

LONG-TERM FISCAL PROJECTIONS: ASSESSING SUSTAINABILITY IN THE UNITED KINGDOM

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1 Introduction¹

Management of the public finances typically focuses on a short-term horizon. This reflects the numerous important but short-term spending and taxation decisions that arise for Government. However, it is also important to examine the implications of longer-term factors. In particular, it is important if we are to achieve intergenerational equity - one of the principles of fiscal management set out in the UK's Code for Fiscal Stability.

As with all OECD countries, over the next 30 years, the structure of Britain's population and the nature of the services they require are likely to undergo substantial change. Decisions made today will therefore have significant implications for the future state of the Government finances.

The issue, however, is not entirely about demography. There is also the potential for other developments (such as medical technology and nuclear decommissioning) to have significant effects on long-term sustainability.

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¹ The views expressed in this paper are those of the author alone and do not necessarily coincide with those of HM Treasury.

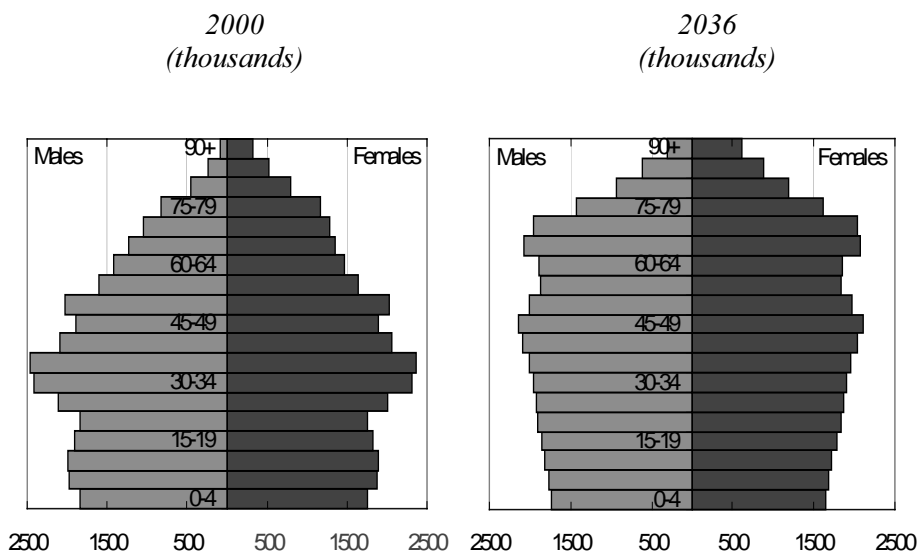
This paper sets out some of these long-term issues facing the UK and examines how to measure their impact on the public finances. It also discusses some of the results of assessments of the UK's long-term sustainability.

2 Sustainability issues

The focus on long-term sustainability has largely been driven by demographic trends. The ageing of the population, and consequent shrinking proportion of people of working age, will affect the demand for services as well as the capacity for the Government to provide these services. As a result, a number of countries, along with international organisations such as the OECD and European Commission, have undertaken, or are undertaking, studies to examine the implications of the ageing of the population.

The importance of this issue is set out in Chart 1, which clearly shows the changing nature of the UK population. By 2036 around one in four people in the UK will be aged over 65 compared to around one in six in 2000.

Chart 1. UK population by age and sex



Despite this stark change, the UK is actually well placed compared to other EU and OECD countries. The OECD projects the total dependency ratio for the UK to rise to 46 per cent by 2050. In contrast, the dependency ratio in 2050 is expected to be 53, and 64 per cent for Germany, and Japan respectively. This does not, however, mean that the Government does not have to be aware of, or plan for, issues affecting the long-term sustainability of the public finances. The ageing of the population will still have a significant impact on the public finances and needs to be thoroughly assessed.

One effect of the ageing of the population is that it reduces the relative size of the working age population. This can have flow-on effects in the labour market and potentially reduce the productive capacity of the economy. The relationship between labour market and growth also flows through into the public finances. As growth slows, so does the size of the tax base resulting in lower revenue collections for Government. Increasing labour market participation and productivity, however, can offset this effect. It is therefore important that the Government continue to implement programs aimed at increasing labour market participation and generating productivity improvements.

The projected demographic trends may also have an impact on Government spending. In particular, there are two main areas: health and social security.

The cost of providing health expenditure, and particularly hospital and community health services, is related in part to the age of the population. At present, the average annual cost of providing health care to each person aged over 65 is over 3½ times the average for the remainder of the population. However, it is highly uncertain what effect the ageing of the population will have on the cost of providing health services. On one hand it has been argued that as the number of older people in the population rises there will be an ever-greater demand for health care. On the other hand, it has been argued that longer life will translate to a longer healthy life. This means that the age at which the bulk of health care needs arise will move upwards, with the effect of reducing any projected pressure on health services.

In the *1999 Economic and Fiscal Strategy Report (EFSR)*, the Government estimated that real health spending would need to grow by β per cent each year on the basis of the existing distribution of health

costs across age groups (ie no increase in healthy life) and independent of current policies to improve speed and quality of treatment.

Adding to the uncertainty about the cost of health care services is the effect of technological advancements. These developments can result in new treatments or more efficient practices that reduce the cost of medical procedures. However, as noted by Lee and Skinner (1999) this can result in health interventions being deemed appropriate for a greater proportion of patients. This increase in healthcare activity may well drive an increase in total costs despite the reduction in costs per procedure. There are also some developments that will clearly reduce the cost of medical treatment, particularly those which work to prevent the need for costly surgical procedures.

The effect of an ageing population on the demand for health services is therefore unclear. Public expectations will be an important driver. It is important that the Government continue to evaluate developments in this area with a view to providing an appropriate level of health services to the public while at the same time ensuring that the public finances remain sustainable.

Social security, and particularly age pension, costs also have long-term implications for the public finances. As the proportion of retired persons increases this will increase the number of people claiming benefits and, *ceteris paribus*, the share of spending that is required to provide social security services. This issue is considerably reduced in the UK by the fact that most social security benefits are indexed by prices rather than wages. This means the real value of the social security benefits is maintained over time, however, the cost per person as a share of GDP will decline over time. The net effect of this is dependent on the growth rate of the number of people claiming pensions and the real rate of GDP growth. However, as discussed below, the relatively small ageing effect and strong rate of real economic growth means that total social security payments are expected to decline as a share of GDP over time.

This situation is relatively unique to the UK. In a 1996 working paper the OECD showed that only the UK is expected to have pension contributions exceeding payments by 2050. For most other OECD countries a large gap is expected to arise. Furthermore, the OECD projects that total pension payments in the UK will peak in 2035 at just

over 5 per cent of GDP compared with peak payments of around 18 per cent and 22 per cent of GDP in Germany and Italy respectively.

Much of this trend is related to indexation of social security benefits by prices. The Government Actuary has estimated that the total cost of social security benefits significantly increases if benefit expenditure was increased in line with earnings. For this reason it is important to continue to monitor developments in social security benefits for their impact on long-term sustainability.

In examining the overall sustainability of the public finances governments have a number of options. However, there are two more common approaches: long-term fiscal projections and generational accounts. The following sections set out the rationale behind each of these approaches.

3 Long-term fiscal projections

The UK is required to produce illustrative long-term projections each year under the requirements of the *Code for Fiscal Stability*. Accordingly, the Government published the first set of these projections in the 1999 EFSR and updated them in the 2000 EFSR. This section summarises those projections and the associated findings.

The purpose of long-term fiscal projections is to extend the framework traditionally used to project public spending and revenue over the medium term. That is to examine the information available and estimate the direction of spending. This can be done in several ways depending on how much information is available and the intended purpose of the output. The idea is generally to show from the Government's perspective whether current taxation and spending policies can be sustained over time.

The approach taken in the UK is to examine the resources available to fund current spending while meeting the Government's fiscal

rules² over the long term. This is done by projecting forward taxation and transfer payments (mainly social security payments, current grants and debt interest payments) for 30 years, with the difference between them representing the resources available for current consumption, for example spending on health and education. Investment is projected forward at a constant share of GDP consistent with the sustainable investment rule.

As with all fiscal projections, the outcomes are largely determined by the underlying assumptions. In this regard the choice of economic parameters is important. Given the high degree of uncertainty the first set of projections used a range of economic assumptions with real rates of trend growth between 1¾ and 2¾ per cent each year. The baselines presented in both the 1999 and 2000 EFSRs use the lower end of this range to produce a cautious set of projections.

Table 1. Long-term economic assumptions

	Average annual real growth per cent	
	2005-06 to 2009-10	2010-11 to 2029-30
Productivity	2	1¾
Labour force	¼	0
GDP	2¼	1¾
Inflation	2½	2½

The assumptions about taxation receipts are central to these projections. The taxation system is subject to a number of effects in both the short and long term. For example, patterns of income and spending are changing constantly, giving rise to considerable uncertainty about taxation bases. However, the projections presented in the EFSR do not try to project variations in the tax base. Rather, the approach used is to project total current receipts as a constant share of GDP without making

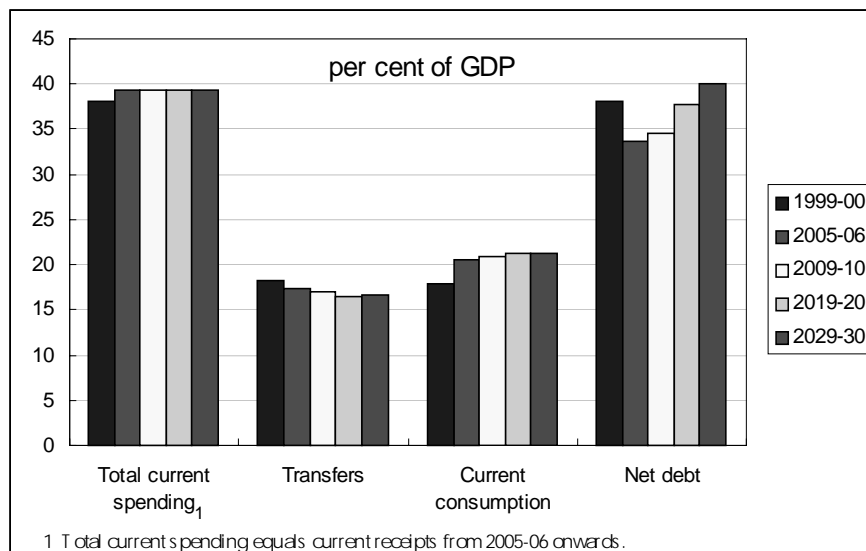
² Fiscal policy in the UK is governed by two fiscal rules: the golden rule – that over the cycle, the Government will borrow only to invest and not to fund current spending – and the sustainable investment rule – that over the cycle, public sector net debt will be held at a stable and prudent ratio GDP.

assumptions about the source of that revenue. This provides a simple, but workable, assumption about the long-term resources available to meet the Government's spending programmes.

The assumptions about spending primarily relate to the growth in transfer payments. The largest transfer is social security spending where projections of spending have been developed in consultation with the Department of Social Security and the Government Actuary's Department. The projections represent a plausible outcome based on the interaction of the current social security system with demographic, economic and other factors. However, they cannot be interpreted as reflecting the direction of future policy.

Debt interest payments were calculated based on an assumed average interest rate and the path for the debt stock. In the baseline projections, net investment is assumed to continue at its 2003-04 share of GDP. For simplicity, other transfers were projected forward at a constant share of GDP.

Chart 2. Baseline projections from the 2000 EFSR

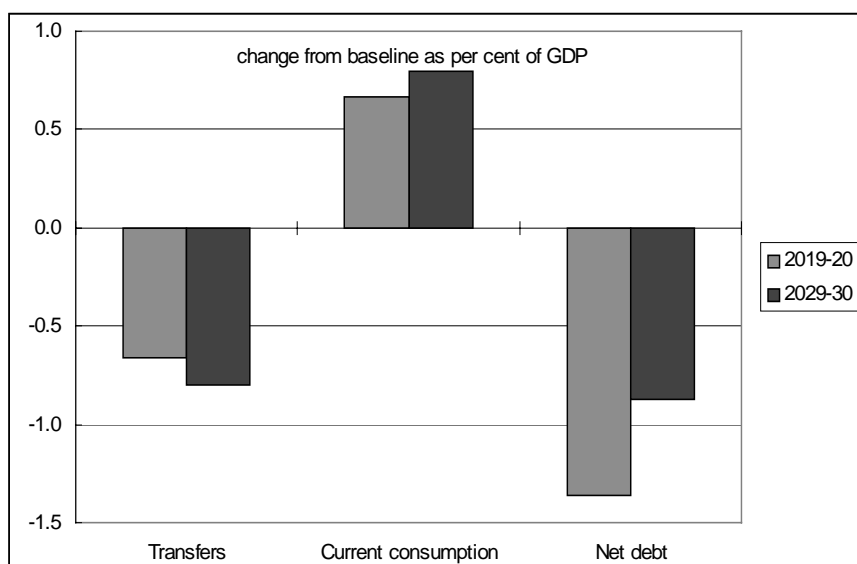


The baseline long-term fiscal projections are set out in Chart 2. These illustrative projections show that, given the assumptions for transfer payments and taxation, current public consumption can grow at an average real rate of over 2½ per cent each year for the next 30 years and still remain consistent with the Government's fiscal rules.

Falling transfers as a share of GDP largely drive this outcome. The main reason for the declining trend is the projection path for social security benefits. As the majority of benefits are indexed by prices, they remain constant in terms of purchasing power and fall as a share of GDP over time. In addition, falling debt interest payments as a share of GDP, reflecting lower debt levels in the medium term, also contribute to the decline.

The long-term fiscal projections presented in the 1999 and 2000 EFSRs also examine the potential effect of the Government's policies aimed at raising productivity and employment. As the tax base is assumed to grow in line with the economy, higher growth will further reduce the relative share of revenue that is spent on social security

Chart 3. Effect of raising labour force participation



payments (reflecting the greater difference between prices and wages growth as well as reductions in the relative number of claimants). This is partly offset by rises in other transfer payments, which are assumed to grow more in line with the economy. Overall, however, total transfers tend to fall as a share of GDP, allowing for faster growth in current consumption consistent with meeting the golden rule.

In the 2000 EFSR, a scenario was published showing the benefits of stronger growth achieved by raising labour market participation by 4 percentage points between 2010 and 2020. Chart 3 presents the outcomes of this scenario.

Given the assumptions made, the key result of higher labour market participation is that even this relatively small increase in productivity can support a relatively large increase in current consumption. A similar result can be achieved through higher productivity. This highlights the importance of the Government's programme of reforms aimed at delivering higher productivity growth and improved labour market participation.

It is important to recognise that the projections above do not illustrate the effect of spending pressures on health or education. Rather, they show the amount of funds available to the Government to meet demand for the given scenario. Continued analysis of the pressures on each spending portfolio will therefore be required to ensure that the costs of demographic or other long-term effects do not result in unsustainable public finances. A similar examination of taxation trends is also essential.

4 Generational accounts

In recent years, generational accounting has also developed as a measure of assessing long-term fiscal balances. These accounts seek to answer the question of how large a fiscal burden do current policy settings imply for future generations. They also attempt to identify what adjustment to policies would be required to ensure that future generations face the same fiscal burden as the current generation.

Generational accounts have now been produced for a number of countries. In the UK, the National Institute of Economic and Social Research (NIESR) produced a set of generational accounts for the UK in

November 1998. This section examines the usefulness of these accounts and examines some of the key NIESR findings. The specification of these accounts is set out in the NIESR publication (1998).

Generational accounts are defined as the present value difference between the taxes an individual pays to the government and the net benefits they derive from the government over their remaining life. These accounts are calculated by age groups and summed to show the total amount that the current generation is contributing towards the cost of providing government services. Where the current generation is receiving net benefits from the government sector, this implies that the bill for those services is being passed on to future generations. The size of any generational imbalance is most evident in comparing the generational accounts of current and future newborns. These two groups both face a full lifetime of taxes and benefits and hence where the future newborns have a higher generational account then this infers that future generations will have to meet the cost of spending by the current generation.

As with long-term projections, generational accounts are based on a series of assumptions about future spending and taxation. For taxes and transfer payments, as well as spending on health and education, the accounts impute a value to particular generations. However, for other spending on goods and services the accounts do not assign the benefits to any particular generation. This reflects the difficulty in doing so. Therefore, the accounts "do not show the full net benefit or burden that any generation receives from government policy as a whole" but do identify "which generations will pay for the government spending not included in the accounts".

NIESR's key finding from its generational accounts is that "compared with other leading industrial countries like the US, Japan and Germany, the imbalance in UK generational policy is ... quite modest; ie there is not a major intergenerational problem". However, despite the fiscal rectitude, such as through indexing pension benefits by prices, there is still some generational imbalance.

The outcomes of this exercise are also clearly dependent on the assumptions used. For example, raising productivity growth by $\frac{1}{4}$ percentage point each year would entirely eliminate the imbalance. Given the Government's programme of encouraging labour market participation and raising productivity this suggests that the future UK

generations are unlikely to be faced with a higher tax burden as a result of spending by past and present generations.

5 Other long-term studies

The issues underlying long-term sustainability are the result of microeconomic policy decisions. Ultimately, the total amount spent on health or education will always be a decision for the government. However, it remains important to understand the factors that may affect these decisions to examine whether the current levels of service can be sustained in the future.

To this end a number of international organisations have undertaken cross-country studies that consider the effect of ageing on specific aspects of spending. These studies generally support the broader fiscal analysis undertaken above.

The OECD, in this regard, undertook a key study in 1996. This study found that pension payments in the UK were expected to rise very marginally from 2005 to 2035 but then fall back to below the 1995 levels from around 2040 onwards. The OECD also highlighted the fact that the total pension cost for the UK was currently among the lowest in the 20 countries studied. It also showed that indexing pensions by wages could effectively double the cost of providing pensions by 2045. As a result, the provision of pensions was not expected to significantly affect the UK's primary balance in the long run.

The OECD also examined the effect of ageing on health care costs. For the UK they suggested that if health care costs grow at the same rate per person then total health care costs will remain broadly constant at around 6 to 7 per cent of GDP over the 35 years of the study. However, if health costs grew by an additional 1 per cent per person each year, then total costs could rise to around 8½ to 9½ per cent of GDP - an increase of approximately 50 per cent. This emphasises the importance of government decision making in setting the total provision of health services at an affordable level not just at present but also for the future.

The general thrust of the OECD's findings is in line with those of the UK Government. They suggest that while the UK has a relatively manageable ageing problem, it still needs to continue to monitor

long-term developments to ensure that the public finances remain sustainable.

6 Policy implications

The general conclusion from the various studies is that the UK does not have a significant long-term problem as a result of the ageing of the population. However, aside from demographic uncertainty, there are a number of expenditures that the Government will face in the future for which the cost is uncertain - such as nuclear decommissioning. In addition, there are uncertainties about the demand for, and cost of providing, public services over time. This considerable uncertainty means that the government must continue to be prepared for an unexpected outcome that could be either a significant improvement or deterioration in the public finances.

There are a number of areas where policies should be formed with a view to long-term sustainability. At the macroeconomic level, economic growth is a key to sustainable long-term public finances. It not only means that individuals are better off but also that the Government receives sufficient tax revenue to fund an appropriate level of spending. Consistent with this, the Government has already announced programmes to raise productivity and labour market participation, and hence increase trend economic growth.

In addition, the Government has established a macroeconomic strategy to ensure that short-term budgetary issues are set within a sound long-term macroeconomic strategy. Recent Budgets contained a degree of fiscal consolidation aimed at returning the public finances to balance. Furthermore, the introduction of the Government's fiscal rules will ensure that generational equity and long-term sustainability are considered when making spending decisions.

At a more microeconomic level, the Government must also develop policies to counteract any potential pressures in health and social security. Here the Government has already started to develop policies that take the ageing of the population into account and minimise the risk of the public finances becoming unsustainable. The future increase in the retirement age for women from 60 to 65 will play a key role in reducing

long-term spending pressures. In addition, the Government has announced:

- policies to deliver welfare reform and service modernisation;
- assistance for people to provide for retirement incomes for themselves through stakeholder pensions; and
- reforms, such as Public Service Agreements and the Public Service Productivity Panel, aimed at raising productivity throughout the public services and ensuring resources are used to their best effect.

These types of programs should ensure that the Government is well prepared should the long-term fiscal position turn out to be less favourable than projected.

7 Conclusions

The ageing of the population presents a challenge for almost all industrial countries. As the relative size of the workforce declines and that of aged dependants grows, it will place pressure on the public finances. The UK, however, is in a stronger position than most. The ageing of population is expected to be considerably less than countries such as Japan, France and Germany. Nonetheless, the average age of the population is still expected to rise significantly over the next 30 years.

In light of these, and other, developments, the long-term sustainability of the UK's public finances has been examined by the Government and external organisations. The approaches taken have varied from producing aggregate long-term projections to generational accounts to more specific studies of key spending areas. Despite the different approaches and assumptions, the overall conclusion of all these studies is that the UK is not facing significant long-term sustainability problems.

The uncertainty surrounding these projections, however, means that the Government cannot be complacent. Rather it must ensure that its spending and taxation policies are developed with one eye on the potential risks that may eventuate over time. In this regard, the Government has already put in place some measures designed to control

the risks of unsustainable demand for social security and health spending. In fact, to a large extent it is because of these measures that the studies of long-term sustainability show the UK in such a positive light.

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