BACKGROUND NOTE

Consolidated expenditure by government function: an extension of the Fiscal Decentralisation database

Background document for the Network on Fiscal Relations across Levels of Government

By Sean Dougherty and Andoni Montes

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BETTER POLICIES FOR BETTER LIVES

Consolidated expenditure by government function: an extension of the Fiscal Decentralisation database[1]

Introduction

1. Data availability is crucial for research in public finance, to analyse current trends and to elaborate evaluations of all kinds of public policies. This is a key contribution of the OECD's Network on Fiscal Relations across Levels of Government, through its periodic updating of the OECD Fiscal Decentralisation database, which provides comparative high-quality information on a broad range of indicators, such as tax revenue and public spending, analysed by level of government and sector (Federal or Central, including Social Security, State/Regional and Local). The database currently covers most OECD countries for the period from 1995 to 2020.

2. Although this database is comprehensive, until now it did not provide a breakdown of government expenditure according to their function (e.g. healthcare, education, etc.), but only on aggregate. This gap was partially covered by the annual National Accounts database in its Table 11. However, these fiscal data are not consolidated. This means that they do not address the double-counting issue generated by transfers paid by one level of government to another, which are of a considerable magnitude in some institutional frameworks, and particularly in federal or largely decentralised countries (e.g. transfers equated the 42% of General Government Expenditure in Denmark in 2019).

3. The new multilevel database of consolidated government expenditure by function solves this issue by consolidating for the first time government expenditure by level of government and expenditure area for 26 OECD member countries,[2] covering a period of 26 years (1995-2020). The database provides results for two consolidation methodologies. On the one hand, the "Funded by" (FB) approach, which allows to reply to the question on which level of government actually funds expenditure in each policy area (also called the 'initial source of public funds'). And, on the other hand, the "Spent by" (SB) approach, regarding which government level actually executes spending programmes for each COFOG sector. Divergence between both approaches depends, not only on spending and tax autonomy, but also on vertical imbalances generated and to which extent are they compensated by intergovernmental transfers. Therefore, differences in results of both approaches reflect the size of transfers, and their earmarked or non-earmarked character. The SB results are consistent with the methodology used for more aggregate consolidated expenditure data provided by the OECD Fiscal Decentralisation database.

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[1] This document was discussed at the interim meeting of the OECD Network on Fiscal Relations across Levels of Government in November 2022. It was prepared by Andoni Montes Nebreda, consultant to the Fiscal Network, under the direction of Sean Dougherty, head of Network Secretariat. Helpful comments were received from Junghun Kim, Hansjörg Bloechlinger, Pietro de Biase, Isabelle Chatry, Catherine Girodet, Alessandro Lupi, Nicolas Miranda, Antti Moisio and Alexander Pick.

[2] Note that there is no data available for certain decentralised OECD countries such as Canada, Germany or Mexico.

4. As reported in the next section, this exercise has revealed patterns of how intergovernmental fiscal relation arrangements are designed across OECD countries and might help clarifying which is the actual level of decentralization of each policy area, as a complementary approach to the qualitative technique followed to build spending autonomy indicators (Dougherty and Philips, 2019). Additionally, this new multilevel database of Consolidated Government Expenditure by Function will support research carried out by different departments at the OECD as well as by outside experts. Indeed, first results for in policy areas such as environmental protection and healthcare, have already been used in recently published work (see de Biase, Dougherty and Lorenzoni, 2022; Dougherty and Montes, 2022).

Key results

5. The issue of double-counting of intergovernmental transfers is one of the main issues that national account statistics faces when considering different government layers. Indeed, when summing up unconsolidated expenditure figures for the four government sectors, the result equates to over 100% of General Government expenditure. This means that *unconsolidated reported figures overstate actual expenditure levels*.

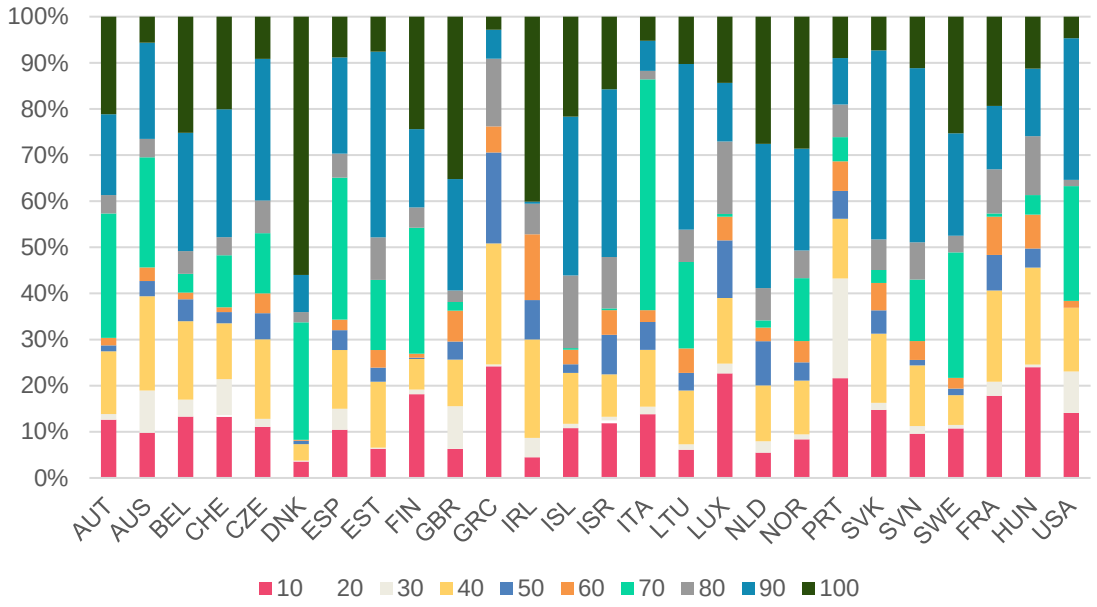
6. The magnitude of this phenomenon is particularly relevant, in descending order, in Denmark, Belgium, Austria, and Lithuania, where the upward bias is up to 35-42 percentage points (pp) of the public sector budget. These are followed by Estonia, Spain, Italy and the Netherlands with 30-35pp upward bias. In contrast, the excess is less than 8pp in the United States, France and Ireland. Overall, the magnitude of the double counting issue is correlated with the size of intergovernmental transfer schemes. How much funding is transferred vertically through grants not only depends on degree of tax and spending autonomy, but also on whether vertical imbalances are fully compensated.

7. As the aggregated results show (Figures 2 and 3), both consolidation methodologies presented in this report address the double-counting issue. Interestingly, our results for the “Spent by” approach, which represents the most frequently applied consolidation methodology, since policymakers are usually interested in which is the level of government that actually carries out public expenditure, coincide with data provided by the OECD Fiscal Decentralisation Database.

8. Aggregated results confirm that although Central Government funds most public expenditure, its actual executed spending figures are far more modest. In contrast, SNGs play a very limited role in funding policies, while they occupy a relevant role in executing spending programmes. Looking into the country-specific figures, Danish, French and Belgian SNGs register the highest levels of public expenditure as a share of GDP across the OECD. On the other hand, for subnational expenditure out of total spending, Denmark, Switzerland and Sweden are the most decentralised OECD member countries in our sample.

9. According to results shown in Figure 1 below, Education (90), Healthcare (70), and Social Protection (100) are the most decentralised policy areas, as they absorb the highest shares of subnational budgets (using the “Spent by” approach). Indeed, education spending represents up to the 40% of total SNGs expenditure in Estonia or Slovakia, while 50% of subnational spending in Italy is devoted to healthcare, and 56% to Social Protection in Denmark.

Figure 1. Consolidated subnational spending by COFOG sector (2019)



Note: See Annexes for sector details.
Source: OECD Fiscal Decentralisation database (forthcoming).

10. In addition, a policy-by-policy analysis shows that largest divergences between "Funded by" and "Spent by" approaches emerge within the General Public Services (010) sector, as general non-earmarked grant schemes, such as fiscal equalisation, are included there. Some of the countries with largest divergences between FB and SB results appear among the countries where equalising transfers as a percentage of total government expenditure is highest, such as Australia, Sweden, Spain, The Netherlands, or Lithuania (in descending order) (OECD, 2022). The case for Spain and Greece is also quite exceptional, as both countries only record divergence between both methodologies in General Public Services (10) COFOG area. This suggest that they do not provide earmarked grants, or if they do, they are very scarce.

11. In contrast, Environmental Protection (50) records the smallest amounts of earmarked grants. Finally, results for the most frequently decentralised spending functions, Health (70) and Education (90), show very heterogeneous results, since they are fully dependent on the asymmetrical fiscal autonomy models followed by each country. Finally, differences between FB and SB consolidation approaches are also very small, as intergovernmental transfers regarding Social Protection (100) are not of a vertical nature, but paid and received between Central Government and Social Security Systems.

12. The main section gives a preview of key selected findings using the new approach. Following this, three Annexes cover more details about the two consolidation methodologies that are applied (Annex I), the database design regarding content and structure (Annex II), and the COFOG classification system (Annex III).

4

Data analysis

13. This section presents and discusses selected results of the consolidation exercise. First, aggregated figures for all COFOG areas are analysed. And second, the initial focus here is on five COFOG areas: General Public Services (10), Environmental Protection (50), Health (70), Education (90), and Social Protection (100). These COFOG areas have been selected due to their relevance in size or their degree of decentralisation. Although 2020 data was available for most countries, 2019 data will be described in order to avoid biases related to the fiscal impact of COVID-19.

a. Aggregated results

The sum of unconsolidated expenditure across levels of government result in figures higher than the 100% of budgetary expenditure. This is corrected by both consolidation methodologies.

14. A key issue that national account statistics face when considering different government layers is the double counting of intergovernmental transfers. Figures 2 and 3 illustrate this issue. Indeed, when summing up unconsolidated expenditure figures for the four government sectors, the result usually yields more than 100% of General Government expenditure. This means that unconsolidated reported figures overstate actual expenditure levels. The magnitude of this phenomenon is particularly relevant, in descending order, in Denmark, Belgium, Austria, and Lithuania, where the upward bias reaches 35-42 percentage points (pp) of public sector budgets. In contrast, the excess is under 8pp in the United States,[3] France and Ireland. According to these results, while the consolidation process will have a large impact on the former countries, changes recorded in the former countries will be much less.

15. Overall, the significance of the double counting issue is correlated with the size of intergovernmental transfer schemes. How much funding is transferred vertically through grants not only depends on degree of tax and spending autonomy, but also on whether vertical imbalances are fully compensated.

16. As can be observed, the double counting problem is completely addressed by both, “Funded by” (FB) and “Spent by” (SB) consolidation approaches. By interpreting both charts it is also possible to conclude that it is intergovernmental grants paid by the Central Government to Subnational Governments (SNG) the source of the double-counting problem. Consistently, it is CG spending shares that decrease to a larger extent after consolidation, and SNG´s that increase the most.

17. Figures 2 and 3 also display the level of central spending (CG+SS), marked in black. Overall, results for “Funded by” approach do not differ as much as for “Spent by” approach. This pattern will be consistently observed in the following sections, as the former methodology puts the focus on who pays the transfers and thus does not generate as much impact on CG and SS expenditure shares as it does for SNGs. Exactly the opposite happens when “Spent by” methodology is applied.

[3] As in the OECD Fiscal Decentralisation database, state and local government data for the United States are reported together within the “State” level, as they cannot be disaggregated. In addition, no US data is available for (50) Environmental Protection.

Figure 2. Public expenditure by level of government (2019): U=unconsolidated, FB=funded by, SP=spent by

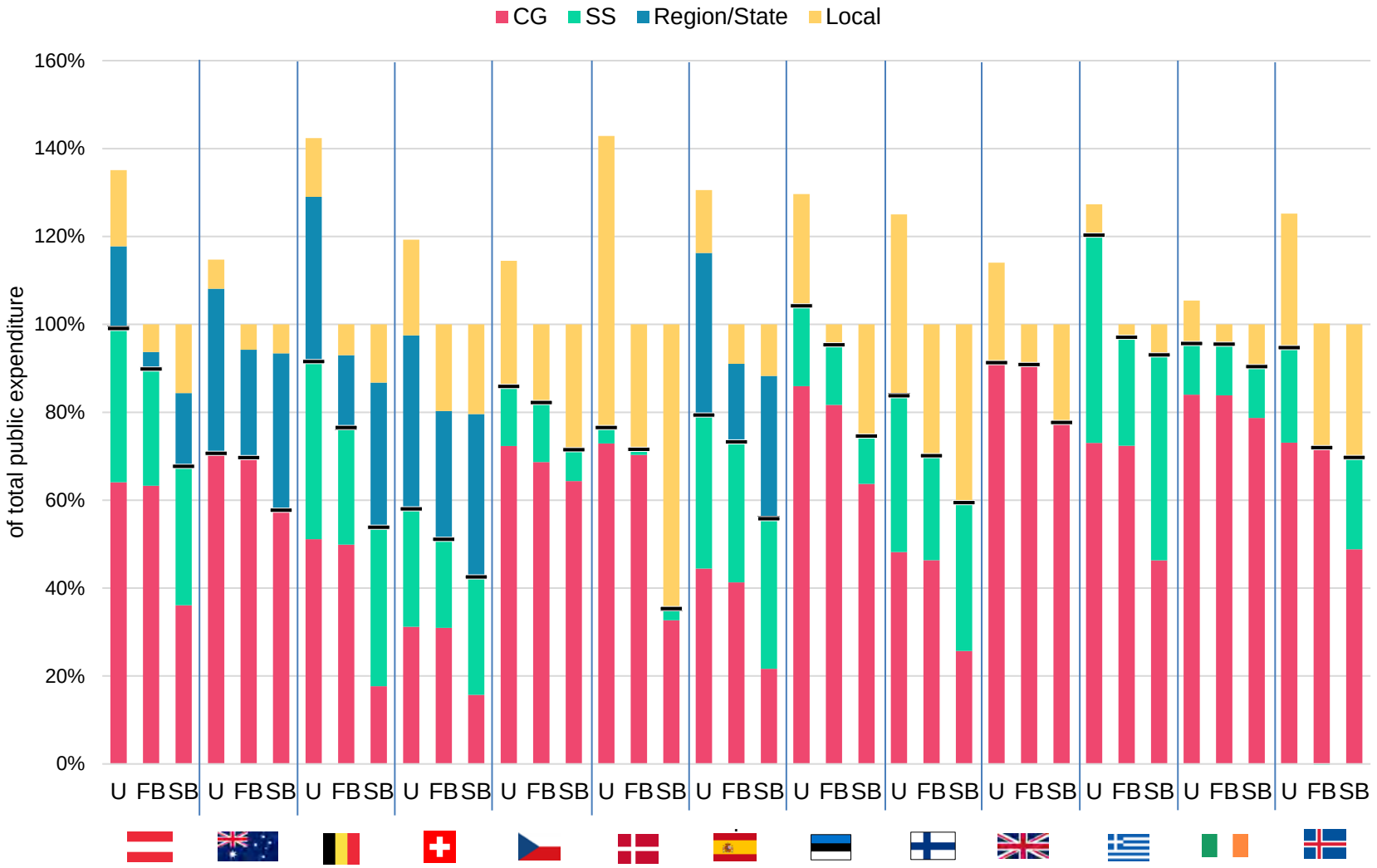
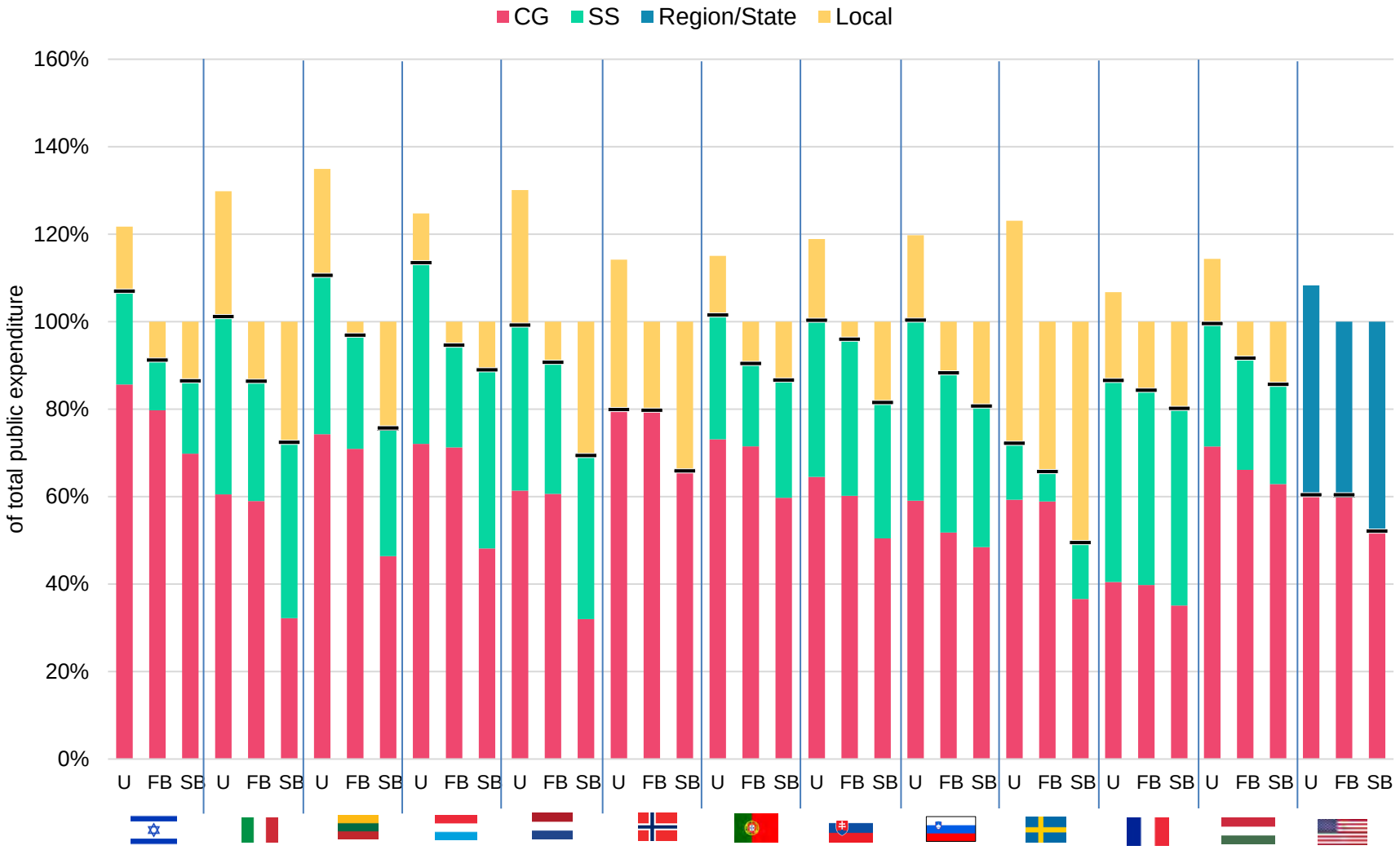


Figure 3. Public expenditure by level of government (2019): U=unconsolidated, FB=funded by, SP=spent by

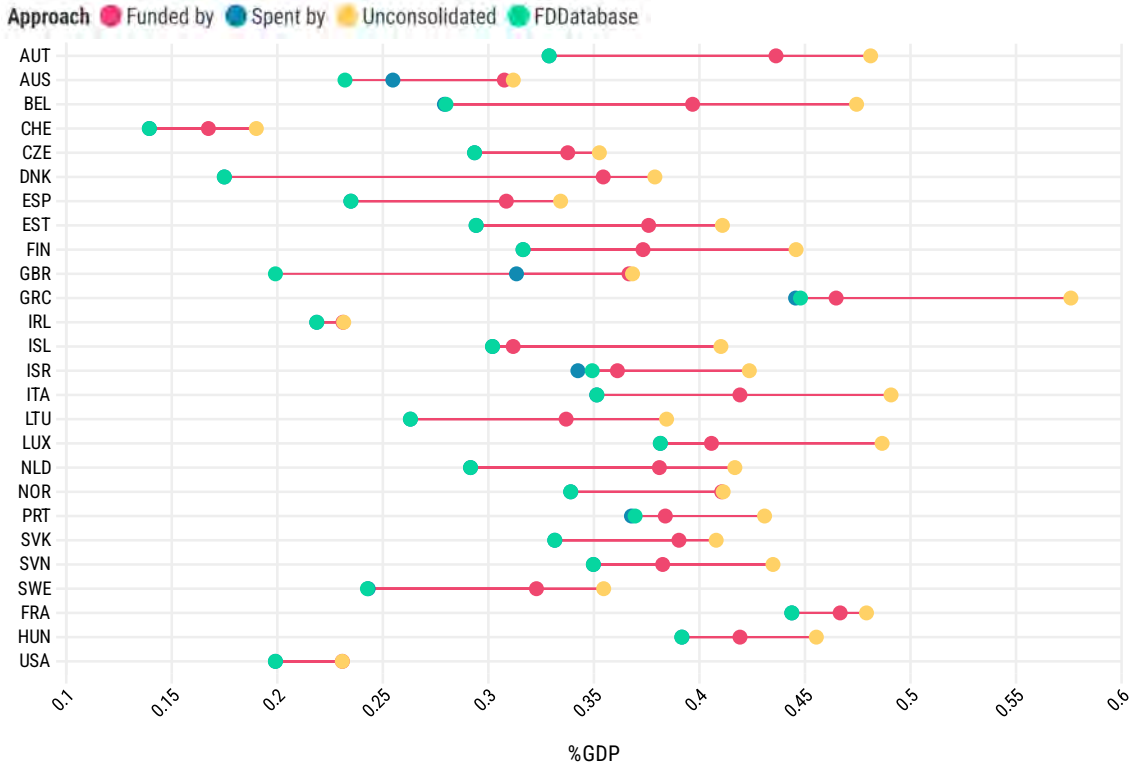


Although Central Governments fund most public expenditure, their actual executed spending figures are far more modest.

18. The existence of vertical imbalances is one of the topics traditionally addressed by the Fiscal Federalism literature (Oates, 1999). In fact, CGs have more taxation capacity than expenditure duties. In contrast, SNGs´ expenditure responsibilities exceed their possibilities to raise tax revenue. Aiming to re-equilibrate this situation, CGs share with SNGs part of their tax revenues through vertical grant schemes. This explains why although CGs fund most public expenditure, as it is responsible for a smaller share of actual expenditure execution.

19. Figure 4 compares results for centralised public expenditure, including both Central Government and Social Security Funds, for both approaches, with unconsolidated figures and numbers provided by OECD Fiscal Decentralisation Database. As it can be observed, "Spent by" figures for centralised expenditure are far more modest than "Funded by" results. It should be noted that differences between unconsolidated data and FB results are explained by transfers paid by the CG to Social Security Funds. Indeed, when only CG expenditure is considered (and thus SS is excluded), figures for both variables are almost identical.

Figure 4. Centralised public expenditure (% of GDP, 2019)



20. Interestingly, our results for the SB approach, which represents the most frequently applied consolidation methodology, since policymakers are usually interested in which is the level of government that actually carries out public expenditure, coincide with data provided by the OECD Fiscal Decentralisation Database. This serves as a useful double-check exercise for our data and confirms both databases are consistent. The two only exceptions to this relationship are the United Kingdom, and, to a lesser extent, Australia. None of both countries provide disaggregated data for Social Security Funds, which could explain some limitations in the data consolidation process at the central level of government.

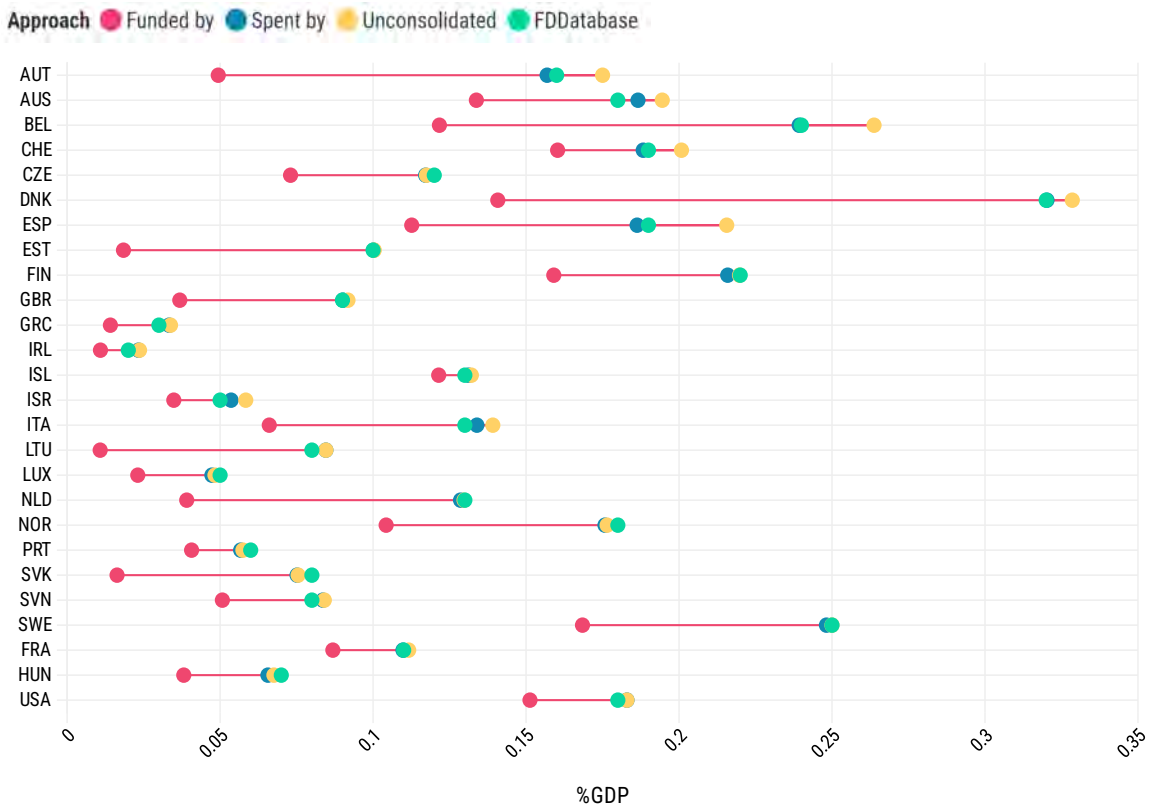
SNGs play a very limited role in funding policies, while they occupy a relevant role in executing spending programmes.

21. The opposite to what it has been explained for centralised expenditure is true for SNG´s budgets. From the FB point of view, state/regional and local institutions, do not play a very relevant role. In fact, none of the OECD countries in our sample reaches the 50% of subnational funding of public policies, and most oscillate around the 10%. However, if we look towards actual spending levels of SNGs, then the picture is completely different, and figures could reach the 60% of total general government expenditure (Figures 2 and 3). Countries such as Denmark, Belgium, Lithuania, and Austria record the largest divergences between two approaches, as a result of low levels of tax autonomy when compared with their spending autonomy.

Danish, French and Belgian SNGs have the highest levels of public expenditure as a share of GDP across the OECD. At the same time, Denmark, Switzerland and Sweden are the most decentralised OECD countries in our sample.

22. If we examine results country by country, Figure 5 shows that Danish, French and Belgian subnational governments are the ones that execute the highest amount of spending relative to their GDP. In contrast, the largest spending as a % of GDP funded by SNGs is found in Sweden, Switzerland, and Finland. However, this data does not reflect the level of decentralisation, as the size of general government in the economy drives part these results.

Figure 5. Decentralised public expenditure (% of GDP, 2019)



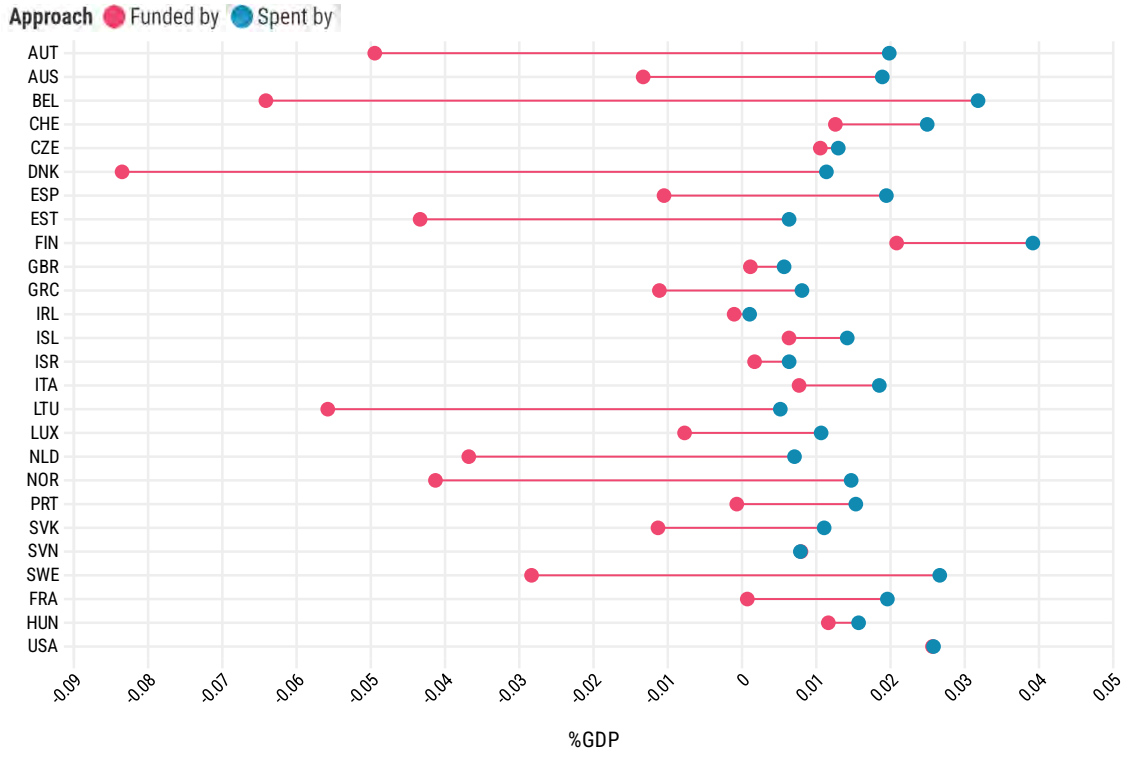
23. Returning to Figures 2 and 3, the highest degree of overall spending decentralisation is found in Denmark, Switzerland and Sweden, according to the SB approach. In contrast, Ireland, Israel and Hungary are the least decentralised OECD countries in the sample.

b. Results across spending functions

Larger differences between FB and SB approaches are recorded in General Public Services (010).

24. The largest differences between FB and SB approaches are recorded in General Public Services (10). This is the case for most countries, with Denmark, Belgium, Austria and Lithuania at the top (Figure 6). These figures explain why these countries are also those with the largest divergences in aggregate numbers, as the gap between FB and SB approaches in this policy area is heavily impacted. Overall, the largest divergences are recorded in countries where vertical imbalances are addressed to a higher degree and through general non-earmarked grants. In addition, with a few exceptions such as the United States, the lowest divergences are shown by countries with relatively low levels of expenditure decentralisation (e.g. Slovenia, Ireland and the Czech Republic).

Figure 6. Decentralised expenditure on general public services (% of GDP, 2019)[4]



25. But why is this COFOG policy the one recording highest divergences between "Funded by" and "Spent by" consolidation approaches? The answer to this question is quite straightforward when looking at the items included in this spending function:

[4] Negative values mean that transfers received by SNGs within an specific COFOG area surpass expenditure carried out by State and Local governments in the same COFOG function.

- Executive and legislative organs, financial and fiscal affairs, external affairs
- Foreign economic aid
- General services
- Basic research
- R&D general public services
- General public services n.e.c. (not elsewhere classified)
- Public debt transactions
- Transfers of a general character between different levels of government

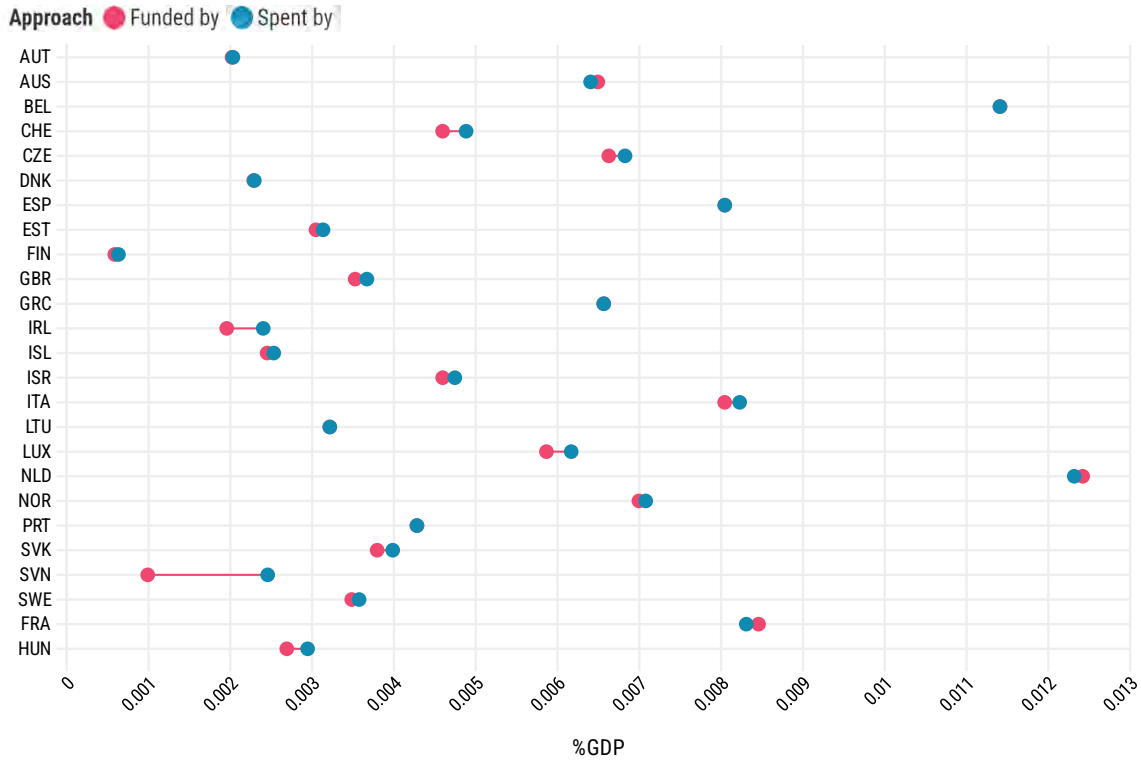
26. The latter item in the list of programmes included in 010 COFOG function is key to understand these results. Indeed, "Transfers of a general character between different levels of government" include non-earmarked intergovernmental grants. And, among them, we find the largest scheme of this kind in most federations (and similar ones) is fiscal equalisation systems. Some of the countries with largest divergences between FB and SB results appear among the countries where equalising transfers as a percentage of total government expenditure is highest, such as Australia, Sweden, Spain, the Netherlands, or Lithuania (in descending order) (OECD, 2022). At the opposite extreme is the United States, which despite being the longest-serving federation in the world, it is also the one and only without a fiscal equalisation system.

27. Finally, the case for Spain and Greece is quite exceptional. In fact, both countries only record divergences between both methodologies in General Public Services (10) COFOG area. This means that they do not provide earmarked grants, or if they do, they are very scarce and provide already consolidated figures for all the rest of COFOG areas in SNA Table 11. Therefore, the full extent of the double counting issue shown in Figure 3 for these two OECD countries stems from this (10) expenditure function.

In contrast, among often-decentralised policy areas, divergences are the lowest for Environmental Protection (50)

28. If fully centralised policy functions, such as Defence, are excluded, Environmental Protection (50) public spending is the area at which divergences between FB and SB results reach their lowest level, with Slovenia the only outlier (Figure 7). Consequently, this suggests that, despite environmental earmarking of intergovernmental transfers often being discussed (Dougherty et al., 2022), and even recommended (Bausch et al., 2021), it is rarely carried out.

Figure 7. Decentralised expenditure on environmental protection (% of GDP, 2019)



29. Although the weight of environmental protection expenditure represents a tiny share of the total aggregated expenditure of public sector (Dougherty and Montes, 2022), since most of the time it does not reach even 1% of GDP, more than half of it is carried out by the subnational institutional level (OECD, 2022). Still, the high convergence of FB and SB results does not necessarily imply that fiscal co-responsibility is strong in this policy area, since although it is not funded by earmarked grants, it could be supported by general non-earmarked grants reported in the (10) General Public Services COFOG function.

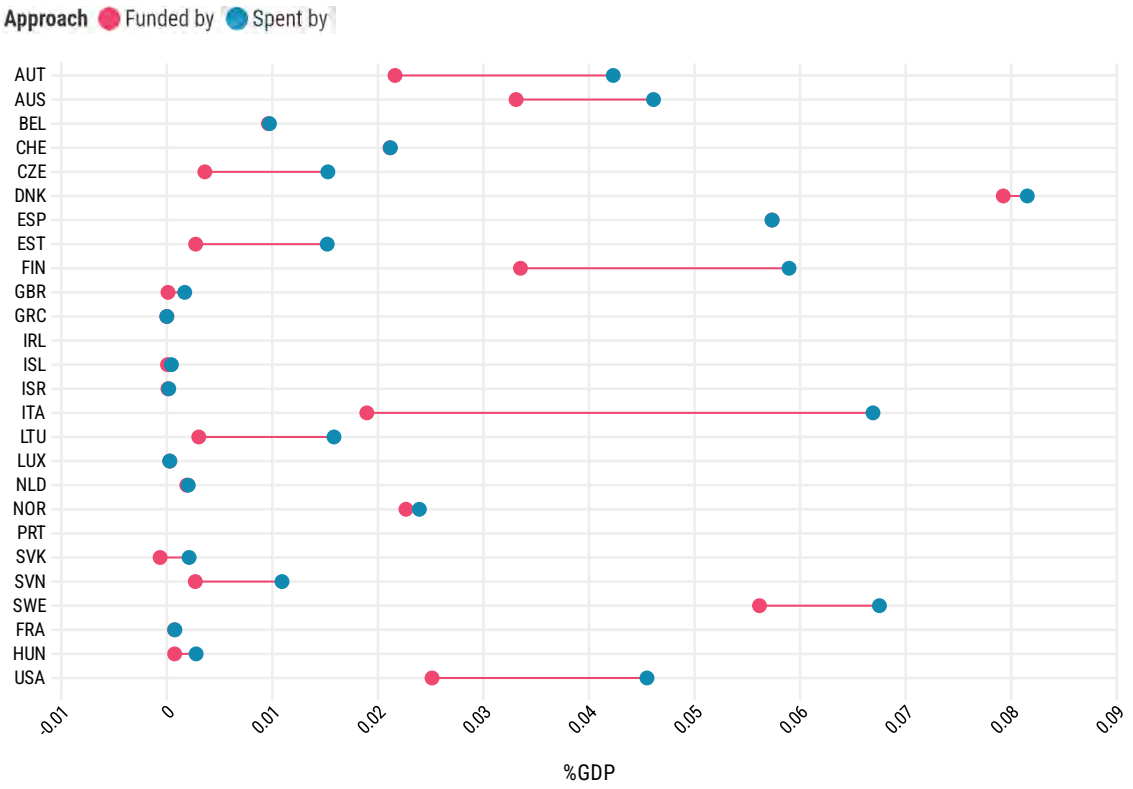
No clear pattern emerges regarding FB and SB result divergences for most often decentralised policies: Health (70) and Education (90).

30. Education (90) and Health (70) are the most decentralised policy areas across the OECD countries (OECD, 2022). Consequently, it is worth giving a look into consolidation results for both COFOG functions. No clear pattern emerges from this analysis. On the one hand, countries where large non-earmarked transfers are paid do not always show small-sized earmarked grants for health or education. For instance, this is the case for Lithuania, Sweden, and the Netherlands (regarding education), where both kind of transfers are quite large. On the other hand, there are countries where both kind of transfers are very small, as in lightly decentralised Ireland and Israel, where vertical imbalances are negligible too.

31. In addition, lack of correlation is also found between the size of transfers earmarked for health and education. Indeed, recording large divergences between FB and SB approaches regarding education, does not necessarily imply that similar results are found when it comes to health. This responds to the asymmetrical spending autonomy degrees that can be found across policies within countries.

32. For instance, subnational health spending on percentage of GDP is particularly high in Denmark, Italy and Sweden, whereas it is almost negligible in Greece, Israel, and Luxembourg (Figure 8). With regards to education, Belgium, United States, and Sweden have the largest subnational spending relative to GDP, and Israel, Greece and Luxembourg the lowest.

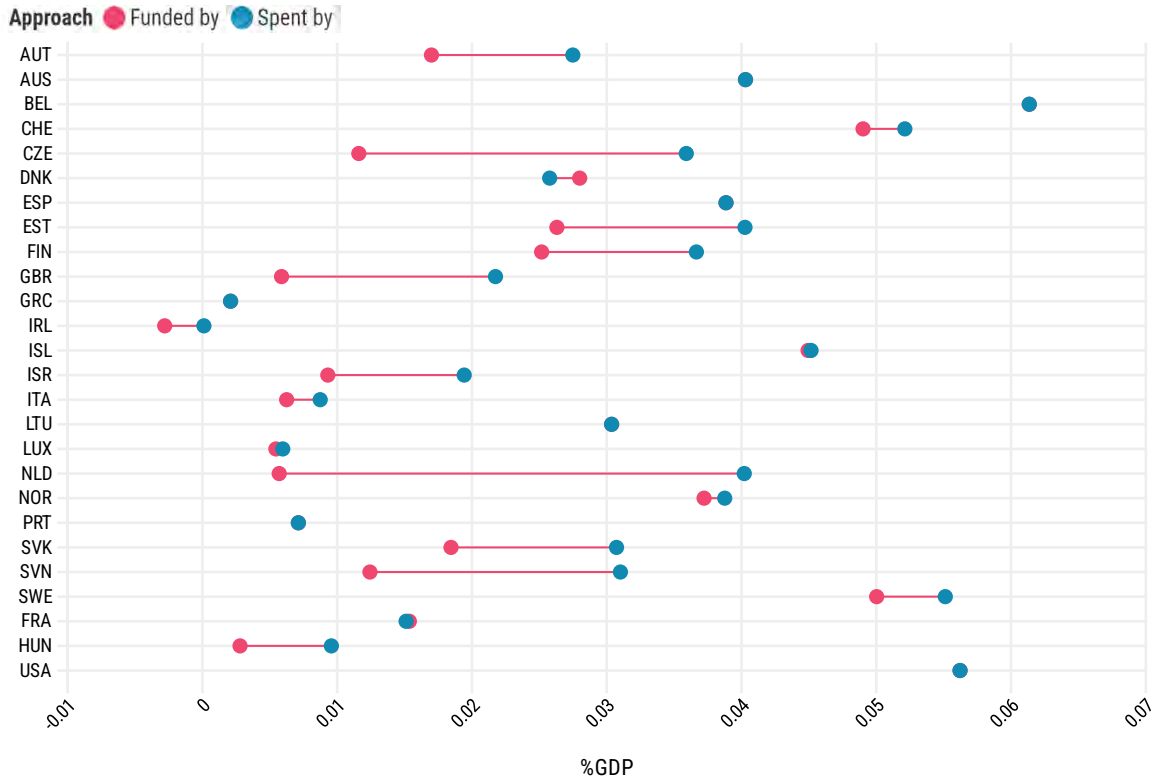
Figure 8. Decentralised expenditure on health (% of GDP, 2019)



33. The largest earmarked transfers for health are paid in Italy, Finland and Austria. They are also of high relevance in the United States, where in the absence of a comprehensive fiscal equalisation system, transfers devoted to support states funding Medicaid represented about two-thirds of federal grants to states in 2019, according to Pew Research data (2020). Regarding education, it is in the Netherlands, Czech Republic and Slovenia where earmarked transfers paid are largest in terms of GDP (Figure 9). The absence of transfers for education shown for the United States can be explained by the lack of US data for the local level of government, to which its school districts belong.

34. Finally, despite lack of clear patterns mentioned before, it can be concluded that federal and quasi-federal countries overall do make lower use of earmarked grants, as it can be observed for Belgium, Switzerland or Spain, both for health and education.

Figure 9. Decentralised expenditure on education as a (% of GDP, 2019)



Intergovernmental transfers regarding Social Protection (100) are not of vertical nature, but paid and received between CG and SS.

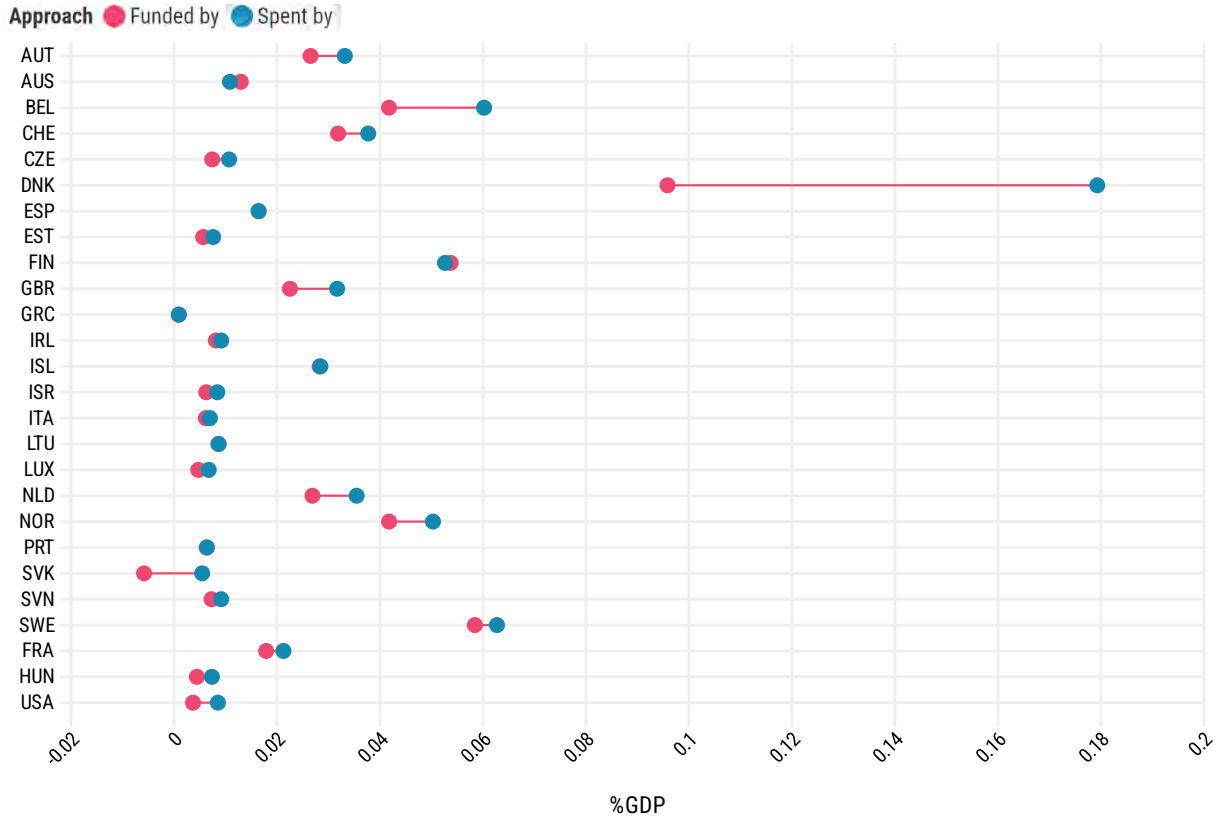
35. Finally, before reaching the end, decentralisation of Social Protection (100) policies will be examined. This COFOG area absorbs the largest share of General Government spending, as it includes key programmes such as retirement pensions, unemployment protection, and minimum income schemes. This is also one of the few policy areas that stays centralised in most OECD countries, as it is carried out through Social Security Administration, which is considered part of the Central Government, although they usually remain financially separated.

36. The rationale for Social Protection central provision was provided by the Theory of Fiscal Federalism already since its first stages, as it was thought that decentralisation could decrease its redistributive power. However, this position has been nuanced later as new research has posed some arguments in favour of redistributive policy decentralisation (Padovano, 2007).

37. Figure 10 (below) illustrates small differences in consolidation results between Funded by and Spent by approaches. Two causes explain these outcomes: first, the negligible level of decentralisation of social protection policies, and second, the fact that intergovernmental transfers earmarked to this policy area are paid between Central Government and Social Security Funds. Indeed, as demographic change towards elderly societies advances, it is more and more common for Social Security systems to run deficits, as social contributions revenue is not enough to fund all expenses. The latter gap is sometimes covered by transfers paid by the Central Government. Although in Sweden and Belgium, around the 6% of GDP is devoted by SNGs to Social Protection policies, Denmark is the main outlier. Danish social protection system is heavily decentralised in local authorities, to the point that retirement pension expenditure is covered by local budgets.

This explains both, the fact that SNG governments in Denmark spend such a large share of GDP (18% in 2019, around 50% funded by grants) in Social Protection programmes; and that aggregated consolidated results pointed out towards this country as the most decentralised across the OECD, as outcomes in this policy area drives aggregate results.

Figure 10. Decentralised expenditure on social protection (% of GDP, 2019)



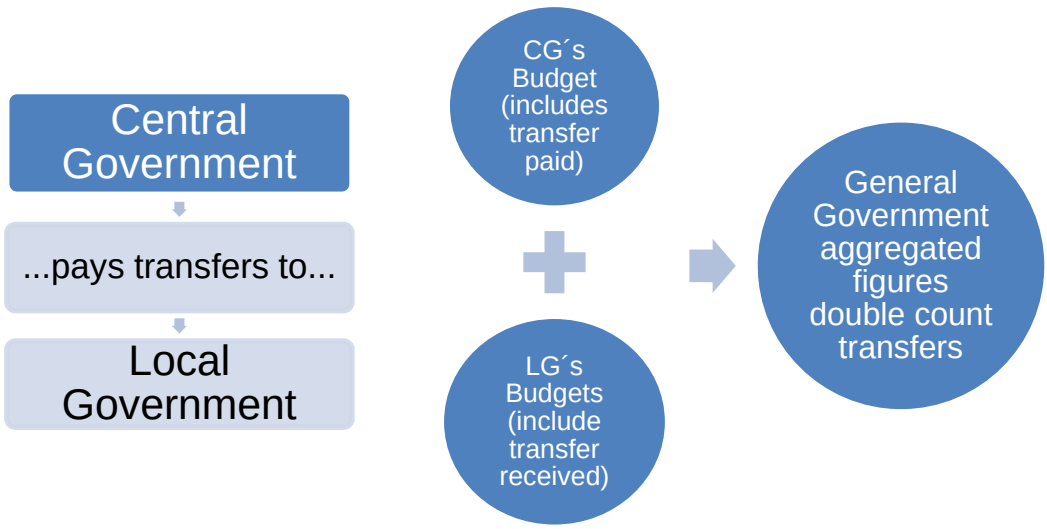
Annex I. Consolidation methodology

38. The public sectors provides goods and services on a multilevel basis, meaning that even in more centralised institutional frameworks at least two levels of government (i.e. central and local) play a role in designing, delivering or funding spending programmes. Therefore, it is quite common that intergovernmental fiscal transfers are paid from one level of government to another in order to support general public expenditure programmes, such as with equalisation, or specific programmes, such as it is the case of earmarked grants. The relevance of transfers should be greater in the context of high levels of expenditure decentralisation and low subnational tax autonomy, or in other words, when vertical fiscal imbalances are large.

39. Public finance reporting is often a quite complex activity, particularly when there are many layers of government, when there are diverse and asymmetric fiscal arrangements across subnational jurisdictions, or when several and intertwined intergovernmental transfer schemes exist. If these specificities are not properly addressed, reported figures could misrepresent the actual picture, understating or overstating real expenditure levels. In particular, the latter takes place when intergovernmental transfers are neglected, due to a double counting phenomenon.

40. In order to better understand this issue, we will illustrate it with an example that is common in most countries (Figure 11). Central Government (CG) of an OECD member country is concerned by Climate Change and decides to invest in natural carbon sinks as climate mitigation policy. As local governments represent the institutional level that is closest to the land and is often responsible for taking care of forests, Central Government might consider that the most effective way to reach its objective is by supporting municipalities with earmarked grants so they can implement tree planting programmes. Therefore, public accounts will record a spending accounting seat in CG's budget by the amount of transfers paid to local governments, while local budgets will record the same amount within their revenue and expenditure. If no adjustment is calculated, then public expenditure aggregate data will double count the amount of funds devoted to the tree planting programme.

Figure 11. Example of double counting due to intergovernmental transfers



41. In order to solve this issue, consolidation is applied. The public accounts consolidation process neutralises the double-counting problem emerged from intergovernmental transfers by deducting them from unconsolidated reported figures. This way aggregated public expenditure figures will not overstate actual numbers anymore. According to the System of National Accounts' most recent update (2008), consolidation is defined as "a special kind of cancelling out of flows and stocks (that) involves the elimination of those transaction or debtor/creditor relationships which occur between two transactors belonging to the same institutional sector or sub-sector". As note by the SNA-2008 framework, consolidation is particularly useful to aggregately report fiscal and financial data for the units within the general government sector and its subsectors.

42. The SNA-2008 also lists, in order of importance, main transactions considered for consolidation:

- Current and capital transfers, such as central government grants to lower levels of government.
- Transactions in financial assets and liabilities, such as loans to other governments for policy purposes, acquisitions of government securities by social security units and debt forgiveness.
- Interest revenue and expense on intergovernmental holdings of financial assets and liabilities.
- Acquisitions and disposals of non-financial assets, including intergovernmental transactions in land, buildings and equipment.
- Taxes paid by one government unit or entity to another.
- Purchases and sales of goods and services between government units.

43. There are several reasons why consolidation is perceived as desirable and useful, as argued by Bergmann et al. (2015). These authors survey the consolidation practices of thirteen OECD member states and offer an overview of current trends in consolidated financial reporting. Among the main criteria according to which consolidation processes should be applied, they remark:

- Economic perspective (control): entities are consolidated when power and control can be exercised by the parent institution.
- Budgetary perspective: entities are consolidated when budgetary decisions are relevant to them.
- Organisation and legal perspective: consolidation is arranged according to organisation structure set by the legal framework.
- Statistical perspective: consolidation is based on the Eurostat definition of general government sector, thus entities funded by public revenue (>50% of its budget) are considered.
- Risk perspective: consolidation comprises all entities that could cause financial risk to the public sector.

44. However, there is not a single way to apply public accounts´ consolidation. To build the database this report accompanies to, full consolidation has been applied. This approach eliminates every transaction between entities, in this case transfers between levels of government. Two different methodologies were applied as will be explained in the following sections.

a. The "Spent by" approach

45. On the one hand, regular "Spent by" methodology was followed. Results of this approach show which is the level of government that actually executes spending in each policy area. In order to calculate it, transfers paid by each government level were deducted from its unconsolidated spending level. Therefore, for each government level:

Unconsolidated Expenditure – Transfers **paid** = Consolidated Expenditure
CCC.TLYCG.XXX.GS13LL – ∑ CCC.D#CGTOS13**PP**.XXX.GS13**LL**

CCC = Country Code
# = Transfer type (4=Property Income, 7=Other Current Transfers, 9=Capital Transfers)
XXX = COFOG Function Code
LL = Recipient institution
PP = Payer institution

b. The "Funded by" approach

46. In contrast, an alternative "Funded by" approach can be applied. Results obtained from this method show which is the level of government actually provides the funding for expenditure programmes in each policy area. In order to calculate it, transfers received by each government level are deducted from its unconsolidated spending level. Therefore, for each government level:

Unconsolidated expenditure – Transfers **received** = Consolidated Expenditure
CCC.TLYCG.XXX.GS13LL – ∑ CCC.D#CGTOS13**LL**.XXX.GS13**PP**

CCC = Country Code
# = Transfer type (4=Property Income, 7=Other Current Transfers, 9=Capital Transfers)
XXX = COFOG Function Code
LL = Recipient institution
PP = Payer institution

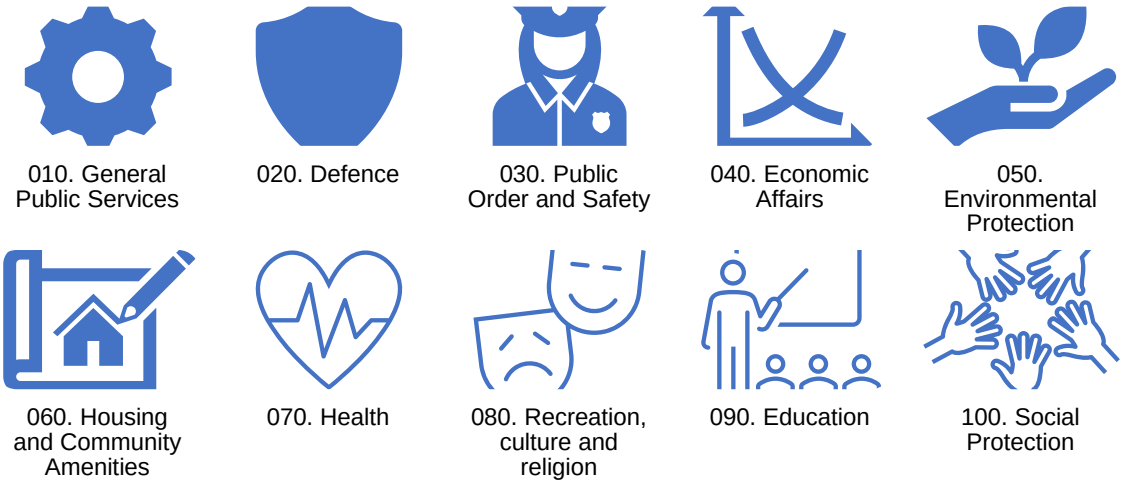
Annex II. Database design: content and structure

47. This section will examine the main results obtained from the consolidation exercise described before. Although the data analysis will be carried out following a horizontal approach, the main focus in the first section will be based on COFOG Functions, whereas the second will address aggregate consolidated figures by government level.

a. COFOG Functions

48. Classification of the Functions of Government (COFOG) is an OECD-developed and UN-published statistical method that classifies spending programmes according to SEC-2010 European Union framework, this is according to the policy objectives pursued. It is made out of ten nomenclatures that can be sub-divided into several sub-functions, although this database sticks to the 10-item classification in order to safeguard data availability as much as possible. The list of functions employed is as follows:

Figure 12. Visual illustration of Classification of the Functions of Government (COFOG)

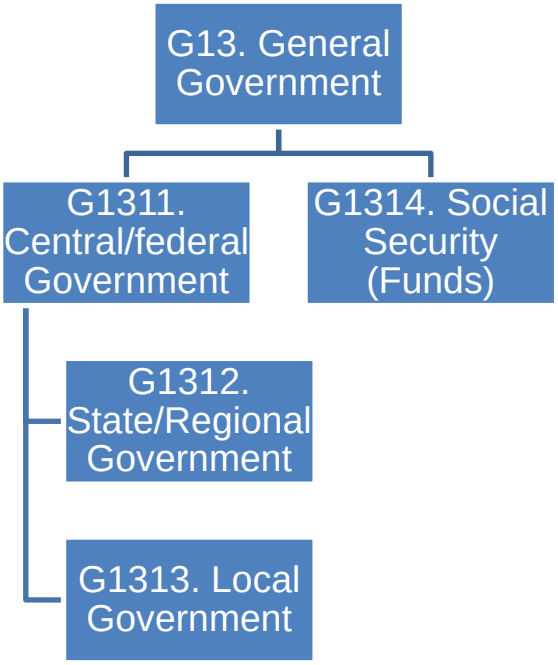


010 = General Public Services
020 = Defence
030 = Public Order and Safety
040 = Economic Affairs
050 = Environmental Protection
060 = Housing and Community Amenities
070 = Health
080 = Recreation, Culture and Religion
090 = Education
100 = Social Protection
T = Total Function

b. Government Levels

49. The new Multilevel Consolidated Government Expenditure Database by COFOG Function covers the four government disaggregation units that make up the General Government (G13). Ordered from higher to lower level: Central/Federal Government (G1311), at the same level there are Social Security (SS) (Funds) (G1314), State/Regional Government (G1312), and finally Local Government (G1313). It should be noted that it is sometimes the case that Social Security accounting is part of that of the Central Government. Therefore, it has been necessary to adapt the consolidation methodology for Australia and the United States. In addition, Figure 13 represents the structure of multilevel government in most federal countries. However, the order illustrated follows a purely geographical scope and it does not imply any hierarchical relationship between government units. Indeed, most OECD country members allocate policy responsibilities according to a geographical and functional approach, and not a hierarchical criterion instead.

Figure 13. Government Levels



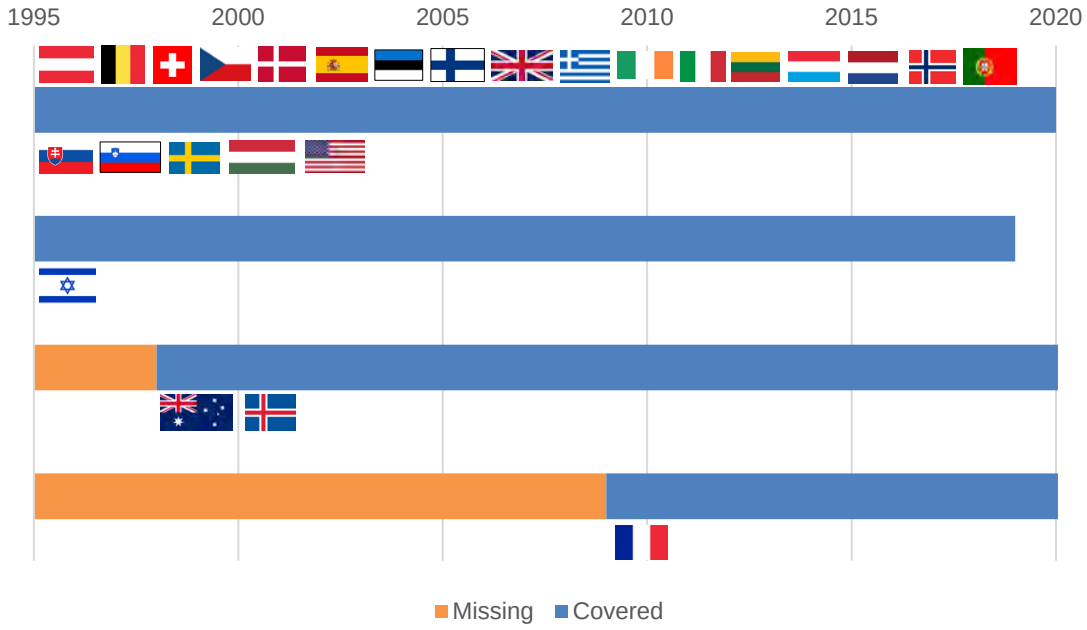
G13 = General Government
G1311 = Central Government
G1312 = State/Regional Government
G1313 = Local Government
G1314 = Social Security (Funds)

c. OECD Member Countries

50. On the one hand, regarding the geographical perspective, the database covers 26 out of the 38 OECD member states. This is less than the 33 OECD member countries included in the Fiscal Decentralisation Database and in the Table 11 of SNA[5] that has been consolidated. Specifically, the latter database missed figures for Canada, Chile, Mexico, New Zealand, and Turkey. In addition, we cannot provide consolidated numbers for Colombia, Costa Rica, Germany, Japan, Korea, Latvia and Poland due to transfer data availability issues.

51. On the other hand, regarding the time coverage, figures from 1995 to 2020 are available for most countries. Therefore, the database covers a 26-year period. Still, this is not the case for Israel, for which data is available up to 2019; Australia and Iceland for which data is missing until 1998; and for France, whose figures are only available from 2009 onwards.

Figure 14. Database country and time-coverage



- AUT = Austria
- AUS = Australia (1998-2020)
- BEL = Belgium
- CHE = Switzerland
- CZE = Czech Republic
- DNK = Denmark
- ESP = Spain
- EST = Estonia
- FIN = Finland
- GBR = United Kingdom
- GRC = Greece
- IRL = Ireland
- ISL = Iceland (1998-2020)
- ISR = Israel (1995-2019)
- ITA = Italy
- LTU = Lithuania
- LUX = Luxembourg
- NLD = The Netherlands
- NOR = Norway
- PRT = Portugal
- SVK = Slovakia
- SVN = Slovenia
- SWE = Sweden
- FRA = France (2009-2020)
- HUN = Hungary
- USA = United States

[5] Table 11 of SNA includes a larger number of countries that are non-OECD members.

d. Structure

52. The database is composed by two separated files, one for each approach. On the one hand, funded by consolidation is offered. On the other hand, spent by consolidation is provided. Both files include an index, with links to the different pages. The latter are named after:

- NCXXX: public expenditure absolute figures in national currency.
- %OTXXX: public expenditure of each government level is presented as the percentage out of total expenditure in each particular COFOG policy area.
- %OGXXX: public expenditure of each government level in each COFOG policy area as percentage of GDP.

Note that “XXX” represents the COFOG code.

53. This is a cross-sectional database, as rows represent countries and government levels, and columns display years. However, in case it would be needed, it can be easily turned into a panel database by using any econometrical software.

Annex III. Classification of the Functions of Government (COFOG)

Annex Table 1. COFOG headings

First-level	Second-level
010 = General Public Services	• Executive and legislative organs, financial and fiscal affairs, external affairs • Foreign economic aid • General services • Basic research • R&D general public services • General public services n.e.c. • Public debt transactions • Transfers of a general character between different levels of government
020 = Defence	• Military defence • Civil defence • Foreign military aid • R&D defence • Defence n.e.c.
030 = Public Order and Safety	• Police services • Fire-protection services • Law courts • Prisons • R&D public order and safety • Public order and safety n.e.c.
040 = Economic Affairs	• General economic, commercial and labour affairs • Agriculture, forestry, fishing and hunting • Fuel and energy • Mining, manufacturing and construction • Transport • Communication • Other industries • R&D economic affairs • Economic affairs n.e.c.
050 = Environment Protection	• Waste management • Waste water management • Pollution abatement • Protection of biodiversity and landscape • R&D environmental protection • Environmental protection n.e.c.
060 = Housing and Community Amenities	• Housing development • Community development • Water supply

	• Street lighting • R&D housing and community amenities • Housing and community amenities n.e.c.
070 = Health	• Medical products, appliances and equipment • Outpatient services • Hospital services • Public health services • R&D health • Health n.e.c.
080 = Recreation, Culture and Religion	• Recreational and sporting services • Cultural services • Broadcasting and publishing services • Religious and other community services • R&D recreation, culture and religion • Recreation, culture and religion n.e.c.
090 = Education	• Pre-primary and primary education • Secondary education • Post-secondary non-tertiary education • Tertiary education • Education not definable by level • Subsidiary services to education • R&D education • Education n.e.c.
100 = Social Protection	• Sickness and disability • Old age • Survivors • Family and children • Unemployment • Housing • Social exclusion n.e.c. • R&D social protection • Social protection n.e.c
T = Total Function	

Source: OECD (2019), *Government at a Glance*.

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Methodological Note

This methodological note gathers all the data issues present in the database available to download:

- AUS and USA: as data for Social Security Funds is not available, consolidation methodology for both countries differs. Central Government consolidated data has been calculated as the result of General Government spending minus Subnational Government spending.
- AUS, LTU: (060) Housing and Community Amenities, (070) Health, and (090) Education data missing for 2020.
- AUS, ESP, LTU and FRA: (050) Environmental Protection data is missing for 2020.
- USA: there is no local-level (G1313) data available. Also, there is no data at all available for (050) Environmental Protection.
- IRL: (090) Education consolidated figures reported for 1995 are not accurate. Nor are Total Aggregated consolidated figures reported for 1995, 2011, 2012 and 2013, due to missing data in the original database.

Please note that enumerated issues (except the first one) do not affect results for 2019, meaning that they are not relevant for our analysis. Still database users should keep them in mind.