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# LONG-TERM CARE

## FUTURE LONG-TERM CARE NEEDS AND PUBLIC EXPENDITURE IN THE EU MEMBER STATES

BARTOSZ PRZYWARA,\*  
NÚRIA DIEZ GUARDIA\* AND  
ETIENNE SAIL\*

### 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<sup>1</sup> 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.”<sup>2</sup> 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.



\* European Commission – Directorate General for Economic and Financial Affairs.

<sup>1</sup> For details of the projection project, see: European Commission and Economic Policy Committee (2009).

<sup>2</sup> <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.

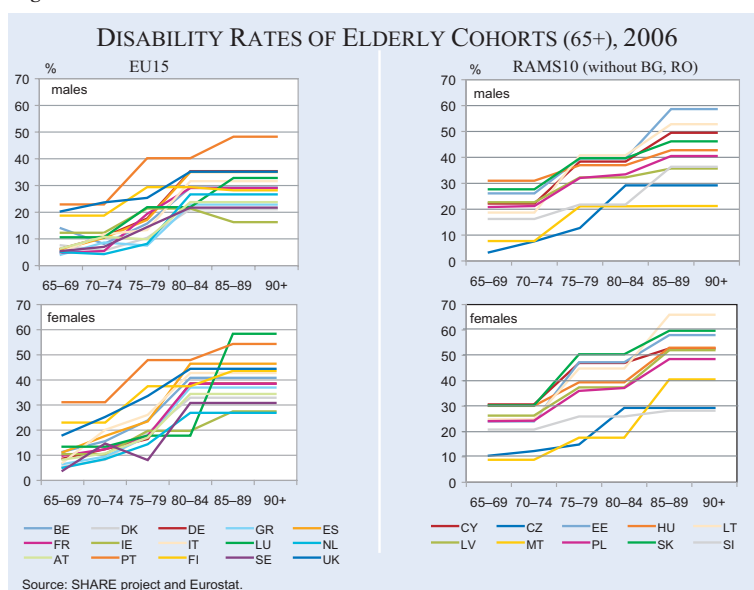
### From disability to long-term care need

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,<sup>3</sup> increases gradually with age. The

<sup>3</sup> 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.

Figure 1



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.<sup>4</sup> 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

<sup>4</sup> The most recent set of demographic projections, EUROPOP2008 is available at Eurostat website: <http://ec.europa/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.<sup>5</sup> 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.<sup>6</sup>

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

<sup>6</sup> 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)

	in 1,000 2007	Pure demographic scenario		Constant disability scenario	
		% 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).

<sup>5</sup> 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](http://www.share-project.org).

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)

	% of GDP 2007	Pure demographic scenario		Constant disability scenario	
		% increase 2007–60	% of GDP 2060	% increase 2007–60	% of GDP 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 countries

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)

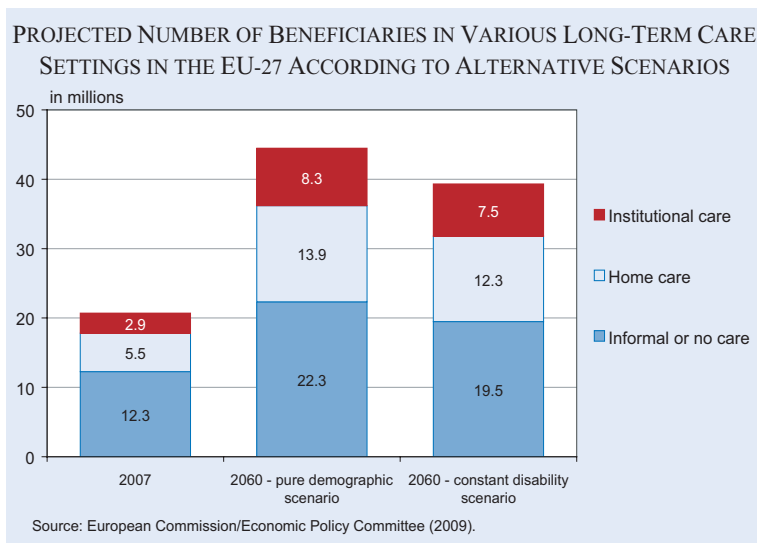
	Institutional care	Home care	Informal or no care
Belgium	30	33	36
Bulgaria	14	30	57
Czech Republic	19	44	37
Denmark	56	34	10
Germany	15	28	56
Estonia	6	8	86
Ireland	24	55	21
Greece	15	34	50
Spain	11	11	78
France	24	23	53
Italy	6	14	80
Cyprus	11	0	89
Latvia	6	6	88
Lithuania	18	4	77
Luxembourg	22	31	47
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



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.

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

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).<sup>7</sup> 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 <sup>a)</sup> / number of disabled population) in %	Public expenditure on long-term care			Difference to pure demographic scenario (separate effect of the policy change) p.p. of GDP
		% of GDP	% increase	% of GDP	
	2007	2007	2007–60	2060	
Belgium <sup>b)</sup>	102	1.5	–	–	–
Bulgaria	9	0.2	225	0.6	0.2
Czech Republic	36	0.2	281	0.9	0.2
Denmark <sup>b)</sup>	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 <sup>b)</sup>	236	1.0	–	–	–
Netherlands <sup>b)</sup>	160	3.4	–	–	–
Austria <sup>b)</sup>	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 <sup>b)</sup>	108	3.5	–	–	–
United Kingdom <sup>b)</sup>	102	0.8	–	–	–

<sup>a)</sup> Including cash benefit recipients. – <sup>b)</sup> 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.

<sup>7</sup> 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.<sup>8</sup>

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).

<sup>8</sup> 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<sup>9</sup> projects allow for the decomposition of informal long-term care provision according to the family status of care providers. Three main groups (spouses, daughters<sup>10</sup> 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.

<sup>9</sup> 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](http://www.felicie.org).

<sup>10</sup> 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 gener-

ations' 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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## THE ROLE OF FAMILY SOLIDARITY: ETHICAL AND SOCIAL ISSUES

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Health care systems in Europe are usually based on the principles of solidarity and equal access to care. This means that in most European countries there is a strong belief that individuals who need care should be enabled to access relevant medical and social care services and that there should be no limitations on the basis of income, health condition, race, sex, or any other personal characteristics. Though these principles are acted upon in different ways, the basic understanding of solidarity is that everyone is assumed to make a fair financial contribution to a collectively organized insurance system that guarantees equal access to health and social care for all members of society.

The idea of solidarity is associated with mutual respect, personal support and commitment to a common cause. This sense of fellowship with and compassion for the needy is still strong in the area of health care practices, where solidarity has acquired a particular meaning that goes beyond solely transferring income or benefits. In the domain of health and social care, solidarity is first and foremost understood as a moral value and social attitude regarding those in need of support. Solidarity with vulnerable groups in modern societies, in particular people who are chronically ill, disabled people, political refugees and frail older people is taken as an expression of personal concern and responsibility by the care giver, no matter whether she or he is a professional care-worker, a relative or a friend. Solidarity in this sense has an intrinsic value: it means standing for and protecting others not because of any personal interest, but because they need this protection (Ter Meulen and Houtepen, in press).

Solidarity does not only have a moral connotation, it has a sociological meaning, too. The French sociologist Emile Durkheim (1858-1917) described the transition from traditional to modern society as involving a transformation of traditional forms of co-operation and social relationships between individuals. The traditional or pre-industrial societies are characterised by what Durkheim called mechanical solidarity: the solidarity and the social co-operation based on it, is spontaneous, meaning not reflected upon: it is a normal or natural thing to help and support each other. In a situation of mechanical solidarity, there is a uniformity of beliefs and values within the social group of society, which may be enforced by strict mechanisms of authority and social control. As a result of the modernisation of society in general and the division of labour in particular individual relationships became more complex, dynamic and less territorially based. Heterogeneous associations replaced homogeneous groups and cultural interdependence was surpassed correspondingly by structural interdependence. In other words, societal modernisation resulted in a new and modern form of solidarity, in Durkheim's words an organic solidarity. This organic solidarity can be described as "an actual state of interrelations between individuals, groups and the larger society, which enables the collective interest to take priority over the interests of individuals or sub-collectivities" (Van Oorschot 1998). European health care systems can be seen as an example of organic solidarity in so far as the individuals are under the obligation to contribute to the interest of the community as a whole, that is equal access to health care for all who are in need (Ter Meulen, Arts and Muffels 2001).

However, the professional take-over of traditional mechanical solidarity has never been complete. The fact is that even a professional health care delivery system assumes the existence of a traditional solidarity, i.e., group responsibility for informal or family care, either supplementary to available, or in substitution for temporarily non-available professional care. In fact, the official solidarity is strongly dependent on this less visible kind of solidarity which tries to offer help or voluntary assistance to people who are close or near-by, such as family members, friends, neighbours or others. This kind of help and support



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is often called family solidarity or informal care, because it offers care in a non-professional way without restrictions and rules set by a central agency. Family care or informal care can be described as the mutual, self-evident, unpaid, non-organised help within a social network (Hattinga Verschure 1972).

One can wonder whether the solidarity of family care falls within the two categories of solidarity that are distinguished by Durkheim. The solidarity which is fundamental to family care has a personal, concrete meaning that is different than the organic solidarity which tries to organise collective interest in an abstract way. However, this personal solidarity is also different to the mechanical solidarity that is typical for pre-modern societies. The individualisation process has resulted in a change of the family structure as well as in the social structure of neighbourhoods. The care for another dependent person, a family member or a neighbour, is not self-evident any more. In the case of families, this is not only true for the relationship between parent and child, but also between partners. Instead of an economic relationship, family structures are turning into affective relationships (Knipscheer 1992). However, this change of interdependency does not result in a total disappearance of relations of support and assistance and of the willingness to offer this support. In fact, the decline of the compulsory nature of this support has made room for individual initiatives to provide assistance on the basis of free choice and personal autonomy. One may speak here of a new type of solidarity that is not based on compulsion, but on voluntary choices which tries to help individuals who are in need by way of concrete, personal service.

In Europe there are no legal duties to supply family care, though there may be a duty for families to contribute to the financial costs of care (for example the *Unterhaltungspflicht* ("duty to sustain") in Germany. Family care is considered a voluntary decision, though the moral pressure to supply this care can be rather strong, even when there is no legal duty to do so. Family members can be very emotionally involved in the care for their ill or disabled partners or parents, and find it very difficult not to support and help them (Centrum voor Ethiek en Gezondheid 2004, 134). Spouses who provide care for their partner suffering from dementia try to keep doing so as long as possible as they see it as their moral duty to do so. Many of them feel guilty and depressed when their partner needs to be admitted to a care home if family care becomes too difficult and burdensome. So, while a legal

duty to care does not exist in any European country, many family care givers feel a moral duty to supply care based on personal solidarity with the person in need. Nonetheless, in the course of time, family care can become a rather compelling and very burdening situation which is difficult to escape from. This is particularly the case in family care for people with long-term progressive conditions like dementia. Some carers may have started caring out of affection or other intrinsic motivation, but are feeling increasingly trapped in the process of care giving, worried about what would happen if they refused further care (Department of Health 1999, 23). The question arises whether the terms free choice and voluntariness are appropriate in such a situation.

In EU countries the incidence of family care ranges from 1–2 percent for 20–39 years old to 10 percent for women over fifty (Viitanen 2007, 3). This may differ by country as in some countries (particularly in Scandinavia) formal care may be more dominant. In these countries (Finland, Denmark) everyone has a right to care, including professional care at home (RMO/RVZ 1999). The number of family care givers in Great Britain is growing: the 2001 Census found that there were 5.2 million carers (approximately 11 percent of the population) in England and Wales only, with over one million people caring for 50 hours or more (HM Government 2008, 33). There will be a projected 1.6 million more adults in England requiring care by 2026 (a 30 percent increase) and 2.9 million more by 2041 (HM Government 2008, 41).

Women are more likely to be carers than men, 58 percent of the carers in Britain are women, compared with 42 per cent who are men. In the Netherlands in 2004, 2 million people were providing informal care (12 percent of the population), 400,000 of them long-term care. In 2000, 32 percent of the population of 50–69 years was involved in informal care for the older generation (NIZW 2004, 2) with middle-aged daughters and daughters-in-law as the largest group. Compared to men, women perform domestic tasks, including those in the area of personal and intimate care, more frequently. Men tend to work around the house, do financial tasks and offer moral support (Duijnsteet et al. 1998). Only in cases where their wives are severely and chronically ill do men perform the same domestic and personal care tasks as women. Informal carers live near-by or in the same house as the dependent person; they live in shared households and generally have no income or belong to the lower income groups. They also have a lower



level of education. A substantial number of women take care of their dependent elderly parents as well as their children. Moreover, they may have health problems of their own.

Informal or family care comes at a high cost – financially, physically and emotionally. First of all there are financial costs: caregivers are forced to interrupt their careers or retire early in order to facilitate the provision of informal elderly care. Such interruptions not only result in direct short-term costs, but also have long-term effects in terms of lower collected pension entitlements (Viitanen 2007, 3). The physical and emotional burden of informal care can be very high. The most demanding tasks are lifting the dependent person, helping him or her to the toilet or turning over in bed, extra household tasks and travelling to and from the hospital (Kuyper 1993). These burdens are particularly heavy in the informal care for demented patients who not only need personal care, but also need to be guided and sometimes even guarded almost every hour of the day. Apart from physical burdens, the care for a demented partner leads in most cases to strong emotional problems (see the case study below).

While the burden of care is growing, the demographic process is reducing the number of people available to give informal care. The change to the nuclear family has reduced the possibilities for care giving, while many families are now geographically dispersed. Children of dependent elderly have moved away from their parents to other cities or regions, have their own family life, or are divorced and may have started with a new partner or family. According to the HM Government report *Carers at the Heart of 21st Century Families and Communities*, changes in family life and economic conditions have made it increasingly difficult to supply family care: “More families rely on two incomes, or longer working hours, to maintain an adequate standard of living. Many families find it difficult to balance work with the care needs of friends and relatives without significantly impacting on their own standard of living, esteem and independence – the lifestyle to which the family has been accustomed”. The report argues that as a society we need to face up the challenge of family care as we “depend to a large degree on the continuation of the care that carers provide” (HM Government 2008, 36).

The decision to provide informal care is dependent on various social and emotional factors (Knipscheer

1992). One important factor is that there is enough support for the informal carer, not only emotional support from relatives and friends, but also professional support offered by the organised health care system, particularly home care. Duijnsteet et al. (1998) mention four categories of support that are especially relevant to informal carers: emotional support, information and advice, practical/instrumental support and material support. Emotional support can be the exchange of information and experience through discussion groups. In the Netherlands there are many such groups specifically aimed at informal carers. Telephone lines are also helpful, for example the Alzheimer line operated by both the Dutch Alzheimer Foundation and the UK Alzheimer’s Society.

Professional support is very important for informal carers. This can be practical and instrumental support which can alleviate the physical burden of care. Moreover, instrumental support can safeguard the emotional relationship between partners, which is in many cases the moral basis of the provision of informal care. Professional help for physical care will enable the informal carer to have more time for himself or herself, for the lack of personal free-time is an important part of the burden of informal carers. When family care becomes too stressful and burdensome, it may lead to the physical and emotional abuse of the older person who is supposed to be cared for (Lamura 2008). Temporary breaks from caring may diminish the emotional and physical strain and the personal ties between the patient and the carer can be strengthened or at least kept at an adequate level. Such relief can be realised by respite care and outpatient care offered by nursing homes and community centres.

The most important support of informal carers is the recognition that they are partners in the care for the dependent person (RMO/RVZ 1999). Many informal carers feel that there is little respect and appreciation for their work, which is indispensable to the care system. The institutional home care agencies should recognise the contribution of the informal carers and not create a tension between professional carers on the one hand and the informal carers on the other. The HM Government Report *Caring about Carers* (1999) states that “recognition of their contribution to the care of someone else and to society more widely is important to many carers. They value involvement in discussions about the help provided to them and the person they are caring for, as well as practical help with the tasks of caring” (Department of Health 1999, 22). Instead of a paternalistic approach, professional

home carers (like district nurses) should acknowledge the contribution of the family carer. The family carers should be open to professional advice and not reject the professional care out of hand. Both kinds of care are mutually dependent on each other.

Family care givers are confronted with many ethical problems, like respecting the privacy and autonomy of the cared person, taking care of the best interests

of the cared for individual if his or her autonomy has been diminished (for example in the case of dementia), balancing the needs of the person cared for with their own needs, and the relationship with the professional caregiver, especially with regard to confidentiality. These issues are particularly relevant in the case of care for people with dementia as illustrated by the case below.

#### Case study: the needs of carers for people with dementia

Ethical issues arising in dementia have recently been studied in depth by a Working Party established by the Nuffield Council on Bioethics (Nuffield Council on Bioethics 2009). The ethical framework proposed in the Council's report, *Dementia: Ethical Issues*, places considerable emphasis on the ethical imperative of acting in accordance with solidarity. The report recognises both the "mechanical" and "organic" aspects of solidarity described earlier in this chapter, identifying solidarity as the basis both for the informal family support provided for people with dementia, and for the obligation on wider society to provide appropriate care for those in need. Indeed, it argues that solidarity places such duties not only on the state as a provider of care services, but potentially on all of us, as individuals, families and communities, to ensure that we include people with dementia as equal citizens in our daily lives, and act to support carers in their own expression of solidarity with those for whom they care. Further, the Nuffield Council highlights the ethical importance of considering carers' interests, as well the interests of those with dementia, emphasising that carers have equal value as people in their own right and a strong claim to have their autonomy and well-being considered.

Drawing on this ethical framework, the Nuffield Council report makes the following conclusions and recommendations in respect of those providing unpaid care for people with dementia (quotations taken from the many responses to the Council's public consultation):

- Professionals and care workers should treat families and carers as "partners in care", based on a relationship of trust and mutual respect for each other's role and expertise. Indeed, there is an ethical imperative for professionals and care workers to start from a presumption of trust in the carer, in their good intentions and in their knowledge of the person with dementia. "Carers' skills must be recognised as such, working in partnership with a professional ... so that the relationship of trust and honesty is built up."
- Such trust has implications for confidentiality and access to personal information – if carers are truly to be treated as "partners in care", then they should have access to information about the person on the same basis as other members of the care team. In short, carers should be provided with any information that it is necessary for them to know in order to carry out their caring role. "I was stunned that my doctor would not speak about my concerns ... I felt frightened about my husband's changes in behaviour ...".
- Adequate financial and social support is crucial: carers should not have to "know the system" and assert their rights in order to obtain the support to which they are entitled by law. Support should not be limited to financial matters but should also encompass emotional and practical support such as help in the house, adaptations, access to education about dementia and counselling.
- Carers need to be recognised as individuals with their own needs. In taking on the identity of a carer people often risk losing aspects of what it meant to be themselves. It is therefore crucial that mechanisms are in place in order to allow carers to hold on to their own identity – for example through regular access to respite services in order to give them free space to be themselves and pursue their interests outside their caring role. "I gave up teaching, singing, all things that gave me my identity."
- Carers need to be supported to consider their own interests as well as the interests of those for whom they care. In the UK, decisions for people who are unable to make decisions for themselves must always be made in that person's "best interests". This may seem to imply that once a person with dementia lacks the ability to make their own decisions, their interests must always take precedence over those of others. In practice, this cannot be the case: interests are complex and intertwined and in a family it will rarely be the case that one person's interests always take priority. Professionals have an important role to play in supporting carers explicitly to consider their own needs and interests when difficult decisions have to be made.

## Conclusion

Due to the scarcity of resources, many European countries are now discussing the extent and limits of solidarity. Though there is still a large support for weak and vulnerable groups, there is an increasing concern that in the long term equal access to a broad package of health care services cannot be guaranteed. This concern is particularly raised in relation with long-term care of dependent older people, including institutional care, like care homes, nursing homes and professional home care. National governments are trying to deal with this problem in various ways (Ter Meulen, Offermans and Maarse 2004). First of all, they are attempting to reduce the extent of publicly financed long-term care and to make the access to these services dependent on private financial contributions. A second instrument is introducing stricter eligibility requirements for publicly financed long-term care services, including professional home care. A third development is the increasing pressure on families to deliver care for their dependent family members and to take over care previously provided by professionals. An example is the recent policy in the Netherlands, to make a distinction between “real” care (which will be supplied according to need) and “normal” or “usual” domestic care (chores) to be delivered by family members (Morée et al. 2007). Such policies will lead to increased pressure on family care givers, and may threaten the readiness and capacity to supply informal family care.

Family solidarity is an important condition for the adequate functioning of formal, professional health systems, but should be adequately supported by the provision of material, practical, emotional and professional support. Such support is not only important for instrumental reasons, but also from a moral point of view, meaning the importance to maintain the intrinsic value of personal solidarity as a guiding principle in the care of vulnerable people and in our society in general.

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## CONFRONTING THE CHALLENGE OF LONG-TERM CARE IN EUROPE

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### Introduction

It is an indisputable fact that Europe's population is getting older. This puts pressure on the majority of the social protection schemes in Europe which, founded on systems of distribution, are no longer sustainable in the face of increased needs. The care for those who are no longer autonomous and need external assistance will continue to grow. Insurance can provide realistic, effective, fair and virtuous responses, insofar as the public authorities do not pre-empt the market and a real public-private partnership is established with the merits of a market solution in the European context of the welfare state.

Long-term care is not only the consequence of a choice of lifestyle and social relations, both with family and neighbours, it is also largely a result of genetic determinants as well as day-to-day accidents over which the policyholders have little control. It can therefore be covered by an insurance policy using traditional market methods. Economic analysis and accumulated experience show the market's capacity to meet the objective needs of long-term care. Covering these needs requires that three well-known risks are managed effectively: moral hazard, adverse selection and the escalation of trends.

The concern expressed in various countries, notably in Europe, to satisfy the objectives of the welfare state and to offer all households long-term care cover, even for the most needy, may find a suitable solution within a public-private partnership that is carefully designed to reconcile market incentives and solidarity.

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### Nature of long-term care and of the long-term care risk for insurance

*Long-term care is a risk that can be objectivised*

Firstly, loss of autonomy should be clearly distinguished from illness, disability and handicap, although these four concepts are not totally independent of each other:

- Loss of autonomy denotes an inability to perform some of the most basic everyday activities due to old age (e.g., getting up, dressing, washing, eating, walking and so on) and the need for assistance in order to carry out such activities;
- Illness denotes an objective, temporary situation of ill health (such as fever, depression, etc.) and a need for therapeutic care (i.e. medical consultation, medication, surgical intervention, etc.);
- Disability denotes a reduced capacity for normal activity following an accident or an illness, without necessarily implying the need for assistance;
- Handicap denotes a physical or psychological limitation in the accomplishment of normal activity and may be associated with a need for assistance.

Three main analysis scales are used to provide a way of measuring loss of autonomy that aims to be objective. These are summarised in the Table, which clearly shows their common points and their differences.

We can therefore conclude that there is an apparent consensus on what is actually included in the long-term care that should be covered by insurers. It should be noted that one third of the French insurers use the ADL approach, another third a combination of the ADLs with the AGGIR scale and the last third the AGGIR scale.

The material triggers of long-term care are themselves standard: dementia (25–50 percent of cases), cancer (15–30 percent of cases), cardiovascular diseases (15–30 percent of cases), other neuropsychiatric diseases (10–20 percent of cases), rheumatology (2–10 percent of cases), accidents (5–10 percent of cases) and ophthalmic diseases (1–3 percent of cases).

Table

Main assessment scales used around the world

Katz scale (used throughout the world)		AGGIR scale (used in France)
Activities of daily life (used by American insurers)	Activities of daily life – ADLs (used by most private French insurers, sometimes in connection with AGGIR scale)	Iso resources groups – GIR (used by French public authorities for eligibility to LTC public benefit and by some French insurers) excluding GIR 6
Bathing	Bathing	Occasional help for washing and home care
Dressing	Dressing	Loss of autonomy for more than one ADL
Transferring	Transferring	Help several times a day for ADLs
Feeding	Feeding	Confined or impaired mental faculties
Toileting	–	Bedridden or confined to an armchair + mental faculties severely impaired
Continence	–	–
Loss of autonomy = inability to carry out 2 of these 6 activities without the help of a third person	Loss of autonomy = inability to carry out 2 of these 4 activities without the help of a third person	Loss of autonomy = belonging to one of the last 4 categories above

Source: Katz, Down, Cash and Grotz (1970); SCOR; French Ministry of Social Affairs.

Based on its French portfolio, SCOR's data show that a 60-year-old has a significant probability of suffering a severe loss of autonomy (inability to handle 3 of the 4 ADLs). Women have a 48 percent probability of requiring long-term care before their death, against a mere 30 percent for men. Based on a French survey (FFSA 2005), the remission rate for severe loss of autonomy is negligible (~ 1 percent). For partial loss of autonomy (inability to carry out 2 of the 4 ADLs), the remission rate is much higher (25 percent of the surveyed population with a partial loss of autonomy experienced remission two years after the first survey). Worsening from partial to severe loss of autonomy affects 5 percent of the surveyed population over a two-year period.

#### *Three major risks for the insurer, which determine its insurability*

The insurability of a risk depends both on the nature of the risk transferred to the insurer and the insurer's ability to correctly price this risk. Materially, forecasts of the number of persons requiring long-term care are based on four factors: prevalence (the probability of requiring long-term care within the reference population), incidence (the probability of fal-

ling into the category of those requiring long-term care), remission (the probability of exiting the category of those requiring long-term care) and mortality (the mortality differential between persons requiring long-term care and those who do not). But to understand the need for assistance related to long-term care, it is also important to consider the existence of potential caregivers, spouses, children or neighbours, who themselves depend on several factors (life expectancy, life expectancy without loss of autonomy, frequency of separation of couples, fertility, rate of employment of children, level of social relations within the family). For the insurer, we can sum up long-term care as carrying three major risks, which determine its insurability:

- The risk of escalation: according to some experts, an extension of lifespan goes hand in hand with an extension of the time spent with a disability, that

is, in a situation of total or partial loss of autonomy. Long-term care is an emerging risk whose total cost will increase more rapidly than national wealth. This naturally raises the problem of pricing insofar as the underlying trend is still not properly understood, policyholders themselves being inclined to underestimate the impact involved. The risk, therefore, is that supply and demand curves for long-term care products only meet at a point where the supply of services is very restricted or even inexistent. Studies based on a comparison of several statistical sources nonetheless show that this fear is not grounded and that we are not actually experiencing a "pandemic" of disability, particularly severe disability: there are as many countries where the number of old people requiring long-term care grows more quickly than the number of old people not requiring long term care (cf. Belgium, Japan, Sweden) as there are countries where it grows less quickly (cf. Italy, France, USA; Lafortune and Balestat 2007; Jacobzone 2000). Studies exploring the links between lifestyle and loss of autonomy could also eventually significantly alter the trends observed in the past, once these studies lead to the development of efficient prevention techniques.

- The risk of adverse selection: the only people taking out long-term care policies are people who know that they have a high risk of losing their autonomy. It has been observed that people buying long-term care insurance contracts have a higher probability of losing their autonomy than those who do not buy such contracts (Finkelstein and McGarry 2003), and people who discontinue their contracts have a much lower probability of losing their autonomy than those who do not (Finkelstein, McGarry and Sufi 2005). This is a classic health insurance risk, which should be treated under identical conditions.
- The moral hazard: this probably constitutes the greatest challenge for long-term care insurance. In long-term care, moral hazard has less to do with the behaviour of the policyholder than with his social environment. The perception of long-term care as a risk is a very recent phenomenon. It has less to do with the increasing wealth of society than with rural exodus and the desire for autonomy of both parents and children, with the result that elderly parents are less and less likely to live under the same roof as their children. This development is certainly nearing its end, but it emphasises the point to which the idea of loss of autonomy is determined by social perception. There is no reason to assume that this social perception will stabilise over the next few years. It is even less likely to settle down in that the criteria for loss of autonomy are relatively vague and susceptible to widely varying interpretations depending on the social climate – in the future we may consider that having trouble taking a bath constitutes a sufficient indication of loss of autonomy, etc. The major escalation in handicap allowances, which are still experiencing double-digit growth in developed countries, independently of the actual health status of the populations involved, is a good illustration of what could happen in the future with long-term care. If this risk has not yet materialised for long-term care, it is because the stakes until now have been low. Once long-term care becomes an issue for society and has its own dedicated rights and laws, etc., the risk of ex post escalation of the content of long-term care insurance contracts signed years before, especially through court decisions, may become a reality. This may happen on three levels: the point at which one is considered to have lost autonomy, how severe the loss of autonomy is considered to be, and the level of assistance considered to be normal in relation to a certain degree of loss of autonomy.

### **The relevance of a market solution and its place in the European welfare state**

#### *Market solutions are relevant*

In many countries, the private long-term care insurance market is still very narrow, with very different trends: it is experiencing very rapid growth in some countries (e.g., Spain, Italy, South Korea) but is stagnant in others (e.g., Germany, UK, Nordic countries). However, it is a statement of fact that a market exists for long-term care cover, as long as the private offer has not been ousted by an aggressive public offer. What is most worrying for the future is that the long-term sustainability of this aggressive public offer is threatened by the inadequate selectivity with regard to the schemes put in place, as well as by the wider crisis of the welfare state.

The largest worldwide market is the American market, with over 6 million policyholders and 25 years of experience. However, the market contracted at a constant pace of 10 percent per year until only recently. The difficulties that have hit the American market can be explained to a certain extent by the dynamism of the public Medicaid system (Brown, Coe and Finkelstein 2006; Brown and Finkelstein 2004) but also, as we shall see, by the inadequacy of the products supplied by the insurers. The second largest worldwide market, located in Europe, is the French market with around 3 million policyholders, a growth rate of 15 percent per year and 20 years of experience. We should note that in a country like France, where public authorities have only recently committed to covering long-term care, the number of policyholders (~3 million) is significantly higher than the number of people receiving public aid (~1 million). Interestingly, these two leading markets are based on two different models of cover for long-term care risks (Taleyson 2003):

- In the United States, long-term care insurance contracts are generally individual and provide for the reimbursement of care and services costs up to a certain limit, with multiple options. These are products whose philosophy is derived from health insurance products. They are distributed by agents' networks and are tax qualified.
- In France, long-term care insurance contracts can be individual or collective and provide for the payment of a monthly cash benefit, which may be proportionate to the degree of loss of autonomy and adjusted according to the evolution of this loss of autonomy in the latest generation of con-

tracts. These are products whose philosophy is derived from disability annuities products. They are distributed by direct selling networks and are not tax qualified.

Particularly in France, there is a high demand from the public authorities and various associations for the creation of a fifth risk of “social security”, as is the case in Germany. Such an approach does, however, present many disadvantages in relation to the advantages that society would experience from a public-private partnership:

- It would come up against the limited leeway for manoeuvring public finances, which would restrain cover in relation to objective needs;
- It would be rigid, without the capacity to adapt to the objective diversity of needs and situations, incapable of experimenting with new forms of risk cover and questioning acquired advantages when they can no longer be justified;
- If based on the “pay-as-you-go” principle, it would transfer the costs entirely to future generations regardless of the principles of sustainable development and would constitute the last in a long series of transfers purely for the profit of the baby boomers;
- It would be very sensitive to being captured by interest groups and would have difficulty in resisting the pressure exerted to distort solidarity depending on matters of economic urgency;
- It would have difficulties preventing cost escalation, with a risk of exploitation by long-term care professionals as illustrated by the agreement on tariffs negotiated between the service providers in certain countries.

It is therefore important to construct a protection system that is suited to the effective needs of people under long-term care, i.e., a system that is:

- In proportion to the degree of effective loss of autonomy;
- Objective, to limit the moral hazard linked to the subjective perception of the loss of autonomy and which, as we have seen above, probably constitutes the major challenge in long-term care insurance;
- Controllable, to manage costs.
- Open to innovation, to best satisfy the needs and reduce the costs;
- Fair and funded, to prevent the costs from being transferred to future generations.

Insurance market cover would avoid these disadvantages or at least would soften them thanks to com-

petition, whilst meeting the effective needs of persons under long-term care.

*Co-ordination with the welfare state: which model for Europe?*

In Europe in particular, co-ordination with the welfare state is important. The plan would include a universal guarantee for long-term care, which assumes perfect co-ordination between the market and the state, within a public-private partnership of a new kind. This cover could be based on the following main principles:

- Cover of severe long-term care only, which corresponds to a real risk (low frequency, high severity) and a “personal catastrophe” for the households affected (light long-term care is, on the contrary, not a risk but a virtual certainty for each of us);
- Cover which takes the form of an annuity;
- Freedom for households to choose, with tax incentives for protection and eventually penalisation for non-protection;
- Public-private partnership with state intervention for the least solvent demand, in the form of a public benefit, the financing of which would depend on the household’s wealth.

*Principle 1: A model focussing solely on heavy long-term care with a monetary benefit in the form of an annuity*

It is important that the agents have a good understanding of the products and the cover that they provide. The products must be sufficiently simple, without too many options, whilst remaining flexible. They must also be easily comparable from one company to the next, so that the policyholder can optimise his choice. And the insurers must be able to control them so as to limit the risk premium for material uncertainties for the long-term care itself. The system should therefore favour:

- Heavy long-term care, excluding light long-term care, not only because the latter does not pose a real financial problem to households (it does not incur significant expenses and corresponds not so much to a risk as to a virtual certainty) but also because it is more difficult to appreciate objectively, it is more likely to give rise to escalation or even to fraud. Insurance cover would correspond therefore to a consolidated state of long-term care defined with reference to the objective inability to carry out, without the help of a third person, cer-

tain activities of daily life (on the Katz scale). For cases of dementia, cover could be based on Folstein's MMS (mini mental state) examination. The cover would be defined by an approved "long-term care" contract, which would define the level of basic service related to the different degrees of loss of autonomy, in agreement with the profession and the public authorities (possibly including representation of policyholders). The policyholder, duly informed of this approved contract, would not, however, be under any obligation to subscribe to it: he would have the possibility of subscribing to only a part of it, adding additional cover, or even subscribing to a different contract.

- A monetary benefit in the form of a monthly fixed sum. Experience in Germany and the US has shown that "cost-plus" type contracts are largely unsuitable as the policyholder has difficulty in making a choice between the different options faced with a risk of which he tends to have no concrete experience, or of which he refuses to imagine the consequences. In addition, from the point of view of the insurer, recent economic theory (Laffont and Tirole 1993) shows that it is optimal for the principal (the insurer), if he does not want to be the residual claimant, to use fixed-price contracts that attribute a fixed sum to the agent, leaving him to spend it on the necessary care at his own discretion. This contrasts with "cost-plus" type contracts, which reimburse all of the costs exhibited by the agent.

In such a scheme, the revaluation of the benefits provided would be contractual and revisable in accordance with inflation and the change in the rate of the loss of autonomy of the person. It could include a capital payment to equip the home. The degree of loss of autonomy would itself be assessed by an independent appraisal implemented by the profession. Similarly, the contract would be authorised to allow contributions or benefits to be adjusted during the life of the contract in order to make up for any possible escalations which would not be absorbed by the constitution of long-term provisions. Faced with the risk of adverse selection which, as we have seen above, is one of the three major risks which determine the insurability of long-term care, the insurer would be allowed to set an age limit on subscription and to adjust the fee structure depending on the state of health of the insurance applicants. Finally, the contract should allow policyholders to revise their choice and transfer their contract from one insurer to another, with reasonable penalties for the policyholder.

*Principle 2: A Model based on freedom of choice with tax incentives and penalisation for non-protection*

For such a plan to quickly reach critical mass, it is not only necessary to make households aware of the risk constituted by long-term care at pivotal points in their life (birthday, retirement, change in situation, taking out an insurance contract, etc.) by mobilising the appropriate participants (employers, pension funds, insurers, bankers, etc.) but also to adapt the tax system so as not to reduce interest in this type of guarantee when subscription is not mandatory, given that the agents structurally tend to under-estimate the likelihood of occurrence and severity of far-off catastrophic events (Kahneman and Tversky 1974; 1980).

The policyholder's payments would thus be exempt from social and tax deductions, in the same way as if the payments were made to a social security system.<sup>1</sup> With the aim of fairness, it would also be desirable to go beyond a simple tax exemption and to provide a refundable tax credit which would allow all households, irrespective of their level of income and their marginal tax rate to benefit from the same ratio of tax support. The benefit paid in the event of long-term care would also be exempt from income tax and social contributions, up to a certain limit, given that it is not per se a replacement income. The insurers would only be able to offer long-term care cover which benefits from these advantages if they adhere to a guarantee fund set up and managed by the profession, under the responsibility of the insurers concerned, and which would be authorised to adjust its contribution depending on the financial strength of the insurance company and the quality of its reinsurance programme.

*Principle 3: A model supplemented by public welfare, the financing of which would depend on the resources of the households concerned*

It is desirable to permit households not to take out insurance or to take out only partial insurance – this choice may be dictated by either financial constraints (insufficient resources) or by an economic and social optimisation calculation.

Any person losing autonomy who is not covered by long-term care insurance or who has only partial cover would be eligible for a public long-term care bene-

<sup>1</sup> Within the framework of collective cover, it would be desirable, for similar reasons, to exempt the company's financial participation in social and tax deductions.



fit. However, only those whose resources are insufficient would be able to benefit free of charge. For the others, a financial participation increasing in line with the household's resources would be required; this could extend as far as a charge on the estate, when households' resources are sufficient, in order to dissuade free-riders.

For this partnership between the market and the state to be effective, it would of course be necessary for the scales on which long-term care is evaluated to be harmonised or at least co-ordinated. Due to its great objectivity, the Katz scale with the autonomous exercise of the ADLs, in association with Folstein's MMS test, would be favoured over others such as the AGGIR scale.

## Conclusion

In European countries where there are mandatory health insurance schemes, long-term care should really be "non-medical", in other words, the health care required by the aged needing assistance should be borne by these schemes. In this perspective, long-term care would only provide services to that part of the population experiencing difficulties with daily life. In the US, if the health reform is finally implemented, health care will be borne by this new scheme, allowing insurers to provide long-term care on non-medical basis and thereby reducing the cost of existing long-term care policies.

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## ON INSURANCE FOR LONG-TERM CARE IN FRANCE

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### Introduction

The ageing of populations in most industrialised countries is accompanied by an increase in the need for long-term care (LTC). LTC is a mix of social and health care provided on a daily basis, formally or informally, at home or in institutions, to people suffering from a loss of mobility and autonomy in their daily living activities. Although loss of autonomy may occur at any age, its frequency rises with age. In 2011, the first baby-boom generation will turn 65, and it is forecasted that on average the size of the old-age population dependent on assistance will double in the next 50 years in OECD countries (OECD 2005). At the same time, the number of informal caregivers is decreasing. This trend is attributed to the decomposition of the family unit, the distancing of children from their parents and the increase in women's employment rates. Furthermore, low rates of public long-term care coverage suggest that the financial consequences of dependency could be catastrophic, even resulting in ruin, for a number of elderly people and their families (Assous and Mahieu 2002).

A solution to this lack of public coverage is to develop the insurance market for long-term care. That is why, for some decades now, insurance companies have been offering contracts to cover the financial consequences of dependency and the use of long-term care. Market evolution strongly depends on institutional settings, and the United States and France are currently the most developed markets. Yet, the demand for this kind of insurance would seem relatively small in comparison to the impor-

tance of the risk of dependency and the aversion of individuals to such a risk. Several theoretical and empirical arguments have been proposed to explain the decisions made when considering the purchase of long-term care insurance. Among the common arguments quoted, insurance demand for LTC is thought to be influenced by information asymmetry phenomena, intergenerational factors, bias in risk perception, the role of the state as insurer of last resort, the family structure, access to informal care and the amount of the inheritance.

The aim of this text is to provide an overview of recent empirical work (Courbage and Roudaut 2008) studying the determinants of the demand for insurance covering LTC on the French market using cross-sectional data from the newly developed SHARE (Survey of Health, Ageing, and Retirement in Europe) database.

Based on a two-stage model of the likelihood of receiving informal care, we estimate the probability of individuals taking out insurance covering LTC. We examine whether this probability is significantly influenced by income, education, the probability of leaving a bequest, family structure, experience of dependency, risk behaviours, level of informal care and health status.

Let us first start by presenting the arguments that explain the decision to purchase insurance for LTC and introducing the way LTC is financed in France.

### The decision to purchase LTC insurance

Several theoretical arguments have been put forward to explain the decision to purchase LTC insurance or not.

A common explanation for the unwillingness to purchase LTC insurance is that individuals are inadequately informed about the products available and that they ignore low-frequency high-severity events that have not occurred recently (Kunreuther 1978). Another explanation for the limited development of LTC insurance markets includes the phenomena of

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moral hazard (over-consumption of care encouraged by insurance) and of adverse selection (over-representation of bad risks in the insured population), and the fact that the interaction of public insurance programmes arguably crowds out private insurance.

Since LTC is largely provided informally, mainly through family members, intergenerational factors have also been put forward to explain the rationale for taking out LTC insurance (Pauly 1990). The desire to leave a bequest seems to be a major motive for LTC insurance. However, elderly individuals with children may decide to forego the purchase of LTC insurance due to intrafamily moral hazard. Indeed, parents who prefer to receive care from their children may decline the offer to purchase insurance, as this may create a disincentive for children to provide care. Intra-family moral hazard differs from classic moral hazard in the sense that it is not the policyholder behaviour that is modified by the presence of insurance, but the caregiver's behaviour. Nevertheless, it happens that bequests can be structured so as to provide an incentive for children to care for their elderly parents. If long-term care insurance were purchased, parents could increase the sensitivity of the bequest to caregiving in order to elicit attention from children (Zweifel and Strüwe 1996).

While theoretical literature on the subject is rather abundant, relatively little empirical research has been done on the factors affecting the decision to purchase coverage, and it relates almost exclusively to the situation in the United States. Sloan and Norton (1997) examine the relationship existing between the demand for LTC insurance and, respectively, the bequest motive and expectations of future nursing home use. Although they find phenomena of adverse selection, the bequest motive does not seem to influence the demand for LTC insurance. Mellor (2001) shows that education, income and wealth positively impact LTC insurance, whilst availability of informal care has no statistically significant effect on LTC insurance. Doeringhaus and Gustavson (2002) show that nursing home expenditure levels, the relative size of the elderly population and the nursing home population are significant explanatory factors of LTC insurance purchase in some states of the United States. The intuition is that these variables raise awareness among the elderly about cost and quality issues in LTC, which should reinforce the utility of LTC insurance for such individuals. Recently, Brown and Finkelstein (2007) have presented evidence of supply-side market failures in the United States LTC insurance

market, such failures being explained by the characteristics and pricing of the products on offer. Finally, using French data, Courbage and Roudaut (2008) have shown that insurance for formal long-term care is purchased to preserve bequests and to protect families in the event of disability. Risk behaviour, as well as experience of disability, also plays a significant role in explaining the demand for insurance covering LTC in France. This last work will be the main topic of the text below.

### **Financing long-term care in France**

LTC financing varies from one country to the other, and the organisation of LTC coverage is in general a function of the health systems already in place. LTC is often provided by both health and social services, which are not necessarily disconnected. It may be difficult to differentiate the health insurance system from other systems specific to LTC risk. In the face of LTC expenditure that represents an increasing share in health budgets, several countries have decided to consider the risk of dependency as a new risk and to separate it from the health risk. These countries have established LTC insurance as a new branch of their social insurance system (e.g., Austria, Germany, Luxemburg, Japan). According to a recent report by the European Commission (2008), most European countries recognise the importance of finding an appropriate balance between public and private sources of funding. The logic of mixed funding based on public-private partnership in the coverage of LTC risk seems to be the way chosen by the largest number of countries.

In France, the public coverage of LTC is derived not only from a long tradition of intervention concerning social assistance, but also from the great diversity of actors and sources of financing. At the national level, the sickness insurance scheme deals with expenses concerning health care. In addition, the retirement insurance scheme allows the financing of a significant part of living expenses through means of domestic assistance. At the regional level, general councils manage the Personalised Allowance of Autonomy (APA). The APA is paid to people aged 60 or more who are no longer autonomous, regardless of their financial situation and geographical location. However, only those with a low income are exempted from the co-payment, which can represent up to 80 percent of the total cost. This allowance is jointly funded by both central and regional governments. APA can be seen as

a the first step towards recognition of dependency as a new risk in life, yet public coverage remains low in comparison to the financial expenses incurred by the occurrence of dependency.<sup>1</sup> In view of the complexity of LTC financing, the French government intends to create a fifth branch of the social security dedicated to the risk of LTC. It is expected that this legal project will be discussed in parliament during the second half of 2010.

Also, in addition to public coverage, private insurance has developed in France. LTC insurance contracts are individual or collective and guarantee the payment of a fixed allowance, in the form of monthly cash benefit, possibly proportional to the degree of dependency. The French market, with an annual growth close to 15 percent (Kessler 2008), is one of the most dynamic amongst the industrialised markets. Contrary to the United States, public authorities do not use tax incentives to encourage the development of private LTC insurance. In France, it seems that national debates associated with the search for new solutions to cover the risk of LTC, widely covered in the press, have increased the general public's awareness of the existence of this risk. This has supported the development of the private insurance (Durand and Taleyson 2003). It also seems that the success of the French market is explained by the choice of the products offered. Whereas US insurers have launched products with service benefits (payment proportional to LTC expenditure), French insurers have turned to cash benefit products. Policy-holders would appear to prefer the freedom of cash disability benefits, even if that implies the need to organise the care themselves, to the simplicity of the service benefit (Durand and Taleyson 2003).

### The data and variables

The Survey on Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary and cross-national micro-database containing information on approximately 22,000 Europeans over the age of 50 and their spouses. A descrip-

tion of methodological issues can be found in Börsch-Supan and Jürges (2005). We use the first wave of SHARE developed in 2004, and updated in 2007. The sample for France contains 3,193 individuals. Missing values for some variables and a restriction to individuals aged 50 and over have left us with 2,530 observations.

SHARE asks various questions on the terms of health insurance and, in particular, on insurance covering LTC. The question of special interest to us is: "Do you have any supplementary or private health insurance for one of the following types of care?" A list of different types of care is then proposed. The answers corresponding to insurance covering long-term care in a nursing home, nursing care at home in case of chronic disease or disability, and home help for assistance with daily activities are chosen to define LTC insurance. As these forms of care correspond to the common definition of LTC, we considered that an individual has insurance for LTC if he has subscribed to at least one of these three types of care. This is the case for 52.7 percent of individuals in the sample. Note that these three forms of coverage do not necessarily correspond to what is usually labelled LTC insurance but could also be provided through supplementary health insurance. The issue of relevance is that there is insurance coverage for these types of LTC.

**Table 1**  
SHARE sample variable means and definitions (n = 2530)

Variable	Definition	
LTCI	=1 if respondent reports having private long-term care insurance (covering LTC in nursing home, nursing care at home, home help)	52.7%
Informal care	=1 if the household has received help from a descendant (children, step children, grand children, nephew) <sup>a)</sup>	9.8%
Female	=1 if respondent is female	54.8%
Age	Age at interview	64.48
Children	Number of children	2.29
One daughter	=1 if respondent has at least one daughter	68.4%
Married	=1 if respondent is married	66.0%
Single	=1 if respondent is single	6.7%
Divorced	=1 if respondent is divorced	10.9%
Widow	=1 if respondent is widowed	16.4%
Low inheritance	=1 if the household expects not to leave an inheritance to his descendants	15.8%
Medium inheritance	=1 if the household expects to leave an inheritance of less than 150 000€ to his descendants	46.8%
High inheritance	=1 if the household expects to leave an inheritance of at least of 150 000 € to his descendants	37.5%
Hospital	=1 if respondent has been hospitalised recently	14.5%
LTI	=1 if respondent suffers from chronic or long-term conditions	50.7%

<sup>a)</sup> During the last 12 months.

Source: Compilation by the authors.

<sup>1</sup> Public coverage represents only 30 percent of the average cost of LTC (Ennuyer 2006).

Table 1 summarises the main variables used in our analysis. We consider family structure, income, bequest, risk perception, informal care, age and health level as the main explanatory variables.

Indeed, married persons may feel the need to protect their partner from the financial burden of impoverishment due to long-term care expenses and could then demand more insurance. The role of children is more complex, as explained previously, because they are subject to intra-family moral hazard. Risk perception or awareness is represented through two types of variables: providing or having provided informal care to a family member, and having personally experienced hospitalisation or serious illness in the past. So as to test for the influence of intra-family moral hazard, we need to know how the presence of informal care influences the demand for LTC insurance. Informal care occurs when the household receives help for personal care, domestic and administrative help from a descendant. Since we do not have any indication of the level of insurance premiums, age could be regarded as a proxy for the price of insurance. One might expect that age is negatively correlated with the probability of purchasing insurance since insurance premiums found on the market usually increase importantly with age. We also control for the level of education of individuals as well as their health status (chronic diseases, level of activities, symptoms).

### The model

As pointed out earlier, children are the main providers of informal care and their behaviour can be influenced by the level of insurance. As underlined by Mellor (2001), there might be a phenomenon of endogeneity of informal care in the sense that the supply of informal care might depend on LTC insurance coverage. Indeed, people receiving informal care from a child can be precisely those who lack insurance coverage. Moreover, in the presence of intra-family moral hazard, having LTC insurance would encourage children to reduce or substitute their help, current or future, by formal care covered by insurance. To address these concerns, we compute predictions of informal care reception from the estimation of a probability model of receiving informal care from descendants to dependent people. Hence, a probit model is estimated on the sub-sample of dependant people with only time-invariant variables in order to provide time-independent predictions. These variables are gender, level of education, char-

**Table 2**

#### Probit models

	(1)	(2)
Dependent variable	Informal care	Having long-term care insurance (LTCI)
Informal care ( <i>predicted</i> )		0.171***
Female	0.687***	0.039
Age		0.032***
Age (square)		-0.000***
Children	0.011***	0.050***
One daughter	0.577***	
Single		-0.125***
Divorced		-0.095***
Widow		0.085
<i>Ref = Married</i>		
Low inheritance	0.199**	-0.369***
Average inheritance	0.276**	-0.230***
<i>Ref = High inheritance</i>		
Hospital LTI		0.155
		0.109***
Constant	-2.559***	-1.128***
Observations	541	1,989
Robust standard errors using White correction. Adjusted for clustering at the household level * significant at 10%; ** significant at 5%; *** significant at 1% Variables sex, income, education, health conditions, risky behaviour are included but not reported, for the sake of simplicity.		

Source: Estimation by the authors.

acteristics of the children, income and amount of expected inheritance. (Table 2, column 1).

In a second step, the estimated probability of receiving informal care is introduced into the equation of the demand for insurance (Table 2, column 2). This equation is estimated on the sub-sample of those who are not in a position to need help today.

### Results

The results show that income has a non-linear, bell-shape effect on the insurance demand for LTC. Very low-income people take out little insurance coverage, which might be explained by the existence of higher public coverage for the lowest incomes. It is mostly middle-income people who take out insurance for LTC. Then, from a certain level of income, the demand for insurance decreases.

The demand for insurance covering LTC is also strongly related to the amount of the bequest. Indeed, an individual who with a high inheritance to leave to his children is more likely to purchase insur-

ance for LTC. This suggests that insurance is purchased in order to preserve the inheritance, thus demonstrating some form of altruistic behaviour.

Such altruistic behaviour seems to be confirmed by the fact that the probability of having insurance for LTC is higher for married individuals and those with children. Insurance is thus not purchased to protect oneself from the financial consequences of dependency, but rather to protect family and relatives against the financial risks of becoming dependent in the future.

Moreover, we find that the probability of purchasing insurance for LTC increases for those who have a higher probability of receiving informal care should the need arise in the future. An explanation is that insurance for LTC is purchased to reduce the burden on potential informal caregivers. Indeed, several studies suggest that providing informal care may have a negative effect on the informal caregiver's health (e.g., Schulz and Beach 1999). Formal care covered by insurance would replace informal care and would avoid strain on the informal caregiver's health.

Having been recently hospitalised or having suffered a serious illness also seems to positively influence the probability of purchasing LTC insurance. These findings conform with the results of work carried out on the role of information and on the perception of risks in decision-making processes. Indeed, shocks affecting health or experience of serious illnesses is often recognised as a source of information that can lead people to modify their behaviour and their economic decisions (Sloan, Smith and Taylor 2003).

## Conclusion

While many theoretical arguments have been proposed to explain the decision to purchase long-term care insurance, little work has been done to study these phenomena empirically and it almost exclusively relates to the United States. This article provides an overview of recent work (Courbage and Roudaut 2008) using cross-sectional data from the newly developed SHARE database to estimate the determinants of the probability of purchasing insurance covering long-term care in France.

The main results are consistent with the view that providing public coverage for low-income individuals crowds out private insurance. Furthermore, it seems that the demand for insurance covering LTC is dri-

ven, above all, by altruistic behaviour. It is not necessarily sought out to protect oneself from the financial consequences of the risk of dependency, but rather to protect one's family against the risk of becoming dependent in the future. Insurance is perceived as a way to reduce the burden on potential informal caregivers. Such results lead us to think that the French insurance market for LTC is not limited by potential phenomena of intra-family moral hazard, which could be another explanation for its dynamism.

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## THE SOCIAL LONG-TERM CARE INSURANCE: A FRAIL PILLAR OF THE GERMAN SOCIAL INSURANCE SYSTEM

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### Introduction

Until 1995, financial support for long-term care in Germany was granted as means-tested welfare for people in need of long-term care (Hilfe zur Pflege, Bundessozialhilfegesetz). At that time, being in need of care was not explicitly defined, meaning that every “helpless” person was eligible for means-tested allowances that in most federal states were provided by local municipalities. As a result of increasing numbers of individuals in need of care and shrinking informal networks to provide unpaid support, increasing numbers of frail elderly thus became welfare dependent. While in 1963 only 165,000 had been eligible for long term care allowances, these numbers rose to 675,000 in 1992.<sup>1</sup> For people who had been working their whole lives and only became welfare-dependent due to their long-term care needs, this was considered a stigma. The related discontent, together with increasing financial pressures on the municipalities, thus started a political debate<sup>2</sup> that, in 1994, resulted in the introduction of the so called fifth pillar of the German social insurance system<sup>3</sup>: a social long-term care insurance (SLTCI).

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<sup>1</sup> This number also includes eastern Germany. For a more detailed description on the history of social long-term care insurance in Germany, see Heinicke and Thomsen (2010).

<sup>2</sup> As emphasized by Götting, Haug and Hinrichs (1994), the shrinking supply of informal caregivers and concerns about the supply and quality of professional care in light of an increasing demand also fueled this debate.

<sup>3</sup> Before the introduction of the social long-term care insurance, the German social insurance system was comprised of four pillars: unemployment insurance, health insurance, pension insurance, and accident insurance. They all follow the principles of solidarity, self-administration and funding by social insurance contributions.

Designed as a universal, non means-tested and contribution-financed insurance, SLTCI grants long-term care allowances for individuals in need of care. Its introduction thus improved the situation of many frail elderly, and it also boosted the market for long-term care services. On the negative side, the SLTCI inherited the typical diseases of a pay-as-you go funded insurance in an ageing society: shrinking revenues and increasing expenditures.

This article gives an overview about the institutional background and the set up of the SLTCI including a description of the available long term care programs. Following this introduction, we discuss the current and projected development on the revenue and the expenditure side of the SLTCI and summarize the existing estimations regarding the likely fiscal development of SLTCI in a mid to long term perspective. This part forms the basis for a concluding discussion of potential reform options that may improve the fiscal sustainability of SLTCI.

### Set-up and funding

SLTCI in Germany is a mandatory and non means-tested insurance for the almost 90 percent of the population who are also covered by a social health insurance such as most employees and their children, retirees and recipients of social welfare or unemployment benefits. Persons whose job is not subject to social security need to have coverage by a private long-term care insurance (PLTCI). This concerns the approximately 10 percent of the German population who are civil servants, self-employed or employed with a wage income above the social security threshold. Only about 0.5 percent of the German population is not covered by any long-term care insurance (e.g., homeless persons). In contrast to health insurance, SLTCI is not intended to fully cover the risk of being in need of long-term care, but only covers basic needs. Thus, individuals in need of care are expected to contribute additional private funds for long-term care, with social welfare still being the last resort for those lacking sufficient financial resources. Long-term care allowances as welfare payment were thus not abolished, but decreased by around 70 per-



Table 1

## Care levels and care needs

	Care level I (need for considerable care)	Care level II (need for intensive care)	Care level III (need for highly intensive care)
Assistance for personal care, nutrition or mobility	at least once a day for at least two ADL	at least three times a day at different times of the day	permanent assistance
Assistance for housekeeping	several times per week	several times per week	several times per week
Time needed*	at least 90min/day on average including a maximum of 45min/day for housekeeping	at least 3h/day on average including a maximum of 1h/day for housekeeping	at least 5h/day on average including a maximum of 1h/day for housekeeping
* Time exposure is calculated for non-professional caregivers.			

Source: German Federal Ministry of Health ([http://www.bmg.bund.de/cln\\_160/nn\\_1168258/SharedDocs/Standardartikel/DE/AZ/P/Glossarbereich-Pflegestufen.html?\\_\\_nnn=true](http://www.bmg.bund.de/cln_160/nn_1168258/SharedDocs/Standardartikel/DE/AZ/P/Glossarbereich-Pflegestufen.html?__nnn=true))

cent in the five years after the introduction of SLTCI (German Federal Ministry of Health 2004, 67).

Unlike the other social insurances, the SLTCI does not have an independent administrative organization, but is administered by the approximately 250 health insurers in Germany,<sup>4</sup> who are also responsible for monitoring the adequacy and quality of the long-term care that is provided by informal and professional caregivers. In addition, federal states are responsible for providing an adequate infrastructure (e.g., sufficient nursing homes) for long-term care. Financing is based on a pay-as-you go scheme<sup>5</sup> and started with social security contributions of 1 percent of an employee's gross earnings in January 1995.<sup>6</sup> Since benefit payments did not start before April 1995 for out-patient care and before July 1996 for in-patient care, an initial stock of savings was collected. In July 1996, the contribution rate was increased to 1.7 percent. Moreover, an additional premium of 0.25 percentage points has been required of childless people since 2005 in order to account for the fact that they are likely to receive higher SLTCI grants on average.<sup>7</sup> After an amendment of the SLTCI law in 2008 (Pflegerweiterentwicklungsgesetz), contribu-

tion rates were further raised by 0.25 percentage points in order to finance additional benefit schemes.

### Eligibility, benefits and provision of services

Individuals who are covered by the SLTCI are eligible for benefits if they are impaired in two or more activities of daily life (ADL) and require help several times per week. ADL consist of abilities such as bathing, dressing and undressing, eating, using the toilet or walking.<sup>8</sup> The Medical Review Board of the health insurers (Medizinischer Dienst der Krankenkassen) is responsible for assessing the required level of care.<sup>9</sup> Physicians and nurses, mandated by the Medical Review Board, evaluate the demand for support in four basic domains: personal care, nutrition, mobility and housekeeping. Based on this assessment, three care levels are granted according to the severity of care needs as summarized in Table 1. The Medical Review Board is also required to assess whether care dependency can be avoided or mitigated by measures of rehabilitation since, by law, rehabilitative measures take precedence over long-term care. Moreover, preventive measures can be recommended in order to stabilize the current need for care. In 2008, eligibility criteria were reformed to include persons with mental impairment such as dementia (eingeschränkte Alltagskompetenz) are also entitled to benefits. The corresponding benefits are

<sup>4</sup> Some of the larger insurers like the public community insurances (AOK, Allgemeine Ortskrankenkassen) or the company health insurances (BKK, Betriebskrankenkassen) are organized at the level of federal states.

<sup>5</sup> In contrast, private long-term insurance is fully capital funded. Thus, only around 20 percent of the current PLTCI revenues are spent on benefits whereas most of the money is used to build up the capital stock and capital reserves for its members. In 2006, the capital stock of the PLTCI already comprised around 17 billion EUR (German Federal Ministry of Health 2007, 30).

<sup>6</sup> The contribution rate applies only to the gross earnings below the so-called social security threshold. In 2003, this threshold was EUR 45,900, but was raised afterwards to EUR 48,600 in 2008.

<sup>7</sup> This adjustment was demanded by the Federal Constitutional Court based on the "children consideration law" (Kinderberücksichtigungsgesetz). Exempted are childless persons born before 1940, persons younger than 23, and recipients of unemployment assistance or persons in military or alternative service.

<sup>8</sup> In addition, the instrumental activities of daily life (IADL) comprise "telephoning, shopping, food preparation, housekeeping, laundering, use of transportation, use of medicine, and financial behavior" (Lawton and Browdy 1969).

<sup>9</sup> According to the Federal Ministry of Health (Bundesministerium für Gesundheit) the probability of being in need of care is 0.7 percent for persons younger than 60, 4.4 percent for persons between 60 and 80 years, and increases to 28.6 percent for persons older than 80 years.



**Table 2**  
**Benefit levels for benefits in kind, cash allowances and institutional care**  
**(monthly values in EUR)**

Care Level	Since 2007/08	2010	2012
Benefits in-kind			
I	420	440	450
II	980	1,040	1,100
III*	1,470	1,510	1,550
Cash Allowances			
I	215	225	235
II	420	430	440
III	675	685	700
Institutional Care			
I	1,023	1,023	1,023
II	1,279	1,279	1,279
III	1,470	1,510	1,550
Cases of Hardship	1,750	1,825	1,918

\* Additional benefits can be allocated for persons at care level III in cases of hardship, but only up to a maximum value of EUR 1,912 per month if extraordinary effort is necessary (e.g., at the end-stage of cancer). Moreover, these extra benefits can only be granted to 3% of all insured persons at care level III.

Source: German Federal Ministry of Health ([http://www.bmg.bund.de/cln\\_160/nn\\_1168258/SharedDocs/Standardartikel/DE/AZ/P/Glossarbegriff-Pflegestufen.html?\\_\\_nnn=true](http://www.bmg.bund.de/cln_160/nn_1168258/SharedDocs/Standardartikel/DE/AZ/P/Glossarbegriff-Pflegestufen.html?__nnn=true))

not assigned for basic care or housekeeping but for supervision and amount to EUR 100 per month for basic cases and EUR 200 for more severe cases. The money can be used to purchase any kind of benefit desired.

Individuals who have been granted one of the three levels of disability can choose between nursing home care and two home care programs: cash benefits (Pflegegeld) or agency services in kind (Sachleistung). In addition, if the monthly claim for agency services is not exhausted the remaining percentage can be granted as a cash benefit; claimants then receive a combination of both types of home care programs. Table 2 provides an overview of the three levels of disabilities and corresponding benefit levels depending on the type of program. Cash benefits only amount to about half the monetary value of agency services which corresponds to only 37–72 percent of the benefit level for nursing home care for the first two disability levels. Table 2 also displays the adjusted benefit levels that will come into effect in 2010 and 2012 as a result of the reform in 2008.

### Home care benefits

Individuals in need of care who lack sufficient informal support but prefer to stay at home tend to opt for agency services in kind. Agency services encom-

pass a pre-defined catalogue of services that are related to the ADL that are assessed by the Medical Review Board. Therefore, agency services that are reimbursed by the SLTCI<sup>10</sup> are limited and do not include support for those with mental impairments such as dementia. Moreover, agency services have to be provided by care agencies that have been authorized and contracted by the SLTCI (Versorgungsvertrag). For this authorization, agencies have to fulfill certain criteria concerning the organization and quality of care. Prices are negotiated between SLTC insurers and authorized agencies, thus undermining a truly competitive market for long-term care services. Due to its limited coverage and flexibility, agency services have been criticized for not fully meeting the care

recipient's needs (Klie 1999).

In contrast, a recipient of the cash allowance receives a cash payment that can be used at the full discretion of the person in need of care. This cash payment thus enables care recipients to act as employers of care assistants and to spend the money on care services that best suit their needs. However, the German cash option is mainly designed for care households with an informal caregiver as the main caregiver so that the cash payment in many cases is used to remunerate informal care. In fact, the cash option can only be granted conditional on such informal support. Compliance with this eligibility rule is monitored by regular visits from SLTCI-licensed agents, which take place at least once in six (three) months for persons with care levels I or II (III). To relieve the main caregiver of some of the burden, recipients of the cash payment may be entitled to additional respite care<sup>11</sup> for a maximum duration of four weeks per year if the main caregiver is not a direct family member and informal care has been provided for at least six months before claiming respite care. In addition,

<sup>10</sup> The care recipient receives the care services, but does not pay the providers himself.

<sup>11</sup> If respite care is provided by a professional caregiver, additional benefits amount to a maximum value of EUR 1,470 per year in 2008. If the respite caregiver is a family member or lives in the same household as the care dependent person, only the lump-sum transfers are paid but additional expenses (for example for traveling or loss of earnings) can be remunerated up to the maximum values of professional respite care.

the SLTCI pays contributions to pension funds if informal caregivers do not work more than 30 hours per week and spend at least 14 hours per week on care. If informal caregivers are on leave for providing care, SLTCI also pays for the unemployment insurance, social health insurance and SLTCI.

**Institutional care**

A person is entitled to institutional care if the Medical Review Board considers home care inadequate. If someone is assessed to need the highest care level, institutional care is in fact the default recommendation of the Medical Review Board (German Federal Ministry of Health 2008). The benefits for institutional care are displayed in Table 2 and must not exceed 75 percent of the institution’s expenditures. If someone chooses institutional care regardless of necessity, the person is only entitled to the maximum value of agency services in kind and has to pay for additional costs.

There are also possibilities to combine home and institutional care. In case of special needs during the night, for example, a part-time institutional arrangement can be offered. Day/night care (Tag- und Nachtpflege) comprises transportation to and from the institution. It can be combined with agency services in kind and/or a cash allowance, but the total value must not exceed 150 percent of the monetary value of the benefit scheme the person in need of care is entitled to. Moreover, short-term care (Kurzeitpflege) implies institutional care for a maximum duration of four weeks per year. It is granted if day/night care or home care is not sufficient, for example after a hospital stay. Benefit levels are the same as for respite care.

**The current state of the SLTCI: questionable fiscal sustainability**

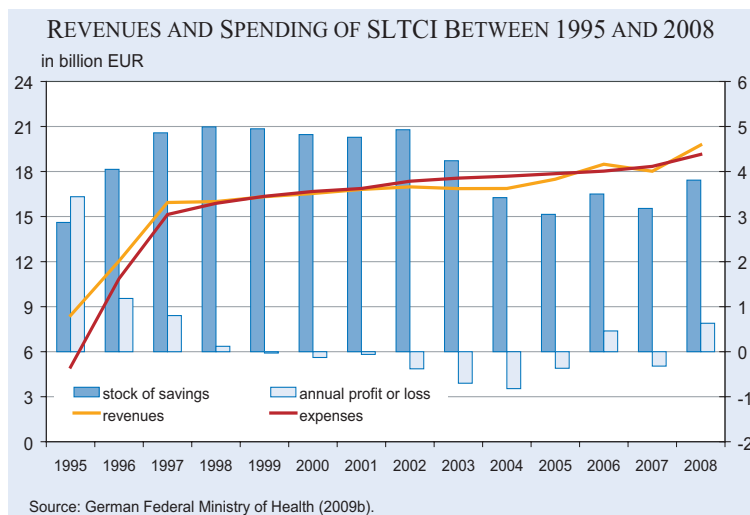
Since contribution payments started some months before benefits could be claimed, a stock of sav-

ings was built up after the implementation of the SLTCI. However, expenses started to exceed revenues after 1999 with the exception of the year 2006 (see Figure 1).<sup>12</sup> The fiscal sustainability of the SLTCI was thus questioned only a few years after its introduction. In particular, one can identify three main factors that affect projected SLTCI revenues and expenditures: (i) the number of benefit recipients, (ii) the increasing dependency on professional long-term care, and (iii) the decrease in revenues due to demographic ageing and a shrinking of the working age population.

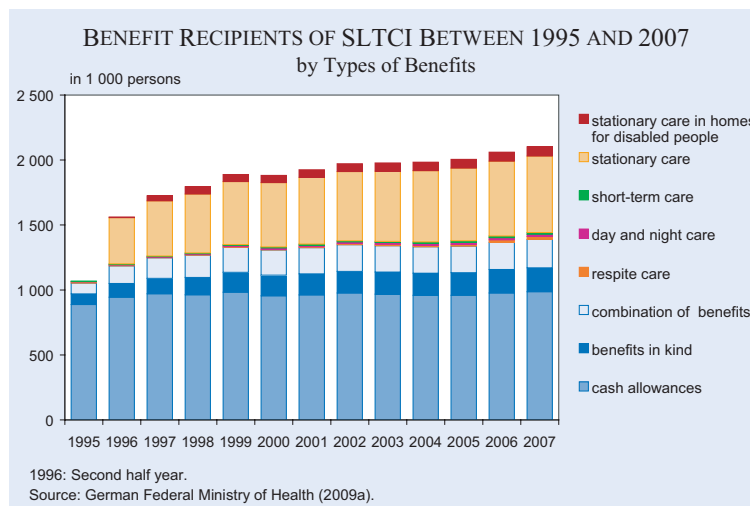
Since the introduction of SLTCI in 1995 the number of benefit claimants increased steadily as shown in Figure 2. This development is likely to continue and

<sup>12</sup> The surplus in 2006 was due to the shift of contribution payments to the end of a month. SLTCI funds took 13 payments in 2006 instead of 12.

**Figure 1**



**Figure 2**



even accelerate in the future because the ageing of high-birthrate cohorts tends to increase the number of care recipients. Assuming a constant age-specific risk of care dependency, Rothgang (2001) calculates about 2.9 to 3.3 million benefit recipients in 2040, an increase of 55–76 percent compared to 2000. Similarly, the Council of Economic Advisors (2004) estimates a number of 2.4 to 3.5 million benefit recipients in 2040, assuming constant age-specific risks of care dependency. Taking into account that the risk of being in need of care will be shifted to later ages as life expectancy increases, Rothgang (2001) estimates around 2.5 to 2.7 million benefit recipients in 2040. Blinkert and Gräf (2009) analyze similar scenarios resulting in 3.25 to 3.5 million projected benefit recipients in 2050.

The second factor that raises expenditures concerns the increasing dependency on professional long term care that is reflected in growing shares of care recipients in institutional care and an increasing share of agency services recipients (see Figure 2). While in 1996 only around 20 percent of all home care recipients received agency services, this share increased to 29 percent in 2007. Moreover, the share of recipients in nursing homes increased from 24.1 percent in 1996 to 33 percent in 2007 (German Federal Ministry of Health 2007, 108). This trend is likely to continue in the future because a growing share of frail elderly in the population and a simultaneous reduction in the number of informal caregivers forces increasing numbers of claimants into institutionalized care (for a corresponding projection see Schulz, Leidl and König 2004). As a consequence, Rothgang (2001) estimates total expenses to increase by 84 to 109 percent depending on the assumed shares of home and institutional care, and the expected increase in the number of benefit recipients.

At the same time, LTCI revenues are projected to decrease due to demographic ageing and a resulting reduction in the average contribution paid by the assured. Based on forecasts concerning the future contribution payers (including immigrants and pensioners), Rothgang (2001) suggests that revenues will decrease up to 17 percent depending on future labor force participation rates. In addition, Blinkert and Gräf (2009) estimate that only 10 to 16 contribution payers have to finance one care recipient in 2050, while 26 contribution payers finance one care recipient in 2007.

The fiscal challenges facing every pay-as-you-go system in an ageing society are thus particularly pro-

nounced for the SLTCI because both its revenues as well as its expenditures are strongly affected. Therefore, the contribution rates will have to be raised tremendously to maintain, *ceteris paribus*, the current level of support.<sup>13</sup> According to Herzog Commission (2003), contribution rates will amount to (at least) 2.6 percent of gross earnings subject to social insurance contributions in 2030. The Council of Economic Advisors (2004) expects a further rise up to between 2.7 and 4.0 percent conditional on the underlying assumptions about the growth of benefits and the growth of revenues. According to Fetzer, Moog and Raffelhüschen (2003), contribution rates will peak in 2055 between 4.5 to 6.5 percent before lower-birthrate cohorts will relieve some of the financial pressures.

## Discussion

The introduction of the SLTCI improved the situation of many frail elderly in need of care in Germany; they are now less welfare dependent, they have access to SLTCI funded professional long-term care and the long-term care infrastructure in Germany for both institutional and home care has improved notably since the early 1990s. At the same time, however, the SLTCI has been criticized from early on for being unsustainable in light of increasing expenditures and shrinking revenues. The reform in 2008 can only mitigate this development temporarily since additional revenues due to higher contribution rates are mainly used to finance higher benefit levels as well as certain other extensions that raise expenditures such as an allowance for individuals with mental impairment.

A reform that ensures the fiscal sustainability of the SLTCI is thus still to come. Most reform options that have been discussed in recent years aim at reforming the funding principles of SLTCI. The least extreme reform suggestion simply aims at raising contribution rates, especially among the high-risk group of pensioners (Rürup Kommission 2003). Lauterbach et al. (2005), on the other hand, propose a universal coverage, thus extending the SLTCI to those who are currently covered by the already capital funded

<sup>13</sup> In 2008, benefits were adapted to price increases for the first time since 1995. The Council of Economic Advisors (2004) and Kronberger Kreis (2005) point out that if benefit levels are not continuously adjusted, real benefits in 2050 will account for only about 50 percent of their value in 1995. As a consequence, SLTCI cannot be considered an inter-generational contract because no generation will be able to balance future receipts with payments (Fetzer, Moog and Raffelhüschen 2003).

PLTCI (e.g. civil servants). Since these additional contribution payers would generate high revenues due to relatively high wage levels, this would relieve the insurance of some of its financial pressures. While these reform options adhere to the pay-as-you-go scheme of the SLTCI, a number of long-term care experts in Germany favor a capital funded insurance scheme to achieve fiscal sustainability in the long run. The corresponding suggestions differ, however, in the length of the transition period and the distribution of the corresponding costs across different cohorts. While Kronberger Kreis (2005) propose an immediate transition to a fully-funded system, others prefer a relatively long transition period (Herzog Kommission 2003; Council of Economic Advisors 2004; Häcker and Raffelhüschen 2004). Some reform suggestions also support hybrid insurance schemes that combine elements of a capital funded with a pay-as-you-go scheme (Council of Economic Advisors 2004).

Since a transition to a capital funded LTCI scheme is considered to be extremely costly, some recent reform suggestions also focus on improving the cost efficiency of long-term provision, thus aiming at the expenditure side of the SLTCI. In particular, an amendment of the LTCI law in 2002 forms the legal basis for testing alternative or supplementary home care programs that (i) aim at improving the provision of long-term care at constant benefit levels and (ii) thereby aim at strengthening home care relative to the more expensive institutional care. As an example, so-called personal budgets (Pflegebudget) were tested as a supplementary home care program in a field experiment in seven German counties between 2004 and 2008.<sup>14</sup> Personal budgets mainly aim at individuals who lack sufficient informal support to opt for the cash payment and for whom agency services may not be flexible enough to stay at home. Personal budgets thus relax many of the restrictions imposed by agency services in-kind and have, in fact, been evaluated to extend professional care hours for former recipients of agency services at constant benefit levels (Arntz and Thomsen 2008a). However, as a side effect, many cash recipients were found to switch to the twice as generous personal budget, thus resulting in a strong increase in SLTCI spending (Arntz and Thomsen 2008b). The personal budget example thus highlights that a higher efficiency of long-term care provision is a reasonable goal, but that SLTCI is likely to remain a frail pillar of the German social insurance system as

long as its funding scheme is not adjusted to the realities of an ageing society.

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<sup>14</sup> In six of the selected counties, personal budgets were tested in a social experiment with a randomized treatment and control group.

## IMPROVING THE QUALITY OF LONG-TERM CARE

VINCENT MOR\*

### Introduction

Most industrialized and industrializing countries are facing a crisis in the provision of health and social care for their rapidly aging populations. Over the last half century formal care systems have emerged to meet the care needs of frail older persons who no longer have the ability to manage independently and whose families are unable to provide the support necessary to enable them to live in their customary home. Different countries have adopted very different strategies in developing services for the frail elderly, with some investing far more in residential care while others also have encouraged the establishment of home care services (Carpenter et al. 2004; Ribbe et al. 1997). While some countries have invested more in the provision of home and community based services, according to the OECD and most older persons receiving long-term care services received care at home, only 30 percent of all public expenditures were devoted to home care; the bulk going to institutional services.<sup>1</sup> Amongst OECD countries the number of long-term care beds per 1000 elders 65+ ranges from 88 in Sweden and 71 in Switzerland to under 20 in Italy, with the US, Australia and Japan around the OECD average of 41. Given the historical emphasis on institutions, when policy makers seek to improve the quality of long-term care services, they tend to focus on institutional care, which is widely believed not to live up to people's expectations. Documented quality problems range from inadequate staffing to high rates of pressure ulcers, restraints and psychotropic drug use (Carpenter et al. 1999; Feng et al. 2009). Ultimately, there is a limit to how much long-term care can be shifted to home

based support and services, since the rapidly aging populations of industrialized and industrializing countries have been accompanied by smaller family sizes, greater geographic mobility and increased female labor force participation, all of which undermine the ability of families to care for older members at home (Manton 1989).

Efforts to improve the quality of long-term care services generally focus on improved regulatory and enforcement systems, internal quality improvement efforts and public reporting of provider performance in a manner designed to stimulate market forces. These three approaches can be applied to all types of service providers, but have been most often applied to institutional long-term care. The purpose of this paper is to summarize the US experience with these three approaches to improving the quality of long-term care services, particularly nursing home care. Since all approaches require that quality be measured, I begin with a brief discussion of the conceptual and technical considerations in measuring quality and the clinical assessment system which is at the core of many of the measures of quality being used in the US.

### Measuring quality in long-term care

In the US, federal subsidy of long-term care began once Medicare reimbursed for post-hospital nursing home and home care, and Medicaid began paying for nursing homes in 1966. Scandals about nursing home quality arose frequently, instigating investigations and commissions. In 1984, the Institute of Medicine recommended various changes, most of which were incorporated into a law passed in 1987, including a mandate to comprehensively assess all nursing home residents (Hawes et al. 1997). Systematic assessment serves to structure the clinical information necessary for care planning and provides the basis for a common lexicon (Mor 2004). A resident assessment was nationally implemented in 1991, updated in 1997 and universally computerized in 1998. Following considerable testing, the Minimum Data Set (MDS) for nursing home resident assessment (RAI) was found to be reliable and generally valid in population



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<sup>1</sup> <http://www.oecd.org/dataoecd/53/4/34585571.pdf>

based research (Morris et al. 1990; Hawes et al. 1995; Mor et al. 2003; Gambassi et al. 1998a; Bernabei et al. 1998; Gambassi et al. 1998b; Bernabei et al. 1999) and the resulting data were found to be correlated with research quality instruments for cognition, depression and physical function (Morris et al. 1994; Hartmaier et al. 1995; Morris et al. 1999).

The RAI was soon used for policy applications such as case-mix reimbursement which pays facilities differentially for serving more impaired and sicker patients (Fries and Cooney 1985). Creating quality indicators to monitor provider performance both to guide quality improvement efforts in a single nursing home (Zimmermann 2003; Popejoy et al. 2000) and to generate and publicly report nursing home quality indicators with the universal availability of the MDS (Reilly et al. 2007). In 2002 the Centers for Medicare and Medicaid Services (CMS) began posting quality measures onto their “Nursing Home Compare” web site (Castle et al. 2007; Castle and Lowe 2005; Mukamel et al. 2007).<sup>2</sup> In spite of known technical limitations of the measures, publicly reported data are now promulgated widely (Castle et al. 2005; Mor 2005). A pay for performance demonstration project that rewards facilities based upon their quality performance on the indicators as well as reductions in acute hospitalizations is now underway (Rahmann 2006). Thus, the assessment instrument underpins multiple policy applications designed to improve quality, including facilitating more consistent and focused facility inspections by regulators, providing targets for quality improvement efforts within facilities or groups of facilities and serving as publicly reported indicators of quality performance, which consumers and their advocates can use to select a nursing home.

### Improving regulatory efforts

Nursing homes in the US are licensed by state governments but since most serve residents insured by Medicare or Medicaid for the services received, facilities must comply with national certification standards if they are to be reimbursed for services rendered. Inspection standards are governed by an elaborate set of guidelines specifying how the inspection is to be done, which features of the home are to be inspected and what aspects of residents’

medical charts are to be assessed.<sup>3</sup> Sometime after the introduction of a computerized MDS, regulators redesigned the inspection protocols to take advantage of the availability of quality indicators that provided a basis for determining which potentially problematic clinical areas deserved greater scrutiny. In addition to focusing on specific clinical domains such as pain or restraints based upon the quality scores, regulators use the detailed information about each resident to sample patients to review medical records and to determine how well care is provided during observations of residents at meal times or morning dressing. While the availability of these data certainly makes more uniform the content inspections, it doesn’t necessarily overcome the problem of variability in inspectors ratings during observations. Indeed, a recent study comparing inspectors’ determinations of how help was provided to residents found that only 2 out of 20 facility inspections revealed facilities to be deficient although in all 20 facilities studied research observers found that staff were not compliant with regulations at least occasionally (Schnelle et al. 2009). Furthermore, in spite of the fact that the inspection protocols have become increasingly standardized over the last decade, there are still very large interstate differences in the number and severity of quality deficiencies identified during inspections (Stevenson and Mor 2009; Harrington et al. 2008).

### Quality improvement efforts

Periodic scandals about poor nursing home quality coupled with the increasing acuity and clinical complexity of the population served have pushed nursing home providers to institute quality improvement efforts as has occurred throughout the acute and ambulatory care sector in the US (Rosen et al. 2005; Buhr and White 2006). All quality improvement efforts require either the identification of a target of change and outcome, such as the reduction of facility acquired pressure ulcers or persistent pain, or a process of care measure like medication administration errors or the application of physical restraints (Scott-Cawiezell et al. 2009). In either case, the target needs to be measured and improvement goals set. While individual facilities can undertake quality improvement efforts focused on specialized clinical issues for which no common measurement exists, in order for groups of facilities to collaborate as part of

<sup>2</sup> (<http://www.medicare.gov/NHCompare/home.asp>). Accessed 4-8-2010.

<sup>3</sup> <http://www.cms.gov/manuals/downloads/som107c07.pdf>. Accessed 4-8-2010.

a consortia, a style increasingly adopted in the US quality improvement sector, having common measurements is crucial. Under contract from the US Medicare/Medicaid programs, Quality Improvement Organizations throughout the country have been charged with recruiting nursing homes to participate in consortia of facilities focused on improving one or more aspects of their quality performance (Schulke et al. 2007). One recent study found that facilities which set more ambitious quality improvement goals were more likely to achieve them, all standardized relative to the homes' baseline performance level, further demonstrating the value of explicitly measuring quality performance in this setting (Baier et al. 2009). Since organizational capacity is a pre-requisite for implementing quality improvement interventions, but the need for improvement is greatest in the poorest performing facilities, which often have the least capacity to implement an intervention, there is ongoing debate as to the most appropriate targeting strategy (Stevenson and Mor 2009).

### Public reporting

Over the last decade or more as the US, the UK and other countries have tried to inject the dynamism of competition on the basis of quality into the health care sector, the use of public reporting of quality has grown dramatically. Since the publication of quality information is designed to stimulate providers to invest in quality improvement efforts these two strategies can be viewed as complementary efforts although they often don't really work in tandem (Mor 2005; Werner et al. 2009a). In the US, the government has been publicly reporting quality indicators, staffing levels and performance on inspections since 2002 in an effort to provide information to consumers and their advocates to facilitate their choosing the "best" nursing home for them.<sup>4</sup> Early research on the use of this information suggests that providers were all aware of it but that relatively few consumers used the data to make a decision about which facility to choose (Mukamel et al. 2008). This is likely because most individuals enter nursing homes directly from the hospital and so it is likely that they and their family rely upon the advice and information of hospital discharge planners. While administrators were well aware of the data and many planned to use it as the basis for instituting quality improvement programs,

most were not concerned that consumers would use the site (Castle 2005; Mukamel and Spector 2003).

More recent evaluations of the introduction of public reporting on nursing home quality measures suggest that there may have been an effect on both measured and unmeasured quality and that the unmeasured quality examined by the researchers appeared to have improved following public reporting largely among those facilities with the largest degree of improvement in the measured domains of quality (Werner et al. 2009b). As importantly, facility performance on quality measures focused on the outcomes experienced by post-acute patients entering directly from hospital for rehabilitation and recuperation seems to have resulted in significantly improved outcomes after introduction of the public reporting system (Werner et al. 2009a). The real test of whether these reporting systems are working as originally anticipated will be when we observe that facilities with superior quality performance attract a higher share of new admissions in the market as compared to facilities with lower performance rankings. Most recently states have begun to introduce "pay for performance" schemes that reward high performing and/or improving facilities using payment incentives. Most of these plans are just getting underway and/or are in place as demonstration projects so we have no results of their effectiveness at this juncture. However, clearly reinforcing quality improvement efforts and public reporting with financial rewards should serve to increase competent facilities' efforts to improve their quality of care.

### Summary

In the face of persistent quality scandals in US nursing homes, the introduction of a uniform clinical assessment system designed to facilitate more coherent and informed clinical care planning designed to meet residents' needs has made possible all manner of regulatory, quality improvement and competitive stimulation actions on the part of local authorities and providers. The existence of a uniform data system covering all residents of all nursing homes is what makes this possible since measures of quality can be used to characterize the experience of all the residents. While the US has done this under governmental mandate by the "power of the purse" (reimbursement), requiring that Medicare/Medicaid influence providers' behavior, other countries and regions in the EU have been experimenting with these

<sup>4</sup> <http://www.medicare.gov/NHCompare>. Accessed 4-8-2010.

kinds of quality measurements and efforts at organizational improvement (Carpenter et al. 1999; Bernabei et al. 2008). A recent WHO report summarizes quality reporting systems that feed back performance data to facilities, comparing their performance to those of peers in their area, without identifying them (Mor et al. 2009). Although not universal nor mandatory, such systems exist in Finland, various Swiss cantons and in several Canadian provinces. How these voluntary systems will evolve in comparison with the regulatory imposed system in the US will be very interesting to observe over the next several decades.

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## CAPITAL REGULATION AFTER THE CRISIS: BUSINESS AS USUAL?

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### Introduction

In December 2009, the Basel Committee for Banking Supervision has submitted proposals for a reform of the regulation of capital requirements for banks in the wake of the crisis. In its Consultative Document (Basel Committee on Banking Supervision 2009), the Basel Committee observes that banks entered the crisis with too little capital and that the insufficiency of bank capital played an important role in the crisis. To improve matters, it proposes an international harmonization of the definition of capital and the introduction of a leverage ratio, as well as tighter standards for bank liquidity, and various measures to reduce the procyclical effects of capital regulation. The Basel Committee does not, however, present any systematic analysis of why the proposed measures should have the salutary effects that are expected of them.

Nor does the Basel Committee present any systematic analysis of why the existing system of capital regulation has failed so miserably in the crisis. Over the past two decades, this system has been developed and ever more refined with an enormous investment of effort and sophistication. Why then could major banking institutions manage their risks and their equity in a way that materially contributed to the crisis? Why was bank capital so low that, soon, there were doubts about solvency and interbank markets were destroyed by mistrust? What assurance do we have that individual banks or the overall banking system would have fared better if the changes that are now being proposed had already been installed a decade ago? Is it really enough to tighten a screw

here and put in a new nail there? Or doesn't the entire ship of banking regulation need a thorough overhaul?

The regulatory community seems unwilling to even ask such questions. It adheres to a tradition of discussing the rules of capital regulation among the bureaucratic cognoscenti, in some interaction with the industry, without ever providing any theoretical or empirical analysis of the effects that the measures under consideration are deemed to have – and without heeding outsiders who demand that such analyses should be just as much a precondition for the implementation of new regulatory rules as for the introduction of new pharmaceutical drugs into the market (Hellwig 1996).

### Capital regulation and the financial crisis

It is by now widely recognized that the global financial crisis of 2007–09 was not just a matter of subprime mortgage securitization in the United States having gone astray (Hellwig 2009). Serious though it was, the real estate and mortgage crisis in the United States was no more substantial than, e.g., the Japanese banking crisis of the 1990s that did not take down the global financial system. The real estate and mortgage crisis in the United States ended up taking down the global financial system because the institutions that were involved were more fragile and more interconnected than in previous crises. Moreover, once the crisis broke into the open, in August 2007, the system developed an implausible dynamic of its own, based on the interplay of price decreases in malfunctioning markets, fair value accounting requiring immediate writedowns on the affected assets, an insufficiency of bank capital requiring deleveraging, thus adding to the downward pressure on asset prices. The downward spiral that this interplay generated didn't come to a stop until, in October 2008, the taxpayers of the most important countries were committed to stepping in.

Fragility was due to excessive indebtedness and to excessive maturity transformation. In part, these were due to the development of a shadow banking

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system, institutions outside the domain of banking regulation that financed themselves by issuing short-term debt in wholesale markets and invested in tradable assets with longer maturities. Thus, conduits and structured-investment vehicles (SIVs) provided banks with a way of investing in asset-backed securities without putting up the equity that would have been required if they had held these investments in their own books.<sup>1</sup> The guarantees that the sponsoring banks had provided for these vehicles required hardly any equity; nor were these guarantees subjected to large-exposure regulation.

In part, excessive indebtedness and maturity transformation were due to the exploitation of the model-based approach to capital regulation by banks inside the domain of banking regulation. Many institutions had equity amounting to 1–3 percent of their balance sheets even as they were vaunting themselves as having 10 percent “core capital”. The latter quantity, which relates equity to risk-weighted assets, is of course useless if the risk weights have not been chosen appropriately. An example is provided by UBS Investment Bank (UBS 2008), which retained the super-senior tranches of MBS CDOs of their own creation in their own portfolio, avoiding capital charges against the credit risks of these securities through credit default swaps.<sup>2</sup> The correlation of the counterparty risks of these credit default swaps with the underlying credit risks of the MBS CDOs themselves went unnoticed.<sup>3</sup>

When the crisis broke into the open in August 2007, much of the shadow banking system fell apart. Because rating downgrades induced significant capital losses on assets held by conduits and SIVs, refinancing of these vehicles through the market was no longer forthcoming. In line with the guarantees they had given, the sponsoring banks had to step in. As they did so, they had to take these vehicles into their own books. As a result, they were short of equity; some of them were even insolvent because the vehicles that they had guaranteed had incurred losses that exceeded their own previous equity. For those that were not insolvent, the capital charges against the assets newly taken into their own books created

a need to raise additional capital or to deleverage by selling assets.

A need to raise additional capital or to deleverage by selling assets also arose for institutions that had to take writedowns on asset values in their books and that failed to have “free capital”, i.e., capital in excess of regulatory requirements. In the crisis, however, there was only limited scope for raising new capital. Therefore, a lot of deleveraging had to take place. Such deleveraging is unproblematic if it involves a single bank trying to improve the structure of its balance sheet. It is a source of systemic risk, however, if there are many banks trying to improve the structures of their balance sheets by selling assets and reducing their debts. Such simultaneous deleveraging will mainly serve to lower asset prices. The asset price decreases feed back into a need for further writedowns, again cutting into bank equity and creating a need for further deleveraging.

The systemic problem is enhanced by maturity transformation. If economic lifetimes of assets are short, some deleveraging can be engineered, even at the level of the overall system, by not reinvesting when the assets’ lifetimes come to an end. If economic lifetimes of assets are long, however, such disinvestment by the overall system is not possible. Houses and long-term mortgages are there and have to be held by someone. Individuals can disinvest by selling them, but the system as a whole cannot do so.<sup>4</sup> Thus, the various conduits, SIVs and investment banks that held asset-backed securities with medium to long-term maturities and that refinanced themselves by issuing debt of very short maturities contributed to systemic risk not only because they were overindebted but also because their balance sheets contained the seeds of a tremendous deleveraging spiral.

The deleveraging spiral was particularly pronounced because the multipliers for deleveraging were enormous. If equity amounts to 2.5 percent of the balance sheet, one dollar’s worth of losses creates a need to sell forty dollars’ worth of assets on average in order to bring the capital ratio back into line.

If equity amounts to 2.5 percent of the balance sheet, it also doesn’t take long for concerns about solvency to arise.<sup>5</sup> Such concerns cause frictions for refinanc-

<sup>1</sup> According to Acharya, Schnabl and Suarez (2009), this is the only reason why these investments seemed worthwhile.

<sup>2</sup> Thus, in its Annual Report (2007, 87), AIG writes that “approximately \$ 379 billion ... of the \$ 527 billion in notional exposure of AIGFP’s super senior credit default swap portfolio as of December 31, 2007 represents derivatives written, for financial institutions, principally in Europe, for the purpose of providing them with regulatory capital relief rather than risk mitigation.”

<sup>3</sup> On the role of such correlations of counterparty risks and underlying risks in derivatives hiding systemic risk, see Hellwig (1995).

<sup>4</sup> For a warning about this, see Blum and Hellwig (1996).

<sup>5</sup> Prior to the crisis, UBS had equity capital equal to CHF 40 billion, with an overall balance sheet of CHF 1,600 billion. Losses on subprime-mortgage backed securities and derivatives amounted to well over CHF 40 billion. If it hadn’t been for recapitalization by the government of Singapore and by the Swiss Confederacy, ...

ing, in particular, in the wholesale markets that provided the major source of short-term funding for many institutions. Fears for one's own refinancing prevent institutions from acting as buyers of securities even if prices are deemed to be "too low". Such fears may also create incentives for deleveraging in excess of regulatory requirements, thereby adding to the spiral. From August 2007 until October 2008, there were several episodes where interbank markets broke down and central banks had to step in to replace them. In the end, in the wake of the Lehman insolvency, these markets broke down completely, and the turmoil in the global financial system induced governments to step in and provide wholesale guarantees for financial institutions.

### **Regulatory capture by sophistication: a brief history of capital regulation**

The focus of banking regulation on bank capital is a recent phenomenon. From the 1930s to the 1970s, banking regulation and supervision focused on market structure, asset allocation rules and interest rates. Between the mid-1970s and the late 1980s, however, these modes of regulation were largely dismantled. They had become dysfunctional because financial innovations, the liberalization of international capital flows, and the revolution in information and communication technologies had intensified competition in financial sectors all over the world.

The Basel Accord of 1988 tried to stop this trend towards deregulation. Under the guise of international harmonization of banking regulation, the Accord stipulated minimum capital requirements for banks. For ordinary credit risks the capital charge amounted to 8 percent of the loan.<sup>6</sup> Banks were required to have equity capital exceeding the sum of capital charges.

In 1993, the Basel Committee presented a proposal for extending capital regulation to market risks, i.e., the risks from changes in market prices of assets held in the trading books of banks. This proposal, which corresponds roughly to what is now called the "standard approach", was greeted with scorn by the industry. The rigid capital ratios that it stipulated were said to mark a step back from the quality of risk management which sophisticated banking institutions had

already achieved through the development of quantitative models with a firm conceptual and empirical foundation. Risk management on the basis of these models was said to be much more precisely attuned to the actual risks that different assets posed for the banks. Following this lobbying, the 1996 Amendment to the Capital Accord to Incorporate Market Risks gave banks the option to determine regulatory capital on the basis of their own risk models rather than the standard approach. "Basel II", the second Basel Accord, which was concluded after long deliberations in the mid-2000's, provides a similar option for credit risks as well as market risks (Basel Committee on Banking Supervision 2004).

The various modifications of "Basel" since the mid-1990s have all been designed so improve the risk calibration of capital requirements. The idea was, in principle, that average capital requirements should be unchanged, but regulatory capital should be ever more closely attuned to actual risks in banking. In fact, these modifications have enabled the large, internationally active banking institutions to reduce regulatory capital, more precisely, to use their capital for ever more levered activities.<sup>7</sup> This development underlies the Basel Committee's finding that, as they went into the crisis, large banks had equity amounting to only 2 percent of their balance sheets (Basel Committee on Banking Supervision 2009, # 7). The Basel Committee ascribes this finding to various deficiencies of risk models and risk management. It fails to consider the possibility that the very attempt to calibrate regulatory capital towards measured risks might be responsible for the insufficiency of bank equity capital.

The fact that the equity of many banks is much lower than it was before the mid-1990s is not so much due to deficiencies in risk modeling as to the incentives that bank managers have to expand the business of their banks as much as they can get away with. "Economizing on equity", the catch phrase of the industry, is really a euphemism for a strategy that tries to capture the excess returns to equity that are associated with high leverage. If the balance sheet is forty or fifty times equity, even small margins between asset returns and refinancing costs can be turned into substantial returns on equity. In a world of "shareholder value" and "market discipline", in a discourse with analysts, investors and the media that

<sup>6</sup> 4 percent for credit risks in real-estate loans or loans to other banks, 0 percent for loans to sovereign debtors.

<sup>7</sup> For an early warning by a regulator that this was to be expected, see the contribution of D. Zuberbühler in Hellwig and Staub (1996, in particular, 768 ff.).

is focused on returns as opposed to risks, bank managers have strong incentives to go after these returns, neglecting the induced risks for creditors, the financial system and last but not least the taxpayer. The deficiencies of risk modeling and risk management that we have seen should at least partly be ascribed to these incentives. Eliminating these deficiencies without addressing the underlying incentives will merely shift the problem elsewhere.

The real problem is one of governance. The Basel process has focused so much on risk calibration that the problem of governance has been neglected. The problem of governance arises because a financial institution's activities can induce substantial risks for the financial system and for the taxpayer. In the absence of regulation, there is no reason why these external effects should be taken into account by bank managers. Regulation and supervision are there to reduce this governance problem. When the model-based approach to capital regulation was introduced, however, the regulatory community was so impressed with the sophistication of recently developed techniques of risk assessment and risk management of banks that they lost sight of the fact that the sophistication of risk modeling does not eliminate the governance problem which results from the discrepancy between the private interests of the bank's managers and the public interest in financial stability.<sup>8</sup>

### The illusion of measurability of risks

The Basel Committee is certainly right in finding that many of the risks that were realized in the crisis had not been properly accounted for in the various risk models that were used to determine regulatory capital under the model-based approach:

- Insufficient account was taken of risks arising from correlations of credit risks in mortgages or mortgage-backed securities and other derivatives. Such correlations arise naturally from a common dependence on underlying factors of macroeconomic significance such as market rates of interest, real-estate prices, or the business cycle. Earlier instances of the problem, which should have served as warnings, occurred in the various

real-estate and banking crises of the late 1980s and early 1990s in the United Kingdom, the Scandinavian countries, Japan, Switzerland and others.

- Insufficient account was taken of risks arising from correlations between counterparty credit risks and underlying risks in derivatives and other hedge contracts. Such correlations arise naturally when the counterparty is concluding many similar contracts at the same time. Earlier instances of the problem, which should have served as warnings, concerned variable-rate mortgages in the 1980s and dollar-denominated loans from international banks to Thai banks and from Thai banks to Thai firms in the mid-1990s. Default rates on the former shot up, e.g., in the United Kingdom, when, in the late 1980s, market rates were very high; default rates on the latter shot up when, following the devaluation of the Baht in 1997, Thai firms, which were doing business in domestic currency, were unable to fulfill their dollar-denominated obligations (see also Hellwig 1995).
- Insufficient account was taken of the possibility that asset prices might tumble because important institutions holding these assets were unsoundly financed and might have to sell. This risk has not recently been observed, but it figured prominently among the reasons why, in 1998, Long Term Capital Management was rescued from immediate insolvency.

The Basel Committee is wrong, however, in looking at these deficiencies as technical flaws that can be corrected by improvements in rules and procedures. These deficiencies should instead be seen as symptoms of more fundamental problems which raise doubts about the model-based approach to capital regulation altogether.

In the first place, the empirical basis for risk modeling is often insufficient. Many of the time series that are being used are very short. Moreover, they tend to exhibit substantial non-stationarities which preclude reliable estimates of the underlying structures.<sup>9</sup> These problems are particularly serious when it comes to estimating correlations.<sup>10</sup> For credit risks, there is the added complication that defaults are relatively rare events – unlike changes in asset prices.

<sup>8</sup> Hellwig and Staub (1996) document a panel discussion held at the time. The governance problem, which was raised in my own contribution, was either overlooked or disregarded by the representatives of the Basel process, the regulatory community as well as the industry.

<sup>9</sup> I raised these issues in my contribution to Hellwig and Staub (1996). Their relevance in the context of the crisis is documented in UBS's Shareholder Report on UBS's Writedowns (UBS 2008).

<sup>10</sup> For a warning about this prior to the crisis, see Duffie (2007).

More importantly, many of the risks involved are not exogenously given, but must be seen as endogenous. They depend on the behavior of the parties in question and on the development of the markets in which these parties operate. They change over time, and these changes are hardly observable from the outside. Thus, counterparty credit risks in derivatives and other hedge contracts – and the correlations of these counterparty risks with the underlying risks – depend on total exposures of the counterparties from such contracts. These exposures depend on the counterparties' contracts with third parties; if the counterparties are active on both sides of the market, transferring the risks yet to other participants, the exposure also depends on the counterparty credit risks of these further contracts. The notion that these risks are objectively given and can be reliably measured is no more than an illusion.<sup>11</sup>

Some of the endogeneity involves the system as a whole. As I explained in Section 2 above, the downward spiral of the financial system from August 2007 to October 2008 can be understood as a systemic response to a collective deleveraging attempt. Some of the correlations that have been observed arise from the co-dependence of different markets on the factors that drive the overall system. The correlations and non-stationarities that these systemic factors induce are hardly amenable to measurement, let alone reliable measurement.

### Conceptual deficits of capital regulation

In discussions with industry representatives or members of the regulatory community, I am often asked the rhetorical question “Don't you agree that a system of regulation that calibrates capital requirements to risks is better than a system of regulation that fails to do so.” The presumptions behind this question have dominated the discourse about capital regulation since the early 1990s. However, as long as the context is not clear, as long as the objectives and the presumed functioning of capital regulation have not been specified, the question is ill-posed. I might as well answer that the Soviet Union's five-year

plans under Breshnev were better than those under Stalin, before the computer age.<sup>12</sup>

The regulatory community as well as industry must take the blame for never having specified the objectives and the presumed functioning of capital regulation. Ever since it started, with the deliberations about Basel I, discussion about the development and refinement of capital regulation has suffered from the following deficits:

- The precise objective of the regulation is unclear.
- The dynamics of implementation over time have not been given sufficient attention.
- Systemic concerns have been neglected.

These deficits are one reason why, even if they knew that risk calibration was mainly a tool to reduce capital requirements, the regulatory community has been unable to put up stronger resistance against the industry's claims that capital regulation must be finely attuned to the actual risks that banks are taking. They are also a reason why dysfunctional effects of the regulation have by and large been overlooked.

*Objectives:* In principle, capital regulation should contribute to maintaining the safety and soundness of banks. How it serves this purpose is usually not explained, at least not beyond the truism that insolvency corresponds to a situation where equity is negative. There seem to be three possibilities:

- Capital serves as a buffer against unexpected losses.
- Capital reduces incentives for incurring risks that might end up burdening creditors or the taxpayer.
- A capital requirement provides the supervisor with room for intervention before the bank becomes insolvent.

In the various documents on banking regulation, all three purposes of capital requirements are named. No account is given, however, of the differences between them, and, in particular, of possible conflicts and trade-offs concerning appropriate standards for determining regulatory capital. Whereas the role of capital as a buffer against losses might call for a cali-

<sup>11</sup> Interestingly, the Basel Committee's Consultative Document (# 112 ff.) only calls for a consideration of counterparty risks in hedge contracts without explaining how this is to be done. The role of correlations with the underlying, the variable that really matters, is not even discussed.

<sup>12</sup> The latest example in this discussion is provided by Frenkel and Rudolf (2010), an expertise on behalf of the Bundesverband deutscher Banken, the association of private banks in Germany. The authors acknowledge that the lack of bank equity has played a role in the crisis, but oppose the introduction of a leverage ratio approach without risk calibration on the grounds that (i) such a regulation would induce a credit crunch and (ii) deficits in risk-calibrated capital regulation should be eliminated by improving that regulation rather than introducing a bound on leverage ratios. They do not discuss why capital was as low as it was. Nor do they observe that the credit crunch argument against a leverage ratio would apply just as much to an attempt to raise bank equity by improved capital regulation.

bration with respect to total risk, the role of capital as an incentive device would call for calibration with respect to incremental risks, and, finally, the role of capital regulation as a basis for intervention prior to insolvency would call for a calibration with respect to the ease with which assets can be disposed of during this intervention. The three modes of calibration differ; the differences have so far not been considered.

*Dynamics of Implementation over Time:* Prior to the crisis, there was no consideration of the paradox that the buffer function of regulatory capital is limited because this capital is needed to satisfy the regulator. The dynamics of implementation over time had not received much attention. Conceptually, the discussion had hardly moved beyond a two-period model where financing and investment decisions are taken in period one, returns are realized and paid out in period two, and then the world ends. In a two-period world, of course, the buffer function of capital and the effects of capital on incentives for risk taking are easily understood.

If one moves from a two-period model to a real world where financing, investment and payout decisions are taken on an ongoing basis, neither the buffer argument nor the incentive argument can be taken for granted. The incentive argument breaks down because today's anticipation of tomorrow's capital requirements can induce additional risk taking today; the reason is that, if the additional dollar of earnings on today's investment can be reinvested tomorrow with a multiplier of fifty, this multiplier enhances the attraction today of gambles that offer large prizes if they succeed (Blum 1999). The buffer argument breaks down when the interplay of price declines, fair-value accounting and capital regulation forces the bank to deleverage by selling assets; such deleveraging may even endanger long-run solvency because, in malfunctioning markets of the sort that we have seen in the crisis, market prices of assets may well be below discounted present values of returns.<sup>13</sup>

In a world with on-going financing and investment decisions of banks, a key question must be how capital regulation ought to be implemented over time, in particular, how the bank's assets and liabilities should be adjusted over time when unexpected losses have caused equity capital to drop. Schemes for

dynamic provisioning and de-provisioning that are currently under discussion represent a step in this direction. However, I suspect that current plans involve too many illusions about the scope for attuning such dynamics to macro-developments, measurements of cyclicity and the like.

*Neglect of Systemic Concerns:* Three aspects merit particular mention. First, in the context of risk calibration of regulatory capital, too little attention is paid to the dependence of counterparty credit risk and of market risks on systemic developments. The various correlations that I have mentioned above provide relevant examples. Second, in the context of implementation dynamics, too little attention is paid to the systemic impact of regulation-induced deleveraging. Forcing Bank A to deleverage when it has experienced losses will harm Bank B if Bank A's asset sales depress the prices of securities held by Bank B. If Bank B in turn is induced to sell assets, the backlash may end up hurting Bank A itself. Contrary to the ideology of capital regulation, such deleveraging can hurt the safety and soundness of the institutions that are forced into it.

Third, the model-based approach to determining capital regulation has increased the susceptibility of financial institutions to systemic developments. Two mechanisms seem particularly important. First, by encouraging banks to engage in derivative transactions as a way of removing risks, if not out of their books, at least out of their models, the model-based approach has contributed to enhancing the interconnectivity of the system. There is thus more room for domino effects than there used to be. The fate of AIG is a case in point. Second, because, under the model-based approach, capital requirements for market risks tend to be lower than capital requirements for credit risks, this approach has encouraged banks to put as many assets as possible into their trading books rather than their credit books. They were thus more vulnerable to book losses arising from changes in asset prices arising from market malfunctioning and/or other institutions' deleveraging.

## Conclusion

The preceding analysis shows that it is not enough to tighten a screw here and put in a new nail there. The system of banking regulation as a whole needs a thorough overhaul. Such an overhaul should pursue two major objectives:

<sup>13</sup> For an assessment of market prices versus discounted present values of returns in the crisis, see International Monetary Fund (2008)

- We should get away from the illusion that regulation should be finely attuned to the risks that banks are taking. The attempt to do so has been a major factor in the decline in the banks' equity relative to the volume of their activities.
- We should aim for substantially higher regulatory capital, well above ten percent and perhaps even closer to the twenty or thirty percent that was common before banks became used to the idea that the taxpayer couldn't afford to let them fail. Such high capital requirements would still be procyclical. However, deleveraging multipliers between 3 and 4 are much to be preferable to deleveraging multipliers of 40 or 50. Moreover, interbank markets would be much less likely to be perturbed by worries about solvency.

At this point, the banking community will object, saying that equity capital is scarce and expensive. However, I have never yet seen an argument as to why the social cost of bank equity should be high. There may be a high private cost, though even that may be questioned. In any case, the 25 percent or so required rate of return on equity that some bank managers claim is the market's benchmark for banks is *not* an appropriate measure of either private or social costs of bank equity. This benchmark itself is a result of the industry's being undercapitalized; it reflects the risks induced by this undercapitalization. The fact that risks are reduced if the bank has more equity capital is neglected if the benchmark is taken as given. Some of this risk reduction will provide a private benefit to the bank itself, involving better conditions on newly issued debt – and even a lowering of the marginal cost of equity capital itself.<sup>14</sup> Some of the risk reduction will provide benefits to existing creditors, to the rest of the financial system and to taxpayers. While these benefits may not figure in the bank's own calculations, they ought to be part of any evaluation of the social costs and social benefits of having high and nonmanipulable equity requirements.

<sup>14</sup> The banking community has never provided an intellectually acceptable answer to the question why the logic of the Modigliani-Theorem shouldn't apply to them as well as to firms in other industries; see M. H. Miller (1995).

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## WELFARE STATE REFORMS AND THE POLITICAL BUSINESS CYCLE

ALEXANDER PETRING\*

### Introduction<sup>1</sup>

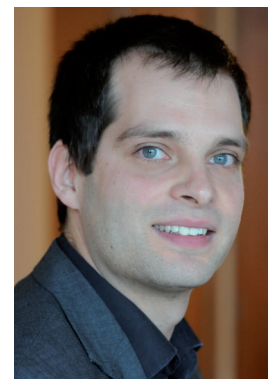
As the term already suggests, political business cycles should be a phenomenon that is of interest for both economists and political scientists. In general, political business cycles are cycles in macroeconomic variables that have their basis in electoral cycles.<sup>2</sup> Both disciplines focus on different models for different reasons. The first model – also labeled the “opportunistic political business cycle” – deals with expansionary economic activities induced by governments closely before elections. This model is normally referred to by economists. Nordhaus’s seminal work (1975) assumed a typical pattern of policy within a term in office: “starting with relative austerity in early years and ending with the potlatch right before elections” (Nordhaus 1975, 187). He was mainly concerned with election gifts that seemed to be available from Samuelson and Solows’ “menu of choice”. According to Samuelson and Solows (1960), policymakers are confronted with a trade-off between inflation and unemployment (their modified Phillips curve); assuming myopic and retrospective voters, the opportunistic political business cycle model predicts that governments will spur employment shortly before the next upcoming elections, accepting a higher inflation rate than is otherwise considered optimal.<sup>3</sup>

The second model – known as the “partisan political business cycle” – goes back to an article by Douglas

Hibbs (1977). The theoretical starting point for the partisan political business cycle theory is the Phillips curve again. However, Hibbs assumed that left and right party leaders have different policy objectives, in turn leading to different choices from the menu. As a consequence, Hibbs expected a relatively low unemployment and high inflation macroeconomic configuration under leftist regimes and the converse constellation under rightist governments (Hibbs 1977, 1471). Under the heading “partisan theory”, this has been one of the dominant theories in political science since the 1980s, mainly applied in welfare state research but also used in other policy areas.<sup>4</sup> One difference between the opportunistic and the partisan political business cycle obviously lies in its timing: opportunistic behavior should take place in pre-election years, whereas partisan behavior should be observed between the tenure of different parties. Another difference is the respective origin of the assumed patterns of behavior. In the first model, it is simply the upcoming election day, whereas in the second model, it is the different party ideologies that triggers different actions.<sup>5</sup>

### How to test the existence of political business cycles?

Both models contain some problematic assumptions. The most obvious one concerns the question whether politicians are indeed able to influence the economy in the described fashion or if they at least believe that they can do so.<sup>6</sup> The problem with this assumption becomes apparent when considering the political and academic career of the Phillips curve. Confronted with the phenomenon of stagflation in the 1970s, theories based on the Phillips curve came in-



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<sup>1</sup> This article builds on a chapter in Petring (2010).

<sup>2</sup> Besides Nordhaus (1975), Kramer (1971) and Tufte (1978) were pioneers of the opportunistic political business cycle. For an overview of the theoretical and empirical literature see, for example, Alesina, Roubini and Cohen (1997), Drazen (2000) and Franzese (2002).

<sup>3</sup> For an excellent review of empirical literature on the opportunistic political business cycle and own tests, see Alesina et al. (1997).

<sup>4</sup> For social policy see, for example, Schmidt (1996) and Huber, Ragin and Stephens (1993).

<sup>5</sup> This second difference might be one explanation for the different perception of the two models in economics and political science. For political scientists, it seems natural to deal with parties’ ideologies and to ask “do parties matter?” On the other hand, the methodological sophistication of the discipline, availability of macroeconomic data as well as the perception of politicians being mainly driven by opportunistic motives made the opportunistic political business cycle an obvious object of research for economists.

<sup>6</sup> I leave aside other questions, related to the assumptions about voters’ behavior, for example.

creasingly under attack from Milton Friedman and other members of the “Chicago School”. The academic conflict also had an impact on policies. For the US, the inauguration of Ronald Reagan in 1981 clearly marked a change in economic policy (“Reaganomics”), with a similar tendency observable in many OECD countries during the 1980s. Therefore, it should come as no surprise that there is only little evidence for the political business cycle since the 1980s when it comes to inflation and unemployment rates.

Besides the impact of different economic paradigms on economic policy, one could additionally raise a general concern about governments’ ability to directly and substantially influence unemployment rates – at least in a free market economy. For similar reasons, it is questionable to rely on other indicators that are, to a greater or lesser extent, influenced by external shocks, such as budget deficits, output and spending levels.

The above does not hold true, however, for benefit levels. In contrast to spending levels (which are influenced by unemployment rates) the statutory benefit levels are direct results of political decisions. Additionally, in many countries, almost 50 percent of the electorate is in some way connected to the welfare state – be it by means of transfers or workplaces (Flora 1989). This makes social policy a predestined tool for electoral gifts and an adequate variable for testing the opportunistic business cycle theory. However, from the viewpoint of partisan political business cycle theory, we should expect a partisan pattern in social policy as well. It should be mainly left-of-center governments who fall back on expansionary social policy.

In order to test these assumptions, I constructed a database indicating visible reforms in unemployment insurance and public pensions in 18 OECD countries<sup>7</sup> from 1980–2002. For pension systems, reductions of pension age, qualifying period and increasing benefit levels serve as indicators for expansionary reforms.<sup>8</sup> With regard to benefit levels, inflation-adjusted increases of more than three percent in relation to the previous year have been coded as expansions. For the unemployment insurance systems, reduction of waiting days, extensions of benefit duration, reduced qualifying periods and increased

benefit levels were used as indicators. In line with the pension reform indicators, incremental adjustments have been coded as one reform and any inflation adjusted increase of more than three percent indicates reforms of benefit levels.<sup>9</sup>

Applying the above criteria has a major consequence: only visible reforms are covered. By capturing exclusively inflation-adjusted increases of more than three percent in benefit levels, I do not count increasing benefits via inflation indexation, for example, as a reform. The reason for this is twofold. First, inflationary adjustments could simply be due to an automatic indexation rule. Second, they are not necessarily perceived as an expansionary measure (which they are indeed not). In order to fulfill its electoral purpose, policymakers should make sure that the increase of pension benefits will be noticed by the electorate. Therefore, the three percent threshold seems to be reasonable. With these criteria we are able to identify significant and visible expansionary reforms. The coding followed a simple dichotomy: 1 for reform, 0 for no reform. Multiple reforms are coded as one reform.

In order to test the hypotheses, we need additional data: first, on election years in the 18 countries, and second, on the governments’ ideological positions. Information about election years stem from the WZB Democracy Unit’s Database “Parties, Elections and Governments” (2008). If the elections took place in the first six months (June 30), the previous year has been coded as “election year” instead of the actual. There are three reasons for this. First, if expansions are decided upon only one or two months before the elections, it is very likely that the opposition parties will blame the government for irresponsible policies. Second, governments ought to be sure that the expansion has been noticed by the voters. In cases where elections took place in the first half of a year, expansionary measures should have already come into effect in the previous year; and third, because we only have yearly data about the benefit conditions, if the elections took place in the very beginning of a year, expansionary measures might be an inauguration present of the successor and not a pre-election gift of the incumbent.

<sup>7</sup> The countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, UK, USA.

<sup>8</sup> Continuous incremental yearly adjustments have been coded as one reform.

<sup>9</sup> Scruggs (2005) “Welfare States Entitlement Dataset” provides data on all mentioned indicators for pensions and unemployment insurance. For the 18 OECD countries, reliable information is available for the years 1980 to 2002.

The ideological position has been identified on the basis of the programmatic left-right position of the parties as it is given in the respective election manifestos. The Comparative Manifestos Project (CMP<sup>10</sup>) is based on quantitative content analyses of election programs of parties from more than 50 countries, where the parties' left-right positions are basically saliency measures of 13 topics. Many other scholars measure partisanship in terms of two variables: the share of cabinet seats held by social democratic parties and the share of cabinet seats held by Christian democratic parties (see, for example, Huber and Stephens 2001; Swank 2002). This way of measuring partisanship has two major implications: first, all parties within a party family are treated the same (for example the French socialists and the British Labour Party). Second, the ideology of coalition partners is completely neglected. In contrast to this, with the CMP data we are able to account for ideological positions of all governing parties individually for every legislative period. In the case of coalition governments, the left-right positions of the parties have been weighted with the respective share of the government's parliamentary majority. The sum of these weighted positions is the coalition governments' ideological position.<sup>11</sup>

In the following analysis, I will also include the socio-economic situation under which the respective governments acted. In order to operationalize the socio-economic pressure, I used a combination of Okun's and Barro's misery indices. Okun's misery index is simply the sum of unemployment rate and inflation rate. Barro (1999) included GDP growth rates and interest rates in addition and calculated the difference between the beginning and the end of a legislative period. The modified misery index created here consists of unemployment rates, interest rates, inflation rates and GDP growth rates on a yearly basis. For reforms in unemployment insurance, unemployment rates are weighted by a factor of two. In pension politics, the pensioners' ratio has been included. Higher figures indicate more severe problem pressure.

<sup>10</sup> For a detailed description of methods and data see Budge, Klingemann, Volkens, Bara and Tanenbaum (2001) and Klingemann, Volkens, Bara, Budge and McDonald (2006). Recent data can be downloaded at <http://www.wzb.eu/zkd/dsl/Projekte/projekte-manifesto.en.htm>.

<sup>11</sup> Left positions have negative values; right positions take a positive sign. For the 18 OECD countries from 1980 to 2002, the mean value is 1.7. The minimum value is -36.6 (Finland in 1990), the maximum value is 48.5 (Australia in 1990 and 2000).

### Are governments opportunistic and does ideology make a difference?

At first glance, there seems to be no tendency to place expansionary measures shortly before elections (Table 1). In both unemployment insurance and public pension, the ratio of expansionary reforms is almost identical to or even slightly below the respective ratio in non-election years.

Does this picture change if we account for the ideological positions of the governments? The average of the ideological center of gravity gives us a first hint. As can be seen in Table 2, the differences in unemployment insurance between election years with expansionary measures and those without expansions are negligible. Furthermore, the small differences are in accordance with our expectations: left-of-center governments are more likely to increase generosity of the unemployment schemes than right-of-center governments. However, when it comes to pension policy, the differences between the ideological centers are larger, and rightist governments seem more likely to increase pensions before elections.

**Table 1**  
Share of expansionary reforms in election and non-election years (in %)

	Share of expansions in non-election years	Share of expansions in election years
Public pension	32.3	30.1
Unemployment insurance	30.0	29.7

Note: In unemployment insurance, the US has been dropped because unemployment insurance is under states' authority.

Source: Own calculations.

**Table 2**  
Ideological center of gravity in election years

	Ideological center of gravity in election years with expansionary measures	Ideological center of gravity in election years without expansionary measures
Public pension	4.5	1.0
Unemployment insurance	-0.4	0.4

Note: In unemployment insurance, the US has been dropped because unemployment insurance is under states' authority.

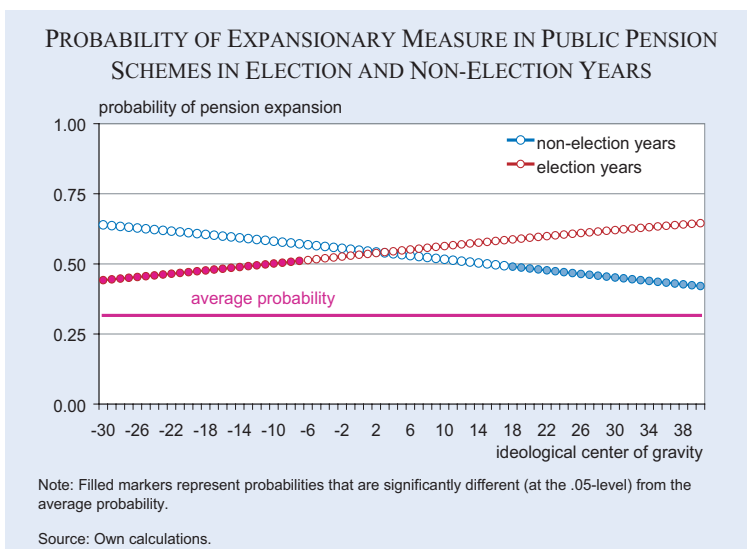
Source: Own calculations.

In order to investigate this finding more systematically and to control for intervening variables, it is useful to run a logistic regression. Because there are no relevant differences between election and non-election years in unemployment insurance policies, I will focus on pension policies.<sup>12</sup> Besides the variables for election years and ideology, an interaction effect of the two is included in order to check whether election years indeed change the “normal” behavior of leftist and rightist governments. Control variables are the level of socioeconomic pressure and the change of the socioeconomic pressure in the respective year. To capture the differences in the political systems, country dummies have also been included. The model is not expected to explain the occurrence of expansionary measures in public pension systems in general, but is used in order to investigate the impact of the most obvious variables in pension policy (Table 3).<sup>13</sup>

The two socioeconomic variables both have a significant effect on the likelihood of expansionary reforms. Interestingly, a higher level of socioeconomic pressure increases the likelihood of generous reforms. Maybe countries that are already in a comparatively bad situation do not care that much about further

<sup>12</sup> In election and non-election years, the likelihood of expansionary measures in unemployment insurance is greater under leftist governments than under rightist governments.  
<sup>13</sup> The model classifies 75.4 percent of the dependent variable correctly. Sensitivity is 39.7 percent, specificity is 91.9 percent. For detailed results see author’s homepage.

Figure



fiscal pressure. However, the actual change of the socioeconomic problem pressure influences the likelihood in the opposite direction. If the economic situation has improved compared to the previous year, expansionary reforms are more likely than in a deteriorating economic situation. As already expected from the descriptive tables, both election years and government’s ideology do not have a strong impact on the general likelihood of reforms. This is also true for the interaction effect. Because it is hard to interpret coefficients of logistic regressions when it comes to interaction effects, I plotted the predicted probabilities for expansionary measures in pension politics for election years and non-election years over the full range of governments’ ideological positions. The level of socioeconomic pressure has been set to its mean value. In order to simulate election years with an improving socioeconomic situation, the change of the misery variable has been set to -10, indicating a strong improvement (it ranges from -12.5 to 16.9 in the 18 countries).

**Table 3**  
**Impact on the probability of expansionary pension reforms**

Expansionary pension reform	Direction of impact	Level of significance
Election year	Negative	Not significant (0.86)
Ideological center of gravity	Negative	Sparsely significant (0.23)
Interaction of election year and ideological center of gravity	Positive	Somewhat significant (0.11)
Change of misery index	Negative	Very significant (.002)
Level of misery index	Positive	Very significant (.002)

Note: Stylized results of a logistic regression with country dummies. Detailed results can be reviewed at author’s homepage.

Source: Own calculations.

In non-election years, pension expansions are more likely to occur under leftist governments. The squared markers resemble partisan theory’s expectations perfectly. However, in election years, right-of-center governments show a greater tendency to decide upon expansionary measures in the pension system. As this is especially true under improving socioeconomic circumstances, it stands to reason that those measures are

indeed meant to convince voters who are located left of the government to vote for them.

The fact that pensions are the object of opportunistic behavior is probably due to its greater number of voters who benefit from it compared to unemployment insurance. Additionally, the benefit levels for pensioners seem to be less controversial than the benefit levels for unemployed. More puzzling are the findings with regard to the right-of-center governments' higher likelihood of making election gifts. Election gifts serve mainly the purpose of pulling undecided voters or voters of other parties to one's own party. To achieve this aim, a party must to some extent broaden its image or blur ideological shortcomings perceived by voters who normally vote for other parties. In social policy, right-of-center governments have a neutral or negative welfare image. Therefore it might be a promising electoral strategy to display a more positive welfare image to attract new voters. Pension policy is, in contrast to unemployment insurance policies, not a class-based policy field. People from almost all societal classes are beneficiaries. Right-of-center parties can therefore use expansionary pension policies to attract new voters without frightening off their own core voters. This argument is supported by the finding that an improving economic situation is positively related to the likelihood of opportunistic pension reforms: rightist governments are able to argue that under the current good economic circumstances, these expansions can be justified. By doing this, they keep their image of being prudent with regard to public spending and simultaneously appeal to voters left of them. Additionally, leftist opposition parties will find it hard to oppose the expansionary measures. For left-of-center governments, however, expansionary measures shortly before elections do not serve the purpose of attracting new voters. Leftist parties already have a positive welfare image. Expansionary social policy will not attract voters from the right but might in contrast create fierce critique from opposition parties.<sup>14</sup>

## Conclusion

The findings presented here can be summarized as follows: we have only weak evidence of opportunistic governmental behavior, it is observable mainly in pension policy and the partisan pattern behind it is contrary to theory's expectations.

What does this mean for research on the political business cycle theory? If the calculus behind election gifts is mainly to attract undecided voters or voters of different parties, party leaders are very likely to choose policy measures that are not perceived as being their core concern. When studying opportunistic political business cycles, this means first that researchers should include parties' ideological positions. Second, one should investigate policy areas where the different ideologies indeed make a difference for the expected reform trajectories. Because of almost identical positions of left and right parties, it is not surprising to find only little empirical support for the political business cycle theory when it comes to unemployment and inflation since the 1980s.

And what does this mean for the assumptions behind the political business cycle theory? Parties might be opportunistic, but there are also counterincentives. First, the danger of repelling their electorate by loosening its ideological profile limits parties' possibilities of pursuing electoral gifts. Second, the danger of being blamed by competing parties also narrows the room for opportunistic behavior. Therefore, two core institutions of democratic regimes that allow the occurrence of opportunistic behavior also limit it considerably: elections and contestation by competing parties.

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<sup>14</sup> Tax cuts might be measures used by leftist governments similar to the expansionary pension reforms of rightist governments.

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## POLITICAL INSTITUTIONS AND POLICY OUTCOMES: THE POLITICAL CONSTRAINTS APPROACH OF HENISZ

NICK HOFFMANN\*

### Introduction

Governance is a concept that we can see “as the traditions and institutions by which authority in a country is exercised for the common good. This includes (i) the process by which those authority [sic] are selected, monitored and replaced, (ii) the capacity of the government to effectively manage its resources and implement sound policies, and (iii) the respect of citizens and the state for the institutions that govern economic and social interactions among them” (World Bank 2010). According to Henisz the capacity of the government to implement policy change is determined by the political institutions of a given political system.<sup>1</sup> Political “institutions” include beneath government branches (executive, legislative, judiciary), administrations and other public authorities, the constitution, rules of voting, majority rule or proportional representation, as well as values and attitudes concerning the management of collective problems. Players and actors describe the operating stakeholders in the political institutions, as president, government, legislative chambers, courts, and in some cases political parties.

The aim of Henisz is to explain the central role political institutions (political structures) play and how they constrain policy decisions. Policy constraints

influence the behaviour of players, their role and their decision making and finally the change of policy. Henisz develops “a new measure of political constraints from a simple spatial model of political interaction that incorporates information on the number of independent branches of government with veto power and the distribution of preferences across and within those branches” (Henisz 2000, 1). This measure is structurally derived and internationally comparable.

Henisz draws his theoretical findings on Tsebelis (1995), who developed the “veto players” approach. He concentrates on how political institutions influence the feasibility of changing status quo policy. The innovative element in his approach is his focus on the capacity of institutions to produce policy change. “Veto players are individual or collective actors whose agreement (by majority rule for collective actors) is required for a change of the status quo (policy)” (Tsebelis 1995, 289). With this new focus Tsebelis can overcome the common distinctions made in political science, especially in government studies: between presidential and parliamentary systems or between two-party systems and multi-party systems, etc. All political systems define which players must agree to change the status quo. This approach enables comparisons between different political systems on a much broader basis than scientists had before.

### Elements of Henisz’ approach<sup>2</sup>

To construct a structurally-derived internationally comparable measure of political constraints, the structures of political systems are simplified by focusing on two elements which have a strong bearing on the feasibility of policy change: “the number of independent veto points over policy outcomes and the distribution of preferences of the actors that inhabit them” (Henisz 2000, 7).



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<sup>1</sup> A broader concept sees institutions as a core group of elements in governance structures, as well as in all “branches” of the society. They “are the rules of the game in a society ... (they) are the humanly devised constraints that shape human interaction” (North 1990, 3). They fulfil the functions to reduce uncertainty and set constraints in everyday life as well as in economic, political, or any other kind of interaction.

<sup>2</sup> Detailed numerical results of Henisz’ measurements are in the tables “Political Constraints Index III” and “Political Constraints Index V” in the Folder Public Sector/Public Governance and Law/Political and Administrative System of CESifo’s DICE Database ([www.cesifo-group/DICE](http://www.cesifo-group/DICE)).

The political actors are: the executive, the lower house of legislature, the upper house of legislature, sub-federal units and judiciary. “Political actors will be denoted by  $E$  (for executive),  $L1$  (for lower house of legislature),  $L2$  (for upper house of legislature),  $F$  (for sub-federal units) and  $J$  (for judiciary). Each political actor has a preference, denoted by  $X_I$  where  $I \in \{E, L1, L2, F, J\}$ .”

“Assume, initially, that the status quo policy ( $X_0$ ) and the preferences of all actors are independently and identically drawn from a uniformly distributed unidimensional policy space  $[0, 1]$ . The utility of political actor  $I$  from a policy outcome  $X$  is assumed equal to  $-|X - X_I|$  and thus ranges from a maximum of 0 (when  $X = X_I$ ) to a minimum of -1 (when  $X = 0$  and  $X_I = 1$  or vice versa)” (Henisz 2000, 7–8).

*The number of veto players*

Each actor has preferences and veto power over final policy decisions. The constraints of every actor for his future policy decisions are calculated “as one minus the expected range of policies for which a change in the status quo can be agreed upon by all political actors with veto powers” (Henisz 2000, 8). E.g., an unchecked government can always obtain policy  $X_E$  and therefore gain a maximum possible utility of 0. For this case Henisz calculates the political discretion which equals 1 and political constraints  $(1 - \text{political discretion}) = 0$ .

The rise in the number of actors with independent veto power is accompanied by an increase in the level of political constraints. For instance, in a country with unicameral legislature ( $L1$ ) the executive

needs a majority in the chamber in order to implement policy changes. The executive cannot guarantee a special policy ( $X_E$ ) as the legislative can veto a change from the status quo.

“Given the assumption that preferences are drawn independently and identically from a uniform distribution, the expected difference between the preferences of any two actors can be expressed as  $1/(n+2)$  where  $n$  is the number of actors” (Henisz 2000, 9). If there are two political institutions with veto power (e.g., the executive and a unicameral legislature) the preferences lead to an expected preference difference  $\epsilon$  equal to  $1/(2+2) = 1/4$ .

There are six preference orderings possible, that Henisz “will assume are equally likely to occur in practice” (Henisz 2000, 9; see Table 1). In the first case (1) “no change in executive preferences yields a change in policy” (Henisz 2000, 9). The executive has the preference policy  $X_E$  of  $1/4$  and therefore prefers all policies between  $1/2 - \epsilon$  and  $0 + \epsilon$  to the status quo ( $X_0 = 1/2$ ) and the legislature, which has the preference of  $X_{L1} = 3/4$ , prefers all policies between  $1/2 + \epsilon$  and  $1 - \epsilon$  to  $X_0$ . “As the executive and the legislature cannot agree on a change in policy (because of different preferences), political discretion (the feasibility of policy change) equals 0 and political constraints equal 1” (Henisz 2000, 9). Policy change is not possible in this case. The second model (2) has the same result, but here the preferences for the executive range between  $1/2$  and 1 and for the legislative branch between 0 and  $1/2$ . “In the remaining orderings, both the executive and legislature agree on a direction in which policy should move relative to the status quo  $X_0$ . These cases have closed form

**Table 1**

**The six possible preference orderings of the game  $\{X_E, X_{L1}\}$**

	0	1/4	1/2	3/4	1		0	1/4	1/2	3/4	1
(1)		$X_E$	$X_0$	$X_{L1}$		(4)	$X_0$	$X_{L1}$	$X_E$		
		EEEEEEEEEEEEEE		LLLLLLLLLLLLLL			EEEEEEEEEEEEEEEE		LLLLLLLLLLLLLL		
(2)	0	1/4	1/2	3/4	1	(5)	0	1/4	1/2	3/4	1
		$X_{L1}$	$X_0$	$X_E$			$X_E$	$X_{L1}$	$X_0$		
		EEEEEEEEEEEEEE		LLLLLLLLLLLLLL			EEEEEEEEEEEEEEEE		LLLLLLLLLLLLLL		
(3)	0	1/4	1/2	3/4	1	(6)	0	1/4	1/2	3/4	1
		$X_0$	$X_E$	$X_{L1}$			$X_{L1}$	$X_E$	$X_0$		
		EEEEEEEEEEEEEE		LLLLLLLLLLLLLL			EEEEEEEEEEEEEE		LLLLLLLLLLLLLL		

Source: Henisz (2000), 26.



solutions other than the status quo policy. Their exact values depend on the assumption as to who moves first (or last) and the relative costs of review by each party” (Henisz 2000, 9–10). “However ... the range of outcomes over which both parties can agree to change the status quo is used as a measure of political discretion. As this range expands, there exists a larger set of policy changes preferred by both political actors with veto power” (Henisz 2000, 10). In case (3), the executive ( $X_E = 1/2$ ) prefers policies between  $1/4 + \epsilon$  and  $3/4 - \epsilon$  to the status quo ( $1/4$ ) and the legislature ( $X_{LI} = 3/4$ ) has a preference for all policies greater than  $1/4 + \epsilon$ . “There exists a range of policies approximately equal to  $1/2$  (between  $1/4 + \epsilon$  and  $3/4 - \epsilon$ ), which both actors agree are superior to the status quo. The political discretion measure for this ordering therefore equals  $1/2$  yielding a political constraint measure also equal to  $1/2$ . The same is true in orderings (4), (5) and (6). The expected level of the game  $\{X_E, X_{LI}\}$  based on the number of veto points alone is the average of the political constraint measures across six possible preference orderings:  $(1 + 1 + 1/2 + 1/2 + 1/2 + 1/2)/6 = 2/3$ ” (Henisz 2000, 10).

*The preferences of the actors*

This initial measurement of political constraint is based purely on the number of veto points derived from the constitutional frameset in a given polity accompanied by the assumption of uniformly distributed preferences. But for Henisz that seems to be

very unrealistic and therefore the measurement of political constraints described so far is supplemented by information on the preferences of the different actors. The different preferences are often results of different party compilations of the government branches. If in two (or more) political institutions the same political parties “rule” there is an alignment between these two (or more) institutions. In the case of alignment Henisz sees the preferences as equal in the two (or more respective) different institutions. The “alignment (i.e., majority control of the executive and the legislature by the same party) would be expected to expand the range of political discretion and thereby reduce the level of political constraints” (Henisz 2000, 10). The constraint measure would be 0 if the legislature and the executive were completely aligned (same majority), even if they both have veto power (see Table 2).

*Fractionalization of the legislature*

“Further modifications are required when other political actors are neither completely aligned with nor completely independent from the executive” (Henisz 2000, 11), as is the case in many democratic systems. Here the composition of the parties in the other branches of government (executive, legislative chambers, judicial courts) is also relevant for the level of constraints. Costs vary when managing large homogeneous majorities or precarious majorities, which additionally are heterogeneous or polarized

(and – in the latter – raises the level of political constraints). Legislatures which are aligned with the government and have large homogenous majorities are less expensive to manage and control. On the other hand “when the executive is faced with an opposition legislature, the level of constraints is positively correlated with the magnitude and concentration of the legislative majority. A heavily fractionalized opposition with a precarious majority may provide the executive with a lower level of constraints due to the difficulty in forming a cohesive legislative opposition bloc to any given policy. Information on the partisan alignment of different government branches and on the difficulty of forming a majority coalition with-

**Table 2**  
Political constraints assuming complete independence or alignment

Independent political actors (government branches)	Entities (government branches) completely aligned with executive					
	None	(L1 or L2)	J	L1 & L2	L & J	L1 & L2 & J
E	0					
E, L1	2/3	0				
E, F	2/3					
E, J	2/3		0			
E, L1, F	4/5	2/3				
E, L1, L2	4/5	2/3		0		
E, L1, J	4/5	2/3	2/3		0	
E, L1, L2, F	13/15	4/5		2/3		
E, L1, F, J	13/15	4/5	4/5		2/3	
E, L1, L2, J	13/15	4/5	4/5	2/3	2/3	0
E, L1, L2, F, J	19/21	13/15	13/15	4/5	4/5	2/3

E: executive; – L1: lower legislature; – L2: upper legislature; – F: sub-federal, – J: judiciary.

Source: Henisz (2000), 27.

in them can therefore provide valuable information as to the extent of political constraints” (Henisz 2000, 11).

To provide reliable values on the dimension of political constraints to change policy Henisz includes the extent of fractionalization of the legislature. “The fractionalization of the legislature (or court) is approximately equal to the probability that two random draws from the legislature or court are from different parties” (Henisz 2000, 12). The formula is:

$$1 - \sum_{i=1}^n \left[ \frac{(n_i - 1) \frac{n_i}{N}}{N - 1} \right]$$

where:

$n$  = number of parties

$n_i$  = number of seats held by  $i$ th party

$N$  = total number of seats.

The value of political constraints for cases in which executive and legislative are aligned is “thus equal to the value derived under complete alignment (see above) plus the fractionalization index multiplied by the difference between independent and completely aligned values” (Henisz 2000, 12; see Box). In cases where the opposition controls the legislature the values would be reversed (Henisz 2002, 384).

**Modified calculation of political constraints**

First the measurement of political constraints: As shown in Table 2 if the legislative is aligned with the executive the constraint measure is 0. If the government branches are completely independent, for Henisz that means that there is no alignment (the majority parties in executive and legislature being completely different) the political constraints measure would be  $2/3$ .

The second step is the calculation of the fractionalization index, which is also needed for the calculation of political constraints. If the same party controls the executive and the legislative and the fractionalization index equals  $1/4$  (which means that the executive has a large or homogenous majority in the chamber), then the modified constraint measure equals  $0 + 1/4 * (2/3 - 0) = 1/6$ .

In cases where the fractionalization index equals  $3/4$  (precarious or heterogeneous majority of the executive), this measure would equal  $0 + 3/4 * (2/3 - 0) = 1/2$ .

*Empirical results*

Henisz calculated the constraints and therefore also the fractionalization for 157 countries in every year from 1960 to 1994. For this calculation he needed three types of data: the number of the institutional (veto) players (actors) in a given polity; data on partisan alignment across government branches (executive, legislative, judicative) and data on the party composition of the legislatures. The results show, that the most reliable institutional settings exist in “early defectors of the British Empire (United States, Australia, and Canada) and federal European states (Belgium, and Germany)” (Henisz 2000, 13). The weakest institutional settings with a high risk of failing are found in Sub-Saharan Africa and Paraguay. Observation over time shows, that the largest improvements took place in countries undergoing democratic transitions.

**The influence of checks and balances on political volatility**

Henisz amended his original approach (Henisz 2000) by extending his investigation to include the political institutions and the structure of the political decision making system. To show how political institutions and especially a system of checks and balances work, he developed two arguments: The first is: “Checks and balances on the discretion of policy-makers will be positively associated with policy stability, *ceteris paribus*” (Henisz 2004a, 7). And the second maintains that “Checks and balances on the discretion of policy-makers will moderate the impact of macro-economic shocks on policy outcomes” (Henisz 2004a, 7).

Checks and balances are the basis of democratic political systems. It is a system of separation of powers, combined with mutual controls of the government branches (checks), that prevents abuse of power for the welfare of the system and the society as whole. Therefore it is important that the separation of power leads to a system in which branches check and balance each other, so that no branch has the power to overrule the other branches (balance). One instrument in this system is the veto power of the individual players. It is only the balances that enable the individual government branches (powers) to use and defend their competencies against the other individual government branches. This construct is part of the thinking of Rousseau and many other philosophers of the

Enlightenment. The system was first used in the constitution of the United States and is today a part of the constitutions in many democratic countries.

Two measures of the checks and balances on policy-makers discretion are used by Henisz. The first approach mentioned by Henisz – based on Beck et al. (2001, 170) – “counts the number of veto players in a political system, adjusting for whether these veto players are independent of each other, as determined by the level of electoral competitiveness in a system, their respective party affiliations, and the electoral rules.” This index (CHECKS2A) increases linearly with the addition of further veto points and has different methodologies for presidential and parliamentary systems. In a presidential system if the presidents’ party and the majority party in at least one chamber are the same than the president is not counted as a check. In parliamentary systems it is similar: additional points for the prime minister and every chamber (the number of checks increases), the same reduction if the party (or coalition of parties) of the prime minister is the majority party in at least one chamber (the number of checks decreases). Also as the number of checks changes, the balance changes. Thus constellations are possible in which some players dominate others because of same preferences (party membership). This index takes into account the relationship between veto players (here called veto points) and “it also assumes a linear relationship between the number of adjusted veto points and the degree of constraints on policy change. Similarly, the number of ...veto points increases linearly in Parliamentary systems with each addition of a party to the ruling coalition without regard to the relative size of the parties in the coalition” (Henisz 2004a, 9).

As an alternative measure Henisz introduced the Political Constraints Index POLCONV. It begins similarly by assigning countries without veto points with the lowest score and “relies upon a simple spatial model of political interaction to derive the extent to which any one political actor or the replacement for any one actor – e.g., the executive or a chamber of the legislature – is constrained in his or her choice of future policies” (Henisz 2004a, 9). He starts with the identification of the number of independent branches of government which have veto power over policy change. “The preferences of each of these branches and the status quo policy are then assumed to be independently and identically drawn from a uniform, uni-dimensional policy space. This assumption allows for the derivation of a quantitative measure

of institutional constraints using a simple spatial model of political interaction” (Henisz 2004a, 10). By using data on the party composition of the government and every legislative chamber, this initial measure is modified. With this modification Henisz tries to show the extent of alignment across branches of government. In his opinion this alignment increases the feasibility of policy change and reduces the level of political constraints (and reduces consequently the number of political checks). The next modification involves capturing the extent of preference heterogeneity within the legislative branches. For the author a greater heterogeneity within the branches increases the costs of overturning policy for aligned branches. POLCONV “does show diminishing marginal returns to the addition of subsequent veto points and the functional form of those diminishing returns is not arbitrary but rather derived from the spatial model” (Henisz 2004a, 10). The addition of a new party to a coalition is examined rather as an impact on the fractionalization of the legislature than as a new veto player.

Henisz shows the importance of institutional checks and balances on the discretion of policy-makers for the stability of a policy. He concludes that “the conventional wisdom that holds that political and institutional checks and balances that constrain policy-makers’ discretion serve to limit policy volatility and thus encourage investment and economic growth appears well founded. In particular, non-conventional forms of revenue generation and capital expenditure appear particularly sensitive to the structure of a nation’s political institutions” (Henisz 2004a, 17).

#### Political constraints in the US

Obviously the structure of the political system constrains policy making. But how are the political constraints calculated? Here an example that demonstrates how the values derived from the POLCON index of Henisz are generated: In 1990 both legislative chambers were controlled in the US by the Democrats while the Republican Party had control over the executive branch. “Were the two legislative chambers completely controlled by separate opposition parties, the political constraint measure would equal 0.90 ( $E, L1, L2, F, J = 19/21$ ). Were they completely controlled by a single opposition party, the political constraint measure would be 0.87 ( $E, L, F, J = 13/15$ ). If both chambers were completely aligned with the executive the measure would be 0.80 ( $E, F, J = 4/5$ ). However, as the

same opposition party controlled both legislatures and the fractionalization index equalled 0.48 and 0.50, the final value of political constraints (POLCON) equals  $0.80 + [((1 - 0.48)/2 + (1 - 0.50)/2) * (0.87 - 0.80)] = 0.83$ <sup>3</sup> (Henisz 2000, 23–24). The index used for this example measures the number of veto players, their preferences, the alignment (or independence) between them and the fractionalization index. The results show that the decision making process in the United States is restrictive.

### Rational choice as basis for decisions

One of the main criticisms of Henisz's approach is that he does not pay that much attention to the strategic (ideological) and power gaining strategies of the players (Schmidt 2004, Zohlnhöfer 2003). As Henisz and Tsebelis have deduced their approaches from the rational choice theory, they assume rational behaviour on the part of all players. Players try to maximize benefit-cost-ratios in their decisions. For the critics, Henisz's players make their rational decisions based entirely on structures and their constraints. Zohlnhöfer argues that in the United Kingdom, for instance, there is only one formal veto player. Policy changes should be – according to Henisz – very easy to enact (if the prime minister is in a strong position and can convince or discipline enough members of parliament). But the pressure from society and the parties' strategies to gain or retain power sometimes impede reforms: the party interested in instituting reform must provide reasons for and defend the reform to the voters. That fact “disciplines” many politicians and discourages them from initiating reforms.

This criticism seems to be right in one respect. Henisz investigates primarily the structures of political systems. But he also includes in his approach the preferences of the players in the process of decision making. The preferences may be oriented towards solving problems but they may also be based on tactical considerations, ideologies and power-gaining strategies. Obviously, however, Henisz cannot measure to what extent political decisions are motivated by problem-solving objectives or by tactical, ideological or power-related reasons.

<sup>3</sup> The political constraints index POLCON equals: the value for political constraints derived under complete alignment (0.80) plus the fractionalization index  $[(1-0.48)/2 + (1-0.50)/2]$  multiplied by the difference between independent and completely aligned values (0.87-0.80). Reversed values because the opposition controls the legislature.

### What about interest groups?

Up to this point the focus was primarily on veto players “within” the political system. For the disputes within the society interest groups play an important role. They have a strong impact on policy as they are intermediate entities between their members and collective players, especially the different government branches. And as the essence of the political process is to gain or to retain power the actors in the political processes have a very strong interest in both being informed about the society by the interest groups and spreading propaganda for government policy using the transmission channels of the interest groups. Some interest groups have great influence on people's beliefs and therefore it is important for the political actors not to alienate the opinions of these interest groups. In contrast, to pursue special policies it is very helpful for them to find a partner in the affected interest groups. Obviously interest groups have an impact on every kind of political decision. They also influence the preferences of political institutions to a certain extent.

However interest groups per se do not determine policy outcomes. “The formal institutional structure of the policymaking process may facilitate or impede interest groups' attainment of their preferred policy” (Henisz 2004b, 9–10). The structure may influence the extent of pressure that the groups can bear on policy (-makers) and also the possibilities of the policymaker to respond to the pressure of the interest groups. Henisz concludes “that policymaking structures with more veto points reduce the degree to which political actors are sensitive to interest group pressures relative to structures with fewer veto points” (Henisz 2004b, 11). However, Henisz cannot measure how strong the influence of interest groups is on specific political decisions.

### What else matters for decision making?

The most important player in the preparation and also the implementation of political decisions is the bureaucracy, which does not refer so much to the Weberian ideal of “legal and rational leadership” but to the administrative organization. Its employees design draft bills and decrees, and they are responsible for the application of the laws and decrees after they have passed. Bureaucracies have powerful positions in political systems. Unfortunately Henisz did not examine the role of the administration in the process of policy change.

In contrast Tsebelis' veto player approach can be expanded to include, among others, the influence of bureaucracies. One main point to consider is the independence of bureaucracies. For Tsebelis the number of veto players is decisive. "Single veto players do not need detailed descriptions of bureaucratic procedures written into law" (Tsebelis 1995, 324). The party in power can decide how the administrative organization is going to work. The government has no reason for legal procedures to rule the bureaucracy. Also writing down the rules for the future makes no sense in such a system. The next government can change everything the moment they come to power. The absence of laws to control the bureaucracy and the fact, that only one agent leads it, will probably result in a lack of independence.

If there are multiple veto players, they "will try to crystallize the balance of forces at the time they write a law, in order to restrict bureaucracies as much as they can" (Tsebelis 1995, 324). The restrictiveness of rules and regulations for the bureaucracy depends on the agreement between the veto players. In cases, where the veto players disagree politically and also procedurally, the law concerning the bureaucracy can be more general and can give "leeway to the bureaucrats" (Tsebelis 1995, 324). There is – even if there are multiple veto players – no guarantee that detailed procedural descriptions will be written into law.

Tsebelis concludes that systems with multiple veto players tend to have more cumbersome bureaucratic procedures than systems with one single veto player. "Cumbersome bureaucratic procedures should not be confounded with lack of independence; in fact, they might be a weapon of bureaucrats against political interference in their tasks" (Tsebelis 1995, 324). But in all bureaucracies there is strong expertise on the part of the civil servants. In this respect their influence is considerable and is not dependent on the regulations they are subject to. A long-standing civil servant in a governmental agency is normally very familiar with the topics of his department and therefore has a superior knowledge in comparison with a new ministry or secretary of the department. The civil servant can use this advantage to help the new head of the department or to follow his own interests. His influence is tremendous. Another phenomenon has recently arisen in the realm of lobbyism: particular interest groups endeavour to place their employees in the bureaucracy. Once they are in, the new civil servants can work towards implementing the ideas of their "former" (and probably next) employer.

## Summary

Veto players (Tsebelis) or veto points (Henisz) provide a reasonable approach to explaining the constraints on political decisions. Both approaches are focused on the players with real veto power. These players are able to change the status quo or prevent change. By counting the number of the veto players/veto points, by watching their cohesion and congruence, it is possible to determine the process of change. Even the critics of the veto player approach concede that it contributes to the understanding of these processes and constraints (even if they cannot fully explain it). Obviously in economics the counting of veto points is not enough to explain the political constraints of decision-making. The critics are correct, but Henisz does not restrict his approach to counting. By including preferences he implicitly considers the ideological and also the power-gaining and power-retaining aspects of political decisions. Henisz delivers a tool that elucidates the constraints inherent in the political structure. The approach contributes to an understanding of the basic pattern of decision making in different political systems and is "valid" for economic policy as well as other policy fields.

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## A CRITIQUE OF THE 2009 GLOBAL “GO-TO THINK TANKS” RANKING

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On 28 January 2010 the Foreign Policy Research Institute presented the Think Tanks and Civil Societies Program for 2009. This program includes a multitude of rankings for think tanks. The study (“The Global ‘Go-To Think Tanks’: Leading Public Policy Research Organizations in the World”) was led by James G. McGann from the University of Pennsylvania (McGann 2010). This contribution provides a critical analysis of the study. Unfortunately, it shows that the method is not adequate and has led to considerable inaccuracies.

The study is based on a three-phase survey of experts. In the first step 6,305 think tanks were identified worldwide and their contact information verified. In determining who these institutes are, the term think tank was defined in a very wide sense. The complete list is neither in the report nor is it available on the website of the survey institute.<sup>1</sup> An expert panel of 293 specialists, who in the past have dealt with think tanks in detail, were asked to choose between 5 and 25 nominations for various categories from this list. The selection was made according to region, research field, as well as special areas, for example, “best use of the media” (McGann 2010, 67–68). Over 400 institutions were nominated in the first phase. In a second phase these institutions were again placed before a group of experts for their selection. The experts of this second phase comprised politicians, donors, scientists and representatives of think tanks. Based on their selections, the final nom-

ination list was then drawn up. The report mentions 392 nominated think tanks. As will be shown below, this does not actually correspond to the true number of nominations. The list of nominations was then sent to some 8,500 individuals and institutions. The potential participants also included the 6,305 think tanks of the original selection.<sup>2</sup> All in all, of the approximately 8,500 individuals and institutes written to, 740 participated in the survey, which is a very low return rate.<sup>3</sup> In all categories the participants were able to nominate between 5 and 25 institutions, and based on these results the ranking list was drawn up for each category.

The calculation method used in all three phases is not clear, however. Copies of the information written to the experts and the participants can be found in the appendices of the report. In this material mention is made of “nominations” which will be “tallied” by the author of the study. The main text contradicts this statement several times, however. On page 7 (McGann 2010) the experts of the second phase are asked to rank the nominations (“...a group of 500 policy makers, donors, scholars, and think tank officials was asked to review the slate of nominees and rank them”). Apparently something similar is true for phase 1, as can be read on page 8: “In each stage of the process I requested that those persons making nominations and ranking the think tanks ...” – that the participants in the survey were supposed to rank the nominations themselves is not explicitly mentioned in the information sent to the experts.

A serious deficit of this survey is that it relies on purely subjective judgments as the following quotation shows in particular. “The members of the Expert Panel were asked to nominate regional or global centers of excellence *that they felt should be recognized* for producing rigorous and relevant research, publications and programs in one or more substantive areas of research” (McGann 2010, 5, authors’ emphasis). It is doubtful whether all the individuals

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<sup>1</sup> On the website <http://thinktanks.fpri.org/> (accessed 07 May 2010) there is a list of approximately 1,000 think tanks. The initiators of the survey claim to have drawn up in the mid term a complete data bank of think tanks. The list of some 1,000 is, however, far removed from the 6,305 think tanks mentioned. Thus Transparency International and the Ifo Institute are not included.

<sup>2</sup> Despite being nominated, the Ifo Institute was not invited to participate in the survey. On asking other German think tanks, we found out that other nominated institutes also received no request to participate in the survey.

<sup>3</sup> The information on this point is not clear. On page 8 “over 750” participants are mentioned, whereas 740 are referred to on page 9.

approached had enough knowledge to evaluate think tanks in every category. It can be assumed that an expert from Europe can only provide a well-founded opinion on this region because he will not have the necessary information to adequately judge institutions and their influence in other regions. This implies that the numbers for individual regions are probably very small and thus are not sufficiently representative.<sup>4</sup>

It follows that only those individuals can evaluate the best think tanks worldwide who have sufficient information about all the nominated institutions. The same problem occurs when evaluating institutions specializing in areas not familiar to the participant. Thus it is difficult, for example, for an economic research institute to assess the influence of a think tank specializing in political science or in the natural sciences and vice versa. The potential consequence is a distortion of the results if participants from only particular fields respond, leading to an under-representation in other areas.

The following interesting examples are most likely due to under or over-representation. It is difficult to suppress a smile when reading that the Department of Economics at MIT was ranked second in the category of “Science and Technology” (McGann 2010, Table 20, 45). Furthermore, it is conspicuous that the Brookings Institution is listed under the top 10 in all disciplines, although they themselves say on the website that environmental policy is not one of their focuses of research.

Because of the possibility of nominating institutes in various regions of the world and the aspect of under or over-representation, there are considerable inconsistencies if we compare regional and worldwide rankings. Table 1 elucidates this point. In the report the top 50 non-US think tanks worldwide (McGann 2010, Table 3, 30–31) are listed first of all. In the remaining pages the rankings for various regions are presented. For Europe especially there are several inconsistencies. Thus Amnesty International is ranked fifth worldwide for non-US institutes whereas in Western Europe it is only twelfth. If the rankings were consistent, it would have to be fifth in Europe as well. Another example is the Friedrich Ebert Foundation (Germany), which is ranked eleven for Western Europe but is not mentioned in the list of the best 50 non-US institutes worldwide.

In principle a survey of experts is positive but it should only be conducted in addition to an analysis based on quantifiable information. Since no objective criteria are included in the study, the survey merely reflects whether and how the think tanks are perceived by the participants. The problems associated with this approach have already been discussed. The participants were given some selection criteria to help guide them (for example, the number of publications, reference to the institute in the media and academic reputation, McGann 2010, 50–51). Nevertheless it is difficult to assume that the participants have all the information needed to evaluate all of the nominated institutions, even those in their region or their field.

Another critical point is that the answers of the participating think tanks could be motivated by strategic thinking. Self-nomination is in fact rightly excluded but there is an incentive not to nominate institutes competing in the same research areas or regions so as not to improve their ranking. Furthermore, it is also possible that think tanks not included in the nominated list might fail to respond because they feel excluded.

In addition to the methodological weaknesses mentioned above the report also contains many inaccuracies and imperfections in the tables. For example, the countries Armenia, Georgia and Azerbaijan on page 16 are found in the category Eastern Europe whereas on page 17 they are listed under Asia. Benin and Botswana are not included in the list of countries with 10 or more research institutes although they have 13 and 10, respectively. According to one table (McGann 2010, 17) Sri Lanka is listed as having four think tanks, while in another it has 14 (page 16). The Kyrgyz Institute for Public Policy is ranked 30 in the category for Central and Eastern Europe (Table 11, 39–40), although Kyrgyzstan should be included in the Asian list (page 17).

The list of nominated institutes comprises 391 think tanks (McGann 2010, 19–28), although the table heading refers to 392. Furthermore, some of the institutes are listed twice, for example the Ifo Institute appears as “IFO Institute for Economic Research” as well as “Institute for Economic Research (IFO)”. The same is true for the Stiftung Wissenschaft und Politik, which occurs once as “Stiftung Wissenschaft und Politik, Foundation for Science and Policy (SWP)” and once as “German Institute for International and Security Affairs, (SWP, Stiftung Wissen-

<sup>4</sup> The authors asked James G. McGann several times to provide us with the evaluation results. Unfortunately, we received neither the list of all 6,305 think tanks nor a selection of the distribution of votes for individual categories.

Table

Ranking comparison

	Worldwide (Non-US)	Western Europe	Eastern Europe	Asia
Chatham House, UK	1	1		
Transparency International, Germany	2	6		
International Crisis Group, Belgium	3	10		
Stockholm International Peace Research Institute, Sweden	4	7		
Amnesty International, UK	5	12		
International Institute for Strategic Studies (IISS), UK*	6	5		
Adam Smith Institute, UK	7	2		
French Institute of International Relations, France	8	3		
Center for European Policy Studies, Belgium	9	4		
German Institute for International and Security Affairs, Germany	10	19		
Bertelsmann Foundation (Bertelsmann Stiftung), Germany	11	8		
Fraser Institute, Canada	12			
European Council on Foreign Relations, UK	13	13		
Centre for Economic Policy Research (CEPR), UK	14	17		
Chinese Academy of Social Sciences, China	15			2
German Council on Foreign Relations (DGAP), Germany	16	14		
Kiel Institute for World Economy, Germany	17	30		
Overseas Development Institute, UK	18	23		
Japan Institute of International Affairs, Japan	19			1
International Peace Research Institute, Oslo (PRIO), Norway	20	35		
Royal United Services Institute, UK	21	16		
European Policy Centre, Belgium	22	32		
International Institute for Sustainable Development, Canada	23			
Netherlands Institute of International Relations Clingendael, Netherlands	24	28		
Centre for European Reform, UK	25	15		
Danish Institute for International Studies, Denmark	26	-		
Bruegel, Belgium	27	9		
Fundacao Getulio Vargas, Brazil	28			
Civitas, UK	29	18		
EU Institute for Security Studies, France	30	33		
Centre for Strategic and International Studies, Indonesia	31			4
Fundacion para el Analisis y los Estudios Sociales, Spain	32	37		
Istituto Affari Internazionali, Italy	33	-		
Shanghai Institute for International Studies, China	34			8
Centre for Independent Studies, Australia	35			
Canadian International Council (FNA Canadian Institute of International Affairs), Canada	36			
Norwegian Institute of International Affairs, Norway	37	-		
International Institute for Strategic Studies (IISS), UK*	38	5		
Institute for World Economy and International Relations, Russia	39		12	
Center for Conflict Resolution, South Africa	40			
Demos, UK	41	24		
Institute for Economic Research (IFO), Germany	42	-		
ETH Zurich Forschungsstelle für Sicherheitspolitik und Konfliktanalyse, Switzerland	43	-		
Institute of Development Studies, UK	44	-		
Institute for Defense Studies and Analysis, India	45			9
International Policy Network, UK	46	-		
Centro de Estudios Publicos, Chile	47			
Center for Policy Studies, UK	48	21		
Center for Economics and Social Research (CASE), Poland	49		5	
Real Instituto Elcano, Spain	50	29		

\* This institute is mentioned in the Worldwide (Non-US) ranking twice by mistake.

Source: McGann (2010).

schaft und Politik”<sup>5</sup> The “Center on Budget und Policy Priorities” in the US is even listed twice under the same name. A double reference to one think tank using different names can lead to a disadvantage in

the tallying process and thus the ranking if both of these are counted as different institutes. This is supported by the fact that in the worldwide ranking of non-US research institutes (Table 3, 30–31) the International Institute for Strategic Studies (IISS) is ranked 6 and 38 and appears twice in the list of nominated institutes. In contrast the Norwegian Institute of International Affairs is ranked 37 in the worldwide ranking of non-US institutes (Table 3, 30–31)

<sup>5</sup> Further examples include the Institute for International and Strategic Relations (IRIS), the United States Institute of Peace, South African Institute of International Affairs and the International Peace Research Institute in Norway, which is listed under three different names.



but is not included in the list of nominations (pages 19–28).

There are three versions of the report (from 21, 25 and 31 January), all three of which were available to the authors. In the first version of 21 January the Economic Commission for Latin America and the Caribbean in Chile is ranked in first place for Latin America and the Caribbean (Table 7, 27). In both of the later versions this think tank is no longer included in the top forty.

All in all it appears that, due to its methodology, the survey can lead to considerable distortions in its ranking of institutes. Furthermore, the numerous mistakes and inaccuracies do not speak for the quality of this study. Any conclusions and interpretations based on it should be viewed with caution.

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## THE NEW DUTCH PER-KILOMETRE DRIVING TAX

BERT VAN WEE\*

### Introduction

In highly urbanised regions worldwide congestion is a severe and increasing problem. Mainly due to population and income growth car ownership levels increase, whereas the extension of the road network capacity increases less rapidly because of high costs, environmental concerns or space limitations. As early as 1920 it was recognised that if demand for infrastructure capacity exceeds supply (and increasing capacity is not an option) road pricing increases the general welfare (Pigou 1920). Additional benefits from pricing could be environmental and safety benefits (e.g., Verhoef et al. 2008).

For a few decades pricing has frequently been the subject of academic research and policy debates in many countries. However, despite the benefits shown in academic literature, only few examples of real world implementation of any form of road pricing exist. These include private companies that own roads impose tolls, for example in France and Portugal, and specific pricing in some urban regions, such as London City, Stockholm, a few Norwegian cities and Singapore. Germany has also introduced a system of road charges for lorries using motorways (the Maut system).

In the Netherlands the idea of introducing a form of road pricing has been discussed now for over two decades. The current Dutch government announced the introduction of a per kilometre road charge, replacing the current taxes on new road vehicles and yearly taxes. At the time of writing the first draft of this paper (February 2010) the introduction of this form of road pricing was closer to implementation than any form of road pricing that has been proposed

since 1988. However, on 20 February 2010 the government collapsed. On 18 March 2010 the Christian Democrats announced that they would no longer support the plan. At the time of finalizing this paper (April 2010) it is very uncertain whether the plan will be implemented. Much depends on the coming elections (June) and the coalition that will follow.

This paper aims to give an overview of the current Dutch policy plans, their effects and the preceding discussions in order to learn lessons for future policy developments in this area. Although the system includes most road vehicles, not only cars, the emphasis of this paper will be on cars, firstly because these outnumber other road vehicle categories by far, and secondly because cars are the most discussed road vehicle category.

### A brief overview of the history of transport pricing in the Netherlands

This paper starts with 1988, the year in which the proposal for the so-called Second Transport Structure Plan (Dutch abbreviation: SVVII) was launched. In 1990 the official governmental decision on that plan (an updated version) was taken. The plan presented a forecast for the period 1986–2010 showing that an increase in car use of 70 percent was expected. This increase was considered to be undesirable because it would lead to congestion and environmental impacts. The policy target was a (maximum) growth in car use of 35 percent. Many policy measures were suggested that would reduce the expected growth, ranging from land-use policies and improving public transport, to road pricing. The most effective measure by far was thought to be the introduction of road pricing on Dutch motorways, with prices varying by time and place. Due to a lack of support in society and – and closely related to that – a mainly negative press, the policy was abandoned and replaced by proposals for (1) a toll system, (2) a rush hour permit, and (3) road pricing again. None of these proposals were implemented due to a lack of support from society. The Dutch motorists union, ANWB, which was against the proposals, played an important role in influencing opposition from society.

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The former Dutch minister of transport, Karla Peijs, realised soon after she became minister that without any form of road pricing congestion would increase severely. And she also realised that without wide support from society any new attempt to introduce a road pricing system was doomed to fail. She made a very important decision. She asked the (then) former director of the ANWB, Paul Nouwen, to chair a committee that would investigate the idea of paying for car use and car ownership in the future. The official name of the committee was Paying Differently for Mobility (in Dutch: Anders Betalen voor Mobiliteit). This time it was not the ministry that first developed a plan quite autonomously, but the representatives of important organisations. Committee members included the ANWB, Natuur en Milieu (the most important Dutch environmental organisation), the employers organisation, the employees organisation, three ministries (transport, the environment and finance), the union of car importing companies, the union of garage managers, organisations of good transport companies and others.

The committee reported in 2005 and advised the government to transform the current vehicle-ownership-based taxes (new vehicles, yearly taxes) to a per kilometre charge. This charge could vary according to place and time, and the environmental characteristics of vehicles. The reactions of politicians and press to the report were less negative than to previous proposals, and in many cases quite positive. The new government that was established in 2007 announced in their coalition agreement that they would introduce the per kilometre charge before the end of their four-year governing period.

### Current situation

*This section describes the situation in March 2010.*

Announcing the plans to introduce a tax is one thing, implementing it is another. After two years it became clear that introducing the first stage of the system before the change of governments was not possible. Many decisions had to be made and many policy options were discussed, focusing on tariffs, via hard- and software to tendering procedures. The minister announced that he would set “a first step after which no return will be possible”. What that meant was not clear at the time. In November 2009 the current Dutch minister had presented his bill. Key elements of the proposal were:

- The yearly tax and tax per kilometre will be converted to a per kilometre tax, starting with lorries (2012), to be followed by cars the year after.
- The implementation will be gradual, not only by vehicle type (lorries first, followed by cars and other road vehicles), but also by gradually reducing fixed taxes and charging per kilometre. The idea is to avoid shocks in governmental income and huge disturbances in the vehicle markets.
- The system includes all roads, not only motorways.
- The system includes most, but not all road vehicles. Motor bikes and pre 1987 vehicles will be excluded.
- Total yearly income for the government should be as high as what would have been the case without the introduction of the new pricing system.
- The costs of the hard- and software need to be paid by the vehicle owner, to a maximum of five percent of the costs of revenues.
- The revenues will be earmarked for infrastructure costs.
- A basic fee of 6.7 ct/km for cars will be (gradually) introduced. In addition a CO<sub>2</sub>-emissions-dependent car charge will be added, as will a charge based on time and place.
- The differentiation of charges by time and place will be implemented gradually, starting with regional experiments.

The bill received a lot of media attention and generated a lot of policy and non-policy related discussions – see below.

Although it received hardly any attention in the debate, an important characteristic of the system as proposed is flexibility: many changes can be made over time, varying from differentiations by time and place, CO<sub>2</sub> emissions, but possibly also by safety related factors, and harmful pollutants. In case of the introduction of electrical vehicles, charges to compensate for a loss in government income resulting from levies on fuel, will also be possible.

### An overview of relevant research

The Netherlands has a tradition of doing a lot of policy-related research in the area of transport (and in other policy areas such as the environment, the economy and land use). Also for the development of pricing-related policy plans a lot of research has been carried out. Before the discussion that resulted in the establishment of the Platform Paying Differently for

Mobility took place, the former minister of transport asked for an overview of literature on road pricing (resulting in Verhoef et al. 2004). Some of the conclusions of that report are listed below.

- Road pricing can reduce congestion effectively.
- Road pricing can increase the general welfare if the system costs are not too high.
- Acceptance can be problematic. It can increase if (1) differentiation is relatively great so that people can select cheap alternatives; (2) a lot of attention is paid to the travellers' point of view; (3) revenues are used to compensate for negative effects (e.g., reduced fixed taxes on cars, increasing road capacity), or – in case of lowering income taxes – if low income groups benefit most.
- Business travel is less price sensitive, followed by commuting. Car use for social and recreational purposes is most price sensitive.
- Road pricing cannot only reduce congestion but also overall car use. The reduction of congestion increases the reduction of car use, firstly because a 1 percent increase in car use results in more than 1 percent increase of congestion, and secondly pricing can be time and place specific, with relatively high levies on congested road segments in rush hour periods.
- Road pricing can result in many behavioural responses, including mode switch (to car pooling, train, bus, tram, metro, bicycle), change in time of day (in case of time specific charges), reducing travel frequency (e.g., work at home for one day a week), change in residential location, change of destination (e.g., work location).
- The devil is in the details: pricing is not necessarily always “good” (from perspective of the general welfare). It is very important to design a “good” policy. There are several second best options that could perform relatively well if the theoretical first best option is not an option (e.g., because of a lack of political support).

Directly related to the platform and discussions that followed, several research reports were published, all in Dutch. First research was carried out to support the development of the proposal of the Platform Paying Differently for Mobility. Secondly, a project called Joint Facts Finding was carried out, resulting in a research report. Thirdly two cost-benefit analyses (CBA) were carried out, and fourth, a study into the effects of several levels of converting the tax on new cars into a kilometre based taxes were carried out. The study of Joint Facts Finding was used as input for both CBAs and the latter study. It is beyond

the scope of this paper to describe all the studies and their alternatives. Below some key results are presented, mainly based on the second CBA (Ecorys 2007) and the study into effects of several levels of converting the tax on new cars into a kilometre based taxes (Besseling et al. 2008).

- Converting the yearly tax on cars to a per kilometre charge that varies by time and place, and CO<sub>2</sub> emissions has significant positive effects on congestion, safety and emissions.
- In addition converting the purchase tax to a per kilometre tax results in additional benefits (safety, environment, less congestion), but also in additional costs. The balance could be roughly zero to negative (up to minus 20 percent of the balance that results from converting the yearly tax only). The results presented below assume converting both yearly taxes and purchase taxes, and are for the year 2020.
- From an overall welfare perspective the pros are much stronger than the cons. Important benefits include a decrease in congestion (and so a reduction in travel times), more reliable travel times, fewer accidents and lower emissions. Negative effects include a loss of welfare due to a reduction in overall travel, mode change and change in the time of day of travel, less government income due to levies on fuel (as a result of a reduction in fuel use, mainly due to a reduction in car use) and system costs.
- The positive welfare effect (benefits minus costs) can be as high as more than EUR one billion per year (base year of calculations: 2020).
- More people gain than lose. This because more than 50 percent of people's car use levels are below the break even point.
- Reductions in congestion (positive effect) minus losses in welfare due to changing travel behaviour) can be as large as roughly EUR 800 million to one billion per year. Business travel benefits a lot (slightly over EUR one billion), households lose: gains of travel time reductions do not fully compensate for losses due to changes in travel behaviour (total effect: up to EUR 300–400 million per year).
- Car use decreases by about 15 percent, emissions decrease also by about 15 percent.
- Car ownership might increase by two percent in 2020 (and up to five percent in 2030).
- Fuel efficiency of the car fleet is hardly affected by the pricing system. Efficiency increasing effects of prices are dependent on per kilometre CO<sub>2</sub> emissions and the increase in car ownership resulting in

the purchase of relatively fuel-efficient cars compensate for the efficiency decreasing effect of removing purchase taxes and yearly taxes that (directly or indirectly) increase greatly depending on per kilometre CO<sub>2</sub> emissions.

- Safety benefits are in the order of magnitude of EUR 500 million per year, environmental benefits up to EUR 300–400 million per year.
- Decreases in government incomes of levies on fuel can be up to EUR 850 million per year.
- System costs are roughly EUR 500 million per year.

In addition to these conclusions a few more reflections on the results are important. Firstly, it should be noted that system costs are relatively uncertain. On the one hand many ICT projects have (sometimes huge) cost overruns. A Google search on “cost overruns” (or “cost escalations”) and ICT, provides many examples. On the other hand, due to efficiencies of scale and learning effects, many innovations have decreasing unit prices over time. At the time of writing several countries including the UK, Germany, and Belgium, are discussing, at least informally, the introduction of a per kilometre tax, depending on the Dutch experience. If several other countries were to introduce such a tax, system costs could decrease over time. A second consideration relates to the adequacy of the models used for the forecasts. Geurs and van Wee (2010) analyse the models used and conclude the direction of the effects is plausible, but the results are probably upper bound. Especially the reduction in car use might be upper bound, mainly because car ownership increase might be underestimated, but also because of characteristics of the model to forecast travel behaviour, a state of the art tour-based model. They estimate the reduction in car use to be in the order of magnitude of -5 to -15 percent. The break even point from a welfare perspective is around -five percent reduction in car use. As a result, the system would result in welfare losses only if the reduction in car use is highly overestimated and/or huge system cost overruns occur.

### Support

The previous minister of transport realized that without support from important actors and society it would be impossible to implement an innovative form of road pricing, at least in a country like the Netherlands with a tradition of discussing and accepting policies while involving a lot of related actors. This in itself is an important lesson. In addition, enough support will be crucial for real world implementa-

tion. In my opinion the question whether the policy will really be implemented remains uncertain until the day of implementation, and even thereafter. But if no serious system failures occur, it is likely that support will increase after implementation. This, for example, happened in Norwegian cities, where after the introduction of the toll system support rapidly increased (Tretvik 2003). I speculate that an inherent resistance to change plays a role in a lack of support, at least from the public. In the Netherlands “fairness” is an important argument for opponents of the system. They give examples of low-income people that have no other options than driving at rush hours on expensive road segments. These people are worse off after the introduction of the new system. This, of course, is true: there will be winners and losers, and certainly there will be losers that one might not want to be losers. But suppose we had the new system in the past decades, and the proposal was made to change the system of a per kilometre charge to fixed taxes on cars (the current system). Then a lot of people would consider this highly unfair. E.g., a low-income pensioner driving her car for 1,000 km per year would have to pay as much as a high-income person owning the same car, driving it for 50,000 km a year. I hypothesise that again fairness would be a strong argument against change.

The important role of support is illustrated by an event in early 2010. The ANWB was a member of the platform (see above) that developed the new policy. But many members might be against it. This placed the board of the ANWB in a difficult position. Therefore they organised an internet-based questionnaire to find out how members (and non-members) think about the policy, and under which circumstances they would (not) support the system. The questionnaire showed that about two third of the respondents support the idea of changing fixed taxes to a per kilometre tax. However, differentiation by place and time gained little support, and respondents are doubtful about the capabilities of the ministries to be able to handle such a complex system well. Related to the ANWB survey, the Dutch minister of transport announced that if the ANWB no longer supported the new system, he would abandon the policy. A lot of protest was raised, also by the ANWB which did not want this role or the responsibility. The minister weakened his statement arguing that he wanted to emphasise the importance of support.

Will the policy be implemented? This is quite uncertain. As already mentioned above on 20 February

2010 the Dutch government collapsed. New elections could result in coalitions that do not support the system. On the other hand, most political parties wrote in their election program that changes with respect to pricing in transport should be made, generally not specifying which changes. A coalition of parties supporting changes in pricing in transport could receive a majority in parliament. But even in case of such a coalition, it will remain uncertain until the day of (successful) implementation, or even thereafter.

### Lessons to be learned

Some of the lessons to be learned from the Dutch experience are listed below.

1. Although the Netherlands announced road pricing more than two decades ago, it has not yet been introduced, whereas the UK, Sweden, Norway and Germany all implemented a form of road pricing. The lack of support is the main reason for not implementing policy plans.
2. A major shift in policy making was made by the previous minister of transport who asked a committee ("platform") comprised of many organisations to develop a proposal for pricing in transport, chaired by an important opponent of previous road pricing systems, the former head of the motorists union. It was not the ministry who first developed a plan and then sought to gain support.
3. From a broad welfare perspective the benefits of road pricing in general can be (much) higher than the costs. This also applies to the current policy plan to transform the fixed vehicle taxes to a per kilometre tax. Benefits include reduced congestion levels, a reduction of accidents and less environmental pressure. In addition the new system will increase fairness: paying varies with vehicle use. Costs include system costs, reduced revenues of levies on fuels and welfare losses due to changes in travel behaviour.
4. It is uncertain if the system will actually be implemented. After (successful) implementation of road pricing, support may increase.
5. The Dutch system is a modern system using GPS, charging for all kilometres (not on motorways or a specific area only) and prices are based on time, location, and CO<sub>2</sub> emissions.
6. The characteristics of the system make changes in the future quite possible, such as including safety or harmful emissions in the tariffs.

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## FILLING THE SUSTAINABILITY GAP AFTER THE CRISIS: THE CASE OF THE NETHERLANDS

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### Introduction

Although the Dutch Budget for 2009 was presented a few days after the demise of Lehman Brothers in September 2008, it was still optimistic that the upcoming economic recession would not affect the Dutch economy too badly (Ministry of Finance 2008). Originally, the budget foresaw a reduction in the public debt/GDP ratio to 38 percent in 2010, the lowest level in 35 years. However, the economic and financial events unraveled in a very different way than was foreseen. The financial crisis affected the world economy in a severe way, thereby also causing substantial damage to the Dutch and other European economies. The consequences for the Dutch government's financial situation are rather dramatic. The latest predictions by the CPB Netherlands Bureau for Economic Policy Analysis (2010) are deficit/GDP ratios for 2010 and 2011 of 6.3 percent and 4.9 percent, respectively, and debt/GDP ratios of 66.5 percent and 68.9 percent at the end of 2010, respectively 2011. The unforeseen increase in the public debt does not even include a potential loss of resources that might occur if some of the contingent liabilities to the financial sector materialize. For example, the Dutch government has guaranteed interbank lending up to 200 billion euro and it shares in the risks of an Alt-A mortgage portfolio held by ING bank.

### Public finances after 2010

Of course, the development of the government's finances after 2010 will depend on how the economy

fares in the coming years. Part of the current deficit will vanish through higher tax revenues and falling expenditure on unemployment benefits as the business cycle hopefully improves the coming years. However, a substantial share of the fall in output is structural in nature. Recessions caused by financial crises have larger long-term or structural consequences than "normal" recessions. Firstly, banks are more reluctant to provide credit, making it harder to invest and employ people. Hence, it will take more time for unemployment to fall to its pre-recession level. Secondly, a financial crisis makes agents more risk averse, leading them to become more selective in their investment activity. Also for this reason investment will fall, causing a slowdown in productivity growth. Thirdly, in view of the more gloomy market perspectives firms will spend less on research and development. According to the CPB Netherlands Bureau for Economic Policy Analysis (2010), around three-quarters of the deficit is structural. In particular, the structural deficits are estimated at, respectively, 4.9 percent of GDP in 2010 and 4.0 percent of GDP in 2011. Not surprisingly, these projections are subject to unusually large uncertainty. The size of the structural deficit will only become clearer once the economy has recovered. In last-year's supplementary budget the government agreed that in case the economy would be growing again by at least half a percentage point the structural deficit in 2011 would be reduced by 0.5 percent of GDP, or three billion euros. The projection for the structural budget in 2010 assumes that over the coming years actual growth will exceed structural growth by a cumulative amount of around three percentage points. This projection is based on the estimated output gap, which is calculated according to the methodology employed by the European Commission. Specifically, it is obtained by dividing the business-cycle component of the public budget by the output elasticity of the budget (0.55 for the Netherlands).

### The size of the sustainability gap

The financial crisis has severely undermined the sustainability of public finances. The sustainability gap equals the difference between actual structural bud-



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get and the structural budget that is considered sustainable in the long run.<sup>1</sup> In other words, it is the permanent reduction in public spending or increase in public revenues that produces public finances that are sustainable in the long run. The CPB Netherlands Bureau for Economic Policy Analysis (2010) estimates the sustainability gap in 2015 at 4.5 percent or approximately 29 billion in current prices.<sup>2</sup> This implies a 1.5 percentage-point deterioration when compared with the previous calculations in CPB Netherlands Bureau for Economic Policy Analysis (2006). The deterioration can be broken down into a 1.25 percentage-point deterioration due to a worsening of the new starting position as a result of the crisis. The increase in life expectancy since the previous assessment accounts for a deterioration of 1.75 percent, while improvements in the health status of the elderly lower the sustainability gap by 0.75 percentage points.

The sustainability gap estimated by the Bureau projects a structural deficit of 2.9 percent in 2015. However, this structural deficit is computed under the assumption of some policy adjustments over the coming years. In particular, the Bureau assumes an increase in private contributions to health care and a reduction in the public sector wage bill relative to our baseline. The total amounts to a reduction in the structural deficit of around 1 percent of GDP. The measures just mentioned seem to be rather uncertain given the political uncertainty at the moment. Hence, we will proceed under the assumption that the government faces a sustainability gap of 5.5. In view of the considerable uncertainties ahead, such as those regarding life expectancy and medical costs, we add a 0.5 percent safety margin and arrive at a 6 percent gap, which we as-

sume has to be eliminated during the next two governments (i.e., a period of 8 years).

### Towards sustainable public finance

A reduction of the gap by 6 percentage points is a substantial, but not insurmountable, task (Smit Committee 2009). The original gap before the spring 2009 crisis package was presented by the previous government was around 8 percent. However, two percentage points of this gap were already covered by the package (Ministry of General Affairs 2009). Hence, a sustainability gap of 6 percentage points still remains. In its coalition agreement the previous government aimed at a structural surplus of 1 percent of GDP at the end of its tenure in 2011. Our proposal would be to strive for a structural surplus of 2 percent over the next two governments. Within ten to twenty years the public debt would be back at pre-

Figure 1

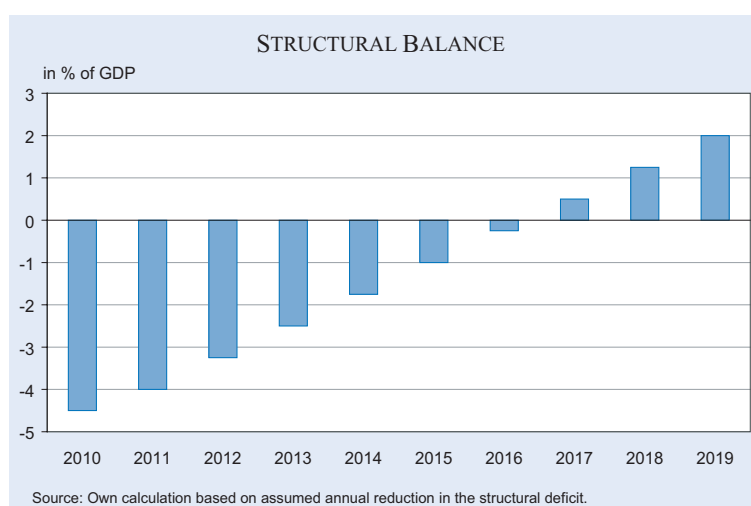
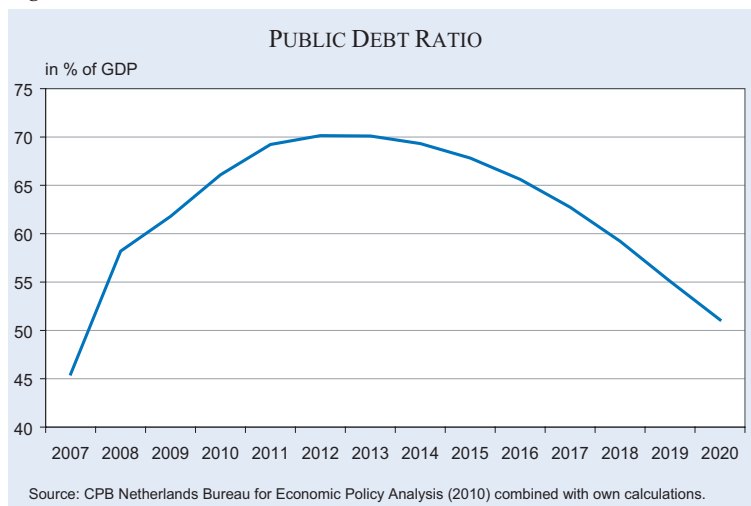


Figure 2



<sup>1</sup> This comes close to the second sustainability gap measure S2, as defined by the European Commission (2006).

<sup>2</sup> The CPB Netherlands Bureau for Economic Policy Analysis (2010) projects a structural deficit of 2.9 percent in 2015. However, this structural deficit is computed under the assumption of some policy adjustments over the coming years. In particular, the Bureau assumes an increase in private contributions to health care and a reduction in the public sector wage bill relative to our baseline. This amounts in total to around 1 percent of GDP.



crisis levels, which is still substantially higher than originally foreseen. This is achieved through an annual improvement of the structural budget by 0.75 percent per year. Figure 1 shows the path for the structural balance under this scenario, under the assumption that the 2010 (structural) deficit will be reduced by 0.5 percent. Assuming a neutral business cycle situation over the period 2012–19, the public debt will start falling from 2014 onwards (see Figure 2).

### A scenario analysis

Economic prospects are very uncertain at the moment. There is still some chance of a relapse for the industrialized economies, in particular because it is the rebuilding of inventories that explains a substantial part of the recent increase in growth. Also the crisis around Greece and possibly other southern European countries may have unforeseen effects on the rest of the EU. Hence, it is important to use a scenario analysis to study the consequences for public finances. Different scenarios for the structural budget and implicitly also for future growth are explored. A more pessimistic scenario implies a later recovery. If the recovery stagnates in 2011 then the new government, as was agreed in last-year's supplementary budget, will not take any deficit-reducing measures in 2011. In that case, the structural deficit will not shrink in 2011, implying an additional three billion of structural reductions on top of the initial figure of EUR 36 billion. It may also be the case that as a result of the financial crisis potential output has to be revised downwards. After all, the assumed structural deficit for 2010 requires an additional business-cycle driven cumulative growth of around three percent. Also the amount that the government needs to contribute to the restoration of the financial sector is highly uncertain. These upward uncertainties can be translated into a scenario of a higher than expected structural deficit. Suppose that the current deficit is completely structural and no deficit reducing measures are implemented in 2011, then the structural deficit in that year will be on the order of five to six percent. A two percent target at the end of the next two governments will then require almost a one-percent per year reduction in the structural deficit, which is larger than under the baseline as sketched above. In this more pessimistic scenario around 45 billion of deficit-reducing measures would need to be implemented.

It is equally possible that we find ourselves in a more positive situation. In particular, the financial sector

may recover faster than originally anticipated, while the economy may make up later for the loss in growth during the crisis. For example, after its own financial crisis in the beginning of the 1990s, Sweden managed to achieve growth rates that made actual GDP catch up with the level that would have prevailed had there not been a financial crisis. However, the 2010 budget (Ministry of Finance 2009) also argues that the post-crisis scenario in Sweden is an exception. Its additional growth can be explained by the structural reforms it implemented after its crisis, such as reforms aimed at making labour and product markets more flexible. Unexpectedly beneficial developments may result in a lower-than-expected structural deficit. Suppose that the structural deficit in 2011 is two percent of GDP. This implies a cumulative additional growth of around 7 percentage points. Assuming a structural surplus of 2 percent after the next two governments, a structural deficit reduction of 0.5 percent per year would be needed. However, it could make sense to implement an annual structural reduction of 0.75 percent during the next government, which would result in a surplus at the end of its tenure and a correspondingly smaller structural correction after 2015. Unexpected new losses can then be more easily dealt with. Under these more benign circumstances the required contractive measures amount to around EUR 25 billion.

Of course, we can also rely on the benchmark scenario and fill part of the needed deficit reduction through growth-enhancing measures. We shall now turn to discuss this and other options.

### Sustainability measures

To eliminate a sustainability gap of around six percent of GDP, structural measures are needed that aim at increasing public revenues or reducing public expenditures (Table). Higher revenues can be achieved through higher productivity, higher labor market participation or by increasing taxes. Higher taxes are the least desirable option, because they will feed into higher wages and, hence, undermine exports and investments. To the extent that these taxes fall on wages, they also undermine the labor supply. However, there is no need for increasing the tax burden. Timely implementation of structural reforms would rapidly reduce the deficit and the associated rise in the public debt. The earlier those measures are taken, the larger the effect on sustainability, as the public debt will rise by less and an increase in the interest payments on the debt is limited.

**Measures to improve fiscal sustainability in the Netherlands**

Objective	% GDP (approx.)	Billions of euros (approximation)
Structural improvement	6	36
<b>Options</b>	contribution	
Productivity increase	1	6
Wage moderation public sector	1	6
More efficient public administration	1 <sup>1/4</sup>	7.5
Individual contributions	3/4	4.5
Increased labour market participation	1	6
Improvements health care sector	1	6

Source: Smit Committee (2009) and calculations by the CDA-WI (CDA Scientific Institute, the Hague).

### Solutions

There are various ways in which the sustainability gap can be reduced without raising taxes. In view of the uncertainty we will explore several options and provide provisional figures for the contribution of these options. Improvements in the economic structure, such as more research and development, a better educated labor force and completion of the internal market, all raise labor productivity. Calculations based on the 2006 electoral programs of the various political parties in the Netherlands show a potential for improving structural growth. An annual increase in productivity by 0.25 percentage points above the baseline would improve sustainability by one percentage point.

Beyond this, it is possible to raise labor market participation by reducing the demand for welfare. A more activating welfare system will reduce public spending and is conducive to labor force participation. A contribution to sustainability of one percent of GDP should be achievable. Concretely speaking, the government should consider work insurance as suggested in the Commission for Labour (“Bakker Commission”), which would reduce the inflow into WAJONG (i.e., disability benefits for handicapped young persons without any working history), and decentralizing the budgets for labour market participation. Research suggests that the timely decentralization of the poverty assistance system produced substantial efficiency gains. A reduction in the maximum duration of unemployment benefits to one year as

proposed by the Bakker Commission would improve sustainability by 0.2–0.3 percent of GDP. The same gains may be obtained through a reduced inflow into the WAJONG.

Part of the structural deficit reduction can be achieved by forcing public sector wages to adjust to the loss of productivity during the crisis. Not only will this be beneficial for the public budget, it will also be helpful from the perspective of solidarity between civil servants and the market sector. Market sector wages were already reduced in 2008 and 2009 (CPB Netherlands Bureau for Economic Policy Analysis 2009). In parts of the public sector wages still need to be adjusted. Some of the reduction in the public sector wage bill can also be achieved by the retirement of relatively expensive baby boomers, in particular in the education sector. These people will be replaced by younger employees on lower salaries. About one-sixth of the sustainability gap can be eliminated by reducing public sector wages. Further, an important fraction of the sustainability gap can be filled by a more efficient public administration. Over recent years, the public administration sector has grown by one percent of GDP. We estimate that more efficient public administration could produce a deficit reduction of 1.25 percent of GDP. This amounts to 25 percent savings on the expenses of public administration. Important elements include the streamlining of administrative processes and administrative bodies, fewer rules and inspections. Also the tax system can be simplified by introducing the “social flat tax”, and subsidies can be limited.<sup>3</sup> By raising individual contributions for the use of public services, such as the social housing sector, public transportation and higher education, a deficit reduction of 0.75 percent can be achieved. A richer population can take more responsibility for collectively financed services. In addition, technological advances make it easier to assign the benefits to individuals. Finally, the deficit can be reduced by a further one percent of GDP by changing the health care sector. In particular, more efficiency can be achieved in the AWBZ, the long-term care system. By separating the provision of accommodation from that of long-term care, by transferring curative care to the Health Insurance Law and by transferring the responsibility for support to the local authorities (Bovenberg and Gradus 2008), a structural deficit reduction can be achieved. A re-

<sup>3</sup> The social flat tax is a form of flat tax with a tax-exempt bracket for low incomes. The highest marginal tax rate would be around 30–35 percent. Many central and eastern European countries introduced it after they abolished the communist system.

cent investigation shows a substantial potential for efficiency gains (Gupta Strategists 2010). All measures together reduce the sustainability gap by six percent of GDP.

### Closing the sustainability gap in other EU countries

Obviously, the situation of the Netherlands is not unique. Most other countries in the European Union are facing a structural deterioration of their public budget as a result of the financial and economic crisis. The European Commission (2009) projects an average structural deficit for 2010 of 4.7 percent for the Euro area and a corresponding figure of 5.5 percent for the entire EU. Actual deficits are generally higher due to the negative output gaps. Greece, Ireland, Portugal, Spain and the UK all feature double digit deficit figures. Further, virtually all EU countries are on exploding debt paths if policies do not change (European Commission 2009, 40). By 2060, Greece, Latvia and Ireland would all have debt ratios of over 800 percent of GDP, a number that in reality will never be reached as those countries would be forced to default long before reaching those levels. While sustainability gaps were already positive before the current crisis, the crisis has worsened them further. The most extreme cases are Ireland with a sustainability gap of 15 percent and Greece with a sustainability gap of slightly over 14 percent.

Total age-related public spending for the EU-27 is projected to increase by 4.6 percent points over the period 2010–60 (European Commission 2009, 29). Of this total, 2.7 percentage points are accounted for by an increase in public pensions and 1.3 percentage points by both an increase in health-care spending and an increase in long-term care spending.<sup>4</sup> In other words, public pensions account for only half of the rise in age-related spending, although they usually receive most of the attention in the discussions about the costs of ageing. A reduction by 0.2 percentage points can be obtained through lower spending on unemployment benefits. However, those EU-wide averages hide substantial dispersion across countries. At present, the most extreme cases are Greece with an expected rise in age-related public spending

by 16 percentage points and Luxemburg with an increase by 18.2 percentage points.

Countries are free to select their own policies to close the sustainability gap. Raising taxes is one such policy. One of the consolidation measures Greece presented in January this year was a crackdown on tax fraud. However, given that taxes are already high in most European countries and fraud is not as great a problem as in Greece, further hikes in the tax burdens would negatively impact their economies because of reduced work incentives. Substantial reductions in public spending and, in particular, social spending will be necessary, especially for Greece (Gros 2010). Of course, reductions in public spending may in the short run have negative demand effects but in the longer run will crowd in private consumption and investment by limiting the tax burden. A commitment to substantial spending cuts will also send a positive signal to the financial markets. After all, a lack of confidence in the resolve of the Greek government has raised its interest rate to now unmanageable levels. As for the Netherlands, sustainability gaps in southern Europe can, and probably need, to be reduced through increases in labour market participation, which should be partly achieved through increases in the retirement age and measures that stimulate economic growth. In addition, all of southern Europe has suffered from a loss in competitiveness since joining the euro-zone. Therefore, labour market institutions are badly in need of reform. An internal devaluation, through wage cuts, will probably be inevitable to restore competitiveness relative to other European countries, in particular Germany.

### Conclusion

There is a natural limit to the level of public debt. Therefore, it is important that the Dutch government, as well as other governments, start reducing the sustainability gap. Such a reduction is necessary to avoid shifting too much of the bill to future generations. To halt the growth in the public debt ratio, a balanced budget is needed. A credible commitment to limiting the public debt is necessary to keep the interest rate at a low level. This will also send a signal to other European countries that effective control of the public debt is necessary to ensure the independence of the ECB and its ability to pursue price stability.

We have indicated how sustainability might be achieved and discussed a number of possible options

<sup>4</sup> Using EU average data based on the European Commission (2006) and taking into account the presence of other age-related spending, Beetsma and Oksanen (2008) show that a transition from a pay-as-you-go public pension system to a funded, actuarially neutral system would require a budget surplus of 1.6 percent of GDP over the next two generations. The surplus is needed to convert to (explicit) public debt the implicit debt in the form of accumulated pension rights to the workers.

for the Netherlands. These options try to avoid an increase in the tax burden and are aimed primarily at achieving sustainability by increasing structural economic growth and labour force participation. Obviously, other choices are possible. However, it is important that they be consistent with achieving sustainability. Sustainability implies that future generations continue to profit from essential public services without having to pay substantially higher taxes.

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## TIME SPENT ON CARING FOR ELDERLY AND DISABLED RELATIVES

People spend much less time on caring for elderly persons and looking after disabled relatives than on caring for and educating children or cooking and doing household work. In the EU-27 employed women spend 11 hours and employed men 8 hours weekly on caring for elderly and disabled relatives. But they spend 28 or 18 hours on caring for and educating children and 16 or 8 hours on cooking and household work. Care for elderly persons is carried out primarily by women but the gender gap is smaller than for the other two domestic activities (Table).

Elderly care involvement increases with age, mostly in terms of the frequency of care. Women aged 50–64 years show a slightly higher frequency of time spent on caring for elderly relatives than younger women. Men also show a higher frequency although the absolute frequency is about half of that of women (Figure).

Women in southern European countries allocate more time to caring for elderly relatives than women

**Table**

**Hours spent weekly on home activities by employed men and women in EU-27**

	On caring for and educating children	On cooking and household work	On caring for elderly and disabled relatives
Women*	28	16	11
Men*	18	8	8

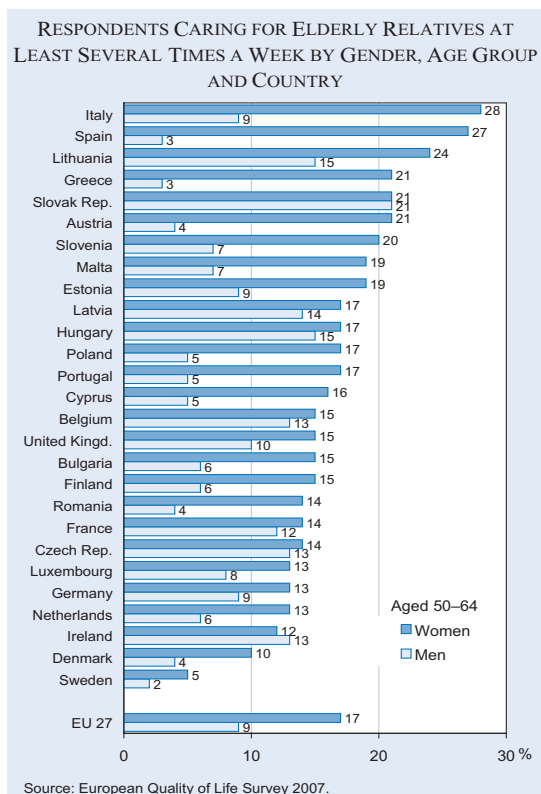
Notes: Question: “On average, how many hours in a week do you spend on these activities: a) caring for and educating children, b) cooking and household work; c) caring for elderly/disabled relatives?”  
Base: Respondents who said they are involved in these activities.  
Employed respondents are those working as an employee or employer/self-employed, or as a relative assisting family farms or businesses.  
\* 18 and over.

Source: European Quality of Life Survey 2007.

in other parts of Europe. This higher demand for elderly care is reflected by the higher presence in the household of persons aged 70 years and over. This outcome seems to be due to the fact, that life expectancy levels are higher than in the new EU member states and that the provision of care services is worse than in the Nordic countries and the continental western European countries.

W. O.

**Figure**



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## INSTITUTIONS FROM THE PRACTITIONER'S PERSPECTIVE: A SURVEY OF PRIMARY CARE ON HEALTH INFORMATION TECHNOLOGY

With aging societies and costly medical innovation, spending on healthcare takes up increasing shares of GDP in the majority of developed societies. Policy-makers face the challenge of allocating these resources efficiently, i.e., to warrant high quality care while keeping down costs. The introduction of health information technology (HIT) has formed a mainstay of recent healthcare reforms. A recent study by Schoen et al. (2009) has surveyed primary care physicians (PCPs) on the diffusion of HIT in Australia, Canada, France, Germany, Italy, New Zealand, the Netherlands, Norway, Sweden, the United Kingdom and the United States.

The authors chose PCPs because of their crucial role in healthcare systems. Strong and integrated primary care has been shown to be associated with better health outcomes and lower costs (Starfield et al. 2005). PCPs form the entry point to care. With the exception of the United States, PCPs in all countries function as gate-keepers: patients are either required or offered financial incentives to consult a primary care physician before being referred to a specialist. PCPs serve as the bridge between hospital and community care, and engage patients and their families to help manage health. Against the background of growing epidemics of chronic disease, prevention is also becoming a major field of primary care.

Because HIT simplifies the processing, storage and exchange of health information it has the potential to improve all dimensions of primary care both in terms of achieving better health outcomes

and saving costs. Typical examples are the avoidance of duplicate procedures and harmful interactions of medications through the electronic tracking of treatments.

The study asked PCPs about their usage of basic electronic medical records (EMRs) and whether 13 other functions like access to laboratory results, prescribing and alerts about potential problems with drug doses or interactions were computerized in their practices. Figure 1 shows the diffusion of EMRs in the 11 surveyed countries. Use of EMRs is near universal in seven of the surveyed countries whereas Germany, France, the United States and Canada lag behind. Comparisons with data collected in Germany, the United States and Canada in a 2006 survey wave suggest, however, that the share of EMR users almost doubled in the last three years in these countries.

Figure 1

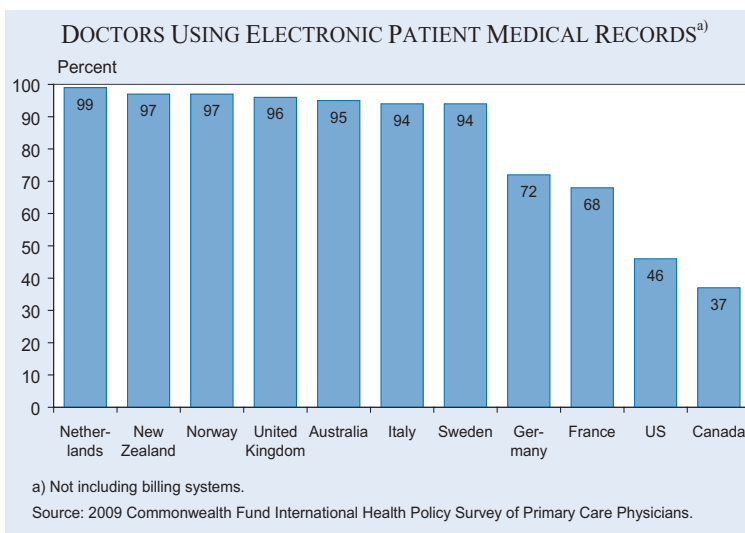
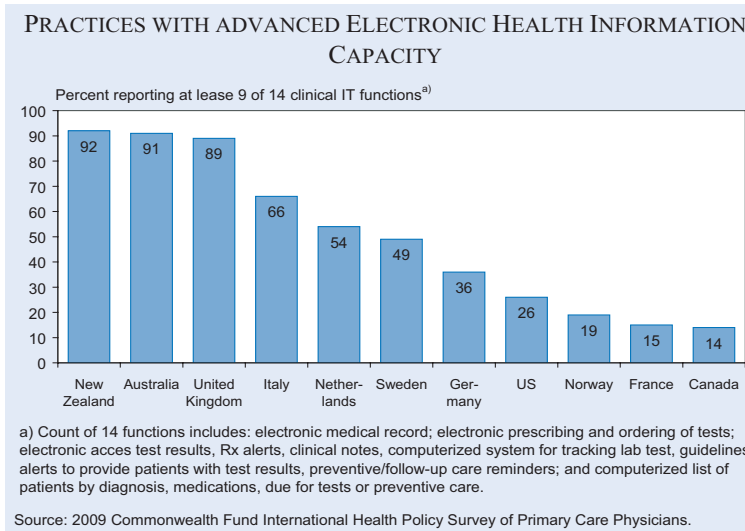


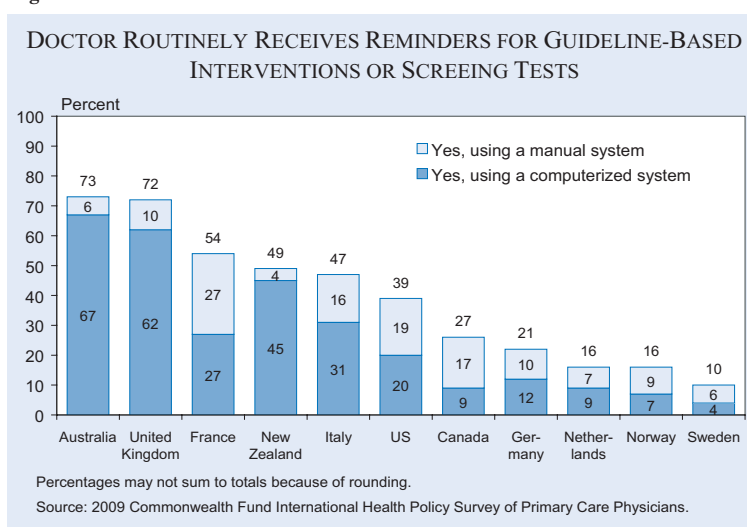
Figure 2



Based on the 14 functions, Schoen et al. (2009) created a summary variable that identifies practices computerizing 9–14 of them as having high multifunctional HIT capacity. Figure 2 shows the respective shares of high HIT capacity practices. Practices in New Zealand, Australia and the United Kingdom show the highest and Italy, the Netherlands and Sweden medium degrees of multifunctional HIT capacity. In contrast, only a minority of PCPs makes intensive use of HIT in Germany, Norway, France, and Canada. With the exception of Norway, usage of EMR thus positively correlates with overall levels of computerization. The seven countries with almost universal EMR coverage have also been successful in spreading multifunctional HIT capacity relatively equally over smaller and larger practices. In comparison, HIT capacity is still concentrated in larger practices in Canada, the United States and Sweden.

The Table presents results for a selection of the 13 computerizable functions other than EMRs. The results highlight the cross-country variation in HIT capacity building focuses. In all countries with near universal EMR coverage, the majority of PCPs can access laboratory test results electronically but only in Australia, Italy, New Zealand and Sweden is the ordering of tests computerized in more than 50 percent of

Figure 3



practices. Electronic alerts about potential problems with drug doses and interactions with other medications that form an important safety mechanism (Chaudhry et al. 2006) are almost universal only in the Netherlands, the United Kingdom, Australia and New Zealand. They are uncommon in Germany, Canada and Norway. In terms of computerized generation of patient information, Australia, New Zealand and the United Kingdom also take a leading role whereas processes, such as electronic listing of patients due for tests or preventive care or electronic listing of all medications taken by an individual patient, are least frequent in US, Canadian and French practices.

Figure 3 combines the share of all PCPs that routinely receive computer-generated reminders for

Table

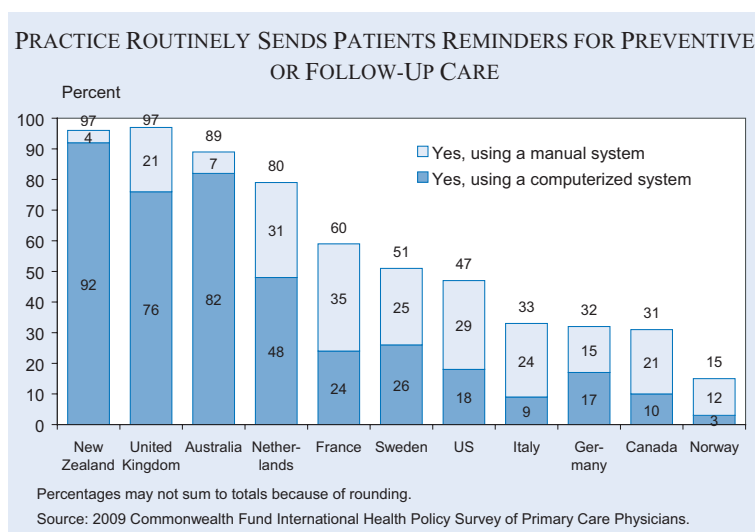
## Practices using HIT on a routine basis for core tasks (in %)

	AUS	CAN	FR	GER	ITA	NET	NZ	NOR	SWE	UK	US
Electronic ordering of laboratory tests	86	18	40	62	91	6	64	45	81	35	38
Electronic access to patients' test results	93	41	36	80	50	76	92	94	91	89	59
Electronic prescribing of medication	93	27	57	60	90	98	94	41	93	89	40
Electronic alerts/prompts about a potential problem with drug dose/interaction	92	20	43	24	74	95	90	10	58	93	37
Electronic entry of clinical notes	92	30	60	59	82	96	96	81	89	97	42
Listing of patients by diagnosis	93	37	20	82	86	73	97	57	74	90	42
Listing of patients by lab result	88	23	15	56	76	62	84	49	67	85	29
Listing of patients who are due or overdue for tests/preventive care	95	22	19	65	76	69	96	32	41	89	29
Listing of all medications taken by an individual patient <sup>a)</sup>	94	25	24	65	78	61	96	45	49	86	30

<sup>a)</sup> Including those that may be prescribed by other doctors.

Source: 2009 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

Figure 4



guideline-based interventions or screening tests with the share that receives these manually. It shows that countries with high overall levels of reminding like Australia and the United Kingdom also rely heavily on electronic systems. Doctor reminders are uncommon in Sweden and the Netherlands, countries that otherwise make medium overall use of HIT.

Finally, Figure 4 shows the share of primary care practices that use manual and computerized systems to remind their patients of preventive and follow-up care. Having the third highest rate of electronic doctor reminding, New Zealand leads all other countries in the share of practices that use electronic patient reminders. Patient reminders are also universally used in the United Kingdom, but about one quarter of practices here still relies on manual systems. Italy and Norway in particular have so far abstained from introducing electronic patient reminders on a meaningful scale.

S. N.

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## SHARE, THE SURVEY OF HEALTH, AGEING AND RETIREMENT IN EUROPE

Ageing affects all of us, both as individuals and as societies. As individuals, ageing is an emotional topic because it affects us so profoundly. For most people, after a period of stability during midlife, retirement and old-age present renewed uncertainty with new life phases. Concerned about declining health and deteriorating productivity, we worry about what life will be like after retirement. Part of this uncertainty stems from the great variety of individual ageing processes.

Understanding how the ageing process will affect us and the unique effect of aging on European countries stemming from cultural differences, historically grown societal structures and distinct public policy approaches is an important task for researchers in economics, social sciences and public health in order to turn the challenges of population ageing in Europe into opportunities.

SHARE is a unique and innovative multidisciplinary and cross-national panel database of micro data on health, socioeconomic status and social and family networks of more than 45,000 individuals aged 50 or over. While its development process started only in 2002, SHARE has by now become one of the crucial pillars of the European Research Area.

Eleven countries have contributed data to the 2004 SHARE baseline study. They are a balanced representation of the various regions in Europe, ranging from Scandinavia (Denmark and Sweden) through Central Europe (Austria, France, Germany, Switzerland, Belgium and the Netherlands) to the Mediterranean (Spain, Italy and Greece). Further data were collected in 2005–06 in Israel. Two ‘new’ EU member states – the Czech Republic and Poland – as well as Ireland joined SHARE in 2006 and participated in the second wave of data collection in 2006–07. The survey’s third wave, SHARELIFE, has collected detailed retrospective life-histories in fourteen countries in 2008–09. SHARE is scheduled to include all EU member countries, with Finland, Hungary, Portugal and Slovenia scheduled to participate in the project’s fourth wave in the years 2010–11.

SHARE is harmonised with the US Health and Retirement Study (HRS) and the English Longitu-

dinal Study of Ageing (ELSA). Studies in Japan, Korea, China, and India follow the SHARE model. Its scientific power is based on its panel design that grasps the dynamic character of the ageing process. SHARE’s multi-disciplinary approach delivers the full picture of the ageing process.

Data collected include health variables (e.g., self-reported health, health conditions, physical and cognitive functioning, health behaviour, use of health care facilities), biomarkers (e.g., grip strength, body-mass index, peak flow), psychological variables (e.g., psychological health, well-being, life satisfaction), economic variables (current work activity, job characteristics, opportunities to work past retirement age, sources and composition of current income, wealth and consumption, housing, education), and social support variables (e.g., assistance within families, transfers of income and assets, social networks, volunteer activities).

SHARE contributes to informing public policies. It expands our knowledge on important topics:

- Economic wellbeing before and after retirement,
- the relation of early retirement to the quality of work,
- unused work capacity,
- volunteering,
- parent-child relations,
- reciprocity between adult generations,
- health inequality,
- depression,
- relationship between education and health and
- obesity.

SHARE is coordinated centrally at the Mannheim Research Institute for the Economics of Aging (MEA). Researchers may download the SHARE data free of charge from the projects website at <http://www.share-project.org>

W.O.

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## WORLDWIDE GOVERNANCE INDICATORS: REGULATORY QUALITY, 2008

The Worldwide Governance Indicators (WGI) project of the World Bank reports aggregate and individual governance indicators for 212 countries and territories over the period 1996–2008, for six dimensions of governance: Voice and Accountability, Political Stability/Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

The aggregate indicators combine the views of a large number of enterprises, citizens and expert survey respondents in industrial and developing countries. The individual data sources underlying the aggregate indicators are drawn from a diverse variety of survey institutes, think tanks, non-governmental organizations, and international organizations.

The World Bank uses an Unobserved Component Model (UCM) to aggregate the various responses in the broad six clusters. This model treats the “true” level of governance in each country as unobserved, and assumes that each of the available sources for a country provide noisy “signals” for the level of governance. The UCM then constructs a weighted average of the sources for each country as the best estimate of governance for that country. The weights are proportional to the reliability of each source. This means that more precise sources (in the sense of providing less noisy signals of governance) receive more weight in the aggregate indicators. The resulting estimates of governance have an expected value (across countries) of zero, and a standard deviation (across countries) of one. This implies that virtually all scores lie between –2.5 and 2.5, with higher scores corresponding to better outcomes.

When determining Regulatory Quality the World Bank focuses on policies themselves. The Indicator includes measures of the incidence of market-unfriendly policies such as price controls or inadequate bank supervision, as well as perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development.

Among European countries and non-European OECD countries Ireland, Denmark, the United Kingdom and Australia dominate the top scores in

the 2008 Regulatory Quality Indicator. Spain, Hungary, Cyprus, France and Japan have been classified as countries with a medium level of Regulatory Quality. The countries with the lowest score are Turkey, Mexico, Romania and Korea (Table).

To provide a comparison over time, the Figure illustrates the changes for the Regulatory Quality Indicator over the decade 1998–2008. The 1998 score is shown on the horizontal axis and the 2008 score on the vertical axis. Countries located above the 45-degree angle line exhibited improvements in Regulatory Quality, while countries below the line exhibited deteriorations in Regulatory Quality. The salient feature of this graph is that most countries are clustered quite close to the 45-degree line, indicating that

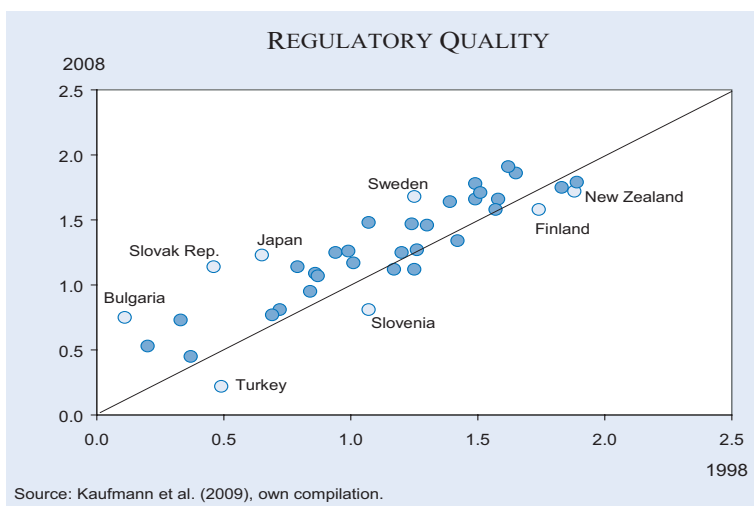
**Table**

**Worldwide Governance Indicators: Regulatory Quality, 1998 and 2008**

Country	Governance Score 1998	Governance Score 2008
Australia	1.49	1.78
Austria	1.39	1.64
Belgium	1.07	1.48
Bulgaria	0.11	0.75
Canada	1.49	1.66
Cyprus	1.20	1.25
Czech Republic	0.86	1.09
Denmark	1.65	1.86
Estonia	1.24	1.47
Finland	1.74	1.58
France	0.94	1.25
Germany	1.30	1.46
Greece	0.72	0.81
Hungary	0.99	1.26
Iceland	1.25	1.12
Ireland	1.62	1.91
Italy	0.84	0.95
Japan	0.65	1.23
Korea	0.33	0.73
Latvia	0.87	1.07
Lithuania	0.79	1.14
Luxembourg	1.51	1.71
Malta	1.01	1.17
Mexico	0.37	0.45
Netherlands	1.83	1.75
New Zealand	1.88	1.72
Norway	1.42	1.34
Poland	0.69	0.77
Portugal	1.17	1.12
Romania	0.20	0.53
Slovak Republic	0.46	1.14
Slovenia	1.07	0.81
Spain	1.26	1.27
Sweden	1.25	1.68
Switzerland	1.58	1.66
Turkey	0.49	0.22
United Kingdom	1.89	1.79
United States	1.57	1.58

Note: Only European and non-European OECD countries are included.

Source: Kaufmann, D., A. Kraay, M. Mastruzzi (2009).



changes in the Regulatory Quality Indicator in most countries are relatively small over the eleven-year period covered by the graph. But improvements have been made in Bulgaria, Slovak Republic, Japan and Sweden. In contrast there has been a decline in countries such as Turkey, Slovenia, Finland and New Zealand.

A. R.

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## FISCAL DEFICITS IN EU MEMBER STATES DURING THE FINANCIAL CRISIS

A broad consensus seemed to have been reached since the onset of the financial and economic crisis that governments need to undertake collective action to provide a fiscal stimulus to prevent a deep and long-lasting recession.

The Table shows the public sector balances of each EU member state since 2004; 2009 and 2010 are projections made by the European Commission. The deficits recorded in the Table were only partly due to discretionary responses to the economic and financial crisis. Deficits rose sharply in 2009. In 2007, the EU as a whole had a deficit of only 0.8 percent of GDP. That rose to 2.3 percent in 2008, and then jumped to 6 percent in 2009, and to 7.3 percent in 2010.

Most countries have seen a notable worsening of the fiscal position in 2009. Ireland jumped from a small

surplus in 2007 to a deficit of 12 percent of GDP in 2009. Likewise, Latvia went from a small deficit in 2007 to a deficit of 11 percent of GDP in 2009. The UK also underwent a similar development. A small number of countries have had substantial deficits for a number of years: notably Greece, Hungary, Italy, Malta, Poland, Portugal and to a lesser extent, the UK.

There are significant differences across countries in 2009, ranging from Bulgaria with a deficit of only 0.5 percent of GDP, to Ireland with a deficit of 12 percent of GDP. In almost all cases, these deficits are expected to rise in 2010.

The size of deficits in the EU is smaller than for the United States. Some EU member states were not in favour of fiscal expansion. Co-ordination problems may have played a role. As stimulus in one country increases demand in another, one country may want to free ride on the others' fiscal expansion. When coordination fails the level of fiscal stimulus may get too small. This failure may help to explain why the scale of fiscal expansion in Europe is smaller than in the United States.

W. O.

**Table**

**Budget balances of EU member states, 2004–10 percent GDP**

	2004	2005	2006	2007	2008	2009	2010
Austria	-4.5	-1.7	-1.7	-0.7	-0.5	-4.2	-5.3
Belgium	-0.4	-2.8	0.2	-0.3	-1.2	-4.5	-6.1
Bulgaria	1.6	1.9	3.0	0.1	1.5	-0.5	-0.3
Cyprus	-4.1	-2.4	-1.2	3.4	0.9	-1.9	-2.6
Czech Republic	-2.9	-3.6	-2.6	-0.6	-1.4	-4.3	-4.9
Denmark	1.9	5.0	5.0	4.5	3.6	-1.5	-3.9
Estonia	1.7	1.5	2.9	2.7	-3.0	-3.0	-3.9
Finland	2.2	2.6	3.9	5.2	4.1	-0.8	-2.9
France	-3.6	-3.0	-2.3	-2.7	-3.4	-6.6	-7.0
Germany	-3.8	-3.3	-1.5	-0.2	-0.1	-3.9	-5.9
Greece	-7.4	-5.2	-3.1	-3.9	-5.0	-5.1	-5.7
Hungary	-6.4	-7.8	-9.3	-4.9	-3.4	-3.4	-3.9
Ireland	1.4	1.7	3.0	0.2	-7.1	-12.0	-15.6
Italy	-3.6	-4.4	-3.3	-1.5	-2.7	-4.5	-4.8
Latvia	-1.0	-0.4	-0.5	-0.4	-4.0	-11.1	-13.6
Lithuania	-1.5	-0.5	-0.4	-1.0	-3.2	-5.4	-8.0
Luxembourg	-1.1	0.1	1.4	3.6	2.6	-1.5	-2.8
Malta	-4.7	-2.9	-2.6	-2.2	-4.7	-3.6	-3.2
Netherlands	-1.8	-0.3	0.6	0.3	1.0	-3.4	-6.1
Poland	-5.7	-4.3	-3.9	-1.9	-3.9	-6.6	-7.3
Portugal	-3.4	-6.1	-3.9	-2.6	-2.7	-6.5	-6.7
Romania	-1.2	-1.2	-2.2	-2.5	-5.4	-5.1	-5.6
Slovak Republic	-2.4	-2.8	-3.5	-1.9	-2.2	-4.7	-5.4
Slovenia	-2.2	-1.4	-1.3	0.5	-0.9	-5.5	-6.5
Spain	-0.4	1.0	2.0	2.2	-3.8	-8.6	-9.8
Sweden	0.6	2.0	2.4	3.8	2.5	-2.6	-3.9
UK	-3.3	-3.3	-2.6	-2.6	-5.4	-11.5	-13.8
EU 27	-2.9	-2.5	-1.4	-0.8	-2.3	-6.0	-7.3

Source: 2004–08, Eurostat; Forecasts 2009–10 European Commission (2009).

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## FINANCIAL LIBERALIZATION IN OECD COUNTRIES – THE IMF FINANCIAL REFORM INDEX

Most industrialized countries have embarked on measures to liberalize finance over the last decades, and a growing number of developing countries are currently moving along that course. Reforming financial markets and making them more accessible for investors has become apparent as numerous studies have found evidence that greater financial sector development has a positive impact on key macro-economic variables such as growth, productivity and poverty (Bekaert et al. 2001). However, in the wake of the current financial crisis, financial reform also means regulatory reform. Therefore designing new rules and institutions to reduce systemic risks without stifling economic growth is a top priority.

In a new database Abiad et al. (2008) collected data on financial reforms, covering 91 economies over the period 1973–2005, with a main focus on financial liberalization. Although the database is based on precise regulatory settings, analyzing liberalization indexes can provide useful insights in the context of ongoing financial regulatory reform. The database provides a multifaceted measure of financial liberalization that covers seven financial reform dimensions:

- credit controls and excessively high reserve requirements,
- interest rate controls,
- entry barriers,
- state ownership in the banking sector,
- capital account restrictions,
- prudential regulations and supervision of the banking sector, and
- securities market reforms.

Along each dimension, a country is given a final score on a graded scale from 0 to 3, with 0 corresponding to the highest degree of repression and 3 indicating full liberalization.

In their paper Abiad et al. (2008) mention that liberalization tends to occur simultaneously in all seven categories, but that some are much more highly correlated than others. Among the highest correlations are those between interest rate and credit control, between securities markets reforms and capital account restrictions, and between interest rate controls and capital account restrictions.

Going from single categories to the overall IMF index of financial liberalization for each economy, all seven dimensions are aggregated. Thereby the authors use the sum of the individual components, whereas, as each of the seven indicators can take on values between 0 and 3, the totals range within 0 for full repression and 21 for full liberalization. The following Table shows the outcomes of the financial liberalization index normalized to range between 0 and 1.

First of all, the Table shows that all OECD economies included managed to increase their financial liberalization since 1973. Average outcomes during the period 1995–2000 range from 0.67 for Turkey to 1.00 for Ireland and Canada. During 2001–2005 all selected OECD countries in the Table increased their financial liberalization up to an average outcome score of above 0.80. Interestingly, looking at past outcome averages, most of the reform efforts were undertaken between 1973–1989 and 1990–1994. During this period the liberalization index indicates the strongest changes for the majority of countries shown here. Regarding the subsequent periods 1990–1994 and 1995–2000, a significantly smaller number of the here selected OECD countries made strong reform efforts.

**Table**

**The IMF Financial Reform Index, 1973–2005**

	1973–1989	1990–1994	1995–2000	2001–2005
Austria	0.31	0.59	0.81	0.91
Belgium	0.52	0.84	0.94	0.97
Czech Republic	n.a.	0.45	0.74	0.92
Denmark	0.48	0.92	0.96	1.00
Finland	0.46	0.76	0.81	0.81
France	0.42	0.87	0.98	1.00
Germany	0.73	0.85	0.90	0.90
Greece	0.21	0.55	0.80	0.84
Hungary	n.a.	0.44	0.83	0.96
Ireland	0.61	0.92	1.00	1.00
Italy	0.34	0.64	0.88	0.91
Netherlands	0.76	0.93	0.95	0.99
Poland	n.a.	0.43	0.75	0.85
Portugal	0.19	0.67	0.79	0.83
Spain	0.50	0.83	0.98	1.00
Sweden	0.49	0.93	0.95	0.95
United Kingdom	0.70	0.95	0.98	1.00
Norway	0.46	0.77	0.85	0.87
Switzerland	0.84	0.87	0.92	0.95
Turkey	0.19	0.59	0.67	0.74
Australia	0.31	0.80	0.98	1.00
Canada	0.71	0.92	1.00	1.00
Japan	0.44	0.72	0.83	0.86
New Zealand	0.46	0.93	0.95	0.95
United States	0.75	0.90	0.96	1.00

Notes: n.a. = not available. The numbers are period averages. Financial liberalization outcomes range from 0 and 1, with 1 resembling full liberalization.

Source: Abiad et al. (2008).

The exceptions were Hungary and Poland. Fewer, but still considerable, liberalization efforts were undertaken by Austria, the Czech Republic, Greece and Italy during the same periods. Post 2000, significant increases in financial liberalization were observed only for Austria, the Czech Republic, Greece and Poland, and also to some extent for Turkey. Most of the other countries remained at their relatively high post-1994 liberalization level.

T. S.

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Abiad, A., E. Detragiache and T. Tressel (2008), "A New Database of Financial Reforms", *IMF Working Paper* no. 266, Washington, DC.

Bekaert, G., C. R. Harvey and C. Lundblad (2001), "Does Financial Liberalization Spur Growth?", *NBER Working Paper* no. 8245.

## NEW AT DICE DATABASE

### Recent entries to the DICE Database

In the months March and April 2010 the DICE Database received about 170 new entries, consisting partly of updates of existing entries and partly of new topics. Some topics are mentioned below:

- Anti-discrimination rules
- Credit market regulations
- Employment protection
- Energy taxes
- Financing employment injuries
- Identity and accounting information
- Mandatory public old-age pension schemes
- Legal regulation of temporary agency work
- Structure of the financial system
- Taxation of labour.

## FORTHCOMING CONFERENCES

### CESifo–Delphi Conference 2010

4–5 June 2010, in Munich

CESifo and the Department of International and European Economic Studies (DIEES) of the Athens University of Economics and Business (AUEB) is organising a conference on the question of “Financial Markets, Corporate Governance and Macroeconomic Outcomes”. Relevant topics include issues such as corporate governance and the macro economy, financial constraints and the macro economy, corporate governance and firms, financial constraints and firm behaviour, normative issues about corporate governance and finance.

Scientific organisers: Peter Egger, Thomas Moutos and George Economides

### Labor Market Search and Policy Applications

25–26 June 2010, in Konstanz (Germany)

The workshop will put particular emphasis on wage dispersion and inequality, labor supply and participation as well as firm dynamics, job creation and job destruction. The keynote speeches will be delivered by Kenneth Burdett, University of Pennsylvania, and Dale Mortensen, Northwestern University.

Scientific organisers: Christian Holzner, Carlos Carrillo-Tudela and Leo Kaas

### Economics of Education

3–4 September 2010, in Munich

The conference organiser, Eric A. Hanushek (Stanford University), hopes to increase the interaction of researchers in this area on both sides of the Atlantic. All CESifo research network members are invited to submit their papers, which may deal with any topic within the broad domain of the Economics of Education. The keynote speaker will be Paul Romer of Stanford University.

Scientific organisers: Eric A. Hanushek and Ludger Woessmann

### Financing the Mobility of Higher Education Students and Researchers

9–10 November 2010, in Mons (Belgium)

The Louvain School of Management at the Catholic University of Mons and CESifo is organising a workshop on the financing of the Cross Border Mobility of Higher Education Students and Researchers. Professor Nick Barr (London School of Economics) and Professor Bruce Chapman (Australian National University, Canberra) will deliver the keynote lectures. The workshop is being organised on the occasion of the Belgian Presidency of the EU and within the framework of the Interuniversity Research Program IAP 6/09 of the Belgian Federal Science Policy Department “Higher Education and Research”, led by Professor Mathias Dewatripont (ULB).

Scientific organisers: Marcel Gérard, Silke Uebelmesser and Vincent Vandenberghe

## NEW BOOKS ON INSTITUTIONS

### Religion and Politics in the Middle East: Identity, Ideology, Institutions, and Attitudes

Robert D. Lee

Westview Press, Boulder, Colorado 2010

### The Global Environment: Institutions, Law, and Policy

Regina S. Axelrod, Stacy D. VanDeveer and David L. Downie (eds.)

3rd ed., CQ Press, Washington D.C. 2011





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**DICE**  
**Database for Institutional Comparisons in Europe**  
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The database DICE was created to stimulate the political and academic discussion on institutional and economic policy reforms. For this purpose, DICE provides country-comparative information on institutions, regulations and the conduct of economic policy.

To date, the following main topics are covered: Business and Financial Markets, Education and Innovation, Energy and Natural Environment, Infrastructure, Labour Market and Migration, Public Sector, Social Policy, Values. Information about Basic Country Characteristics is provided for the convenience of the user.

The information of the database comes mainly in the form of tables – with countries as the first column – but DICE contains also several graphs and short reports. In most tables, all 27 EU and some important non-EU countries are covered.

DICE consists primarily of information which is – in principle – also available elsewhere but often not easily attainable. We provide a very convenient access for the user, the presentation is systematic and the main focus is truly on institutions, regulations and economic policy conduct. Some tables are based on empirical institutional research by Ifo and CESifo colleagues as well as the DICE staff.

DICE is a free access database.

Critical remarks and recommendations are always welcome.

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