

# The migrant population in the UK: fiscal effects

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A research study by the Home Office Research, Development and Statistics Directorate in collaboration with the Performance and Innovation Unit and the Institute for Public Policy Research

*The views expressed in this report are those of the authors, not necessarily those of the Home Office (nor do they reflect Government policy).*

RDS Occasional Paper No 77

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ISBN 1 84082 771 8

## Foreword

This report has been produced by the Economics and Resource Analysis unit (ERA), part of the Research, Development and Statistics Directorate of the Home Office. It represents part of a research project undertaken to assess the economic and social effects of migration in the UK in collaboration with the Performance and Innovation Unit (PIU) of the Cabinet Office and the Institute for Public Policy Research. The parent report: 'Migration in the UK: an economic and social analysis' was published last year (Home Office, 2001a).

The public debate over migration into the UK is often over-simplistic and ill informed, sometimes distorted by myths about the extent to which migrants draw on our welfare state, and without sufficient appreciation of the benefits they can bring. The net contribution of migrants to the UK economy is clearly a key part of the debate yet it is an area in which, until recently, little research has been undertaken. This report investigates the fiscal effect of migration – how much migrants pay in taxes compared to the amount they receive in terms of benefits and through their consumption of publicly provided goods and services.

Existing theoretical and empirical evidence has been drawn upon in order to explore the fiscal effect and associated issues. In addition, original analysis of the fiscal effect in the UK has been carried out. This suggests that migrants do make a net fiscal contribution. Although the fiscal impact is positive overall for the migrant population, it is likely that this aggregate result masks the differential performance of subsections of this population.

This is the first time such an analysis has been applied to the UK. Though it is based on the best available data, there are major information gaps which mean that the findings are necessarily tentative. An important reason for publishing the research is to stimulate further investigation in this area and to improve the estimates.

The report is an important contribution to the debate on migration. It provides useful information to support the Government in managing migration in a way that promotes the economic benefits to the UK, an essential element of the Home Office's objectives for migration policy. In doing so it demonstrates the marked heterogeneity of the migrant population in the UK and highlights the complexity of the issues involved.

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## Executive summary

The effects of migrants on an economy and on its existing residents are central to the migration debate, yet little is known about the impact that the migrant population in the UK has via the fiscal system.<sup>1</sup> The primary aim of this paper is to discuss the fiscal effect and various associated issues by examining theoretical and empirical literature. The paper considers what determines the fiscal effect, how it changes over time and whether there are observable characteristics that predict whether an individual will be a net fiscal contributor, as well as how it is affected by government policy. A number of options for enhancing fiscal outcomes for migrants are discussed. In the paper a tentative original analysis for first-generation migrants in the UK is also undertaken. From this it is estimated that in 1999/2000 migrants in the UK contributed £31.2 billion in taxes and consumed £28.8 billion in benefits and state services, a net fiscal contribution of approximately £2.5 billion after rounding. This is equivalent to around 1p on the basic rate of income tax.

Economic activity – primarily employment and earnings – is a key driver of an individual's direct fiscal impact, determining the amount they pay in taxes and receive in benefits. Not surprisingly, those who are economically active, and especially those who are high earners, are likely to be making a net fiscal contribution, by paying more in taxes and national insurance contributions than they consume in publicly-provided services and benefits. Characteristics influencing economic outcomes for migrants include age, skills, qualifications and English language proficiency. It is likely that individuals who are highly qualified and fluent in English will perform better economically, and therefore fiscally, than their less-skilled counterparts. Policies designed to improve migrants' social and economic outcomes, for example, by improving levels of skills and English language proficiency and by tackling social exclusion are likely to improve fiscal outcomes.

This paper concludes that, overall, the current population of first-generation migrants in the UK perform well economically and make a net fiscal contribution. However, migrants are heterogeneous. Though migrants are found to make a positive net fiscal contribution overall, some do less well economically than others, and are likely to have a negative fiscal impact. Domestic policies aimed at improving access to the labour market and tackling social exclusion can help to address this.

The direct fiscal impact is, of course, only one aspect of the contribution that migrants make to the UK. There are wider economic benefits which migrants bring, through their skills and experience, and by setting up new businesses and creating new jobs, for example. Therefore, migration also creates further indirect fiscal effects through any increase to gross domestic product (GDP) and the income of the existing population. Migration also creates important social and cultural benefits, and possible costs. A discussion of migration within a wider context is presented in the recent Home Office study 'Migration: An Economic and Social Analysis' (Home Office, 2001) produced in collaboration with the Performance and Innovation Unit<sup>2</sup> and the Institute for Public Policy Research.<sup>3</sup>

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1 This aspect of migration is particularly topical given the recent focus on the role migration may be able to play in countering some of the negative effects of the projected ageing of the UK population.

2 The PIU home-page can be accessed within the Cabinet Office website at: [www.cabinet-office.gov.uk/innovation/home/home\\_nf.htm](http://www.cabinet-office.gov.uk/innovation/home/home_nf.htm)

3 The IPPR website can be accessed at: [www.ippr.org.uk](http://www.ippr.org.uk)



Migrants, to varying degrees, pay taxes, claim benefits and consume government-provided goods and services for the entire time they live in the host country. Through their participation in all of these activities they have a direct impact on government expenditure and revenue; the extent to which they are involved in each of them determines the direction and magnitude of this effect. If migrants pay more in taxes than they consume in benefits and state services they are said to make a (positive) net fiscal contribution. This represents a transfer of wealth from migrants to UK-born residents. If migrants have a negative fiscal impact on the host economy the value of the benefits and public services they receive exceeds the value of the taxes they pay, with a corresponding transfer of wealth from the UK-born to migrants (through higher tax contributions, or lower benefit receipts).

Migration also produces indirect fiscal effects by influencing the pre-tax income of UK-born residents through impacts on the level of production, productivity and economic growth so that even if they do not make a direct fiscal contribution migrants may still generate fiscal gains. In addition, migrants' labour market activity may alter the returns to, and employment of, the different factors of production. Any resulting alteration in the taxes paid, and benefits received, by the UK-born represents an additional fiscal impact induced by migration. This includes any reduction in taxation and increase in benefit associated with the displacement of UK-born workers, although most studies find that migration has little or no impact on the wages and employment of UK-born residents<sup>4</sup>.

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<sup>4</sup> These indirect effects are discussed in more detail in Sections 2 and 6 of 'Migration: An Economic and Social Analysis' (Home Office, 2001a).



### Theoretically

The direct fiscal effect is driven by the relative value of the tax contributions and welfare receipts of, and state service consumption by, UK-born residents and migrants. An individual's fiscal outcome in any one year depends upon the value of his/her:

- tax contributions
- benefit receipts
- use of publicly provided goods and services.

Tax contributions largely reflect an individual's economic activity, principally their employment and earnings. These, in turn, depend upon individual characteristics, such as skills, qualifications, and labour market experience, English language proficiency, occupation and industry, and for indirect taxes, patterns of consumption;<sup>5</sup> and wider conditions, such as the state of the economy and government policy on tax and benefits. The social environment is also significant. Migrants who are well integrated and socially included are likely to be more successful economically and are less likely to depend on government provision of goods and services. The two are clearly related, as those who are active economically are also less likely to suffer from social exclusion.

Welfare receipts are determined by similar factors to tax contributions as well as the recipient's age, entitlement to benefits as prescribed by legal status, and the number of children in family units and hence fertility rates. For some publicly provided services, such as defence, coverage is similar for all members of the population. For other services, such as education and healthcare, consumption is predominantly determined by age.

Many of these fiscal components come under the direct influence of government policy, for example immigration rules governing access to benefits and employment, and policies to develop skills, language proficiency and social inclusion.

Migrants may enter the UK through one of several channels, including work-related categories, family settlement, asylum and as dependants of primary migrants. Since migrants entering the UK in the various categories are likely to be dissimilar in terms of demographic structure, average skill levels, legal entitlements and average length of stay, it is likely that different groups of migrants have different fiscal outcomes on average, though there is also likely to be variation within each group.

### Empirically

Empirical estimates of the fiscal effect are difficult to obtain, and even more difficult to compare across countries. The estimated impact is sensitive to matters of definition, timing and the wider environment. In some studies the term 'immigrant' refers to foreign nationals, and in others it refers to those born abroad. Different

<sup>5</sup> There may also be a step difference for migrants given the same characteristics as UK-born residents – migrants may consume less, for example, if a percentage of their income is sent back to the country of origin, and therefore contribute less in VAT.

studies measure the fiscal balance according to different demographic and geographical units. In some cases all immigrants are included, and in others only recent cohorts are considered. Any demographic bias thus introduced clearly affects the consistency of the results. Estimates made at a national level are likely to differ from those calculated at a local level, reflecting the significance of factors such as local socio-economic conditions, migrant concentration and internal mobility. The quality of the available data also varies strongly between countries, dictating not only the substance, but also the accuracy of empirical analysis.

As the theory implies, the demographic and socio-economic structure of the migrant population, as determined by past and present migration policy and socio-economic conditions, is a central influence on their fiscal outcome. The domestic socio-economic and policy environment determines the characteristics of the migrant population both directly, by the selection of migrants through immigration controls and indirectly through migrants' selection of the UK. These conditions also influence migrants' performance in the receiving country, such that fiscal outcomes for migrants may be significantly different even between countries with similar migrant populations. Clearly government policy on tax and benefits and migrant rights to employment and welfare are critical. Social policies that influence the extent to which migrants are involved economically and socially in the host country, and the manner in which they are received by UK-born residents, are also significant.

The fiscal estimates are not only conditional upon the period in which they are calculated, since the structure and behaviour of the migrant population will change over time in response to changing conditions, but also to their very point in time, since the fiscal effect is intrinsically linked to the host country's position in the business cycle. In times of economic boom it is likely that migrants are absorbed into the labour market more easily, thereby achieving better employment and fiscal outcomes, than in economic downturns. The time-specific dimension is particularly relevant to cross-sectional studies that are concerned with the redistribution effects of migration over one or a few years. This means that it is difficult to make intertemporal, as well as international, comparisons.

These sensitivities are apparent in the inconsistency between the existing empirical results. These are generally ambiguous, and in some cases contradictory. For example, for the US, Simon (1984) found that immigration generated a positive income effect, whereas Blau (1984) found it was neutral, and Weintraub (1984) that it was negative for the population in the big cities. In a study of Canada, Akbari (1989) described the effect as positive, as did Kakwani (1986) for Australia, and Straubhaar and Weber (1994) for Switzerland. The same positive results were observed in Germany by Giseck, Heileman and Loeffelholz (1994) and by Ulrich (1994), whereas the effects found by Miegel (1984) and Wehrmann (1989) were negative. These results are summarised in Ekberg (1998).

There is, however, some consensus regarding the significant determinants of the overall fiscal effect, and the empirical results generally support the linkages implied by the theory discussed above. Skills, it seems, are important. Ekberg (1998) calculates that during the 1950s, 1960s and 1970s migrants made a net fiscal contribution to the Swedish economy, but had a negative net fiscal impact in the 1990s. This is explained by a reduction in the skill levels of later cohorts of migrants. Borjas (1999) uses the same explanation for similar results derived for the US. A 1999 study by Shields and Wheatley-Price of ethnic minority migrants living in urban areas of the UK identifies qualifications and English language proficiency as being the two most important determinants of occupational success. Their estimates indicate that migrants with degree-level qualifications (holding their other personal characteristics constant) are employed in occupations that are paid almost 30 per cent higher gross hourly wages than those occupied by migrants with no qualifications. Language fluency is found to increase the mean hourly occupational wage by approximately 16 to 20 per cent

(Shields and Wheatley-Price, 1999). However, these results may also capture the effect of unobservable characteristics associated with language fluency and educational achievement – such as general ability and motivation – which may account for some of their positive impact.

Borjas (1990) observed significant variations in welfare participation between national-origin groups (even after controlling for differences in demographic characteristics), identifying the most important characteristic influencing welfare consumption as the source country's level of economic development. The results show that fewer than 10 per cent of US households originating in Germany or the United Kingdom receive some type of assistance, compared to a quarter of those originating in El Salvador or Nigeria, a third of those originating in Cuba or Mexico, and almost 60 per cent of those originating in the Dominican Republic or Laos. A doubling of per capita gross national product (GNP) in the source country was found to reduce the welfare participation rate by 2 to 4 per cent (Borjas, 1990). This result is linked to labour market performance, and it is likely that the per capita GNP variable acts as a proxy for, amongst other things, average levels of human capital.

To some extent national origin may also reflect route of entry, and therefore entitlements to work and claim benefits. For example in the UK, migrants entering through the family settlement category are required to support themselves without recourse to the state for a probation period of one year, whereas fully settled migrants are entitled to full benefit and service provision. Asylum-seekers in France, Italy, Ireland and Denmark are not permitted to seek employment, while Germany, Austria and Spain allow them to work only in exceptional circumstances. Work permit holders are required to work in the job specified by the permit, whereas their spouses and dependants have largely unrestricted access to the labour market in the UK. These legal conditions (which are described in more detail in Table 1) provide one indication that fiscal outcomes may differ substantially between categories.

This is further revealed in the analysis of relative fiscal outcomes. Borjas (1994) calculates that, in the US, the welfare participation rate of those originating in a country that recently underwent a political upheaval is 2 to 3 per cent higher than in other migrant-headed households, and that households from Cambodia or Laos had a welfare participation rate in 1990 of almost 50 per cent. Similarly, Fix and Passel (1994) find that excluding refugees alters the direction of results such that working-age migrants are less likely to receive welfare than their UK-born counterparts. Ekberg (1998) suggests that the fiscal position of migrants in Sweden may have worsened because of an increase in the waiting period to get a permit for asylum-seekers in the 1980s. In some cases it took years between arrival in Sweden and obtaining a permit to stay. Since asylum-seekers were not allowed to work during the waiting period, Ekberg suggests that many of them may have lost valuable skills during this period, thereby worsening their labour market and fiscal performance.

With regards to age, typically individuals are fiscal liabilities when they are young and receiving expensive education services, and when they are old and consuming costly healthcare. Those of working age, who are more likely to be economically active and healthy, are generally fiscal assets. This indicates that the demographic structure and fertility rate is significant to the fiscal effect of the migrant population in aggregate. Evidence does indeed suggest that migrant children are expensive (NRC 1997a) and those of working age are assets (Ulrich 1994), although results find the elderly migrant population to be less fiscally demanding than might be expected (NRC, 1997a; Luscombe and Fish, 1998). Analysis for the UK demonstrates that beyond retirement the net fiscal contribution of migrants falls at a slower rate relative to the UK-born population (Luscombe and Fish, 1998). This is likely to reflect conditions governing pension entitlement and benefit eligibility.



There are several key questions for analysis. These include:

- Do migrants pay more towards public services and welfare than they consume?
- How does this fiscal impact change over time?
- Is there a set of observable characteristics that predict that an individual will be a net fiscal contributor?
- How can policy influence the fiscal balance for migrants?

### **Do migrants pay more towards public services and welfare than they consume?**

Do migrants in the UK 'pay their way', or do they use more public services and receive more welfare payments than they pay for through taxes and national insurance? This question is empirically addressed for the UK in this paper using available data, principally from the Labour Force Survey (LFS). The previous discussion illustrated the importance of characteristics such as age, economic activity and income in determining the fiscal effect. There therefore follows a broad descriptive analysis of the migrant population in the LFS focusing on the key characteristics associated with fiscal impact.

Figure 1 describes the age distribution of the foreign-born population living in the UK in 1999. Since the ongoing effects of migration are of interest, foreign-born residents rather than foreign nationals are shown – the latter would exclude foreign-born migrants who have been naturalised. This is not intended to be a definition of what it is to be a 'migrant', but is simply a means of analysing the available data to explore the effects that migration has in the UK.

Figure 1 includes children born abroad and accompanying their parents to the UK, but excludes any children who are subsequently born in the UK. Consequently, it seems to imply that the proportion of dependent children is low for the foreign-born relative to the UK-born population. However, Figure 2 indicates that migrants' receipts of family-related benefit, and thus fertility rates, are high for the foreign-born relative to the UK-born population (take-up of child benefit is virtually universal). The discrepancy between the two results is accounted for by the number of children born in the UK to foreign-born parents. This suggests that UK-born second generation migrants – including adults who are likely to be working and paying taxes as well as dependent children – are an important group for the analysis. It is unfortunate that none of the major datasets in the UK identify the second generation.

**Figure 1: Age distribution of population; UK and foreign-born (LFS 1999)**

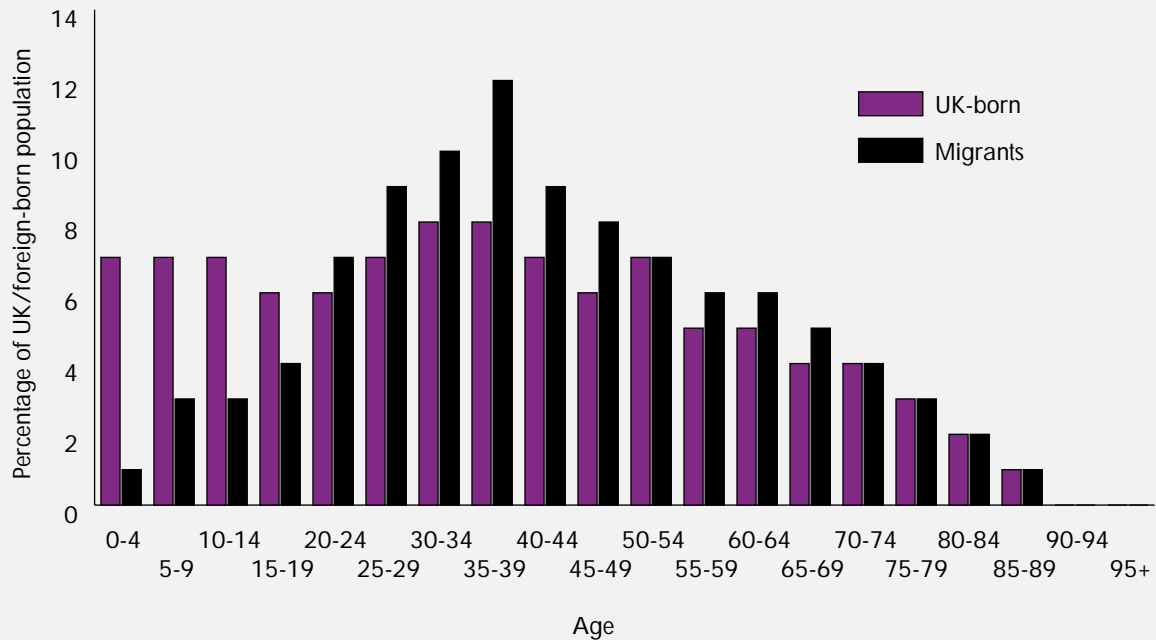
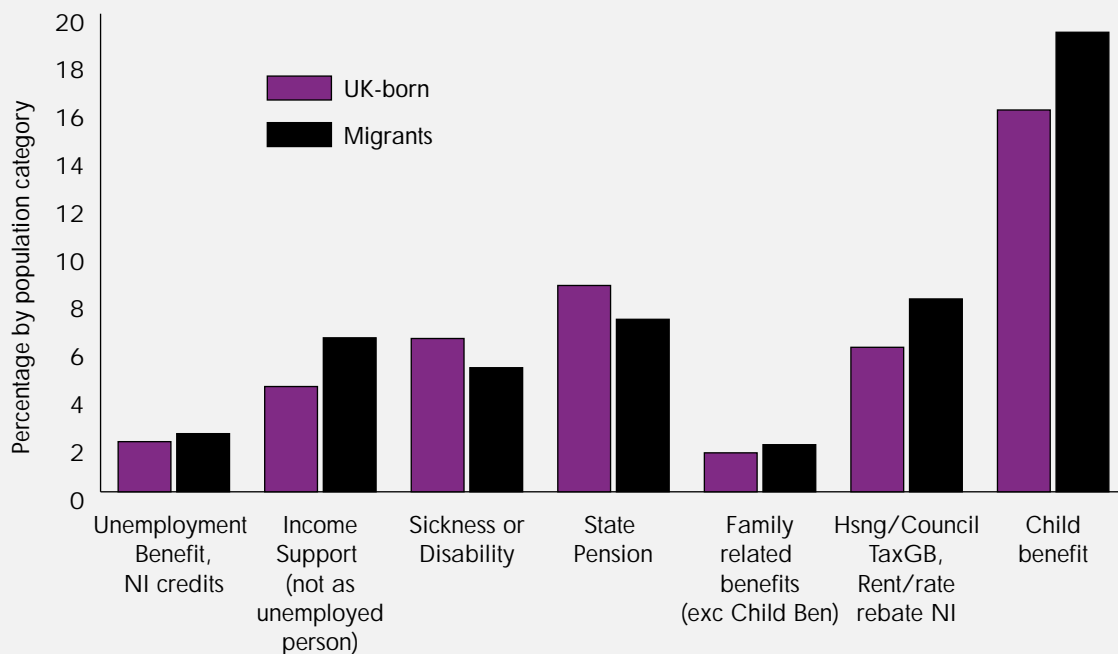


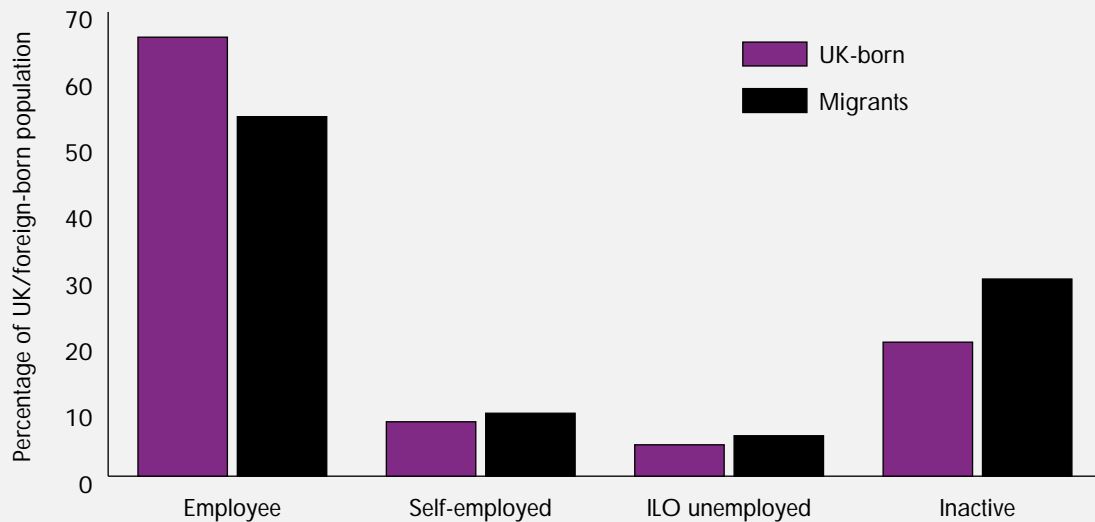
Figure 1 shows that a large proportion of the foreign-born population in the UK are of working age. The proportionately lower consumption of state pensions by the foreign-born described in Figure 2 reflects the under-representation of migrants at the higher end of the age spectrum, as well as the relationship between state pension eligibility and the number of years in employment in the UK.

**Figure 2: Social benefit claims by UK-born/migrant population; 16-69 (LFS 1999)**



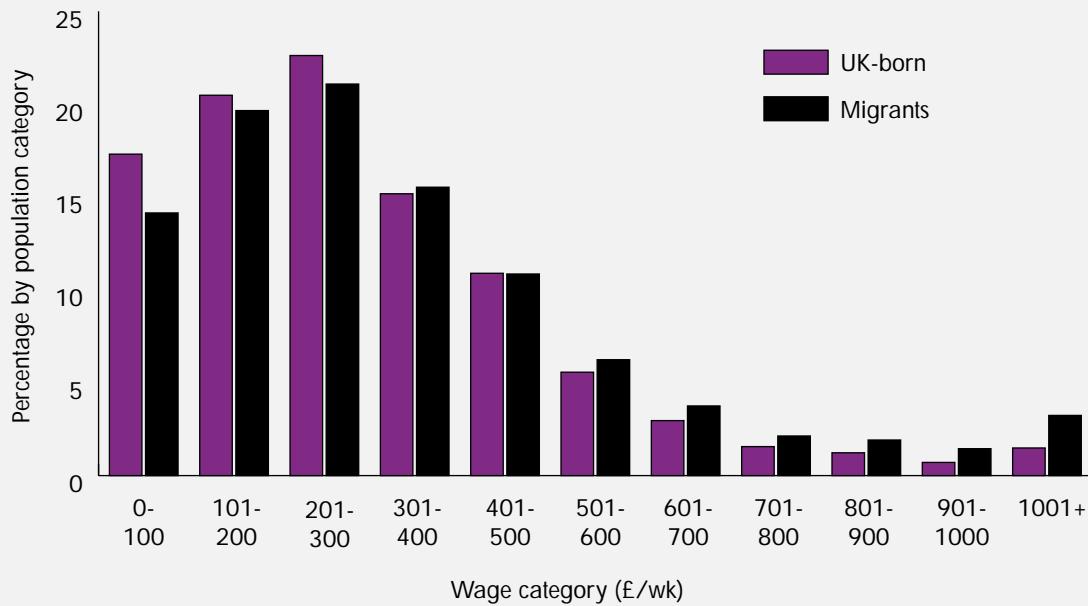
In terms of economic activity, migrants are less likely to be employed (see Figure 3). This is explained, in part, by relatively high inactivity rates amongst female migrants and the high proportion of international students. Also, the ILO rate of unemployment for the foreign born is higher than that for the UK-born. Of those employed, migrants exhibit higher rates of self-employment, perhaps supporting anecdotal evidence that they are more entrepreneurial than the UK-born population. Self-employment may also be a response to labour market barriers and may reflect disadvantage faced in gaining employment.

**Figure 3:** *Basic economic activity of UK and foreign-born population of working age (LFS 1999)*



Analysis of the Labour Force Survey describes a heterogeneous group that is often polarised in characteristics. Data comparing the wages of UK-born residents and migrants in employment suggests that, overall, migrants perform somewhat better than the UK-born – in aggregate migrants receive 12 per cent more in wage income – but it is clear that this average result disguises highly varied performance within the migrant population. For example, although migrants are prevalent at the high end of the earnings distribution, as Figure 4 illustrates, there is also a high proportion of foreign-born residents in the lower income categories.

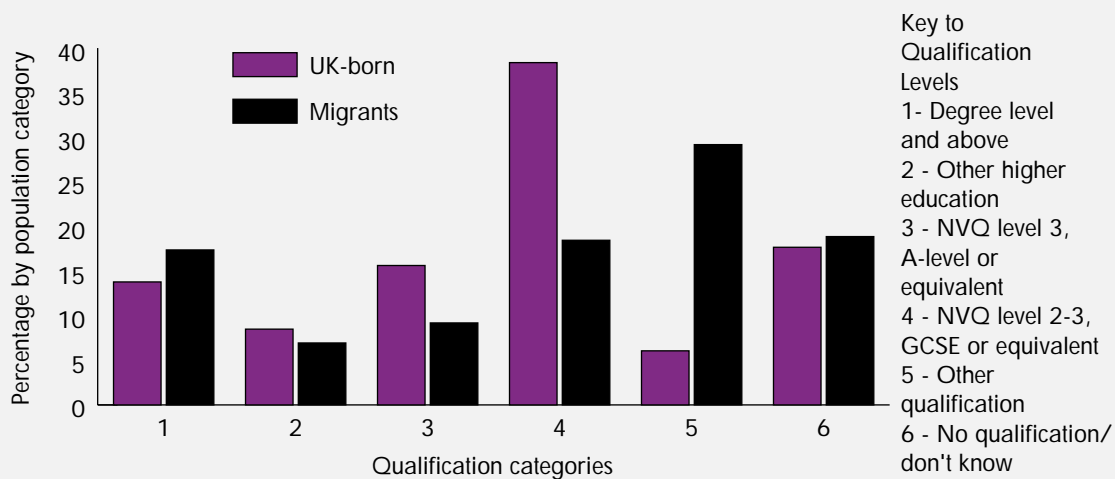
**Figure 4: Gross weekly pay\* (LFS 1999)**



\*population aged 16-69 and those 70 and over who are in employment

The heterogeneity of the migrant population is also illustrated through analysis of their qualification levels (Figure 5). This reveals that there is a higher proportion of foreign-born relative to UK-born adults with higher education qualifications and with no qualifications. There is also a high proportion of migrants whose qualifications are recorded simply as 'other', highlighting the problems associated with the recognition of foreign qualifications which can limit the employment opportunities for those affected.<sup>6</sup>

**Figure 5: Migrants and UK-born residents of working age by highest qualification (LFS 1999)**



<sup>6</sup> Further analysis of the economic and social outcomes of migrants living in the UK is presented in Section 6 of 'Migration: An Economic and Social Analysis' (Home Office, 2001a).

The disparity of the migrant population in the UK probably reflects the separate routes of entry which qualify very different groups to enter the UK and then involve different constraints and regulations. These are presented later in Figure 7 and Table 1. Analysis of the key features of the migrant population, such as age, and income, does suggest, however, that overall they are likely to yield net fiscal benefits.

This part of the paper aims to verify this broad conclusion with more detailed empirical analysis. Available data has been used to attempt to estimate the (direct) net fiscal effect of migrants in 1999/2000. The direct net annual fiscal impact (NAFI) is measured by:

$$NAFI = TM - EM$$

where TM is total tax and national insurance revenue received from migrants and EM is equivalent to the value of government expenditure attributed to migrants' receipt of benefits and consumption of public services. The aim of this analysis is to consider the additional effect that migrants have. To this end an assessment has been made of the amount by which migrants increase government expenditure on welfare and public services, compared with an estimate of the amount they pay in direct and indirect taxes.

Such a calculation is not straightforward – there is a paucity of data recording migrant receipt of, participation in and contribution to publicly-provided goods, services and public revenues in the UK – and it has therefore been necessary to estimate these values using a number of key assumptions. In addition, it is not certain who should be selected for the purpose of this assessment. The estimate attempted here is of the foreign-born population's fiscal impact. However as Figures 1 and 2 demonstrated, considering the foreign-born population alone can seem unrepresentative as it includes children who accompanied their parents to the UK, but excludes those second generation migrants who were born in the UK. To take some account of this we have included expenditure on the dependent children of foreign-born parents, whether they were born in the UK or abroad, in our calculations. Unfortunately none of the major UK datasets identify independent second generation migrants, who are likely to be working and paying taxes, and it has therefore not been possible to include their contribution in this calculation. As a result, this calculation may under-estimate the net fiscal contribution of migrants and their children. The various assumptions, data sources and definitions used in making this calculation are described in more detail in the technical Appendix A.

Under the central set of assumptions, it is estimated that migrants in the UK contributed £31.2 billion in taxes, and increased public expenditure by £28.8 billion through their receipt of public goods and services, resulting in an estimated net fiscal contribution of around £2.5 billion.<sup>7</sup> In other words, in 1999/2000 migrants in the UK reduced the amount that the existing population paid in taxes, or increased the amount they received in welfare and public services, by £2.5 billion. This is equivalent to around 1p on the basic rate of income tax. The tentative nature of this estimate must again be emphasised, as well as the fact that the aggregate figures mask variation in outcomes across different migrant groups.

The UK-born population was also estimated to have paid more in taxes than it received in terms of public services and welfare in 1999/2000 (by just under 5%), reflecting a surplus in the public sector accounts. Migrants made a net contribution estimated at just under 10% and the difference is due to a range of factors. In particular, there is a smaller proportion of people over 65 in the migrant population and a larger percentage of migrants are of working age. Moreover, though proportionally more migrants are unemployed compared with the UK-born

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<sup>7</sup> This is subject to a wide margin of error given that more accurate data is unavailable. Figures have been rounded so do not exactly add.

population, a higher percentage of working migrants are employed in professional and other high-skilled occupations,<sup>8</sup> for example Americans working in the City of London and Indian IT specialists. Overall they contribute more in taxes on average, especially income tax, though there is a range of contributions from within the migrant population and some will contribute markedly less than the average.

This result is consistent with recent estimates of the Net Annual Fiscal Impact for both Spain and Germany. The RWI Economic Institute (Rheinisch-Westfälisches Institut für Wirtschaftsforschung) has estimated that migrants in Germany are contributing about seven per cent (DM250 billion) to annual GDP. From this it is roughly estimated that foreigners are paying DM100 billion in taxes and contributions and receiving approximately two-thirds of these payments (DM60 billion) in monetary transfers from the state and public goods. According to these calculations, migrants in Germany are making a net fiscal contribution of DM40 billion, or £12.3 billion. A study by the Instituto de Migraciones y Servicios Sociales (IMERSO) at the Universidad Pontificia de Comillas calculated that in 1998 migrants in Spain made a net fiscal contribution of 187 million pesetas (£0.7 million), contributing 335 million pesetas in taxes and receiving the equivalent of 148 million pesetas in government expenditure.<sup>9</sup> Comparisons must of course be treated with caution as these countries have experienced different migration patterns and regulations to the UK in the last few decades, and because of methodological differences, but they are nevertheless broadly supportive of our findings. Studies in Sweden and the US, on the other hand, show a negative fiscal impact. The Swedish result is affected by the fact that the migrant population there includes a relatively high proportion of refugees and asylum-seekers who, when allowed to take up employment, find it difficult to find work – due in particular to language problems (OECD, 2001). The US experience is that the skills gap between US-born residents and migrants has increased over the last few decades (even though both groups have become more skilled), which will influence the fiscal balance (Borjas, 1999).

The estimated NAFI provides a snapshot of the current first generation migrant population and their dependent children. As such, it is conditioned by past and present immigration and integration policy. The aggregate result hides the performance of disparate groups, whilst the inclusion of dependent second-generation children, and the exclusion of those who have left home, started work and pay tax (who are not identified in the data), tends to reduce the estimates of migrants' contribution to the economy.

Although the results provide only a rudimentary estimate of the magnitude of the effect, we can be fairly confident that the direction of this effect is positive. This result is obtained consistently using various assumptions. In other words, the results demonstrate that the current generation of migrants in the UK made a net annual fiscal contribution in 1999/2000, although the figure itself needs to be treated with caution.

This initial analysis, although necessarily tentative, is intended to provide a broad indication of migrants' fiscal impact, and to inform a public debate often characterised by myths and stereotyping. Although a Net Annual Fiscal Impact has been calculated in some other countries (such as the US, Germany and Sweden), this paper presents the results of the first attempt to undertake this analysis for the UK.

There is scope for developing and improving it in time in order to obtain better estimates and to extend the analysis. In particular, we would like to measure migrants' total contribution over their entire length of stay in the UK, especially as their impact typically changes over time. Studies of the fiscal impact of migrants' children, and even grandchildren are also essential for understanding the ongoing effects of migration. International evidence indicates that first generation migrants may have a significantly different impact to

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8 For example, analysis of the LFS shows that 15% of the foreign-born are in professional occupations compared with 11% of the UK-born (Home Office, 2001b).

9 URL: <http://www.elpais.es/p/d/20000731/espana/inmigran.htm>

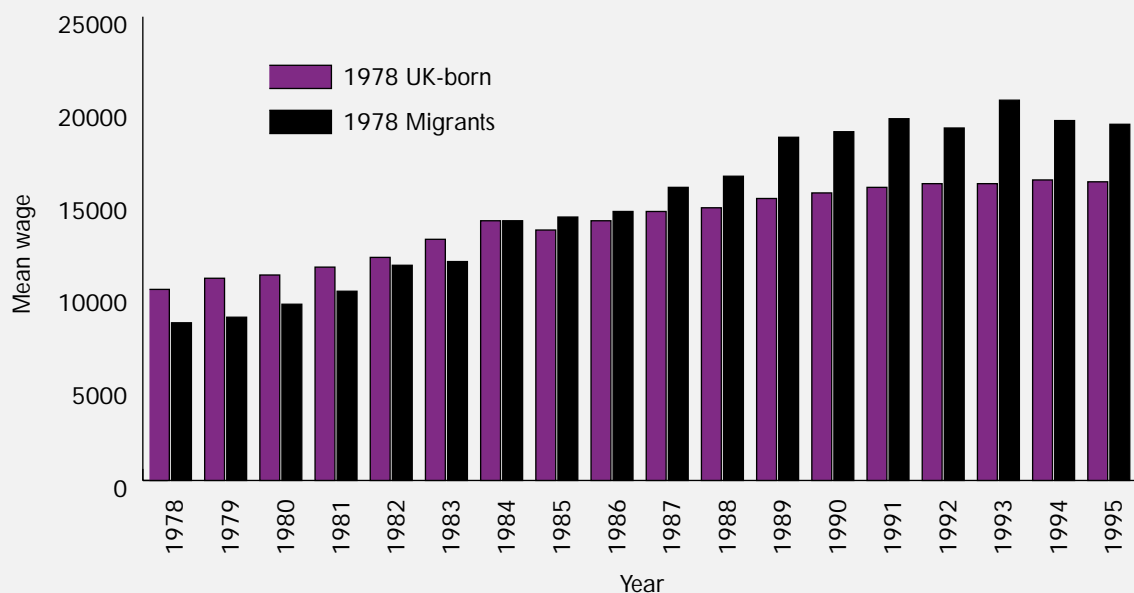
subsequent generations. (This is discussed in more detail below.) Unfortunately at present no UK datasets allow the direct estimation of the fiscal effects of the UK-born children of migrants once they become independent. The fiscal impact of migrants (and non-migrants) will also be more positive in a boom than in a recession so an analysis over the whole cycle would provide a useful further insight.

### How does the fiscal impact change over time?

The cross-section estimate calculation described above provides an indication of migrants' fiscal impact in the UK at one moment in time. However characteristics dominating the fiscal impact, such as age, skill levels and language fluency, vary over lifetime, and over generations, according to individual development and the rate and extent of economic and demographic assimilation. Migrant earnings, and thereby the fiscal impact, will therefore change over time. For example, it is likely that English language proficiency will improve with the length of time spent in the UK, the children of low-skilled migrants will accumulate higher skills through their education in the host country, and UK-born and migrant fertility rates will converge over time. Factors such as social exclusion, ethnic segregation and preservation of culture are, however, critical in determining convergence, so there is an element of uncertainty with regard to the direction and magnitude of change in the fiscal effect over time, though these factors can be addressed by policy measures.

The age-profile of earnings and fiscal contributions of migrants in the UK is summarised as follows: migrants earn and contribute less than their UK-born counterparts in their youth, catch up in their 40s, overtaking UK-born residents and reaching a peak a few years after them, with net fiscal contributions declining at a slower rate for migrants relative to the UK-born (Figure 6; Luscombe and Fish, 1998). To the extent that this profile reflects the effects of length of time spent in the UK, there is some indication that income and fiscal performance increases with the number of years of residence in the UK (ibid.).<sup>10</sup> There is also some international evidence of welfare assimilation over time. For example, Borjas (1999) finds that welfare participation increases with the length of time spent in the US.

**Figure 6: Wages for those aged 25-30 in 1978 by migrant status (in 1997 prices)**



<sup>10</sup> This analysis follows a section of the migrant population – those who were aged between 25 and 30 in 1978 and remained in the UK for the full 20 years – using National Insurance data. How representative this group is of the 1978 migrant cohort in the UK is not known. There is, however, substantial literature in the US showing that migrants generally begin by earning less than US-born residents, but catch up and eventually overtake them.

The changing earnings and fiscal profiles of an individual over their lifetime have special implications with regards to migration. Since an individual's net fiscal impact is not static, a one-off assessment of a migrant's fiscal status does not provide a comprehensive picture of his/her full fiscal effect. For example, individuals who are a net cost to the public sector in the current year's fiscal accounting, such as children, may, in fact, represent a net fiscal gain over their lifetimes, as they finish school, become employed and pay taxes. Those of working age who are currently making net fiscal contributions through higher income taxes are likely to become recipients of social security and healthcare expenditure later in life, and so could turn out to be a net fiscal cost over their lifetimes. Ideally migrants' fiscal impact should be calculated over their entire length of stay in the UK.

The decision to migrate is not a permanent one-off decision. An individual may migrate for a variety of economic, family or other reasons, and may intend to stay in the UK only temporarily, or to settle permanently, and of course may do something different in practice. Unfortunately very little is known about the length of time that migrants spend in the UK. However, data shows that the UK experiences substantial amounts of emigration each year. This includes return migration of foreign-born residents as well as outflows of UK nationals (Home Office, 2001b).

The age at which a migrant enters the UK is significant. There would seem to be a fiscal advantage to the host country in accepting migrants of post-school age as the cost of educating these workers has been borne by the sending country, and there may well be a disadvantage in receiving migrants of retirement age if they are supported by welfare payments and/or public healthcare provision. Although, again, there are valid social reasons for accepting elderly migrants and for being cautious about attracting educated permanent migrants away from source countries, particularly developing countries, who may finance their education and then lose their expertise. Clearly the age at which migrants leave the UK is equally important. For example, migrants may return home on retirement thereby significantly reducing their potential consumption of public benefits and services over their lifetime in the UK.

The changing pattern of economic and fiscal performance over time suggests that temporary and permanent migrations may produce significantly different economic and fiscal effects. A system of temporary migration, to ease skill shortages and inflationary wage pressures, that allows entry to those of working age overcomes the problems associated with the cost of supporting those at the extreme ends of the age spectrum. A scheme that guarantees employment for temporary migrant labour can almost ensure that these migrants are net fiscal contributors, especially since recourse to public funds for work-related migrants is generally subject to a probationary period. Temporary migrants may also be less likely to be accompanied by other family members. The effect that this has will depend primarily on the age structure and activity of the family – even if dependants are not entitled to receive transfer payments they may have a negative effect because of, for example, children who receive education. On the other hand, working partners will probably contribute fiscally, and the cost of education may itself be an investment that generates significant fiscal gains if the recipients go on to work and pay taxes in the UK.

Importantly, temporary migration may also mitigate problems associated with importing skilled labour from developing countries. A temporary system may in fact be of benefit to less developed countries as workers develop their expertise and accumulate additional skills in the UK before returning to their country of origin; or send remittances to their home country during their stay in the UK.<sup>11</sup>

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11 For a further discussion of these issues, see Section 6 of 'Migration: An Economic and Social Analysis' (Home Office, 2001a).

However, there are other points to consider in conjunction with the benefits of a temporary system of migration. Amongst other things, economic performance, as demonstrated above, is likely to improve with time spent in the UK. In addition, subsequent generations (implied by permanent migration, but not encountered with temporary migration) may have a positive impact on economic growth and the fiscal outcome, as well as contributing to population growth rates, which are projected to fall in European countries.<sup>12</sup>

The fiscal impact of subsequent generations of migrants may differ substantially from that of the first generation. For example, a study by the National Research Council concludes that first generation migrants in the US result in, at present discounted value, an average \$3,000 net fiscal cost; including second generation migrants yields (at present discounted value) an \$80,000 fiscal gain. Similarly, Lee and Miller (in Smith and Edmondston, 1998) find that including the fiscal impacts of migrants' concurrent descendants (which includes adult children and grandchildren of still-living migrants) results in an overall positive impact of immigration.

However, such analysis requires substantial amounts of data which are not available for the UK. In addition, dynamic fiscal accounting can depend upon projections of income and population growth rates for migrants and UK-born residents, which by their very nature are unreliable. For example, the National Research Council study calculates the long-run (300 year) impact of new migrants according to an assumption that the federal government will pass a huge tax increase in 2016 to ensure that the debt problem does not deteriorate thereafter. Under the alternative assumption that the federal government continues its current fiscal pattern, the \$80,000 net benefit becomes a \$15,000 net loss (Borjas, 1999).

It is important to include such considerations in order to assess the full fiscal effects of migration. Migration is not a static process, and each migrant does not necessarily increase the UK population by one – migrants entering, and settling in, the UK bring with them other family members from source countries, as well as giving birth to and raising children in the UK. This creates a ripple effect as these family members engage in economic and social activities and interact with the state by paying taxes, consuming state services and, if they are eligible, by claiming benefits. Ideally when analysing the effects of migration, primary migrants should be considered, not in isolation, but in conjunction with all of the other migration and population impacts they imply.

This discussion highlights the importance of careful interpretation of the results of cross-sectional analysis in a dynamic context. A measurement of the aggregate impact of the migrant population represents the migrant population subject to their current age structure. Provided that the current age structure of the migrant population remains fairly stable, this impact will be justly represented. But if the age structure of the migrant population alters over time the net fiscal contribution will also fluctuate.

For example, Ulrich (in Spencer, 1994) relates the positive income effect of the immigrant population in Germany observed in the 1960s to the migrants' juvenile age structure, good employment situation and large net contribution to the pension system; factors that compensate for their lower average income levels. The empirical importance of demographic features, however, leads Ulrich to conclude that the positive effect of foreigners on the pension insurance system is of a temporary nature as the favourable age structure loses its impact with the ageing of the foreign population. In contrast, although it is likely that the positive fiscal impact of migrants in the UK is in part attributable to migrants' favourable age structure, it is largely a product of the high performance of certain sections of the migrant population which account for an average level of income above that of UK-born residents. Furthermore, the age structure of migrants is also determined by flows of

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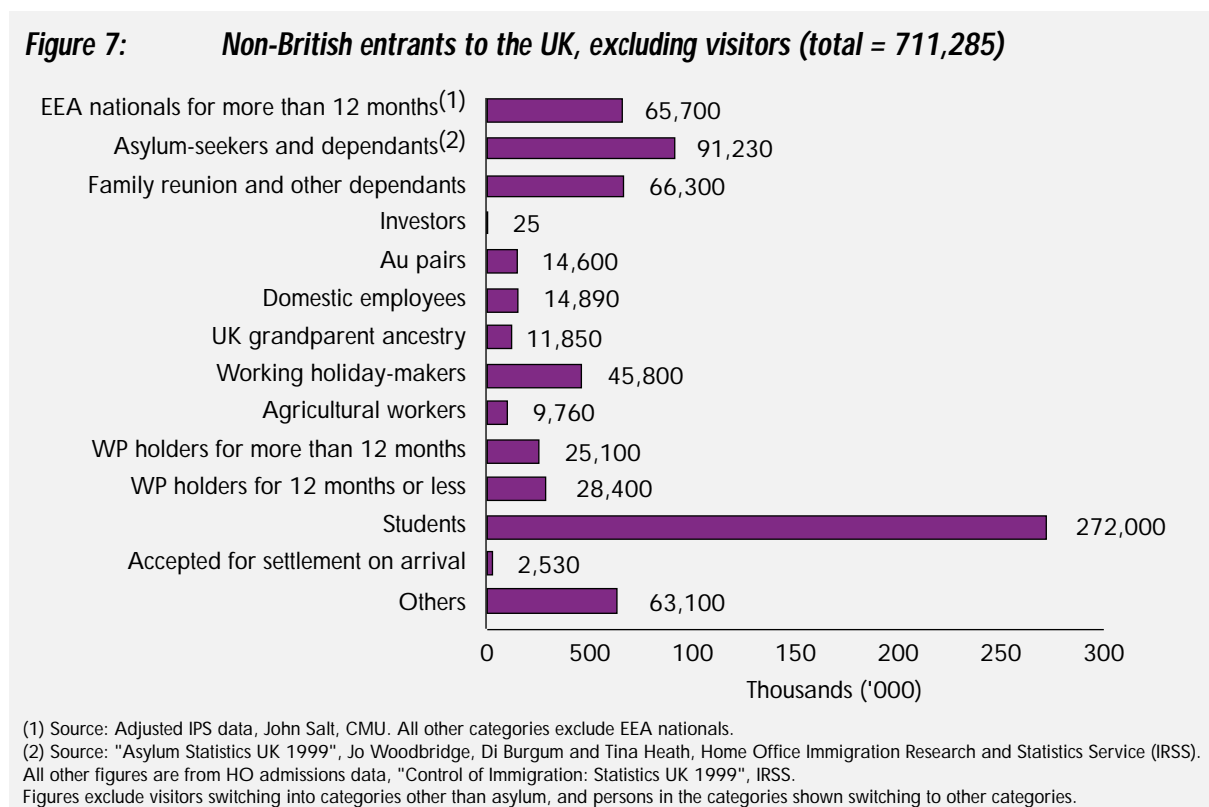
12 A discussion of the implications for migration of the ageing of the populations of Western economies is included in Section 3 of 'Migration: An Economic and Social Analysis' (ibid.).

migrants in and out of the country and the average age on arrival and departure. The largest inflows and outflows among the non-UK-born population are within the 15 to 24 age group (Home Office, 2001b). The ageing of migrants who settle permanently may be partly offset by the arrival of younger migrants and the departure of some of their older counterparts. The positive fiscal benefit is therefore more likely to be sustained over time.

### Is there a set of observable characteristics that predict that an individual will be a net fiscal contributor?

The descriptive analysis of the migrant population from the LFS drew attention to the disparate performance of migrants in the UK. While the net annual fiscal impact is positive in aggregate, the migrant population is so heterogeneous that it is almost certain to be negative for specific groups, defined by particular socio-economic characteristics or policy categorisations. However, the aims of government are wider than the purely economic and there may be some entirely legitimate government policies related to immigration and asylum which do not necessarily produce a positive fiscal impact – where the aims may be, for instance, humanitarian. The disparity in performance raises the question as to whether it is possible to predict and select migrants who are likely to generate positive net fiscal impacts by reference to a set of observable social or economic characteristics.

Figure 7 illustrates the variety of legal routes by which migrants may gain entry to the UK. These include channels admitting migrants for the purpose of both skilled and unskilled, or low skilled, work, for example the work permit system and the seasonal agricultural workers scheme respectively. The category for investors also allows entry for economic reasons. Other channels, such as family settlement and asylum, operate on humanitarian grounds.<sup>13</sup>



Clearly the range of sources of migrants in the UK presents quite a mixture in terms of possible skills, qualifications, characteristics, cultural background, experience and motivation. Different regulations governing access to welfare and the labour market also apply to the various groups, reinforcing the potential disparity of economic and fiscal impact. The employment rules to which certain migrant groups are subject are displayed in Table 1.

<sup>13</sup> A more extensive discussion of the present system of immigration control in the UK is included in Section 5 of 'Migration: An Economic and Social Analysis' (Home Office 2001a).

**Table 1: Employment conditions by migration category**

MIGRATION CATEGORY	TYPE OF EMPLOYMENT ALLOWED	DEPENDANTS	SETTLEMENT
Visitor	Employment prohibited.		
Student (up to 6 months)	Employment (part-time in term time, full-time in vacations) may be allowed if requested and granted on entry.	Dependant is not allowed to work.	
Student (over 6 months)	Part-time employment in term time, full-time in vacations.	Dependant is allowed to work if the student were admitted for 12 months or more.	
Working holidaymaker	Employment which is incidental to the holiday, for up to 2 years.	Only dependants under 5 years of age are permitted to enter the UK.	
Seasonal agricultural worker	Employment at an agricultural camp until 30 November of the same year.	No dependants are allowed to enter.	
Work permit holder	Employment as specified in the permit (this is usually subject to a resident labour test*).	Dependant is allowed to work. Area of employment is not subject to a resident labour test.	At the end of 4 years the person is eligible for settlement which, if granted, allows the person to work.
Permit-free employment (e.g. minister of religion)	Employment as specified in the relevant section of the immigration rules.	Dependant is allowed to work.	At the end of 4 years the person is eligible for settlement.
Persons with UK-born grandparent	Employment allowed, for up to 4 years.	Dependant is allowed to work.	At the end of 4 years the person is eligible for settlement.
Business person, self-employed person, investor, composer, artist	Employment as specified in relevant section of immigration rules, for up to 4 years.	Dependant is allowed to work.	At the end of 4 years the person is eligible for settlement.
Retired person of independent means	Employment prohibited for up to 4 years.	Dependants are not allowed to work.	At the end of 4 years the person is eligible for settlement.
Spouse	Employment allowed, for up to a year.	Dependent children are allowed to work within the constraints of legislation protecting children's employment rights.	After one year the person is eligible for settlement.
Fiancé(e)	Employment prohibited during period (generally 6 months maximum) prior to marriage.	Dependants are not allowed to work.	After marriage the person is eligible for settlement.
Asylum-seeker	Employment allowed if still awaiting a decision after 6 months, but not while appealing against a refusal. Employment also allowed on request if granted exceptional leave to remain, for up to 4 years.	Employment is granted in exceptional circumstances only (e.g. if the principal applicant is incapacitated and unable to work).	A person recognised as a refugee is granted asylum and settlement simultaneously. A person given exceptional leave to remain is eligible for settlement after 4 years.

\*Note: In most work permit categories, the employer must show that there is no EEA resident who is willing and able to fill the job vacancy before a permit will be allocated.

Unfortunately none of the major UK labour market or tax-benefit databases identifies migrants' routes of entry. This prevents any analysis of migrants' performance by category, and also means that it is not possible to separate the effects of legal status and the accompanying regulations from those produced by other factors. Although the different channels are dissimilar in terms of rationale and regulation, migrants in these categories will not necessarily be distinct in terms of characteristics, and there is not necessarily a clear division between them in terms of achievement. For example, the Work Permit categories are likely to introduce skilled workers but other channels, such as asylum and family settlement, may also contain a high skilled element and have members who go on to make a considerable contribution to the UK. Examples of refugees whose contributions have been of great importance to the UK economy and society include Michael Marks who founded Marks and Spencer, Sir Karl Popper and Paul Hamlyn the publisher, amongst many others (Refugee Council, 1997).

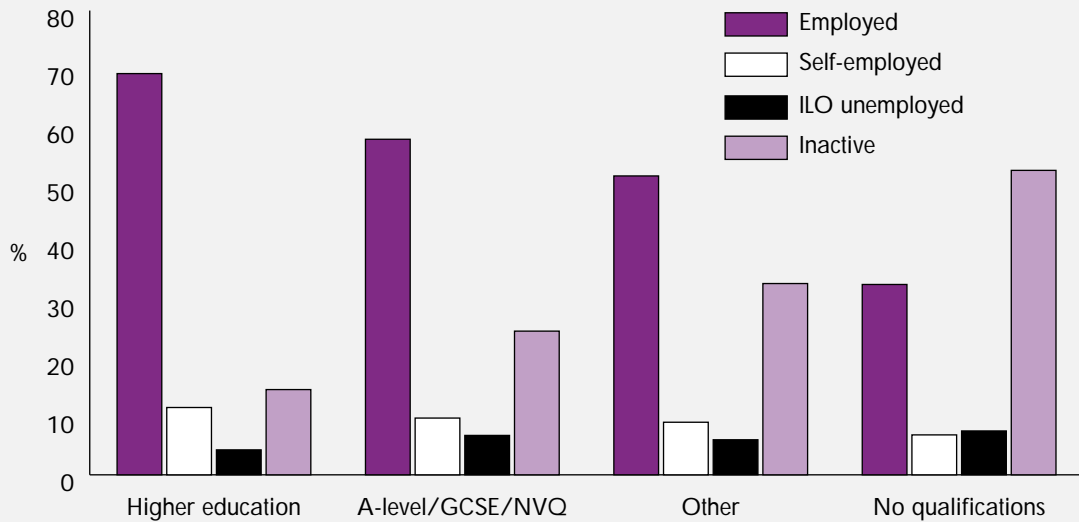
The only variables, therefore, at our disposal for tackling this question are more directly observable characteristics, such as qualifications. A number of problems are associated with using qualifications as a proxy for skills, and therefore ability. Qualifications measure educational attainment, not skills; many skills may not be certified; and furthermore the tendency to certify skills varies over time with young people being more likely to certify their skills relative to older workers; a large proportion of learning does not lead to recognised qualifications, and looking at the incidence and levels of qualifications held may not reflect their applicability, for example because skills may have depreciated or become outdated since they were acquired.<sup>14</sup> These problems are more acute for foreign qualifications that may not be readily recognised by employers in the UK, as demonstrated by the large number of migrants' qualifications categorised as 'other' by the LFS (Figure 5).

Nevertheless, results from the LFS detailing the economic activity and benefit receipt of migrants by their level of education support the theoretical and empirical link between qualifications and economic performance discussed in the previous chapter. Figures 8 and 9 illustrate a positive correlation between educational attainment and economic performance. Migrants with higher educational qualifications have a higher probability of being employed and are less likely to claim state benefits. This relationship is, however, complicated by the interaction of other factors that may be related to the level of education, such as English language fluency. This makes it difficult to isolate the specific effect of different qualifications as the relationship between qualification and labour market outcomes may capture other unobserved factors such as language proficiency and general ability and motivation. The descriptive results are corroborated by more detailed empirical analysis which provides evidence for a positive relationship between qualifications and occupational success (Shields and Wheatley-Price, 1999).

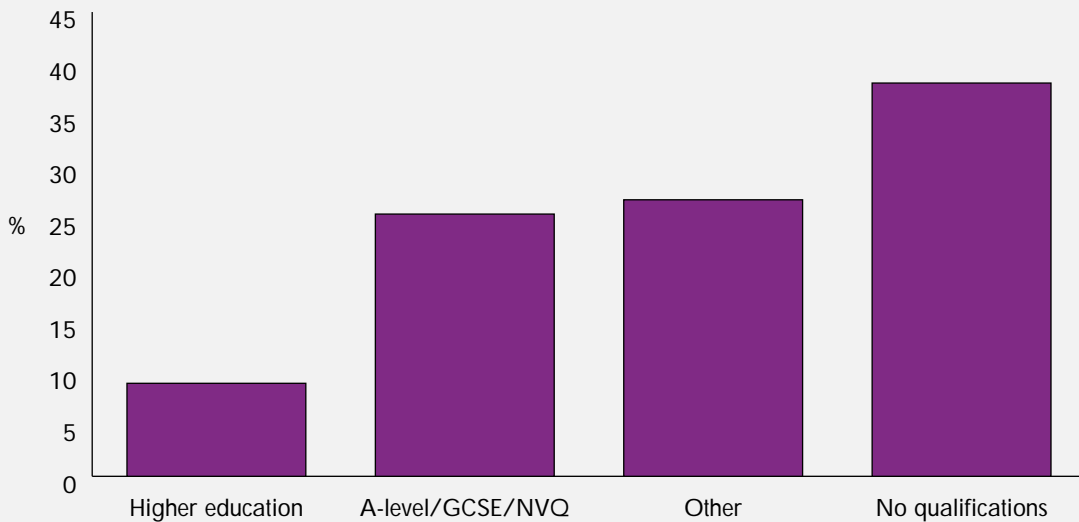
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14 DfEE website: [http://www.skillsbase.dfee.gov.uk/narrative/change\\_demands/qualific.shtm](http://www.skillsbase.dfee.gov.uk/narrative/change_demands/qualific.shtm)

**Figure 8: Migrant economic activity by highest qualification (LFS 1999)**



**Figure 9: Percentage of migrants aged 16-69 claiming state benefits (excluding child benefit) by highest qualification (LFS 1999)**



Another observable characteristic is national origin. This has been used by some other studies as a variable against which to measure economic performance. For example, the empirical analysis by Borjas (1990) described in the previous chapter suggested that that fiscal outcome in the US is positively related to the level of development of the migrants' country of origin. However, country of origin may reflect skill levels, English language ability, legal channel and accompanying rules, attitudes and motivations that may be influenced by background and culture, and the behaviour of social networks, amongst other things. This means that any results based on country of origin should be carefully interpreted as national origin is not a clear indicator of any of these features, and performance is inextricably bound with past and present immigration and inclusion policy.

**Figure 10: Selected categories by national origin, UK (LFS 1999)**

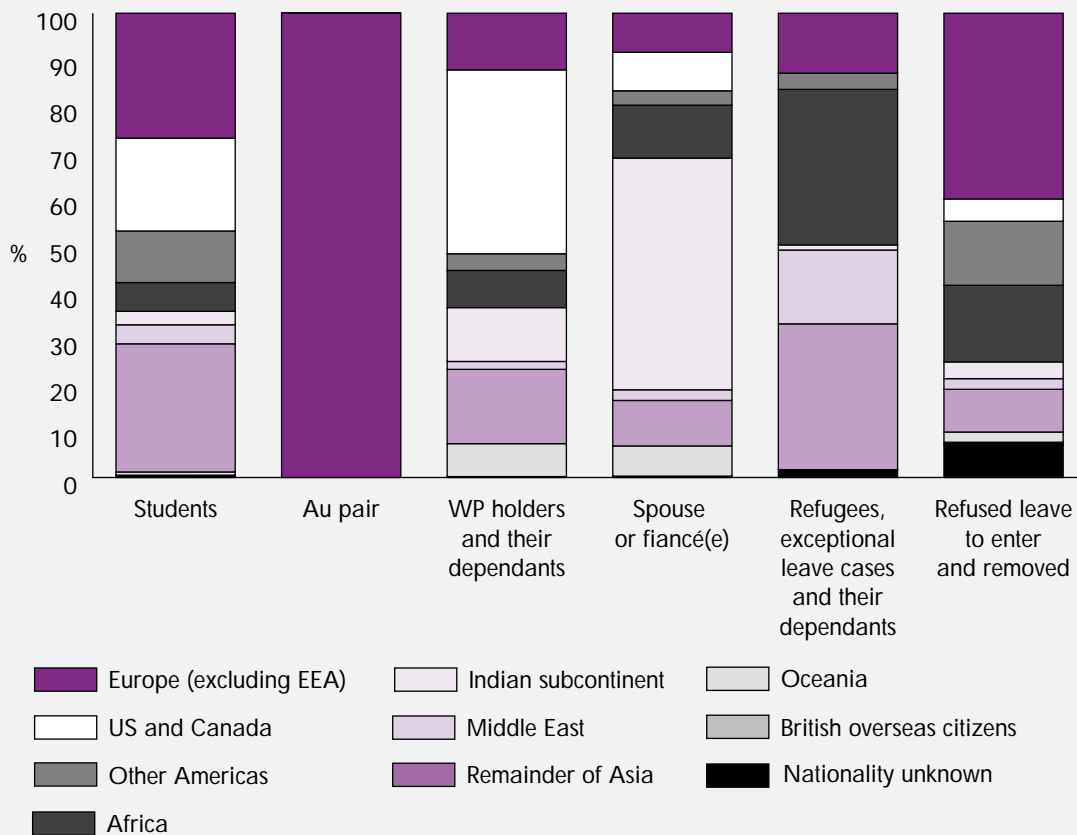
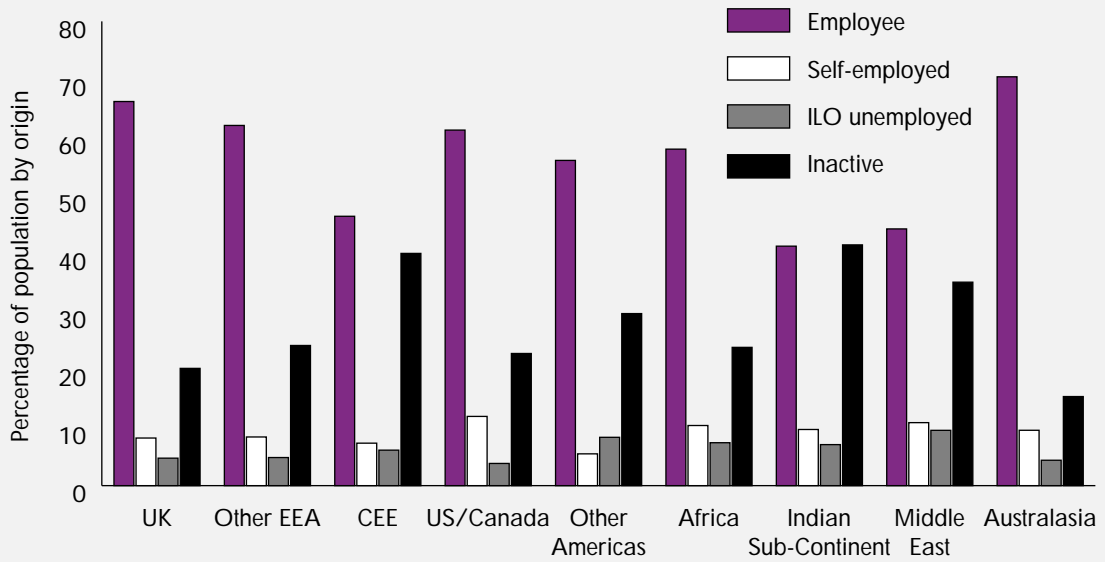


Figure 10 describes the composition of a selection of migration categories by entrants' national origin. There appears to be some loose association between category and country of origin. For example, most North Americans and Canadians enter the UK with work permits, the category for spouses and fiancées is dominated by those from the Indian Subcontinent, and some categories are country specific, such as the au pair scheme. However, the data shows that migrants originating in the same country enter the UK through a variety of routes and therefore that broad categorisations based on national origin are not representative of route of entry.

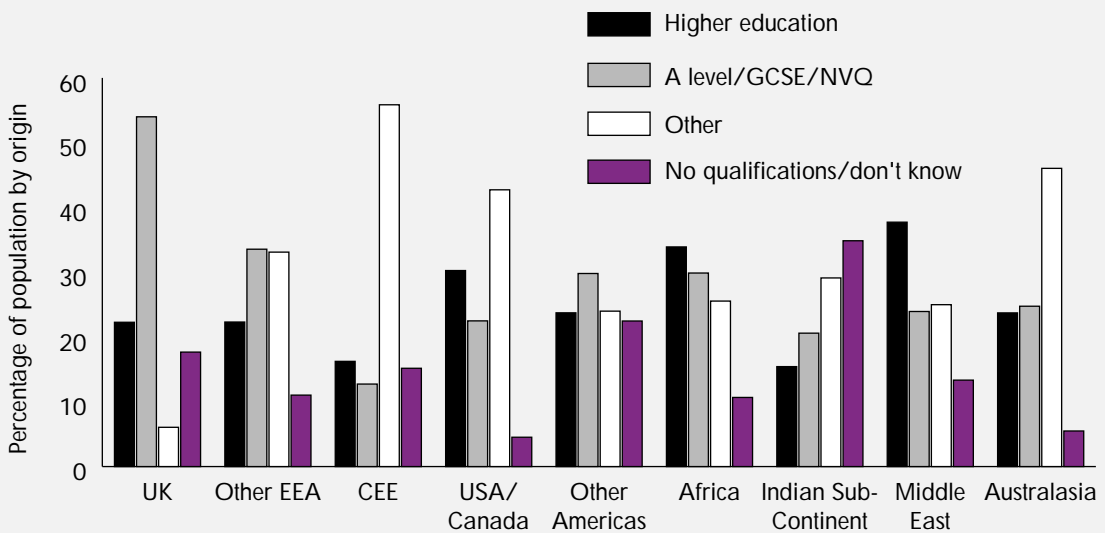
Analysis of sub-samples of the LFS by country of origin displays a mixed result (Figure 11). This initial analysis is not consistent with Borjas' results for the US. To some extent, it is those originating in the higher income countries, such as the US, Australasia and the European Economic Area (EEA), that have the highest probabilities of being employed, but migrants from some of the middle and lower income countries, such as countries in Africa and Middle and South America, also perform well.

The relationship between qualifications and economic performance appears to break down when the migrant population is considered at this level. The differential performance of national origin groups cannot be explained entirely by levels of educational attainment. For example, even though migrants from the Middle East have the highest proportion of members with higher education qualifications, Figure 11 demonstrates that they have the highest rate of unemployment. The variation in performance between individuals from any one country indicates that country origins are not a good basis for selection, and that more detailed analysis is needed to explain the disparity in economic outcomes.

**Figure 11: Basic economic activity by national origin (LFS 1999)**



**Figure 12: Highest qualification of working aged migrants by national origin (LFS 1999)**



Migrants' progression within the UK is as important as their education and occupation levels on entry. Analysis by the Migration Research Unit at University College London suggests that many migrants in the UK experience higher rates of social progression (as defined by upward mobility through a hierarchy of social classes) than the existing population, and that it is those coming from less developed parts of the world that fare best. The analysis reveals that migrants from sub-Saharan Africa and the Indian subcontinent exhibited higher rates of progression between 1971 and 1991 than those from the US, the rest of Western Europe and the Old Commonwealth. Africans and Indians were also least likely to experience downward mobility (Home Office, 2001b). This result may, however, reflect these groups starting from a lower position on the social scale.

These results are important, not least to inform the design of post-entry policy aimed at promoting economic and social inclusion and success. Clearly further research is needed to identify the reasons for this differential performance. Factors to consider include labour market access, occupations and industries, attitudes and motivations, discrimination in the labour market and local social, economic and cultural networks.

The association between fiscal impact, employment and income is more certain. Potential fiscal contribution clearly increases with the likelihood of full-time employment and income earned. The discussion indicates that selecting likely fiscal contributors by reference to their employment situation is preferable to using other observable characteristics to predict their fiscal outcomes. A system that allows entry to individuals with guaranteed employment, or with a high probability of finding employment (especially high wage employment), for example, is likely to be successful from a fiscal point of view. Although qualifications do appear to be positively associated with fiscal contribution, initial analysis demonstrates that further research is needed to explain why this relationship is not consistent over national origin groups, and to help develop initiatives to maximise all migrants' economic and social contributions.

### **How can policy influence the fiscal balance for migrants?**

This report has highlighted the importance of a number of characteristics that help to determine the net fiscal contribution of the migrant population, some of which can be influenced by government policy. Policies which influence migrants' outcomes include initiatives which improve inclusion and performance in the UK labour market, such as policies designed to:

- increase the rate of employment
- increase skill levels
- improve language fluency
- promote social inclusion
- encourage legal as opposed to illegal activity.

The rate of employment is clearly important to fiscal impact. In a study of Sweden, Ekberg (1998) explicitly explores the relationship between employment and fiscal impact, concluding that a one per cent change in migrants' employment rate will change their yearly net contribution to the public sector by 0.1 per cent of GNP.<sup>15</sup> Possible barriers to employment include language fluency, recognised work experience and re-accreditation of qualifications. A more detailed discussion of these and other labour market barriers faced by migrants in the UK is contained in the main PIU/Home Office research study 'Migration: An Economic and Social Analysis'.

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<sup>15</sup> The one million migrants who represent 12.3 per cent of the Swedish population are estimated to have constituted a net loss to the fiscal state of around 0.9 per cent of GDP. The main reasons given for this are migrants' low rate of employment and low representation at the top end of the income distribution.

The social impacts and outcomes of migration are also considered in more depth in this study. The discussion suggests that migrants who are socially included are more likely to be successful economically (and vice versa). Proposals for promoting the social inclusion of migrants include measures designed to improve the provision of information concerning, for example, access to the job market and social customs and expectations, and initiatives to facilitate migrants' inclusion and economic achievement, such as promoting wider recognition of foreign qualifications. Specific examples include providing improved induction and support for those new to the UK and establishing mentoring schemes.

The analysis in this report has primarily been concerned with legal migrants. It is unlikely that the Labour Force Survey, which depends upon voluntary responses, captures those living and working illegally in the UK. It is not clear to what extent illegal migrants, who enter the UK irregularly or overstay, pay taxes and/or benefit from public expenditure. Clearly, migrants who work openly and pay taxes and national insurance contributions are fiscally more useful than those who work clandestinely and do not pay income tax. Any measures taken that encourage migrants to operate legally rather than clandestinely are therefore likely to improve fiscal balances.



This paper has undertaken to explore the fiscal impact produced by migrants living in the UK through analysis of the theoretical, empirical and statistical material and by attempting to estimate the Net Annual Fiscal Impact of current first-generation migrants in the UK. The new analysis suggests that current migrants are not a burden on UK taxpayers, but on the contrary make a net fiscal contribution. Although this analysis is fairly tentative it gives some indication of the economic and fiscal importance of the migrant population living in the UK.

Although the fiscal impact is positive overall for the migrant population, it is likely that this aggregate result masks the differential performance of subsections of this population. However, the aims of government are wider than the purely economic and there may be some entirely legitimate government policies related to immigration and asylum which do not necessarily produce a positive fiscal impact – where the aims may be, for instance, humanitarian.

The analysis identified a number of characteristics that have a significant impact on fiscal outcomes. These include age, economic activity, skills and qualifications, and route of entry.

The entry of migrants with a high probability of finding employment, especially high-income employment, is likely to generate fiscal gains. But migrants also produce indirect fiscal effects, for example, by introducing new industries and/or increasing the productivity of existing labour and capital, thereby stimulating the level and growth rate of production. This means that even if migrants do not make a fiscal contribution directly they may still produce indirect and overall fiscal gains.

Policies which would improve the rate of employment, skills, especially English language fluency, and social inclusion are among those suggested to improve migrants' fiscal outcomes.



## Appendix A: Basis of calculation and assumptions

The Net Annual Fiscal Impact has been calculated using estimates of migrants' shares in the various public expenditure and taxation categories on the following basis.

### The migrant population

Studies define the migrant population in different ways. Possible measures include the foreign-born population, foreign nationals, non-EEA nationals or all non-UK-born residents. Since this study is concerned with the ongoing effects of migration, the foreign-born, rather than foreign nationals, are taken as an approximation of the adult migrant population for the purpose of this exercise.<sup>16</sup> This includes those born in other EEA countries.

The question of how to treat migrants' children for the purposes of this analysis is not straightforward. Some dependent children are born abroad and accompany their parents to the UK. These are included as migrants in this analysis. Other dependent children are born in the UK, and would not be defined as "migrants" according to the definition above (i.e. all those born abroad). Nonetheless, this group use publicly provided services such as health and education and hence are likely to have a negative fiscal impact. (Although expenditure on dependent children is, in many respects, investment for the future when they will contribute towards supporting the public sector and current working age population in their retirement.) Unfortunately we cannot identify adult (non-dependent) children of migrants, who may be making a large positive fiscal contribution to the economy since they are likely to be working and paying taxes, and including only dependent second generation children is misleading.

The fiscal effect has been calculated for the foreign-born population and UK-born dependent children who have two parents who are foreign-born or are in single parent households where the head of household is foreign-born. This measure implicitly categorises UK-born children who have one parent who is foreign-born and one who is UK-born as dependants of UK-born residents. Since adult children of migrants are not included, this definition may underestimate the net fiscal contribution of migrants and their children.

Under this assumption migrants account for 8.4 per cent of the UK population. The ratio of migrant contributions to migrant consumption of public expenditure calculated according to this definition is 1.09 (approximately £1.09 of taxes contributed for every pound received as government expenditure). It is worth noting that defining migrants as the foreign-born (thus excluding their UK-born dependants) produces a NAFI of 1.18, double the estimate generated by the definition adopted.<sup>17</sup>

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<sup>16</sup> Results from the LFS suggest that around half of foreign-born UK residents are naturalised.

<sup>17</sup> The NAFI for the UK-born population falls to 1.03 under this definition.

## The data source

The calculation of the share of public sector current receipts contributed, and expenditure on the share of public sector services used, by migrants has been derived from information on income and population as recorded in the Labour Force Survey (LFS). Merged data from four quarters (for 1999) has been used to estimate information about the migrant population in the UK.

## The Labour Force Survey

The Labour Force Survey (LFS) has been carried out since 1973 and is now collected each year in four quarters (spring, summer, autumn and winter). It is based on a random sample throughout the UK, and almost 65,000 households are contacted every quarter. Information about the personal circumstances and work of each member of the household is collected. The survey also gathers information from students in halls of residence and people living in NHS accommodation,<sup>18</sup> which is particularly useful since migrants constitute a significant share of those accommodated in this way. People living in other forms of accommodation, such as army camps or hospitals, are not included.

The data used here to calculate migrants' shares in the various categories of public expenditure and receipts is taken from a four-quarter sample of the LFS from December 1998 to November 1999. (Surveying in the winter quarter begins in December so this is the closest approximation to 1999 available.) People are interviewed five times (over five quarters) and the first interview almost always takes the form of a home visit (a face-to-face interview).<sup>19</sup> Subsequent telephone interviews take place in the following four quarters, largely covering different parts of the survey. Roughly speaking, in each quarter 20 per cent of the sample households will receive their first interview, 20 per cent their second, and so on so that in each quarter 20 per cent will have been replaced with new households. This means that 80 per cent of the sample will be the same in two consecutive quarters. Generally, around 80 per cent of households visited agree to take part in the survey, and 95 per cent of these continue to take part in subsequent interviews. When household members are not at home, information is collected about them from an adult who is at home. Around 30 per cent of LFS data is collected by proxy in this way.

LFS data is grossed up to take account of the different characteristics of non-respondents. This redresses the balance for age, sex and region. ONS are fairly confident that migrant and minority ethnic communities are not significantly under-represented.<sup>20</sup> However, it is likely that all of the analysis from conventional data sources excludes the bulk of the illegal population, and separate work is being developed to try to examine the number and characteristics of illegal migrants.

## Expenditure

Migrants' share of government spending on public sector services has been derived using assumptions about their respective shares of the various categories of expenditure as shown in Treasury figures on total managed expenditure by function.<sup>21</sup>

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18 Formerly known as nurses' homes.

19 Households in the north of Scotland are contacted by telephone even in the first instance, for cost reasons.

20 Interpreters are available, and often someone in the household will interpret if necessary. A survey conducted on the 1991 LFS found that, although sample sizes were small and there was an indication that, in terms of country of birth, those born in the 'new commonwealth' were marginally less likely to respond, as were 'black people and other ethnic minorities' in the 'ethnic group' analysis, there were no significant differences in response rates. Furthermore, only around half of migrants are from minority ethnic groups.

21 Total Managed Expenditure by Function; Table 3.5 in 'Public Expenditure: Statistical Analyses 2001– 2002', The Stationery Office 2001.

## ***Expenditure on education and healthcare***

Some categories of expenditure, such as education and healthcare, are largely age-dependent and have therefore been calculated according to the age profile of the migrant population. Migrants' share of primary and secondary education has been calculated by reference to their share of the total population in the relevant age groups. Migrants' share of expenditure on health services has been calculated with reference to per capita levels of healthcare consumption by age for the UK population as a whole. This analysis assumes that per capita values are similar for migrants and UK-born residents in each age group. It is possible, however, that rates of health service and public education utilisation are different for migrants and UK-born residents, and that education and healthcare providers incur different costs for migrants as compared to the UK-born population. Given that some migrant children have special language needs, for example, spending per head on education may be higher. On the other hand, migrants may tend to use services (particularly health services) to differing degrees compared to the UK-born population.

Higher education is a special case since there are a large number of foreign-born non-EU international students (113,300 in 1999/2000<sup>22</sup>) who pay higher education fees and who are not eligible for student support. The estimated amount paid in fees by these students has therefore been subtracted from the value of the migrants' share of government expenditure on higher education.

## ***Social security expenditure***

The percentage of social security spending accruing to migrants has been calculated according to the proportion of those receiving these benefits who are foreign-born (as recorded in the LFS). For example the proportion of DDA disabled who are foreign-born has been used to calculate migrants' share of disability benefits. In further work it may be possible to develop the analysis by deriving more accurate measures of the actual amounts migrants receive in social security, and thereby the proportion of expenditure attributable to them, from the DSS Cross Benefit Database which records benefit receipt by national insurance number.

## ***Housing***

Migrants' share of expenditure on local authority housing and other social housing has been derived using the proportion of migrants in these types of social housing as shown by the LFS. Again, this does not measure the actual resource spent on migrant households in this way. Migrants tend to live disproportionately in the South East, so their share of housing benefit may be higher per head than that of the UK-born population.

## ***Other categories of government expenditure***

The share of many of the other categories of government expenditure attributable to migrants has been estimated according to their share in the population.<sup>23</sup> This reflects migrants' share of the benefits produced by this expenditure, which, at a per capita level, is assumed to be similar to that of the rest of the population.

Theoretically, the marginal cost (i.e. the cost associated with one additional person) of extending the provision of public goods,<sup>24</sup> such as defence, is zero. Therefore, it could be argued that migrants' share of these expenditures should be set at zero. But since migrants have been estimated here as constituting around 8.4

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22 Higher Education Statistics Agency Student Record.

23 The categories to which this applies are: transport; other environmental services; law, order and protective services; defence; international development assistance; trade, industry, energy, employment and training; agriculture, fisheries, food and forestry; and culture, media and sport.

24 That is goods or services which by their nature benefit everyone, and for which (within limits) consumption by one group is not at the expense of another.

per cent of the UK population, this group cannot reasonably be defined as 'marginal'. Furthermore, many of the categories are not pure public goods, and it is likely that expenditure on some of them (for example law, order and protective services) is related to the size of the population. Finally, even though the analysis assumes that migrants' share of expenditure on certain services equals their population share, it may be the case that migrants under- or over-utilise certain services relative to UK-born residents.

Under the alternative assumption that the migrant population is marginal to all of these services (and so the migrant share in these is zero), it is estimated that migrants contribute over 40 per cent more to public revenues than the amount by which they increase expenditure on welfare payments and publicly-provided services. According to this scenario, the foreign-born population in the UK decrease the tax burden on the existing population, or increase their receipt of welfare and public services, by over £9 billion.

### ***Expenditure on debt interest***

Migrant share of public expenditure on debt interest has been taken to be equivalent to their share of the population. The implicit rationale for this assumption is that past debt has been accumulated in order to invest in public infrastructure, which migrants derive some benefit from in the current year. As a result, some of the cost of these investments should be attributed to migrants (the above discussion on the marginal impact of migrants notwithstanding). However, the picture is more complicated. Is the present generation of taxpayers – whether UK-born or migrants – directly responsible for the debt of previous generations? What about the share of debt which has been used in the past for non-investment purposes, such as transfer payments? Under an alternative assumption which uses half of the migrants' share of the population as a proxy for their share of public sector debt interest, in response to the above questions, migrants contribute 16 per cent more in public revenues than the cost of public services and benefits they consume.

### **Public revenues**

Migrants' share of public sector current receipts has been estimated using LFS data on income and population share.<sup>25</sup>

### ***Income tax and social security contributions paid***

Using the relevant personal tax bands and rates, the income tax that would be paid on each earned income reported in the LFS has been calculated. (For computational simplicity only earned income from main job has been used. It also assumes migrants and UK-born residents are as likely to have second – and third – jobs as first, and assumes that migrants and the UK-born pay income tax on other income in the same proportions as on earned income). This is then aggregated for migrants, UK-born residents and (hence) the total population. Migrants' higher share of the total income tax paid reflects their higher average wage as calculated from the LFS. Migrants' national insurance contributions have also been estimated using the LFS.

### ***Other Inland Revenue taxation categories***

Migrants' share of the population has been used to estimate their contribution to revenue from other taxes.<sup>26</sup> It has proved difficult to allocate a share of some of these forms of tax revenue to migrants and the use of the population proportion to allocate these tax revenues may be over-simplistic.

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25 Public Sector Current Receipts; Table C7 in 'Financial Statement and Budget Report 2001-2002', The Stationery Office 2001.

26 Corporation tax, petroleum revenue tax, capital gains tax, inheritance tax and stamp duties.

For corporation tax, the issue is about how to allocate a tax paid by companies to different groups of people. An alternative to a simple “population share” would be to allocate these tax revenues on the basis of company ownership, i.e. shareholders. A more detailed analysis along these lines would need to estimate the extent of UK company dividends paid to the migrant community, either directly or through financial intermediaries such as pension funds. It may be that since migrants who work earn more than UK-born workers they have higher share ownership. On the other hand, 28 per cent of UK listed companies are owned indirectly by overseas shareholders. Furthermore, a significant proportion of the corporation tax revenue yield is contributed by firms which are subsidiaries of overseas companies. Both of these would need to be taken into account in calculating tax revenue shares contributed by both the migrant and non-migrant population in the UK. Simply removing 28 per cent of corporation tax revenues from the total reduces migrants’ NAFI from 1.09 to 1.06<sup>27</sup> with the equivalent for the UK-born population falling from 1.06 to 1.01. It is clear, then, that any attempt to apportion corporation tax in this way is difficult and requires a more sophisticated analysis.

Similar complexities arise with other taxes. For example, since migrants have a lower age profile it is likely that in aggregate terms they pay less inheritance tax relative to the rest of the population, whilst their preponderance in the South East means they are likely to pay higher than average stamp duty. It is, though, important to adopt an appropriate perspective. The revenues raised through these forms of taxation are, corporation tax apart, relatively small. Income tax is by far the largest Inland Revenue category and, as discussed above, it has been possible to estimate migrants’ share of this more accurately. The shares of corporation tax and capital taxes accruing to migrants would benefit from further research.

### ***Customs and Excise***

The share of total income in terms of wages/salaries has been used to estimate the amount accruing to Customs and Excise from migrants. The bulk of this is value added tax (VAT) which is charged on the value of supplies of taxable goods and services made in the UK, including some exports to EU countries. It is also chargeable on imports of goods from outside the EU. Since consumption is related to level of income, migrants’ contribution to VAT has been estimated according to their share of income. This involves the implicit assumption that the marginal propensity to consume (the proportion of an extra unit of income spent on goods and services as opposed to being saved) is constant over income and that migrants consume the same mix of goods and services as UK-born residents.

### ***Net taxes***

Migrants’ share of income is used to estimate their contribution to vehicle excise revenues, since vehicle ownership is likely to be linked closely to income. Oil royalties – revenue from the licences to extract oil – have been apportioned according to migrants’ population share, as has council tax revenue. Migrants’ contribution towards business rates has been estimated using the proportion who are self-employed as a proxy.

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27 This figure takes no account of possible differences in share ownership between migrants and non-migrants.

## **Further development**

As previously noted, this initial analysis is unsophisticated and tentative. For example, a simple caseload apportionment of social security spending does not take into account variations in the average amounts paid to different groups of people. Similarly, in terms of education and health expenditure, it is unclear whether migrants incur higher or lower spending per person, on average.

With a bigger programme, over a longer timescale, it should be possible to arrive at more accurate estimates. As well as refining this cross-sectional investigation, longitudinal studies estimating migrants' fiscal impact throughout their stay and similar analyses for their UK-born offspring are important for understanding the ongoing effects of migration, particularly how these change over the economic cycle.

## Appendix B

This research study is a product of joint research by the Home Office Economics and Resource Analysis Unit and the Cabinet Office Performance and Innovation Unit. The research pulls together the existing theory and evidence on the economic and social impacts of migration, as presented in the joint Research Study 'Migration: An Economic and Social Analysis'. This paper, which explores the fiscal effects of migration in more detail, is a companion to that main report.

The research team consisted of the following:

<i>Stephen Glove</i>	<i>PIU</i>
<i>Ceri Gott</i>	<i>Home Office</i>
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<i>Anaïs Loizillon</i>	<i>PIU and Princeton University</i>
<i>Jonathan Portes</i>	<i>PIU (team leader)</i>
<i>Richard Price</i>	<i>Home Office</i>
<i>Sarah Spencer</i>	<i>Home Office and Institute of Public Policy Research</i>
<i>Vasanthi Srinivasan</i>	<i>PIU and Policy Research Secretariat, Government of Canada</i>
<i>Carole Willis</i>	<i>Home Office.</i>

The team worked closely with others in the Research, Development and Statistics Directorate of the Home Office, and in PIU, especially Stephen Aldridge, Jonathan Deacon and Mark Ledbury.

The work has also benefited from discussions with a number of experts in the migration field in academia and elsewhere. A comprehensive list of the sources that informed the joint PIU and Home Office research is provided in Appendix 1 of 'Migration: An Economic and Social Analysis'. The following list of references only contains details of the literature directly relevant to the fiscal paper.



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