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Article

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Long-term Care

Future Long-term Care Needs and Public Expenditure in the EU Member States

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Introduction

The populations of Europe are living longer, which is attributable to the success of health and social policies aimed at increasing longevity and improving quality of life. Nevertheless, "longer" does not always mean "healthy" and "high quality" life. As people get older, it is likely that their health deteriorates. In such circumstances, the elderly need help in their daily life which can be provided either by family, the community or by state-run institutions. The provision of long-term care, including medical, paramedical and social services, is an important component of social protection systems in all member states of the European Union. However, the extent to which people's need for care is met and the way care is organised and financed differs widely across individual countries.

Long-term projections of the economic and budgetary impact of ageing are made jointly by the European Commission and the Ageing Working Group attached to the Economic Policy Committee. The third round of projections was concluded in 2009. This project provides an opportunity to analyse and estimate the impact of demographic changes on the macroeconomic variables including the labour market situation and public finances in each member state and the Union as a whole. To estimate the budgetary effect of ageing, a common projection model was built to project public expenditure on health care, long-term care, education and unemployment benefits over the life period of all currently living generations (up to 2060). National models were run to project pension expenditure. The long-term care projection model allows for the study of the impact of different factors on demand for and supply of long-term care and estimates future care needs of populations and the expected budgetary costs of additional care provided by the state to meet them. This article is based on the results and conclusions of the 2009 budgetary projections[1] and a series of additional simulations by the authors.

The concept of disability

The concept of long-term care services is not straightforward or easy to define. Although covering a wide spectrum of activities, it is generally defined as "a range of services for people who depend on ongoing help with the activities of daily living caused by chronic conditions of physical or mental disability" (OECD 2005). Disability, in turn, is defined by the WHO as "an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives."[2] Both need a more specific, comparable and quantifiable definition.

A very useful concept, used by most researchers as a measure of disability is the notion of activity of daily living (ADL), such as eating, bathing, dressing, getting in and out of bed etc. It is generally agreed that to be considered disabled, one should need assistance in performing at least one ADL.

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[1] For details of the projection project, see: European Commission and Economic Policy Committee (2009).
[2] http://www.who.int/topics/disabilities/en/

Moreover, the long-term care definition may be expanded to cover help in performing instrumental activities of daily living (IADL), such as basic housework, preparing meals, shopping or using household technical equipment which are not necessary for fundamental functioning, but allow an individual to lead an independent life. However, due to the vagueness of the social services concept and varying national approaches, most statistics concentrate on the narrower definition based on ADL limitations.

Need for care does not automatically lead to the eligibility for public long-term care services. The final number of patients who receive such care is then a combination of demand for and supply of care.

From disability to long-term care need

Demand for care is driven mainly by objective factors, such as the demographic structure of the population and their disability (or dependency) status. Although the need for long-term care is reported by people of all ages, the large majority of recipients are elderly people.

As shown in Figure 1, the dependency rate, calculated as the percentage of people who cannot perform at least one ADL,[3] increases gradually with age. The increase follows a broadly linear trend. As a consequence, the number of dependent people in a society is closely correlated with its demographic structure and any increase in the share of elderly population leads to greater demand for long-term care services.

Future changes in the demographic structure of European populations

The current demographic developments in European societies are driven by two main factors: a significant decline in fertility rate and a constant fall in mortality rates leading to an increase in life expectancy. As a consequence, the elderly proportion of the population has been increasing steadily since the 1950s and 1960s.

These trends are not expected to change dramatically, a finding which is confirmed by the most recent demographic projections produced by Eurostat.[4] Based on recent trends in fertility and mortality, expected convergence in living standards and social behaviour within the EU, as well as expected trends in the net migration flows, Eurostat made projections of the population of the 27 member states of the European Union, disaggregated by single year of age and by gender over the period 2008–60. The total population of the European Union is expected to increase from 495.4 in 2008 to 520.7 in 2035 and then start falling to 505.7 in 2060. Of much more importance is, however, the shift in the age structure of the population. The share of the young (0–14) and working age (15–64) population is projected to decrease from 15.7 to 14 percent and 67.3 to 56 percent of the total population, respectively. At the same time, the percentage of the elderly (65 and over) is expected to almost double from 17.1 to 30 percent, and that of the very old (80 and over) almost triple from 4.4 to 12.1 percent.

Future evolution of long-term care needs

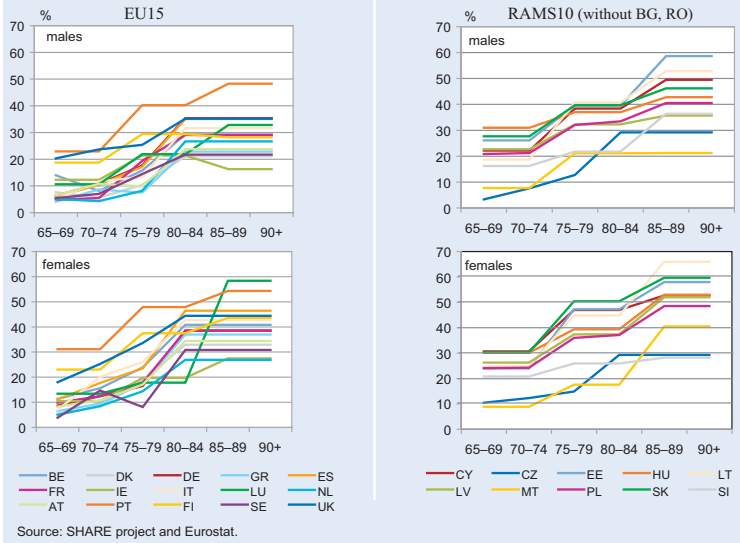
An ageing population is expected to bring about a steady increase in the number of disabled people. The theoretical literature provides

[3] The data on disability rates has been gathered by the Survey on Health, Ageing and Retirement in Europe (SHARE), multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks covering more than 45,000 individuals aged 50 or over (www.share-project.org) and Eurostat's Labour Force Survey.

[4] The most recent set of demographic projections, EUROPOP2008 is available at Eurostat website: http://ec.europa/eurostat.

Figure 1

DISABILITY RATES OF ELDERLY COHORTS (65+), 2006



Source: SHARE project and Eurostat.

three broad hypotheses in relation to the expected future developments in health status of the population. The disability expansion hypothesis, formulated by Gruenberg (1977) and Olshansky et al. (1991) assumes that the increase in life expectancy reflects a development in the technologies which help save human lives, but do not improve health. The alternative compression of disability hypothesis has been proposed by Fries (1980, 1983, 1989). It is based on an assumption that the increase in life expectancy is the result of better health. People live healthier lives, suffer from fewer diseases, and thus, as time goes by, fewer people die at each age. A third hypothesis, called dynamic equilibrium, was suggested by Manton et al. (1995). It posits that increased survival may lead to an increase in the number of years spent in bad health; however, severe morbidity and disability are postponed to the final phase of life so that the share of lifespan spent in very bad health remains approximately constant over time. The three hypotheses are difficult to test due to a lack of comparable data.

Lafortune et al. (2007) analyse recent trends in disability prevalence in twelve OECD countries and show ambiguous trends. In Denmark, Finland, Italy, the Netherlands and the United States, the prevalence of disability was reduced, whilst in Belgium, Japan and Sweden an upward trend is observed. In other countries, disability rates seem to remain constant (Australia, Canada), or it is not possible to distinguish trends due to diverging data from different sources (France, the UK).

In the light of such evidence and large degree of uncertainty over the future evolution of disability prevalence, projections of long-term care needs should incorporate more than one scenario.

Table 1 shows the projection of numbers of people in need of care based on Eurostat and SHARE data.[5] The first panel shows the results of the *pure demographic scenario*, which is the stylised illustration of disability expansion hypothesis, while the second panel shows the outcomes of the *constant disability scenario*, reflecting the main assumptions of the dynamic equilibrium hypothesis.

A scenario based on the dynamic equilibrium hypothesis illustrates the situation where the share of lifespan spent with disability remains constant as mortality declines. In graphical terms, the disability profile is shifted along the age axis in line with changes in life expectancy and the modified set of disability rates is applied to the same baseline demographic projections.[6]

The results suggest a significant increase in the disabled population over the period 2007–60 due to the

[5] Survey on Health, Ageing and Retirement in Europe, multidisciplinary and cross-national panel database of microdata on health, socio-economic status and social and family networks covering more than 45,000 individuals aged 50 or over. For details see www.share-project.org.

[6] The disability compression hypothesis is not reflected in the projection exercise for two reasons. First, recent empirical evidence suggests that the hypothesis is overly optimistic. Second, the stylised scenario illustrating this hypothesis would be technically difficult to construct. While the constant disability scenario is schematically based on the shift in disability in line with changes in life expectancy, no equivalent is available for a potential further improvement in health status.

Table 1

Projected change in the number of the dependent population, 2007–60
(based on alternative scenarios)

		Pure demographic scenario		Constant disability scenario	
	in 1,000 2007	% increase 2007–60	in 1,000 2060	% increase 2007–60	in 1,000 2060
Belgium	455	115	978	90	866
Bulgaria	841	44	1,207	41	1,184
Czech Republic	256	168	687	126	578
Denmark	164	122	362	90	312
Germany	3,201	89	6,036	62	5,190
Estonia	81	70	137	52	123
Ireland	93	314	383	266	338
Greece	338	142	820	103	686
Spain	1,728	173	4,721	136	4,086
France	2,263	114	4,833	88	4,250
Italy	2,515	102	5,092	75	4,407
Cyprus	35	288	134	256	123
Latvia	123	60	197	48	182
Lithuania	191	90	364	69	322
Luxembourg	14	225	47	190	42
Hungary	594	85	1,098	75	1,038
Malta	9	186	27	143	23
Netherlands	387	155	984	118	842
Austria	268	126	607	96	527
Poland	1,485	141	3,582	121	3,285
Portugal	698	114	1,494	97	1,377
Romania	971	130	2.237	98	1,928
Slovenia	76	107	157	95	148
Slovakia	239	177	662	153	604
Finland	274	91	525	77	484
Sweden	312	105	639	73	539
United Kingdom	3,094	109	6,465	89	5,847
EU-27	20,705	115	44,473	90	39,331

Source: European Commission/Economic Policy Committee (2009).

expected demographic change. The overall number of people in need for care in all 27 member states of the EU is projected to grow by 115 percent, from less than 21 million in 2007 to over 44 million in 2060. However, the rate of increase differs considerably across countries. In some, mostly those with a slower pace of demographic change or relatively flat disability profiles, the number is expected to less than double (44 percent in Bulgaria, 60 percent in Latvia, 70 percent in Estonia). Meanwhile, countries where the ageing process is occurring at a faster pace or those where the disability rate is strongly correlated with age can expect an increase of more than 100 percent, or in some extreme cases even tripling of the numbers (Ireland 314 percent, Cyprus 288 percent, and Luxembourg 225 percent).

The comparison of the results of the two scenarios shows how strongly the assumption on the future trends in disability rates affects the outcome of the projections. Under the *constant disability scenario* the number of disabled people is projected to grow by between 3 percent (or 41 percentage points in Bulgaria) and 49 percent (or 266 percentage points in Ireland), less than in the *pure demographic scenario*. Looking at the overall EU-27 results, the gap between the numbers of disabled people projected according to the two scenarios amounts to 90 percentage points or 25 percent.

Impact of demographic changes on long-term care expenditure

The ultimate aim of the 2009 projection exercise is to project the effect of the demographic changes on the public finances of the European countries. With this in mind, the basic scenarios focus on the demand side, based on an observation that demographic change affects directly the number of people in need of care. The baseline projections are based on a no-policy change principle, according to which there are no changes in the structure of care, and changes in demand are met by proportional increases in the supply of care.

Following this rule, the overall increase in public expenditure on long-term care over the period 2007–60 is projected, under two alternative assumptions on disability developments. In the *pure demographic scenario*, public expenditure is projected to grow on average by 103 percent, from 1.2 to 2.5 percent of GDP. As for the disabled population, the scale of change varies significantly across Member States: while in some countries the increase in spending is below 100 percent (France, the UK, Sweden, Italy and Denmark), in others it reaches or even exceeds 200 percent (Romania, Slovakia, Czech Republic, Malta). The results are considerably smaller when the more optimistic scenario of disability trends is assumed. In the *constant disability scenario*, average long-term care spending increases by 85 percent, up to 2.3 percent of GDP. Respective gaps between countries are broadly maintained. The budgetary impact of demographic changes is presented in Table 2.

Table 2

Projected change in public spending on long-term care, 2007–60
(based on alternative scenarios)

		Pure demographic scenario		Constant disability scenario	
	% of GDP	% increase	% of GDP	% increase	% of GDP
	2007	2007–60	2060	2007–60	2060
Belgium	1.5	105	3.0	81	2.7
Bulgaria	0.2	115	0.4	112	0.4
Czech Republic	0.2	194	0.7	163	0.6
Denmark	1.7	98	3.8	74	3.0
Germany	0.9	165	2.4	141	2.2
Estonia	0.1	134	0.2	114	0.1
Ireland	0.8	166	2.3	145	2.1
Greece	1.4	172	3.8	140	3.4
Spain	0.5	176	1.4	155	1.3
France	1.4	64	2.3	52	2.1
Italy	1.7	86	3.1	69	2.8
Cyprus	0.0	102	0.0	89	0.0
Latvia	0.4	141	0.9	132	0.9
Lithuania	0.5	124	1.1	110	1.0
Luxembourg	1.4	159	3.6	138	3.3
Hungary	0.3	149	0.6	138	0.6
Malta	1.0	193	2.8	149	2.4
Netherlands	3.4	154	8.5	126	7.6
Austria	1.3	107	2.5	84	2.3
Poland	0.4	184	1.2	165	1.1
Portugal	0.1	158	0.2	145	0.2
Romania	0.0	221	0.1	188	0.0
Slovenia	1.1	166	3.0	153	2.8
Slovakia	0.2	197	0.6	175	0.6
Finland	1.8	150	4.5	138	4.2
Sweden	3.5	73	6.0	56	5.5
United Kingdom	0.8	66	1.4	54	1.3
EU-27	1.2	103	2.5	85	2.3

Source: European Commission/Economic Policy Committee (2009).

Long-term care provision in the European countrie

The long-term care system is a complex network of state, community and private-owned, for-profit and charity organisations providing publicly or privately financed care services to disabled people. The main difficulty in delimiting the sector lies in the fact that long-term care is composed of elements that can be associated with both health care and social protection systems. As each member state has full discretion on the legal, institutional and economic design of the system, establishing a common pattern of long-term care in Europe is a highly complex task.

In order to enable common long-term budgetary projections across the EU member states, a simplified model of long-term care systems was developed. Formal and informal care are distinguished. Formal care includes services supplied by the employees of publicly or privately owned agencies and financed – entirely or partially by the state.

If not eligible to receive formal care, disabled patients are taken care of by informal carers, if available. These would include: spouses or partners, children, other members of the household, relatives, friends or neighbours. In this regard, long-term care is not their main professional activity and they are not formally remunerated.

Even such a basic structure of long-term care provision differs widely across the member states of the EU following national design of social protection systems and various capacities of public sector financing (Table 3). Some countries, mainly the Nordic and Benelux states, assume responsibility for most of the long-term care provision by supplying or financing care either in institutions or at home. Most countries however, above all the Mediterranean countries and recently acceded member states of Central and Eastern Europe resort to the market mechanisms and/or refrain from public intervention leaving most care provision to the informal sector.

Many countries supplement or replace long term care service with cash support which can be used by patients to purchase the required services. Broadly speaking, cash benefits can take three general forms: payments to the person needing care, personal budgets and consumer-directed employment of care assistants, or income support payments to informal care givers (Lundsgaard 2005). The large variety of arrangements makes the analysis of the systems and comparability of the data difficult.

Table 3

Long-term care provision by source of care, 2007
(in % of total beneficiaries)

	Institutional care	Home care	Informal or no care
Belgium	30	33	36
Bulgaria	14	30	57
Czech Republic	19	44	37
Denmark	56	34	10
Germany	15	28	56
Estonia	6	8	86
Ireland	24	55	21
Greece	15	34	50
Spain	11	11	78
France	24	23	53
Italy	6	14	80
Cyprus	11	0	89
Latvia	6	6	88
Lithuania	18	4	77
Luxembourg	22	31	47
Hungary	8	7	85
Malta	18	82	0
Netherlands	20	80	0
Austria	5	23	72
Poland	4	0	96
Portugal	9	21	70
Romania	11	15	74
Slovenia	13	18	69
Slovakia	0	12	88
Finland	23	25	52
Sweden	30	70	0
United Kingdom	16	42	42
EU-27	15	25	61

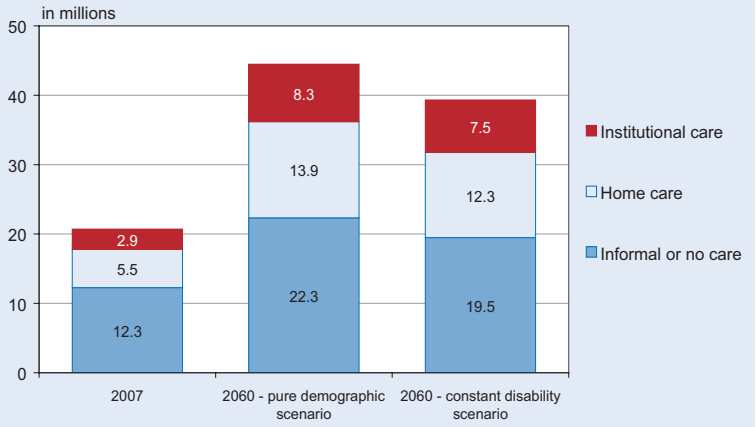
Source: European Commission/Economic Policy Committee (2009).

Projected changes in informal and formal care supply – alternative policy scenarios

When projected into the future, the number of those with unmet needs for care is expected to rise significantly (Figure 2). Under the assumption of constant disability rates and no policy change, the number of people receiving only informal or no care, will grow from over 12 million in 2007 to over 22 million in 2060, an 82 percent increase in absolute terms. If disability rates decrease in line with life expectancy, the rise is proportionately smaller: 59 percent or up to 19.5 million. Relative figures, expressed as share of dependent population, are less alarming. In fact, relative changes in the weights of different age cohorts lead to a slight decrease in the percentage of those relying only on informal care from 59 to 50 percent in case of pure demographic and to 49 percent in case of *constant disability scenario*. However, additional care to be provided to the disabled people informally by families and friends or – if there are no additional capacities to be generated in the informal sector – by the public sector suggests that the focus on absolute, rather than relative figures, is more appropriate.

Figure 2

PROJECTED NUMBER OF BENEFICIARIES IN VARIOUS LONG-TERM CARE SETTINGS IN THE EU-27 ACCORDING TO ALTERNATIVE SCENARIOS



Source: European Commission/Economic Policy Committee (2009).

The evolution in the age structure of the population, as much as social, economic and cultural changes, may push governments to reconsider their role in social care provision. Such changes may be driven by a number of factors. A gradual increase in life expectancy itself may lead to a relative increase in the weight of more severe or acute forms of disability, which are more difficult to manage by untrained informal carers and require more intense involvement. Ageing of disabled people is accompanied by the ageing of their informal carers: their spouses, children, friends, etc, who may find it increasingly difficult to provide care. Furthermore, informal long-term care is provided mainly by women (spouses or daughters), who are taking care of the dependent members of their families and have no real opportunity to participate in the labour market. In future, they may wish, or need, to be more active in the labour market, which will reduce their ability to provide informal care within the family.

Table 4

Results of informal-formal shift scenario: increase in public long-term care expenditure, 2007–60

	Increase 2007–60					
	Percentage points of GDP		in %		Difference to pure demographic scenario (separate effect of the policy change)	
	Shift informal to home care	Shift informal to institutional care	Shift informal to home care	Shift informal to institutional care	Shift informal to home care	Shift informal to institutional care
Belgium	1.8	2.2	120	147	0.2	0.6
Bulgaria	0.3	0.3	163	178	0.1	0.1
Czech Republic	0.5	0.7	204	272	0.0	0.2
Denmark	2.1	1.7	118	98	0.3	0.0
Germany	1.7	2.0	180	215	0.1	0.5
Estonia	0.1	0.2	139	318	0.0	0.1
Ireland	1.5	1.8	182	218	0.1	0.4
Greece	2.6	3.0	187	216	0.2	0.6
Spain	1.0	2.8	185	524	0.0	1.8
France	1.0	1.3	69	93	0.1	0.4
Italy	1.9	2.5	115	151	0.5	1.1
Cyprus	0.0	0.0	102	208	0.0	0.0
Latvia	0.6	1.5	162	404	0.1	1.0
Lithuania	0.7	0.9	139	187	0.1	0.3
Luxembourg	2.4	2.9	174	215	0.2	0.8
Hungary	0.6	0.8	228	303	0.2	0.4
Malta	1.9	2.5	195	259	0.0	0.6
Netherlands	5.4	6.2	161	185	0.2	1.1
Austria	1.5	1.4	120	113	0.2	0.1
Poland	1.0	0.8	245	194	0.2	0.0
Portugal	0.1	0.2	171	261	0.0	0.1
Romania	0.0	0.1	225	472	0.0	0.0
Slovenia	2.1	2.4	188	219	0.2	0.6
Slovakia	0.6	0.4	277	197	0.2	0.0
Finland	2,9	3.8	162	211	0.2	1.1
Sweden	2.8	3.4	81	98	0.3	0.9
United Kingdom	0.6	0.7	71	81	0.0	0.1
EU-27	1.4	1.9	115	151	0.2	0.6

Source: European Commission/Economic Policy Committee (2009).

A series of alternative scenarios assess the impact of a change in policy setting on public long-term care expenditure. The *informal-formal shift scenario* illustrates a stylised situation in which every year, during the first ten years of the projection period (2008–17), 1 percent of disabled people move from informal to formal care. The financial consequences of such a policy shift would be significant: costing on average between 0.2 (if everybody received home care) and 0.6 percent (if everybody received institutional care) of GDP above the pure demographic effect, but in some countries extra costs could exceed 1 percent of GDP (Spain, Italy, Netherlands, Finland and Latvia). The detailed results of the scenario are presented in Table 4.

While the *informal-formal shift* scenario provides a stylised measure of the elasticity of public expenditure with regard to the changes in the care composition, two other scenarios analyse more specific cases, based on available data.

First, the *full coverage scenario* assumes that the entire disabled population will be eligible to receive some form of state-financed, formal, long-term care by the end of the projection period (the respective shares of home care, institutional care and cash benefits would remain constant at the base year levels).[7] Obviously, countries who have invested in the social security system in the past will have to bear lower costs in the future. The results, presented in Table 5, also show that a convergence in the institutional setting of social security provision is expected to result in a convergence in long-term care spending. The current large gap in spending (from less than 0.1 percent of GDP spent in Cyprus and Romania to 3.5 percent in Sweden and 3.4 percent in the Netherlands) would be reduced considerably, at least in relative terms.

Second, the *labour market/family structure scenario* is based on the interaction between availability of formal care and the future changes in labour market and family structure, whereby responsibility to provide informal long-term care prevents people from carrying out other professional activities. This interaction may be two-directional. On the one hand, the lack of care provided and financed by the state affects negatively the participation in the labour market of low income groups who cannot afford private long-term care services. On the other hand, expected stronger attachment to the labour market of those previously involved in informal care provision may put increased pressure on the

Table 5

Results of full coverage scenario: increase in public long-term care expenditure, 2007–60
(compared to initial formal LTC coverage)

	Initial coverage of LTC (number of formal LTC beneficiaries[a] / number of disabled population) in %	Public expenditure on long-term care			Difference to pure demographic scenario (separate effect of the policy change
		% of GDP	% increase	% of GDP	
	2007	2007	2007–60	2060	p.p. of GDP
Belgium[b]	102	1.5	–	–	–
Bulgaria	9	0.2	225	0.6	0.2
Czech Republic	36	0.2	281	0.9	0.2
Denmark[b]	137	1.7	–	–	–
Germany	72	0.9	232	3.1	0.7
Estonia	29	0.1	917	0.6	0.5
Ireland	45	0.8	185	2.4	0.2
Greece	52	1.4	236	4.7	0.9
Spain	29	0.5	665	4.0	2.6
France	56	1.4	168	3.7	1.4
Italy	67	1.7	261	6.0	2.9
Cyprus	8	0.01	1,003	0.1	0.1
Latvia	10	0.4	1,193	4.9	4.0
Lithuania	26	0.5	497	2.9	1.8
Luxembourg	56	1.4	243	4.7	1.2
Hungary	15	0.3	1,082	3.1	2.4
Malta[b]	236	1.0	–	–	–
Netherlands[b]	160	3.4	–	–	–
Austria[b]	168	1.3	–	–	–
Poland	25	0.4	608	2.8	1.7
Portugal	21	0.1	486	0.4	0.2
Romania	14	0.02	803	0.1	0.1
Slovenia	39	1.1	458	6.2	3.2
Slovakia	19	0.2	1,309	2.9	2.3
Finland	95	1.8	159	4.6	0.1
Sweden[b]	108	3.5	–	–	–
United Kingdom[b]	102	0.8	–	–	–

[a] Including cash benefit recipients. – [b] Belgium, Denmark, Malta, the Netherlands, Austria, Sweden and the UK have reached theoretical full coverage by 2007. As such, they have not been included in the calculations.

Source: Own calculations.

[7] As seen in the first column of Table 5, seven countries have reached full coverage already by 2007. Such counterintuitive finding is due to the fact that the initial coverage was calculated on the basis of two not fully comparable datasets: number of formal LTC beneficiaries (including cash benefits recipients) was reported from administrative sources, while the number of disabled population came from the survey sources (Labour Force Survey and SHARE).

public authorities to provide formal replacement for their services.[8]

This scenario allows for the assessment of the budgetary impact on increased public provision of long-term care necessary to sustain the projected changes in labour market participation. Over the next few decades, the participation rate is expected to be driven by a shift in the age composition of the overall population. Generally speaking, while a gradual shift towards older age cohorts may exert downward pressure on the overall participation rate, other social, economic and cultural factors (such as longer healthy life expectancy, higher education attainment of women, postponement of childbearing and changes in the family structure) are expected to counterbalance the negative demographic effect, resulting in an overall increase in participation rates (see Table 6 drawn from Eurostat demographic projections).

[8] Of this two-directional relation existing between long-term care provision and labour participation, only the impact of changes in participation rates on informal care provision can be quantified, while the opposite effect goes beyond the scope of the model. This is because the projected participation rates are given, based on a number of macroeconomic assumptions, and are exogenous to the model.

Table 6

Projected change in participation rates of selected demographic groups, 2007–60, in %

	Men	Women	Young (15–24)	Prime age (25–54)	Older (55–64)
Belgium	–0.5	5.2	1.2	1.4	13.0
Bulgaria	1.4	3.3	–0.3	2.1	3.6
Czech Republic	0.6	6.5	–0.1	–0.9	18.6
Denmark	–1.5	2.6	1.7	–1.7	8.1
Germany	0.9	6.3	0.8	1.6	16.5
Estonia	0.3	2.6	1.5	–0.7	1.7
Ireland	–0.3	8.0	–1.5	3.7	14.0
Greece	–2.4	5.7	–0.1	2.8	7.5
Spain	0.2	11.4	–1.6	4.5	26.4
France	0.1	2.3	0.8	0.6	8.3
Italy	3.4	6.2	1.1	1.2	28.4
Cyprus	1.5	8.4	–0.8	5.0	7.4
Latvia	0.1	2.1	0.7	0.2	–2.3
Lithuania	–1.8	1.8	0.8	–2.3	–1.4
Luxembourg	–2.6	3.5	2.1	1.9	8.4
Hungary	0.5	5.7	0.1	1.0	15.2
Malta	4.5	5.2	0.6	1.9	18.7
Netherlands	–2.4	5.6	1.1	2.5	4.2
Austria	0.3	5.1	1.7	1.9	15.4
Poland	1.4	4.3	–1.0	0.3	14.4
Portugal	–0.3	4.6	–0.8	1.2	13.3
Romania	–3.7	0.1	0.6	–3.9	3.1
Slovenia	–1.5	2.8	–0.8	–0.6	14.6
Slovakia	–0.4	4.9	–0.4	–0.1	13.4
Finland	2.6	4.0	1.1	2.1	8.3
Sweden	2.7	4.0	4.7	2.2	3.4
United Kingdom	0.6	5.4	0.4	1.3	11.4

Source: Eurostat.

This scenario provides a comprehensive picture of the functional linkages between labour market and informal long-term care provision. Detailed data gathered by the SHARE and FELICIE[9] projects allow for the decomposition of informal long-term care provision according to the family status of care providers. Three main groups (spouses, daughters[10] and other providers) are distinguished and future changes in their size and ability to provide long-term care are projected. The number of spouses (of the sex opposite to care recipient) was further decomposed according to their disability status and living arrangements, and the number of those non-disabled and living in the same household as their partner has been projected into the future. The set of daughters was disaggregated according to their age, labour status and reasons for being inactive. The number of women 25 years younger than the respective cohort of elderly and who is inactive due to long-term care obligations was projected until 2060. Finally, the set of "other care providers" was assumed to evolve in line with changes in disabled elderly population, due to high heterogeneity of the group.

This procedure has enabled the projection of changes in the potential supply of informal and formal care over the period 2007–60. As seen in the first three columns of Table 7, under the assumption that any fall in the availability of informal carers would be flexibly replaced by state-provided formal care, the absolute number of institutional and home care beneficiaries is projected to increase much more quickly than the number of patients who receive informal or no care. Nevertheless, the budgetary cost of such change, although substantial, is not enormous.

[9] FELICIE (Future Elderly Living Conditions In Europe) is a large project aiming to forecast the living arrangements of elderly people in nine European countries over the next thirty years. For details, see: www.felicie.org.

[10] The data includes all children, irrespective of their gender. However, given that empirical studies (e.g., Marmot et al. 2003) tend to suggest that bulk of care is provided by daughters, data for women only has been used when possible.

Table 7

Results of labour market/family structure scenario: change in the number of the disabled population receiving different types of care and change in public long-term care expenditure, 2007–60

	% change (2007–60) in the number of the disabled population receiving			Public expenditure on long-term care			Difference to pure demographic scenario (separate effect of the policy change p.p. of GDP
	Institutional care	Home care	Informal or no care	% of GDP 2007	% increase 2007–60	% of GDP 2060	
Belgium	217	170	–14	1.5	122	3.3	0.2
Bulgaria	135	126	18	0.2	146	0.5	0.0
Czech Republic	239	203	58	0.2	209	0.7	0.0
Denmark	241	188	–542	1.7	139	4.2	0.4
Germany	175	154	7	0.9	176	2.6	0.1
Estonia	253	269	47	0.1	219	0.2	0.1
Ireland	453	415	–60	0.8	182	2.4	0.1
Greece	271	203	11	1.4	198	4.2	0.4
Spain	278	305	113	0.5	227	1.7	0.3
France	149	159	86	1.4	70	2.4	0.1
Italy	213	149	82	1.7	100	3.3	0.3
Cyprus	822	0	229	0.0	191	0.0	0.0
Latvia	250	250	33	0.4	290	1.5	0.6
Lithuania	198	204	56	0.5	169	1.3	0.2
Luxembourg	361	325	90	1.4	170	3.7	0.2
Hungary	333	295	45	0.3	318	1.1	0.4
Malta	197	171	172	1.0	179	2.7	–0.1
Netherlands	231	141	198	3.4	157	8.7	0.1
Austria	244	217	65	1.3	120	2.8	0.2
Poland	1,297	1,307	103	0.4	659	3.0	1.9
Portugal	318	281	38	0.1	223	0.2	0.0
Romania	227	227	87	0.0	273	0.1	0.0
Slovenia	230	213	76	1.1	203	3.3	0.3
Slovakia	0	632	112	0.2	335	0.9	0.3
Finland	194	169	39	1.8	170	4.8	0.3
Sweden	139	113	275	3.5	79	6.3	0.2
United Kingdom	198	166	38	0.8	75	1.4	0.0

Source: Own calculations.

Conclusions

Long-term care accounts for a relatively small share of public age-related expenditures in most EU member states. Compared to 10.2 percent of GDP spent on pensions and 6.7 percent on health care, 1.2 percent spent on long-term care may seem to carry little weight in the sustainability of public finances. However, in many countries formal long-term care provided in kind or financed by the state covers a minor share of those who need help to carry out the basic activities of daily life. Governments leave it to the market or informal networks to fill the gap between the need for care and the supply secured by the state.

Such a situation is difficult to sustain in the long run. A large proportion of people are currently approaching their 60s, which, according to the statistics, marks the onset of most chronic, debilitating diseases. If social policies do not respond to this growing development by extending the social protection net to those who have not been eligible so far, the families and children will be the first ones to feel the pressure from growing need for care. However, the need to contribute to their own, as well as to the older generations' welfare, will confront them with a serious dilemma.

The size of the challenge remains uncertain. The *pure demographic* and *constant disability scenarios* performed in the framework of the projections of long-term care needs are only two possible variants, providing, however, an informed guess about the likely size of the challenge. The same uncertainty surrounds projections of the extra costs that the governments may have to incur in order to provide adequate level of formal care. In this case, the *shift scenario* estimates the budgetary impact of a stylised, unitary change in the policy setting, while two policy scenarios (*full coverage* and *labour market/family structure*) help to assess the extra coverage needed to respond to the societal change and expenditure that can result from such an intervention.

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