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Future long-term care
expenditure trajectories
across OECD countries

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Abstract

By 2050, the share of people aged 65 and over is projected to reach 26.4% of the total population across OECD countries. As long-term care (LTC) services - covering assistance with daily tasks such as eating, mobility and bathing - are essential to maintaining the well-being and autonomy of older persons, demographic ageing will drive a substantial increase in both demand for LTC and the public resources required to finance it. Ensuring the long-term sustainability of public finances therefore requires a forward-looking assessment of future LTC spending trends.

This paper develops projections for public LTC expenditure to 2050, distinguishing between the health-related component (assistance with activities of daily living) and the social-care component (assistance with instrumental activities of daily living). Using time-series data from the OECD System of Health Accounts (2003–2022) and dependency measures derived from EU-SILC and national surveys, regression analyses identify the main drivers of LTC spending. These estimated relationships are then applied in a projection model for OECD countries. The analysis also includes three alternative scenarios: a cost-pressure scenario, a healthy-ageing scenario, and an enhanced-productivity scenario.

Under baseline projections, public LTC expenditure is expected to almost double between 2023 and 2050, reaching 2.8 % of GDP across OECD countries. This reflects increases of 0.5 percentage points for the health component (up to 1.7% of GDP), and 0.7 percentage points for the social component (up to 1.1% of GDP).

These upward pressures will occur alongside projected increases in other ageing-related spending: public pension expenditure is expected to rise from 8.8% to 10% of GDP, and public health spending from 5.5% to 8.8% of GDP over the same period.

Given that demographic ageing is both predictable and long-lasting, countries have the opportunity - and responsibility - to plan and implement whole-of-government strategies to ensure sustainable LTC systems. This includes anticipating rising demand, strengthening workforce capacity, improving productivity in LTC provision, and integrating LTC reforms with broader strategies to address higher pension and healthcare costs.

Résumé

D'ici 2050, la proportion de la population âgée de 65 ans et plus devrait atteindre 26,4 % de la population totale dans les pays de l'OCDE. Les soins de longue durée (SLD), qui comprennent les services d'aide aux activités de la vie quotidienne comme manger, se déplacer et se laver, étant essentiels au bien-être de nombreuses personnes âgées, la demande pour ces services et les dépenses associées devraient augmenter considérablement. Par conséquent, l'évolution future des dépenses de SLD financées par des fonds publics est déterminante pour la viabilité des finances publiques.

Pour étudier l'impact du vieillissement de la population sur les dépenses futures de SLD, ce document présente des projections des composantes sanitaires (aide aux activités de la vie quotidienne) et sociales (aide aux activités instrumentales de la vie quotidienne) de ces dépenses, financées par des fonds publics, jusqu'en 2050. Il utilise des analyses de régression pour identifier les facteurs déterminants de ces dépenses, en s'appuyant sur les séries chronologiques (2003-2022) du Système de comptes de la santé de l'OCDE pour suivre les dépenses, ainsi que sur les données de l'enquête statistique de l'Union européenne sur le revenu et les conditions de vie (EU-SILC) et d'autres enquêtes nationales pour estimer la proportion de personnes dépendantes – c'est-à-dire les personnes dont les activités sont fortement limitées en raison de problèmes de santé.

Un modèle de projection est ensuite élaboré pour chaque composante des SLD dans les pays de l'OCDE, à partir des coefficients estimés pour les facteurs déterminants des dépenses de SLD par le biais d'analyses de régression. Différents scénarios sont simulés : un scénario de « pression sur les coûts », un scénario de « vieillissement en bonne santé » et un scénario de « productivité accrue ». En moyenne, les dépenses publiques de soins de longue durée devraient augmenter de 0.5 point de pourcentage pour atteindre 1.7 % du PIB pour la composante santé et de 0.7 point de pourcentage pour atteindre 1.1 % du PIB pour la composante sociale. Selon ces projections, les dépenses de soins de longue durée en pourcentage du PIB devraient presque doubler entre 2023 et 2050, pour atteindre 2.8 % du PIB en 2050.

Au cours de la même période, dans les pays de l'OCDE, les dépenses publiques de retraite devraient passer de 8,8 % à 10 % du PIB et les dépenses publiques de santé de 5,5 % à 8,8 % du PIB. Le vieillissement de la population étant une situation structurelle prévisible et pour laquelle il est possible de planifier les services associés, les pays devront mettre en œuvre des politiques pangouvernementales afin de construire des systèmes de soins de longue durée durables, tout en faisant face à la hausse des coûts des retraites et des soins de santé.

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Executive summary

Across OECD countries, population ageing represents one of the most significant policy challenges of the coming decades. The share of adults aged 65 and over has doubled from less than 9% in 1960 to 18.5% in 2023, and it is projected to reach 26.4% by 2050. Most critically, the population aged 80 and over is expected to double from 4.9% to 9.6% over the same period. This demographic shift will require profound adaptations in health and social care systems to meet sharply rising demand for long-term care (LTC) services.

In 2023, OECD countries invested an average of 1.8% of GDP in LTC, covering both health and social care components. Spending levels vary widely, ranging from 4.1% of GDP in the Netherlands to less than 0.5% in Greece, Chile and Costa Rica. These differences reflect disparities in population age structures, the maturity and generosity of LTC systems, and potential inconsistencies in national reporting practices. Over the past decade, LTC spending has grown faster than overall health expenditure in most OECD countries, underscoring mounting fiscal pressures.

LTC spending is shaped by several interconnected drivers. Population ageing is the most visible factor, but its effects are mediated by economic, social and labour-market trends. One of the most consequential developments is the weakening of traditional informal care networks. Historically, families provided the majority of LTC, often without financial compensation. However, declining fertility rates, rising childlessness, increased geographical dispersion of families, and higher female labour force participation have all reduced the availability of unpaid caregivers. As a result, formal care systems increasingly need to absorb responsibilities once managed within households, accelerating expenditure growth.

Rising income levels also contribute to greater use of formal LTC. Wealthier societies tend to allocate more resources to care services, driven by both expanded fiscal capacity and evolving societal expectations regarding quality and accessibility. Higher incomes increase LTC spending through multiple channels, including improved access, broader insurance coverage, and stronger preferences for high-quality care.

The labour-intensive nature of LTC further intensifies cost pressures. Due to limited opportunities for automation, productivity growth in LTC tends to lag behind that of the overall economy. Yet wages must remain competitive to attract and retain workers. This dynamic - often referred to as Baumol's cost disease - results in structural cost inflation, as wages rise despite limited productivity gains.

This paper presents a comprehensive component-based projection model for public LTC expenditure through 2050. The model differentiates between health and social care components, acknowledging that the underlying drivers influence them with varying intensity. Demographic factors are incorporated by stratifying populations by age, sex and dependency status, using national survey data to estimate prevalence of dependency. Non-demographic drivers include income growth (proxied by GDP per capita), productivity and wage dynamics (captured through the Baumol variable), and the availability of informal care (proxied by female labour force participation). Elasticities for each spending component were estimated using panel regressions on 2003–2022 data.

Under the base scenario, public LTC expenditure across the countries included in this analysis is projected to rise from 1.5% of GDP to 2.9% by 2050. Considerable variation exists across countries: those starting from very low expenditure levels, such as Greece, face the steepest increases, while countries with long-established LTC systems, such as Sweden, are projected to experience more moderate growth. In Korea, almost half of the projected increase in LTC -health spending stems from demographic changes,

whereas in many other countries productivity dynamics (the so-called Baumol effect) constitute the primary driver.

Three alternative scenarios illustrate how policy choices can shape spending trajectories:

- **Enhanced productivity scenario:** greater deployment of assistive technologies, artificial intelligence solutions, and integrated care models reduces projected spending by 0.2 percentage points of GDP - a 13.4% moderation of baseline increase - while maintaining quality and working conditions.
- **Cost-pressure scenario:** expanding coverage and increasing the share of dependent older adults receiving LTC raises projected spending to 3% of GDP, an additional 0.2 percentage points relative to the base scenario. This represents 16.7% of the baseline projected increase.
- **Healthy ageing scenario:** policies promoting prevention and healthier lifestyles reduce dependency rates and delay the onset of care needs, lowering future spending by 0.1 percentage points compared with the base scenario, equivalent to 7.9% of the projected increase.

These projections show that all countries analysed will face substantial increases in LTC expenditure by 2050. The projected rise of 1.3 percentage points of GDP - from 1.5 % to 2.8 % - is slightly higher than the anticipated increase in public pension spending and will occur alongside additional growth in health expenditure excluding LTC. This signals a need for governments to allocate a greater share of public resources to LTC despite competing fiscal demands.

The scenario analysis demonstrates that policy interventions can materially influence expenditure trends. Healthy-ageing policies can compress morbidity in later life, reducing both the intensity and duration of care needs. Investments in assistive technologies and integrated care can improve efficiency and alleviate cost pressures without undermining quality. Strengthening both formal and informal care - through support for family caregivers and better compensation and career prospects for care workers - is equally essential.

Meeting these challenges requires more than incremental adjustments; it calls for a comprehensive and co-ordinated policy response across multiple sectors. This includes engaging the public in discussions on financing mechanisms, intergenerational fairness, and the appropriate balance between public and private responsibilities. Countries that act proactively to build sustainable, integrated LTC systems will be better prepared to meet the needs of ageing populations while managing fiscal pressures. Delayed action will reduce policy flexibility and heighten the scale of future adjustments. While rising LTC expenditure is driven by structural demographic and economic forces, the policy response remains a matter of strategic choice.

1 Spending on long-term care is a first-order policy issue

Over the past 50 years, the share of the population aged 65 and over has doubled on average across OECD countries, increasing from less than 9% in 1960 to 18.5% in 2023. Declining fertility rates and longer life expectancy have led to an increasing proportion of older people in the population.

These demographic trends highlight the need for health and social systems to adapt and strengthen their capacity to meet the growing and evolving demands of an ageing population. Across OECD countries, the share of the population aged 65 and over is projected to continue increasing in the coming decades, rising on average from 18.5% in 2023 to 26.4% by 2050 (OECD, 2025^[1]).

While the rise in the share of the population aged 65 and over across OECD countries is striking, the increase has been particularly rapid among the oldest group – people aged 80 and over. Between 2023 and 2050, the share of the population aged 80 and over is predicted to double on average across OECD countries – from 4.9% to 9.6%.

Health and social systems will have to adapt to meet the needs of an ageing population, which are likely to include greater demand for long-term care (LTC). LTC consists of a range of medical and personal care and assistance services that are consumed with the primary goal of alleviating pain and suffering and reducing or managing the deterioration in health status in patients with a degree of long-term dependency (Box 1.1).

In 2023, 1.8% of gross domestic product (GDP) was allocated to LTC (including both the health and social component) across OECD countries. At 4.1% of GDP, the highest spender was the Netherlands, followed by the Nordic countries of Sweden (3.7%), Finland (3.2%) and Denmark (3.2%). In contrast, Greece, Chile and Costa Rica spent less than 0.5% of GDP on provision of LTC services. This variation partly mirrors differences in the population structure but mostly reflects the stage of development of LTC systems. Furthermore, some level of underestimation may exist for those countries unable to record spending on LTC - social (OECD, 2020^[2]).

Over the last decade, LTC spending has been outpacing overall health spending in most OECD countries. Historically, families – women in particular - have provided most of the LTC informally without receiving financial compensation in most OECD countries (Rocard and Llana-Nozal, 2022^[3]). However, this traditional safety net is eroding due to several interconnected factors: declining fertility, increasing childlessness and families living farther away, which means fewer potential caregivers per older person; and greater female labor force participation, which limits the time available for caregiving. These shifts mean that LTC systems – to also avoid an increase in unmet needs - must absorb care responsibilities previously handled within families, driving up expenditure.

As societies become wealthier, expectations for quality of life in older age have risen correspondingly. Today's and tomorrow's older adults expect public authorities to organise and provide person-centered community-based care, dignified living conditions, and opportunities for social engagement and autonomy (Ilinca and Simmons, 2022^[4]). Meeting these expectations requires investment in skilled staff, appropriate facilities, and innovative care models - all of which carry high costs.

Unlike many sectors where technological advancement drives productivity gains, LTC remains fundamentally labor-intensive, often involving low-paid workers (OECD, 2023^[5]). Care cannot be easily automated or accelerated without compromising quality.

This means that as wages rise across the economy, LTC costs increase proportionally without offsetting efficiency gains. This so-called "Baumol's cost disease" effect makes LTC inherently subject to above-average cost inflation (Celebi, Hartwig and Sandqvist, 2025^[6]). Persistent undervaluation of care work contributes to recruitment and retention challenges that may compromise care quality and system capacity across OECD countries.

Box 1.1. Components of long-term care

The various components of long-term care can be distinguished as follows:

- Medical or nursing care includes the management of symptoms involving medical, paramedical and nursing care services, such as relieving pain and other symptoms, administering medication, performing medical diagnoses and minor surgery, dressing wounds, health counselling to families, and providing emotional and spiritual support for the patient and their family members. Such care includes a range of preventive services, notably to avoid a greater deterioration of the patient's frail health condition, a range of chronic disease management situations, a fair amount of rehabilitative care, to recover functionality, care aimed at retarding or reducing deterioration or maintaining functionality.
- Personal care services are provided in response to limitations in self-care primarily due to disability and illness. These services provide help with activities of daily living (ADL) such as eating, bathing, washing, dressing, getting in and out of bed, getting to and from the toilet and managing incontinence. These services are typically administered directly or under the supervision of nursing staff.
- Assistance services relate to care that enables a person to live independently in a house or apartment. They help with tasks of household management (i.e. instrumental activities of daily living, IADL), such as shopping, laundry, vacuuming, cooking and performing housework, managing finances, using the telephone, etc. These services are typically provided under home help services, assisted living arrangements.
- Other social care services involve community activities and occupational support given on a continuing or recurrent basis to individuals, such as activities whose primary purpose is social and leisure.

A consistent functional approach, based on the purpose of the contact for care, would imply that care over a long or indefinite period, with nursing or personal care services as the dominant component, is the basis for inclusion within the LTC- health boundary. On the other hand, a contact with the primary purpose of enabling independent living and interaction with the environment, as in the case of home help or assisted living, should be part of the LTC- social component. Other social care services are outside the boundary of LTC.

Cash benefits that are offered as part of long-term care are included under LTC – social expenditure.

Source: (OECD/Eurostat/WHO, 2017^[7]).

As greater demand for LTC services is likely to place significant pressure on countries' fiscal capacities, policymakers must grapple with difficult questions about resource allocation, intergenerational equity, and the appropriate balance between the public and private responsibility for care provision.

This paper proposes a comprehensive framework for projecting public¹ LTC expenditures. Notably, it considers the impact of demographic and non-demographic drivers on the health and social components of LTC. Projections were restricted to public expenditure on LTC, as reporting by OECD countries on this spending component within the SHA framework is recognized as more robust than that of private expenditure on LTC (OECD, 2020^[2]). This means that changes in policy that influence the public-private mix in LTC service provision and the level of beneficiaries' co-payments - also in response to future fiscal constraints - are beyond the scope of this paper.

LTC spending from public sources is driven by several factors that affect both the demand and the supply of those services. They include the population's dependency status, the LTC system features, the availability of formal and informal care, economic growth and the development and use of new technologies.

Population ageing remains the most visible driver, as a growing number of older people require LTC services. However, the relationship between ageing and LTC expenditure is complex and mediated by other factors, including health status in older age and the availability of family caregivers.

Rising income levels are associated with increased demand for LTC services. Wealthier societies tend to invest more heavily in formal care systems, reflecting both greater fiscal capacity and evolving social expectations about the quality and accessibility of care. Empirical evidence demonstrates that rising incomes increase LTC spending through a wealth effect, improved service access, enhanced insurance coverage, and greater demand for quality care (Costa-Font, Courbage and Swartz, 2015^[8]).

The labor-intensive nature of LTC also exposes the sector to Baumol's cost disease, where productivity growth lags the overall economy while wages must remain competitive to attract and retain workers. This factor may drive cost increases given relatively price-inelastic demand by final users, under the assumption of maintaining service intensity covered by public LTC systems over time (Baumol, 1967^[9]) (Medeiros and Schwierz, 2013^[10]) (Celebi, Hartwig and Sandqvist, 2025^[6]). While the scope for productivity gains in direct care is constrained by the human-intensive nature of the work, opportunities exist to bring cost down by promoting the use of assistive technology and artificial intelligence-enhanced interventions in LTC (Butler, 2022^[11]) (Loveys et al., 2022^[12]) improve care co-ordination (OECD, 2025^[13]) and task delegation (Badache, Dobrosavljevic and Barber, 2026^[14]), and regulate prices (Barber et al., 2021^[15]). While cost moderation is a legitimate policy objective, measures to contain LTC costs should not come at the expense of care workers' wages and working conditions.

Projected increases in labor force participation and changes in family structure raise concerns that informal care will be replaced by costlier formal care, intensifying fiscal pressures alongside population aging (Costa-Font and Vilaplana-Prieto, 2023^[16]). As more women enter the workforce, the pool of available family caregivers' contracts², increasing demand for paid formal care services. The reduction in the supply of informal care, although affecting future government LTC spending, is not necessarily a burden for the economy as this shift reflects positive developments in gender equity and economic participation. The economic value of informal care – estimated at several points of GDP in many OECD countries (Costa-Font and Vilaplana-Prieto, 2025^[17]) – is not captured in these spending figures, meaning that the true cost of LTC exceeds the public spending projections presented here.

¹ For ease of reading, in this paper we refer to spending by government schemes and compulsory LTC insurance as "public" LTC spending. 'Public' refers to government spending and to schemes of a mandatory nature – i.e. public in this sense indicates the government's regulatory control over the uptake of LTC coverage.

² While caregiving has historically mainly been provided by women, the gender gap has decreased over time. Recent estimates for the US indicate that 40 % of caregivers are men (Miller et al., 2026^[39]).

Building on previous work at the OECD on health and LTC spending projections (de la Maisonneuve and Oliveira Martins, 2013^[18]) and setting a model similar to the one used to project health spending from public sources (OECD, 2025^[1]), this paper provides some predictions of how much LTC spending could increase in the future and what policy can do about it.

Results are based on a revised methodology that models separately the LTC – health and LTC – social spending components, and accounts for the latest evidence on key spending determinants.

2 What determines LTC spending?

Projection models operate at varying levels of aggregation and can target specific expenditure sources, including public funding, social security, private insurance, or out-of-pocket payments. Three broad model categories exist: micro-simulation, component-based, and macro-level models (Astolfi, Lorenzoni and Oderkirk, 2012^[19]). Micro-simulation models reproduce the characteristics and behaviour of a large sample of individuals that represent the whole population of interest. Major life-course events (e.g. exposure to risk factors) can be represented in the lives of the simulated individuals and, in the case of dynamic models, certain characteristics and behaviours can evolve over the course of life. Component-based models include a wide variety of forecasting models that analyse expenditure by financing agents, providers, goods and services consumed, groups of individuals or some combination of these groups. An important subclass of component-based models is represented by cohort-based models where individuals are grouped into cells according to several key attributes. Typically, age is the principal criteria used to stratify the population of interest (generally into five-year age cohorts). Finally, macro-level models restrict the analysis to aggregate health expenditures. They are most appropriate for short-term projections when clear trends and no structural breaks are present. Therefore, these extrapolation methods can benefit from inertia in the health and care systems in the short run.

Each model family presents distinct challenges arising from both data limitations in model development and inherent constraints associated with the model structure. The choice of model assumptions can significantly impact projection results, requiring careful consideration of trade-offs between data requirements, methodological sophistication, and policy relevance. Often referred to as actuarial or cell-based models, component-based models are commonly used for LTC projections when individual-level data are unavailable or unreliable (European Commission, 2024^[20]).

This paper uses a component-based model to estimate future trends in LTC spending. It allows simulating scenarios based on changes in the elasticities of the drivers of LTC spending and incorporates a wider range of factors that can influence LTC spending trajectories.

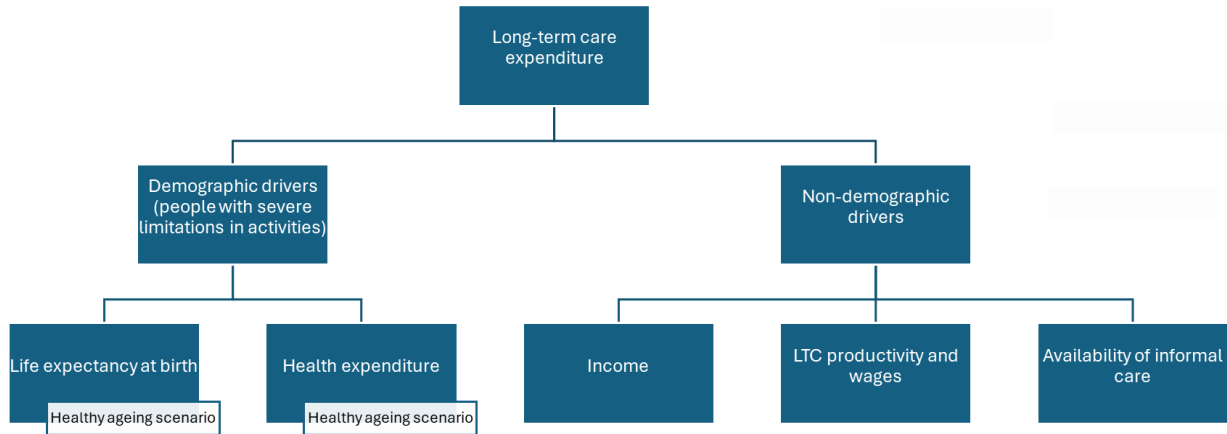
To capture the effect of demographic drivers, the population in each country in this study is split into dependent people (individuals with severe limitations in activities requiring LTC services) and non-dependent people by age group and sex. For these projections, to estimate the prevalence of dependent people, data from the European Statistics on Income and Living Conditions for European countries³, the Survey on Disability, Ageing and Carers for Australia, the Korean Longitudinal Study on Ageing and the Health and Retirement Study for the United States were used (see Annex A for details).

Future expenditure needs are projected by tracking changes in population distribution across ten-year age cohorts over time, reflecting both aging dynamics and cohort size variations (de la Maisonneuve and Oliveira Martins, 2013^[18]) (European Commission, 2024^[20]).

³ When using responses to the question about severe limitations in activities due to health issues (EU-SILC survey), there is a possible overestimation of the share of people with LTC needs as those having such health limitations might not all need help with ADL and IADL. However, for data availability purposes, this paper uses EU-SILC data.

The non-demographics drivers used in this paper are income – proxied by GDP per capita –, LTC productivity and wages – proxied by the Baumol variable – and availability of informal care – proxied by the female labour force participation⁴ (Figure 2.1).

Figure 2.1. The determinants of long-term care expenditure



Source: (de la Maisonneuve and Oliveira Martins, 2013^[18]).

2.1. The regression model

The elasticities of the drivers were estimated using panel regression for each component of spending – that is LTC – health and LTC – social – based on data from 2003-2022 using the following specification:

$$\ln\left(\frac{LTC_{it}}{GDP_{it}}\right) = \alpha + \beta \ln(\text{number of dependents}_{it}) + \varepsilon \ln\left(\frac{GDP_{it}}{N_{it}}\right) + \gamma \ln(\text{Baumol}_{it}) + \delta \ln(WP_{it}) + u_{it}$$

where $\ln(LTC_{it}/GDP_{it})$ corresponds to the natural logarithm of the share of LTC expenditure in the GDP in country i in year t ; $\ln(\text{number of dependents}_{it})$ is the natural logarithm of the number of dependents in country i in year t ; $\ln(GDP_{it}/N_{it})$ is the natural logarithm of GDP per capita in country i in year t ; $\ln(\text{Baumol}_{it}) = [\ln(W_{it}) - \ln(Y_{it})]$, where $\ln(W_{it})$ is the natural logarithm of the average annual wage per full-time equivalent employee in country i in year t ; $\ln(Y_{it})$ represents the natural logarithm of the gross domestic product per employed person in country i in year t ; $\ln(WP_{it})$ is the natural logarithm of the female labor force participation rate in the country i in the year t ; u_{it} is the residual component of the regression

In line with the most recent literature (Celebi, Hartwig and Sandqvist, 2025^[6]) (Colombier, Lerch and Brandle, 2026^[21]), the empirical analysis of this paper does not provide strong evidence for the inclusion of income per capita as a driver of LTC expenditure.

⁴ Across the European Union, one third of women either gave up paid work or reduced their work hours to provide care compared to 15 % of men (Ilinca and Simmons, 2022^[41]).

In particular, the inclusion of the female labour force participation rate leads to a non-significant coefficient of income per capita. This can be caused by a close correlation between these regressors (Fluchtmann, Adema and Keese, 2024^[22]).

For the health component, the variation in the share of long-term care expenditure in GDP can be explained both by the Baumol effect, with an estimated elasticity of 0.671 and the participation of female aged 45 to 60 in the labor market, with an elasticity of 1.094 (Table 2.1). For projections, this means - for example - that a 1% increase in female participation in the labor market brings about an average 1.094 % increase in LTC spending from public sources in GDP, all else being equal, indicating a likely substitution between formal and informal care.

For the social component, the variation in the share of long-term care expenditure in GDP can be explained by the Baumol effect (elasticity of 1.421) and by the participation of female aged 45 to 60 in the labor market (elasticity of 1.049).

Annex A provides detailed results of the regression models used to estimate model parameters.

Table 2.1. Elasticities of LTC determinants

Determinant	LTC - health	LTC - social
GDP per capita	-0.128 (0.115)	0.009 (0.068)
Baumol effect	0.671*** (0.148)	1.421*** (0.253)
Female labour force participation	1.094*** (0.127)	1.049*** (0.226)

Note: standard errors shown in parentheses. ***: statistically significant at the 0.01 level. **: statistically significant at the 0.05 level. *: statistically significant at the 0.1 level

Source: Authors' calculations.

By comparing the elasticities estimated for each LTC component, as expected, the Baumol effect is much greater for the LTC – social component. This is likely to reflect lower wages for personal care workers and the fact that informal care is mostly provided to help with the instrumental activities of daily living (captured by the LTC – social component) (Celebi, Hartwig and Sandqvist, 2025^[6]) (Colombier, Lerch and Brandle, 2026^[21]).

Several robustness checks were conducted. The estimated elasticities remain statistically significant when cluster-robust standard errors are used, thereby relaxing the assumption of independence across observations. For both components, the elasticities of female labour force participation remain statistically significant at the 1% level. The elasticity associated with the Baumol effect is significant at the 5% level for the social component and at the 10% level for the health component.

2.2. The projections model

The second step consisted of using the elasticities estimated in the regression analyses to project the annual variation in the share of LTC expenditure in GDP for the period 2023 to 2050 according to the following equation:

$$\Delta \ln \left(\frac{LTC_{it}}{GDP_{it}} \right) = \Delta \ln(Demo) + \hat{\varepsilon} \Delta \ln \left(\frac{GDP_{it}}{N_{it}} \right) + \hat{\gamma} \Delta \ln(Baumol_{it}) + \hat{\delta} \Delta \ln(WP_{it})$$

where $\ln(Demo)$ represents the demographic effect, i.e., the natural logarithm of the share of dependent people in total population, $\ln(Baumol_{it})$ represents the effect of the cost of illness, $\ln\left(\frac{GDP_{it}}{N_{it}}\right)$ represents the income effect, and $\ln(WP_{it})$ represents the effect of the variation in female labour force participation.

Following (Colombier, 2017^[23]) and (Lorenzoni et al., 2019^[24]), this paper used GDP per employee as a measure of the Baumol variable for projections. When the elasticity of the Baumol effect is estimated using the GDP per employee (de la Maisonneuve and Oliveira Martins, 2013^[18]), for the LTC - health component the estimated elasticity of the Baumol effect is 0.67, i.e., the same level as when defining the Baumol effect in the same way as (Hartwig, 2008^[25]) (Hartwig, 2011^[26]) (Bates and Santerre, 2013^[27]) (Colombier, 2017^[23]), whereas for the LTC - social component the estimated elasticity is 0.71, which is approximately half the value obtained in the main specification.

As the cost of LTC per beneficiary does not necessarily increase with age (de la Maisonneuve and Oliveira Martins, 2013^[18]) (European Commission, 2024^[20]), in estimating the demographic effect it is assumed that LTC expenditure per dependent person remains unchanged⁵. Therefore, variations in total LTC spending attributable to this effect stem from changes in the number of dependents within each age group, with an elasticity of 1. To avoid double-counting of the demographic effect, this elasticity was split between the LTC – health and the LTC – social spending components based on their average percent share in LTC – total spending in 2020-22 across the OECD countries in this study.

For each country in this study, the number of dependents is estimated by applying age- and sex-specific dependency rates to each age group's population (see Annex C for results). Prevalence rates of dependency by age group, sex and country remain unchanged over time in the base scenario.

The evolution of each driver is first projected separately and subsequently combined to compute the future growth of LTC expenditure.

2.2.1. Alternative scenarios for OECD countries

Projections have been devised to be as policy relevant as possible. This is achieved by presenting three alternative scenarios that model a range of future developments linked to different types of policy options: cost pressure, healthy ageing and enhanced productivity.

Under a “cost pressure” scenario, spending on LTC from public sources is assumed to increase the supply of care and improve its adequacy. Under this scenario, governments are expected to take measures to close the “care gap” (Hougaard Jensen, Pinkus and Ruer, 2024^[28]) by increasing the current level of support and the existing share of older adults with needs receiving LTC. This translates into promoting the recruitment and retention of qualified personal care workers also through an increase in wages (OECD, 2023^[5]) and sustaining family caregivers, measures that result in a linear annual increase of income elasticity from 0 to 0.46 in 2050 for the LTC – health component and from 0 to 0.44 in 2050 for the LTC – social component at constant productivity.

A “healthy ageing” scenario assumes that successive generations experience better health as they age. Recent findings confirm a broad-based healthy ageing phenomenon (OECD/European Commission, 2024^[29]) (International Monetary Fund, 2025^[30]). However, as whether this is happening or will happen depends on the country, gender and age cohort/time or health variable used, it is assumed that only half

⁵ Older people tend to have more severe needs and thus benefit from a more comprehensive benefit package. However, for those projections, the assumption by the (European Commission, 2024, p. 106^[20]) is followed: “LTC age-cost profiles do not necessarily increase with age and are therefore not the main way in which ageing affects expenditure on long-term care”.

of future life expectancy gains up to 2050 would be spent in good health and free of dependency⁶; therefore – as posited by (de la Maisonneuve and Oliveira Martins, 2013^[18]) - dependency at old age is projected to decline over time. Here, an assumption is made about the implementation of effective policies that strengthen prevention and promote healthy lifestyles.

An “enhanced productivity” scenario assumes that opportunities exist in promoting the use of assistive technology and artificial intelligence-enhanced interventions in LTC (Butler, 2022^[11]) (Loveys et al., 2022^[12]) and in integrating health and care services (OECD, 2025^[13]). To account for this, a linear annual decrease in the Baumol elasticity from its estimated value to the lower bound of its confidence interval up to 2050 – that is from 0.67 to 0.38 for the LTC – health component and from 1.42 to 0.92 for the LTC – social component - is assumed. The deployment of technology in LTC settings can be guided by principles that ensure it also enhances the human relationship central to quality LTC.

⁶ This follows a partial dynamic equilibrium model (Manton, 1982^[38]).

3 Spending on LTC is projected to almost double its share in GDP in the next 25 years

LTC – health and LTC – social are projected to reach 1.72 % and 1.09 % of GDP respectively in the base scenario. Total LTC spending is projected to reach 2.81 % of GDP in 2050, an increase of 1.29 percentage points of GDP compared to 2023 (Table 3.1). A large part of the projected increase in total LTC spending is accounted for by the LTC – social component, which is projected to grow two and half times its share of GDP between 2023 and 2050.

Should countries adopt measures to increase the current level of support and the existing share of older adults with needs receiving LTC (the “cost pressure” scenario), total LTC spending is projected to increase by an additional 0.2 percentage points of GDP to 3 %, which corresponds to 16.7 % of the projected increase in LTC spending.

While population ageing is unavoidable, countries can help older populations adopt healthier lifestyles and introduce preventive measures to reduce dependency and health issues for as long as possible. Such policies – as captured under the “healthy ageing” scenario - are projected to reduce future total LTC spending by 0.15 percentage points of GDP compared to the base scenario, which corresponds to 11.2 % of the projected increase in total LTC spending.

Under a “enhanced productivity” scenario, countries could rein in spending growth by 0.17 percentage points of GDP, a decrease of 13.5 % in projected growth. If the “enhanced productivity” and “healthy ageing” scenarios are combined, a decrease of 0.31 percentage points in GDP compared to the base scenario is projected (-24.7 %).

Table 3.1. Projections of LTC spending from public sources under different scenarios

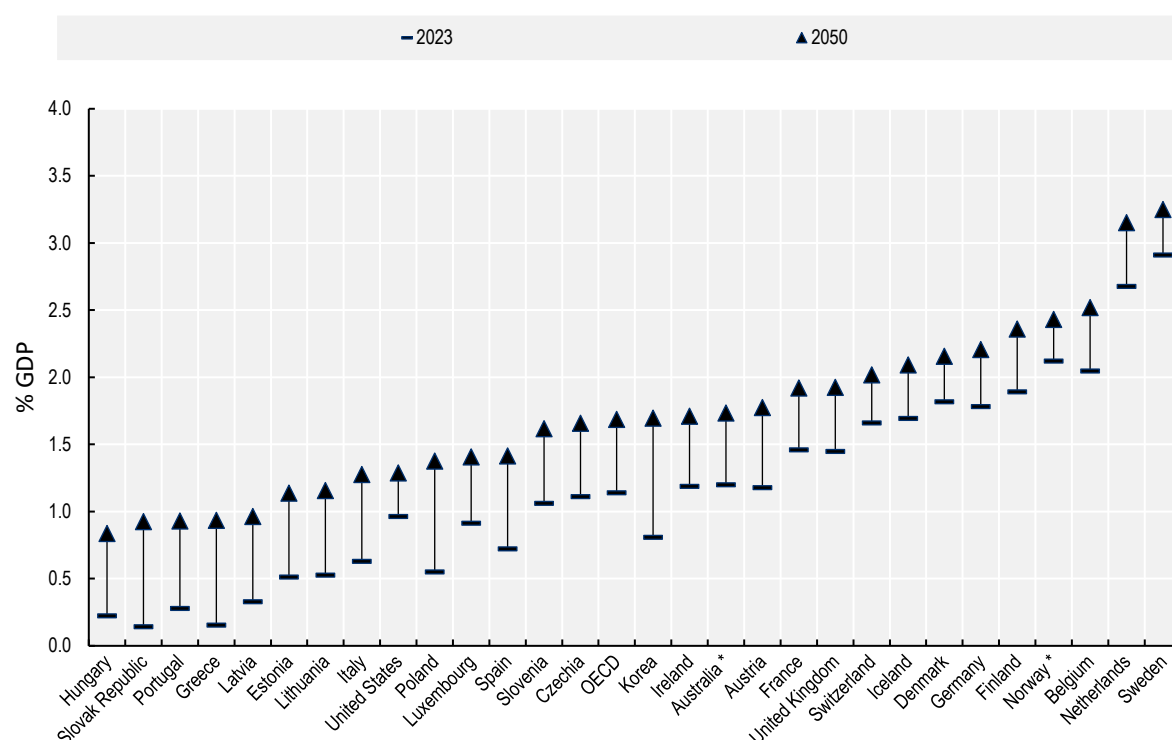
Scenario	Spending as a percent share of GDP					
	LTC – health		LTC – social		Total LTC	
	2023	2050	2023	2050	2023	2050
Base	1.17	1.72	0.35	1.09	1.52	2.81
Cost pressure		1.83		1.2		3.02
Healthy ageing		1.61		1.05		2.66
Enhanced productivity		1.66		0.98		2.64

Healthy ageing and enhanced productivity		1.55		0.95		2.5
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Source: Authors' compilation.

Countries such as Sweden with a higher level of LTC – health spending as a share of GDP in 2023 are likely to experience a lower increase in spending as compared to countries with a lower level of spending (Figure 3.1).

Figure 3.1. Change of spending as a percent share of GDP by country between 2023 and 2050, LTC – health, base scenario

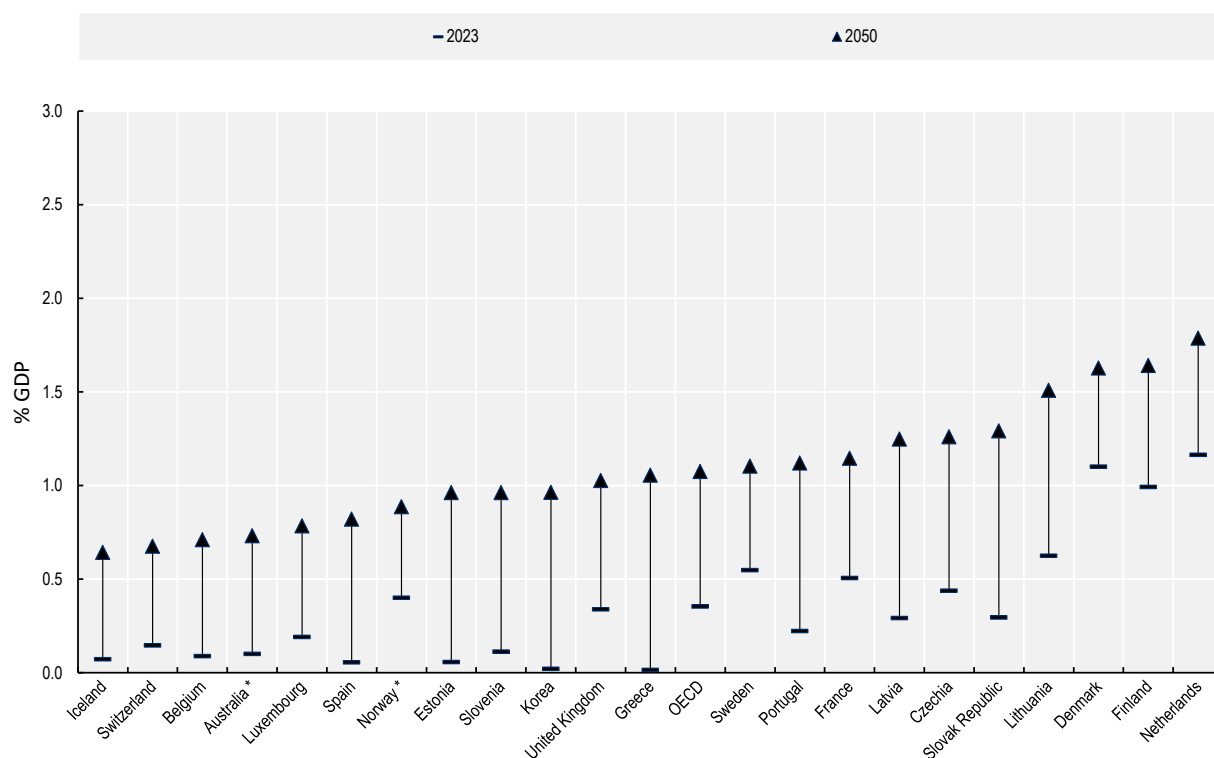


Note: *: 2022

Source: Authors' compilation.

Countries such as Greece and Korea reporting the lower level of LTC spending in 2023 are the ones showing the larger increase of LTC - social spending over time (Figure 3.2).

Figure 3.2. Change of spending as a percent share of GDP by country between 2023 and 2050, LTC – social, base scenario

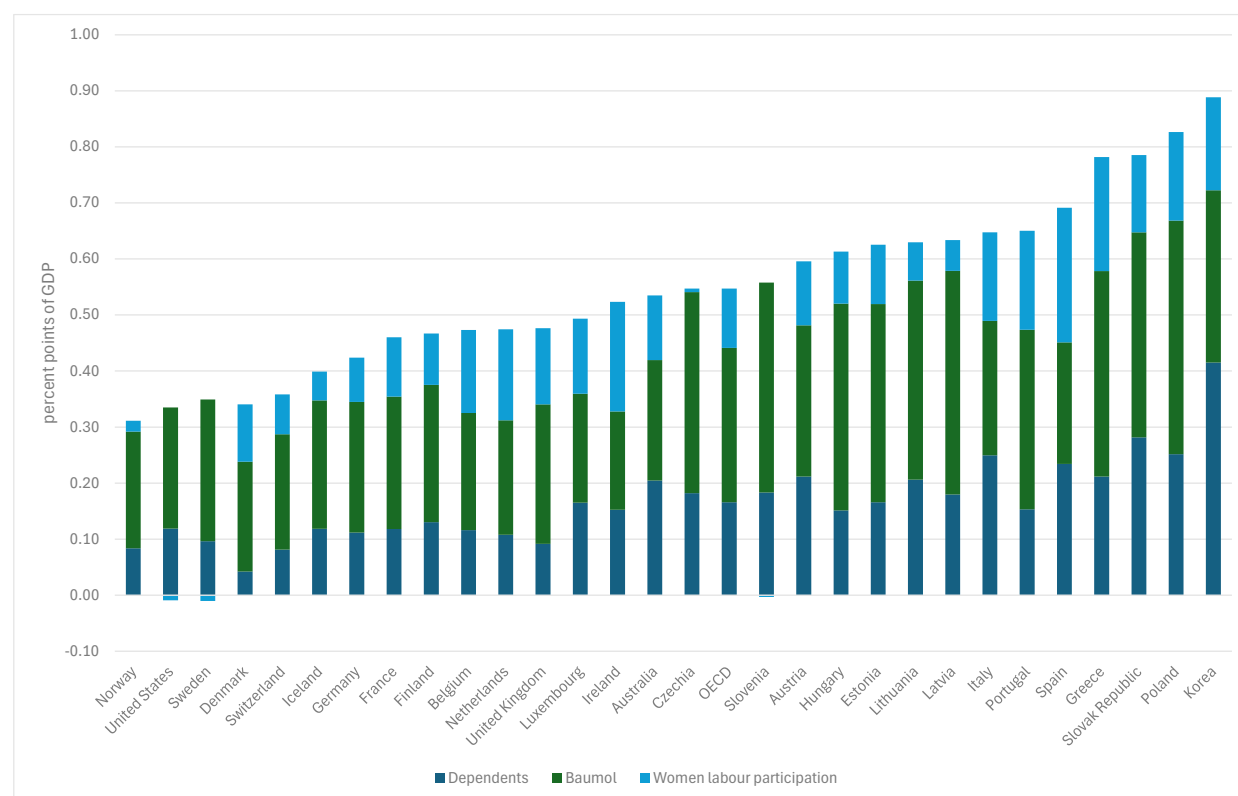


Note: *: 2022

Source: Authors' compilation.

Figure 3.3 presents projections of LTC expenditures for the health component by driver and country between 2023 and 2050. Half of the projected increase in LTC – health spending is accounted for by LTC productivity lagging behind general economy productivity (the Baumol effect), almost one third by the increase in the number of dependents (the ageing effect), and one fifth by the reduced supply of informal care, proxied by the increase in the female labour force participation.

Figure 3.3. Cumulative change in LTC – health spending as a % share of GDP by driver by country, 2023-2050, base scenario



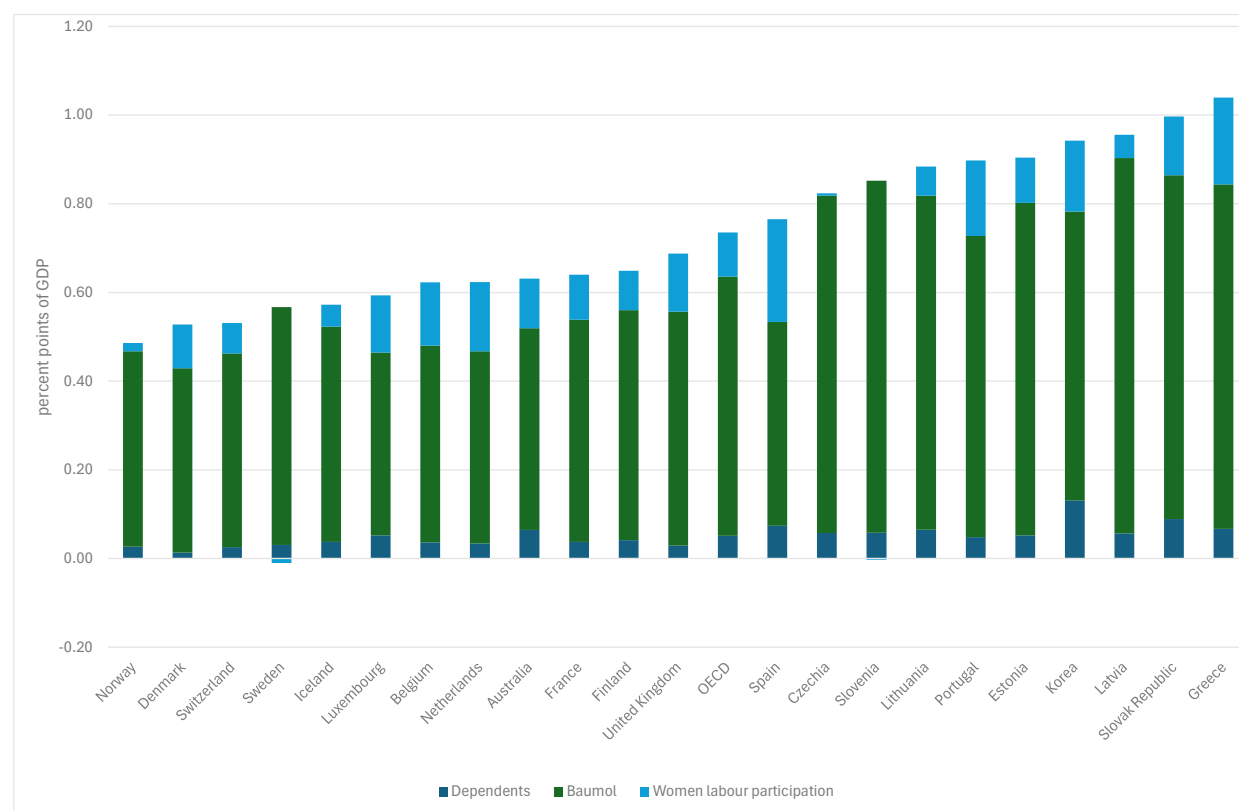
Note: This analysis covers only OECD countries that report LTC – health spending through the SHA data collection and for which dependency rates by age group by sex are available (29 countries).

Source: Authors' compilation.

The LTC - health spending is projected to increase by almost 0.9 percentage points of GDP in Korea, whereas spending is projected to increase by 0.3 percentage points of GDP in Norway. In Korea, half of the projected increase in LTC spending is accounted for by the increase in the projected number of dependents, whereas in Norway more than half of the projected increase is attributable to the Baumol effect.

Figure 3.4 presents projections of LTC expenditures for the social component by driver and country between 2023 and 2050. A large part of the increase in LTC -social spending is accounted for by the Baumol effect, and three tenth by the reduced supply of informal care, proxied by the increase in the female labour force participation.

Figure 3.4. Cumulative change in LTC – social spending as a % share of GDP by driver by country, 2023-2050, base scenario



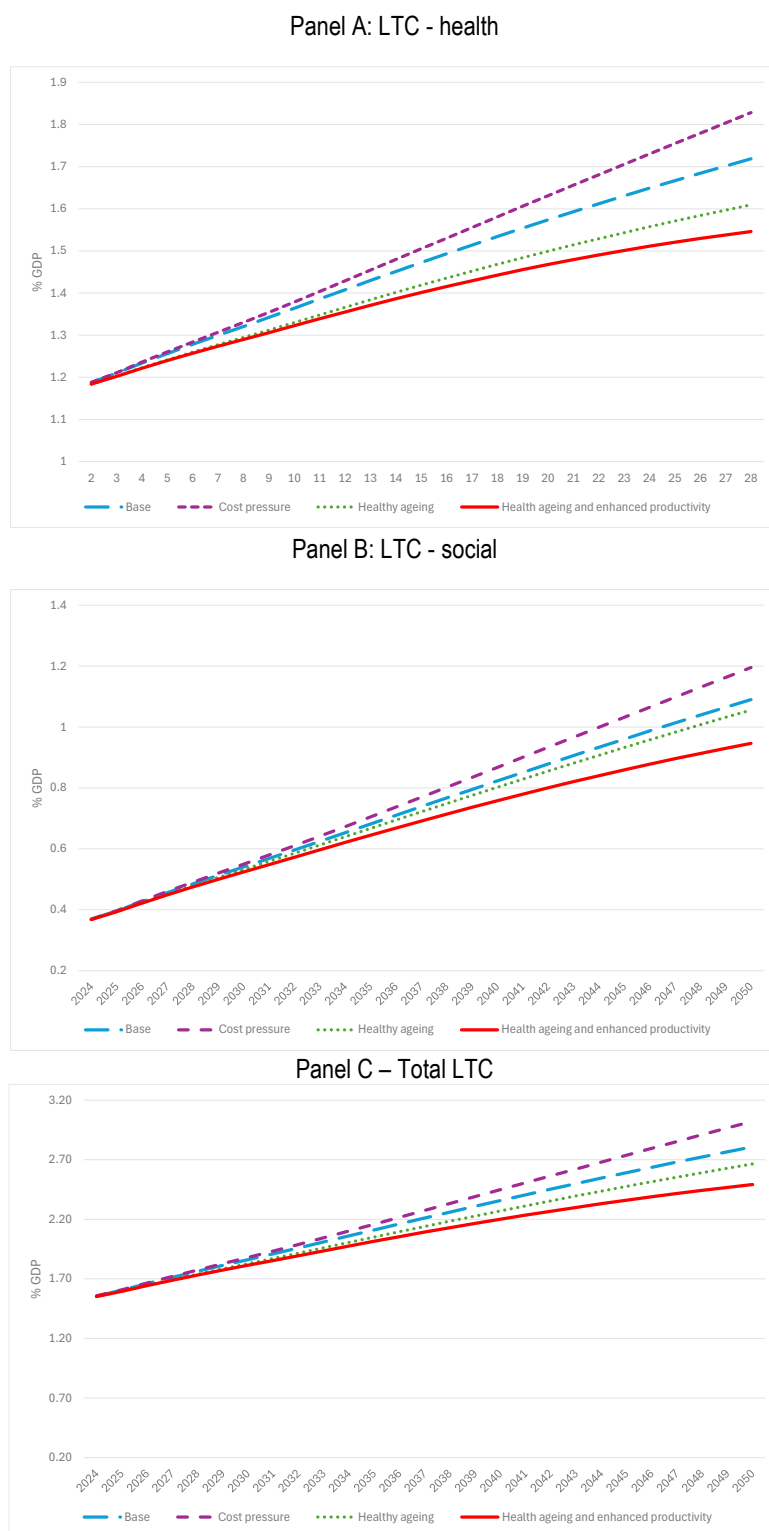
Note: This analysis covers only OECD countries that report LTC – social spending through the SHA data collection and for which dependency rates by age group by sex are available (22 countries).

Source: Authors' compilation.

The projected increase in LTC – social spending is quite large in Greece and the Slovak Republic. On the other end, the increase in LTC – social spending is projected to be less than 0.5 percentage points of GDP in Norway. In Greece and the Slovak Republic, more than 70 % of the projected growth in LTC spending is accounted for by the Baumol effect.

Figure 3.5 shows trends in LTC – health (Panel A), LTC – social (Panel B) and total LTC (Panel C) spending by scenario. Here, a lower bound that combines the “healthy ageing” and the “enhanced productivity” scenario is shown. A higher slope is projected for the LTC – social component across all scenarios.

Figure 3.5. Trends in LTC spending by scenario, 2024-2050.



Note: base scenario: no change in policy; cost pressure scenario: increase in beneficiaries covered and/or benefits provided and financed for by governments; healthy ageing scenario: decrease in the prevalence of dependency rates for age groups 35-40 and above; healthy ageing and enhanced productivity scenario: decrease in the prevalence of dependency rates for age groups 35-40 and above and increase in productivity.

Source: Authors' compilation.

The results presented in this paper are consistent with previous OECD analyses that used a reduced form model (OECD, 2024^[31]) requiring only a limited number of assumptions and being primarily data driven and a model similar to the one used in this paper (de Biase and Dougherty, 2023^[32]). The results are also in line with those of the European Commission (Box 3.1).

Annex B reports results by determinant by scenario for each country covered in this paper.

Box 3.1. Comparison with the European Commission projections results

If compared to the latest projections by the European Commission, similar results are found. Looking at changes in LTC expenditure expressed as percentage points of GDP, for most countries covered in both studies OECD projections fall between the EC baseline scenario and the LTC risk scenario (European Commission, 2024^[20]). The only exception be Denmark, Greece and Norway, countries for which OECD projections report a significantly higher (Greece) and significantly lower (Denmark and Norway) change in LTC spending between 2023-2050.

Country	Change in percentage points of GDP, 2023-2050			
	OECD base scenario	European Commission		
		Base scenario	Risk scenario	Healthy ageing scenario
Belgium	1.1	1.2	2	1
Czechia	1.4	0.8	1.3	0.7
Denmark	0.9	2.2	2.4	2
Estonia	1.5	0.5	2	0.4
Finland	1.1	1.1	1.8	1
France	1.1	0.5	1.5	0.5
Greece	1.8	0	0.5	0
Latvia	1.6	0.2	0.9	0.1
Lithuania	1.5	0.6	2.7	0.5
Luxembourg	1.1	0.7	1.2	0.7
Netherlands	1.1	1.5	2.3	1.2
Norway	0.8	2.2	2.6	2
Portugal	1.5	0.4	2.6	0.3
Slovak Republic	1.8	0.8	1.9	0.7
Slovenia	1.4	0.7	1.6	0.6
Spain	1.5	0.5	1.6	0.5
Sweden	0.9	0.7	1.2	0.5

Note: The EC risk scenario assumes that the cost profiles converge upwards to the European Union average by 2070 and that the probability of receiving in-kind formal care converges by 2070 upwards to the EU average. In the healthy ageing scenario, it is assumed that all projected gains in life expectancy are spent without disability.

Source: Authors' compilation based on (European Commission, 2024^[20]).

4

How to build sustainable LTC systems?

LTC systems across OECD countries face mounting fiscal pressures as populations age and social structures evolve. This paper presents projections indicating that all studied countries will experience substantial increases in LTC expenditure as a share of GDP through 2050, driven by demographic shifts, economic growth, productivity challenges, and decreasing informal care provision. These findings underscore the urgency of developing comprehensive, coordinated policy responses to ensure the sustainability and adequacy of LTC systems.

Projections serve as essential planning tools for policymakers, though it is crucial to understand what they can and cannot tell us. Unlike forecasts that attempt to predict specific outcomes, projections explore plausible future scenarios based on the continuation of current trends or the occurrence of specific events (OECD, 2024^[33]). They integrate well-established drivers of LTC spending, particularly demographic changes, with broader economic, technological, and social transformations that shape care needs and delivery models. Importantly, these drivers operate with different intensities across the health and social components of LTC expenditure, reinforcing the analytical importance of maintaining this distinction in future work.

By mapping potential future trajectories, projections enable policymakers to assess the long-term fiscal implications of current policies, identify pressure points in existing systems, and evaluate the potential impact of policy interventions before implementation. This forward-looking perspective is particularly valuable for LTC systems, where policy changes often take time to fully take effect and where the consequences of inaction can be severe for both public finances and vulnerable populations.

Policymakers should interpret these projections with awareness of their inherent limitations. The projection model is calibrated using elasticity estimates derived from the period 2003 to 2022 and assumes these relationships will remain stable through 2050. Government policy decisions could significantly alter these trajectories, either accelerating expenditure growth through expanded coverage and improved benefits or reining it in through cost-containment measures and system reforms.

Additionally, substantial cross-national variation exists in LTC expenditure levels and reporting practices. Countries such as Greece and the Slovak Republic show particularly low health-related LTC expenditures as a percentage of GDP, raising questions about whether these figures reflect genuinely different care models, inadequate system development, greater reliance on informal care, or inconsistencies in how expenditures are categorized and reported. Institutional differences across countries should also be considered when interpreting projections results. For example, in Korea the spending of users of LTC hospitals is financed through the National Health Insurance and therefore is not accounted for under LTC expenditure. Improved harmonization of LTC expenditure definition and measurement across countries would enhance the reliability and comparability of future projections, enabling more robust international policy learning.

Finally, this paper does not discuss labour market dynamics across OECD countries, including the role of migration in care workforce supply, and the public-private mix of LTC spending. Future work may address

the roles of recruitment strategies, skill recognition and working conditions in shaping workforce supply, as well as the distributional consequences of policy changes aimed at shifting towards higher co-payments and re-defining the LTC benefit basket and criteria for accessing LTC services and support.

The projected increase of 1.2 percentage points to 2.8 % of GDP of LTC expenditure is slightly higher than that of public pension spending, which is projected to grow from 8.8% to 10 % of GDP by 2050 on average across OECD countries (OECD, 2025^[34]). During the same period, health spending (excluding LTC – health spending) from public sources is projected to grow from 5.5 % to 8 % of GDP (OECD, 2025^[11]). This signals that all countries will need to allocate larger shares of government spending to finance LTC services in the context of competing budget priorities.

The scenarios analysed in this paper offer some illustrations of how policies can help governments rein in LTC spending by:

- Promoting healthy ageing: investments in preventive health care, chronic disease management, and health promotion can compress morbidity in later life, potentially reducing both the intensity and duration of LTC needs. Policies that enable older adults to maintain functional independence longer can simultaneously improve quality of life and moderate expenditure growth (OECD, 2024^[31]) (OECD, 2025^[35]).
- Enhancing productivity: while the scope for productivity gains in direct care is constrained by the human-intensive nature of the work, opportunities exist to promote the use of assistive technology and artificial intelligence-enhanced interventions in LTC (Butler, 2022^[11]) (Loveys et al., 2022^[12]). Strategic investments in these areas can help moderate cost growth without compromising care quality. Furthermore, many current systems maintain artificial boundaries between health care and long-term care, leading to fragmented service delivery, inefficient resource use, and poorer outcomes for individuals with complex needs (OECD, 2025^[13]). Policies that promote integrated care models, aligned incentives across sectors, and seamless transitions between care settings can improve allocative efficiency.
- Sustaining formal and informal care: policy should recognize complementary roles of paid and unpaid care. Support for family caregivers through respite services, training, financial compensation, and employment protections can help sustain informal care contributions while ensuring caregivers themselves do not face unacceptable economic or health costs (Rocard and Llana-Nozal, 2022^[3]) (OECD, 2020^[36]) (OECD, 2023^[5]). At the same time, policy should also promote the recruitment and retention of qualified personal care workers through increases in wages – possibly negotiated through collective bargaining - and job recognition (OECD, 2023^[5]).

Addressing these challenges effectively requires moving beyond incremental adjustments toward comprehensive, coordinated policy responses across multiple domains. To this aim, an honest public dialogue about financing mechanisms, intergenerational equity, and the appropriate balance between public and private responsibility is needed. Options include expanding social insurance schemes, adjusting tax systems, developing long-term care insurance markets with appropriate regulation, and implementing means-tested public programs with varying levels of cost-sharing (OECD, 2024^[33]) (Koutsogeorgopoulou and Morgavi, 2025^[37]). Financing mechanisms can be designed to distribute costs equitably across income groups and generations.

The projected growth in LTC expenditure through 2050 reflects fundamental demographic trends and economic transformations that no policy intervention can entirely prevent. The policy response, however, remains a matter of choice. Countries that act proactively to build sustainable, integrated LTC systems – also through meaningful engagement of social partners - will be better positioned to meet the needs of aging populations while managing fiscal pressures. Delay will only narrow the available options and increase the difficulty of necessary adjustments.

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Annex A. Data sources and regression results

For each country of the European Union in this study and Switzerland, dependency rates by sex by age group were computed as simple average of EU-SILC ([EU statistics on income and living conditions - Microdata - Eurostat](#)) data for 2020-2022, using the response “severely limited” to the question about “Limitation in activities because of health problems” (Global Activity Limitation Indicator – GALI).

For dependency rates of other non-EU countries, data from the Survey on Disability, Ageing and Carers for Australia ([Disability, Ageing and Carers, Australia: Summary of Findings | Australian Bureau of Statistics](#)), from the Korean Longitudinal Study on Ageing ([Korean Longitudinal Study of Aging \(KLoSA\) | National Institute on Aging](#)), and from the Health and Retirement Study for the United States ([About | Health and Retirement Study](#)) were used. As Korea and the United States do not report dependency rates for age groups below 50-60 years, dependency rates by sex for the age groups lower than 50-60 years were estimated using the average difference in the dependency rate of those age groups with the age group 50-60 year (used as a reference) estimated using EU-SILC data. The use of nationally specific data on the prevalence of dependency may limit cross-national comparability.

For all countries in this study, the dependency rate was set to 2 for people aged 15 years and below.

The medium fertility variant of the 2024 population projections from the United Nations World Population Prospects ([World Population Prospects](#)) was used.

Female labour participation rates were computed as average projected rates of women aged 45-60 years by country, weighted by the number of women aged 45-50, 50-55 and 55-60 respectively by country.

One determinant of LTC expenditure is the Baumol effect. The long-term care sector is very labor-intensive, and opportunities to increase productivity are often considered more limited than in other sectors of the economy. With wage equalization across sectors, this implies that the relative price of LTC compared to other goods and services in the economy tends to rise as overall productivity and GDP per capita increase (Celebi, Hartwig and Sandqvist, 2025^[6]). Given the price-inelastic nature of demand, the share of LTC expenditure in GDP would therefore be expected to increase over time.

Table A A.1 lists the data sources used for the analyses.

Table A A.1. Data sources

Data	Source	Comment
GDP	OECD Statistics and OECD Economic Outlook	At 2015 Purchasing Power Parities constant prices
Population	United Nation World Population Prospects	By 5-year age group by sex
Dependency rates	EU-SILC; Survey on Disability, Ageing and Carers were used, Australia; Korean Longitudinal Study on Ageing; Health and Retirement Study, the United States	For the United Kingdom, EU-SILC dependency rates refer to 2016-2018.
Wages	OECD Statistics and OECD Economic Outlook	At 2015 Purchasing Power Parities constant prices
Female labour force participation	OECD Statistics and OECD Economic Outlook	Female aged 50-64 years

Long-term expenditure	care	OECD Statistics	Separately for the LTC – health and the LTC – social spending components
Projected expenditure from sources	healthcare from public	OECD Health at a Glance 2025	Extrapolated to 2050, excluding spending on LTC - health

Source: Authors' compilation

The elasticities of the drivers are reported in Figure A.A.1 for the LTC – health component and the LTC – social component. Model 4 and model 8 are the specifications chosen for each component respectively. Those elasticities were estimated from time series of countries that participated in the EU-SILC survey – 25 for LTC – health and 19 for LTC – social.

Figure A.A.2 shows the results when the GDP per employee is used to measure the Baumol variable. Results shown in column (4) and (8) are not robust due to multicollinearity between GDP per capita and GDP per employee.

Figure A A.1. Results of estimates of determinants of long-term care expenditure by type of components

Model specification	Log LTC spending as a percent share of GDP – Health components				Log LTC spending as a percent share of GDP – Social components			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log number of dependents	-0.0928** (0.0428)	-0.0134 (0.0416)	-0.1082** (0.0425)	-0.0276 (0.0405)	-0.0598 (0.0717)	0.0309 (0.0735)	-0.1019 (0.0688)	0.0092 (0.0689)
Log GDP per capita	0.6283*** (0.1003)	0.0996 (0.1093)	0.4557*** (0.1094)	-0.1282 (0.1155)	0.8014*** (0.1466)	0.4870*** (0.1707)	0.4363*** (0.1573)	0.0047 (0.1815)
Log female labour force participation		1.0393*** (0.1318)		1.0946*** (0.1273)		0.8516*** (0.2393)		1.0490*** (0.2267)
Baumol effect			0.5699*** (0.1679)	0.6706*** (0.1484)			1.2587*** (0.2575)	1.4212*** (0.2539)
Constant	-6.1758*** (1.1510)	-5.5613*** (1.0450)	-3.9353*** (1.2902)	-2.9277** (1.1508)	-9.6627*** (1.6866)	-10.5632*** (1.6623)	-4.8555*** (1.8744)	-5.4039*** (1.8075)
Observations	295	295	295	295	219	219	219	219
R ² Within	0.1186	0.3251	0.1538	0.3754	0.1290	0.1778	0.2250	0.2974
R ² Between	0.5053	0.1669	0.4443	0.1683	0.1805	0.3701	0.0893	0.2278
R ² Overall	0.4732	0.1459	0.4406	0.1678	0.1506	0.3078	0.1072	0.2612
Wald χ^2 (p-value)	0.0000	0.0000	0.0000	0.0000	0.0101	0.0010	0.0000	0.0000

Note: results of random effects panel models. ***: statistically significant at 0.01 level. **: statistically significant at 0.05 level. *: statistically significant at 0.1 level. Standard errors shown in parentheses.
Source: Authors' compilation

Figure A A.2. Results of estimates of determinants of long-term care expenditure by type of components. GDP per employee as Baumol variable

Model specification	Log LTC spending as a percent share of GDP – Health components				Log LTC spending as a percent share of GDP – Social components			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log number of dependents	-0.0928** (0.0428)	-0.0134 (0.0416)	-0.0120 (0.0401)	-0.0177 (0.0395)	-0.0598 (0.0717)	0.0309 (0.0735)	0.0393 (0.0736)	0.0317 (0.0738)
Log GDP per capita	0.6283*** (0.1003)	0.0996 (0.1093)		-0.7363*** (0.1895)	0.8013*** (0.1466)	0.4870*** (0.1707)		0.3944 (0.3462)
Log female labour force participation		1.0393*** (0.1318)	0.8216*** (0.1292)	0.9369*** (0.1280)		0.8516*** (0.2393)	0.7891*** (0.2601)	0.8189*** (0.2611)
Log GDP per employee			0.6712*** (0.1611)	1.5486*** (0.2838)			0.7060*** (0.2691)	0.1656 (0.5445)
Constant	-6.1758*** (1.1510)	-5.5613*** (1.0450)	-11.1828*** (1.6357)	-13.7866*** (1.7756)	-9.6627*** (1.6866)	-10.5632*** (1.6623)	-13.1849*** (2.5871)	-11.3230*** (3.0511)
Observations	295	295	295	295	219	219	219	219
R ² Within	0.1186	0.3251	0.3225	0.3628	0.1290	0.1778	0.1732	0.1781
R ² Between	0.5053	0.1669	0.7477	0.7361	0.1805	0.3701	0.3284	0.3584
R ² Overall	0.4732	0.1459	0.6514	0.6425	0.1506	0.3078	0.3029	0.3069
Wald χ^2 (p-value)	0.0000	0.0000	0.0000	0.0000	0.0101	0.0010	0.0000	0.0000

Note: results of random effects panel models. ***: statistically significant at 0.01 level. **: statistically significant at 0.05 level. *: statistically significant at 0.1 level. Standard errors shown in parentheses.
Source: Authors' compilation.

Annex B. The healthy ageing scenario

In the healthy ageing scenario for both the LTC – health and the LTC – social, as posited by (de la Maisonneuve and Oliveira Martins, 2013^[18]), the change in the prevalence rates of dependency is estimated to be a function of the projected change in health spending from public sources as a percent share of GDP (excluding projected spending on LTC – health) and projected change in life expectancy at birth by country. For those two determinants, we estimated elasticities separately for females and males using the following specification:

$$\Delta \ln(\text{deprate}_{t,a,i}) = \alpha + \beta \Delta \ln(\text{age}_{t,a,i}) + \varepsilon \Delta \ln\left(\frac{\text{health spending}_{t,i}}{N_{t,i}}\right) + \gamma \Delta \ln(\text{LE at birth}_{t,i}) + u_{it}$$

where: $\text{deprate}_{t,a,i}$ is the dependency rate at time t for the age class a in country i ; $\text{age}_{t,a,i}$ is the mean age at time t for age class a in country i ; $\frac{\text{health spending}_{t,i}}{N_{t,i}}$ is the health spending per capita at time t in country i ; $\text{LE at birth}_{t,i}$ is the life expectancy at birth at time t in country i .

In the healthy ageing scenario used in this paper, it is assumed that only half of the projected change in the prevalence of dependency over time, due to changes in health spending and in life expectancy at birth, will affect age groups of 35-40 years and above.

The elasticities of the drivers estimated using a random effect panel model are reported in Table A B.1 for males and females respectively. Model 4 is the specifications chosen. Those elasticities were estimated from time series data (2003-2023) for countries that participated in the EU-SILC survey.

Table A B.1. Value of the coefficients of the drivers of dependency rates by sex

Panel A - Males

Explanatory variable	Model 1	Model 2	Model 3	Model 4
Log age class	2.4174*** (0.0902)	2.4151*** (0.0848)	2.416*** (0.0861)	2.4151*** (0.0852)
Log life expectancy at birth		-4.7805*** (0.2349)		-3.7277*** (0.3168)
Log health spending per capita			-0.4504*** (0.0264)	-0.1748*** (0.0350)
Constant	-7.6634*** (0.3740)	13.0917*** (1.0789)	-4.0634*** (0.4149)	9.9180*** (1.2557)
Observations	2972	2972	2972	2972

Panel B – Females

<i>Explanatory variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
Log age class	2.6101*** (0.1012)	2.6075*** (0.1009)	2.6087*** (0.1018)	2.6076*** (0.1017)
Log life expectancy at birth		-7.1164*** (0.4288)		-4.5544*** (0.5332)
Log health spending per capita			-0.4527*** (0.0277)	-0.2767*** (0.0345)
Constant	-8.3676*** (0.4198)	23.0473*** (1.9386)	-4.7495*** (0.4770)	13.9483*** (2.2382)
Observations	2981	2981	2981	2981

Note: results of random effects panel models. Dependent variable, Log dependency rate. ***: statistically significant at the 0.01 level. **: statistically significant at the 0.05 level. *: statistically significant at the 0.1 level. Robust standard errors shown in parentheses.

Source: Authors' compilation.

Results show that an increase in health expenditure is likely to translate into a decrease in the prevalence of chronic diseases at older ages, and that an increase in life expectancy at birth is likely to delay the prevalence of dependency.

Annex C. Projections results

Table A C.1 compares the estimated number of dependents and population by country and sex between 2023 and 2050. According to these projections, the share of dependent people will reach 7.2 % of the population in 2050, an increase of 1.2 percentage points compared to 2023.

Table A C.2 reports the results of the spending projections by determinant by country for the LTC – health component. Based on the availability of LTC - health spending and of dependency rates data by age group and sex, these projections cover 29 OECD countries.

As an example, for Australia increases of 0.54, 0.66, 0.42 and 0.48 percentage points of GDP (pp) are projected for LTC – health spending in the base, cost pressure, healthy ageing and enhanced productivity scenarios respectively. In the base scenario, 38.2 % of the projected increase in LTC – health spending is accounted for by the change in the number of dependents (0.2 pp), 40.1 % by the Baumol effect (0.21 pp) and 21.7 % by the change in female labour force participation (0.12 pp).

Table A C.3 shows the results of the spending projections by determinant by country for the LTC – social component. Based on the availability of LTC – social spending and of dependency rates data by age group and sex, these projections cover 22 OECD countries.

Table A C.1. Number of dependents and population by country and sex, 2023 and 2050

Country	Number of dependents (in thousands)						Population (in thousands)					
	2023			2050			2023			2050		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
Australia	1043	865	1908	1704	1366	3070	13327	13124	26451	16358	16149	32507
Austria	370	335	706	474	416	891	4636	4494	9130	4401	4323	8724
Belgium	511	368	879	605	432	1037	5939	5774	11713	5969	5902	11871
Czechia	393	306	699	443	364	807	5480	5330	10810	4911	4915	9826
Denmark	193	164	357	207	182	389	2992	2957	5948	3059	3066	6125
Estonia	71	53	124	72	60	133	718	649	1367	601	574	1174
Finland	196	176	372	217	204	421	2833	2768	5601	2666	2686	5352
France	3004	2281	5285	3607	2732	6339	34237	32202	66439	35174	33046	68220
Germany	6023	5102	11125	6392	5581	11973	42802	41746	84548	39403	38892	78295
Greece	518	381	899	586	436	1022	5282	4961	10243	4451	4361	8812
Hungary	323	231	554	343	268	611	5038	4648	9686	4423	4303	8725
Iceland	22	15	37	27	22	48	189	198	388	207	226	433
Ireland	125	121	246	182	163	345	2624	2573	5197	3011	2959	5970
Italy	1949	1504	3452	2388	1795	4183	30437	29062	59499	26212	25679	51891
Korea	761	623	1385	1270	816	2086	25917	25832	51749	23138	22006	45143
Latvia	90	56	147	88	62	149	1010	872	1882	792	722	1514
Lithuania	93	59	152	97	61	158	1508	1346	2854	1174	1085	2259
Luxembourg	24	16	40	34	24	59	330	335	665	392	399	791
Netherlands	430	347	777	521	417	938	9106	8986	18093	9492	9466	18958
Norway	187	119	306	222	143	365	2738	2781	5519	2922	2978	5900
Poland	1273	1054	2327	1528	1216	2744	19978	18785	38763	16864	15950	32814
Portugal	492	346	838	569	391	960	5462	4969	10431	5110	4660	9770

Slovak Republic	266	195	461	336	261	597	2824	2694	5518	2513	2423	4936
Slovenia	76	68	144	89	83	171	1055	1064	2118	964	1018	1982
Spain	1418	984	2402	1896	1168	3065	24387	23524	47912	23112	21816	44929
Sweden	228	199	428	277	243	520	5238	5314	10551	5573	5736	11310
Switzerland	250	190	440	291	224	515	4465	4405	8871	4693	4650	9343
United Kingdom	3691	2908	6599	4543	3640	8183	34870	33813	68683	37922	37583	75505
United States	7436	5237	12672	9619	6812	16431	170889	172589	343477	188080	192767	380847
OECD	31456	24304	55760	38630	29583	68214	466313	457794	924107	473585	470339	943925

Note: population projections are based on the medium fertility variant of the 2024 population projections from the United Nations World Population Prospects.

Source: Authors' compilation and [World Population Prospects](#).

Table A C.2. Percent points of GDP change by determinant by country, LTC – health, 2023-50

	Change in percentage points of GDP																			
	Base					Cost pressure					Healthy ageing					Enhanced productivity				
Country	A	B	C	D	Total	A	B	C	D	Total	A	B	C	D	Total	A	B	C	D	Total
Australia	0.20	0.00	0.21	0.12	0.54	0.20	0.12	0.21	0.12	0.66	0.09	0.00	0.21	0.12	0.42	0.20	0.00	0.16	0.12	0.48
Austria	0.21	0.00	0.27	0.11	0.60	0.21	0.12	0.27	0.11	0.72	0.10	0.00	0.27	0.11	0.48	0.21	0.00	0.21	0.11	0.53
Belgium	0.12	0.00	0.21	0.15	0.47	0.12	0.10	0.21	0.15	0.57	0.00	0.00	0.21	0.15	0.36	0.12	0.00	0.16	0.15	0.42
Czechia	0.18	0.00	0.36	0.01	0.55	0.18	0.12	0.36	0.01	0.67	0.07	0.00	0.36	0.01	0.43	0.18	0.00	0.28	0.01	0.47
Denmark	0.04	0.00	0.20	0.10	0.34	0.04	0.09	0.20	0.10	0.43	-0.05	0.00	0.20	0.10	0.25	0.04	0.00	0.15	0.10	0.29
Estonia	0.17	0.00	0.35	0.11	0.63	0.17	0.16	0.35	0.11	0.79	0.04	0.00	0.35	0.11	0.50	0.17	0.00	0.28	0.11	0.55
Finland	0.13	0.00	0.24	0.09	0.47	0.13	0.11	0.24	0.09	0.58	0.03	0.00	0.24	0.09	0.37	0.13	0.00	0.18	0.09	0.41
France	0.12	0.00	0.24	0.11	0.46	0.12	0.08	0.24	0.11	0.54	0.02	0.00	0.24	0.11	0.37	0.12	0.00	0.18	0.11	0.40
Germany	0.11	0.00	0.23	0.08	0.42	0.11	0.11	0.23	0.08	0.53	0.01	0.00	0.23	0.08	0.32	0.11	0.00	0.18	0.08	0.37
Greece	0.21	0.00	0.37	0.20	0.78	0.21	0.12	0.37	0.20	0.90	0.11	0.00	0.37	0.20	0.68	0.21	0.00	0.28	0.20	0.70
Hungary	0.15	0.00	0.37	0.09	0.61	0.15	0.14	0.37	0.09	0.75	0.04	0.00	0.37	0.09	0.50	0.15	0.00	0.29	0.09	0.53
Iceland	0.12	0.00	0.23	0.05	0.40	0.12	0.14	0.23	0.05	0.54	-0.01	0.00	0.23	0.05	0.27	0.12	0.00	0.17	0.05	0.34
Ireland	0.15	0.00	0.18	0.20	0.52	0.15	0.08	0.18	0.20	0.60	0.05	0.00	0.18	0.20	0.42	0.15	0.00	0.13	0.20	0.48
Italy	0.25	0.00	0.24	0.16	0.65	0.25	0.12	0.24	0.16	0.77	0.14	0.00	0.24	0.16	0.54	0.25	0.00	0.18	0.16	0.59
Korea	0.42	0.00	0.31	0.17	0.89	0.42	0.11	0.31	0.17	1.00	0.30	0.00	0.31	0.17	0.77	0.42	0.00	0.24	0.17	0.82
Latvia	0.18	0.00	0.40	0.05	0.63	0.18	0.12	0.40	0.05	0.75	0.07	0.00	0.40	0.05	0.53	0.18	0.00	0.32	0.05	0.55
Lithuania	0.21	0.00	0.36	0.07	0.63	0.21	0.13	0.36	0.07	0.76	0.09	0.00	0.36	0.07	0.51	0.21	0.00	0.28	0.07	0.56
Luxembourg	0.16	0.00	0.19	0.13	0.49	0.16	0.08	0.19	0.13	0.57	0.04	0.00	0.19	0.13	0.37	0.16	0.00	0.15	0.13	0.45
Netherlands	0.11	0.00	0.20	0.16	0.47	0.11	0.10	0.20	0.16	0.58	0.00	0.00	0.20	0.16	0.36	0.11	0.00	0.15	0.16	0.42
Norway	0.08	0.00	0.21	0.02	0.31	0.08	0.09	0.21	0.02	0.40	-0.02	0.00	0.21	0.02	0.20	0.08	0.00	0.16	0.02	0.26
Poland	0.25	0.00	0.42	0.16	0.83	0.25	0.13	0.42	0.16	0.95	0.14	0.00	0.42	0.16	0.71	0.25	0.00	0.33	0.16	0.74
Portugal	0.15	0.00	0.32	0.18	0.65	0.15	0.12	0.32	0.18	0.77	0.06	0.00	0.32	0.18	0.55	0.15	0.00	0.25	0.18	0.58
Slovak Republic	0.28	0.00	0.37	0.14	0.79	0.28	0.11	0.37	0.14	0.90	0.16	0.00	0.37	0.14	0.67	0.28	0.00	0.29	0.14	0.71
Slovenia	0.18	0.00	0.37	0.00	0.55	0.18	0.12	0.37	0.00	0.67	0.06	0.00	0.37	0.00	0.43	0.18	0.00	0.29	0.00	0.47
Spain	0.23	0.00	0.22	0.24	0.69	0.23	0.10	0.22	0.24	0.79	0.13	0.00	0.22	0.24	0.59	0.23	0.00	0.16	0.24	0.63
Sweden	0.10	0.00	0.25	-0.01	0.34	0.10	0.12	0.25	-0.01	0.46	0.00	0.00	0.25	-0.01	0.24	0.10	0.00	0.19	-0.01	0.28
Switzerland	0.08	0.00	0.21	0.07	0.36	0.08	0.08	0.21	0.07	0.44	-0.02	0.00	0.21	0.07	0.26	0.08	0.00	0.16	0.07	0.31

United Kingdom	0.09	0.00	0.25	0.14	0.48	0.09	0.09	0.25	0.14	0.57	-0.01	0.00	0.25	0.14	0.37	0.09	0.00	0.19	0.14	0.41
United States	0.12	0.00	0.22	-0.01	0.33	0.12	0.07	0.22	-0.01	0.39	0.02	0.00	0.22	-0.01	0.23	0.12	0.00	0.17	-0.01	0.28
OECD	0.17	0.00	0.28	0.11	0.55	0.17	0.11	0.28	0.11	0.66	0.06	0.00	0.28	0.11	0.44	0.17	0.00	0.21	0.11	0.48

Note: A: number of dependents; B: income; C: Baumol effect; D: female labour force participation

Source: Authors' compilation.

Table A C.3. Percent points of GDP change by determinant by country, LTC – social, 2023-50

Country	Change in percentage points of GDP																			
	Base					Cost pressure					Healthy ageing					Enhanced productivity				
	A	B	C	D	Total	A	B	C	D	Total	A	B	C	D	Total	A	B	C	D	Total
Australia	0.06	0.00	0.45	0.11	0.63	0.06	0.12	0.45	0.11	0.74	0.00	0.00	0.45	0.11	0.56	0.00	0.00	0.30	0.11	0.51
Belgium	0.04	0.00	0.44	0.14	0.62	0.04	0.10	0.44	0.14	0.72	0.00	0.00	0.44	0.14	0.58	0.00	0.00	0.30	0.14	0.54
Czechia	0.06	0.00	0.76	0.01	0.83	0.06	0.11	0.76	0.01	0.94	0.00	0.00	0.76	0.01	0.77	0.00	0.00	0.60	0.01	0.61
Denmark	0.01	0.00	0.42	0.00	0.53	0.01	0.09	0.42	0.00	0.52	-0.02	0.00	0.42	0.00	0.50	0.00	0.00	0.30	0.00	0.40
Estonia	0.05	0.00	0.75	0.00	0.80	0.05	0.11	0.75	0.00	1.01	0.00	0.00	0.75	0.00	0.75	0.00	0.00	0.60	0.00	0.60
Finland	0.04	0.00	0.52	0.09	0.65	0.04	0.10	0.52	0.09	0.75	0.00	0.00	0.52	0.09	0.61	0.00	0.00	0.40	0.09	0.59
France	0.04	0.00	0.50	0.00	0.54	0.04	0.08	0.50	0.00	0.62	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.40	0.00	0.40
Greece	0.07	0.00	0.78	0.20	1.05	0.07	0.11	0.78	0.20	1.16	0.00	0.00	0.78	0.20	1.00	0.00	0.00	0.60	0.20	0.80
Iceland	0.04	0.00	0.49	0.05	0.58	0.04	0.11	0.49	0.05	0.69	0.00	0.00	0.49	0.05	0.54	0.00	0.00	0.30	0.05	0.40
Korea	0.13	0.00	0.65	0.16	0.94	0.13	0.11	0.65	0.16	1.05	0.00	0.00	0.65	0.16	0.81	0.10	0.00	0.50	0.16	0.86
Latvia	0.06	0.00	0.85	0.05	0.96	0.06	0.11	0.85	0.05	1.07	0.00	0.00	0.85	0.05	0.90	0.00	0.00	0.70	0.05	0.80
Lithuania	0.07	0.00	0.75	0.00	0.82	0.07	0.11	0.75	0.00	1.03	0.00	0.00	0.75	0.00	0.75	0.00	0.00	0.60	0.00	0.60
Luxembourg	0.05	0.00	0.41	0.13	0.59	0.05	0.08	0.41	0.13	0.67	0.00	0.00	0.41	0.13	0.54	0.00	0.00	0.30	0.13	0.57
Netherlands	0.03	0.00	0.43	0.16	0.62	0.03	0.10	0.43	0.16	0.72	0.00	0.00	0.43	0.16	0.59	0.00	0.00	0.30	0.16	0.66
Norway	0.03	0.00	0.44	0.02	0.49	0.03	0.09	0.44	0.02	0.58	-0.01	0.00	0.44	0.02	0.45	0.00	0.00	0.30	0.02	0.42
Portugal	0.05	0.00	0.68	0.17	0.90	0.05	0.11	0.68	0.17	1.01	0.00	0.00	0.68	0.17	0.85	0.00	0.00	0.50	0.17	0.77
Slovak Republic	0.09	0.00	0.78	0.13	1.00	0.09	0.11	0.78	0.13	1.11	0.00	0.00	0.78	0.13	0.91	0.00	0.00	0.60	0.13	0.84
Slovenia	0.06	0.00	0.79	0.00	0.85	0.06	0.11	0.79	0.00	0.96	0.00	0.00	0.79	0.00	0.79	0.00	0.00	0.60	0.00	0.60
Spain	0.07	0.00	0.46	0.23	0.76	0.07	0.10	0.46	0.23	0.86	0.00	0.00	0.46	0.23	0.73	0.00	0.00	0.30	0.23	0.66
Sweden	0.03	0.00	0.54	-0.01	0.56	0.03	0.11	0.54	-0.01	0.67	0.00	0.00	0.54	-0.01	0.53	0.00	0.00	0.40	-0.01	0.42
Switzerland	0.03	0.00	0.44	0.07	0.54	0.03	0.08	0.44	0.07	0.62	-0.01	0.00	0.44	0.07	0.50	0.00	0.00	0.30	0.07	0.44
United Kingdom	0.03	0.00	0.53	0.13	0.69	0.03	0.09	0.53	0.13	0.78	0.00	0.00	0.53	0.13	0.66	0.00	0.00	0.40	0.13	0.59
OECD	0.05	0.00	0.58	0.10	0.73	0.05	0.11	0.58	0.10	0.84	0.00	0.00	0.58	0.10	0.70	0.00	0.00	0.40	0.10	0.60

Note: A: number of dependents; B: income; C: Baumol effect; D: female labour force participation

Source: Authors' compilation.