

# THE GERMAN EXPERIENCE WITH SUSTAINABILITY REPORTING

*Christian Kastrop\* and Britta Velleuer\**

## 1 Introduction

Germany's population will age considerably in the coming decades due to low birth rates and ever increasing life-expectancy. This will become particularly noticeable when the post-war baby-boomers reach retirement age. Even though the Federal Government is obliged by law to provide information on the medium and long-term evolution of some budget items (in the case of pensions in particular) and has fulfilled such obligations for some time now, the idea of producing a comprehensive report on the overall effects of demographic change only dates back to the early years of this century. In 2005, the Federal Ministry of Finance published its first Sustainability Report, the exercise being meant to be repeated once in every legislative period. Preparations for the second Sustainability Report, based on updated projections, were well under way by the time the 10<sup>th</sup> Banca d'Italia workshop on Public Finance was held in Perugia, 3-5 April 2008. Thus, it was possible to not only give an overview on the first report and discuss the pioneering experience with participants of the conference, but also allow a glimpse at the new report and address the question of how the results from such an exercise might become relevant for the policy debate.

In Section 2, the background and rationale behind sustainability reporting in Germany are explored. Providing sound information to the general public on the economic and fiscal consequences of population ageing stood at the start.

Section 3 illustrates which lessons were learned from the first exercise and which changes were introduced in the preparation of the second sustainability report. Possible effects of such communication tools are highlighted by findings of a recent study commissioned by the Ministry to use insights gained by behavioural economics.

The most important results of the updated projections are presented in Section 4. This includes a discussion on the uncertainty inevitably associated with them, and the way to picture that uncertainty in the sustainability report itself.

Section 5 puts forward some preliminary conclusions and addresses the issue of how to deal with long-term risks in the formulation of medium-term budgetary targets.

## 2 Looking back: how it all started

### 2.1 Motivation

The main concern that inspired the introduction of sustainability reporting in Germany has been the continuing ageing of its population. In that, the country is not alone. If one compares the expected evolution of the old-age dependency ratio among OECD member states, Germany is among those most severely affected (Figure 1). No wonder that the discussion about sustainability issues gained momentum over recent years, in Germany as well as within international organizations, such as the IMF or the OECD, and also within the European Union. Before the turn

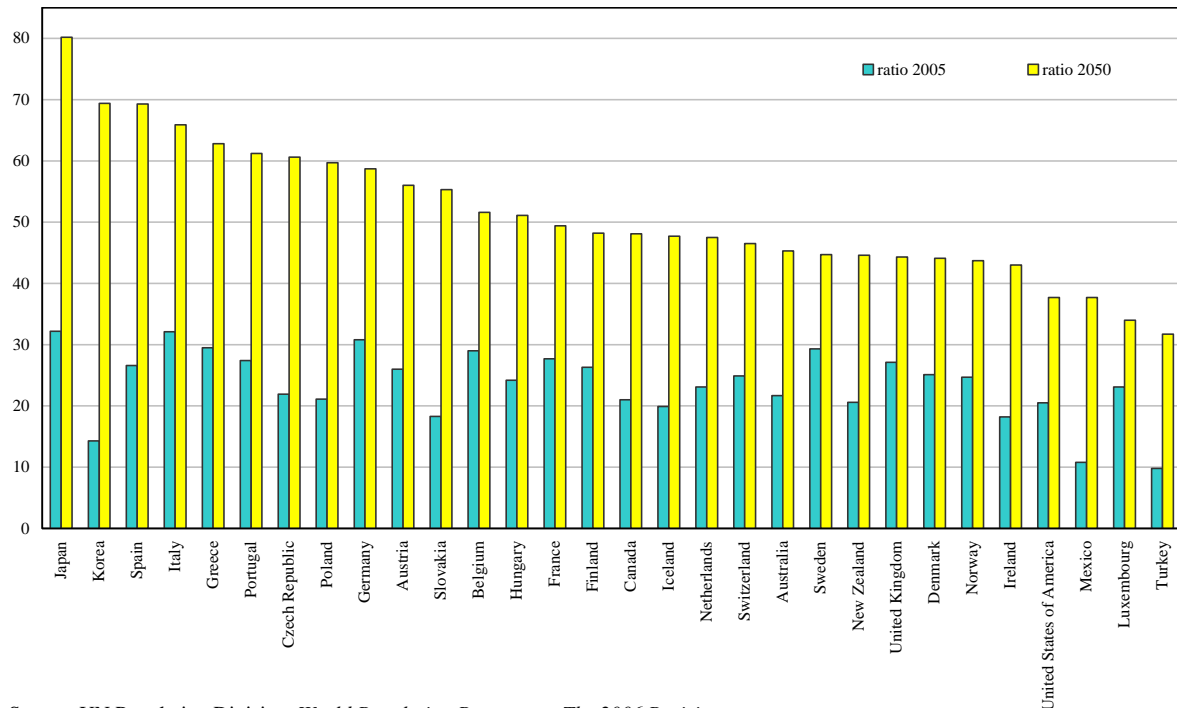
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\* Economics and Public Finance Department, Federal Ministry of Finance, Germany.

The views expressed are those of the authors and do not necessarily reflect those of the Federal Ministry of Finance.

Figure 1

**Development of the Old-age Dependency Ratio in the OECD Member States**  
*(population aged 65 and over per 100 of the population aged between 20 and 65)*



Source: UN Population Division, *World Population Prospects – The 2006 Revision*.

Figure: Federal Institute for Population Research (Bundesinstitut für Bevölkerungsforschung, BiB).

of the century, for example, the EU Economic Policy Committee established a subsidiary body, the Ageing Working Group, to study the economic and fiscal consequences of forthcoming demographic changes in a common framework and on the basis of commonly agreed assumptions.<sup>1</sup> The Federal Ministry of Finance has been involved in that work from the very start.

The deeper analysis of public finance matters from a long-term perspective that went on in these institutions also inspired the national debate, not the least because EU Member States were asked from 2001 on to outline their strategies to ensure fiscal sustainability when updating their Stability and Convergence Programmes.<sup>2</sup>

Of course, the ageing of the population did not come as a surprise. Possible effects of a declining birth rate, for example, were widely discussed as soon as one had to recognize that the post-war baby boom in Germany, as in many other countries, had come to an end. At that time, the Federal Ministry of the Interior set up the Federal Institute for Population Research (Bundesinstitut für Bevölkerungsforschung, BiB) with the explicit task to not only analyze the drivers of demographic change (fertility, mortality and migration), but also advise other agencies and policy

<sup>1</sup> The resulting projections on pensions, health care and long-term care were first published in 2001. See Economic Policy Committee (2001). These were complemented by projections on education expenditure, and unemployment transfers later on and finally put together in what was later to be called the “Ageing Report”. See Economic Policy Committee and European Commission (2006).

<sup>2</sup> This happened in the guidelines on the content and format of the programmes that were then set out by the Economic and Financial Committee (“Code of Conduct”).

makers on questions relating to it. This institution, established in 1973, still exists today and has been involved in the making of the two sustainability reports that were produced by the Federal Ministry of Finance so far.<sup>3</sup>

Also, reporting on long-term trends is not quite as new in the German case as it may appear at first sight. Reports on particular items of the general government budget, for example on the statutory pension scheme, have been done for decades, even though the forecast horizon of corresponding projections has usually not been quite as long as the one chosen for the sustainability reports. The reports on the statutory pension scheme are regularly drafted by the Federal Ministry of Labour and Social Affairs and discussed by Parliament after cabinet adoption. In this case, as well as in the case of public service pensions – where projections are published by the Federal Ministry of the Interior – the Federal Government is obliged to issue corresponding reports. The periodicity of the two reports and the forecast horizon differs, however. The report on the statutory pension scheme is published annually and projects pension expenditure and pension contributions for the future fifteen years on a rolling basis. Reports on the public service pension scheme are required once in every legislative period and usually extend the period of time covered to about forty or fifty years.<sup>4</sup>

The German Legislature (Deutscher Bundestag) was very much involved in studying the causes and effects of demographic developments more generally also. It set up a parliamentary commission in 1992 with the explicit mandate to analyze the challenges posed by an ageing population for the individual as well as for society. It brought together parliamentarians and experts from many fields and continued to work under the name “Enquete-Kommission Demographischer Wandel” for two more legislative periods. The findings were published in three comprehensive reports.<sup>5</sup> Recommendations were only hesitantly drawn, however. The multiparty membership made it difficult to come up with clear cut conclusions.

More instrumental for the decision to take up sustainability reporting at the Federal Ministry of Finance was work by the academics in its Advisory Council. In a study issued in 2001, new information needs were identified and concepts appraised to examine the long-term sustainability of public finance against the backdrop of ageing populations.<sup>6</sup> In the end, the Council favoured measures related to conventional procedures for planning and analyzing current budgetary policies, such as public debt, over approaches whose primary aim was initially to measure the burdens and distribution effects of fiscal measures at the micro level, such as generational accounting.<sup>7</sup>

The recommendations of the Advisory Council fell on fruitful ground in the Ministry. Scruples concerning the uncertainty of fiscal projections covering extremely long periods of time had to be addressed, however, and also fears that the identification of sustainability gaps would only throw an unfavourable light on the quality of public finance and cast doubts on the ability of politicians to deal with challenges posed by population ageing in general. But when the German Council of Economic Experts took up the subject and presented some calculations of its own in 2003, the decision to publish a special report by the Federal Ministry of Finance had already been taken. One key sentence framed by the Economic Experts became the Leitmotiv for the work that followed, however, and successfully served its purpose (see Box 1 overleaf).

<sup>3</sup> For more information about the BiB, its research projects and publications go to [www.bib-demographie.de](http://www.bib-demographie.de)

<sup>4</sup> The two most recent reports are accessible via [www.bmas.de](http://www.bmas.de) (Rentenversicherungsbericht) and [www.bmi.bund.de](http://www.bmi.bund.de) (Versorgungsbericht).

<sup>5</sup> Deutscher Bundestag (1994), (1998) and (2002).

<sup>6</sup> Wissenschaftlicher Beirat beim Bundesministerium der Finanzen (2001).

<sup>7</sup> Measures that unite elements of both concepts – proximity to customary budget analysis and the cohort approach used in generational accounting – were still being developed when the Advisory Council took up its work on the subject.

**Box 1**  
**Leitmotiv**

“It is certainly better to have an approximate idea of the future burden on the public budgets than to say nothing at all because of the above-mentioned scruples and ignore the need to take political countermeasures”.

Sachverständigenrat, *Annual Report*, 2003/2004.

All in all, it is quite apparent that in the case of Germany, strands of discussion on the national as well as on the international level reinforced each other to help sustainability reporting – in a comprehensive sense – come into being.

## 2.2 *Implementation: how it was done*

### 2.2.1 *Structure and content of the report*

When the first sustainability report was devised, there was a two-fold aim as far as content was concerned. The report was supposed to:

- provide information to the general public on the effects of population ageing and identify possible sustainability gaps (the “analytical aim” of the project);
- point out measures that might help to close those gaps, in the field of fiscal policy as well as in the realm of other parts of government (the “political aim” of the project).

There also was an objective related to procedures. It was intended from the beginning to:

- make the planned report the first in a row by repeating the exercise on a multi-annual basis (the “institutional aim” of the project).

The two substantive aims were clearly reflected in the structure of the report. There are quantitative parts that describe the size of the fiscal challenge associated with ageing populations, and there are qualitative parts that identify general strategies and starting points for policy action. The institutional aim found an anchor in the Coalition Agreement meant to guide decisions of the newly formed government after the 2005 elections. The Federal Ministry of Finance was asked to produce a new report within the legislative period that had then just begun.

### 2.2.2 *Organizational aspects*

The long-term projections were outsourced to one of the leading economic research institutes in Germany (Ifo). A full-fledged description of the methodology and the results of the calculations in greater technical detail were made available to the public along with the sustainability report, but in a separate document.<sup>8</sup>

The qualitative considerations – attempting to identify policy areas and possible actions to cope with the challenges of population ageing – relied on inputs from the Economics and Public

<sup>8</sup> Werding and Kaltschütz (2005).

Finance Department of the Federal Ministry of Finance as well as from other departments/ministries. The final product, the Sustainability Report itself, was written and published under the responsibility of the Federal Ministry of Finance.<sup>9</sup>

### 2.2.3 Methods

The general approach followed by Ifo was not that much different from the one developed and used by the EPC (AWG) when producing the projections for the first “Ageing Report”. As for the demographic assumptions, figures from the National Statistical Office were used. The macroeconomic assumptions were constructed along the same simple lines followed by the AWG at the time, using trend participation rates and combining assumptions about the number of people employed and labour productivity to come up with figures for GDP. The long-term projections focused on spending items considered to be sensitive to changes in population size and structure, in particular in the fields of government old-age provision (statutory pension scheme, public service pensions) and health (acute health care, long-term care) as well as education and unemployment expenditure.

The sustainability gaps calculated by Ifo measured the size of the required adjustment (as a share of GDP) against the following conditions:

- achieving a debt ratio in 2050 corresponding to the ratio that would result if the government budget was balanced over the entire period (the **S1** indicator then);
- fulfilling the government’s intertemporal budget constraint over an infinite horizon (the **S2** indicator now and then).

Reliance on methods developed on the European level and the use of projections done by independent forecasters were meant to have a positive impact on the credibility lent to the project. The assumptions were discussed and agreed upon in meetings with experts from all relevant ministries.

### 2.2.4 Results

When one looks at the first sustainability report, the description of numerical findings very soon focuses its attention on the “basic scenario” meant to serve as a benchmark against which to measure the results of numerous other variants. The “risk scenario” was not used much on the other hand. With reason: one of the major assumptions it was built upon (concerning the future evolution of participation rates) had become obsolete even before the final draft of the report was written, mostly due to the rise of the actual retirement age that by then was clearly observable in corresponding statistics.<sup>10</sup> Based on the assumptions in the baseline case, the fiscal adjustment required to set the general government budget on a sustainable path appeared moderate in size, especially when compared to other European countries: the resulting gap was estimated to be 1¼ per cent of GDP for S1 (defined as above) and 1½ per cent of GDP for S2, when referring to the intertemporal budget constraint.

<sup>9</sup> Bundesministerium der Finanzen (2005). An English version of the report was also produced.

<sup>10</sup> A rise had been generally expected as a consequence of reforms enacted in the mid of the nineties, such as the increase of the statutory retirement age to 65 years, and the introduction of deductions on early retirement, but the size of the reaction surprised many observers.

Some sensitivity tests and policy simulations were done, too. Variations of the unemployment rate, assumed curbs on spending in the health sector, and faster across-the board reductions of other types of government expenditure had important effects on the results.<sup>11</sup> Judging from data available until then, the report came to the conclusion that public finances in Germany, on the basis of current policy, could not (yet) be considered as sustainable. It appeared quite possible to reach that goal, however. If not by a single action, then by a combination of measures, much in line with the three-pronged strategy of the Stockholm European Council.<sup>12</sup>

### 3 Evaluation

In the preparation of the second report, quite a number of aspects relating to the pioneering experience remained unchanged. Most of all, the objectives were kept. Once more, it was the intention to not stop short at calculating possible sustainability gaps, but also make an attempt to identify set-screws for policy action. This can be easily recognized in the basic structure of the report as published in the summer of 2008, not very long after the 10<sup>th</sup> Banca d'Italia workshop on Public Finance took place.<sup>13</sup>

The organizational set-up of the project was also kept. Projections were once again supplied by Ifo, whereas the report itself was issued under the responsibility of the Finance Ministry. In the setting of assumptions and in the writing of the more qualitative sections of the report, close cooperation with other ministries was sought.

The projection methodologies became more sophisticated by being adapted to the “state of the art” as exhibited by the European Commission and the Ageing Working Group of the Economic Policy Committee.<sup>14</sup> The labour force projections are now based on an age-cohort concept developed by the OECD, and a production function approach was used for the potential GDP projection. The coverage of the projections is wider: child-related benefits, a spending category that can well be expected to react to demographic change, came in as an additional item to be projected along with other age-related expenditure.

As far as the sustainability indicators are concerned, the range was broadened: they were to include the gap calculated under the condition of reaching a target of 60 per cent for the Maastricht debt at the end year of the projection (2050). The “new” S1 is now also used in the European context when the Commission assesses the updated Stability and Convergence Programmes, whereas the “old” S1 was dropped.

Apart from these more technical considerations, the function of sustainability reporting for the policy debate can also be discussed by drawing upon evidence from research in the field of behavioural economics. An interdisciplinary study commissioned by the Federal Ministry of Finance to utilize insights of both, psychology and behavioural economics, to increase the understanding of acceptance and rejection of reforms, came in handy to provide some answers just when the second sustainability report was drawn up.<sup>15</sup> Experiments concerning the design of a

<sup>11</sup> Tables that were used in the Sustainability Report to compare the baseline with sensitivity analyses and policy simulations are reproduced in Annex 1.

<sup>12</sup> See Annex 2 for the box used in the report to summarize “starting points for policy action”.

<sup>13</sup> The latest version of this paper incorporates the most important findings of the new Sustainability Report. See Federal Ministry of Finance (2008).

<sup>14</sup> Economic Policy Committee and European Commission (2005).

<sup>15</sup> Förg, Frey, Heinemann *et al.* (2007).

successful information strategy were an integral part of that study. Central findings of these experiments are summarized in the box below.

### **Box 2**

#### **Results of an expertise done for the Ministry of Finance**

##### *On the importance of transparency*

Transparency matters. When the features of a chosen reform were presented in a clear manner, this tended to have a better effect on its acceptance (measured after the experiment) than when the same sort of measure was (deliberately) presented in a more confused way.

##### *Conveying the necessity of reforms*

People want to understand why a certain kind of policy action is pursued in the first place, and in which way a measure can contribute to solve existing problems. When the purpose of a reform was explained in the experiments and the opportunity costs of the *status quo* were visualized, this had a positive influence on the reactions.

##### *On the role of communicators*

The type of person(s) communicating a reform makes a difference. When the experimental communicator was announced as being an expert, resistance to the measures propagated stayed surprisingly high. The resistance was lower when the message was thought to have come from a politician (the Finance Minister in the experiment). The performance of the perceived “journalist” lay in between.

The results of these experiments and the conclusions drawn in that study did not speak against the general set-up chosen for the first sustainability report. Looking at the report as a communication tool, the decision to not just rely on experts in getting the job done was confirmed. The sober tone which had characterized the writing from the beginning was found to fit the analytical purpose and the informational purpose of the exercise as well. Attempts to improve the clarity of the exposition and the lucidity of the language, on the other hand, seemed worth to be undertaken.

As it turned out, one of the more important changes wasn't decided upon at the beginning of the new exercise, but came about when the work was already well in progress. It had to do with the inevitable uncertainty of long-term projections and is dealt with in greater detail in the following section.

## 4 Presentation: findings of the most recent report

### 4.1 A new way to deal with uncertainty

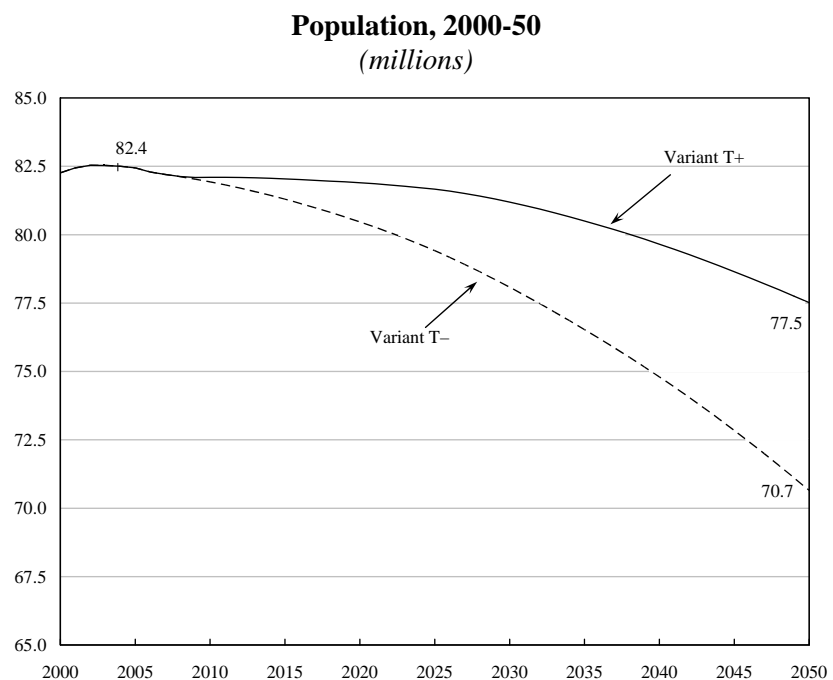
Preliminary calculations by Ifo for the new report indicated that progress had been made on the road towards sustainable finances in Germany. This outcome in itself was certainly welcome. But for the drafting of the report a new challenge arose. In a situation where public finances seemed to be very close to the point of being judged as sustainable, finding an appropriate way to deal with uncertainty became a crucial question.

A novel solution was found. As far as the baseline was concerned, the intention was no longer to narrow things down to a single development path. Rather, two sets of demographic and macroeconomic assumptions were meant to define the upper and lower bound of a “central corridor” of equally plausible developments. One set of assumptions (variant T+) is characterized by relatively favourable conditions in terms of their effect on the general government budget. The other set of assumptions is characterized by relatively unfavourable conditions (variant T–).

The idea behind that construction was still different from wanting to describe a “worst case” or “best case” scenario. Neither one of the basic variants was supposed to go to extremes in the degree of optimism or pessimism applied. They were meant to define a “middle sector” out of the even broader range of possible future outcomes. The graphs below elucidate the results by applying this principle to the demographic and macroeconomic assumptions.

Assuming that the favourable conditions of variant T+ are achieved, they ultimately lead to a development in which real GDP is roughly doubled by 2050. In the other – less favourable – case, it only rises by about half. Much of the growth comes from the assumed progress in productivity.

**Figure 2**

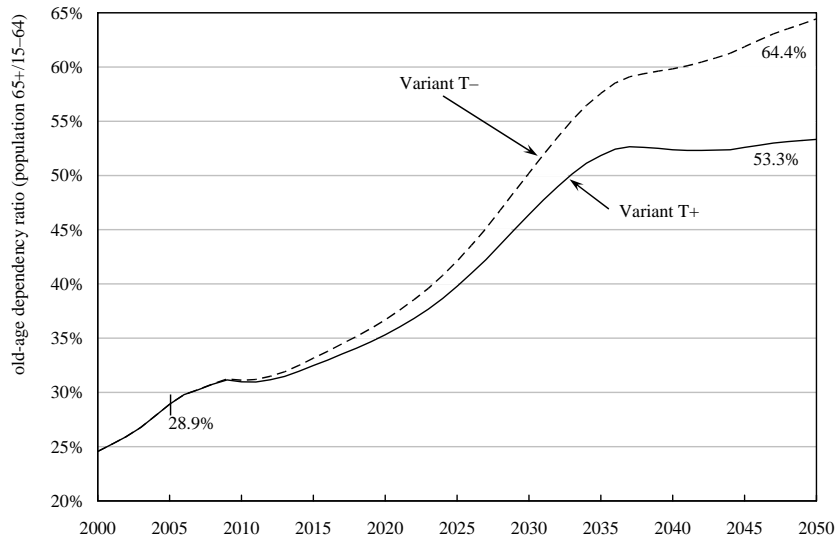


Source: Ifo.



**Figure 3**

### Old-age Dependency Ratio, 2000-50 (percent)



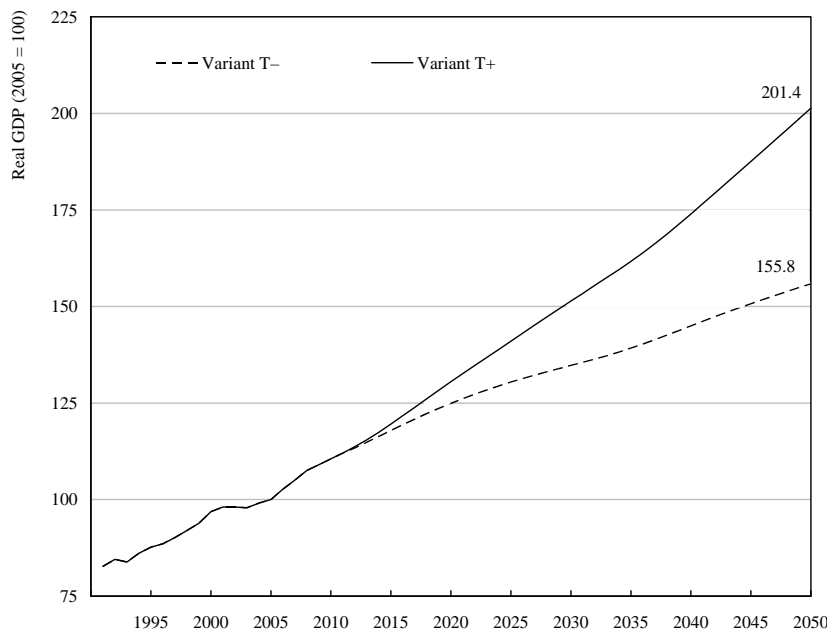
Source: Ifo.

### 4.2 Results of the budgetary projections

On the basis of the two sets of exogenous assumptions, separate budgetary projections were run for those items of the general government budget that were expected to react more or less strongly to changes in the age structure of the population (pensions, health care, long-term care, education, child-related benefits). Unemployment transfers came in to be consistent with the previously agreed macroeconomic assumptions.

**Figure 4**

### Gross Domestic Product, 1991-2050 (index values 2005=100)



Source: Ifo.

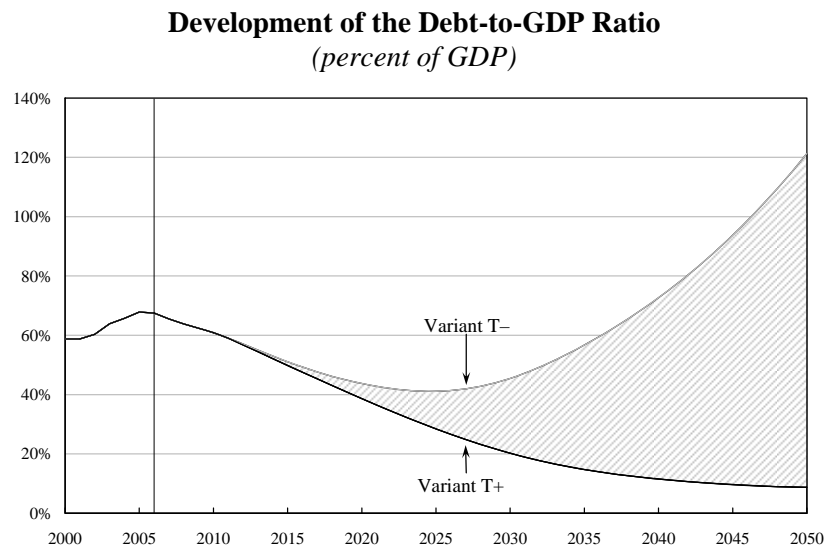
Taken together and adjusted for clearing transactions between the sub-budgets, total age-related spending was projected by Ifo to grow by between 1.3 and 4.9 percentage points of GDP up until 2050. If the arithmetic mean is calculated, the increase in spending would reach about three percentage points, and that's exactly what had been determined for Germany at the EU level, despite slightly different assumptions.

Based on these trends for age-related spending and on the assumption of reaching the government's medium-term fiscal

objective, projections could also be made on the development of net borrowing and the debt position (Figure 5). The debt-to-GDP ratio initially declines under both variants, but it would continue to fall only under favourable circumstances. Under less benign circumstances it begins to rise rapidly when ageing baby boomers start to retire, and would reach a level of approximately 120 per cent of GDP in the final year of the projection.

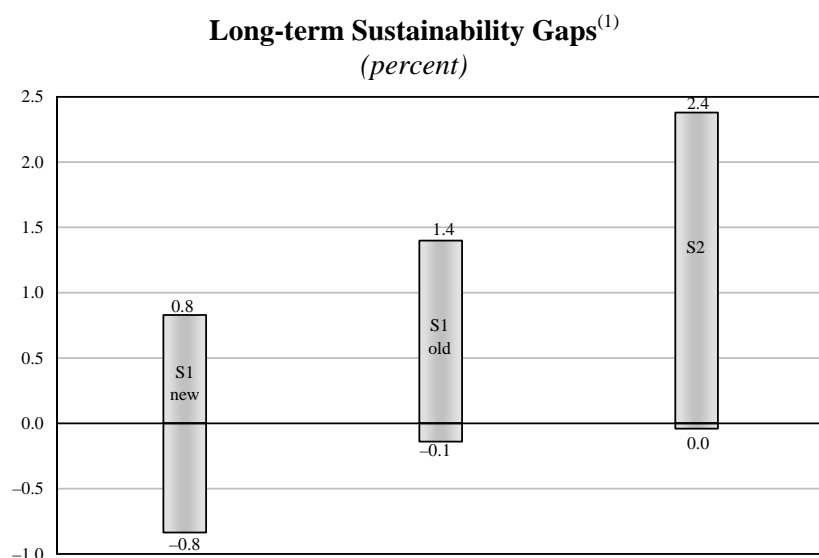
All of these data can be subsequently analyzed in terms of public finance sustainability, too. See Figure 6 for the resulting sustainability gaps. The “margins” on the necessary budget adjustment shown here correspond to the “corridors” in the setting of demographic and macroeconomic assumptions. The overall results indicate that sustainability risks have not disappeared, especially if one looks at the S2 indicator which examines the soundness of public finance under the condition that the government’s intertemporal budget restriction is met. The figures rest on the assumption, in any case, that the objectives of medium-term fiscal

Figure 5



Source: Ifo.

Figure 6



<sup>(1)</sup> Necessary **increases in primary net borrowing** (as a percentage of GDP) using different measurement methods. Ifo examined sustainability using three different criteria:

- **Sustainability Gap S1 (new):** debt/GDP ratio reaches 60 per cent of GDP by 2050;
- **Sustainability gap S1 (old):** debt/GDP ratio if the budget is continuously balanced between 2011 and 2050;
- **Sustainability gap S2:** the government’s inter-temporal budget restriction is met. The prerequisite for sustainability here is that all public expenditure plus the debt existing in the initial period are covered by public revenues over a virtually infinite horizon. **This has been the main indicator used on an EU level and for sustainability reporting in Germany as well.**

**In all three cases** the chart shows the results of the basic variants which limit a “central corridor” of possible developments.

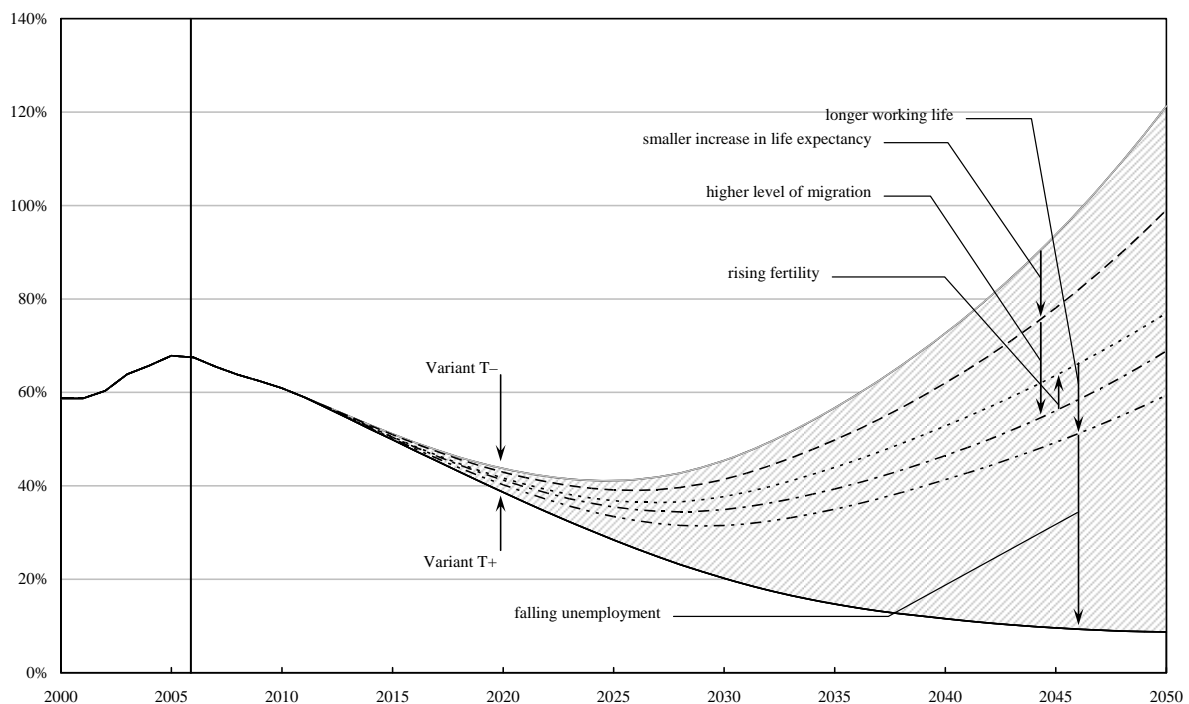
Source: Ifo.

planning and the macroeconomic developments behind them will be reached. Any violation of the consolidation target (in the form of an increase in overall government net borrowing) would be reflected one-to-one in the long-term sustainability gaps.

In addition to the calculations for the two “basic variants” further projections were drawn up. These alternative variants were used, among other things, for studying the extent to which deviating assumptions in the fields of demographics, for the labour market or other macroeconomic variables cause differences in the results of the basic variants, for example in the case of the debt position (Figure 7). If the less favourable development of expenditure (variant T–) is chosen as the point of departure for the analysis, a stronger reduction of the structural unemployment rate has a remarkable influence on achieving the more favourable development path according to variant T+. A substantial part of the distance between the two variants – illustrated by the length and direction of the arrows in the chart – can be explained by this factor alone. If the assumed improvement on the labour market could actually be achieved, prospects for budgetary outcomes would also greatly improve.<sup>16</sup>

**Figure 7**

**Debt position, 2000-2050 – Sensitivity Analyses**  
(percent of GDP)



Source: Ifo and Bundesministerium der Finanzen.

<sup>16</sup> The assumptions for the unemployment rate differed by about three percentage points at the end of the projection period.

Policy simulations played an important role also. These were done retrospectively as well as prospectively, and they revealed that the pension reforms of 2004 (which introduced the sustainability factor) and of 2007 (increase of the legal retirement age), treated here as a bundle, had marked effects on the resulting sustainability gaps (Table 1).

If the risk or chance of the one or other variant occurring is equally weighted, and if the arithmetic mean is calculated, the intertemporal gap S2

would amount to 2.4 per cent in the retrospective policy simulation, it would be 1.2 per cent in the status quo scenario, and 0.6 per cent in the prospective policy simulation. Seen in this way, and all other things being equal, the measures taken in the field of pensions in the years 2004 and 2007 alone had closed the sustainability gap by a half.

#### 4.3 Policy guidelines

Going beyond the mere quantitative analysis, the new report also appraised past reforms and outlined further directions for policy action. The recommendations were grouped along the following lines:

- preparing public budgets for demographic change (e.g. by further pursuing the structural consolidation of public budgets and by introducing a new rule on debt);
- strengthening growth and employment (e.g., by a better quality of public finance);
- improving overall demographic conditions (e.g., by gearing family policy to future needs, such as a better reconciliation of work and family life).

Annex 3 gives a more detailed picture on how the various measures that relate to the German situation were described in the second Sustainability Report.

In the overall thrust of its recommendations, the new report did not differ much from its predecessor. It was spelled out more clearly in the update, however, that the size of the sustainability gaps calculated was not just influenced by future events, but also by the initial budgetary situation which had improved since the writing of the first report and was estimated to improve further over the five-year horizon used in financial planning.

**Table 1**

#### **Sustainability Gaps – Policy Simulations** (percent of GDP)

	Variant T– (relatively unfavourable)	Variant T+ (relatively favourable)
Retrospective policy simulation <sup>(1)</sup>	3.6	1.2
<b>Status-quo scenario<sup>(2)</sup></b>	<b>2.4</b>	<b>0</b>
Prospective policy simulation <sup>(3)</sup>	1.8	–0.6

<sup>(1)</sup> Excluding the pension reforms of 2004 (sustainability factor) and 2007 (raising the retirement age to 67).

<sup>(2)</sup> On completion of Ifo's calculations; includes the pension reforms, but not yet the latest changes in the field of long-term care insurance/civil service pensions.

<sup>(3)</sup> The latest changes in the field of long-term care insurance/civil-service pensions are also taken into account.

Source: Ifo.

As far as calculations for the sustainability gap was concerned, there was a strong advice to not just rely on favourable scenarios come true, but to be prepared for any eventuality, should the course of future development turn out to be less benign than expected (Vorsichtsprinzip).

## **5 Concluding remarks**

Sustainability reporting in Germany has helped to further increase attention on the possible effects of demographic change. Resistance to deal with long-term issues has decreased. If the look on long-term trends is to become a permanent feature of analyzing the general government budget remains to be seen. The uncertainty of the projections is an issue that needs to be dealt with carefully, not just when drawing political conclusions but also in the presentation of projection results.

Sustainability concerns in Member States of the European Union are regularly voiced when it comes to setting medium-term objectives for the general government budget. The Stability and Growth Pact stipulates that the medium-term objectives “should be differentiated for individual Member States to take into account the diversity of economic and budgetary positions and developments, as well as the diversity of risks to the sustainability of public finance”.

And the 20<sup>th</sup> March 2005 report specified: “Implicit liabilities (relating to increasing expenditures in the light of ageing populations) should be taken into account, as soon as criteria and modalities for doing so are appropriately established and agreed by the Council”.

That is no easy task. Quantitative results, for one thing, are highly sensitive to changes in definitions, methods and assumptions. Any quick fix in deriving medium-term objectives from a mechanical exercise could lead to serious distortions in the perception of what is really at stake. And if the MTO became a highly volatile “moving target” this would put at jeopardy the credibility of the whole exercise.

To strengthen national ownership, Member States need freedom in their decisions between a full or partial pre-financing approach and the other two elements of the three-pronged strategy to deal with sustainability risks, including reforming pension and health care systems and/or increasing employment rates and enhancing productivity.

## ANNEX 1

Excerpt from the *First Sustainability Report*

Table 5 – Comparison between the Basic Scenario and the Sensitivity Analyses

## a) Basic Scenario and Assumption Variations that Increase Burdens

	Sustainability Gaps		Difference Compared to the Basic Scenario	
	(S1)	(S2)	(S1)	(S2)
<b>Basic scenario</b>	1.22	1.51	-	-
<b>Alternative calculations</b>				
<b>(a) Demographic variations</b>				
- high life expectancy	1.36	1.80	+0.14	+0.29
- low level of migration	1.76	2.31	+0.54	+0.80
<b>(b) Labour-market variations</b>				
- high unemployment rate	2.20	2.89	+0.98	+1.38
- low labour-force participation (55-64)	1.70	2.04	+0.48	+0.53
<b>(c) Productivity and interest-rate variations</b>				
- low productivity	1.36	1.60	+0.14	+0.09
- high interest rate	1.74	1.69	+0.52	+0.18

## b) Basic Scenario and Assumption Variations that Reduce Burdens

	Sustainability Gaps		Difference Compared to the Basic Scenario	
	(S1)	(S2)	(S1)	(S2)
<b>Basic scenario</b>	1.22	1.51	-	-
<b>Alternative calculations</b>				
<b>(a) Demographic variations</b>				
- low life expectancy	1.04	1.19	-0.18	-0.32
- high level of migration	0.84	0.90	-0.38	-0.61
<b>(b) Labour-market variations</b>				
- high female labour-force participation	0.92	1.15	-0.30	-0.36
<b>(c) Productivity and interest-rate variations</b>				
- high productivity	1.03	1.43	-0.19	-0.08
- low interest rate	0.67	1.34	-0.55	-0.17

Source: Ifo and own calculations.

Excerpt from the *First Sustainability Report***Table 6 – Sustainability Gaps in the Event of an Alternative Development of Health Costs**

	Sustainability Gaps		Difference Compared to the Basic Scenario	
	(S1)	(S2)	(S1)	(S2)
<b>Basic scenario</b>	1.22	1.51	-	-
<b>Alternative calculations</b>				
- low morbidity	0.70	0.60	-0.52	-0.91
- medical progress	2.84	4.39	+1.62	+2.88
- low morbidity plus medical progress	2.07	2.94	+0.85	+1.43

Source: Ifo and own calculations.

**Table 7 – Comparison between the Basic Scenario and the Policy Simulations**

	Sustainability Gaps		Difference Compared to the Basic Scenario	
	(S1)	(S2)	(S1)	(S2)
<b>Basic scenario</b>	1.22	1.51	-	-
<b>Policy simulations</b>				
- without reforms Statutory health insurance and statutory pensions insurance	1.46	1.95	+0.24	+0.44
- statutory retirement age 67	1.10	1.32	-0.12	-0.19
- curbs on health expenditure	0.67	0.46	-0.55	-1.05
- more resources in education and training	1.65	0.89	+0.43	+0.38
- fast reduction of other expenditure	0.22	0.44	-1.00	-1.07
- slow reduction of other expenditure	0.76	0.79	-0.46	-0.72

Source: Ifo and own calculations.

## ANNEX 2

### Excerpt from the *First Sustainability Report*

#### Summary

#### Starting Points for Policy Action

##### Strengthen growth and employment

- Increase labour participation, especially of women and older workers, reduce unemployment and promote productivity gains.
- Develop tax policy so as to encourage growth, particularly in the field of corporate taxation.
- Gear family policy to future needs, *i.e.* above all by making it easier to reconcile work and family life.
- Regulate immigration. Arrange immigration rules to prevent an excessive burden being imposed on the social security systems.

##### Ensure sustainability of public finances

- Pursue consolidation consistently, above all by cutting spending and reducing tax concessions.
- Continue to improve the quality of public finances: step up spending on future-oriented categories such as education and training, research and innovation.
- Adapt social security systems to cope with the demands of demographic change: press ahead with successful reform policy (cf. Pensions Insurance Sustainability Law, Health Insurance Modernisation Law), transfer measures undertaken in old-age provision with the same effect to public service pensions. Take action to meet the need for further reforms in health and old-age care insurance.
- Reinforce company pension schemes and private old-age provision.



## ANNEX 3

### Excerpt from the *Second Sustainability Report*

#### Appraisal of reforms and directions for further policy action

##### Preparing public budgets for demographic change

- First balanced government budget since reunification in 2007
- Public sector's share of GDP down by 3 percentage points since 2005
- Sustainability of statutory old-age provision largely secured by continued reforms; private and occupational pensions now more important
- Sustainability of statutory long-term care insurance improved; better conditions for more competition between the statutory health insurance companies
- ⇒ Reduce net borrowing in the federal budget to zero by 2011
- ⇒ Secure long-term success of consolidation by new rule on debt
- ⇒ Extend "Pension at 67" scheme to civil-service pensions
- ⇒ Carry out further reforms of health and long-term care insurance (e.g. better prevention, more decentralized control mechanisms for the service providers, additional financing reforms)

##### Strengthening growth and employment

- Growth dynamics permanently bolstered by the €25 billion "Impulse Programme"
- Priorities set in the fields of education and research
- Corporate taxation designed in a competitive way
- Pressure on the labour factor eased by lower social security contributions
- Structural unemployment reduced; higher percentage of older workers in employment
- ⇒ Improve the quality of public finances: restructure public expenditure and revenue in a growth-oriented way; evaluate expenditure and tax concessions and make further efficiency improvements; create suitable overall institutional conditions
- ⇒ improve efficiency of active labour-market policies by realigning the instruments
- ⇒ improve access to higher education; secure the funding of university expansion after 2010; improve educational opportunities for children from socially disadvantaged families

##### Improving overall demographic conditions

- Overall prerequisites for a child-friendly society and for reconciling a career with family life improved by parenting benefit, expansion of day-care facilities and more all-day schools
- Immigration of self-employed and professionals eased; greater efforts at integration
- ⇒ Develop re-oriented family policy; evaluate family-related benefits
- ⇒ Further develop immigration and integration policies with a concept on the immigration of skilled staff and intensified integration of immigrants living in Germany

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