The Fiscal Impact of Immigration: Static and Dynamic Estimates for the UK

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MAC

MIGRATION ADVISORY COMMITTEE

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This paper documents the methodology and data used by the Migration Advisory Committee (MAC) to estimate the fiscal impact of migrants in the UK. We discuss the literature on estimating such impacts, both in the UK and internationally, and highlight the large set of assumptions that are necessary to generate such estimates. Our modelling encompasses both static estimates (the estimated fiscal impact in the arrival year) and dynamic estimates (the estimated fiscal impact over the lifetime). We provide a full set of such estimates for those migrants who arrived on the Skilled Worker visa – the most common work-route in the UK – in 2022/23.

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Introduction

A key consideration for policymakers when thinking about introducing or changing a visa route is the impact that the route will have on public finances. The MAC has consistently argued that a good metric for evaluating immigration routes is to evaluate whether the route enhances the welfare of the resident population, and we have always been clear that the fiscal impact of migrants is an important part of this calculation. Historically, the Committee has often commissioned external experts to produce estimates of the fiscal impact of migration. We have now decided to produce our own in-house estimates, and this paper provides details on the methodology and data that we use to do so. It builds on the preliminary results that we reported in our 2024 Annual Report, but the estimates that we report here should be considered as updated and improved as we have both refined our methodology and substantially improved our data sources.

As a starting point, we have developed both a static and a dynamic model to estimate the fiscal impact of migration on government finances for a well-defined cohort of migrants. We will focus here on those who entered the UK in 2022/23 on the Skilled Worker (SW) visa, either as a main applicant or as a dependant. We provide separate estimates for those who come on the Health and Care Worker visa (H&C), which is a sub-set of the SW route. However, our intention is to develop the model further to consider all the main visa routes that the MAC have been asked to review in recent years.

Overall, the SW visa route is clearly fiscally positive for the UK. This is almost inevitable given that main applicants on the route must have a job offer paying above a set of salary thresholds. This means that these migrants have higher employment rates than UK residents since employment is a condition of the visa and as we shall demonstrate, salaries on the SW route are significantly higher than UK average wages. For the 2022/23 cohort as a whole, we estimate a present value net fiscal contribution of around £47bn over their lifetime[1]. However, this estimate hides very substantial heterogeneity. The entire positive contribution comes from main applicants – particularly those outside of H&C. Dependants have relatively small overall lifetime contributions which are negative in aggregate. Furthermore, even within the highly positive SW (excl. H&C) main applicants, 72% of the fiscal gain comes from the top 30% of earners.

More broadly our results highlight two key determinants of fiscal contribution over the lifetime for migrants. First, the age at which the migrant arrives in the UK. Migrants are typically aged in their 20s and 30s when they arrive, and this is an age at which the future lifetime contribution is most likely to be positive since it avoids the fiscal costs of childhood and allows for a substantial period in the labour market to make significant tax contributions.

[1] To put this £47bn figure in context, the present value of total government spending over the lifetime of this cohort is estimated to be around £26,700bn.

Second, the employment rate and wages that migrants achieve. Those who arrive on sponsored work routes are more likely to be fiscally positive, whilst the contribution of their dependants (adult partners) will depend on the extent to which they work and the wages they receive. Visa routes that do not have work requirements will therefore generally be less fiscally positive (or be fiscally negative) than the results reported here for the Skilled Worker cohort. Furthermore, just like for UK residents, fiscal contributions are heavily skewed toward high earners given the progressive tax system. This highlights the importance from a fiscal perspective of attracting global talent and creating a policy environment than encourages such workers to remain in the UK.

Conceptual Issues

Following Vargas-Silva (2015) we can think of the static fiscal impact of immigration at its simplest as an accounting exercise. The government budget balance in a given year (B_t) depends on the difference between government revenues (R_t) and expenditures (E_t):

$$B_t = R_t - E_t \qquad (1)$$

Conceptually, we can then decompose (1) into the taxes paid and services consumed in the given year by particular groups – for example, immigrants and natives. So:

$$B_t = (R_{Mt} - E_{Mt}) + (R_{Nt} - E_{Nt}) \qquad (2)$$

where the first bracket captures the net impact of migrants and the second bracket the net impact of natives.

Note here that if the government was running a large budget deficit in a given year ($B_t \ll 0$) it is entirely possible that both immigrants and natives would have substantial negative net fiscal contributions (and conversely positive if the budget was in surplus). This has led many studies to focus on the relative contribution of the two groups:

$$\beta_M = \frac{R_{Mt}}{E_{Mt}}, \ \beta_N = \frac{R_{Nt}}{E_{Nt}} \qquad (3)$$

With a budget deficit, both ratios may be below 1 but comparing the two shows whether the relative contribution of migrants is higher than natives ($\beta_M/\beta_N > 1$). We view both the absolute and relative contributions as important. If budget deficits are temporary, the relative contribution is likely to be a more reliable guide to the average fiscal impact of migrants. However, if deficits are the norm, we may be concerned that migrants that have a negative absolute contribution will further exacerbate the fiscal deficit.

The dynamic approach traces the fiscal effect of an immigrant from date of arrival through future years. It seeks to compute the net present value (NPV) of contributions and costs over the entire lifetime of immigrants. The NPV for a particular immigrant i is:

$$NPV_i = \sum_{t=0}^{T} \frac{R_{Mit} - E_{Mit}}{(1+r)^t} \qquad (4)$$

where T is the end of the life of the immigrant, r is the discount rate (which adjusts future values back to their present value, since £1 in a future period is worth less than £1 today), and R_{Mit} and E_{Mit} are the taxes paid and services consumed each year by the immigrant. One could then aggregate this estimate across a set of migrants in a particular cohort to estimate the overall net present value of that cohort. Again, one can conduct the same exercise for natives to produce a comparator group.

It should be clear from (4) that there is a large set of assumptions needed to estimate such an NPV. Among the most salient are:

1. Assumptions regarding T (the end of the life of the immigrant) and the likelihood of emigration which would cut short the calculation at the emigration year.
2. The path of future tax rates and reliefs which will determine the taxes paid each year. This also requires estimates of income and wealth which involves assumptions over future wage progression, labour force status, and retirement plans (including retirement age and pension savings).
3. The path of future government spending on different services and any changes in the use of those services over time by immigrant i.
4. The discount rate, r.

The key challenge with either the static or dynamic model is to make decisions regarding how to allocate or estimate the revenues and expenditures that should be allocated to migrants and natives. We consider these in turn. On the revenue side, the standard approach is to use information on the income (and where available wealth) of the two groups to estimate their share of revenues. So, for example, if we can observe the total taxable income of every individual (or a representative sample), we can simply apply the income tax rules in place at the time to estimate each individual's income tax liability. Summing these over the population should give us the total income tax receipts. In practice various data constraints make this an imperfect exercise. First, most datasets do not include all taxable income. A commonly used dataset for this type of analysis in many countries (including the UK) has been the Labour Force Survey. In general, this type of survey only asks about earned income from employment and will rarely include data on self-employment earnings, investment or rental income. Second, there are various reliefs in the income tax rules (e.g. private pension contributions,

charitable giving etc.) some of which are difficult to account for. The usual approach to these problems is simply to gross-up the estimates that are obtained to match the total revenue. If for example total income tax revenue is £250bn and the approach taken above generates an estimate of £230bn, we simply re-weight all individual tax estimates by a grossing factor of 1.09. This assumes that the 'missing' tax is distributed proportionately evenly across the population. This is unlikely to be true but will have likely small effects on the overall estimates provided the grossing factor is not far away from 1. In our results, the grossing factor for income tax is actually 1.03.

Indirect taxes can be estimated in a similar manner based on disposable income. Disposable income may either be directly observed in the data or estimated from gross income. One then either needs data on spending patterns or more commonly data on effective tax rates across the distribution of disposable income. In the UK for example, the ONS publish estimates of the effective tax rate for a large set of indirect taxes across deciles of the disposable income distribution. Ideally one would adjust the disposable income of migrants to account for remittances that they send abroad, but it is often challenging to produce credible estimates of such payments. In addition, somewhat inevitably it has to be assumed that migrants have the same consumption patterns as natives since the effective tax rates are usually calculated from representative spending data that essentially reflects the spending of natives. To give a simple example, if migrants are less likely to consume alcohol than natives, we would over-estimate their payment of alcohol duties.

Capital and inheritance taxes ideally require information on assets and their disposal. This is rarely available in commonly available representative datasets. One approach is to use auxiliary data that provides estimates of the relationship between income and wealth across the income distribution and impute wealth to individuals. Effective tax rates can then be used to approximate tax revenues. However, these challenges can sometimes be overcome by directly using tax authority data. In some countries it is possible to directly observe such payments and generate totals that are grouped into migrants and natives, but this is not available in the UK.

A particular challenge occurs with corporate taxes. There is a large literature that seeks to understand the incidence of corporate taxes and whilst there is a general consensus that at least some of the burden of these taxes is shifted away from shareholders, there is no consensus on the relative burden between shareholders, workers and consumers. This then leaves a range of possible allocations. At one extreme, one could allocate entirely to shareholders (assuming there are data on such equity holdings across the population). At the other, one could assume the burden all falls on consumers. We will present a range of possible alternatives in our empirical analysis.

On the expenditure side, the main focus has tended to be on how to allocate the cost of public goods. Public goods are often divided into 'pure' public goods which are considered non-rival in consumption, and 'congestible' public goods which are not. A classic example of the former is defence spending; an example of the latter could be water supply. Many would argue that the cost of pure public goods should be zero for migrants since there is no additional spending

needed when a migrant arrives in the country. Against this, it might be noted that defence spending, and spending on many other public goods, tends to rise with GDP (and in the UK it does so explicitly for defence, at least as a target spend). Since an additional migrant raises GDP, this will eventually lead to higher defence spending. For congestible public goods, a zero marginal cost argument is less strong, though it would be generally expected that the marginal cost would be lower than the average cost.

Other than public goods, the general approach to allocating public spending is to do so on either a per capita basis, allocating to both natives and migrants, when everyone has the right to access the service, or to particular groups where entitlement to the spending is conditional. To give concrete examples, health spending is allocated to everyone (though often on an age- and sex-adjusted per capita basis) whereas state pensions are allocated only to those entitled to their receipt. When spending is allocated to both migrants and natives there is an implicit assumption that the costs of providing the service are the same for both groups and usage rates are the same. Neither may be true in practice, but there is usually insufficient data to measure this[2].

As is common across most such analysis, we take an explicitly partial equilibrium approach. This means that we account for the direct, first-order impact of migrants on fiscal outcomes by estimating both their tax contributions and their use of public services. We do not however consider the myriad potential indirect impacts of migrants on public finances. Such impacts could include for example:

- Migrants can impact the wage and employment outcomes of natives. This can then change the tax contributions and social welfare spending on natives. These effects can be negative or positive. For example, it is often suggested that low-skill migrants are more likely to be substitutes for low-skill natives and so reduce wages and employment of natives. In contrast, high-skill migrants may be complementary to high-skill natives and so increase their labour market returns.
- Low-skill migrants may reduce the price of household services (or increase the supply of such services) which would enable native workers to more easily join the labour market – or increase their hours if already working.
- Migrant workers in public services such as health, social care and education may lower the costs of the provision of such services because of their willingness to work at a lower wage (or indeed at all) compared to natives. It should be noted however that the alternative may be less provision of such services which whilst likely negative for the economy as a whole, may be positive for public finances.

Whilst in theory including these indirect effects is desirable to obtain a full picture of the fiscal impact, in practice such a general equilibrium approach is difficult to credibly estimate, and

[2] One important consideration for future work is that migrants are disproportionately located in London. This may make the assumption that the cost of providing services are the same for both groups less plausible.

the effects are often unlikely to be substantively important enough to justify. Most studies that focus directly on the channels outlined above suggest that the effects are often quite small. For example, Dustmann, Frattini and Preston (2013) estimate the impact of migration on native wages across the wage distribution for the UK. They find that at the 10th percentile, wages were perhaps 0.7p per hour lower as a result of migration (at a time when real wages were rising 18p per hour per year for this decile) and perhaps 2p per hour higher at the 90th percentile (against an annual growth of 53p per hour). Similarly, whilst Cortés and Tessada (2011) show that an increased supply of low-skilled immigrants across US cities led to higher average hours worked by women at the top quartile of the wage distribution, they estimate that the entire rise in low-skill migration between 1980 and 2000 may have increased labour supply for these high-skill women by between 4 and 20 minutes a week, which suggests reasonably muted effects. This is not to conclude that all these indirect effects are inevitably empirically small, and in future iterations of our work we would like to consider these effects in more detail.

Existing Evidence

There is a large literature estimating fiscal impacts of migrants across many countries, and our intention here is not to provide a comprehensive review. Rather, we focus on two aspects. First, we discuss the primarily static analysis that has been conducted for the UK, using the seminal paper of Dustmann and Frattini (2014) (hereafter DF) as our starting point. Second, we provide some perspective from the much smaller literature that presents dynamic lifetime estimates – generally from other countries.

DF provide a comprehensive analysis of the relative contribution of migrants to the public finances over the period 1995 to 2011. Though their analysis covers many years, the framework is static in the sense that they do not estimate the lifecycle contribution of a set of migrants over time but rather compute the average impact of the stock of migrants each year and then cumulate this over the sample period they consider. We closely follow their methodology in our static analysis and much of the discussion in the following section is based on their analysis. Their key finding was that migrants from the European Economic Area (EEA) made a positive net contribution, whilst non-EEA migrants made a negative contribution. The overall impact of migrants over the whole sample was negative, which was also true for natives since the period was dominated by fiscal deficits.

Migration Watch (2014) and Rowthorn (2014), among others, challenge the findings of DF. Much of the disagreement focused on how taxes were allocated to natives and migrants. A particular concern were corporation taxes and business rates. As discussed above, taxes paid by companies are conceptually difficult to allocate since the legal incidence of the tax is not necessarily the same as the economic incidence. So, for example in their baseline, DF allocate corporation tax to natives and migrants equally on a per capita basis, adjusting for the share

of company equity held domestically. Migration Watch argue that to the extent that shareholders bear the burden of such taxes, it is unlikely that migrants have the same shareholdings as natives, particularly more recent arrivals. Our reading of these critiques (and the responses from DF) are that there is no right way of allocating such taxes and that the best approach is to present a range of reasonable alternatives and explore the extent to which key findings are robust to such alternatives. To the extent that they are not robust, we might conclude that we can be less confident about the overall fiscal impact.

Oxford Economics (2018) produce similar static estimates for the 2016/17 fiscal year. As in DF, they conclude that EEA migrants tend to be net fiscally positive, whilst non-EEA migrants are fiscally negative – compared to a very small net negative fiscal impact for natives. Within the EEA migrant group, they estimate that those from the 2004 accession countries made a smaller positive contribution than those from more established member states, mainly as a result of relatively poorer labour market outcomes and so lower direct tax contributions.

A more recent literature has developed dynamic models to estimate the lifetime contribution of migrants. Examples include Varela et al. (2021) for Australia and van de Beek et al. (2024) for the Netherlands. A common theme in such work is that the visa category of the migrant is a strong predictor of fiscal contribution. For example, the Australian study reports an estimated positive lifetime fiscal impact of A$198,000 for migrants on the Skill stream, a negative fiscal impact of A$126,000 on the Family stream and a larger negative estimate of A$400,000 for Humanitarian visa holders – all compared to a negative estimate of A$85,000 for the Australian population as a whole. The same ranking is observed in the Dutch results.

Methodology and Data

In this section, we outline the precise methodology and data used to produce the estimates of fiscal contribution for each group. Our main data source is the 2022/23 Family Resources Survey (FRS) which provides very detailed information at the individual (and household) level for a representative sample of the UK population. The survey provides data for 25,000 households and 42,500 adults. We prefer this survey over the more commonly used Labour Force Survey (LFS) for two reasons. First, and most importantly, there has been a very considerable fall in recent years in the response rate to the LFS and ONS no longer consider the data sufficiently reliable to produce National Statistics from. The response rate for the FRS was 25% which, whilst low, was higher than LFS. Second, the FRS is used extensively by DWP to understand benefit receipt and has a rich set of data on such benefits and all sources of income, including income from self-employment and investment income. This is important in considering the allocation of benefits and total income across the population.

We make one adjustment to the FRS data. As with all surveys, it is well-known that they fail to capture earnings at the top of the distribution. In FRS 2022/23, only 11 individuals have total annual income greater than £500,000. Using the population weights in the data, this

implies around 13,500 individuals in the population. However, HMRC data on income tax payments shows that there were 74,000 individuals in 2022/23 liable for income tax with an income above £500,000. This matters for estimating tax contributions across the population because although they represent only 0.2% of income taxpayers, they account for 16.7% of all income tax revenue. We therefore impute a set of individuals into the FRS data using HMRC Survey of Personal Incomes (2021/22 is the closest available year) to match the distribution and number of those earning more than £500,000.

Although we can identify migrants in FRS (based on foreign country-of-birth), our analysis uses the whole FRS sample as our comparator group to those on the SW visa. Hence most of our analysis will be a comparison between the migrant group of interest – those who arrived in the UK between April 2022 and March 2023 on an SW visa – and the stock of all UK residents in 2022/23, which will include migrants on visas and those who have permanently settled in the UK. This approach, of comparing a visa cohort to the total resident population, is the same as that used by Varela et al (2021) for Australia.

As SW visa holders cannot be identified in FRS (and would in any case represent a very small share of the sample), we need separate data sources to provide information on our migrant group of interest. We have two main sources. First, Home Office administrative records provide information on the age, gender and nationality of all SW visa holders. In addition, all SW main applicants must have a sponsored job as part of the visa application, and this requires a Certificate of Sponsorship (CoS) which the employing firm obtains from the Home Office. We can match main applicants to their CoS which provides information on the job they will be taking up, including reported annual salary. However, there are no data at the Home Office providing information on the employment and earnings of adult dependants – only their basic demographic characteristics. Our second data source, the HMRC-Visa data, addresses this by using a newly created dataset that matches the visa records of the SW cohort (both main applicants and adult dependants) to HMRC tax records (See Appendix A.2 for details). This match allows us to observe the monthly pay of main applicants (and so allows a comparison between the reported CoS salary and actual earnings) and of those adult dependants who are observed in the tax data as working.

It is also important to note that Home Office data cannot link individual main applicants with their dependants. So, whilst we have data on all visa holders in the cohort, we cannot construct actual household units. This adds a level of uncertainty to our analysis, particularly for the dynamic results, since at least some benefit receipt depends on household income that we cannot observe.

We focus on primary government spending and revenues. This follows the approach adopted by the OBR in their analysis of the fiscal contribution across different ages. It has the advantage that over the forecast horizon for the current parliament, there is a broad balance between primary spending and revenue i.e. the primary deficit is close to zero on average. This allows us to calculate net fiscal contributions that have a more natural interpretation given that the average over the population will be roughly zero. In the results section we will

however remind readers of the current debt interest payments that are needed and how this might be allocated across different groups.

Allocating Public Spending

On the expenditure side, the key choice that must be made is how to divide up Total Managed Expenditure (TME) into component expenditures and then how to allocate each component across the population. As we are focusing on primary spending, we remove debt interest payments from TME. Our broad approach follows that of DF and uses data tables from HMT Public Expenditure Statistical Analyses (PESA). The PESA tables provide a breakdown of government expenditure on services by sub-function (Table 5.2) which enables a focus on types of expenditure e.g. health, defence, rather than by government department. This approach is most consistent with the methodological discussion above. The downside of this approach is that total public expenditure on services (TES) reported in the PESA tables does not equal TME. In fiscal year 2022/23, TME was £1,159bn whilst TES was £1,076bn. The difference of £83bn is recorded as an accounting adjustment in the PESA tables. This adjustment mainly reflects the difficulty of attributing certain types of spending to the correct functions in all cases, which, if attempted, would result in a lack of consistency between functions. The main difference from TME is that expenditure on services does not include general government capital consumption (depreciation) and does not reverse the deduction of certain VAT refunds in the budget-based expenditure data. Supplementary data tables show that £72bn of the £83bn are accounted for by depreciation and VAT refunds.

Table 1 below shows the expenditure components (that we have grouped from the PESA Table 5.2) that we allocate, the relevant totals for fiscal year 2022/23, and whether the spending is allocated to SW migrants (either in the static or dynamic model) and/or children. A more detailed breakdown with relevant PESA table codes is provided in Appendix Table B1.

Public goods are conceptually divided into ‘pure’ public goods and ‘congestible’ public goods. Pure public goods are typically non-rival in consumption, whereas congestible public goods are at least to some extent rival in consumption. As discussed in the previous section, one might argue that the marginal cost of providing pure public goods to migrants (or indeed any new addition to the population) is zero and so should not be allocated to them. Conversely, the marginal cost of providing congestible public goods is likely to be positive, though probably less than the average cost. In our baseline approach, we treat the two groups of public goods as equivalent and allocate them to everyone in the population – both residents and migrants. We also allocate to all children (migrant and native) on the same principle. This is clearly an important assumption, since the two groups of public goods account for 31% of primary spending in 2022/23. In our sensitivity analysis we consider the alternative assumption that pure and/or congestible public goods are zero marginal cost for migrants and children (i.e. the entire cost is allocated to adult residents).

Table 1. Expenditure Allocations

Component	Total Expenditure (£mn)	Allocated to SW Migrants		Allocated to Children
		Static	Dynamic	
Pure Public Goods	91,277	Y	Y	Y
Congestible Public Goods	229,076	Y	Y	Y
Health	212,676	Y	Y	Y
Adult Social Care	29,192	Y	Y	N
Education	94,550	Y	Y	Y
Housing Development	11,294	N	Y	N
State Pension	125,023	N	Y	N
Welfare Benefits	123,629	N	Y	Y
Housing Benefit	17,149	N	Y	Y
Family & Children Social Services	15,013	Y	Y	Y
Debt Interest	*129,856*	*N*	*N*	*N*
EU & Accounting Adjustments	80,151	Y	Y	N
Total Managed Expenditure (TME)	1,158,856			
Primary Spending	1,029,030			

Notes: HMT Public Expenditure Statistical Analysis, Table 5.2

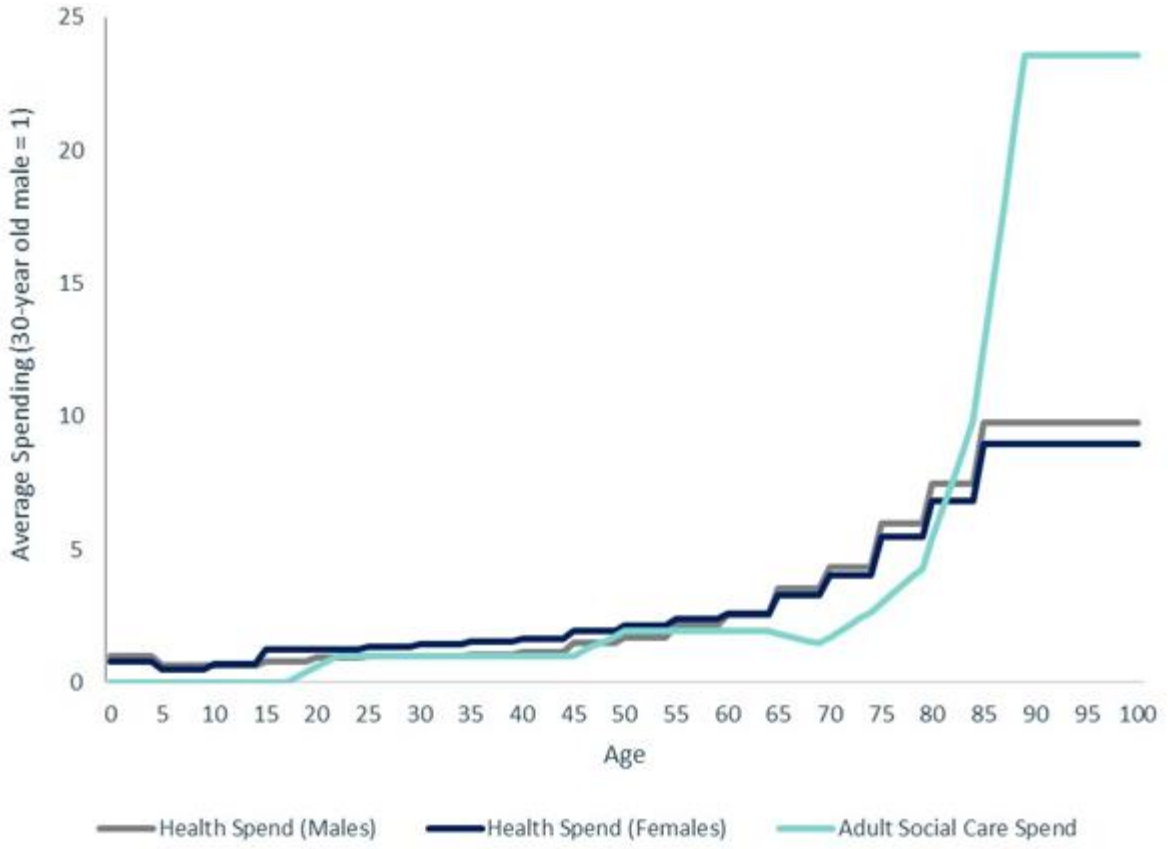
Debt interest payments represented 11% of TME in 2022/23. These are excluded from the analysis as we focus on primary spending which is defined as TME minus debt interest payments.

We allocate both health and adult social care spending to residents and migrants based on their age (and gender in the case of health). To do this, we use estimates of age- and gender-specific spending provided by the OBR. They provide estimates for individual year of age (up to 100). We use these data together with the population totals by individual year of age to gross-up the estimates so that the total spend matches the PESA totals. Figure 2 below shows the age-profile of spending, where we have normalised the data to equal 1 for a 30-year-old man. So, for example, adult social care spending is 3 times higher for a 75-year-old relative to a 30-year-old, and 10 times higher for an 84-year-old.

These choices implicitly assume that (a) migrants and residents have the same health conditional on age and gender and (b) the use of public health care is the same for migrants and natives with the same health conditions. With respect to the first assumption, we recognise that there is a literature on this – often termed the 'healthy migrant effect' (see

Huang et al (2024), Sarría-Santamera et al (2016), Hamilton (2015)). Wadsworth (2013) shows that migrants and natives in the UK have essentially the same usage of GP and hospital services. For the second assumption, we plan to explore in future whether we can use survey data to estimate private health insurance probabilities by income and derive estimates of the reduced use of public health care as a result.

Figure 2. Age Profile of Spending on Health and Adult Social Care, relative to a 30-year-old man.



Education spending is broken down by age-group. We can separately identify spending on the under-fives, primary schooling, secondary schooling and post-secondary and tertiary. In addition, some education spending is within the congestible public goods category (e.g. R&D education spending). We allocate school spending to the relevant age-groups of both resident and migrants. As with health care, we are implicitly assuming that the use of private education for children is the same between migrants and residents. In addition, we are assuming that the average cost of providing public education to migrants and residents is the same. Again, future work will explore both of these assumptions and the sensitivity of the results to alternative assumptions. For post-secondary and tertiary education, we estimate enrolment rates by single year of age for all those aged 18 and over to estimate total spending for each year of age and allocate spending on a per-capita basis within that age. We also adjust for the expected loss on student loans to those attending university.

Spending on housing development comprises the expenditure for social and local authority housing. We allocate this only to the share of the population that rent social and local authority housing by using the FRS to identify such households – 17% in 2022/23. We assume that SW migrants have no allocation from this expenditure until they have obtained indefinite leave to remain (ILR). At that point, we impute the probability that a migrant is renting in this sector, controlling for age, gender and income. For simplicity we assume that any benefit obtained by children living in social and local authority housing from this public expenditure accrues to the adults in the household.

There are a number of categories of spending on state pensions, benefits and tax credits. In all cases, migrants have no allocation from these expenditures until they have obtained ILR – so in the static model this is zero for all the SW cohort. This is a key implication of the general immigration rule of 'no recourse to public funds' (NRPF). With a few exceptions, the NRPF rule forbids migrants on visa routes from accessing benefits and tax credits. The rule lapses when migrants obtain ILR and are no longer subject to immigration rules. We allocate these payments only to the share of the population that report being in receipt of the benefit in the particular group. We again use the FRS to identify these individuals. To give an example, we identify all those in receipt of state pension and the weekly amount they receive. We convert this to an annual figure and then gross this up to obtain an estimate of total state pension payments. We then re-weight to match the PESA spending total.

For households with children, we assume that benefits are allocated per-capita within the household. For example, if a household has two adults and two children, and one of the adults receives a welfare payment of £10,000 per year, we allocate £2,500 of the payment to each of the children. In the dynamic model, we predict benefit receipt and tax credits for migrants based on age, gender, income, employment and marital status. For state pension, we compute the years the migrant has been in the UK at pension age and allocate an annual amount based on the years of potential contribution. Note that currently one needs 10 qualifying years on the individual's national insurance record to get any state pension and 35 years to obtain the full state pension.

Finally, EU Transactions and Accounting Adjustments are allocated to all adults (resident and migrant) on a per capita basis.

In addition, we assume that additions to the population do not dilute the public capital stock. The public (general government plus public non-financial corporations) net capital stock was valued at £996bn in 2022 – equivalent to £14,733 per person. We therefore allocate an additional cost to migrants (both adults and children) equal to the annual cost of an additional £14,733 of public sector borrowing over a 20-year period (with capital repayment) that would be required to maintain the same level of the net public capital stock per person. We use the average gilt yield in 2022/23 of 3.13%, giving an annual cost of £992. In effect this assumed additional spending would avoid public capital stock widening. We follow OBR (2024) in not making this adjustment to UK-born children on the basis that births and deaths roughly balance each other out, so the adjustment is not needed to maintain a constant level of public capital per person.

Estimating Tax Revenues

In contrast to spending, we estimate most tax revenues from the bottom-up i.e. we compute the tax payment of individuals from microdata and then gross these estimates to ensure that population totals match the published revenue totals. There are a small number of taxes where this is not possible, and these are allocated in similar fashion to the expenditures. Data on government revenues comes from the ONS Public Sector Finances (PSF) Receipts. As we are focused on primary revenue, we remove public sector interest and dividends from the revenue total.

Table 3 below shows the revenue components (that we have grouped from the ONS data) that we allocate, the relevant totals for fiscal year 2022/23, and whether the revenue is allocated to SW migrants and/or children. A more detailed breakdown with relevant ONS codes is provided in Appendix Table B2.

Income tax is calculated from the individual level of gross income using the rates and thresholds applicable in 2022/23. Gross income comprises income from employment, self-employment and other income (e.g. property rental income, taxable benefits). We adjust income from employment to account for contributions to private pension plans (which are paid from gross income). We use published data from the Annual Survey of Hours and Earnings (ASHE) which provides breakdowns of pension enrolment and average employee contribution rates by gross earnings. For example, for those earning between £500-600 per week (£25,000-30,000 per year), ASHE estimates that 87% are enrolled in a pension scheme and have an average contribution rate of 5.4% (see Appendix A.5). SW migrants on arrival are assumed to have no income other than that from their sponsored job. National Insurance contributions are calculated from estimates of income from employment and self-employment using the rates that applied in 2022/23 and include both employee and employer contributions.

Indirect tax contributions are based on individual disposable income. We estimate the level of disposable income using the gross income estimates (after pension contributions) and subtracting the estimated income tax and employee national insurance contributions. We also subtract our estimate for council tax payments (see below). Finally, for migrants we reduce disposable income by a further 1.5% to account for remittances (see Appendix A.4). We use the ONS publication “The Effects of Taxes and Benefits on UK Household Income” to provide effective tax rates by decile of the disposable income distribution. We use these rates to estimate individual indirect tax payments (with different effective rates for each indirect tax) and then re-weight proportionately so that the total revenue for each tax matches the published figures.

Table 3. Tax Allocations

Component	Total Revenue (£mn)	Allocated to SW Migrants		Allocated to Children
		Static	Dynamic	
Income Tax	251,995	Y	Y	N
National Insurance Contributions	180,911	Y	Y	N
Indirect Tax - VAT	187,311	Y	Y	N
Indirect Tax - Duties	62,076	Y	Y	N
Stamp Duty Land Tax	16,695	Y	Y	N
Inheritance Tax	7,086	N	Y	N
Capital Gains Tax	16,928	N	Y	N
Corporation Tax	85,065	Y	Y	N
Council Tax	41,967	Y	Y	N
Business Rates	25,323	Y	Y	N
Public Sector Interest & Dividends	*33,814*	*N*	*N*	*N*
Public Sector Gross Operating Surplus	70,428	Y	Y	N
All Other Taxes & Receipts	55,989	Y	Y	N
Public Sector Current Receipts	1,035,588			
Primary Receipts	1,001,774			

Notes: ONS Public Sector Finances

We follow DF in assuming that home ownership is a good proxy for asset ownership more broadly and apportion inheritance tax to those aged 70 and above who live in an owner-occupied property. In practice, this means no SW migrant is allocated any inheritance tax in the static model (because they are under 70). In the dynamic model, we assume that by age 70, the SW cohort has the same homeownership rate as the UK resident population by decile of the income distribution.

Capital gains tax is allocated by using our estimates of the share of total wealth in each decile of the disposable income distribution and distributing the tax in proportion to these shares. For example, we estimate that individuals in the top decile of the disposable income distribution have 27% of total wealth. They therefore pay 27% of capital gains tax on a per capita basis across the decile. By comparison, the bottom decile have 4% of total wealth. Once again, no SW migrant is allocated any capital gains tax in the static model because it is unlikely they will have substantial assets in the UK subject to capital gains tax in the year they arrive. In the dynamic model, we assume they accrue such assets over time and that by their tenth year in the UK they have the same pattern of capital gains tax as UK residents. We would note

that we have no data that provides evidence on when capital gains tax payments are similar between natives and migrants, though it is also the case that the overall impact of capital gains tax payments are quite small.

There are three alternative approaches to allocating corporation tax to individuals that we consider. The first, which is our baseline, is to assume that firms pass on their tax liability to consumers. We then allocate to individuals by estimating the implied proportional tax rate on total disposable income. The second approach assumes instead that shareholders bear the burden. In this approach, following DF, we use ONS data to estimate the share of UK equities held domestically (42% in 2022). Only this share of corporation tax is paid by UK residents, with the rest being paid by foreigners. One implication of this is that the overall net fiscal contribution of UK residents will be lower because some of the tax revenue is now being allocated outside of the UK. DF then allocate the domestic share of corporation tax on a per capita basis. One argument for doing so is on the implicit assumption that share ownership is distributed uniformly across the resident population. For this second perspective, we prefer to allocate on the basis of the wealth distribution since it seems reasonable to suppose that those with more wealth will own more domestic equity (directly or indirectly). We use the Wealth and Asset Survey to provide estimates of the median wealth level for each decile of the disposable income distribution. We then compute the share of total wealth in each decile and distribute the domestic share of corporation tax in proportion to these shares. In the static model we assume that SW migrants pay none of this corporation tax under this allocation method because it is unlikely they will have substantial assets in the UK in the year they arrive. In the dynamic model, we assume they accrue such assets over time and that by their tenth year in the UK they have the same level of wealth as UK residents in the same income decile.

An entirely different approach is to use the sectoral distribution of corporation tax payments and allocate to all workers in that sector in proportion to their earnings. The underlying motivation here is that profits in a sector are related to total value added and that an individual worker's wage share in the sector measures their individual contribution to that value added. So higher-wage workers 'pay' more corporation tax because they account for more of the profit of a sector than a lower-wage worker, and two workers earning the same wage will make different corporation tax contributions if they work in sectors with different profitability. This approach causes more substantial changes in fiscal contribution as only workers are responsible for corporation tax rather than the whole resident population.

Council tax is allocated on the basis of the reported council tax band of the property that the household lives in. This is matched to the national average council tax payment for that band. This tax liability is then divided between all adults in the property and grossed up to ensure that the total matches the published figures. SW migrants are allocated council tax payments based on the predicted council tax band they would face given their income.

Business rates are charged on most non-domestic properties (e.g. shops, offices, factories). The rateable value of the property is determined by the Valuation Office Agency and is generally based on rental values. In the absence of any compelling alternative, we assume

that firms pass on this tax and allocate it on a per capita basis to all adult residents and SW migrants.

Finally, we have a set of revenues that have no obvious set of taxpayers to allocate to. These are: Public Sector Gross Operating Surplus (i.e. the profits made by various public sector bodies) (£70bn) and All Other Public Sector Taxes and Receipts (£56bn). Combined, these account for a not insubstantial £126bn – or 13% of primary revenue. In the absence of any alternative, we allocate these revenues on a per capita basis to all adults (both resident and migrant). It should be noted that we took the same approach to the £83bn of accounting adjustments on the spending side, so at least a substantial portion is offset on the spending side for the same group.

Forecasting Public Spending and Tax Revenues

For the dynamic analysis we need to project forward public spending and revenue totals (and for each component allocated in Tables 1 and 3) over the potential lifetime of all migrants in the cohort. Since the minimum age for a main applicant on the SW route is 18, this in practice means having forecasts for the next 82 years – as we cut off the analysis at age 100. We refer to 2022/23 as Year 0 for the SW cohort who arrived in 2022/23. Year 0 is therefore also the year that we compute the static analysis for.

We consider two alternative approaches in this paper. Our baseline approach, which is used in the main results, requires that all spending and revenue components remain at the same share of GDP as in 2022/23. Essentially this requires us to inflate future spending and revenue estimates by the growth in real GDP. We follow OBR (2024) in assuming a 1.8% p.a. real GDP growth rate.

Our second approach (reported in Appendix C) assumes instead that spending and revenue remain constant in real terms over the lifetime. This has the benefit of not requiring any assumptions regarding future spending and tax policy – we can directly use the static model estimates in a dynamic context. It is not however particularly realistic. For example, it implies that the real cost of healthcare will not change over the next 80 years. If there is positive real GDP growth, the government sector will simply shrink over time.

In future work, we also plan to explore more detailed projections. One option is to use the estimates contained in the OBR Fiscal Risks and Sustainability Report, which gives estimates for different components of government spending over the next 50 years. A recent version (Sept 2024) gives estimates up to 2073/4. This approach implies substantial growth in government spending. Total spending as a percentage of GDP rises from 44.5% in 2023/4 to 60.1% in 2073/4. This is driven by OBR assumptions regarding the need for substantial rises in health and adult social care spending (rising from 9.2% of GDP to 17.0%) and a rise in state pension and pensioner benefits (from 5.6% to 8.9%). Because the OBR does not forecast tax adjustments to fund this higher spending (revenue marginally declines as a share of GDP from 40.4% to 39.6% over the same period), this simulation assumes very large and persistent deficits in the future. To avoid this, we could take a different approach to the OBR on the tax

side and assume that the share of GDP raised in taxes is sufficient to fund the projected rise in spending and to ensure a zero primary deficit in all future years.

Static Estimates

Table 4 provides the total population numbers for both UK residents and the SW cohort that we are evaluating. The total UK population (sum of UK residents and SW cohort) in 2022 was estimated to be 67.6m. This total is from the ONS UK Principal Population Projection published in February 2025. We have adjusted the FRS weights by age and sex to ensure that the weighted totals match this updated population estimate. The totals for the SW visa cohort come directly from Home Office administrative data. In much of the analysis, we will distinguish between those who are in the Health and Care sector (H&C) and those in all other sectors (SW (excl. H&C)). We do so because H&C have accounted for a large fraction of SW visas in recent years and because care workers were the only occupation which was eligible for the SW visa without the usual skill level requirement in 2022/23.

Table 4. Population Totals

Group	Population Total
UK Resident Adults	53,408,300
UK Resident Working Adults	32,006,100
UK Resident Child	13,865,900
SW (excl. H&C) Main Applicant	69,200
H&C Main Applicant	101,200
SW (excl. H&C) Adult Dependant	26,900
H&C Adult Dependant	49,700
SW (excl. H&C) Child	23,100
H&C Child	59,200

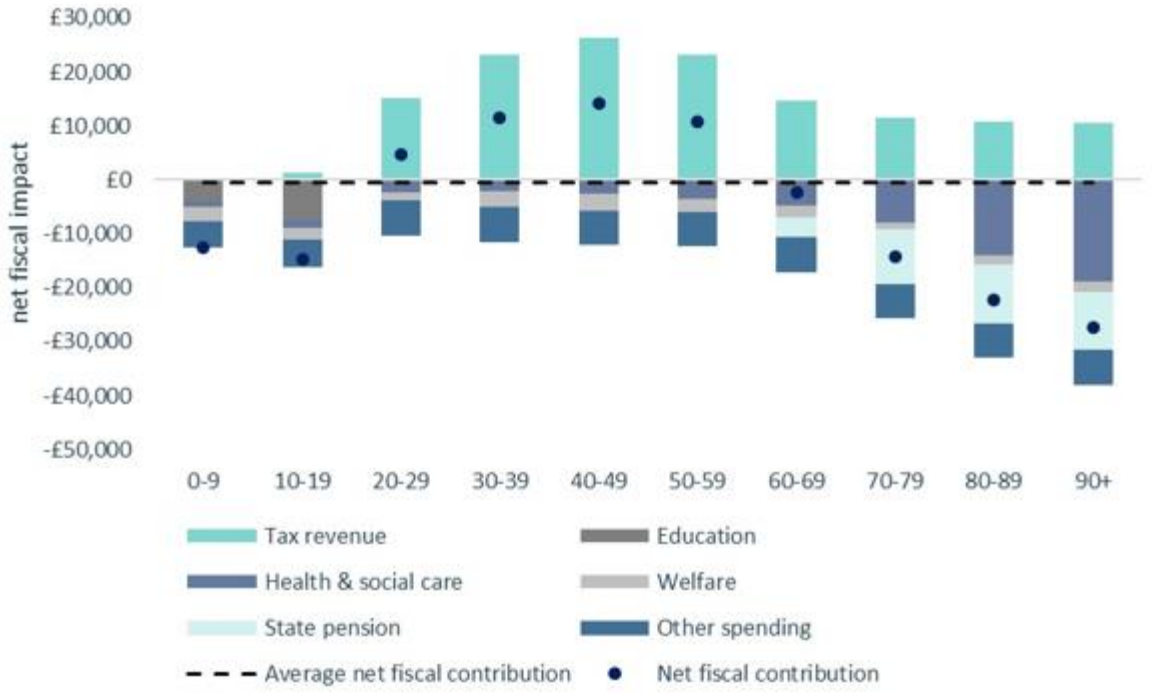
Notes: UK population figures from ONS 2022 UK Principal Population Projection (less the SW totals). Working adults calculated using estimated employment rate from FRS 2022. SW totals from Home Office Administrative data.

We begin this results section by showing the estimates for the resident population by age group. This is useful to show the overall pattern of net fiscal contributions over the lifecycle and will be a core input for the dynamic estimates. We then move on to look at the SW migrants in particular.

Figure 5 shows the average net fiscal contribution for each 10-year age group in the population. There was a £27.2bn gap between primary spending and revenue (i.e. a primary deficit) in 2022/23. Over the entire population this generates a £402 net fiscal cost per person – this is the black dotted line. Detailed breakdowns of spending and taxation by age group are provided in Appendix Table B3.

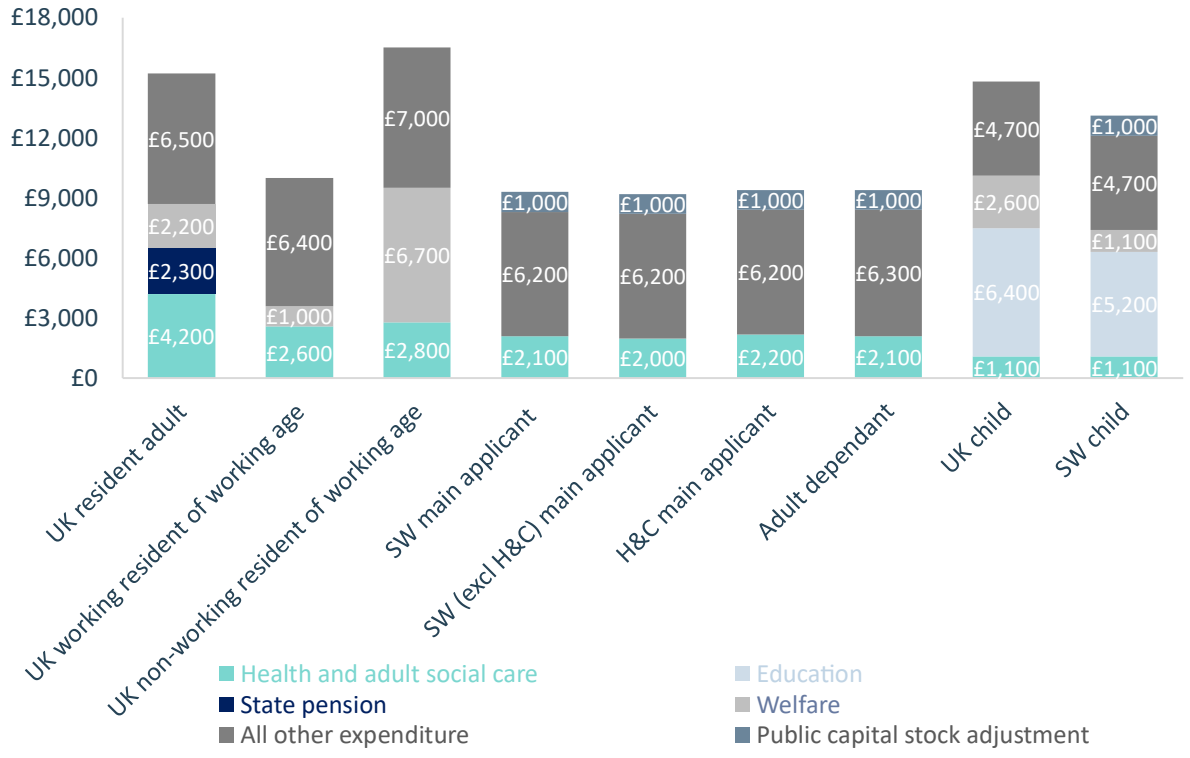
The average net fiscal contribution of a UK resident follows a distinct hump shape over the lifecycle. Children generate a significant cost to the government budget as they pay no tax but receive most of the education spending in addition to their share of general spending. During working-age, the average resident becomes fiscally positive as they pay the bulk of tax revenues from their earned income and consumption whilst benefiting less from government spending. As people approach retirement, the pendulum swings again, and residents become increasingly costly for the state as tax contributions fall and government spending – particularly on health, social care and state pensions – rise considerably for this group. Though this chart is for the average resident, it highlights two important points about the likely fiscal contribution of any individual – native or migrant. First, employment status and wages during working-age will be a key determinant of net fiscal contribution over the lifetime, as tax contributions from this period of life drive much of the overall positive contribution to the fiscal balance. Second, most of the negative contribution comes during retirement and is broadly unrelated to income. The state pension is almost universal, and health spending is primarily age-related with universal coverage. As our society ages, these costs will become increasingly unsustainable with the current tax burden (OBR (2024)).

Figure 5. Estimated Net Fiscal Contribution of UK residents by Age Group, 2022/23



We now turn to the analysis of natives and migrants. As previously noted, our static estimates relate to the 2022/23 fiscal year, which is the year of arrival for the SW migrant cohort. This is likely to be one of the most fiscally positive years for the migrant cohort since all main applicants will be working, they have no entitlement to welfare payments, and they are in an age group that has relatively low demands on public spending. We explore spending and tax revenue separately and then present the overall net fiscal estimates. Figure 6 presents the estimates of government spending on the different groups. On average, a UK resident adult receives £15,300 of spending. Health and social care account for £4,200 of this spending, and state pensions and welfare benefits account for a further £4,600. UK adults of working age who work have lower public spending allocated to them (£10,100) mainly as a result of lower welfare benefit receipt (and no state pension given their age) and lower health and care costs (£2,600) due to their lower age distribution. Those who do not work have substantial allocations of welfare spending (£6,700). SW adults (both main applicants and dependants) have even lower levels of allocated spending (£9,400 & £9,500 respectively) because they have no welfare benefit entitlement and have even lower health and care costs (as they are younger than UK adult workers on average). UK Children are allocated £14,900 of spending, with £6,400 coming from their educational provision. SW children have a lower allocation (£13,100) primarily because there are more aged under 5 and less of secondary-school age than UK resident children, and schooling is more expensive to provide for the older age groups.

Figure 6. Allocated Government Expenditure, 2022/23



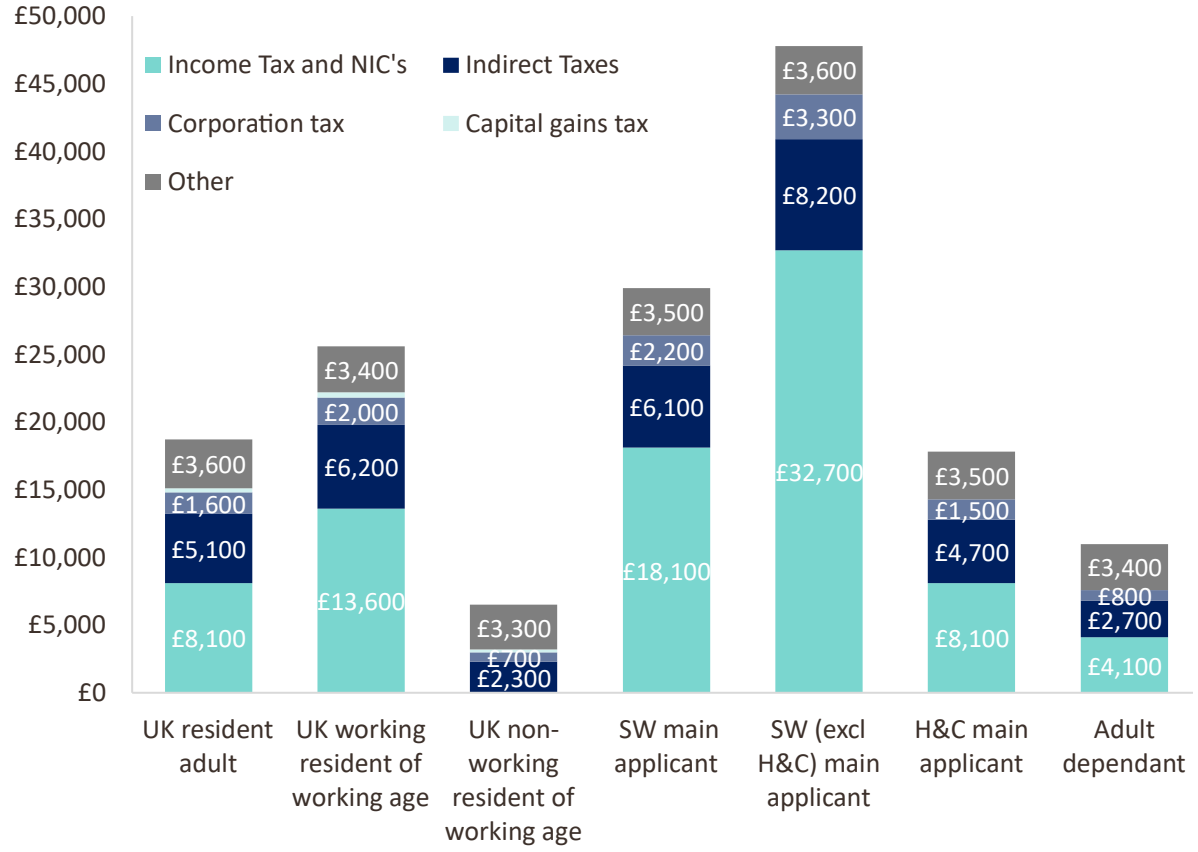
The expenditure numbers are somewhat higher than those reported in the 2024 Annual Report estimates, though the pattern across groups is essentially the same. The higher figures reflect our inclusion of all government expenditures (including accounting adjustments) in this version, and the pattern remains similar because most of these additional expenditures are allocated on a per capita basis to all groups.

Figure 7 presents the matching estimates for tax contributions. Note that by assumption children (both resident and SW) have no tax contributions. Here the differences across groups are more substantial and for SW visa holders are also quite a bit larger than those contained in our first estimates in the 2024 Annual Report. We will explain the difference across groups and the substantial upward revisions to our estimates for Skilled Workers.

Across all groups, most of the difference in tax contributions is driven by differences in direct tax. This is primarily a function of whether the individual works and what wage they receive. UK adults of working age who work make average total tax contributions of £25,600, compared to £6,500 for those who do not work – predominantly driven by the difference in income tax and NIC contributions. It may seem remarkable that SW (excl. H&C) main applicants make total direct tax contributions of £32,700 per worker. But as Figure 8 below shows, their mean salary is estimated to be £75,700. Plugging this salary into any web tax calculator shows that in tax year 2022/23 this would have led to income tax payments (without any reliefs being claimed) of £17,700 (with £10,200 at the higher 40% rate), employee NIC contributions of £5,000 and employer NIC contributions of £9,200 – before any of the other tax categories are included.

The key change we have made compared to the AR 2024 estimates is to use the newly available HMRC-visa match data to improve our estimates of actual earnings for the SW cohort. Previously we used the reported annual salary in the Certificate of Sponsorship (CoS) for main applicants. We are now able to replace this with the actual annualised earnings reported to HMRC for the worker. Figure 8 shows that average HMRC earnings are approximately £15,500 higher than reported CoS earnings for the SW (excl. H&C) cohort. This is due to the HMRC data allowing us to see differences at the top of the earnings distribution, most likely due to bonuses which are not included in the CoS data. To provide further suggestive evidence on the importance of bonuses, we recalculated the annual salary from HMRC data by excluding the highest-paid month and annualising the sum of the other months. If bonuses are paid once per year, this adjustment should remove their impact on total pay. Compared to the estimated mean of £75,700, we obtained an adjusted estimate of £66,000 which is much closer to the CoS mean of £60,200. Further, almost all the gap between CoS and HMRC salaries occurs in the upper half of the distribution (see Appendix A.2) which would be expected as bonus payments are much more important at the upper tail of the wage distribution (Bell and Van Reenen, 2013).

Figure 7. Estimated Tax Contributions, 2022/23

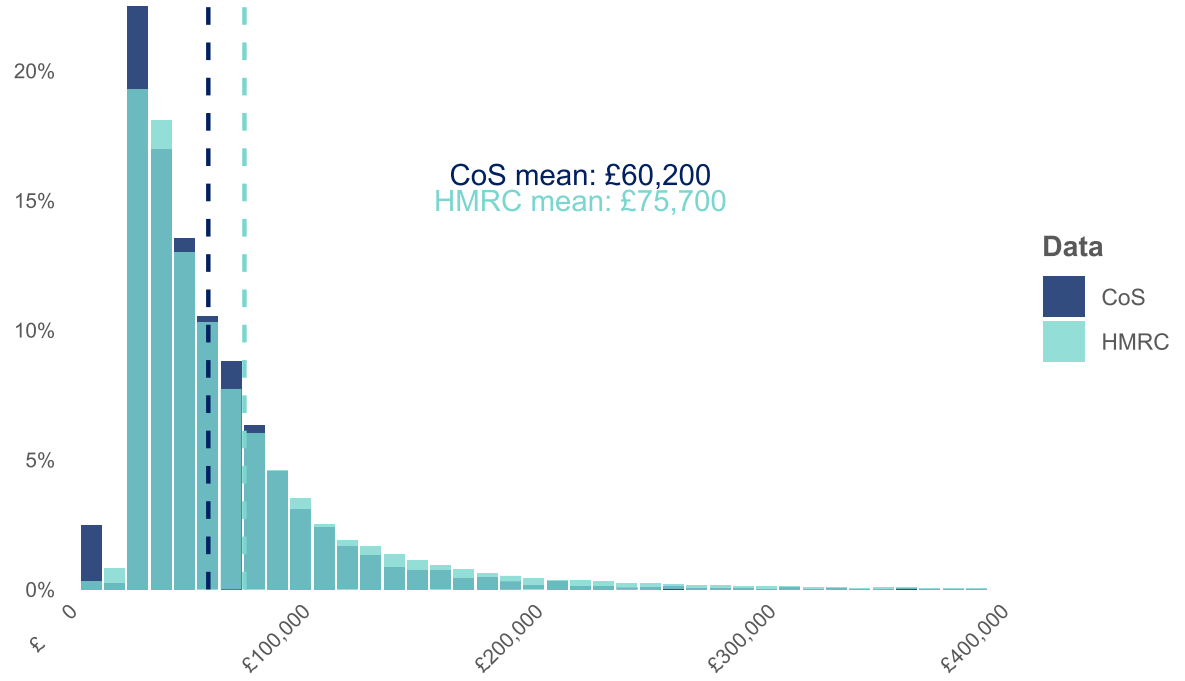


Note that using the average CoS reported salary of £60,200, we would generate direct tax payments of £24,600, which is close to the previous figure given in our Annual Report.

These higher salaries for the SW group have knock-on effects to other tax revenues. For example, we estimate significantly higher indirect tax contributions than previously because we now assess that they have higher disposable income. In addition, our baseline procedure for estimating corporation tax allocates more of the tax to higher earners – and we now think there are more of them in the SW cohort.

Before estimating net fiscal contributions, we also need to account for visa fees paid by migrants. Table 9 presents the annualised visa fee revenues per migrant. The average fees paid by both main applicants and dependants on the H&C visa are substantially lower than the equivalent average fees paid by those on the general SW visa. This is largely due to H&C workers and dependants being exempt from the IHS. All fees are annualised, though are often paid for multiple years up-front. Costs are for financial year 2022/23 which is the entry year for the cohort – note that these costs have increased since then.

Figure 8. SW (excl. H&C) Main Applicant Salary Distribution: HMRC vs CoS



Notes: Our estimates of earnings based on HMRC data are broadly consistent with the Home Office's published figures (Sponsored Work and Family visa earnings, employment and Income Tax - GOV.UK). The differences arise because we are measuring slightly different cohorts and time periods.

Table 9. Annualised visa fees revenue, 2022/23

	Main Applicants		Adult Dependants		Child Dependants	
	SW (excl. H&C)	Health & Care	SW (excl. H&C)	Health & Care	SW (excl. H&C)	Health & Care
Application Fee	£298	£133	£260	£120	£265	£119
Immigration Health Surcharge (IHS)	£618	n/a	£620	n/a	£467	n/a
Immigration Skills Charge (ISC)	£729	£726	n/a	n/a	n/a	n/a
Certificate of Sponsorship	£75	£74	n/a	n/a	n/a	n/a
Total	£1,720	£933	£880	£120	£732	£119

Finally, Figure 10 presents the net static fiscal estimates in 2022/23 for the different groups. These are simply the differences between the numbers in Figures 6 and 7, adjusted for visa fees. The numbers for UK residents are close to those given in the 2024 Annual Report. Overall, UK resident adults have a net fiscally positive impact of £3,400 per person. In contrast, their children have a negative impact of £14,900. If one uses the population totals in Table 4, this generates an overall negative impact of -£27bn which exactly matches the difference between primary spending (Table 1) and primary receipts (Table 3) – and is equivalent to a negative impact of £400 per person. UK adults of working age who work make a net fiscally positive contribution of £15,500, compared to a negative contribution of £10,000 for those who do not work.

In contrast, if we compute the total impact of the SW visa cohort, we get an overall positive impact of +£2.8bn. Interestingly, this is not because there is a smaller share of children in the cohort (who are, by definition, fiscally negative in a static model). 25% of SW visas were for children, compared to 21% of children in the resident population. Three main effects explain the result. First, all of the main applicants work as a result of the visa requirements and so contribute significantly more in taxes than the average UK resident. Second, outside of H&C, the earnings of SW migrants are substantially higher than UK workers on average – with a long-tail of very high earners. As we discussed above, this generates large income tax and NIC payments. Third, government spending is lower for SW migrants than for the typical UK resident adult – both because of NRPF and because health costs are lower as a result of the younger age distribution of SW migrants in the cohort.

The net positive fiscal outcomes for SW main applicants are substantially higher than those reported in AR 2024. For SW (excl. H&C) main applicants, the net fiscal benefit has been revised from £28,500 per person to £40,300 per person. This is almost entirely due to our revised estimates of the earnings of these workers as a result of access to the newly available HMRC-visa data match. This highlights how valuable such matching exercises across administrative datasets are to give a clearer picture of the impact of migrants.

These estimates are based on primary spending and revenue and so do not include spending on debt interest or the revenue received from interest and dividends. In aggregate, including these components would increase the deficit in 2022/23 by £96bn. If we apportion this on an adult per capita basis, this would reduce the net fiscal contribution of all adults by £1,800. There is much debate as to whether this cost should also be allocated to migrants. On one side, it is argued that migrants benefit from at least some of the past government spending that the debt has financed e.g. infrastructure. Conversely, some part of the debt financing will have been on current spending that newly arrived migrants did not benefit from. We take no view on this as we are focused on primary totals, but the reader should bear this additional cost in mind.

Figure 10. Net Static Fiscal Estimates, 2022/23

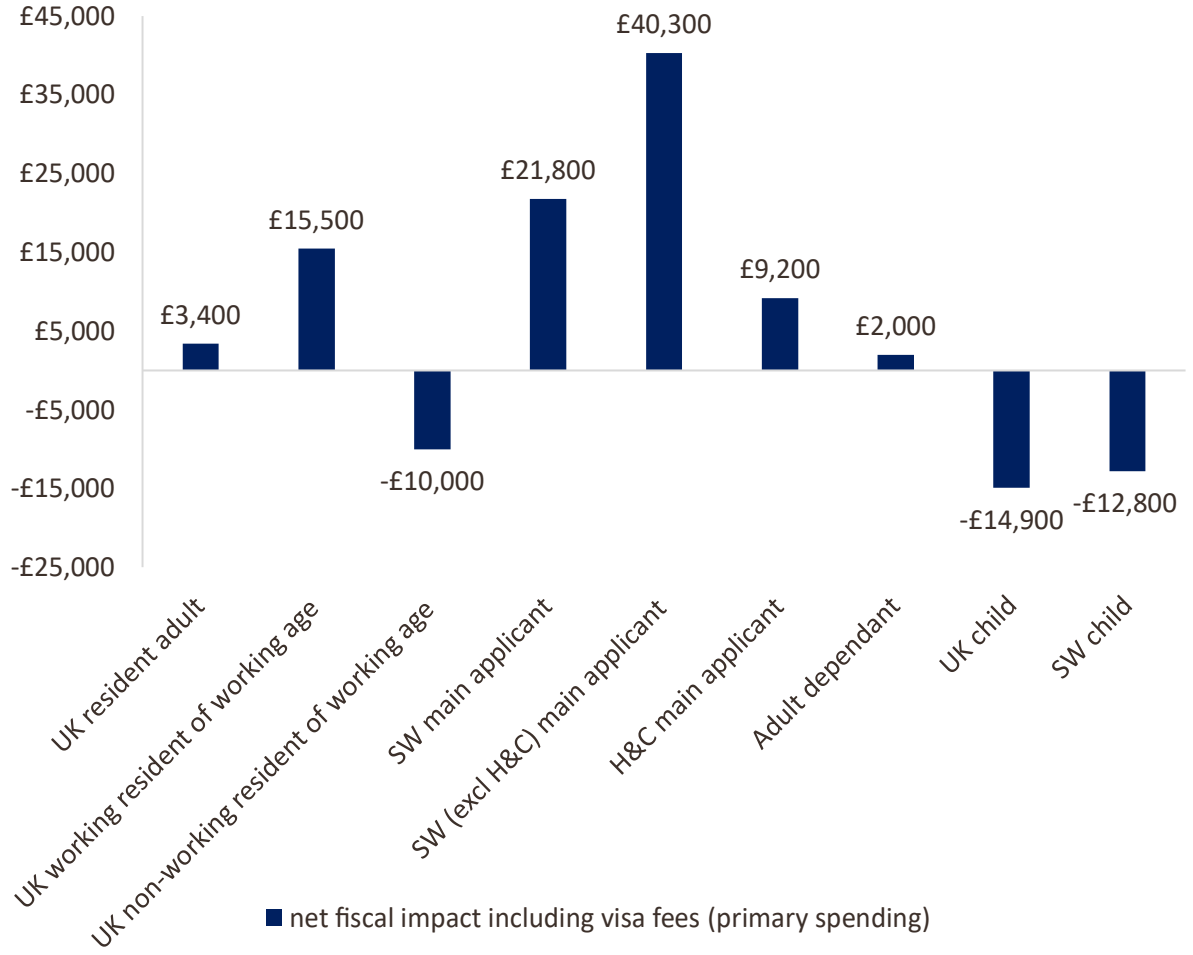


Table 11 presents a set of sensitivity tests to the baseline results. The baseline replicates the results shown in Figure 10. Each subsequent row shows the change in the net fiscal impact from baseline of altering a particular assumption or estimation method. As a result, one can choose the set of assumptions that one prefers and calculate an alternative overall net fiscal impact. To be clear, the MAC view the baseline as being based on a reasonably neutral set of assumptions. One can of course choose a set of alternative assumptions that generate either a more positive migrant outcome or a more negative one, but it is important to be upfront about doing so.

Though not exhaustive, Table 11 suggests that there are two key decisions that have sizeable impacts on the fiscal estimates. First, the decision as to whether to allocate all public spending to migrants (and children) or to assume that at least some parts are public goods that have a zero marginal cost for additions to the population will alter the numbers significantly. Our baseline treats migrants equivalent to natives and so assumes there are no pure public goods. Any variation from this baseline generates a more positive fiscal estimate for migrants. Second, choices over corporation tax can have substantial effects. However, these effects are

most pronounced among the high-earning SW (excl. H&C) main applicants – who are by far the most fiscally positive group anyway.

Table 11. Net Static Fiscal Impact Sensitivities

	UK Resident Adult	UK working resident of working age	SW (excl. H&C) Main Applicant	H&C Main Applicant	SW Adult Dep	UK Resident Child	SW Child Dep
Baseline	**+£3,400**	**+£15,500**	**+£40,300**	**+£9,200**	**+£2,000**	**-£14,900**	**-£12,800**
Pure Public Goods MC=0	-400	-400	+1,400	+1,400	+1,400	+1,400	+1,400
Congestible Public Goods MC=0	-900	-900	+3,400	+3,400	+3,400	+3,400	+3,400
Shareholder-based Corporation Tax	+900	+1,100	-3,300	-1,500	-800	0	0
Earnings-based Corporation Tax	0	+700	+4,300	-1,000	+1,400	0	0
SW migrants pay same Capital Gains Tax	-	-	+600	+200	+100	0	0
Council Tax not allocated to SW	-	-	-900	-800	-700	0	0
Business Rates not allocated to SW	-	-	-500	-500	-500	0	0

Notes: A '-' indicates that the change is less than £100.

Dynamic Estimates

To estimate fiscal contributions over the rest of the lifetime, we first need to generate estimates of income for each SW migrant over time. To do this, we use the reported earnings in Year 0 (the arrival year) from the HMRC-visa data and the age at arrival. We then impute real annual earnings for all future years using an estimate of the age-earnings profile derived from the Annual Survey of Hours and Earnings. This essentially assumes that migrants experience the same real wage growth over their future working life as resident workers of the same age and gender. Details are provided in Appendix A.2. For simplicity, we assume that no one works above age 79. Whilst this is not strictly true, the FRS shows that only 1.3% of those aged 80 and above reported any employment income and this accounted for 1.1% of total income for those aged 80 and above. We also estimate the age- and gender-specific percentile rank of entry-level earnings for each individual using the ASHE wage distribution for annual earnings in April 2023 – we term this the entry percentile. It measures where the worker ranks in the earnings distribution at time of arrival relative to similar natives in terms of age and sex.

We use the observed probability of obtaining settlement (ILR) over time for all SW migrants. Appendix A.1 shows that 32% obtain ILR in Year 5 (which is the earliest that it can be obtained for most SW migrants) and 90% have obtained ILR by Year 7. For simplicity, we assume that all SW migrants obtain ILR by Year 8. We require that SW main applicants are always in work until they obtain ILR, as employment is a visa condition. Once ILR is obtained, we assume that their annual transition rates in and out of employment are the same as the resident population for the same age and gender. In future work we will explore using transition rates that also account for the skill-level of the worker. Fig 12 shows the employment probabilities over their lifetime for a male and female SW main applicant who arrived at age 25. Further details are provided in Appendix A3.

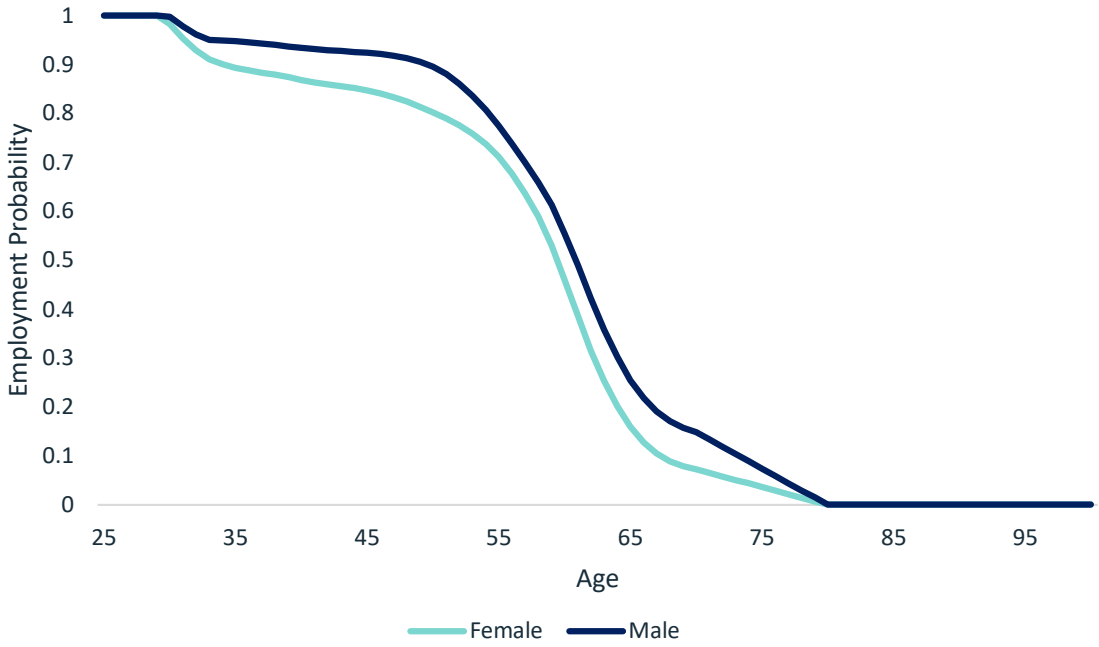
Their employment income each year is the imputed earnings estimate described above multiplied by the employment probability. To estimate their income when out of employment (which may occur after ILR is obtained), we use FRS data on total income for those with no employment income by sex and five-year age group (to provide a sufficient sample size). For income from welfare benefits, we distinguish between disability benefits and broader income-related benefits (e.g. Universal Credit). We assume that they receive the mean disability benefit income of this group when not employed – which is essentially assuming that they have the same chance of having a disability (and then of claiming) as residents of the same age and gender[3]. For income-related benefits, we account for the expected earnings of their partner (recognising that we cannot directly observe households in the migrant cohort). For other income (e.g. investment income, private pensions etc.) they are allocated the mean income within a decile based on their entry percentile. Other income is generally low for working-aged people. For example, for those aged between 25 and 50 and not in employment, welfare payments account for 85% of income.

To give a concrete example, suppose a male SW migrant aged 25 earned £40,000 in 2022/23 when they first arrived. This would place them at the 88th percentile of the age- and gender-specific annual wage distribution – this is their entry percentile. At age 35, we predict that they will earn £52,695 (from the age-earnings profiles). As shown in Figure 12, there is a 5% probability that they will not be employed at that age. If they are not in employment, we assume they receive the mean welfare benefit income of males aged 35-39 in FRS who have no employment income (£7,558) plus the mean of all other income of males aged 35-39 in FRS who have no employment income in the second-highest decile (i.e. 80th – 90th percentile) (£574) – giving a total non-employment income of £8,132. Over time, the employment probability falls and increasingly individuals exit the labour market through ill-health and retirement. In effect we are therefore assuming that workers at the second-highest decile in the earnings distribution eventually have retirement income that gives them the mean of the

[3] Future work will seek to improve estimates of benefit receipt. Ideally, we would like to link our migrant cohort to DWP benefit records to observe actual payments. In the absence of such data, we aim to refine our approach and to consider evidence on the extent to which migrants have different probabilities of claiming welfare benefits. For example, DF present some evidence showing that migrants are somewhat less likely to claim welfare benefits than residents of a similar age and gender.

second-highest decile of total income for their age and gender group. Continuing with the example above, once they are 80 (and therefore completely out of the labour force), they are allocated an annual income of £36,406 from the FRS, which is the mean total income of all males aged 80 and above in the second-highest decile of the income distribution[4].

Figure 12. Employment Probabilities for a 25-year-old SW main applicant

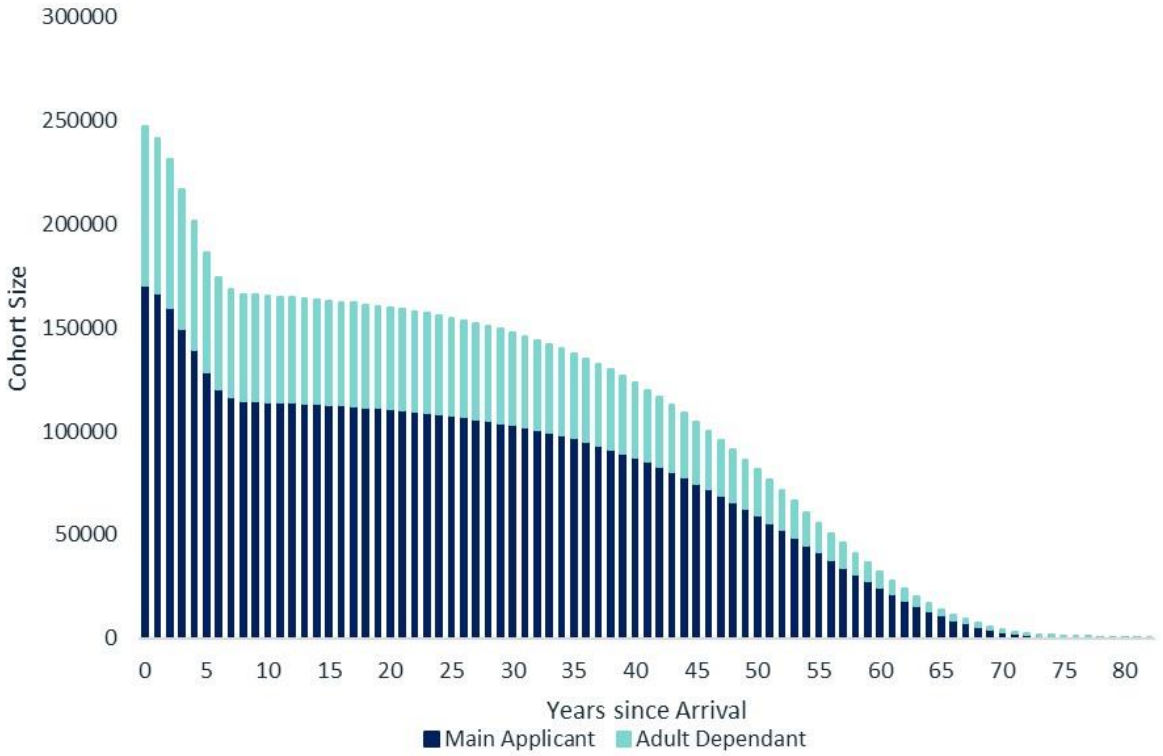


The size of the SW cohort falls over time for two reasons. First, some migrants emigrate. We produce estimates of the annual emigration rate for SW visa holders using the Migrant Journey data. We assume that emigration rates are the same as UK nationals (and therefore ignorable) from the eighth year of residence i.e. we assume after 8 years that the migrant is fully settled in the UK – which is also the point at which all have obtained ILR. Further details are provided in Appendix A.1. Second, individuals face a mortality risk. We use the UK life tables to compute the expected mortality rate for each year of age and sex. We constrain the data to have all surviving members of the cohort die at age 100. Figure 13 shows the size of the cohort over time. As expected, there is a faster reduction in size in the early years as some cohort members emigrate – 24% will have left the UK by year 5. When computing lifetime total values, we weight each future year for each individual by their probability of survival in the sample – which is a combination of the stay rate (the inverse of the emigration rate) and

[4] Future work could also consider alternative approaches to retirement income estimates. For example, we could model likely employee and employer pension contributions which together with assumptions on asset returns and annuity rates could generate private pension income estimates.

the survival rate (the inverse of the mortality rate). This procedure accounts for the T in Equation (4).

Figure 13. Size of SW cohort over time



For UK residents, we can use the static estimates from Figure 5 to simulate future lifetime contribution. For example, for someone aged 25 in 2022, we use the static estimate of net fiscal contribution (which is positive) for 2022/23 (Year 0), the static estimate for a 26-year-old in Year 1 and so on up to age 100. We deflate future contributions to account for mortality. This allows us to produce average future lifetime estimates for each individual year of age and gender. This approach implicitly captures changes in employment and earnings for the average person over their lifetime. In our baseline, we discount future net contributions using a 3.0% real discount rate which is broadly in line with HMT Green Book (this is the r in Equation (4)).

Table 14 below provides estimates of the net present value of future lifetime fiscal contribution of UK residents. The first data column is for the entire population. This is computed by using the estimates for each individual year of age and gender and weighting by their relative size in the overall population in 2022. The second column focuses only on those of working age (18-64) in Year 0. Each row gives estimates for various assumptions regarding the growth rate of real GDP, g (and therefore spending and taxes) and the discount rate, r. The baseline (3.0% real discount rate and 1.8% real growth in spending and taxes) is the first

row of data. Figure 15 shows how future lifetime contributions vary according to the age of the individual in Year 0.

Table 14. Future Lifetime Fiscal Contribution of UK residents

	All UK residents		UK residents, age 18-64	
	Median	**Mean**	**Median**	**Mean**
r = 3.0%, g = 1.8%	-£145,000	-£39,000	-£118,000	+£4,000
r = 1.0%, g = 1.8%	-£328,000	-£163,000	-£307,000	-£142,000
r = 5.0%, g = 1.8%	-£81,000	-£7,000	-£41,000	+£53,000
r = 3.0%, g = 0%	-£84,000	-£8,000	-£44,000	+£51,000

Figure 15. Future Lifetime Fiscal Contribution of UK Residents by Initial Age

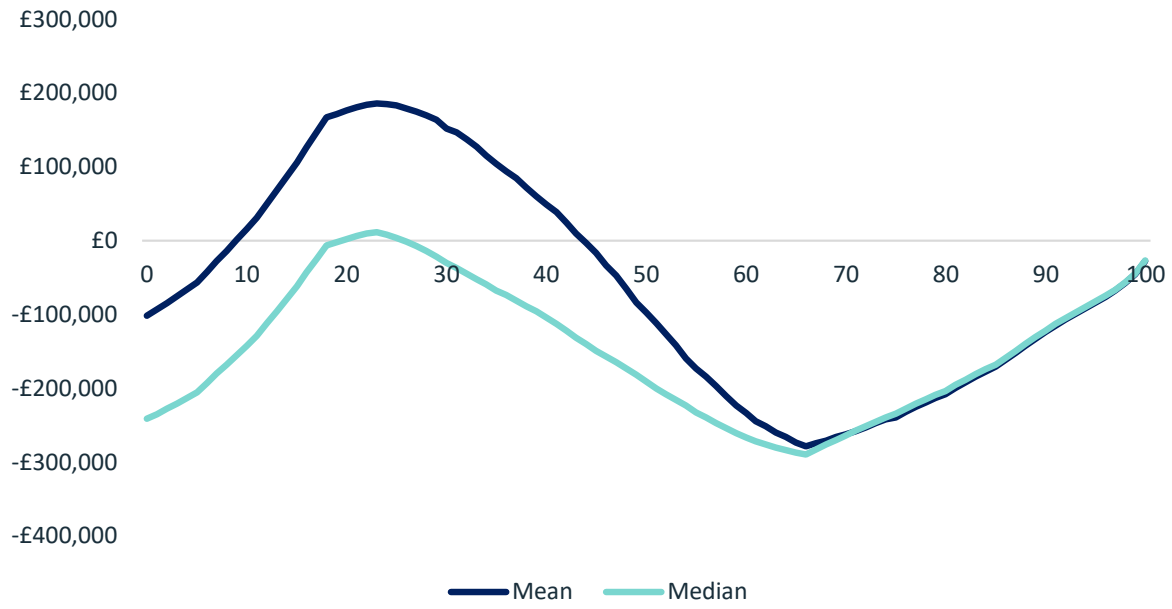


Table 14 shows that with our baseline assumptions, the current set of taxes and spending will result in a mean net lifetime fiscal contribution of -£39,000 per person and a median contribution of -£145,000. Recall that the current primary deficit is £402 per person, so part of this lifetime deficit is a result of using a base year (2022/23) in which primary spending was somewhat higher than primary revenues. In addition, because the current population will live longer than previous generations, there will be a higher share in old age which will result in higher health and pension costs. In other words, current spending per person on health, social care and pensions is feasible with the current set of taxes because only 14% of the population

are aged 70 and above. In 50 years' time, 22% will be aged 70 and above. Using the mean, working-age residents are just fiscally positive (+£4,000) over the rest of their lives.

It is important to understand the difference between the mean and median contribution. Government spending is allocated broadly independent of income, other than for welfare benefits. So, differences in the net fiscal contribution across individuals are driven primarily by tax contributions (which was clearly illustrated in the static results). Because our tax system is strongly progressive, the upper end of the income distribution contribute much more than the median. For example, in tax year 2022/23, the bottom half of the income distribution accounted for less than 10% of overall income tax revenue, whilst the top decile of earners accounted for just over 60%. To a lesser extent, the same is also true for indirect taxes. ONS data for 2022/23 shows that households in the top income decile paid 18% of total household VAT payments, while the lower half of the household income distribution accounted for 36%.

With our baseline assumptions, a child born in 2022 will impose an average net fiscal cost of £102,000 over their entire future lifetime (Figure 15). The fiscal costs of childhood together with the costs associated with old age (combined with their increased life expectancy compared to previous generations) are greater than the positive contributions that the average person will make during their working life. By comparison, someone already aged 25 in 2022 has a future positive lifetime contribution of £184,000. This is a result of ignoring the fiscal costs of childhood (since that is in the past) and weighting the prime years of tax contributions more heavily than the years in old age because of discounting[5]. For the baseline, the average UK resident then becomes fiscally negative over the rest of their lifetime at age 44, where the number of years of future employment and earnings are no longer sufficient to offset the costs associated with old age. Note that there is almost no age at which the median person is fiscally positive over the rest of their lifetime – positive averages (i.e. the mean) are being driven by the sizeable tax contributions of the upper end of the income distribution. The observant reader will note that future lifetime contributions seem to improve as we move further into old age. For example, a 70-year-old is likely to cost £263,000 over the rest of their life, whereas a 90-year-old is likely to cost only £124,000. This is not because the annual cost is lower – we know from the static results that those in their 90s are much more fiscally negative than those in their 70s. The difference is driven by life expectancy – a 70-year-old has a life expectancy of 16 years, a 90-year-old has 4 years.

Varying the assumptions has the expected effects on estimated contributions. A lower discount rate raises the present value cost of health, care and pensions in older age, whilst a higher discount rate reduces them. Using our alternative assumption that there is no real growth in spending or taxes (last row of Table 14) makes the lifetime contribution less negative (from a mean of -£39,000 to -£8,000). This variation highlights why it is important to

[5] To understand the role of real discounting, note that if we did not discount (i.e. $r = 0$), the future fiscal contribution of a 25-year-old would be -£186,000 rather than +£184,000. The impact of varying discount rates for a child is much smaller because they rotate more between negative and positive periods.

consider migrant contributions relative to residents – one can somewhat arbitrarily make the average contribution of everyone either more or less negative by changing assumptions.

We are now in a position to estimate the lifetime contribution of the SW cohort. Figures 16 and 17 illustrate the lifetime net fiscal contribution of the SW migrant cohort that arrived in 2022/23 – Figure 16 is for SW (excl. H&C) main applicants, and Figure 17 is for H&C main applicants. Again, these estimates are computed using our baseline approach of a 3.0% real discount rate and that future spending and revenue increase by 1.8% p.a. in real terms. The individual bars show the total net fiscal contribution each year of the cohort. In general, the first year (which is simply the static estimate from the previous section) is the most fiscally positive. This is both because there has been no return migration at this point and because we are not discounting the first year.

For SW (excl. H&C) main applicants (Fig 16), the average lifetime contribution is a substantial +£689,000 in present value (the cumulative total of £47.7bn divided by 69,200 main applicants). This is perhaps unsurprising given the static estimates reported in the previous section and is primarily driven by the high earnings of this group. This also means that even in retirement they are only marginally negative since we would predict they will have relatively high retirement income and so still be contributing significant tax revenue. Some of the migrants only stay for a few years, whereas others remain in the UK for the rest of their lives. Because they are so fiscally positive, we lose substantial tax revenue if they leave. The lifetime net contribution of those who remain in the UK is +£931,000, whilst it is only +£174,000 for those who leave. This highlights the fiscal benefit of encouraging this cohort to stay in the UK because they make such positive fiscal contributions for most of their life. Recall that the UK resident population has a mean of -£39,000 overall lifetime contribution and a median of -£145,000. We can adjust the UK comparator group to have the same age distribution as the SW (excl. H&C) main applicants. This in effect compares the contribution of a migrant from 2022/23 onwards to that of a native with the same starting age. For this UK comparator group, the mean lifetime contribution is +£117,000 and median of -£47,000. This comparison highlights two key facts. First, part of the positive contribution of this cohort comes from the fact that they are younger than the UK resident population and so have longer to make positive tax contributions and that they do not carry the burden of previous fiscal costs during childhood. Second, even adjusting for these effects does not explain the vast majority of the difference. That is driven by the much higher earnings of this group relative to resident workers.

The contributions within this group are however very uneven. We estimate that the top 10% of earners in the SW (excl. H&C) cohort (with a minimum salary in 2022/23 of £131,000) make an average lifetime contribution of £2.7m and account for 39% of the total contribution of this cohort (see Figure 18). In contrast, the bottom 10% contribute 1% of the total. From a policy perspective, this highlights how effective salary thresholds can be in rationing work visas if the objective is to reduce migration whilst minimising any fiscal costs.

Figure 16. Lifetime Fiscal Contribution of SW (excl. H&C) Main Applicants, 2022/23 Cohort

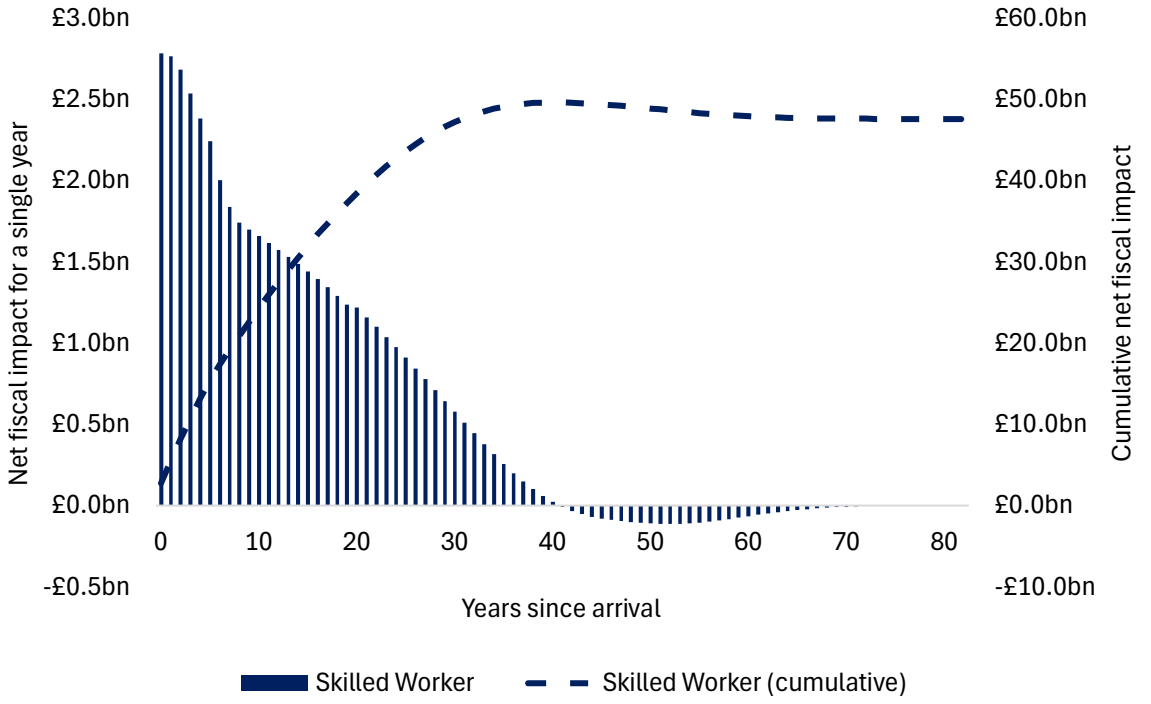


Figure 17. Lifetime Fiscal Contribution of H&C Main Applicants, 2022/23 Cohort

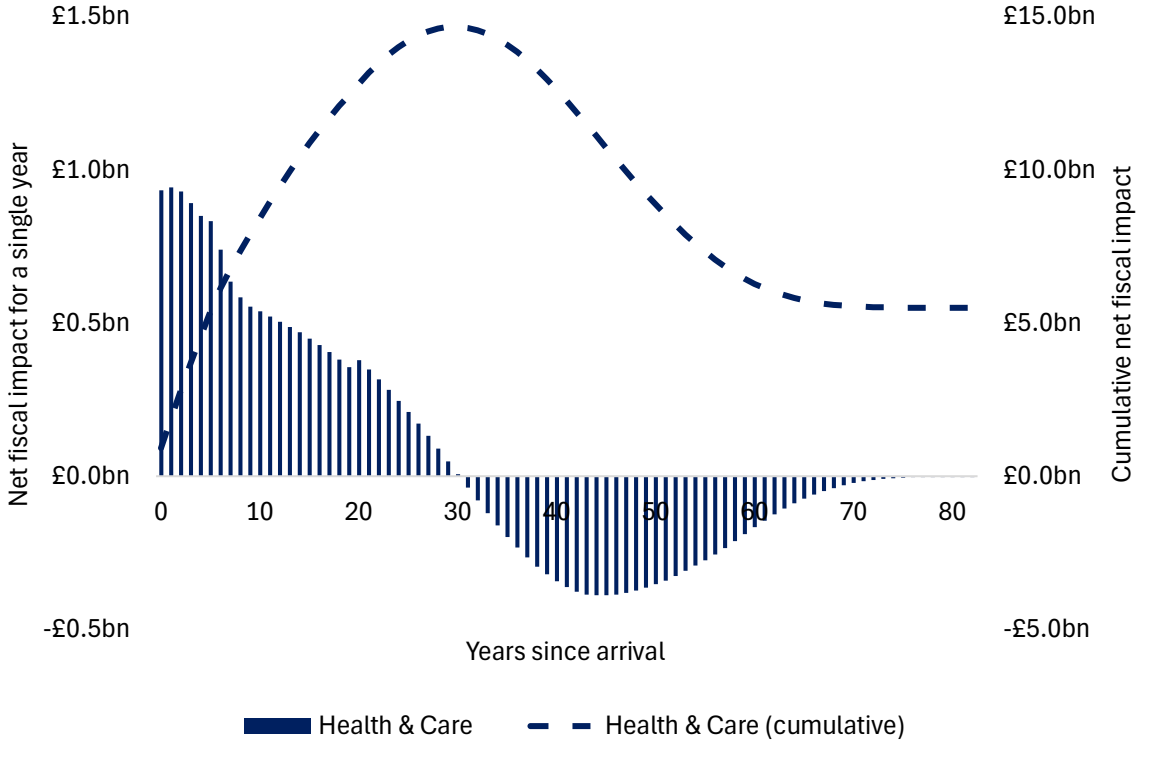
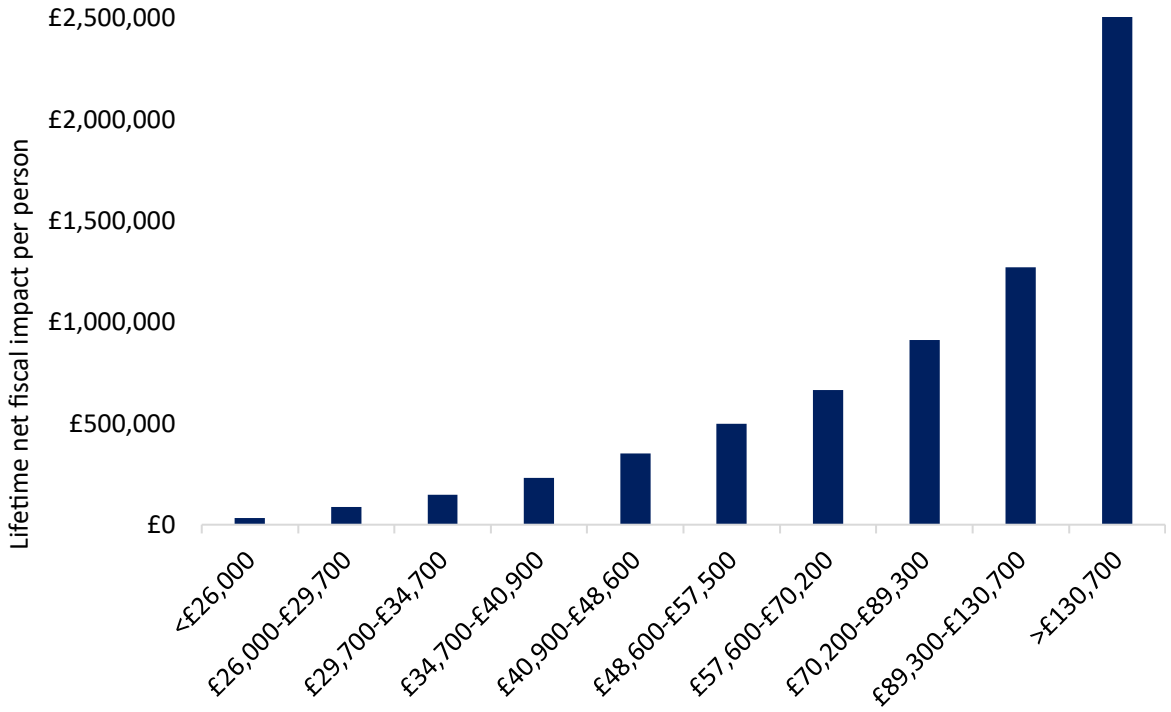


Figure 18. Lifetime Fiscal Contribution of SW (excl. H&C) Main Applicants by Entry Wage Decile



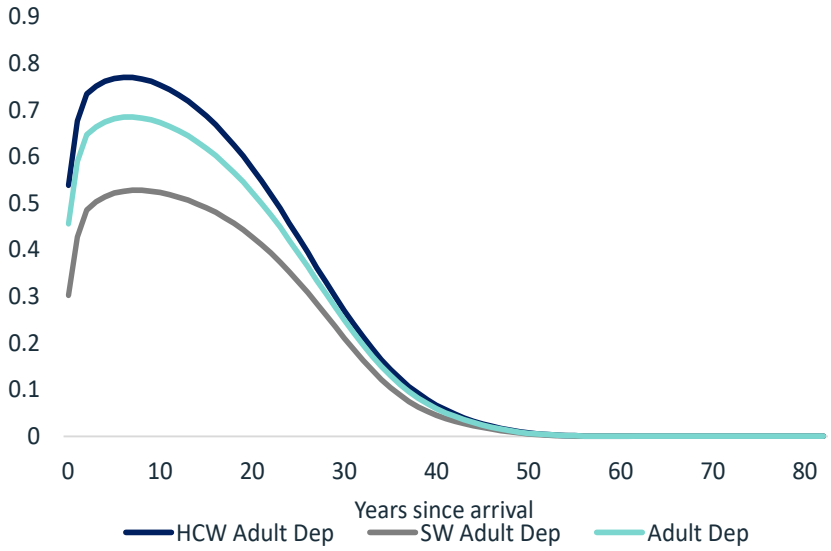
For the H&C main applicants (Figure 17), the lifetime fiscal contribution is positive (£54,000) but much smaller than for SW (excl. H&C) main applicants. This is a result of having far fewer highly paid workers in this group. If we again generate a UK comparator group with the same age distribution, we estimate their mean fiscal contribution to be +£114,000 and their median to be -£49,000. In other words, the H&C workers are less fiscally positive compared to UK residents of the same age (though much better than the median) – but there is still the additional benefit to the fiscal balance of having more younger workers than the UK average. We can split this group of main applicants into those who came as care workers and those who came in other health and care occupations (mainly nurses and doctors). For care workers, the lifetime contribution is estimated to be -£36,000, whilst for the other occupations it is +£166,000. Care Workers are therefore fiscally negative over their lifetimes and broadly similar to the UK median for the age group. Other H&C occupations are much more fiscally positive over their lifetimes and more positive than equivalently aged UK residents. This reflects the significantly lower wages that care workers can be paid on the visa than the other occupations. It is important to remember that these calculations do not reflect the potentially important positive spillover effects that health care workers may have on the rest of the population or on the fiscal cost of providing health and care services.

For adult dependants we adopt the same basic approach as that used for main applicants. We can use the HMRC-visa match to see what percentage report positive earnings in Year 0

(2022/23) and the distribution of these earnings. Tables A2.3 and A2.4 report these estimates. Two key facts emerge. First, employment rates are low for adult dependants in their first year (44%), and particularly low for SW (excl. H&C) dependants. This is likely to be at least partly a result of household labour supply decisions where the main applicant is a high earner. However, employment rates grow rapidly during the first year (Figure A2.1). Second, earnings for those SW (excl. H&C) dependants who do work are higher than those for H&C dependants – this is consistent with assortative matching. Going forward, we assume in our baseline estimates that employment rates from the end of the first year (Figure A2.1) improve by a further two percentage points per year for the first five years and then transitions in and out of employment follow the same pattern as for all workers of the same age and gender. The implied overall employment rates over time are shown in Figure 19. This assumption on employment gains is a key determinant of the overall fiscal contribution of adult dependants. Only by following this cohort over time will we be able to produce reliable estimates of the actual employment rates that they achieve as their time in the UK increases, and we will be able to update our lifetime estimates at that point. We justify the baseline assumption with two observations. First, we know that for a cohort of family visa partners who came to the UK in 2019/20, their employment rate rose from 44% in the first year (which is the same as the first year for the adult dependants here) to 60% after four years. Second, data from the Annual Population Survey shows that those of working-age who report that they arrived in the UK as adult dependants of visa holders (covering more than just work visas) have employment rates of 60-65% after a few years in the UK. Figure 19 implies a peak employment rate of 68% for all adult dependants. We assume real wages change over time to reflect the age-earnings profile but that there are no additional wage gains relative to resident workers. We present some sensitivity analysis to these assumptions below.

Figures 20 and 21 show the lifetime contributions for SW (excl. H&C) and H&C adult dependants respectively. There average lifetime contributions are +£3,000 and -£67,000 respectively. This is in spite of being younger than the average UK resident – the age-adjusted UK comparators are +£107,000 (median of -£55,000) and +£84,000 (median of -£71,000) respectively. In other words, adult dependants have worse outcomes than the equivalently aged UK resident because they have relatively low employment rates and have very few high earners. However, even for H&C dependants, their lifetime contribution is broadly similar to a UK resident at the median.

Figure 19. Predicted Employment Rates for Adult Dependants, 2022/23 Cohort



Three additional points are worth commenting on. First, there is a spike at year 5 (and in the subsequent few years). This is simply the assumed payment of £3,029 per person to obtain ILR. This payment was also in the main applicant charts but is more noticeable here because of the scale. Second, there is a further mini spike at year 20 which reflects the final year of additional expenditure allocated to migrants to preserve the public capital stock. Third, welfare payments are higher for H&C dependants than for SW (excl. H&C) dependants. This is because some payments (e.g. Universal Credit) depend on the income of the household, and SW (excl. H&C) dependants are less likely to be able to claim these benefits given the earnings of the main applicant.

To examine the sensitivity of our estimates for adult dependants, we consider a low and high scenario relative to the baseline results reported above. In the low scenario, we assume that employment gains are much weaker, and that adult dependants do not increase their employment rate whilst in the UK. This results in low overall employment rates that peak at only 48% (for SW (excl. H&C)) and 65% (H&C). In the high scenario we revert to the more optimistic employment gains assumed in the baseline for H&C adult dependants and an additional 5 percentage points over the first five years for SW (excl. H&C) adult dependants. We also assume that wage growth is faster than for natives, with a relative wage gain of 10% over the course of ten years. This is broadly consistent with results reported in Bell and Johnson (2024).

Figure 20. Lifetime Fiscal Contribution of SW (excl. H&C) Adult Dependants, 2022/23 Cohort

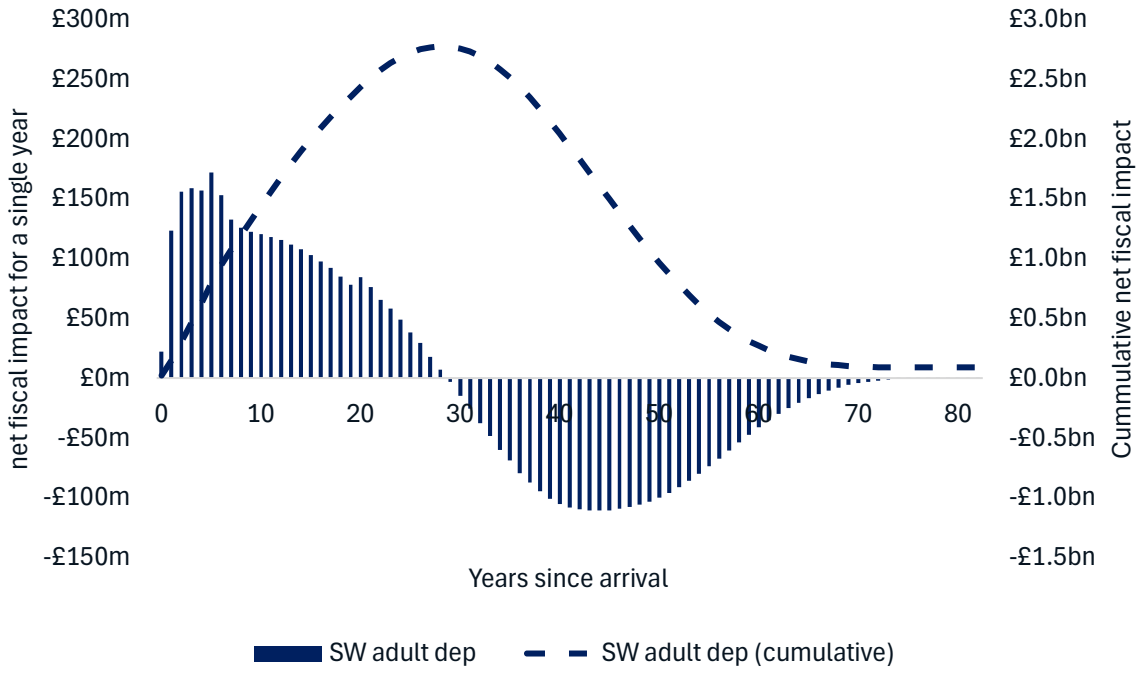


Figure 21. Lifetime Fiscal Contribution of H&C Adult Dependants, 2022/23 Cohort

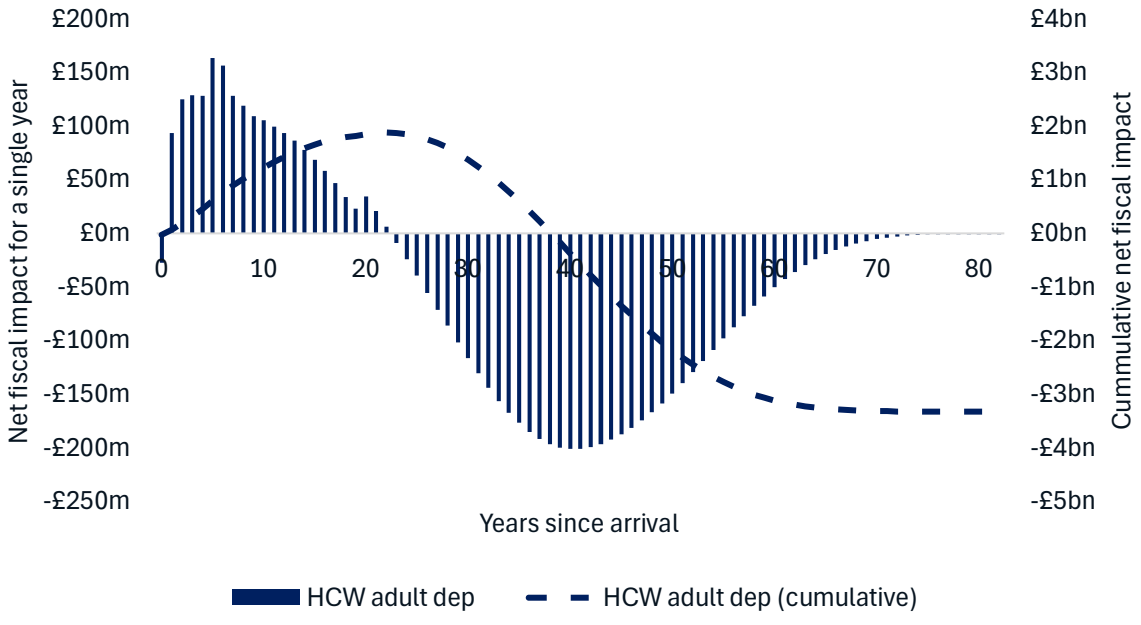


Table 22 reports the impact of these alternatives. The differences across scenarios are more pronounced for the SW (excl. H&C) dependants than for the H&C dependants. This is because the former group have substantially higher earnings when in employment and so changes in the likelihood of employment generate more significant fiscal effects for that group. The effect of assuming faster relative wage growth is by comparison quite small.

Table 22. Lifetime Fiscal Contribution of Adult Dependants, Sensitivity Analysis

	SW (excl. H&C)	H&C
Baseline: 10 pp employment gain	+£3,000	-£67,000
Low Scenario: no employment gain	-£43,000	-£92,000
High Scenario: Baseline + 1% pa relative wage growth for 10 years and additional 5 pp employment gain for SW adult dependants	+£45,000	-£55,000

We can also compute the estimated total lifetime fiscal contribution of the entire cohort. To do this we also need to account for children who arrive in the cohort[6]. We ignore all those who arrive as children and remain more than 8 years. We essentially treat this group as equivalent to UK children and their fiscal contribution over their lifetime will be the same as if they had been born in the UK. This assumption could be wrong in either direction. Children of migrants may perform more poorly over their lifetime than those born to natives. This could be a result of language difficulties or broader integration issues. Recent evidence from Denmark (Jensen and Manning, 2025) shows that children of immigrants there have lower earnings, higher unemployment and higher welfare transfers than local-born children over their lifetime. However, these differences vanish once parental socioeconomic characteristics are accounted for. In other words, the long-term outcomes for children of migrants are essentially the same as children of natives with similar parental backgrounds. Given the selection involved in the skilled worker visa, it may well be that their children perform more strongly in education and the labour market than the average UK child. Unfortunately, there are no equivalent data to those used in Denmark to provide any evidence on this for the UK.

We do however account for the fiscal costs of children who arrive and leave before they turn 18. These children impose a cost on the UK taxpayer that will not be repaid by subsequent contributions.

Table 23 reports the estimated totals for the 2022/23 cohort. For the entire cohort of 329,200 arrivals, we estimate that they will contribute a net £47.1bn over their lifetime – or +£143,000

[6] We ignore any children subsequently born to the migrants once they are in the UK. We do so both because we have no information on such births and because we assume that they contribute the same over their lifetime as the average child born to a UK native.

per migrant. This is almost entirely driven by main applicants working outside of Health and Care. The small overall negative contributions for SW (excl. H&C) dependants (-£700m) are little more than a rounding error compared to the large positive contribution of the main applicants. In contrast, the overall net fiscal contribution of H&C visas is only just positive – the positive contribution (+£5.5bn) from the main applicants just offsets the negative contribution from dependants. It is important to note that the relatively low overall positive contribution of H&C main applicants is a result of care workers being able to use the route at that time. These workers are much lower paid than other H&C workers and the average UK worker. Care worker main applicants have a total lifetime negative contribution of £2bn compared to a positive contribution of £7.5bn for other H&C workers. Recall also that the average UK resident will make a negative contribution over their lifetime. And again, these calculations ignore all the potential additional social value that health and care workers provide.

Table 23. Lifetime Cohort Totals (in £m)

	Tax Revenue	Visa Fees	Expenditure	Net
SW (excl. H&C) Main Applicant	72,100	600	25,100	47,700
SW (excl. H&C) Adult Dep	10,400	100	10,400	100
SW (excl. H&C) Child Dep	0	100	900	-800
H&C Main Applicant	43,300	500	38,300	5,500
H&C Adult Dep	14,400	30	17,700	-3,300
H&C Child Dep	0	40	2,100	-2,000
Total	**140,300**	**1,300**	**94,500**	**47,100**

Conclusions and Future Work

This paper presents our first estimates of the lifetime fiscal contribution of a cohort of visa holders. We have focused on the Skilled Worker route as it is the main work visa route in the UK and is the visa route that we have provided the most advice to government on in the last few years.

Whilst it is clear from our analysis that the overall fiscal impact of the Skilled Worker visa route is positive, working out the precise point at which someone becomes fiscally positive is difficult and models such as those presented here can only provide a rough guide. Not only are the assumptions that we need to make highly uncertain, but the fiscal impact will vary by multiple individual factors. An immigration system that tried to take account of all of them would be overly complex.

That said, it is reasonable for immigration policy to be designed around the idea that we should not admit groups of people with an expected negative lifetime fiscal impact unless there is a clear reason to do so. This might be because they generate broader positive spillover effects, they enable the provision or enhance the quality of public service provision, or because there are other ethical considerations e.g. humanitarian routes.

Our results highlight the very different fiscal outcomes for high-earning skilled migrants compared to those in lower paying occupations such as care work. Among the lower-earning skilled worker groups, temporary migration will be more beneficial than permanent migration from a fiscal perspective. This is not true higher up the earnings distribution, where having migrants stay in the long-term adds to the fiscal benefit they provide.

This paper provides our first comprehensive analysis of the fiscal contribution of a particular visa route. We plan to publish a number of further analyses over time. First, we intend to explore the fiscal impact of other visa routes such as the family route, other work routes such as Global Business Mobility, and humanitarian and asylum routes. Second, we intend to continue to refine both our methodology and data matching. This exercise will inevitably result in changes to the estimates that we have presented here. Again, this simply highlights the uncertainty attached to any particular set of estimates and the importance of refining the assumptions that must be made in the light of new evidence.

High on our list of work to be done is to match the visa records with Migrant Journey data. This will allow us to understand the extent to which emigration from a visa route is random (which we have implicitly assumed in the analysis presented here) or whether it is correlated with observable characteristics that also determine fiscal contribution. For example, if it turned out that the highest-earning skilled workers were the most likely to leave after a few years and lower-earning workers were more likely to stay and obtain settlement, we would be over-estimating the lifetime fiscal contribution of the cohort. As we are able to track this (and other) cohorts over time, we will also be able to improve our estimates of the employment rate and wages that both main applicants and dependants achieve as their time

in the UK increases. This is particularly important for dependants where we have little reliable data at present.

Other, more ambitious, work will depend upon the ability to match further datasets across government. Since we have matched these migrants to HMRC records, it should conceptually be possible to obtain more reliable figures on their actual tax contributions over time. This will be particularly valuable for taxes such as capital gains and stamp duty. If we could also match the visa holders to DWP benefit records, we would be able to estimate actual take-up of benefits post-settlement rather than assume a similar pattern to the resident population as we do here. Benefit receipt is arguably the most uncertain element in our current estimates and estimates for those groups whose contributions are close to zero can easily have their sign switched with alternative reasonable assumptions regarding welfare benefits. However, the overall conclusion that the route provides a positive lifetime fiscal impact is robust simply because it is driven by the high earnings of the SW (excl. H&C) main applicants.

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Appendix A: Methods and Data

1. Demography

1.A Migrant Population

The Skilled Worker (SW) migrant population comes from the entry clearance visa data held by Home Office. The data include information on visa type (SW or SW – Health & Care), applicant type (main or dependant), age, gender and nationality. At present, the data cannot be analysed at the household level i.e. although we know the number of main applicants and the number of dependants, we cannot match them to each other.

1.B Migrant Arrival Rate

A small proportion of those granted an entry clearance visa will never arrive in the UK. The 2022 Migrant Journey publication reports that of the 287,100 visas issued for 'workers' in 2022 (which is somewhat broader than the SW visa), 99% had a recorded arrival. For simplicity, we ignore this effect. We also assume that all migrants arrive at the start of the financial year, rather than throughout the year. This implies that the static results should be interpreted as reflecting the first 12 months of each migrant's period in the UK, rather than strictly the 2022/23 financial year.

1.C UK Population

The UK population totals used are those from the Office for National Statistics (ONS) 2022-based National Population Projections. We use the estimated population in 2022 by individual year of age and sex. This population includes migrants, so should more accurately be termed the UK resident population. We use the same publication to project the population level and its age and sex composition over the dynamic forecast period.

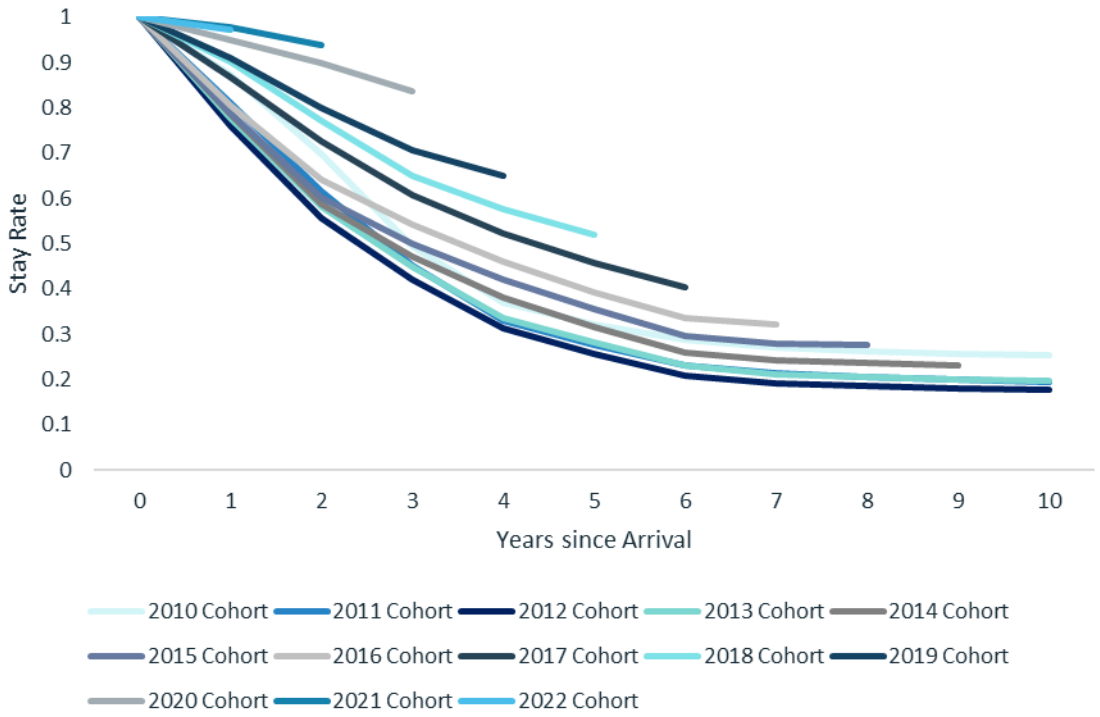
1.D Mortality and Emigration

In each year of the model, some migrants will exit as a result of either death or emigration. We use the 2022 ONS Life Tables that provide mortality rates by individual age and gender. Migrants are assumed to have the same mortality rates as the resident population. In this version, we adjust on a period basis so that we do not attempt to adjust for future improvements in mortality rates. In future, we plan to incorporate the assumptions in the ONS National Population Projections on future mortality rates.

Emigration rates are derived from Migrant Journey (MJ) analysis. The MJ dataset provides data on the journeys of those issued a visa to enter the UK or those claiming asylum. A journey ends in the data (i.e. the individual emigrates) when an individual's leave to remain in the UK expires and they have no subsequent period of leave in the next 12 months. The Home Office publishes a count of the number of new journeys started each year by type of visa and nationality, and outcomes (i.e. exit or remain) for these journeys in each subsequent year.

Figure A1.1 shows the stay rate for each cohort of migrants entering on a 'worker' visa as their time since arrival increases. For example, for those issued a worker visa in 2010 (54,919 individuals), only 25% remained in the UK after 10 years. It is clear that there has been a strong shift in the likelihood of remaining in the UK across the cohorts. At the five-year point, 32% of the 2010 cohort remained in the UK, compared to 52% for the 2018 cohort (the most recent cohort with a five-year history).

Figure A1.1 Stay Rates for Worker Visa Holders, by Cohort



Some of this shift reflects compositional change within the 'worker' visa category. This category combines Skilled Worker visas (called Tier 2 – General prior to 2021) and Global Business Mobility visas (previously called Intra-Company Transfers) and a small number of other visas. GBM visas do not provide a route to settlement and have much lower stay rates than SW visas, and their share of overall worker visas has fallen over time. Unfortunately, the published MJ data cannot be further broken down into these individual visa categories. To adjust for this, we combine the MJ data (by year of entry and nationality) with entry clearance visa data that allows us to compute the share of worker visas issued that are GBM, SW or other. We then fit regressions across cohort and nationality that control for the GBM and the other share. The time dummies from this (journey-count weighted) regression then give us an estimate of the stay-rate for the SW visa holders, shown in Figure A1.2.

As expected, the estimated stay rates for the SW visa holders are substantially higher than for the overall worker category. There is however still a noticeable shift – at the five-year point,

we estimate 54% of the 2010 SW cohort remained in the UK, compared to 80% for the 2018 cohort. Controlling for nationality-mix does not significantly change this shift. It appears that there has been a change in emigration behaviour for more recent SW cohorts, perhaps due to the changing occupation mix, with a higher share of H&C workers in more recent years. In our dynamic model we use the annual emigration rates shown in Table A1.1 (with a zero assumed rate after year 8), which uses the estimated data for Years 1 and 2 from the 2021 and 2022 cohorts shown in Figure A1.2, and adjusting previous cohort estimates to estimate Years 3-8 allowing for the further shifts in stay rates.

Figure A1.2 Estimated Stay Rates for Skilled Worker Visa Holders, by Cohort

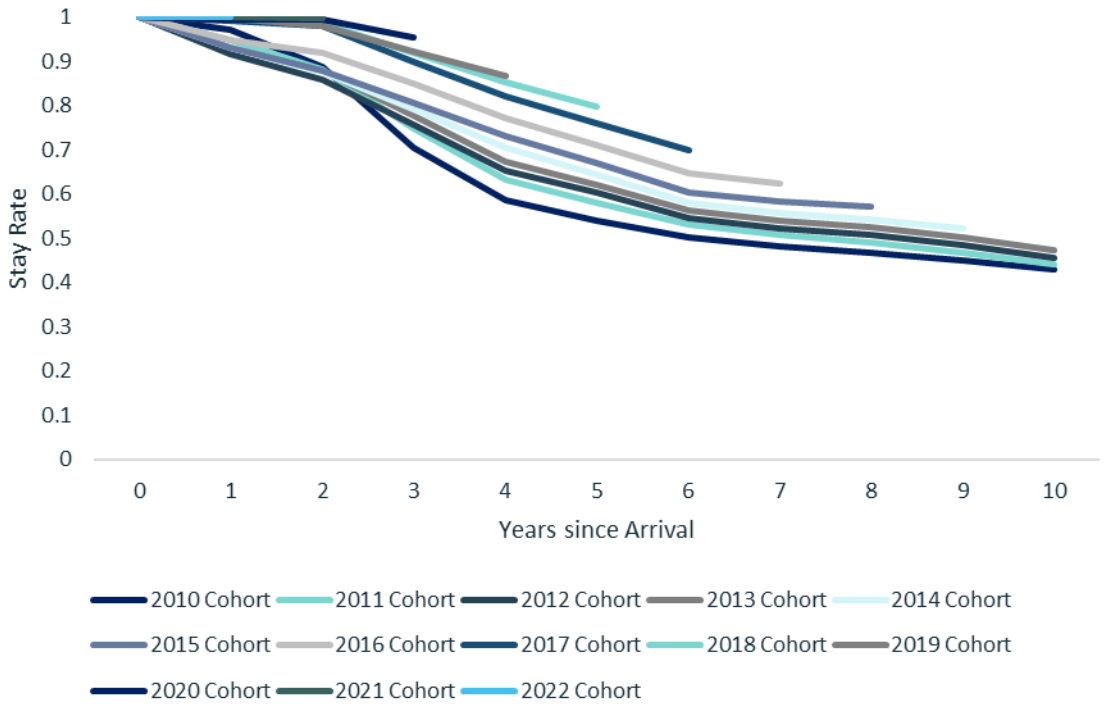


Table A1.1 Annual Emigration Rates

Year	0	1	2	3	4	5	6	7	8
Exit Rate	0.00	0.02	0.04	0.06	0.06	0.06	0.05	0.02	0.01

We also need to estimate the probability that those that remain obtain settlement (indefinite leave to remain, ILR). Once they have obtained ILR, they can choose not to work and can claim welfare benefits. They also cease to pay visa fees. ILR can be obtained after 5 years on the SW visa. The MJ data provides a breakdown of those who remain at any point into those with and

without ILR. Figure A1.3 shows our estimates of the ILR rate (the percent that have obtained ILR) across SW cohorts. There is very little difference across the cohorts, with the majority obtaining ILR by Year 6. We assume all SW migrants that remain have ILR by Year 8 and use the estimated values in Table A1.2 in the dynamic model.

Figure A1.3 Estimated ILR Rates for Skilled Worker Visa Holders, by Cohort

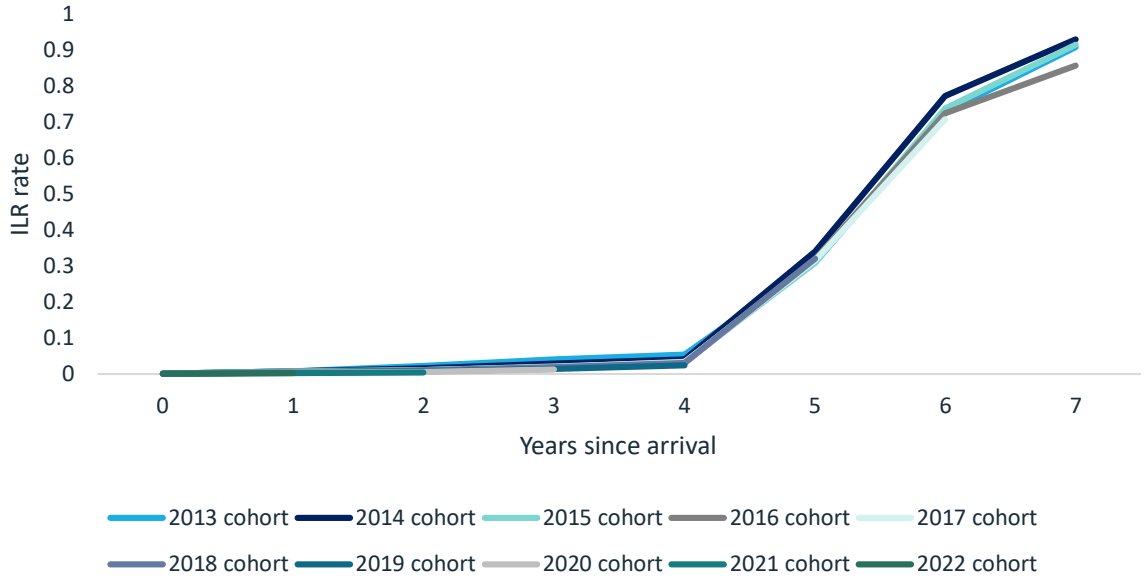


Table A1.2 Annual ILR Rates

Year	0	1	2	3	4	5	6	7	8
ILR Rate	0.00	0.00	0.00	0.00	0.00	0.32	0.41	0.17	0.10

2. Earnings for Main Applicants and Dependants

2.A Entry Year Earnings

Main Applicants on the SW route must have a Certificate of Sponsorship (CoS) issued by their prospective employer prior to applying for an entry clearance visa. The CoS contains information on the job that is being filled and the salary that is being offered. This salary must meet the relevant salary thresholds set out in the Immigration Rules. The rules reference an annual salary, and we convert any figures in the CoS data that are reported as

hourly/weekly/monthly into an annual value. It is important to recognise that there are components of pay that cannot be counted toward the salary thresholds. For example, bonuses and overtime cannot in general be counted. It is likely therefore that CoS earnings data will underestimate actual earnings, particularly at the top of the distribution where bonuses are more commonly paid and represent a significant share of earnings. Of the 170,400 main applicants in the 2022/23 cohort, we have matched 97% with the associated CoS. In contrast to main applicants, dependants do not have a CoS and so Home Office records have no information about the employment and earnings of adult dependants.

We use the HMRC-visa match for both main applicants and adult dependants to address these data gaps. The entry clearance visa records for each individual in the cohort have been matched against HMRC Real Time Information (RTI) for Pay as You Earn (PAYE) data using available common identifiers. In cases where the visa record has a National Insurance Number (NINo) recorded, this was cross-checked against the Migrant Worker Scan (MWS) dataset which shows all applications for a NINo by migrants (among others). The match was deemed to be acceptable if the visa record and MWS matched on at least 3 of the following 6 identifiers (in addition to matching on the NINo): Data of Birth, Forename, Surname, Nationality, Gender and Postcode (for visa extensions only). For those visa records without a NINo, fuzzy matching was performed between the visa record and MWS to assign a NINo using the same variables. Matching was done first by precision matching (comparing specific visa details against MWS records) and then by Levenshtein Edit Distance (LED) which allows for minor inputting errors e.g. a slightly misspelled surname. Matches were considered acceptable if date of birth, forename and surname were matched and also at least one of the other 3 identifiers used above. Unacceptable matches are those in which a lower number of identifiers were matched on.

Table A2.1 below shows the match data for both main applicant and adult dependants for the 2022/23 cohort. Match rates are consistently high, at around 95%. In theory, there should be a 100% match-rate for main applicants as their employment is a condition of the visa. There are two main reasons why the match rate is not 100%. First, as noted in A.1 above, around 1% of entry clearance visas are never used. Second, some are unmatched simply because of data recording errors in either the visa application or HMRC records. Match rates are also high for adult dependants even though we show below that their employment rates are relatively low. Recall however that the matching is to a valid NiNo rather than a HMRC earnings record. Some dependants will have previously obtained a NiNo and others may apply for one for reasons other than work.

Table A2.1: HMRC-visa match data

	Visas issued	Acceptable matches in HMRC	Unacceptable matches in HMRC	Unmatched	Acceptable match rate
Skilled Worker					
Main Applicants	69,200	66,700	700	1,700	96.5%
Adult Dependants	26,900	25,800	400	800	95.9%
SW – Health & Care Worker					
Main applicants	101,200	97,300	1,000	2,900	96.1%
Adult Dependants	49,700	47,200	500	2,000	95.0%

Table A2.2 compares the distribution of earnings for Skilled Worker main applicants using the CoS reported annual salary and the annualised total observed in HMRC for those workers where we observe both values. In the HMRC data we have monthly earnings reported. We simply take the average for all the months in 2022/23 that we observe for the individual and multiply by 12. For SW (excl. H&C), the earnings distribution from HMRC is to the right of that from the CoS, showing that workers are receiving higher total pay than reported at the time of visa issuance. We noted above why this would be expected, but it is perhaps surprising that at the mean, pay is 26% higher. This obviously has important implications for the fiscal contribution of these migrants. The differences are significantly smaller for H&C workers which is to be expected given the more regulated pay structures in the public sector and lack of substantial bonuses and additional payments.

Table A2.2: HMRC – CoS Salary Comparison

	q25	q50	q75	mean
SW (excl. H&C)				
CoS	£30,000	£45,000	£70,000	£60,200
HMRC	£32,600	£49,600	£81,100	£75,700
SW H&C				
CoS	£20,500	£22,500	£27,100	£25,800
HMRC	£21,100	£27,500	£32,900	£28,800

Table A2.3 shows the estimates for adult dependants who are working (who of course do not have a CoS salary to compare). Earnings are on average lower than for their partners, and there is a very notable difference between the earnings of those whose partner works in H&C and those in other sectors.

Table A2.3: HMRC Adult Dependant Earnings

	q25	q50	q75	mean
SW (excl. H&C)				
HMRC	£16,000	£26,000	£48,900	£36,900
SW H&C				
HMRC	£14,800	£19,800	£24,800	£20,700

Figure A2.1 shows the estimated monthly employment rate (defined as the percent with positive earnings among those matched) for the first twelve months after visa issuance and Table A2.4 shows the average employment rate estimates for the 2022/23 cohort of SW adult dependants in year 0. Employment rates increase rapidly during the first year – though remain relatively low for some groups. Employment rates are higher for those adult dependants whose partner is on the H&C visa, and particularly low for female dependants of SW (excl. H&C) main applicants.

Figure A2.1 Adult dependant's monthly employment rate in year of arrival

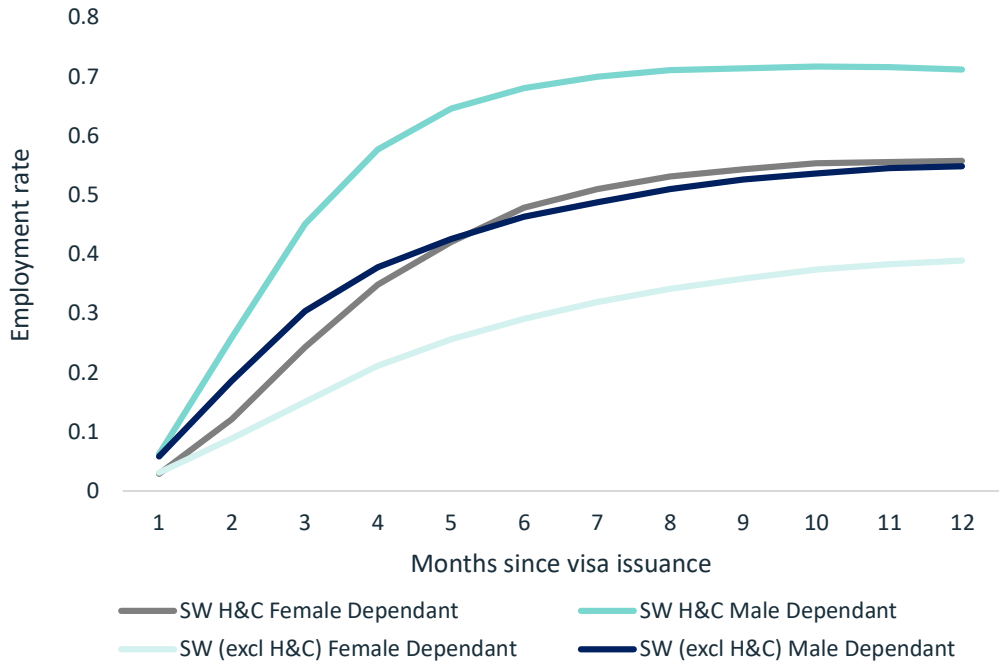


Table A2.4: Average HMRC Adult Dependant Employment Rates in Year of Arrival

	Total	Male	Female
SW (excl. H&C)	30.2%	41.4%	26.6%
SW H&C	53.8%	57.9%	40.8%
All SW	43.6%	52.1%	31.8%

Our approach to earnings in Year 0 (entry year) for main applicants is as follows:

1. Use annualised HMRC earnings data where available (94.1% of acceptable cases)
2. Use CoS reported salary where HMRC earnings are not available (5.7% of acceptable cases)
3. Where neither CoS nor HMRC earnings data are available, impute earnings by randomly drawing from HMRC earnings distribution for main applicants stratified by visa group, age group, sex and nationality group (0.2% of acceptable cases)

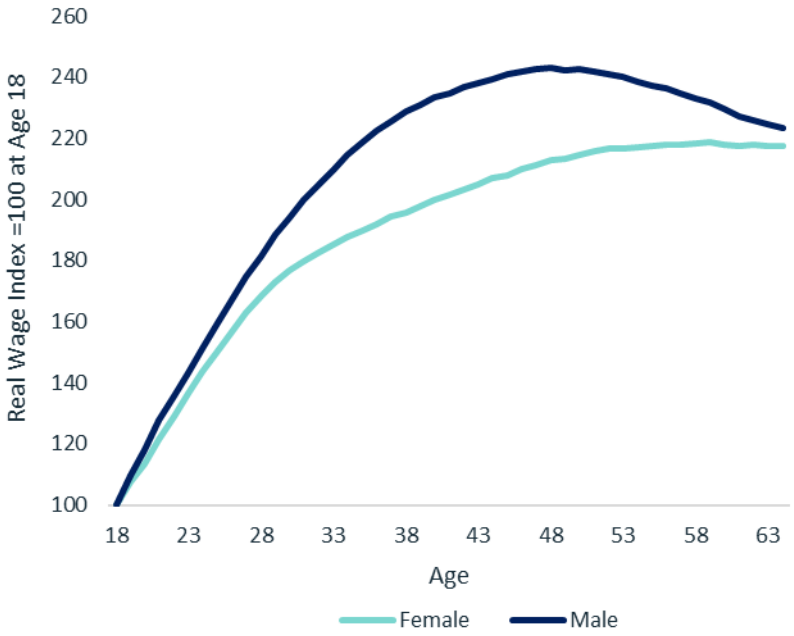
For adult dependants:

1. Use annualised HMRC earnings data where available (37.8% of cases)
2. Impute earnings for adult dependants to reflect match rates by randomly drawing from HMRC earnings distribution for dependants stratified by visa group, age group, sex and nationality group. (1.6% of cases)

2.B Earnings over the lifecycle

We project earnings forward using estimates of the age-earnings profile for all workers in the UK. We estimate a fixed-effect panel regression of log real hourly earnings on individual age dummies and other controls separately by gender using the Annual Survey of Hours and Earnings (ASHE) over the period 2002-2019. We then impute earnings growth for each individual. For example, if a male main applicant arrived age 25, we would impute real earnings growth of 4.5% for the next year based on the coefficient estimates from the regression model. In contrast, if the applicant arrived age 45, earnings growth would only be 0.6% for the next year. We set earnings growth at zero for all ages above 55, as the regression model predicts very slight negative growth at these ages, but with large standard errors.

Figure A2.1: Estimated Age-Earnings Profile

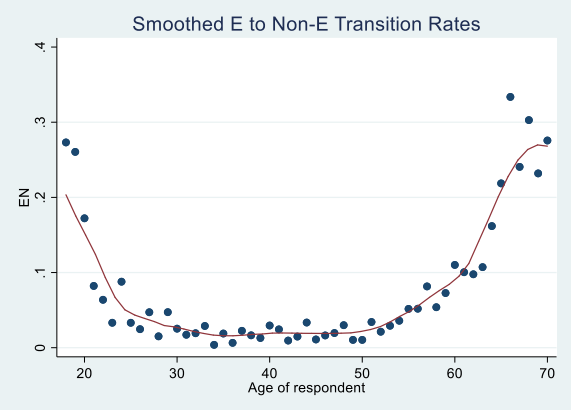


3. Employment Transitions

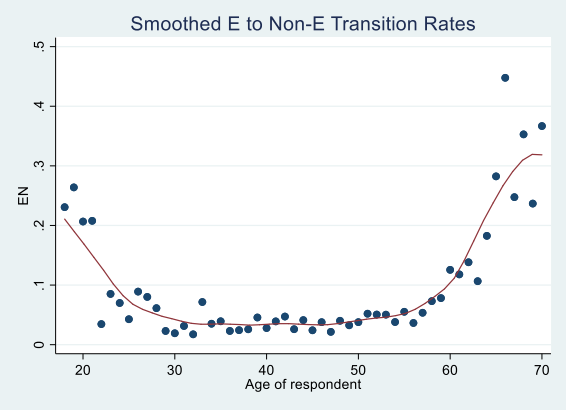
For main applicants, we assume that they remain in full-time employment until they obtain ILR. This is a consequence of their visa conditions. Once they obtain ILR, we assume that SW main applicants transition in and out of employment to the same extent as UK residents of the same individual age and sex. We use the 5-quarter Longitudinal Annual Population Survey

(APS) for 2021-2023 which records the labour force status of a sample of the UK population in the first and fifth quarter that they are interviewed – allowing us to estimate annual transition rates. We identify two separate labour market states: employed (E) and non-employed (N). Figure A3.1 below shows the annual transition rates from E-N and N-E by individual year of age and sex. Given the sampling variability, we fitted a local smoothed polynomial and use the fitted values to estimate transition rates. The data are only provided up to age 70. We assume that the employment probability is zero from age 80 and linearly interpolate from age 70-80.

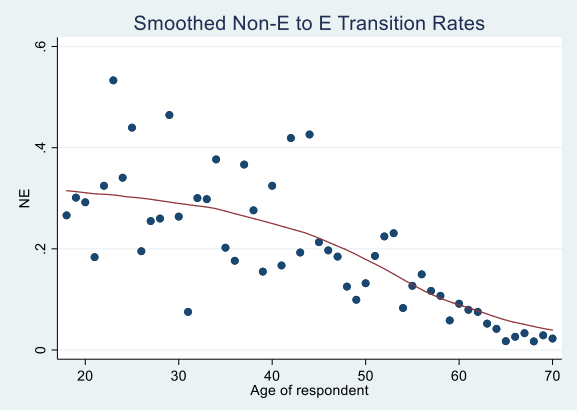
Figure A3.1 Employment/Non-Employment Transition Rates



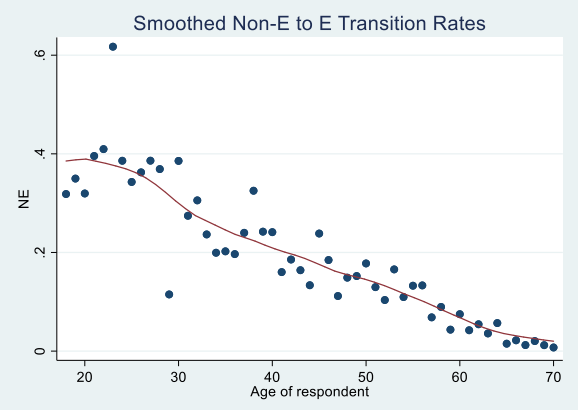
Employment to Non-Employment Annual Transition rates, Males



Employment to Non-Employment Annual Transition rates, Females



Non-Employment to Employment Annual Transition rates, Males



Non-Employment to Employment Annual Transition rates, Females

4. Remittances

We adjust the estimated disposable income of migrants to account for remittances sent abroad. This reduces the available disposable income of migrants to spend in the UK, which therefore reduces their indirect tax contributions.

To estimate the appropriate adjustment, we use data from Wave 13 (Jan 2021 – May 2023) of the UK Household Longitudinal Survey (UKHLS). The UKHLS intermittently asks respondents whether they have sent or given money to anyone in a country outside the UK in the past 12 months for any of the following reasons: (1) repayment of a loan, (2) support family/friends, (3) support local community or (4) personal investment or savings, including property. We code any respondent as a remitter if any of these are answered positively. The data also asks for the value of the last remittance under each category, the frequency of such remittances over the last 12 months and the usual value of the remittance if the last remittance was not usual. We convert these data into an estimate of the annual value of remittances and combine across all reasons for remittances. There are 3,496 individuals in Wave 13 who are aged 18 and over and were born outside the UK. Of this sample, 23.7% reported sending any remittance abroad over the last 12 months. If we restrict analysis to only those migrants in employment, 28.3% sent a remittance.

UKHLS provides data on net income which we can use to estimate the adjustment factor. We take individual monthly net income from all sources and convert to an annual figure. Table A3.1 below shows the data across quartiles of the net income distribution. Other than for the lowest quartile, there is no obvious relationship between net income and the probability of sending a remittance. Remittances account for between 1-2% of net income outside the lowest quartile – though between 5-10% for those who actually send remittances. We therefore set the adjustment factor at 1.5% of disposable income.

Table A4.1 Estimated Value of Remittances

	Lowest Quartile	Second Quartile	Third Quartile	Fourth Quartile	Mean
Annual Net Income (£)	5295	14661	22447	45971	22749
Any Remittances	19.7%	27.4%	24.7%	24.6%	24.2%
Annual Remittances (£)	235	321	353	487	353
Remittances as % of Net Income	4.4%	2.2%	1.6%	1.1%	1.6%
Annual Remittances if >0 (£)	1390	1315	1619	2427	1693

Source: UK Household Longitudinal Survey, Wave 13. Sample restricted to those aged 18 and over born outside the UK. Quartiles are defined on estimated net annual income.

5. Private Pensions

Private pensions need to be accounted for as they reduce income tax liability whilst the worker is in the accrual phase.

To account for contributions to private pensions, we use data from the Annual Survey of Hours and Earnings (ASHE). We use published data from 2021 on enrolment probability and compute the average employee contribution rate directly from the 2022/23 ASHE microdata.

Table A5.1 Estimated Pension Enrolment and Contribution Rates

	Enrolment Rate	Employee Contribution Rate	Employer Contribution Rate
< £100	27.6	5.5	16.3
£100 - £200	45.1	4.7	9.9
£200 - £300	71.5	4.4	8.8
£300 - £400	80.1	4.6	8.4
£400 - £500	85.2	5.0	9.2
£500 - £600	87.1	5.4	10.1
> £600	91.2	6.6	12.3

Notes: Enrolment data from ASHE 2021 published tables, Contributions rates calculated from ASHE 2022/23 microdata.

Appendix B: Additional Tables and Figures

Table B1. Detailed Expenditure Allocations

Component	Total Expenditure (£mn)	Allocation Method	Allocated to SW migrants	Allocated to Children	PESA Table Codes
Pure Public Goods	**91277**	All per capita	Y	Y	
of which					
Executive & Legislative Organs	24674				1.1
Foreign Economic Aid	5084				1.2
General Services	5656				1.3, 1.6
R&D General Public Services	331				1.5
Defence	55532				2
Congestible Public Goods	**229076**	All per capita	Y	Y	
of which					
Public Order and Safety	44226				3
Economic Affairs	125266				4
Environment Protection	14290				5
Housing & Community Amenities	6047				6.2-6.6
Recreation, Culture & Religion	14529				8
Other Education	12786				9.5-9.8
Other Social Protection	11932				10.9
Public Sector Debt Interest	**129856**	Excluded from Primary Spending			1.7
Health	**212676**	All per capita, age- and sex-specific from OBR	Y	Y	7
Adult Social Care	**29192**	Adult per capita, age-specific from OBR	Y	N	10.1 (part), 10.2 (part), 10.7 (part)
Under Fives Education	**4756**	Ages 0-4 per capita	Y	Y	9.1
Primary Education	**30456**	Ages 5-10 per capita	Y	Y	9.1
Secondary Education	**54050**	Ages 11-17 per capita	Y	Y	9.2
Post-Secondary & Tertiary Education	**5288**	Adult per capita, age-specific from FRS	N (allocated to SW adult dependants)	N	9.3, 9.4
Housing Development	**11294**	All Social Housing Residents in FRS, grossed-up	N	N	6.1

Incapacity, Disability & Injury Benefits	**52008**	All recipients in FRS (per-capita in hhld), grossed-up	N	Y	10.1 (part)
State Pensions	**125023**	All recipients in FRS, grossed-up	N	N	10.2 (part), 10.3
Family Benefits, Income Support, UC & Tax Credits	**70588**	All recipients in FRS (per-capita in hhld), grossed-up	N	Y	10.4 (part), 10.7 (part)
Family & Children Social Services	**15013**	All children (ages 0-17), per capita	N	Y	10.4 (part)
Unemployment Benefits	**1003**	All recipients in FRS (per-capita in hhld), grossed-up	N	Y	10.5
Housing Benefits	**17149**	All recipients in FRS (per-capita in hhld), grossed-up	N	Y	10.6
EU Transactions	**-2484**	Adult per capita	Y	N	
Total Public Sector Expenditure on Services (TES)	**1076221**				
Accounting Adjustment	**82635**	Adult per capita	Y	N	
Total Managed Expenditure (TME)	**1158856**				
Primary Spending	**1029000**				

Table B2. Detailed Tax Allocations

Component	Total Revenue	Estimation Method	Allocated to SW migrants	Allocated to Children	ONS Codes
Income Tax	**251995**	Income Tax Rules on Gross Income, adjusted for private pensions and grossed-up	Y	N	MS6W+LISB+MF6X
National Insurance Contributions (NICs)	**180911**	NIC Rules on Gross Income, grossed-up	Y	N	AIIH
Indirect Tax	**249387**	Effective Tax Rate for Disposable Income Decile, grossed-up	Y	N	
of which					
Value-Added Tax (VAT)	187311				NZGF
Fuel Duties	25098				CUDG
Tobacco Duties	9375				GTAO
Alcohol Duties	12384				MF6V
Air Passenger Duty	3268				CWAA
Insurance Premium Tax	7455				CWAD
Vehicle Excise Duty paid by Households	4496				CDDZ
Stamp Duty Land Tax	**16695**	Effective Tax Rate for Disposable Income Decile, grossed-up	Y	N	MM9F
Inheritance Tax	**7086**	Age 70+ Homeowners, per capita	N	N	ACCH
Capital Gains Tax (CGT)	**16928**	Proportional share of Total Wealth for Disposable Income Decile, grossed-up	N	N	MS62
Corporation Tax	**85065**	Proportional Share for Disposable Income Decile	Y	N	CPRN
Council Tax	**41967**	FRS reported band, average in band, grossed-up	Y	N	NMHM
Business Rates	**25323**	Adult per capita	Y	N	CUKY
Public Sector Interest & Dividends	**33814**	Excluded from Primary Receipts			AHHZ
Public Sector Gross Operating Surplus (GOS)	**70428**	Adult per capita	Y	N	JW2K
All Other Public Sector Taxes & Receipts	**55989**	Adult per capita	Y	N	
Public Sector Current Receipts	**1035588**				JW2O
Primary Receipts	**1001774**				

Table B3. Detailed Breakdown of Expenditure and Taxation Contributions by Age Group of UK resident population

	Age Groups											
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+	Average	Total (£bn)
Expenditure												
Pure Public Goods	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	91.3
Congestible Public Goods	3,381	3,381	3,381	3,381	3,381	3,381	3,381	3,381	3,381	3,381	3,381	229.1
Health	1,078	1,214	1,682	1,859	2,287	3,069	4,357	7,172	11,700	13,578	3,146	212.7
Adult Social Care	0	13	213	226	267	434	407	639	2,554	5,329	432	29.2
Education	3,990	7,551	357	100	51	21	6	5	1	1	1,399	94.6
Housing Development	0	62	218	226	174	186	228	219	218	218	167	11.3
State Pension	0	0	0	0	0	0	3,733	10,197	10,910	10,910	1,849	125.0
Welfare Benefits	1,543	1,387	1,653	2,917	3,137	2,352	2,177	1,318	1,737	1,737	2,082	140.7
Family Social Services	1,076	867	0	0	0	0	0	0	0	0	222	15.0
EU & Accounting Adjustment	0	291	1,494	1,494	1,494	1,494	1,494	1,494	1,494	1,494	1,186	80.2
Total	**12,419**	**16,117**	**10,348**	**11,554**	**12,142**	**12,287**	**17,133**	**25,775**	**33,346**	**37,998**	**15,221**	**1,029**

	Age Groups											
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+	Average	Total (£bn)
Taxation												
Income Tax	0	114	3,251	6,684	8,524	7,038	2,840	611	125	125	3,728	252.0
NICs	0	64	2,938	5,108	5,777	4,821	1,858	251	24	24	2,676	180.9
Indirect Taxes	0	91	3,985	5,343	5,799	5,249	4,507	4,434	4,242	4,242	3,689	249.4
Stamp Duty Land Tax	0	22	238	349	398	355	291	275	255	255	247	16.7
Inheritance Tax	0	0	0	0	0	0	0	720	830	830	105	7.1
Capital Gains Tax	0	26	237	360	403	351	293	284	267	267	250	16.9
Corporation Tax	0	114	1,238	1,827	2,045	1,783	1,440	1,360	1,289	1,289	1,258	85.1
Council Tax	0	58	554	745	802	817	878	947	1,029	1,029	621	42.0
Business Rates	0	92	472	472	472	472	472	472	472	472	375	25.3
Gross Operating Surplus	0	256	1,313	1,313	1,313	1,313	1,313	1,313	1,313	1,313	1,042	70.4
All Other Taxes & Receipts	0	174	892	892	892	892	892	892	892	892	828	56.0
Total	**0**	**1,011**	**15,117**	**23,093**	**26,423**	**23,091**	**14,783**	**11,560**	**10,738**	**10,738**	**14,819**	**1,001.8**
Net Contribution	**-12,419**	**-15,105**	**4,769**	**11,539**	**14,281**	**10,804**	**-2,350**	**-14,215**	**-22,608**	**-27,261**	**-402**	**-27.2**

Appendix C: Alternative Spending and Revenue Assumption

Our baseline assumption used for the dynamic model in the main text is that all spending and revenue components remain at the same share of GDP as in 2022/23. Essentially this requires us to inflate future spending and revenue estimates by the growth in real GDP. We follow OBR (2024) in assuming a 1.8% p.a. real GDP growth rate.

Our second approach (reported here) assumes instead that spending and revenue remain constant in real terms over the lifetime (g = 0%). This has the benefit of not requiring any assumptions regarding future spending and tax policy – we can directly use the static model estimates in a dynamic context. It is not however particularly realistic. For example, it implies that the real cost of healthcare will not change over the next 80 years. If there is positive real GDP growth, the government sector will simply shrink over time.

Table C1 reports estimates for the future lifetime fiscal contribution of UK residents for this alternative scenario. It should be compared with Table 14 in the main text, and we include the main baseline (r = 3.0%, g = 1.8%, in bold) in the final row for comparison purposes. Table C2 reports the estimates for the SW cohort lifetime totals (equivalent to Table 23) for r = 3.0% and g = 0%.

Table C1. Future Lifetime Fiscal Contribution of UK residents – alternative assumption

	All UK residents		UK residents, age 18-64	
	Median	**Mean**	**Median**	**Mean**
r = 3.0%, g = 0%	-£84,000	-£8,000	-£44,000	+£51,000
r = 1.0%, g = 0%	-£154,000	-£45,000	-£128,000	-£4,000
r = 5.0%, g = 0%	-£55,000	+£1,000	-£9,000	+£67,000
r = 3.0%, g = 1.8%	**-£145,000**	**-£39,000**	**-£118,000**	**+£4,000**

Table C2. Lifetime Cohort Totals – alternative assumption		
	Per Person (£)	**Total (£mn)**
SW (excl. H&C) Main Applicant	571,000	39,500
SW (excl. H&C) Adult Dep	42,000	1,100
SW (excl. H&C) Child Dep	-29,000	-700
H&C Main Applicant	83,000	8,400
H&C Adult Dep	-17,000	-800
H&C Child Dep	-29,000	-1,700