slogan *(Spain is robbing us!)* which has become a key element in a highly successful marketing campaign that has contributed significantly to the growth of pro-independence sentiment in recent years.

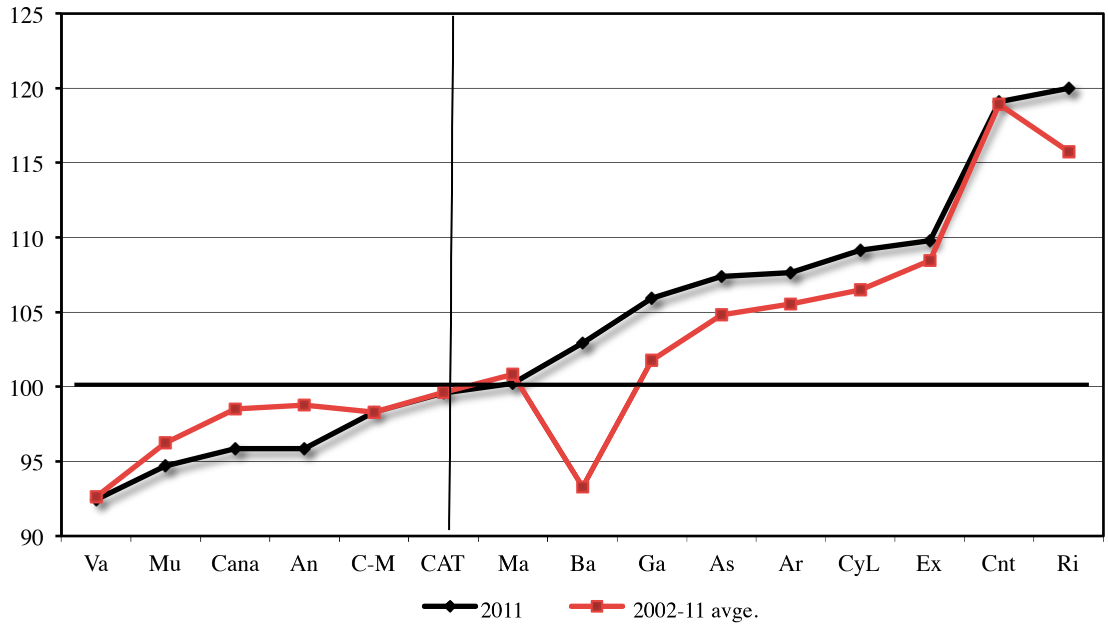
Is there any truth to the slogan? The present note critically appraises the validity of nationalist charges of fiscal mistreatment by confronting them with the existing data on the fiscal situation of Catalonia and other territories that provide a natural reference. The analysis focuses on the two issues that are generally emphasized in nationalist propaganda: the financing of the Catalan Regional Government, also known as the *Generalitat*, and the net fiscal balance of the region with the Spanish Central Government. Looking at the data, we conclude that Catalonia's fiscal situation is similar to that of other regions with similar levels of income per capita relative to the national average, both within Spain and abroad. This does not mean that all is well with Spain's system of regional financing or with the distribution of Central Government expenditure across the country's regions. Both have highly questionable features. That some of these features may cause irritation among many Catalans is quite understandable. That they should be enough to justify secession is another matter.

2. Is the Catalan regional government underfinanced?

Determining whether a Spanish region is relatively well financed is a bit more complicated than it may seem at first sight. It is not enough, in particular, to check the gross revenue it receives under the current system of regional financing because some regional governments manage certain functions (such as the police or the prison system in the case of Catalonia) that other autonomous communities have not assumed and because they may have made different use of their fiscal powers to raise or lower regional taxes. It is also important to keep in mind that certain regions may require more resources than others in order to provide the same services because either the fraction of the population that needs such services is greater (as is the case with education in the regions with younger populations and with health care in those with older ones) or the unit costs of such services is higher as a result, for instance, of a disperse pattern of population settlement or the complications that arise in island regions.

In order to correct for all these factors, comparisons across regions are generally made using homogenized data on financing per adjusted capita that refer only to those functions that are managed by all the regions and try to hold approximately constant the level of fiscal effort. Hence, the numerator of this ratio is shown net of specific grants that finance non-standard functions assumed only by some regions and attempts to approximate the tax revenue regions would have obtained if all of them had applied a common tax schedule. Similarly, the denominator is not the real population of each region but an adjusted population variable that is calculated using a formula that attempts to approximate the average cost per capita of the basket of services provided by the regional governments on the basis of those demographic and geographical variables that have the greatest impact on such costs (basically, the age structure of the population, the land area of each region, the dispersion of its population and a special allowance for the two island regions). If we accept that the adjusted population variable approximates reasonably well the relative costs of public services in the different regions (and in my opinion it does, even though there is still some room for improvement), then the level of homogenized financing per adjusted head of population of the different regions should give us a fair measure of how well treated each one of them is in terms of its capacity to provide public services to its citizens.[1]

Figure 1: Homogenized financing per adjusted capita, 2011 and 2002-11 average



- *Key: Va* = Valencia; *Mu* = Murcia; *Cana* = Canary Islands; *An* = Andalusia;; *C-M* = Castilla la Mancha; *Cat* = Catalonia; *Ma* = Madrid; *Ba* = Balearic Islands; *Ga* = Galicia; *As* = Asturias; *Ar* = Aragón; *CyL* = Castilla y León; *Ex* = Extremadura; *Cnt* = Cantabria and *Ri* = Rioja.

Working with this indicator, Catalonia has not been particularly mistreated. If we normalize to 100 the average level of financing per adjusted head in Spain as a whole (excluding the so called foral regions of the Basque Country and Navarre, which enjoy a different and very favorable financing system), Catalonia is only slightly below the average, with an index of 99.6 regardless of whether we look at figures for 2011 (the last year that has been liquidated so far) or at averages over the period 2002-11.[2] As can

[1] The data on homogenized financing that are used in this note are taken from de la Fuente (2013). See that paper for further details on the construction of these data.

[2] Working with unadjusted per capita financing changes things very little in the case of Catalonia and a bit more in other cases. In 2011, for instance, the Catalan index of relative financing would go from 99.6 to 98.7 if we did not adjust the population, and that of Madrid would drop from 100.2 to 94.8 because this region has a relatively young population that is concentrated in a small territory.

be seen in Figure 1, this puts us approximately in the same situation as Madrid or Andalusia (with averages over 2002-11 of 100.8 and 98.8 respectively) and clearly above the Balearic Islands (93.3), Valencia (92.6), Murcia (96.3), Castilla-la Mancha (98.3) and the Canary Islands (98.5).

What stands out from Figure 1 is not the non-existent mistreatment of Catalonia but the high dispersion of the regional financing index and the apparent arbitrariness of the distribution of resources across regions. With 2011 data, there is a spread of 27.5 percentage points between the top and bottom regions in terms of financing that has nothing to do with cost differences or, as we will see below, with gross tax revenues. Thus, Valencia is at 92.4 in terms of the index of relative financing per adjusted capita while Rioja reaches 120 for no apparent reason. The ordering of the autonomous communities in terms of resources per adjusted capita after the application of the system follows no clear logic. It is not that poor or rich regions are systematically well or badly treated. Rather, we find a bit of everything. Within poor regions we have Andalusia and Murcia between 94 and 96 while Extremadura exceeds 110. And the situation is similar within the group of rich regions, with Catalonia and Madrid between 99 and 101 while Rioja and Cantabria are around 120.

In terms of regional financing Catalonia is basically on the national mean, which is where all regions should be if we took seriously the constitutional principle of equality when it comes to citizens' access to the public services managed by the autonomous communities. Hence, there are no objective grounds for complaint in this area. But there are understandable reasons for a certain irritation that comes essentially from two sources. The first one is the foral exception. The way the peculiar financing system enjoyed by the Basque Country and Navarre has been implemented in practice exempts two of Spain's richest territories from any contribution to regional equalization and allows them to pay only a fraction of their share of the cost of the services they continue to receive from the Central Administration, leaving them with levels of financing per adjusted capita of the order of twice the average of the rest of the country.[3] Wishing for the same privileged deal is only human.

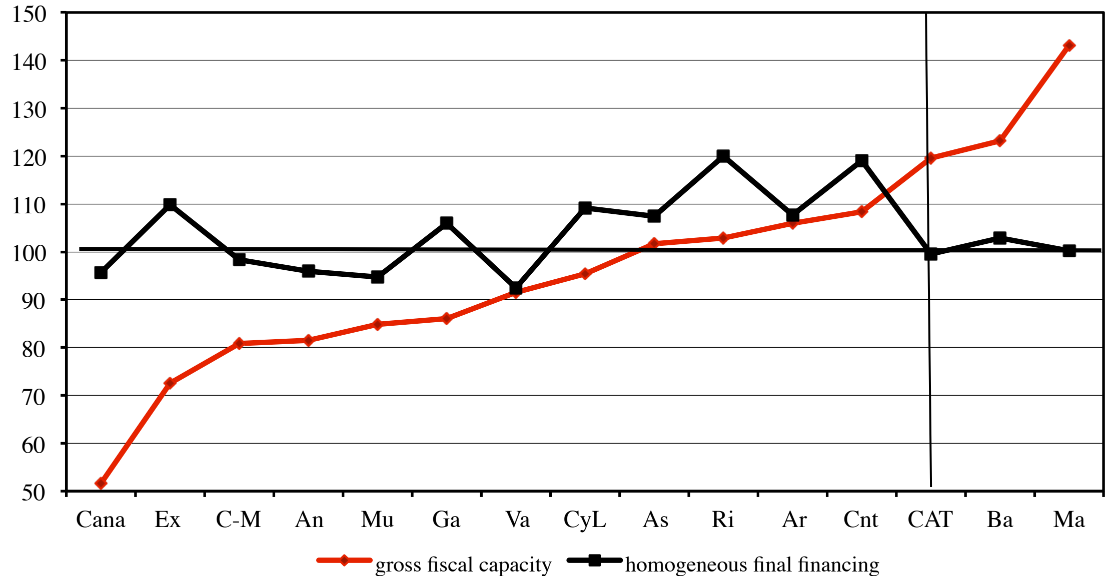
The second source of dissatisfaction has to do with the violation of what is sometimes called the *ordinality principle*. The same way the personal income tax does not alter the original ranking by gross income of otherwise equal taxpayers, the regional financing system should not alter the original regional ranking in terms of gross fiscal capacity (revenue from regional taxes under a common tax schedule) per adjusted capita – but it frequently does so and sometimes in striking ways. This can be clearly seen in Figure 2, where the homogenized financing of each region is compared with its gross fiscal capacity, with the regions ordered along the horizontal axis according to this last variable.[4] The vertical distance between the two lines in the figure measures the net effect of the redistribution mechanisms contained in the regional financing system on the resources of each autonomous community. While Catalonia loses 20 points (and Madrid 43) as we go from gross fiscal capacity to final financing per adjusted capita,

[3] See de la Fuente (2011).

[4] The indicator of gross fiscal capacity used here differs from the official one for two reasons. The first one is that my figures include the additional resources that the Canary Islands obtain outside the ordinary system of regional financing due to the peculiar economic and fiscal regime this region enjoys. The second reason is that I introduce some corrections to improve on the normative or homogenized revenues provided by the system for certain taxes. For additional details, see de la Fuente (2013).

Extremadura wins 37 points and the Canary Islands 44, which radically alters the positions of all of them in the regional ranking in a rather arbitrary way, converting the regional financing model into a kind of lottery that is understandably resented by some of those who are not on its winning side.

Figure 2: Homogenized financing vs. gross fiscal capacity per adjusted capita, 2011



3. Is Spain robbing us?

The second complaint of the Catalan nationalists has to do with the adverse net fiscal balance of the region with the Central Government, which is often presented as nothing short of fiscal robbery. According to the Catalan Regional Government's last report on the subject, the difference between the federal taxes paid in Catalonia and the Federal Government's expenditure in the region amounted in 2011 to around 15.000 million euro or 7.7% of regional GDP. The local press routinely interprets these figures as the "excess burden" on Catalan taxpayers, ie. as the amount we pay over and above what we should pay.

A couple of preliminary considerations seem to be in order. The first one is that interpreting a relatively rich region's fiscal deficit as an unfair excess burden is plain nonsense. Doing so amounts to demanding that taxes should stay with those who pay them, leaving absolutely no room for redistribution, which is precisely one of the main reasons why taxes exist in the first place. One can try to argue that the Catalan fiscal deficit is larger than it would be reasonable, but given that the region has an income per capita significantly higher than the national average, it would be very complicated to maintain, as nationalists often do, that such deficit is entirely the result of unfair and arbitrary policies that discriminate against Catalan citizens.

The second consideration is that the way in which the Generalitat calculates the part of our taxes that returns to Catalonia is somewhat peculiar and tends to produce an upward bias in the estimation of the region's net fiscal balance. One of the most questionable options in this respect is to disregard what comes back "in specie" rather than in cash, i.e. in the form of services provided by the Central Government that benefit the citizens of Catalonia even though they are not physically produced there. The Generalitat's preferred methodology (the so-called *monetary flow* procedure), does not count as part of the the returns to the region its share of the central services and institutions of the Spanish federal administration, which is concentrated in Madrid, or almost any part of its expenditure on defense and foreign affairs.

The Catalan Government defends this approach on the grounds that it provides the best way to capture the effects of central expenditure on regional economic activity, but this is both irrelevant and questionable. It is irrelevant because the bulk of public expenditure has specific objectives that have little or nothing to do with the promotion of economic activity. Governments do not build military bases to create jobs but to protect their territory and, as a result, they put them in places that make strategic sense regardless of the local rate of unemployment. On the other hand, it is far from clear that the location of expenditure and the stimulus to economic activity always go together. In many cases what matters is not the location of expenditure per se but the place where the relevant goods or services are produced – say, where the fighter jet has been manufactured, and not where it is parked.

Unsurprisingly, regional fiscal balances are very sensitive to the methodology used to compute them. As an illustration, let us take the year 2005 for which, in addition to the Generalitat's estimates (2009), we have another study undertaken by the Spanish Ministry of Economics and Finance (MEH, 2008) and a third estimate constructed by a couple of independent researchers, professors Uriel and Barberán (2007). Working always with neutralized figures,[5] the Generalitat puts the Catalan fiscal déficit at 8,4% of GDP using the monetary flow approach. The same Catalan Government reduces this figure to 6% of GDP when a more reasonable methodology is used (the so called *burden-benefit* approach) in which central expenditure on common services, defense and foreign relations are distributed across all regions in proportion to their population. The Ministry gives somewhat smaller figures with the same two methodologies. If we neutralize their estimates with the same procedure that is used by the Generalitat, their central estimate of the Catalan fiscal deficit comes to 7,4% of GDP under the monetary flow approach and to 5,3% with the burden-benefit approach. Finally, Uriel and Barberan sensibly refrain from making monetary flow calculations and put the suitably neutralized Catalan fiscal deficit at 5% by the burden-benefit approach.

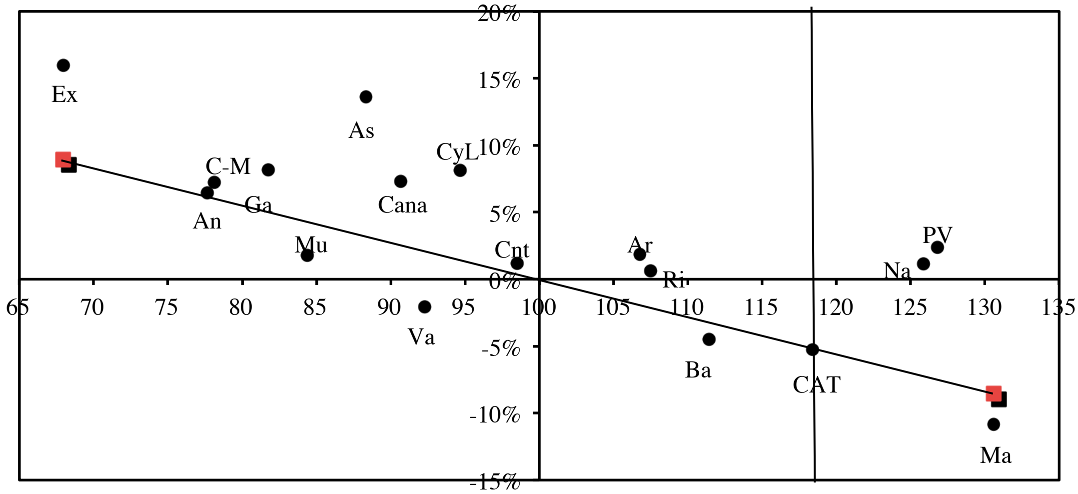
Hence, the most reasonable estimates of Catalonia's net fiscal balance point toward a neutralized deficit of between 5% and 6% of GDP. To determine whether this is high or low, fair or unfair, we need to put this figure in context, relating it to Catalan and Spanish income per capita and checking what happens in similar territories. To do this, in what follows I will work with Uriel and Barberán's estimates for the period 2001-05. This will allow me to have homogenous data for all the Spanish regions and to compute

[5] "Neutralization" is used to avoid the distortion that arises because the budget imbalance of the Central Administration varies over the business cycle and has a very direct effect on regional fiscal balances. In recession years the Central Government spends much more than it collects in taxes, a fact that tends to improve the fiscal balances of all regions simultaneously. During an expansion, the phenomenon tends to reverse itself. To eliminate such noise, it is convenient to "neutralize" the budget imbalance of the Central Administration. The way the Generalitat does it is by adjusting Central Government aggregate revenues so that they are equal to its aggregate expenses, while holding constant the regions' weights in total revenues. In what follows, I have used this procedure whenever it has been possible in order to homogenize the different estimates of net fiscal balances.

a five-year average that should smooth out any anomalous yearly readings. I will start from the average net balance of each region during 2001-05 measured in 2005 prices and adjust it for the overall budget imbalance of the Central Government using the same neutralization procedure as the Generalitat. The resulting figure will then be expressed as a percentage of 2005 regional GDP.

Figure 3 shows the net fiscal balances of the Spanish regions calculated in the way I have just described and relates them to an index of relative GDP per capita (with the national average set to 100). The figure shows the fitted regression line that describes the "typical relationship" in the sample between relative income per capita and net fiscal balances. As expected, the regression line has a negative slope, indicating that net fiscal balances tend to worsen as income rises.

Figure 3: Net fiscal balance as a % of GDP (average for 2001-05) vs. relative income per capita in 2005



Source: Uriel and Barberán (2007) with the adjustments described in the text and INE's Regional Accounts.

As in the previous section, the Figure reveals some surprising facts, but these have nothing to do with Catalonia's position. Since Catalonia is among the regions with the highest income per capita, it is expected to display a fiscal deficit, and so it does. The region just happens to be on the fitted regression line, which tells us that the size of its deficit is precisely what should be expected on the basis of its income level. The most striking feature of the Figure is, once again, the position of the foral regions (and to a lesser extent that of Aragon and Rioja), which enjoy positive net fiscal balances in spite of their high incomes. Also surprising is the position of Valencia, which has a negative fiscal balance with below-average income. Finally, the large surpluses of Asturias, Castilla y León and other regions are also noteworthy as they are much higher than expected on the basis of their income.

To put the Catalan complaint in perspective, it may be useful to compare the region's situation with that of Madrid or Valencia. With the data I am using, the average net fiscal balance of Catalonia was 5.24% of GDP, while Madrid reached 10.84% and Valencia 2.04%. Since per capita income levels were very different across these regions in 2005 (118.4, 130.6 and 92,3 respectively, with the Spanish average normalized to 100), what we should look at is not the size of the deficit per se but the relation between deficit and relative income. A useful way to describe this relationship is by dividing the net per capita fiscal balance of each region by its income per capita differential with the Spanish average to obtain a sort of *aggregate marginal tax rate* that tells us what fraction of the region's per capita income differential is taken away by the Central Government and sent to the rest of the country. The value of this ratio is 28.5% in Catalonia, 35.5% in Madrid and -26.5% in Valencia. Catalonia's coefficient coincides almost exactly with the national average, indicating that the Spanish fiscal system does not discriminate against the region. Madrid may have somewhat better reasons for complaining since the Central Government takes away a bigger fraction of its surplus relative to average income per capita, but this is not necessarily a bad thing if we think the tax system should be somewhat progressive. The region that should really complain loudly, however, is Valencia. The counterintuitive negative sign of its aggregate marginal tax rate reminds us that, as we have already seen, the region has a negative net fiscal balance in spite of having below-average income – something which does not make a whole lot of sense.

4. This doesn't happen anywhere else?

Complaints about fiscal robbery are often accompanied by claims that no other territory in the civilized world suffers a crueler fiscal fate than Catalonia. Depending on the day and on the inclinations of the nationalist spokesman, the tirade may conclude with an invocation to a mythical Germany where we would be much better off than under Spanish exploitation, or with wishful references to some high-income US state also pictured as blissfully free of our heavy fiscal burdens.

Germany

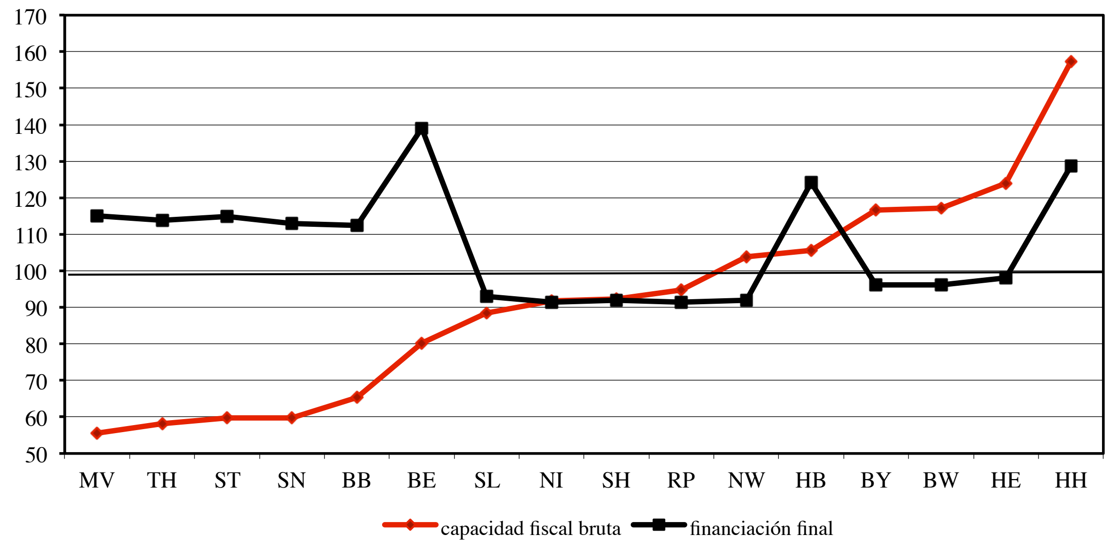
The imaginary Germany pictured in the nationalist propaganda is a sort of confederal paradise for rich territories where the *länder* or federated states have completely independent fiscal systems and are protected against an excess of territorial redistribution by a limit of 4% of GDP on net fiscal balances set by the Constitutional Court and by a rigidly applied ordinality principle that prevents the regional financing system from altering the original ordering of the states in terms of per capita tax revenues. The real Germany is a rather more prosaic place where there are no such limits on redistribution and where the *länder* enjoy a degree of autonomy well below that of their Spanish counterparts –especially, but not only, in fiscal matters. The German system of regional financing, moreover, is very similar to our own, both in terms of the complexity of its structure and in the absence of a systematic relationship between the final financing of the different territories and their initial tax revenues or gross fiscal capacity.[6]

To appreciate the extent to which things are similar in the two countries, the reader should compare Figure 4 with Figure 2 and retain the following fact about the three German *länder* most similar to Catalonia. In 2008 (last year for which I have found information in English), Bavaria (BY), Baden-Württemberg (BW) and Hesse (HE) with relative income per capita levels of 111, 112 and 122 (vs. Catalonia's 118 in 2011) had

[6] For additional details on the data and results summarized in this section, see de la Fuente (2012a).

indices of relative financing of 96.2, 96.2 and 98.1 respectively, always below Catalonia's 99.6, and lost 20.5, 21.0 and 25.8 points respectively when going from an index of fiscal capacity to another of final regional financing per capita (vs. 19.9 points in the case of Catalonia). It seems clear, then, that becoming German would not put an end to our fiscal miseries – unless we were allowed to become a city-state, as Berlin, Bremen and Hamburg. This would entitle us to a 35% financing bonus, which is what explains the three peaks in the line that describes final financing in Figure 4.

Figure 4: Financing per capita vs. gross fiscal capacity
Germany 2008



- *Key: NW* = North Rhineland -Westfalia; *BY* = Bavaria; *BW* = Baden-Württemberg; *NI* = Lower Saxony; *HE* = Hesse; *RP* = Rhineland-Palatinate; *SH* = Schleswig-Holstein; *SL* = Sarre; *HH* = Hamburg; *HB* = Bremen; *SN* = Sajonia; *ST* = Saxony-Anhalt; *TH* = Turingy; *BB* = Brandeburg; *MV* = Mecklemburg-West Pomerania; *BE* = Berlín.
- *Source:* de la Fuente (2012) with data from the German Federal Ministry of Finance (FMF, 2010).
- *Note:* To allow homogeneous comparisons between the two countries, when calculating the gross fiscal capacity of the German lander, I have imputed VAT revenues in proportion to domestic regional consumption, as is done in Spain. In fact, however, the bulk of VAT revenue is distributed among the German lander in proportion to their population. The remainder is used to improve the financing of those länder with the lowest tax revenues.

In the case of Germany, there do not seem to exist reliable estimates of regional fiscal balances-- or at least I have not been able to find them in spite of having asked for the help of native experts on regional finances. In both countries, however, it is possible to approximate the component of such balances that is directly linked to the regional financing system, which should give us at least a feeling for the fiscal treatment of the richer regions. To construct such an estimate, we have to add each region's net balance under the horizontal equalization schemes that exist in each country (the sharing of VAT revenue and the horizontal transfers across länder in Germany and the Guarantee Fund net of the Central Government's contribution in Spain) and the balance arising from the vertical transfers going from the Central Government to the regions, net of the contribution of their citizens to the federal revenues that finance such transfers. To approximate this last variable, I have used the shares of the different territories in aggregate regional tax revenues as an estimate of their shares in federal tax revenues (a piece of information I don't have in the case of Germany). The margin of error arising from this approximation should be small since the tax baskets of the regional and central administrations are quite similar in both countries.

Once the necessary calculations have been completed, it is clear that Catalonia would not be better off under the German system. With 2008 data, Bavaria, Baden-Württemberg and Hesse had fiscal deficits arising from the regional financing system of 2.0%, 2.0% and 2.3% of GDP respectively, while Catalonia's deficit amounted to 1.7%. To get the complete picture, we would need to know what happens with the rest of federal expenditure, but in principle there is no special compensation mechanism in Germany to return to richer regions part of what they pay in federal taxes. Hence, it seems unlikely that their fiscal deficits should be much smaller than ours.

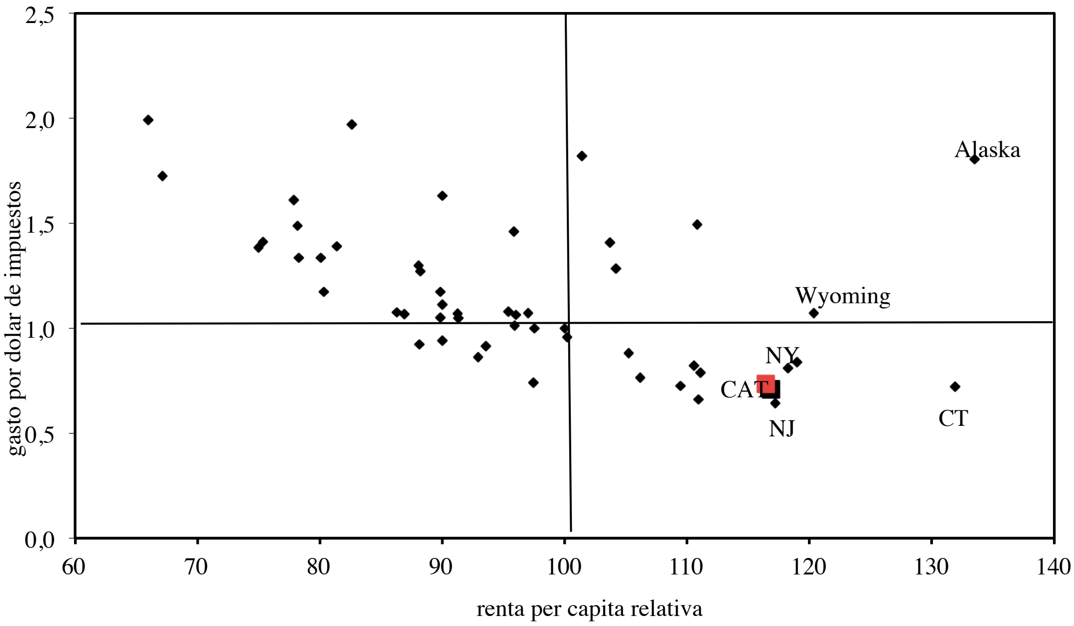
United States

It is also doubtful that joining the US would greatly improve our fiscal fortunes, except possibly from the savings that would come from a significant slimming down of our welfare state. For the case of the USA, we have estimates of states' net fiscal balances constructed by the *Tax Foundation* (see Dubay, 2006 and Tax Foundation, 2007). Using US Government reports on the distribution of federal expenditure and its own model of tax incidence, this organization published until a few years ago a breakdown of federal expenditures and tax revenues using a monetary flow criterion that is quite similar to the one used by the Catalan Regional Government to construct its preferred estimates of the region's net fiscal balance (including a similar correction for the budget deficit of the Central Government).

For each year between 1981 and 2005, this source provides an estimate of the total amount of federal taxes (including Social Security contributions) borne by the residents of each state of the Union and of the volume of federal expenditure that "returns" to it using a monetary flow criterion. After adjusting tax revenues in order to neutralize the effects of federal budget imbalances, the Tax Foundation also computes the *spending to tax ratio* for each state, defined as the amount of federal expenditure that comes back to it for each dollar of federal taxes collected. This ratio is a good indicator of the relative fiscal treatment of each territory. Unlike net fiscal balances measured as a percentage of GDP, spending to tax ratios are independent of the size of the public sector and therefore allow for valid comparisons between countries as different as the US and Spain.

Figure 5 shows that the spending to tax ratio decreases with relative income and tends to lie above unity in poor states and below it in rich ones. As the reader can appreciate, the red square representing Catalonia (in 2009) fits in perfectly with the pattern of the majority of the US states (in 2005). With an income per capita relative to the national average similar to that of New York (NY) or New Jersey (NJ), the Catalan spending to tax ratio (0,73) lies half way between those of these two states (0,64 and 0,81). Hence, if Spain robs us of 27 cents for each euro we pay in central government taxes, Uncle Sam easily beats it, reaching 36 cents per dollar in the case of New Jersey.

Figure 5: Spending to tax ratio adjusted for the federal deficit vs. relative income per capita, Catalonia and the states of the US



It is true that the fiscal deficit of Catalonia under the monetary flow approach (8.5% of GDP) is larger than that of all US states in the year of reference, but not by much: New Jersey's deficit is only a point smaller. The main reason why the fiscal deficits of the richer US states are smaller than that of Catalonia has to do with the relative size of the public sectors of the two countries we are comparing, which in turn reflects the relative development of the welfare state in Spain and the US. An approximate correction for this effect can be achieved by recalculating net fiscal balances under the assumptions that i) the weight of federal expenditure increases until the level observed in Spain, going from 17.9% to 30.6% of GDP, ii) that the additional tax revenues needed to finance this expenditure are distributed in the same way as current tax revenues and iii) that the additional expenditure is distributed in proportion to population. With these hypotheses, the size correction would bring New York's deficit very close to Catalonia's (rising from 3.5% to 6% of GDP) while that of New Jersey would be well above it (reaching 11.7% of GDP).[7]

Italy

The information that is available for Italy also suggests that the Catalan net fiscal balance is much closer to the norm than to the outrageous exception that is often denounced by the local nationalists. Ambrosanio, Bordignon and Cerniglia (AB&C, 2008) construct estimates of the net fiscal balances of the Italian regions in the year 2005. These authors use a burden-benefit approach and neutralize the budget imbalance of the Central Government, adjusting revenues in a way whose details are not entirely clear. Although net fiscal balances are calculated without taking into account interest

[7] For additional details see de la Fuente (2012b).

payments on the public debt or capital expenditures, it seems unlikely that the inclusion of these items could qualitatively alter the results.

Figure 6: Net fiscal balance (burden-benefit approach) as a % of GDP vs. relative income per capita, Spain and Italy around 2005

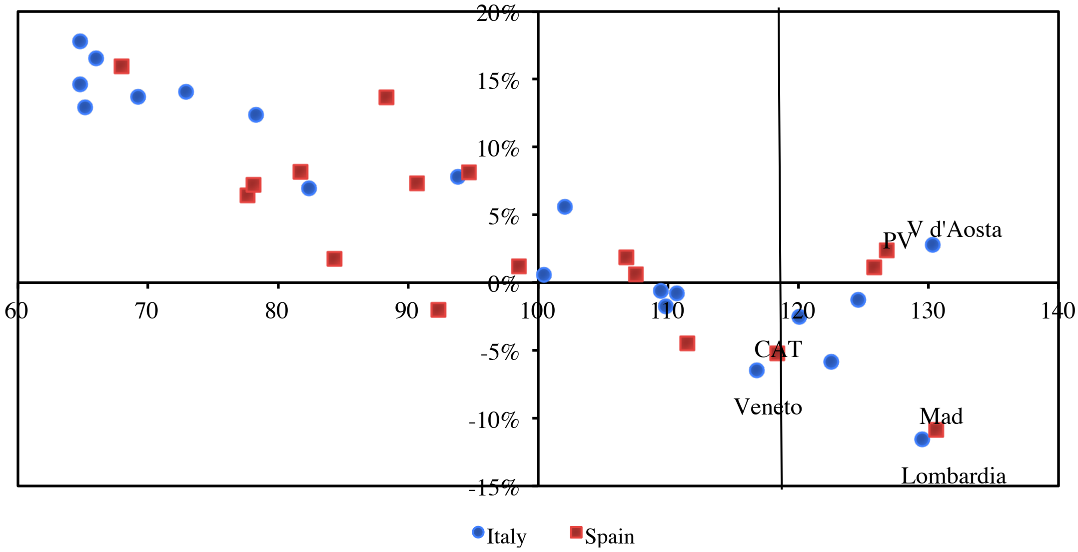


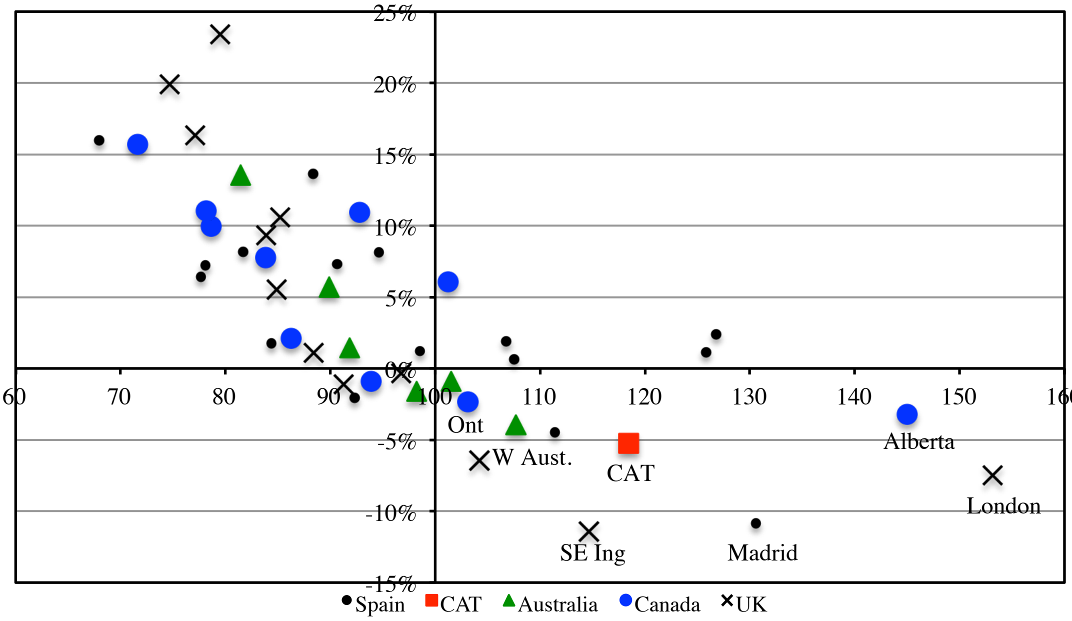
Figure 6 adds the Italian regional net balances to the Spanish data displayed in Figure 3. As the reader will see, the fit of the two samples is surprisingly good: the magnitude of the net fiscal balances of Spanish and Italian regions of similar relative income per capita is practically indistinguishable in all segments of the distribution. Catalonia also fits perfectly in the Italian pattern. The region is very close to Veneto in terms of its relative income and displays a net fiscal balance that is also very similar (in fact, a bit better). The same is true of Madrid and Lombardy. Indeed, the two countries are so similar that Italy also has the equivalent of our privileged foral regions (Navarre and the Basque Country) in its special regions, among which is noteworthy the minuscule Valle d'Aosta for its favorable fiscal balance in spite of its high income. And it even has nationalist parties that are quite willing to shamelessly exaggerate the negative balances of their respective regions of origin. According to AB&C (2008, Table 14 in p. 26), the Northern League would place Lombardy's net fiscal balance at a rather implausible 17% of GDP.

UK, Australia and Canada

Finally, there are estimates of regional net fiscal balances that are at least approximately comparable with Spanish data for the UK, Australia and Canada. The UK results refer to the fiscal year 2006-7 and are taken from a study by Oxford Economics (2008). The data for Australia (in 2004-5) and Canada (in 2004) come originally from Ruggeri (2010) and Smith et al (1999, updated in 2005) and are taken from a study by the Department of Economics of the Generalitat (Montasell and Sánchez, 2012) which reviews existing estimates of regional fiscal balances for other countries. Although the methodology used in these studies contains some peculiarities that may distort cross-country comparisons to some extent, in all three cases the results seem to be more directly comparable with the burden-benefit estimates available for the Spanish regions than with the balances constructed by the Catalan Regional Government using the monetary flow approach.[8]

With all the precaution requited by the heterogeneity of the data and its questionable quality in some cases, the experience of these three countries is not qualitatively different from the Spanish one and does not in any way suggest that Catalonia is being fiscally mistreated once we take into account its level of income relative to the national average. As can be seen in Figure 7, when the observations from the three Anglosaxon countries are plotted together with the Spanish data, the patterns are very similar and Catalonia (CAT) fits rather well into any one of them.

Figure 7: Net fiscal balance as a % of GDP vs. relative income per capita Spain, UK, Canada and Australia around 2005



- *Sources:* Montasell and Sánchez (2012), Tables 1 and 3 for Australia and Canada, respectively. Data for the UK are taken from Oxford Economics (2008) proceeding as follows. "Identifiable" expenditure (assigned to a specific region by the Treasury) is taken from Table 1. In the case of "non-identifiable" expenditure (of general national interest) we use the allocation by population that is provided in Table 2. Tax revenues are allocated according to the region of residence as shown in Table 5. To obtain neutralized estimates, tax revenues are adjusted upward so that their national total is equal to total expenditure, respecting the weight of each region in total revenues. The neutralized net balance is divided by each region's GVA calculated using a residence criterion (that is, wages are imputed to the region where workers live, rather than to the region where they work).

It is true that Catalonia's fiscal deficit is larger than that of any of the Australian states, but it must also be said that the relative income of the richest state (Western Australia, with a per capita income index of 107.7 and a fiscal deficit of 3.93% of GDP) is well

[8] In the British case, expenditure is allocated on the basis of official estimates that respond in principle to a benefit criterion (PESA, 2013) and revenues are assigned according to a residence criterion. In Australia, defense expenditure (except for the wages of military personnel), interest on the national debt, all federal expenditure undertaken in the national capital and contributions to the pension system are allocated in proportion to the population of the different states. If the same procedure had been applied in the case of Catalonia, its fiscal deficit would have been considerably lower than under the Generalitat's preferred monetary flow methodology. In the case of Canada, a non-standard procedure has been used. Among other things, Central Government purchases are allocated in proportion to private sector output and interest payments on the public debt on the basis of the residence of its recipients. These choices would also tend to lower Catalonia's deficit below monetary flow estimates.

below that of Catalonia (with a relative income of 118.4 and a deficit of 5.24%). The same is true when we compare Catalonia with Ontario (Ont), which has a deficit of 2.33% of GDP with an income per capita index of 103.1. In the case of the UK, Southeast England has a deficit about twice as large as Catalonia's (11.4%) with a lower level of relative income (114.7). Although some of these results do not seem entirely plausible, if we compare them in terms of the aggregate marginal tax rates defined above, with a rate of 28.5%, Catalonia would be in a much better situation than Western Australia (51.2%), Ontario (75.2%) or Southeast England (78.0%).

On the other hand, Figure 7 reveals two examples of rich regions that, deviating from the usual pattern, do seem to receive a rather more favorable treatment than Catalonia. One is Alberta, with a relative income index of 145 and a deficit of only 3.23% of GDP, and the second is London, with an income of 153 and a fiscal deficit of 7.5% of GDP. Both territories, however, have some peculiarities that explain, and may partially justify, what at first sight does indeed look like a privileged fiscal treatment. In the case of London, it could be argued that the real income differential with the rest of the UK is probably much smaller than it would appear from the data we are using due to the high level of prices in the city. And given the scarcity of methodological detail supplied in the study, we cannot rule out the possibility that a disproportionate part of the costs of the central UK administration may have been assigned to London. As for Alberta, it must be kept in mind that oil production has an important weight on its GDP which may translate only partially into residents' personal income and hence into federal taxes (which do not include royalties on the exploitation of natural resources).[9]

5. Conclusion: much ado about nothing

The quick review we have undertaken in this note of some aspects of public finances in Spain does not reveal a satisfactory situation. The net fiscal balances of some Spanish territories are as problematic as the levels of financing of their regional administrations. But the one problem there are no signs of in the data is the existence of an anti-Catalan bias in our fiscal system. Both in terms of regional financing and of its net fiscal balance, Catalonia is basically where it should be when we compare it with other Spanish and foreign regions with similar levels of income relative to the national average.

This is not true, however, of other territories. Some Spanish regions show large deviations in both directions from what would be reasonable in terms of both financing and fiscal balances. These deviations alert us of the possible existence of situations of unfairness or privilege that should be investigated with care and, if necessary, corrected.

[9] On the other hand, the Government of Alberta (2012) estimates a fiscal deficit for the province of 16 billion Canadian dollars, or 6.64% of GDP with data from Statistics Canada (2013). A tentative adjustment for the federal budget deficit that is implicit in the data reported in the document would raise this figure to 8.2% of provincial GDP. However, since this source provides almost no methodological information, it is impossible to know to what extent its results are comparable with those available for Catalonia. (I am grateful to Gerardo González for this reference).

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