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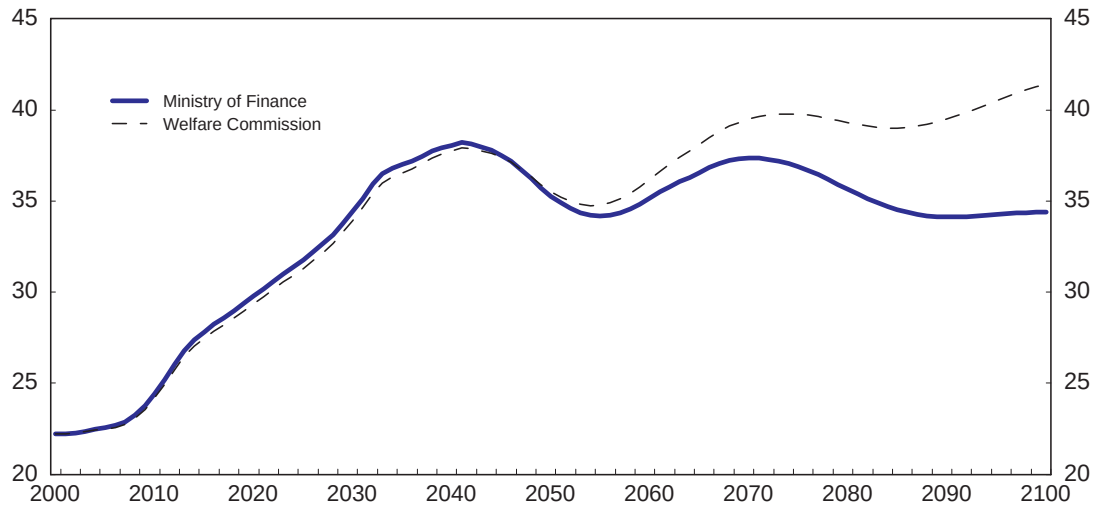
OECD ECONOMIC SURVEY OF DENMARK 2005

IS THE WELFARE SYSTEM SUSTAINABLE?

This is an excerpt from Chapter 2 of the OECD Economic Survey of Denmark, 2005.

Future demographic changes are bound to have substantial effects on public finances in a welfare state like Denmark, where most public services and income transfers are provided for free and financed on a pay-as-you-go basis, thus disconnecting the services received from the individual's contributions through taxes and charges paid. It is almost certain that public finances will get worse as a result of ageing, although the precise impact is obviously hard to know. Several institutions are regularly making projections of the fiscal situation over the very long term (over the next century or so), and all point to a substantial increase in public expenditure as a share of GDP. This is largely due to a sharp increase in the old-age dependency ratio, which is projected to move to and stay at a higher level (Figure 2.1). In other words, the pressure on public finances is likely to be permanent, and not just a temporary "baby boomer" phenomenon that will eventually go away. This has implications for what would be the optimal and the equitable response to the shift in the population structure.

Figure 2.1. **The old-age dependency ratio moves to a permanently higher level**
Ratio of 65+ year olds to 15-64 year olds, per cent



Note: The Ministry of Finance uses the official population projection from DREAM, an independent research group. DREAM also made the projection used by the Welfare Commission, applying different assumptions on fertility and mortality at the request of the Commission.
Source: The DREAM group, www.dreammodel.dk.

There are at least four sets of long-term projections produced by Danish institutions, plus some from the OECD, the IMF and the EU. Looking at the Danish modelling, which tends to be more detailed, the Ministry of Finance's "no policy" scenario[1] has an increase in public primary expenditure of almost 8 percentage points of GDP between now and 2075. Estimates by the Economic Council and the DREAM Research Group are both in the same ballpark as the Ministry, partly because they use similar demographic assumptions. An alternative projection, produced by the government's Welfare Commission, is significantly more pessimistic. In its outlook, the increase in primary expenditure is more than a third larger. As discussed in more detail below, the key differences between these projections concern assumptions about longevity, the rate of return on net assets and the impact of ageing on health care costs.

In both the Ministry's and the Commission's projections, the majority of the increase in consumption and transfer expenditures happens before 2040 (Figure 2.2). Expenditure on health and elderly care and on public old-age pensions are the main drivers; in the Ministry's scenario, for example, they rise by 1.4, 1.6 and 3.2 percentage points of GDP respectively. Fortunately, there is an offsetting factor, as extra government revenue will come from the large deferred tax payments on private pension contributions. However, this will not be enough to prevent a substantial deterioration of primary net lending, and there is expected to be a sustained deficit in the period beyond 2015 or so. Along with the associated interest payments, this will generate a rapid rise in net debt.

While calculations differ on the quantitative impact on the fiscal situation, reflecting different methodology and assumptions, there is a consensus on the overall conclusion: public finances are unsustainable in the light of ageing without further policy reforms (Box 2.1). Estimates of the fiscal gap, *i.e.* the required improvement of public finances to make the welfare system sustainable as the population is greying, range from 1½ per cent of GDP according to the Ministry of Finance to 3¾ per cent of GDP in the scenario presented by the Welfare Commission (Table 2.1). The difference is of more than academic interest. If the Ministry is right, then sustainability might *just* be able to be brought about through some very tight expenditure restraint combined with an increase in employment that, while very ambitious, is not entirely out of the question. But if the Commission is right, then a more fundamental rethink will be needed. The required increase in employment or in taxation would bring them to a level that is certainly unprecedented and probably unrealistic given the economic incentives built in to the current welfare system.

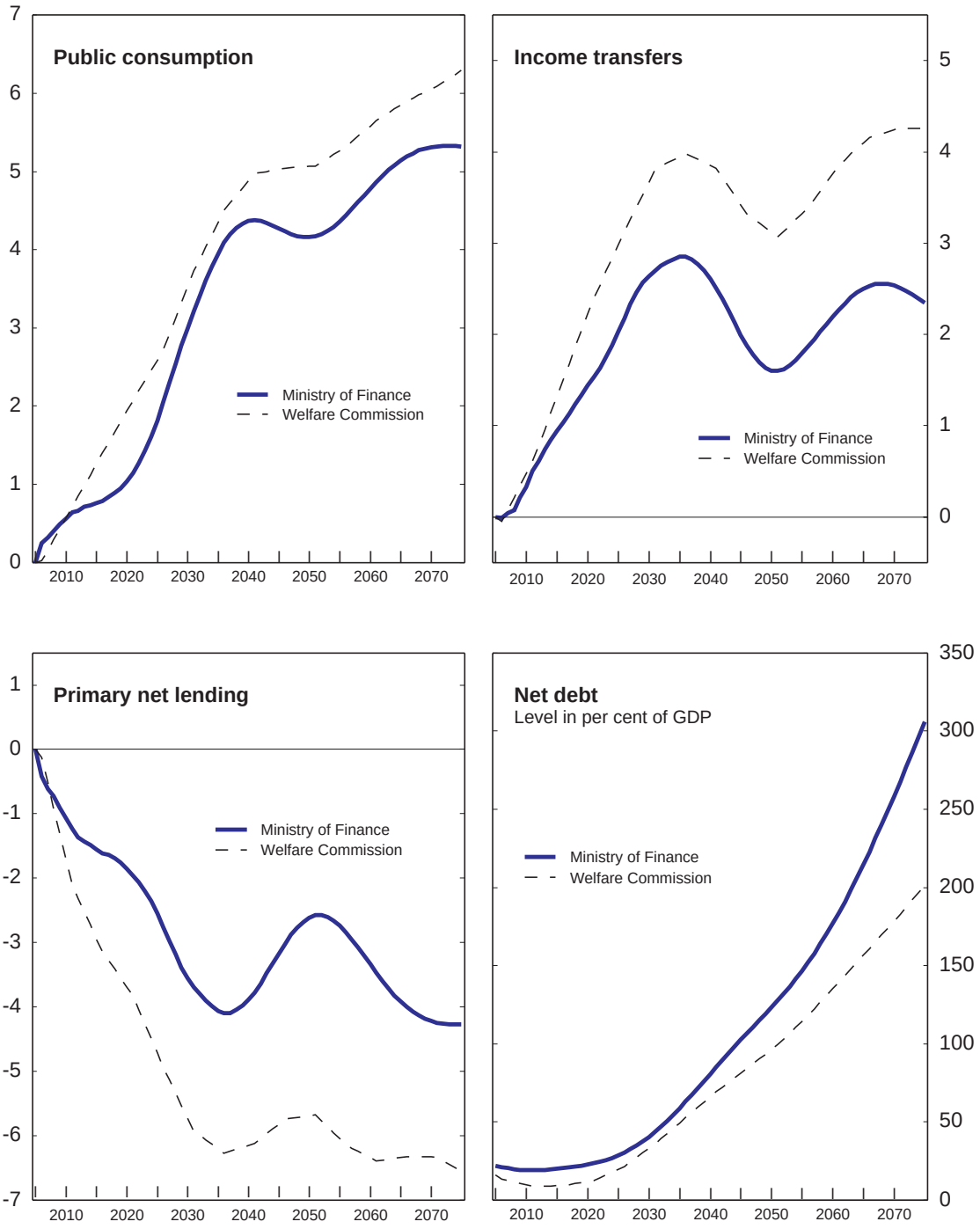
Box 2.1. **How is fiscal sustainability defined?**

Fiscal sustainability can be viewed in different ways. Ensuring that the level of debt as a share of GDP does not explode can be one criterion as can various explicit ceilings on the debt ratio. The assessment of fiscal sustainability in this chapter is based on the government's ability to satisfy its inter-temporal budget constraint, which states that current net debt should not exceed the present value of future primary surpluses, using the interest rate on debt as the discounting factor. If it does, a structural improvement of the budget position is required. This method is also applied in the studies referred to in this chapter.

This type of calculation will of course depend heavily on the assumptions regarding the mechanisms shaping the development in expenditure and revenue. The key assumption is that present rules and standards in the welfare system are roughly maintained. Age, gender, and origin-specific participation and employment rates are generally kept constant, although some adjustment is made for the initial cyclical position and the likely — as yet unseen — effects of past reforms of transfer schemes, active labour market policies, the tax system, etc. This way, developments are largely driven by the demographic changes.

Estimates of the future development of public finances will differ to the extent that assumptions vary as to demographic developments, effects of past reforms, nominal interest rates, economic growth, inflation rates, government investment and collective consumption, terms of trade, etc. Also, calculations made using general equilibrium models (as the Welfare Commission does) will include endogenous behavioural effects, contrary to simpler methods (such as those used by the Ministry of Finance).

Figure 2.2. **Central and local government finances are likely to deteriorate in the long term in the absence of policy changes**
Change from 2005, percentage point of GDP



Source: Ministry of Finance (2004), *Finansredegørelse 2004*, June; Welfare Commission (2004), *Fremtidens velfaerd kommer ikke af sig selv*, Analyserapport, May.

Table 2.1. **The size of the fiscal gap is significant according to various studies**[1]

	Per cent of GDP
Ministry of Finance, policy scenario (June 2004)	0.0
less marginal effect from government employment objectives in 2010 Plan	-1.0
less marginal effect from tight government consumption as stipulated in the 2010 Plan	-0.5
Ministry of Finance, "no policy" scenario (June 2004)	-1.5
The Economic Council (May 2004)	-1.9
DREAM (April 2004)	-1.9
Welfare Commission (May 2004)	-3.7

1. The fiscal gap indicates to what extent government finances deviates from fiscal sustainability. A negative number in the table means that a permanent improvement of government finances is required. In the Ministry of Finance's scenarios, the required permanent improvement is measured as from 2003, whereas the Economic Council and DREAM assume that the fiscal tightening takes place from 2007. The Welfare Commission assumes that fiscal policy is gradually tightened between 2011 and 2021. This later and gradual tightening implies that the required improvement of government finances is 0.2 percentage point of GDP higher than if it took place in 2007.

Source: Ministry of Finance (2004), *Finansredegørelse 2004*, June; Welfare Commission (2004), *Velfærdskommissionens beregningsforudsætninger*, June; Det Økonomiske Råd (2004), *Dansk Økonomi – forår 2004*, May.

Long-term projections of public finances depend heavily on basic assumptions

The different results of these studies illustrate the substantial uncertainty surrounding this type of calculation. Altering basic assumptions on demographics, labour-market behaviour and interest rates can significantly change estimates of the necessary improvement of public finances. One of the key differences between the Ministry and the Welfare Commission is their longevity assumptions. Danish lifespans fall well short of those in the other Nordic countries, and the debate is therefore largely about how much catch-up there will be in the future. While the two institutions agree on a four-year increase in longevity for men, the Ministry (along with the DREAM group and the Economic Council) is more cautious on the change in average lifetime for women, and assumes an increase of only 1¾ years until 2050. That will not even bring longevity to the level that other Nordic women enjoy today. The Welfare Commission's assumption of a 4½ year increase seems more reasonable. For both genders, longevity in the two projections is below that of the United Nations' projections for Denmark, which assume an increase for both genders of around 5½ years (similar to that assumed for other EU countries). This suggests that the uncertainty related to life expectancy is mostly on the upside (implying that the fiscal situation would be worse), especially as there has been a remarkable degree of catch-up over the past decade. But lower life expectancy is to some extent related to less healthy lifestyles, especially because of cancers due to smoking (Welfare Commission, 2004). To the extent that this continues, Denmark could see longevity rise by less than in other EU countries.

The second key difference between the Ministry and the Commission concerns the interest rate, and this interacts strongly with the longevity assumption. If the Welfare Commission's assumptions about lifespans were used in the Ministry's scenario, the estimated fiscal gap would not increase much because only a little more debt repayment is required to cover the extra future spending, given the Ministry's assumption of a nominal interest rate of 6.5 per cent (equal to the average interest rate on state bonds in the period 1990-2003). In contrast, the Commission's interest rate is almost 2 percentage points lower, so more debt repayment — and therefore a bigger improvement of primary net lending today — is needed for the

reduction in net interest payments to cover the extra spending arising from the larger increase in longevity in its scenario.[2]

The effect on public finances arising from longer lives also depends on the extent to which this reflects *healthier* lives, as extensive use of elderly and health care services may just be shifted to later ages. The Welfare Commission has chosen to maintain a fixed distribution of public services for the individual across ages throughout its projection. It argues that the increase in expected remaining lifetime for 65 year-olds does not seem to change the age at which public services are demanded, pointing to the experience in Sweden where the distribution of public services for the individual across ages is quite similar to that in Denmark, even though lifespans there are significantly higher. The Ministry of Finance, on the other hand, assumes that half of the age-related expenditures depend on remaining lifetime rather than on actual age, thereby reducing the fiscal gap by ¼ percentage point of GDP in its scenario. While the impact may not seem large, it depends crucially on the other key assumptions. Using the Commission's longevity and interest rate assumptions, the assumption of better health in old age reduces the fiscal gap by 1 percentage point of GDP (according to Ministry of Finance estimates). It is thus the combined effect of divergences in these three central assumptions that generates a substantial part of the difference in the estimated fiscal gap.

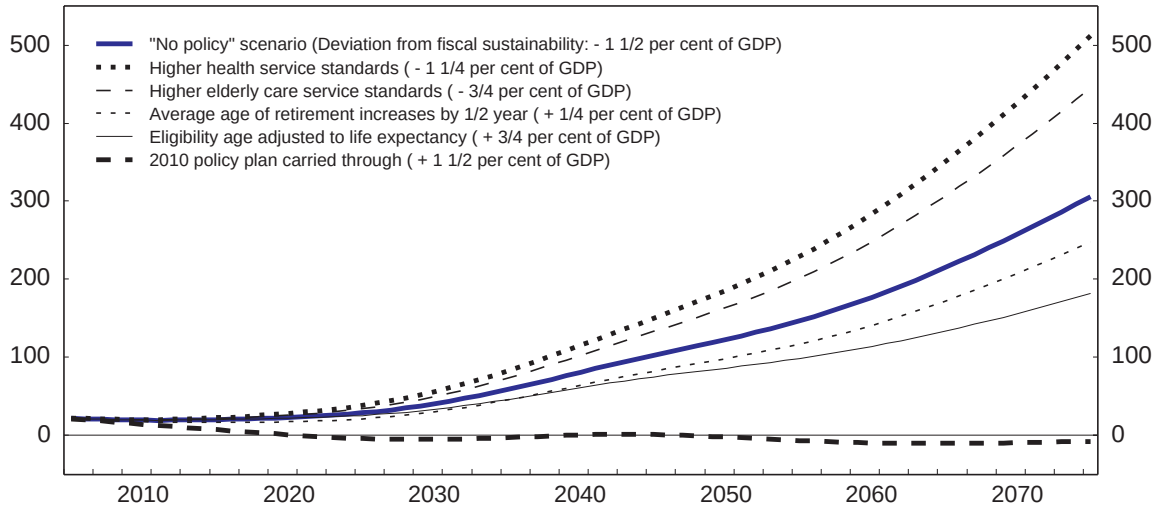
Continuation of past trends in service improvements will worsen the situation

A factor not taken into account in any of the projections described so far is the likelihood that medical advances lead to greater quality and new — and possibly more expensive — treatment methods. The usual assumption in these fiscal projections is that nominal health spending per person in each age group follows wage increases, implying that real spending per user will increase only minimally (to the extent that the price of government purchases rises less than wages). Unless extra health spending can be financed via lower expenditure growth in other areas, additional increases in health services will therefore mostly have to come from efficiency improvements. Such productivity gains are unlikely to be sufficient to meet the trend increase in service standards that has been seen in the past, especially in the areas of elderly and health care. If real service standards instead grew ½ per cent per year faster than in the Ministry of Finance's "no policy" scenario, which would be more in line with historical experience, total health expenditure would be raised by 1¾ percentage points of GDP in 2050, leading to an acceleration of net debt well above the stable debt ratio that the 2010 Plan is designed to deliver (Figure 2.3); this scenario adds 1¼ per cent to the fiscal gap. The same assumption applied to elderly care (an extra ½ per cent per year) would boost spending as well, but by a lesser amount overall.

Higher immigration will not improve public finances…

Since the pressure on public finances arises because a diminishing share of the population will finance the welfare state through its tax payments, it has from time to time been suggested that Denmark should admit more immigrants. However, more immigration will not help to alleviate the pressures on public finances unless a higher proportion of immigrants come from more developed countries (MDCs), as these tend to have higher employment rates, or unless new immigrants from less developed countries (LDCs) have the same economic behaviour as immigrants from MDCs (see previous *Survey*). Higher fertility would not help either, because public finances are unsustainable at the outset; in fact, higher fertility will make the situation worse because on current parameters the average newborn Dane will make a negative net contribution (in present value terms) to public finances over his/her lifetime.

Figure 2.3. **Central and local government net debt in various scenarios**
Per cent of GDP



Note: Numbers in brackets show the effect on fiscal sustainability. A positive contribution means that the required improvement of primary net lending to make public finance sustainable is reduced.
Source: Ministry of Finance calculations.

… while measures to make the welfare state more robust could deliver significant contributions…

Adjusting basic parameters in the welfare system may on the other hand be powerful measures. For instance, if the eligibility age for voluntary early retirement pension (VERP) and the public old-age pension were indexed to longevity, the required improvement in primary net lending would be halved in the Ministry's scenario. The current fixed eligibility ages in public retirement systems imply that welfare generosity is automatically expanded when average lifetimes increase. If the statutory age for receiving old-age pensions remains at 65 years (reduced from 67 years in 2004) and the VERP is maintained, future generations will be able to enjoy more years receiving public retirement income than those currently alive. While indexing to longevity would seem an obvious way of avoiding this implicit expansion of welfare provisions, it is, however, not without significant practical obstacles.

… but the government is focusing mainly on improving employment rates for the current population

Recognising these long-term prospects, successive governments have pursued a strategy of saving before the pressures from the demographic changes begin to emerge and reducing the fiscal pressures up front by boosting employment. In the government's medium-term fiscal framework (the 2010 Plan), fiscal sustainability is supposed to be achieved by keeping growth in real government consumption at a historically low rate (½ per cent per year in the remainder of the period until 2010) and by a structural increase in employment rates that will shift almost 100 000 people (2¾ per cent of the working-age population) from income transfers to self-support between 2003 and 2010, of which 40 000 is expected to come from previous reforms. This would deliver an average structural budget surplus within the targeted range of 1½–2½ per cent of GDP in the period until 2010, with the improvement in employment rates offsetting the negative effect from the underlying demographic changes. Maintaining surpluses within the target range would provide a substantial reduction in government debt and net interest payments. In fact, in this scenario the government would become a net asset holder by 2020, allowing it to finance projected subsequent primary deficits with net interest earnings. Thus, under the assumption that the 2010 objectives are achieved, there would be no need for further tightening of fiscal policy in order to

achieve fiscal sustainability, *i.e.* there is no fiscal gap (the fiscal gap is zero in the Ministry of Finance's policy scenario in Table 2.1).

Without neither new labour market reforms nor restrained real public consumption, the structural surplus would gradually deteriorate, moving further below its target range in the period until 2010. Such a "no policy" scenario would be consistent with fiscal sustainability only if the actual surplus in 2003 had been around 2¾ per cent of GDP instead of the recorded 1¼ per cent. In other words, an improvement of public finances of 1½ per cent of GDP would be needed, if the assumed reforms and tight spending restraint in the 2010 Plan were not carried out (the fiscal gap is -1.5 per cent of GDP in the Ministry of Finance's "no policy" scenario in Table 2.1).

NOTES

1. "No policy" means no additional labour market or welfare reforms beyond what has already been implemented, and public consumption growing in line with demographic developments (*i.e.*, without the expenditure constraint built in to the 2010 Plan).

2. One of the most important differences between the calculations made by the Ministry of Finance and the Welfare Commission is the assumed interest rate on government assets. Because assumptions on nominal GDP growth are practically the same, this makes for a similar difference in the growth-corrected real interest rate, which is the relevant discounting factor in the government's inter-temporal budget constraint. Despite a larger deterioration of primary net lending, net debt rises less in the Welfare Commission's scenario, because it uses a lower interest rate than the Ministry of Finance. The interest burden is therefore smaller, for a given debt level, and that more than offsets a relatively worse development in central and local government primary net lending. Nevertheless, the required improvement of primary net lending is larger than in the Ministry of Finance's scenario. This may seem counter-intuitive, given the lower debt trajectory. However, for a given tightening of public finances the resulting improvement of the net debt position makes for a smaller reduction of net interest payments in the Welfare Commission's scenario because of the lower interest rate.