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From local to national: Delivering and financing effective long-term care

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Abstract

From local to national: Delivering and financing effective long-term care

This study provides an in-depth examination of the fiscal and governance decentralisation of long-term care (LTC) across OECD countries, offering projections of future fiscal burdens of LTC spending across levels of government. With rapid population ageing and a decrease in the supply of informal care, LTC spending has increased significantly. The paper introduces a novel methodology to estimate LTC expenditures across different government levels, including central and subnational governments. By analysing country cases, it explores the responsibilities assigned to each government level and the implications for service delivery and intergovernmental coordination. The study also discusses the overall anticipated increase of LTC expenditure to 2.3% of GDP by 2040, identifying the most impacted countries. This research contributes to our understanding of LTC systems, highlights the challenges of increasing LTC costs and provides insights for optimising governance and fiscal expenditure.

Keywords: *long-term care, social care, health accounts, population ageing, fiscal federalism*

JEL classification: H51; H77; I18; J11

Résumé

Fourniture et financement de soins de longue durée efficaces à l'échelon local comme national

Cette étude propose une analyse approfondie de la décentralisation en matière budgétaire et de gouvernance des soins de longue durée dans les pays de l'OCDE, et propose des projections concernant l'incidence budgétaire des dépenses consacrées aux soins de longue durée pour les différents niveaux d'administration. En raison du vieillissement accru de la population et de la diminution de l'offre de soins informels, les dépenses de soins de longue durée ont considérablement augmenté. Ce rapport présente une nouvelle méthode pour estimer les dépenses de soins de longue durée aux différents niveaux d'administration, notamment l'échelon national et infranational. À travers des études de cas nationales, les auteurs étudient les responsabilités qui incombent à chaque niveau d'administration et les implications en ce qui concerne la prestation de services et la coordination intergouvernementale. Ils se penchent également sur la hausse globale des dépenses consacrées aux soins de longue durée, qui devraient atteindre 2.3 % du PIB d'ici à 2040, et identifient les pays les plus touchés. Ces travaux de recherche nous aident à mieux comprendre les systèmes de soins de longue durée, mettent en lumière les difficultés liées à l'augmentation des coûts afférents et apportent des éclairages permettant d'optimiser la gouvernance et la charge pour les finances publiques.

Mots clés : soins de longue durée, aide sociale, comptes de la santé, vieillissement de la population, fédéralisme budgétaire

Classification JEL : H51; H77; I18; J11

From local to national: Delivering and financing effective long-term care

By Pietrangelo de Biase and Sean Dougherty[1]

Introduction

1. This paper looks at the fiscal and governance decentralisation of long-term care (LTC), including estimating the future fiscal burden of LTC spending across levels of government. Long-term care refers to services provided to people with chronic health issues and disabilities to alleviate their suffering and reduce their health deterioration. Given the typically chronic nature of these issues, people that require long-term care services are dependent for their health status or quality of life, to some extent, on the provision of LTC services during their lives. These peculiarities of LTC services make them fundamentally different from usual health services, which typically focus on diagnosing, treating and preventing medical conditions. LTC services, on the other hand, refer to the frequent support to individuals unable to perform their activities normally, which is usually provided through nursing homes, assisted living facilities as well as in-home care (the latter often provided by professionals or the family of the individual).

2. Across OECD countries, country-wide long-term care systems are relatively young, with many OECD countries establishing theirs between the 1980s and early 2000s. Not only are there substantial differences across countries, within models of care, sources of funding and share of responsibilities across levels of government, but the governance of these systems have been evolving over time. With population ageing, countries will continue to learn how to deliver these increasingly important yet costly services.

3. Long-term care spending by governments has been rising steadily as a share of GDP, with the OECD average growing from 0.9% in 2004 to 1.3% in 2019. Factors contributing to this upward trend in expenditure include population ageing; reduction of the supply of informal care, which is provided mainly by women whose labour force participation has been increasing; and the labour-intensive nature of LTC services, which makes the productivity growth of the sector to lag behind of others (the Baumol effect). These drivers are expected to continue to push LTC expenditures up. Given the importance of delivering LTC services to enable people to be productive at all stages of their lives and to manage its soaring costs, the OECD has projected LTC expenditures in the past (de la Maisonneuve and Oliveira Martins, 2013[1]; Lorenzoni et al., 2015[2]; de la Maisonneuve and Oliveira Martins, 2013[3]). This study draws upon these previous studies to update these projections using similar but not identical methods, and then additionally estimates these expenditures across levels of government.

[1] This document was discussed at the 2023 Meeting of the Network on Fiscal Relations across Levels of Government on 20-21 April. It was prepared by Pietrangelo de Biase, Policy Advisor for the Fiscal Network, in collaboration with Sean Dougherty, Senior Advisor and Head of the Network Secretariat. We thank the reviewers Luca Lorenzoni and Ana Llena Nozal (OECD Employment and Labour Affairs Department). Input from Christine de la Maisonneuve (OECD Economics Department) is gratefully acknowledged. Comments from Network delegates, and colleagues Bert Brys, Boris Cournède, David Morgan, Alexander Pick, Zuzana Smidova and Camila Vammalle were also highly appreciated.

4. This study pioneers an attempt to estimate LTC expenditures across levels of government using the OECD System of National Accounts (SNA) and the OECD System of Health Accounts (SHA). The former, which have data across levels of government, do not have LTC-specific expenditure data. On the other hand, the latter has data on LTC expenditure specifically but does not disaggregate across levels of government. This study uses the subfunctions of the Classification of the Functions of Government (COFOG) framework from the SNA and the subfunctions of the SHA to estimate LTC expenditure across levels of government in a comprehensive and harmonised manner. In addition, this decentralisation of LTC expenditure is estimated both with a "spent-by" and a "funded-by" perspective, drawing on the novel methodology developed by the Network of Fiscal Relations (NFR) in 2022 (Dougherty and Montes, 2022[4]). This allows an examination of how LTC is funded by subnational governments (SNGs), whether through central government grants or own-source revenues, which has important implications for how the future burden of LTC expenditure is and will likely be shared across levels of government.

Box 1. Summary of main findings

- Government LTC expenditure in the OECD has experienced significant growth, increasing from 0.9% of GDP to 1.3% of GDP in 2019, a rate of growth nearly four times faster than health spending. Enhancing the effectiveness of LTC delivery systems will be crucial in mitigating the rapid growth of LTC expenditures.
- The recent development of official, rather than informal, LTC systems has contributed to the rapid growth of LTC expenditures. This shift has partially replaced the informal care previously provided by families and communities.
- In approximately one-third of OECD countries, LTC expenditures are moderately or strongly decentralised. Over half of the OECD countries predominantly rely on central governments or social security funds for LTC service provision. However, expenditure decentralisation alone does not fully capture the complexity of multi-level governance in LTC systems.
- The discrepancy between LTC expenditures spent and funded by subnational governments has reduced from 9% in 2004 to 5% in 2019. This indicates a higher proportion of LTC expenditures spent by subnational governments being funded through their own revenues.
- Compared to primary and secondary education, social housing, transport services and healthcare, SNGs possess relatively weak spending autonomy for LTC, particularly in terms of policy, outputs and monitoring aspects.
- There is considerable overlap of LTC assignments across government levels, with rates ranging from 0% in some countries to 78% in Mexico, and an average of 25% across OECD and partner countries. This suggests a potential for improving coherence and controlling costs by clarifying responsibilities across levels of government.
- Government LTC spending is projected to rise to 2.3% of GDP by 2040, with key factors driving this growth being population ageing, income, and the reduction in the supply of informal care workers. Population ageing accounts for approximately 40% of the growth in LTC spending, followed by income (31%) and the supply of informal care workers (23%).
- Central governments in Belgium and the Netherlands are expected to be the most impacted by the projected growth in government LTC expenditures. In contrast, the countries whose SNGs are projected to be most affected by LTC expenditure growth are Denmark, Finland and Sweden.

5. Lastly, the paper draws on countries' cases and on the NFR's spending power database to explore the multi-level governance dimension of LTC systems (Dougherty and Phillips, 2019[5]; Kantorowicz and van Grieken, 2019[6]). This analysis reveals which responsibilities are assigned to each level of government and its implications and terms of service delivery and intergovernmental coordination.

6. Our discussion and analysis proceed as follows. In Section 2, we set the scene by exploring key concepts and main trends related to long-term care systems and expenditures. In Section 3, we explore the decentralisation of LTC services, which includes an analysis of the fiscal and governance aspects. Section 4 closes the present study by analysing the order of magnitude of LTC spending across levels of government through 2040. In Box 1, the main findings are presented.

Long-term care systems: a quick overview and main trends

Long-term care involves a mix of health and social protection services and focuses on treating individuals that depend on LTC services to have a better quality of life

7. The System of Health Accounts defines total long-term care expenditure as the sum of long-term care (health) and long-term care (social) (OECD, Eurostat and WHO, 2017[5]). LTC (health) includes medical or nursing care (e.g. wound dressing, administering medication, health counselling, palliative care, and medical diagnosis with relation to a LTC condition), and personal care services which provide help with activities of daily living (ADL), such as support with food intake, bathing, washing, dressing, getting out of bed, and managing incontinence. LTC (social) consists of assistance services that enable a person to live independently. They relate to help with instrumental activities of daily living (IADL) such as shopping, cooking and performing housework. It also includes subsidies to residential services in assisted living facilities (as well as expenditure on accommodation). More precisely, the following services are under the umbrella of LTC services:

- inpatient long-term care (i.e. services provided in a health care facility such as hospitals and nursing homes),
- outpatient long-term care (i.e. regular outpatient visits or the provision of remote monitoring services for LTC patients),
- home-based long-term care (i.e. services provided to persons within their own home or adapted residential settings),
- day cases of long-term care (planned long-term care services provided in a health care facility but without an overnight stay), and
- social services within long-term care (the expenditure on lower-level social care services to assist with instrumental activities of daily living such as home-helpers, transportation, subsidies to residential services, and cash-benefits, among others).

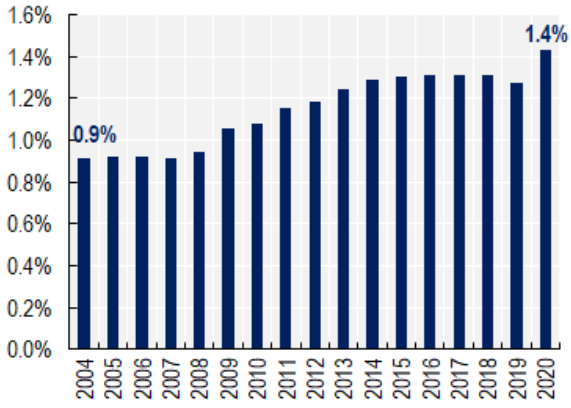
Average government LTC spending as a share of GDP rose from 0.9% to 1.4% in the OECD from 2004 to 2019, growing nearly four times faster than health spending

8. One surprising feature of LTC services is how fast their expenditures have been growing, which may indicate that this function of government needs special attention from policymakers in the future, especially considering limited fiscal space due to population ageing, the energy transition as well as climate change. Figure 1 shows that the average government expenditure with LTC as a share of GDP nearly doubled between 2004 and 2019 – it rose from 0.9% to 1.4%. Even setting aside the year 2020, which is an outlier due to the COVID-19 pandemic, LTC expenditure grew 40% faster than GDP between 2004 and 2019, meaning that general government LTC expenditure approached 1.3% of GDP in 2019.

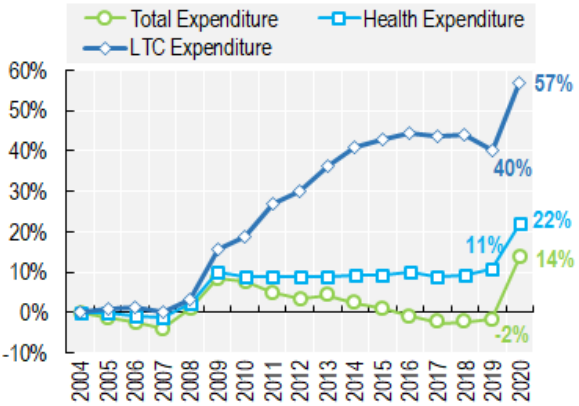
Panel B shows that the OECD average growth of the LTC expenditure to GDP ratio was substantially higher than the growth of health expenditure as a share of GDP. From 2004 to 2019, the growth was 40% for the former and 11% for the latter, all significantly above the growth of all government expenditure-to-GDP ratios. Country-specific data for LTC expenditures (Figure 1, Panel C) reveals that the upward trend of the LTC expenditure-to-GDP ratio is widespread – only in Ireland and Iceland has this ratio decreased across the OECD between 2004 and 2019.

Figure 1. General government LTC expenditure (average across OECD countries)

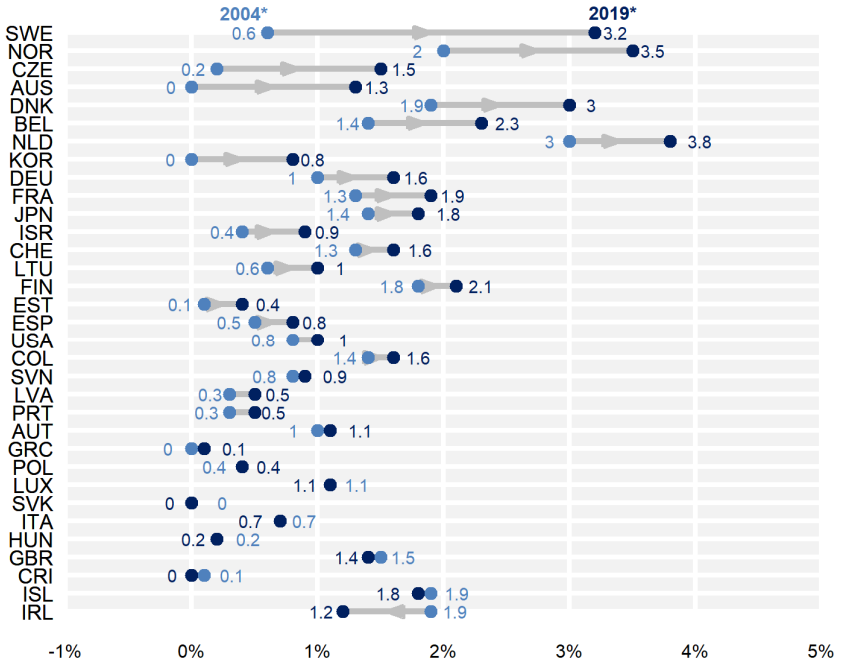
Panel A. As a % of GDP



Panel B. Growth of the Exp. to GDP ratio since 2004



Panel C. Growth of the Exp. to GDP ratio between 2004 and 2019



Note: Only countries with available data were considered here. Total expenditure refers to overall government expenditure (for all COFOG functions). Year 2004 values refer to data observation that either comes from 2004 or the earliest data entry of the SHA dataset. In only the case of Israel, the 2018 value is considered instead of those from 2019, given that the latter were underreported for LTC health.
Source: Authors based on OECD System of Health Accounts (SHA) and System of National Accounts (SNA).

9. One caveat concerning the swift expansion in LTC expenditure is that a portion of this growth can be ascribed to enhancements in the documentation of LTC data. While the scope and congruity of LTC spending estimates have been improving over time, complete comparability of LTC expenditure data across OECD nations remains quite limited. This is due to challenges in accurately distinguishing and segregating LTC activities into the health and social components, as well as disparities in the interpretation of dependency among specific patient cohorts (OECD, 2020[6]). It is worth noting, however, that even if one removes the countries with the most significant breaks (i.e. Australia, the Czech Republic, Greece, Israel, Slovakia and Sweden),[2] the growth of government LTC expenditure remains highly significant – it is estimated to rise a comparable amount, from 1.0% of GDP in 2004 to 1.3% of GDP in 2019, which is a growth rate nearly three times the growth experienced by healthcare in the same period (instead of four times, when these countries are included in the estimation).

The most relevant types of LTC expenditures are inpatient care and home-based care, which residential LTC facilities and ambulatory services provide

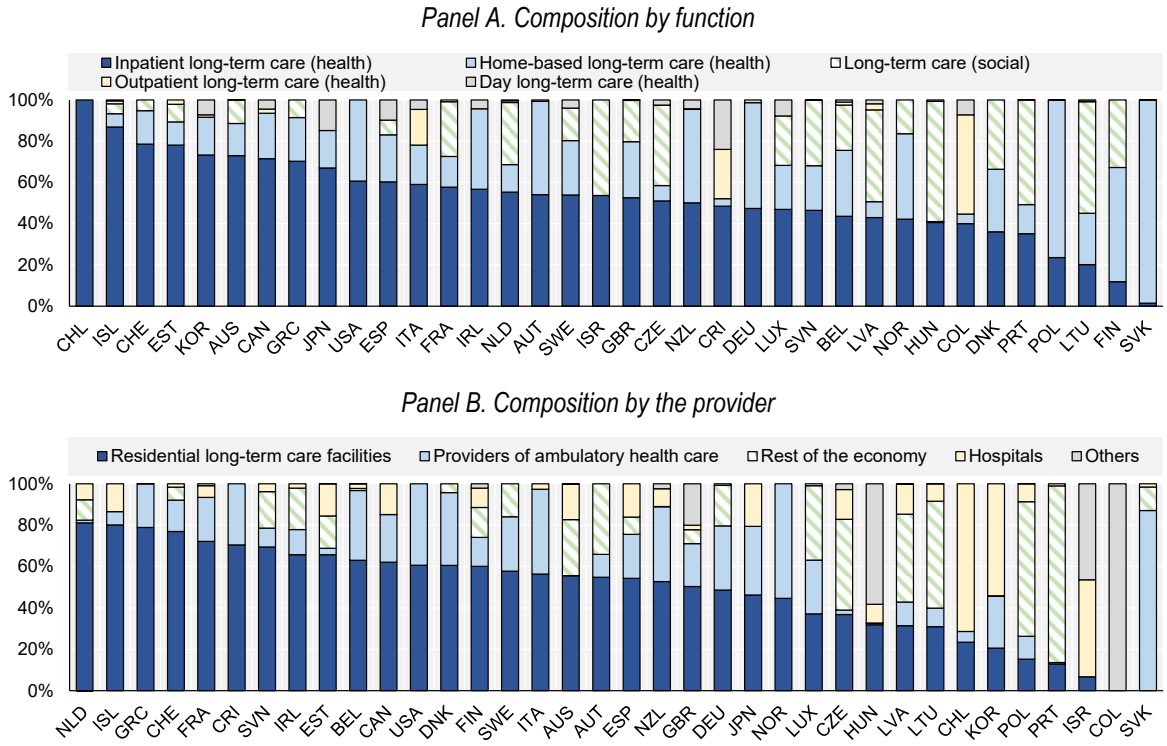
10. Figure 2, Panel A, below, shows the composition of LTC expenditures by function across OECD countries. Inpatient LTC accounts for roughly half of all LTC expenditure across the OECD, followed by home-based (25%), LTC social (18%) and outpatient and day LTC, with roughly 3% each. However, these values vary significantly across countries, which reveals that LTC services are provided in very different ways across the OECD. Some countries rely substantially more on home-based services, especially in central Europe and Nordic countries (e.g. Austria, Finland, Germany, Norway and Poland, among others). In other countries, expenditures on LTC social are more substantial, accounting for nearly or more than half of all LTC expenditures – those such as in Hungary, Israel, Lithuania, New Zealand and Portugal. Aside from in Colombia, Costa Rica and Italy, in no other OECD country does outpatient care account for more than 15% of the LTC expenditure, and only in Costa Rica and Japan do day LTC services represent more than 15% of the total LTC expenditure.

11. In terms of providers, Figure 2, Panel B reveals that residential long-term care facilities are by-and-large the most significant provider of LTC services, accounting for 48% of the total expenditure, followed by providers of ambulatory services (20%), the rest of the economy (15%),[3] hospitals (9%) and others (8%). These values contrast significantly with those from healthcare, in which hospitals are the most relevant providers with 39%, followed by providers of ambulatory services with 25% and a negligible amount coming from the rest of the economy.

[2] "Breaks" are defined as an increase of 100% from one year to another in government LTC expenditure. Specifically, all countries where there was at least one year between 2004 and 2019 in which the yearly growth of LTC expenditure was above 100% were assumed to have "breaks" in their government LTC expenditure time series.

[3] Refers to households and all other industries (OECD, Eurostat and WHO, 2017[5]).

Figure 2. Total LTC expenditure (public and private) composition by type of expenditure and provider



Note: 1. Only the countries with data available were considered. The most recent available data was used for each country, excluding 2020, given that this year's data might not represent a typical year due to the peak of the COVID-19 pandemic.

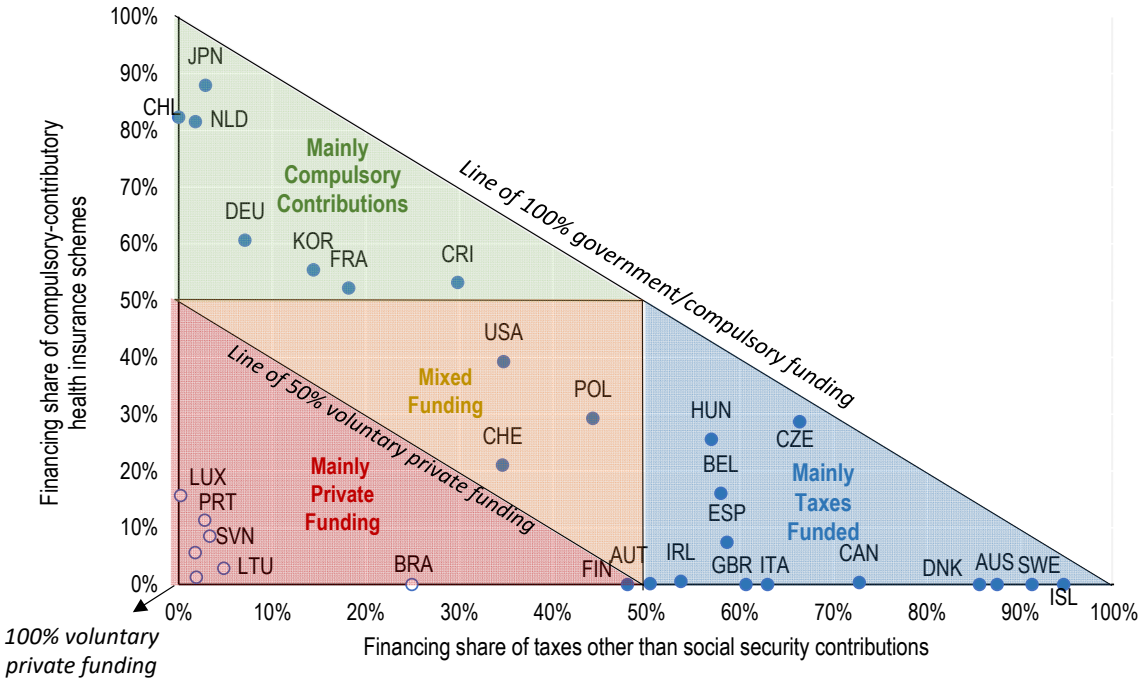
2. Some countries do not report LTC social spending, meaning that their LTC social spending is not zero, only underreported (OECD, 2020[6]).

Source: Authors' elaboration based on SHA.

OECD countries vary on how they fund their LTC: some use mostly taxes, others the social security system and a third group mix these two types of funding sources

12. When it comes to funding, Figure 3, Panel A reveals the share of LTC expenditures that are funded by social security contributions (y-axis), taxes (x-axis) and private sources (distance between the origin and the line of 100% of public funding). On average, 54% of all LTC expenditures are publicly funded through taxes (20% on average) or social security contributions (34% on average). A substantial amount is therefore funded privately, which often complements the services provided by the government. More precisely, public LTC systems seldom cover the total cost of LTC through a reduction in coverage and the extent of the fully publicly funded service. Some OECD countries rely heavily on taxes – for instance, taxes fund more than 70% of all LTC expenditure in Australia, Canada, Denmark, Iceland and Sweden. In others, social security schemes are the predominant funding source, with more than 70% in Japan, Chile and the Netherlands. Some countries have a balanced mix of taxes, contributions and private funding sources – Poland, Switzerland and the United States.

Figure 3. Funding sources of LTC expenditure in 2019 (pre-COVID-19) in OECD and partner countries



Note: 1. This figure displays three types of information on two axes. The Y-axis shows the share of LTC expenditure funded by compulsory contributory health insurance schemes. The X-axis shows the percentage of health care that is funded by taxes excluding social security contributions. The distance between each point and the diagonal refers to the share of voluntary privately funded health care. As a result, it is possible to classify countries into four categories regarding healthcare expenditure: those for whom more than 50% of all healthcare funding comes from: a) compulsory contributions (**green**), b) taxes not covering social security contributions (**blue**), c) voluntary payments to the private sector (**red**), and d) a combination of all three with no particular source exceeding 50% (**orange**).
2. Given that this chart draws on the breakdown of LTC spending by type of financing from the OECD System of Health Accounts (SHA), it utilises the same treatment that SHA applies to mixed funding sources, such as LTC insurance funds that are funded through taxes. In addition, LTC spending estimates in SHA are generally more robust for the public than for private spending (OECD, 2020[6]), meaning that there may be gaps in the data regarding private funding sources. For this reason, countries in the "mainly private funding" group are shown with hollow dots.
Source: Authors' elaboration based on SHA.

13. The varying funding mixes across OECD and partner countries have advantages and disadvantages. First, tax-based systems share the cost of LTC services with all taxpayers without putting excess pressure on the individuals requiring LTC services. Overall, those countries where their LTC services are mainly funded through taxes, provide either universal LTC services, such as in the Nordic countries, or means-tested programs, like in the United Kingdom. As LTC expenditures are expected to rise in the future with population ageing and rising women participation in the labour force,[4] this means that LTC services are expected to put pressure directly on governments' budgets, forcing them to either increase taxes further, reduce the expenditures with other public services or reduce the coverage or the benefits provided of their programs. Programmes funded mainly by social security contributions face similar problems – the main difference is that the costs are not shared among all taxpayers but rather with the people with contribute to the system, usually by paying a percentage of their income. In the long term, such a system can put enormous pressure on workers, given that they are the main contributors to social security funds, having the potential to reduce the incentives to work.

[4] This topic is explored in more detail in the last section of this study.

14. Population ageing is expected to affect both tax-based and social security based systems. Nevertheless, LTC systems funded through the social security funds might be more affected than those funded by taxes, given that the tax base of the former is generally more closely related to the diminishing labour income (Dougherty, de Biase and Lorenzoni, 2022[7]). In all cases, though, population ageing is expected to affect both sides of the equation: reducing the number of workers (and, thus, the size of taxes and contributions) and LTC expenditures, which can pose risks to the sustainability of these systems, depending on their coverage and depth. Lastly, although services that are mostly privately funded do not pose direct fiscal risks to the government, they can boost inequality in the access to services, especially considering that the costs of long-term care can represent one to six times median disposable income among the elderly, the group that needs LTC services the most (OECD, 2021[8]).

The decentralisation of long-term care

15. This section estimates the degree of decentralisation of LTC expenditures using the general government consolidated LTC expenditure from the OECD System of Health Accounts (SHA) and the decentralisation of health and social protection subfunctions from the Classification of Functions of Government (COFOG) of the System of National Accounts. It estimates the degree of decentralisation of each subfunction of the COFOG dataset and assumes that the degree of decentralisation is the same for the related LTC subfunctions in SHA, given the table of the useability of SHA categories for constructing expenditure by COFOG (Eurostat, 2019[9]).[5] See Annex A for details.

16. It is worth highlighting that the values of LTC expenditure displayed here are just the first attempt at harmonising data across government levels. There is no one-to-one relation between SHA and COFOG functions, which means that the degree of decentralisation is, at the moment, just an approximation. In addition, given the fact that the estimate requires data at the subfunction level in both SHA and COFOG, a number of countries had to be dropped from this analysis due to the lack of data in one (or both) of these datasets at this level of resolution (i.e. subfunction and across levels of government).

17. Also, harmonising LTC expenditure data across OECD countries is an ongoing and challenging endeavour. The OECD has done a throughout work on identifying these asymmetries and reporting potential gaps in the LTC data (OECD, 2020[6]). Although the System of Health Accounts (SHA) provides harmonised LTC data across countries, this data is ultimately provided by member countries who face issues with gaps in reporting related to both public and private LTC spending. For instance, some countries report having zero expenditures in some categories with LTC, which is unlikely and might suggest an underestimation of LTC spending. This reveals that challenges are not restricted to the degree of decentralisation alone but to estimating LTC spending.

18. A final methodological consideration regards the consolidation of the expenditure. The decentralisation of LTC expenditure follows the consolidation method developed by NFR that allows for an analysis of the funded-by and spent-by perspectives (Dougherty and Montes, 2022[4]). In short, the funded by perspective is calculated by subtracting to the unconsolidated expenditures of the respective level of government all transfers *paid by* this level – it, therefore, represents all expenditures that the

[5] For instance, "LTC inpatient care (HC.3.1)" from SHA is, according to the usability of SHA for COFOG table, closely related to "specialised hospital services (07.32)" and "nursing and convalescent home services (07.34)". So, for example, if the central government is responsible for 30% and subnational governments for 70% of the expenditures under the headings 07.32 and 07.34 in COFOG, then it is assumed that LTC inpatient care, from SHA, is 70% decentralised too. If there is no data on the corresponding subfunction in COFOG, then the immediately above heading is used (e.g. if there is no data under the headings 07.32 or 07.34, then the decentralisation of 07.3, hospital services, is considered for estimating the decentralisation of LTC inpatient care).

respective level of government was responsible for doing, regardless of the source of the funding. The funded-by perspective, on the other hand, is calculated by deducting the transfers *received by* the corresponding level of government, which captures the distribution of responsibilities across levels of government concerning raising funds to finance LTC expenditures. For virtually all government functions across all OECD countries, spent-by decentralisation is higher than its funded-by counterpart, which means that central governments tend to have a relatively larger responsibility in raising funds than in spending these funds, as part of the spending is done by subnational governments using proceeds from central transfers.

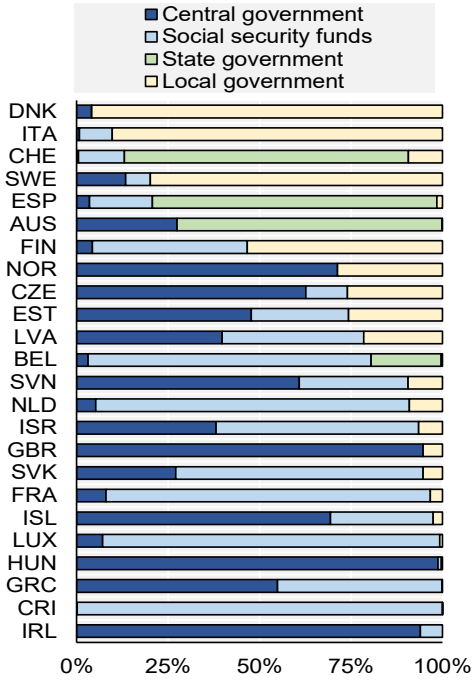
LTC service decentralisation varies widely across the OECD and cannot be fully captured by the extent to which expenditures are decentralised

19. Figure 4 (Panel A) shows the degree of decentralisation under the spent by perspective, revealing that aside from Australia, Denmark, Italy, Finland, Spain, Switzerland and Sweden, in all other OECD countries for which it was possible to estimate this figure, LTC services are predominantly centralised (more than 50% of LTC expenses are spent by the central government or social security funds). In five countries (Belgium, the Czech Republic, Estonia, Latvia and Norway), LTC expenditures are moderately decentralised, with between 20 and 30% of the expenditures being made by subnational governments. In all others, the degree of decentralisation is below 10% under the spent by perspective. Another pattern that this figure shows is that when there is a state/regional level of government, this usually is the level of government that bears most of the subnational spending (Australia, Belgium, Spain and Switzerland). When LTC expenditures are decentralised, and there is no state/regional level, these responsibilities are attributed to local governments (e.g. the Czech Republic, Denmark, Estonia, Italy, Finland, Latvia and Norway).[6]

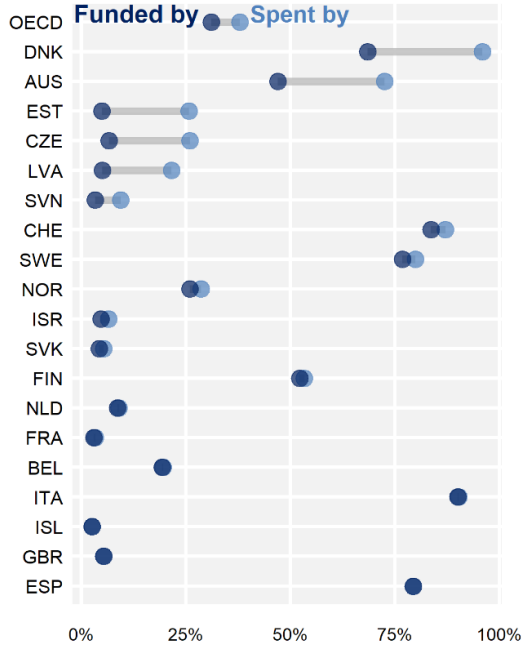
[6] It is worth noting that Figure 4 only covers 24 countries due to data availability issues. Thus, there are countries that are not covered by Figure 4 whose LTC expenditure is decentralised, such as Lithuania, which gives a strong role to municipalities via centrally transferred funds (OECD, 2022[24]). It also covers the United Kingdom as a whole, without considering significant differences across England, Scotland, Wales and Northern Ireland, whose LTC systems differ.

Figure 4. Decentralisation of LTC expenditure (consolidated in the funded and spent approach)

Panel A. Spent by perspective



Panel B. Spent-by and funded-by SNGs perspectives



Note: Only those countries with SHA LTC expenditure data and SNA subfunction expenditure data across levels of government are displayed and they are ordered by the degree of centralisation (LTC expenditure share of central government and social security funds). Data shown are values of either 2019 or 2021 (to exclude COVID-19 effects), depending on data availability.

Source: Authors based on OECD SHA and SNA.

20. In terms of differences in spending responsibilities and funding sources, only in six countries is there a significant difference between the expenditure decentralisation under the spent-by and funded-by perspectives, with the average decentralisation across these countries being 30% and 25% in the funded-by and spent by perspective, respectively (Figure 4, Panel B). These six countries are Denmark (difference of 27pp), Australia (26pp), Estonia (21pp), Czech Republic (19pp), Latvia (16pp) and Slovenia (6pp). This means that in these countries a non-negligible amount of these expenditures that subnational governments spend comes from revenues raised at the central level and transferred to SNGs.

21. In the future, considering the mounting pressures on long-term care (LTC) expenditures, maintaining an equitable distribution of LTC expenditures across government levels may necessitate intergovernmental grants funding LTC services to increase at a pace consistent with overall LTC expenditures. Failing to do so could result in SNGs bearing a disproportionate share of escalating costs. This may prove challenging if SNGs lack sufficient tax autonomy to augment their revenues accordingly, a situation particularly relevant to Latvia and Slovenia, where SNGs have limited discretion over tax rates and policies, as per the latest NFR tax autonomy survey (Dougherty, Harding and Reschovsky, 2019[10]). On the other hand, central governments might also need to absorb LTC spending increases disproportionately if SNGs do not leverage their tax autonomy to bolster their own revenues to fulfil their expenditure commitments. In such instances, central governments may be forced to intervene and provide the services initially assigned to SNGs.

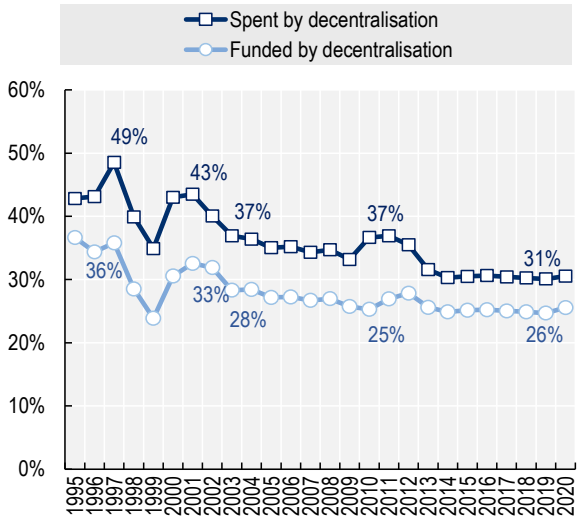
22. It is worth noting that Figure 4, Panel B, only captures the transfers that were registered under the health or social protection subfunction in COFOG that were used to estimate LTC spending. The above figure does not capture non-earmarked transfers. This explains, for instance, how the decentralisation of LTC in the Netherlands is identical under the spent-by and funded-by approaches, even if the central government provides grants to local governments with that purpose (see Box 3). The grant provided by the Netherlands' central government is a block grant – which means that it aims to fund a certain type of expenditure. Still, the proceeds can be used to fund any government function. Therefore, the difference between the two perspectives of consolidated LTC expenditure is underestimated for OECD countries in which LTC spending is funded through non-earmarked transfers.

Despite a general trend of centralisation of LTC since the 1990s, some countries have recently put forward decentralisation reforms

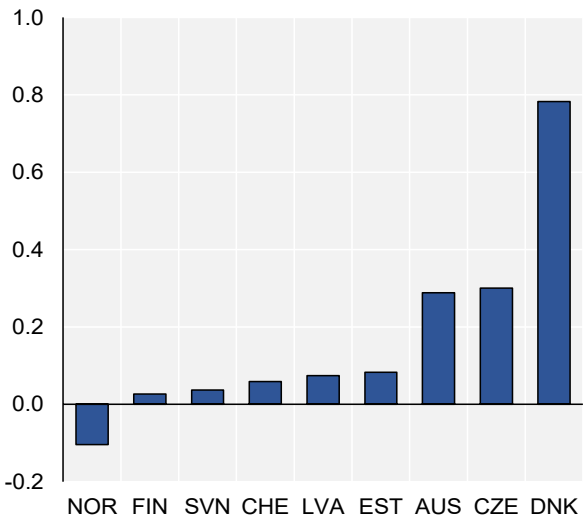
23. Concerning recent trends in LTC spending decentralisation, Figure 5, Panel A shows that there has been an overall tendency to centralise LTC services at least since the late 1990s. This tendency can be traced to the reforms of LTC services to universalise them through the social security system or tax-based frameworks. At their first conception between the 1970s and 1990s, LTC services were a "residual" policy provided by local and state/regional levels to meet the demand for these services, supporting the services provided by the health system. This re-orientation towards a universal approach naturally involved the central government or social security funds in providing such services, at least in some countries (Theobald and Ozanne, 2016[11]). Box 2 explores the example of two countries with centralised LTC services: Australia and France.

Figure 5. Trends in LTC expenditure decentralisation (funded-by and spent-by perspectives)

Panel A. OECD average decentralisation over time



Panel B. Difference between spent and funded by LTC expenditure (% of GDP)



Note: Only countries with SHA LTC expenditure data and SNA subfunction expenditure data across levels of government are covered in Panel A. In Panel B, only countries with a non-negligible difference are displayed and the start year is the first year with data available for the respective country in both SHA and SNA (1997, 2011, 2022, 1995, 2004, 2001, 1998, 1995 and 1995, in the order of countries displayed).

Source: Authors based on OECD SHA and SNA.

Box 2. Centralisation of LTC services: the case of Australia and France

The Australian case

Australia's tax-based long-term care system blends means-tested, service-oriented approaches with universal public support. Before 2012, home-based care in Australia was divided among federal, state, and local governments, with home nursing and cash allowances for family carers administered centrally. The 2012 reforms fully centralised the community care administration from the states, integrating formerly separate home care and home nursing programmes into the new Home Support Programme. The federal government contracts directly with all providers, including local government, for-profit or non-profit aged residential or community care organisations, and home nursing agencies.

The 2012 reforms also bolstered central-level regulatory powers. Before the reforms, cash benefits, residential care services, and a significant portion of home-based services were regulated centrally. Assessment for residential or home and community care services was conducted by Aged Care Assessment Teams (ACATs), and this function was absorbed into the national online Senior's Gateway Assessment Service. The new Seniors' Gateway develops indicators and establishes a rating system for aged care services, published on the My Aged Care website. The Australian Aged Care Quality Agency, a new central body, was established to accredit and monitor residential and home care providers.

The 2012 reform aimed to centralise and standardise long-term care at the federal level, thus boosting territorial uniformity and increasing the integration of social actors in service provision.

The French case

The emergence of specific long-term care (LTC) policy, or policy for the 'dependent elderly', in France began in 1994 and has continually evolved. The French health and social care sector, or "third sector", combines elements of medical and social care for the elderly and disabled, providing care at home, in residences, or through intermediate care services. The financing of this sector involves a complex interplay of health insurance, domiciliary care and residential social care, state support via tax deductions, private insurance, and informal carer networks within families.

A pivotal moment in the centralisation of LTC policy occurred in 2003 when a heatwave led to approximately 15 000 deaths, predominantly among elderly individuals living alone. This tragic event prompted the French government to prioritise LTC as a state concern. Subsequently, the *Caisse Nationale de Solidarité pour l'Autonomie* (CNSA) was established in 2004, tasked with financing dependency risks and coordinating LTC at the national level.

In response to a growing need for LTC provisions, France centralised its LTC spending through the establishment of the CNSA. This followed the replacement of *the Préstation Spécifique Dépendance (PSD) with the Allocation Personnalisée d'Autonomie* (APA) in 2002, which aimed to address dependency risks and create a new job market in LTC provision. The APA, alongside the Prestation de Compensation du Handicap (PCH), serves to help dependent individuals meet the cost of care not covered by health insurance.

Public provision of LTC in France is organised as a two-pronged system, with the public health insurance scheme covering the cost of healthcare for dependent individuals, and the PCH and APA schemes, financed by the state and local authorities, providing social benefits. Care for disabled individuals is primarily provided by the public sector, while the private sector plays an increasing role in elderly care, accounting for a third of health expenditure for older people.

Source: Theobald and Ozanne (2016[11]), EU (2019[12]) and Joshua (2017[13]).

24. More precisely, Figure 5, Panel A shows that in the late 1990s, roughly half of LTC government expenditures were made by SNGs, and SNGs funded about 36% of them – these values decreased to 31% and 26% by 2019. Given the substantial growth of general governments' LTC expenditures (refer to Figure 2), this generally means that central governments have been absorbing most of the recent increase in LTC expenditures. Simultaneously, the distance between the expenditures spent-by and funded-by SNGs has decreased, which means that despite the strengthened role of central governments in providing these services, SNGs have become more responsible for funding the services that they provide. In other words, the role of intergovernmental transfers has decreased, with central governments or social security systems providing the bulk of the LTC services through their means while SNGs are complementing these services mostly using their own funding sources. This relative decrease in the role of grants has been more substantial in Australia, the Czech Republic and Denmark, while the reverse trend has been significant only in Norway (Figure 5, Panel B).

25. It is worth highlighting that these overall patterns of centralisation mask the fact that there is a myriad of different ways in which countries centralised their LTC services, with a few OECD countries even experiencing a devolution of LTC services to SNGs. First, some countries centralised LTC services to some extent. However, these services are still provided mostly at the subnational level – for instance, in terms of spending by decentralisation, the subnational share evolved from 90% in 2000 to 73% in 2019 in Australia and from 60% in 2001 to 53% in 2019 in Finland. Second, other countries did indeed centralise significantly LTC expenditures, which are now mostly provided at the central level – such as Norway (with an SNG share of 66% in 1997 to 29% in 2019), the Czech Republic (from 44% in 1995 to 26% in 2019), Estonia (from 34% in 2001 to 24% in 2019) and more notably Hungary (from 67% in 1998 to virtually zero in 2019). Third, some countries experienced a decentralisation of LTC expenditures, like Belgium (from 8% in 2003 to 20% in 2019), Spain (from 63% in 2001 to 79% in 2019) and more notably, Switzerland (from 19% in 2000 to 87% in 2019). Box 3 explores examples of recent decentralisation in LTC services across the OECD.

Box 3. Decentralisation of LTC services: the case of Belgium, Italy and the Netherlands

The Belgian case

Long-term care (LTC) in Belgium is part of an integrated healthcare system complemented by social service provision. A strong focus on in-kind services characterises the structure of LTC. Although there is no specific federal legislation for LTC, the legislative framework follows the healthcare system, with regulations at the community level addressing various aspects of LTC service provision. The policy aims to support dependent older individuals in their home environment for as long as possible.

The organisational landscape of LTC provisions needs to be more cohesive due to the division of competencies between the Federal Government, responsible for medical care, and the Communities, responsible for non-medical care. Cities and municipalities also play a role in financing the construction of residential facilities, with financial support from the Communities through investment subsidies. Home care includes medical and non-medical services, with medical home nursing care reimbursed at the federal level by the National Institute for Health and Disability Insurance (NIHDI) and non-medical home care services regulated and organised by the Communities.

The 2002 reform significantly impacted Belgium's decentralisation of LTC services. Service provision entities were established in Flanders and the French Community to ensure coordinated patient care across disciplines within specific geographical areas. This reform focused on keeping patients at home for as long as possible and introduced a fixed daily compensation paid by compulsory health insurance for those who require supervision but not intensive medical care.

The 2014 reform, resulting from the 6th Reform of the State, further decentralised LTC services by devolving responsibilities and shifting associated budgets for several healthcare tasks from the federal to the regional level (Flanders, Wallonia and Brussels). These transferred responsibilities mainly concern care for the elderly, with some classified as acute care expenditures, such as geriatric hospital services, revalidation, mobility aids, prevention and maximum billing (MAB) payments.

The Dutch Case

The Netherlands spearheaded the development of LTC systems, with their origins dating back to 1968. The Dutch system offered universal and comprehensive coverage for all residents, catering to various needs and focusing on substantial expenses that private insurance would not cover.

As a result, the system was rather costly, with the central government shouldering all risks. Private companies, acting as providers, negotiated contracts via 32 regional procurement offices under regional budget constraints set by the government. These regional procurement offices were not responsible for LTC expenses covered by the social LTC insurance scheme.

In 2015, the system underwent significant reform in response to rising LTC expenses. The services of the previous comprehensive system were replaced with the Dutch social health insurance scheme, subsidised by the central government, and two specialised systems—one linked to the social security system, and the other managed by municipalities, as explained below:

- *Long-term Care System*: A compulsory health insurance policy based on solidarity covers comprehensive care for vulnerable elderly individuals and those with severe disabilities. Premiums are calculated as a percentage of income tax, capped at around 35 000 euros, and an income-dependent adult co-payment exists. The benefits an individual is eligible for depend on the nature and severity of their disability. Individuals apply for eligibility at an independent central assessment agency, where an assessor determines if they meet the criteria and, if so, the appropriate level of care. Care is primarily provided in-kind at nursing homes, but other options include receiving in-kind care at home, assisted-living facilities, or partly privately-funded nursing homes. Regional offices manage the programme's budget and must adhere to a regional budget constraint set by the national government.
- *Social Support System*: The Social Support Act is not a social insurance scheme, so individuals do not have a formal right to care. Instead, municipalities must provide assistance and social support tailored to individual needs when their social networks cannot provide sufficient support. Municipalities have significant autonomy in setting eligibility criteria, assessing individual cases, and providing care. However, they are required to define these criteria. Municipalities receive a non-earmarked block grant from the national government, funded by general taxation, to provide care. This block grant indicates municipalities bear the full financial risk for organising home care.

The primary aim of the reform was to improve the system's fiscal sustainability by transferring risks to municipalities, reducing overall coverage and scope and introducing a new co-payment system. Owing to the direct connection between LTC expenditures and population ageing, the Netherlands needed to decelerate the growth in LTC expenses to ensure the country's fiscal sustainability over the longer term.

The Italian case

In Italy, the LTC system follows a family-oriented model based on ideas of passive subsidiarity. LTC services, including home nursing, are characterised by a high degree of regional and local autonomy, with flexibility regarding central regulations and frameworks. As a result, regional variations exist in the availability of services, eligibility criteria and assessment procedures. This has

led to the emergence of a predominantly informal private care market within the family framework alongside a more modest formal care provision.

The role of families in LTC provision is significant, as family members or migrant workers often provide informal care within the family context. The diverse private care market within the family framework and the decentralised approach to regulation and public financing have resulted in varied access and outcomes across regions. Italy faces a contrast between a monetary-based welfare system in the less affluent southern regions and a service-based welfare system in the wealthier northern regions.

Variability in the Italian LTC system is related to the different institutional designs and territorial responsibilities. This diversity can make individual care arrangements more complex and highlight regional inequalities. However, efforts have been made to address these challenges, such as establishing joint assessment teams at local levels for home help and home nursing services, which aim to support the integrated provision of both types of services.

Sources: EU (2019[12]), Theobald and Ozanne (2016[11]) and Bakx et al. (2020[14]).

26. Naturally, these recent reforms to LTC services greatly impacted how they are managed. With both central and subnational levels of government involved in their provision, there is a need for a strong multi-level governance framework and intergovernmental coordination. A complex system has emerged in many OECD countries, with the central government providing some or the majority of LTC services for some individuals at the central level of government. At the same time, SNGs became responsible for complementing the central policy's coverage (e.g. providing these services to people not covered by the central policy) or depth (e.g. providing services in addition to those already covered by the central policy). In other cases, this universality of LTC services was pursued by centralising the policy design and monitoring to ensure that services provided across regions within countries are comparable. At the same time, SNGs were assigned the operationalisation of these services.

Subnational spending power on LTC is higher than for healthcare, with SNGs having more budgetary and input responsibilities than on policy and output monitoring

27. One common measure of decentralisation is the subnational expenditure share of total government expenditure (shown above for healthcare and public health services). Nonetheless, although this metric has its merits, it does not capture the typically complex fiscal arrangements underlying the governance of government functions in a multi-level government system. To complement such metric, the OECD has developed spending autonomy or spending power indicators that aim to capture dimensions other than expenditure, such as rules and regulations that govern the inputs, processes and outputs of subnational services and the extent to which subnational decision-makers can exert control over it.

28. Four dimensions of spending power were developed by the NFR (Dougherty and Phillips, 2019[15]). *Policy autonomy*: The extent to which sub-central decision-makers exert control over main policy objectives and main aspects of service delivery; *Budget autonomy*: The extent to which sub-central decision-makers exert control over the budget (e.g. is budget autonomy limited by upper-level government regulation); *Input autonomy*: The extent to which sub-central decision-makers exert control over the civil service (personnel management, salaries) and other input-side aspects (e.g. right to tender or contract out services); *Output and monitoring autonomy*: The extent to which sub-central decision-makers exert control over standards such as quality and quantity of services delivered and devices to monitor and evaluate standards, such as benchmarking. The maximum of the spending power scale is ten, and the greater the value, the more autonomy that SNGs have.

29. Figure 6 displays the subnational spending power indicators designed by the NFR to compare the distribution of responsibilities across levels of governments and countries harmoniously and precisely. Panel A shows that compared to primary and secondary education, social housing transport services and healthcare, long-term care services are the 2nd in which SNGs have the least spending power, second only to healthcare. Panel B, on the other hand, shows that SNGs tend to have more spending power on input and budget than on policy and output and monitoring. This pattern is the norm across other government functions as well. It generally means that the central government has more decision power in setting policy objectives and monitoring them than managing the budget and resources.

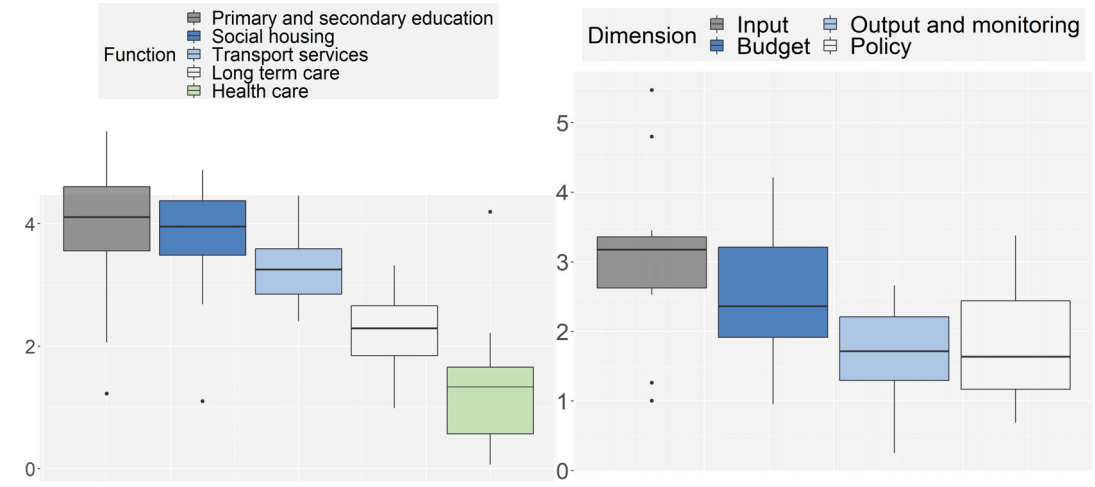
30. Some exceptions to this general rule are found in country-specific data. For instance, in Norway, the subnational LTC spending power with policy elements is the highest (although still relatively low), which means that SNGs have more leeway with their local/regional policies definitions than with their budget, which can be a consequence of the recent growth in the relevance of central transfers to fund LTC services (refer to Figure 5, Panel B). In Germany, the spending power with inputs (5.5) is more than double of those with policy and output and monitoring, while being five times larger than the budget. This suggests that regions/local governments have substantial operational autonomy in terms of the operationalisation of policies, even if they have minimal budget control. In Spain, the significant decentralisation of LTC expenditures (refer to Figure 4, Panel A) does not translate into high subnational spending power. In fact, Spain is the country with the smallest subnational spending power across all countries surveyed.

31. In addition to these significant variations in the multi-level governance systems of LTC across the OECD, roughly 41% of all LTC activities are shared across levels of government (Figure 6, Panel C). This level of redundancy is second only to those found in transport services and by a negligible margin. Although redundancy can be helpful in times of distress, such as during the COVID-19 pandemic when the limits of health and LTC systems were tested (OECD, 2020[16]), they also might suggest that some costs are being paid twice at the central and subnational levels of government. Given the substantial growth in LTC expenditures witnessed in the past and the expected pace at which it might grow in the future with population ageing and an increase in labour force participation of women, there might be ways to optimise further how LTC services are provided with a better delineation of activities across levels of government and strengthened intergovernmental coordination.

32. Another interesting element of LTC decentralisation is that, overall, countries where LTC funding is decentralised, are also countries where SNGs enjoy more tax autonomy (Figure 6, Panel D). In other words, the decentralisation of LTC funding is often combined with the decentralisation of taxing power. This has a major fiscal implication: given the substantial projected growth rate for LTC spending, mainly due to population ageing (see next section for details), SNGs that will bear this burden also have more room to boost their tax revenues to fund these costs. In other words, when the decentralisation of funding sources goes hand in hand with the decentralisation of revenues, the intergovernmental fiscal framework minimises the risks of subnational fiscal imbalances, which may require a boost in central government transfers to fill the gap. Overall, this reduces the need for future revisions of the intergovernmental fiscal framework due to vertical fiscal imbalances and is a good practice for enhancing the robustness of intergovernmental systems.

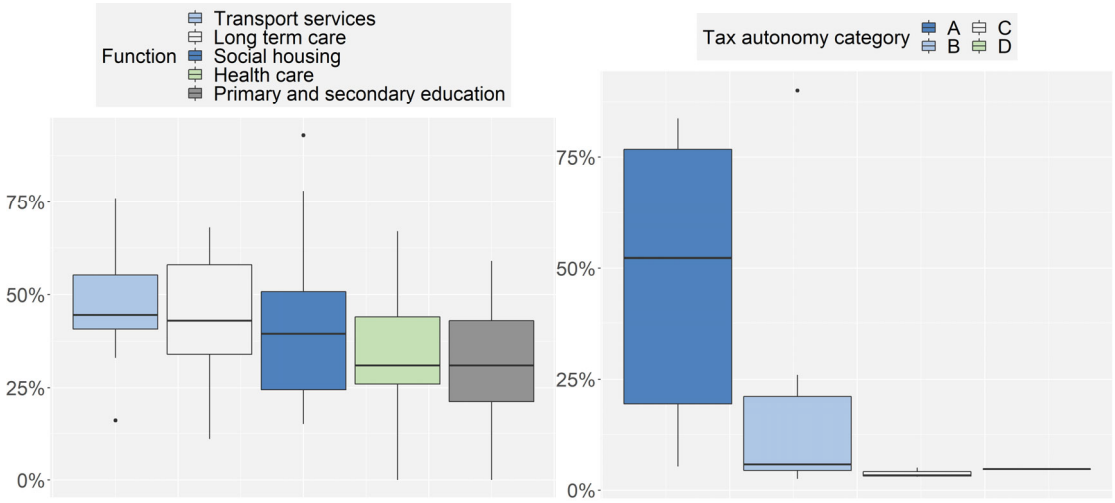
Figure 6. The multi-level governance of LTC systems and revenue autonomy

Panel A. SNG spending power across government functions *Panel B. SNG LTC spending power across dimensions*



Panel C. Shared responsibilities across levels of government

Panel D. Tax autonomy VS SNG LTC expenditure considering the funded by perspective



Source: Authors based on OECD NFR spending power and tax autonomy indicators, with an increasing index representing higher subnational spending autonomy. In Panel D, an autonomy of A is attributed to countries where SNGs have full discretion in changing rates corresponding to 50% or more of their tax revenues; B for countries where SNGs have some discretion (within bounds or limits) in changing rates of taxes corresponding to 50% or more of their tax revenues; D for countries in which the central government can set rates and reliefs for taxes corresponding to more than 50% of SNGs revenues; and C for all other cases.

33. It is worth noting that even in cases in which expenditure decentralisation corresponds to the decentralisation of government revenues, there might still be jurisdictions that face difficulties in fulfilling their mandates due to horizontal fiscal imbalances (i.e. when SNGs have asymmetric capabilities in terms of raising funds from their tax bases to meet their expenditures assignments). In these cases, fiscal equalisation of either revenue or costs can be employed to mitigate regional differences in fiscal capacity and expenditure needs (Dougherty and Forman, 2021[17]). Another option is to centralise LTC services, so that the central government can level the services provide across regions (e.g. in Finland).

Projections of long-term care costs across levels of government

LTC spending is projected based on four drivers: demographic, income, productivity and supply of informal care workers

34. Given the substantial growth in LTC expenditures experienced by OECD countries in recent decades (refer to Figure 1), the OECD has developed a framework to project potential future LTC expenditure across countries (de la Maisonneuve and Oliveira Martins, 2013[1]; Lorenzoni et al., 2015[2]; de la Maisonneuve and Oliveira Martins, 2013[3]). This section updates the forecasts using a similar, although not identical, methodology (see Annex B for details). The figures provided aim to give an order of magnitude of future LTC expenditures and consider a no-policy scenario (that is, that the current level of expenditure will increase in line with their social-economic drivers, disregarding any changes to the policy frameworks for LTC delivery). Given the somewhat experimental current state of affairs of LTC systems and the substantial ongoing reforms witnessed across OECD countries, it is likely that the speed at which LTC expenditures have grown will change. For this reason, it is worth highlighting that these values aim to provide an order-of-magnitude estimate of future LTC expenditure.

35. In summary, the projections here shown assume that LTC expenditures be driven by four factors: *i*) an income effect, *ii*) the Baumol effect, *iii*) a demographic effect, and *iv*) an effect of the reduction of informal LTC supply. The income effect captures the elasticity of LTC spending to a given percentage change in income as proxied by potential GDP per capita. The Baumol effect is related to the difference in productivity growth in health-related sectors compared to the rest of the economy.[7] The demographic effect captures the growth in the number of dependents (i.e. individuals that require LTC services) due to population ageing. Although the cost per dependant tends to be uncorrelated with the age of the dependant, the number of dependents varies widely across age groups. And lastly, an effect that proxies the reduction of the supply of informal LTC care using the growth in female labour force participation. Given that women are the predominant supplier of informal LTC services, the more they are engaged in labour activities, the less they can supply informal care, leaving the gap to be filled by formal suppliers.

36. There are two remarks on the use of the increase in the labour participation of women in the labour force to proxy the reduction in the supply of informal carers. First, although the rise in the participation of women in the labour force is one of the main drivers of a reduction in the supply of informal workers, there are also other drivers, such as a reduction in the number of children, which could help in the support of their parents, and the growing distance between relatives, which makes it harder for them to provide support. Second, informal caring is also costly for society in terms of hours of work lost and, thus, income (Rocard and Llena-Nozal, 2022[18]). Therefore, the reduction in the supply of informal care, although affecting future government LTC spending, is not necessarily a burden for the economy.

37. Lastly, it is worth highlighting the unpredictability of LTC spending (Wittenberg, 2016[19]). First, LTC spending is a function of mental and physical disability, which is related to ageing and numerous other factors, such as the health status and quality of life of the population, including but not restricted to their diets, exercises, and smoking habits, among others. Second, the costs of labour, as LTC services

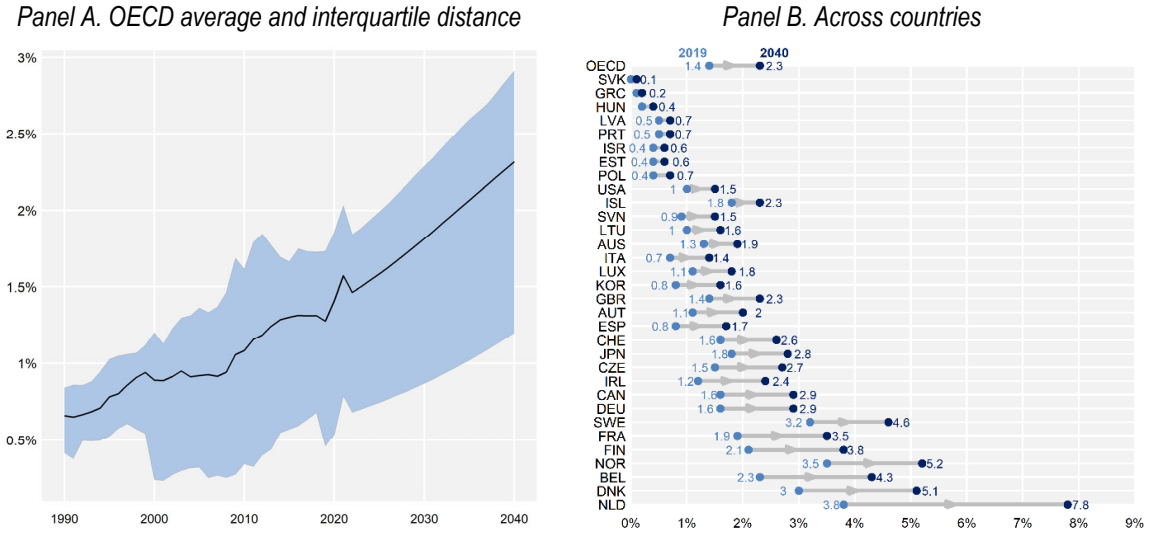
[7] The theory that productivity is inherently different across sectors in the economy was developed by the economist William Baumol. He posited that some sectors of the economy are non-progressive, meaning they do not benefit from technological advancements as much as other sectors do. Such sectors, including health (and long-term care related expenses) and education, do not displace labour at the same rate (or at all) when new technologies are implemented, as compared to progressive sectors of the economy. Indeed, new technologies can have the opposite effect, as they come with increased costs (more specialised training required) or increased volumes (more staff required). The Baumol effect states that as productivity and wages rise together in progressive sectors of the economy, the health sector (being non-progressive) will experience only wage increases in order to keep up with the rest of the economy.

are by and large a very labour intense service, with carers doing the lifting in terms of service provision. These are related to the marginal propensity to work as well as future levels of income, both of which are related to economic productivity. Third, and especially challenging, is the availability of informal care, which is rather hard to predict given that the coverage and depth of the provision of LTC services might also influence it. A country with a universal LTC system might make partners and families (who usually provide informal LTC care) less willing to do so.

LTC spending is projected to increase to 2.3% of GDP by 2040, at a real annual growth of 4.1%, below the earlier 2004 to 2019 growth rate of 5.2%

38. With the projection methodology, objectives and limitations established, Figure 7 below shows LTC spending projections until 2040, revealing that, on average, LTC spending is projected to increase to 2.3% of GDP by 2040. This represents real annual growth of 4.1%, below that experienced from 2004 to 2019 of a remarkably rapid 5.2%,[8] and above that projected for GDP of 1.45% (all in real terms). Although the projected growth of LTC expenditures varies significantly across countries (Figure 7, Panel B), it still is the case that in all OECD countries, it is projected to grow more than GDP. The increase ranges from 0.1pp to 4.0pp of GDP in the Netherlands and Slovakia, respectively.

Figure 7. Projection results for the general government: LTC expenditure-to-GDP ratios



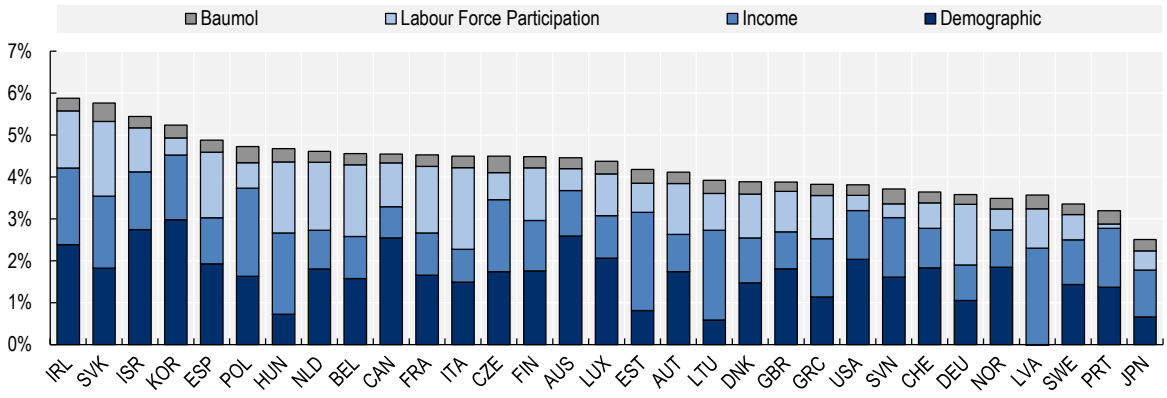
Note: 1. The shaded area in Panel A refers to the interquartile distance (difference between the 75% and the 25% percentiles).
2. The average figures displayed here only encompass the countries for which it was possible to project their LTC spending. Therefore, there are small differences in the averages here displayed and displayed in other figures.
3. Total government LTC spending was used in these estimations, including LTC health and social. This means that for countries that do not report LTC social, values are underestimated (OECD, 2020[6]).
Source: Authors' elaboration.

[8] This estimation excludes the countries with "breaks" in their government LTC spending time series (refer to the 2nd section). If they are included, then the real growth rates in the period would reach 7.3%.

Population ageing alone is responsible for roughly 40% of the growth in LTC spending, followed by income (31%) and supply of informal carers (23%)

39. Figure 8 displays the composition of the effects in a country-specific manner, revealing that demographic drivers are the most significant one, followed by income, female labour force participation (a proxy for the supply of informal care) and the Baumol effect. Demographic effects account for an average of 1.6% of the annualised growth, while income, female labour force participation and Baumol effects for 1.3%, 1.0% and 0.3% (all in real terms). Given that the income effect also impacts the capacity of the government and people to pay for LTC services, the average annualised growth that pressures the government budget is estimated to reach 2.9% (the combined effect of all other effects excluding income). On the other hand, the cost per dependent is estimated to grow annually by 1.4% in real terms.

Figure 8. Decomposing the projection: the annualised impact of each factor across countries (real terms)



Source: Authors' elaboration.

40. There are substantial country variations in these effects, depending on their projected GDP per capita growth, demography, labour productivity (for the Baumol effect) and female labour force participation. The annualised demographic effect varies from 3.0% in Korea (see Box 4 for details) to virtually zero in Latvia, largely explained by a decrease in its population; the income effect from 2.3% in Estonia to 0.7% in Canada; the labour force participation of women from 1.5% in Italy to 0.1% in Portugal (Italy is the country with the 9th largest gender employment gap in the OECD, with 17.1 percentage points against the OECD average of 15.7 percentage points);[9] and the Baumol effect ranges from 0.4% in Slovakia to 0.2% in Canada. The impact of female labour force participation is only higher than the demographic impact in six countries: Belgium, Germany, Hungary, Italy, Latvia and Lithuania.

41. The large impact of the demographic effects can be explained by the rapid pace at which the population is projected to age through 2040 across OECD countries. Nevertheless, some countries face gentle downward slopes in the share of the population aged 65 or more, while others are like "cliff edges" (see Annex C for country-specific data). In the past, the share of the population aged 65 and older has nearly doubled in the last 60 years, moving from roughly 9 to 17% in the OECD. Longer life expectancy and lower fertility rates largely explain this. It is worth reinforcing that, in contrast to health spending (Lorenzoni et al., 2015[2]; de Biase and Dougherty, 2021[20]), population ageing only affects LTC spending through the share of dependents, as the cost per dependent is assumed to be fixed as a function of age.

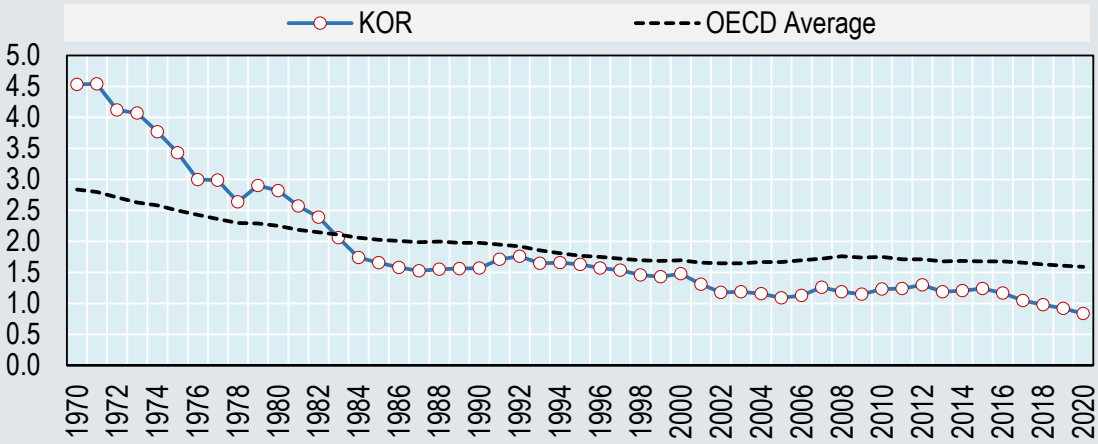
[9] Data comes from OECD Statistics and is as of 2019, to isolate influences from the COVID-19 outbreak.

Box 4. Understanding the drivers of LTC spending: population ageing in Korea

Korea is the OECD country that will likely suffer the most abrupt demographic shift in the next 20 years. The country has the highest working-age population share (72.2% against an OECD average of 64.9%). It is projected to become the 4th smallest by 2040 with a decrease of 15.7 percentage points, decreasing 3.3 times more than the forecast for the OECD average. The country lacks a young population to replace the ageing population – people younger than 20 account for only 18.7% of the population, the 4th lowest ratio in the OECD.

One distinctive characteristic of Korea's demography is that its fertility rates were among the highest in the OECD in the 1970s (the 5th largest out of 39, with 4.5 children per woman, only below Türkiye and OECD's Latin American countries of Mexico, Colombia and Costa Rica) to the 6th lowest in mere 18 years (in 1988 the fertility reached 1.5, one-third of its value less than 20 years ago). From then until today, Korea's fertility rates have continued to decline, and since 2004, they have been the lowest in the OECD, at 1.16 children per woman. As of 2020, this value is 0.84, 35% lower than Spain, the country with the 2nd lowest fertility rate in the OECD. Hence, Korea is an outlier regarding fertility rates.

Fertility rates (children per woman)

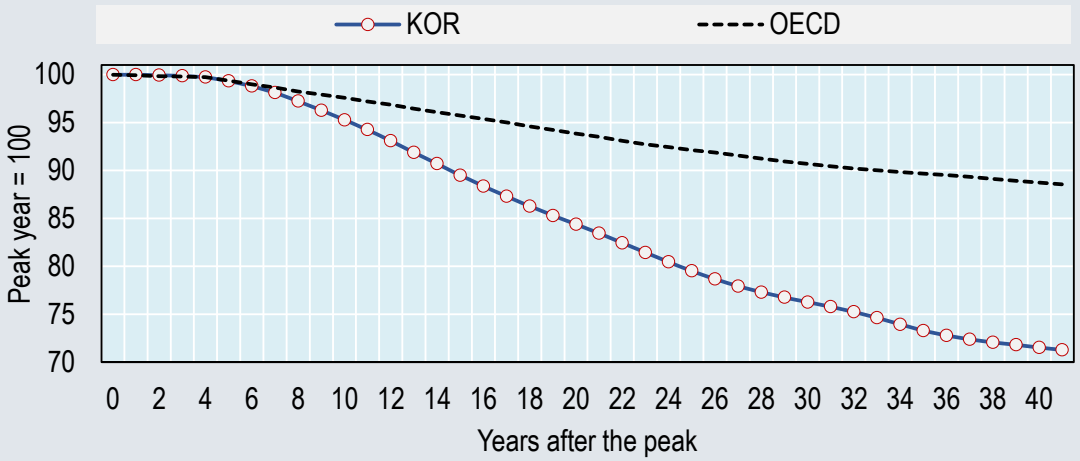


Source: OECD *Family Statistics.*

In principle, it is possible to alleviate or even revert a demographic shift through migration. Korea, though, has the 3rd lowest foreign-born population in the OECD and a decreasing annual migration rate, below the OECD average (0.85% of the population against 1.01% for the OECD).[10] As a result, while people age, current trends suggest that no foreign-born or young Koreans will replace them, leading to a plummeting of the working population share. Korea's working population share peaked relatively recently, in 2012 (on average in the OECD, this peak happened in 1996), but from 2022 through 2038, it is expected to decrease by roughly one percentage point a year (figure below). After that, the pace of ageing will slow and shrink by roughly 0.5 percentage points a year. Therefore, the next 20 years will likely be the most severe in terms of demographic shifts for the country. Moreover, this forecast assumes that Korea's fertility rates will cease decreasing, which has not happened consistently, at least since the 1970s.

[10] Foreign born population data for Colombia, Japan, Korea, Canada, Chile and Costa Rica come from the United Nations, while for other OECD countries they come from OECD Population Statistics. Values as of 2019.

Decrease in working age population after its peak

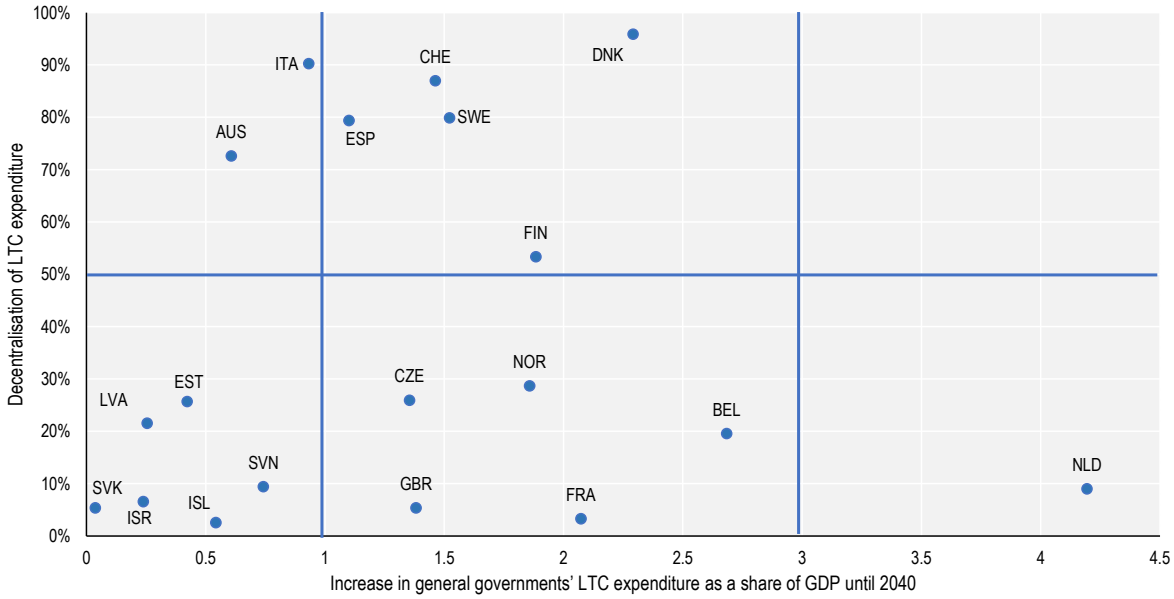


Note 1: Korea's peak year was 2012, while the OECD average was in 1996.
Note 2: The working age population is defined as people aged between 15 and 64.
Source: OECD *Population Projections.*

Central government budgets are projected to be under the most pressure in Belgium and the Netherlands, while SNGs in Denmark, Finland and Sweden

42. Finally, Figure 9 displays the distribution of the projected increase in LTC expenditure across levels of government. There is no clear, distinguishable pattern between the decentralisation of LTC expenditure and its project growth as a share of GDP. In Denmark, Finland and Sweden, subnational governments are the OECD countries in which LTC spending is projected to grow by more than 1pp of GDP through 2040 and LTC spending decentralisation is also above 50%. In Australia, Italy, Spain and Switzerland more than half of LTC expenditures are also made by subnational governments, but the projected expenditure growth is below 1pp of GDP in that period. Countries in which the central governments will be under the most pressure are, in order of LTC spending projected growth: the Netherlands, Belgium, France, Norway and the Czech Republic – in these countries, the projected growth of LTC spending is above 1pp of GDP until 2040 and central governments or social security systems are responsible for more than half of its spending. In relatively smaller OECD countries, such as Slovenia, Iceland, Estonia, Latvia and Slovakia, LTC spending growth is projected to be below 1pp of GDP until 2040. In these countries, most of the expenditure is centralised.

Figure 9. The distribution of the projected increase in LTC expenditure across levels of government



Note: The vertical and horizontal lines were added to group countries into six categories. The *Y*-axis shows increasing decentralisation of LTC spending, using the spent-by approach. The *X*-axis shows the increase in general governments' LTC expenditure as a share of GDP until 2040 and, thus, in the first group on the left, there are countries in which this impact is below 1pp of GDP; in the second group, the impact is moderate from 1 to 3pp of GDP; while in the third group, there is only the Netherlands, with an impact higher than 3pp of GDP.
Source: Authors' elaboration.

43. An examination of intergovernmental transfers (adopting the funded-by perspective) can offer valuable insights into the extent to which the burden on subnational governments is shouldered by central government transfers, SNGs' own revenues, or non-earmarked transfers. In the case of Australia and Denmark, where there exists a notable discrepancy between LTC spending under the spent-by and funded-by perspectives and over half of LTC spending is decentralised according to the former perspective, approximately 27% of the funding is derived from transfers from central government to SNGs. Consequently, if central governments increase transfers in proportion to LTC spending growth, the portion of LTC spending growth funded through either SNGs' own revenues or non-earmarked grants will decline from 96% to 68% in Denmark and from 73% to 47% in Australia. In four relatively smaller Central and Eastern European countries (the Czech Republic, Estonia, Latvia, and Slovenia), when excluding expenditure funded through central government transfers from SNGs, the responsibility is almost entirely borne by central governments or social security systems (refer to Figure 4, Panel B).

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Annex A. Decentralisation of LTC spending – SHA and SNA comparison

The decentralisation of long-term care (LTC) expenditure is estimated using the table "Applicability of ICHA-HC Categories for Constructing Expenditure by COFOG" in the COFOG Manual (Eurostat, 2019[9]). In instances where a subfunction of SHA correlated with multiple subfunctions in COFOG, the decentralisation of the aggregate sum of all corresponding COFOG subfunctions was computed and employed as a proxy for the decentralisation of the corresponding SHA subfunction. It is important to emphasise that, due to the absence of a singular, unique one-to-one relationship for the items, the estimates should be considered approximations.

Figure A1. Usability of LTC categories in SHA for constructing expenditure by COFOG

Subfunction in SHA	Code in SHA	Subfunction in COFOG	Code in SNA
Inpatient care (health)	HC31	Nursing and convalescent home services (IS)	7.34
Day cases of long-term care (health)	HC32	Specialised hospital services (IS); Nursing and convalescent home services (IS)	7.32; 7.34
Outpatient long-term care (health)	HC33	Paramedical services (IS)	7.24
Home-based long-term care (health)	HC34	Paramedical services (IS); Sickness (IS); Disability (IS)	7.24; 10.11; 10.12
Long-term care (social)	HCR1	Disability (IS); Old age (IS); Social exclusion n.e.c. (IS)	10.12; 10.20; 10.70

Source: Authors' elaboration based on the COFOG manual (EU, 2019[12]).

Annex B. Long-term care spending projection model specifications

The model used in this paper draws heavily on previous models used by the OECD to project future LTC spending (de la Maisonneuve and Oliveira Martins, 2013[1]; Lorenzoni et al., 2015[2]). Four factors are used to project long-term care (LTC) expenditure following the projection equation below:

$$\Delta \log (LTC) = \Delta \log (demo) + \varepsilon \cdot \Delta \log (Ypc) + \gamma \Delta \log (Baumol) + \delta \Delta \log (Participation)$$

Where *demo* stands for demographic effects, which in the case of LTC stands for the number of dependent people; *Baumol* stands for the cost-disease effect captured by the labour productivity differential between the LTC sector and the rest of the economy; *Participation* is a proxy for the increase of formal public care; and ε is the income elasticity of LTC expenditures, proxied by the GDP per capita (*Ypc*).

The starting point of the demographic component is the number of dependants per country per age group. Twenty age groups (5 years) are used. The age-specific dependency ratios have been estimated by the European Commission for 22 European countries and are as follows:

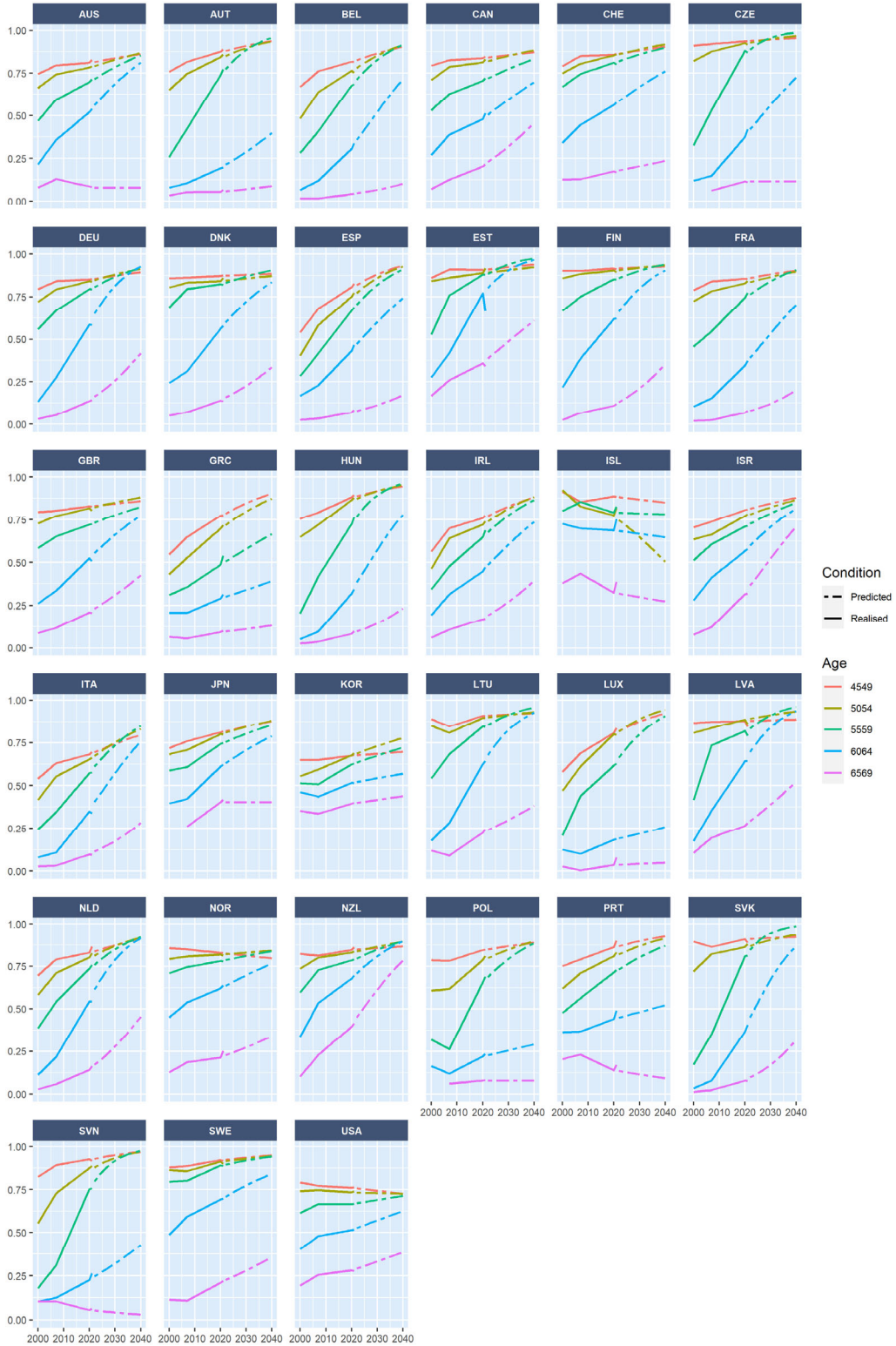
Dependency Ratio	2.0%	5.1%	13.9%	16.4%	25.0%	36.8%	55.0%
Age Group	00-59	60-64	65-69	70-74	75-79	80-84	85+

The demographic impact on LTC expenditures over time is then calculated by combining these data with demographic projections in each country.

The data for computing the income and Baumol effects are, respectively, the forecast of GDP per capita and productivity in the OECD long-term model (Guillemette and Turner, 2021[21]). For the income effect, the elasticity of unity was used. For the Baumol, the elasticity was assumed to be a unity in the first year of forecast and gradually decreased to zero by 2070, following the assumption used in previous OECD studies.

One of the main non-demographic drivers of public LTC expenditure is the relative share of informal and formal care. Since there is evidence that informal elderly care is associated with lower female labour force participation, informal carers have been proxied by the labour force participation of women aged 50-64 to project the future evolution of LTC spending. The participation rate of women was assumed to follow the trend it has followed over the last two decades. A logistic regression estimated for each country and age group combination was used to estimate these values until 2040. Figure A1, below, show the results for each country:

Figure A1. Labour force participation rates of women across age groups and countries



Source: Authors' elaboration based on OECD Labour Force Participation Rate data.

Annex C. Demographic trends across OECD countries

Figure B1. Share of the population across age groups

Note: X-axis display the age group, while the y-axis the percentage of the population.

Source: OECD Population Projections.