

The economic characteristics of immigrants and their impact on supply

By Jumana Saleheen and Chris Shadforth of the Bank's External MPC Unit.

Immigration to the United Kingdom has risen rapidly over the past decade, driven most recently by flows from the ten EU Accession countries. Monetary policy makers are interested in the impact of immigration on the macroeconomy and inflation. An increase in the number of immigrants, other things being equal, would raise the supply potential of the economy. But the extent to which potential supply increases will depend on the economic characteristics of immigrants. This article investigates the characteristics of immigrants, particularly new immigrants — those who have entered the United Kingdom in the past two years. It appears that new immigrants are more educated than both UK-born workers and previous immigrant waves, but are much more likely to be working in low-skilled occupations. The increasing share of new immigrants in low-skill, low-paid jobs seems to have led to the emergence of a gap between the wages of new immigrants and UK-born workers. The implications of these findings for overall productivity and the supply side of the economy are complex.

Introduction

International migration to the United Kingdom is important because it may affect the labour market and wider economy. The Monetary Policy Committee needs to understand the likely impact of immigration on the balance between demand and supply in the economy in order to set interest rates appropriately. For example, if immigrants raise aggregate supply more than they raise aggregate demand then one would expect inflationary pressures to ease for a period of time.⁽¹⁾

An increase in the number of immigrants, other things being equal, will raise the supply potential of the economy. But the extent to which potential supply increases will depend on the characteristics of immigrants relative to natives. The impact on the natural rate of unemployment will also depend on the characteristics of immigrants; in particular, it will fall if immigrants help to fill skill gaps. But the natural rate of unemployment might also fall if increased immigration or the threat of outsourcing to other countries results in domestic workers being prepared to work for lower wages than in the past.

The aim of this article is to investigate whether the characteristics of immigrants, particularly new immigrants, differ from those of the domestically born population. It asks three main questions:

- Where do immigrants come from?
- How skilled are immigrants?
- What are the employment, unemployment and wage rates of immigrants?

The article begins by setting out the channels through which immigrant characteristics can affect the supply side of the economy and then discusses the recent rise in immigration. The available data sources and their limitations are discussed in a box on pages 376–77. The article then moves on to answer the three main questions identified above and ends with some concluding comments.

Immigrant characteristics and the supply potential of the economy

The characteristics of immigrants — in terms of their skills and preferences — can affect the level of sustainable output in the long run, and the aggregate growth rate of the economy in the medium run. There are three channels through which differences in characteristics might manifest themselves.

First, immigration of low-skilled (less productive) workers has the potential to lower the domestic rate of productivity growth temporarily. In the long run, if immigrants are less

(1) For more details see 'The macroeconomic impact of migration', a box in Bank of England (2006b).

skilled than the domestic population, then they will lower the overall level of productivity of the workforce, but they will not affect the rate of productivity growth or the rate of nominal wage growth consistent with the inflation target. The latter follows because, in equilibrium, nominal wages must grow in line with the sum of productivity growth and price inflation. However, the economy may experience a period of lower productivity growth if there is a prolonged period of rising net immigration of low-skilled workers (and *vice versa*). In other words, during this 'transition phase' the immigration of low-skilled workers can temporarily lower the rate of nominal wage growth that is consistent with the inflation target.

Second, if firms face skill shortages and immigrant labour helps to fill those skills gaps, there would be a fall in the imbalance between the pattern of labour demand and supply — in other words, lower 'mismatch'. A reduction in mismatch reduces the natural rate of unemployment⁽¹⁾ and therefore allows the actual unemployment rate to fall without a corresponding rise in inflation.

Third, the extent to which potential supply responds to an increase in immigration will depend on the characteristics of immigrants. If, for example, immigrants offer skills that are complementary to the existing workforce, this could encourage a larger share of the population to participate in the labour market and this will increase potential output even further. If immigrants were to reduce skill shortages or tended to work longer hours than UK-born workers, then they would tend to reduce rigidities and alter the link between the level of any excess demand in the economy and inflationary pressures.⁽²⁾

Apart from affecting the supply potential of the economy, immigrants also affect the level of aggregate demand. The balance between demand and supply is a key determinant of inflationary pressure, but this article does not seek to address the impact of immigration on demand in any detail.

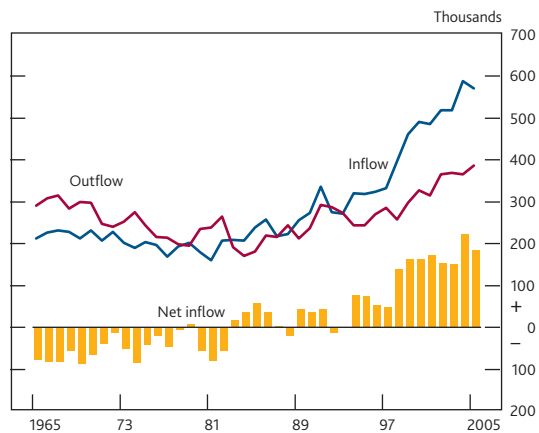
The rise in immigration

Business contacts of the Bank of England's regional Agents and existing official data on immigration suggest that the availability of immigrant labour has been rising in the United Kingdom. Given the uncertainties surrounding the official statistics, these data can only be suggestive of the broad trends in immigration, rather than absolute levels. The box on pages 376–77 highlights the limitations and sources of bias of a number of different data sources.

Over the past decade, official estimates from the International Passenger Survey (IPS) suggest that there has been a rise in both the number of people coming to and leaving the United Kingdom (Chart 1). But the measured inflow has increased by more than the measured outflow, so that the net yearly inflow

of people to the United Kingdom has risen fourfold: from around 50,000 in 1996 to around 200,000 in both 2004 and 2005. At the same time, data from the Labour Force Survey (LFS) suggest that the share of foreign-born individuals in the UK population aged between 16 and 64 has risen sharply from around 8% in 1995 to around 11% in 2005 (Chart 2). Within this, the share of 'new' and 'recent' immigrants — defined as those who entered the United Kingdom in the past two or five years, respectively — has also increased. Before 1995, the share of foreign-born individuals in the population was broadly stable at around 8%.

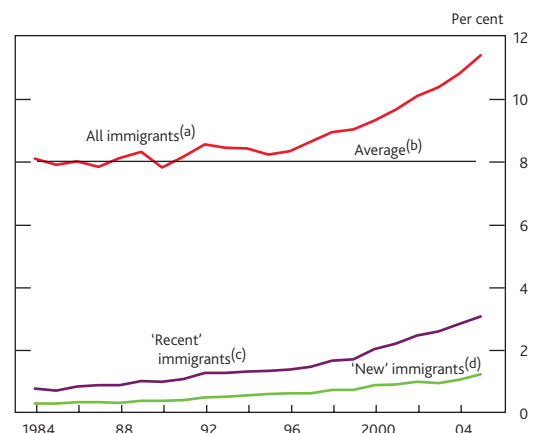
Chart 1 Immigration into and out of the United Kingdom^(a)



Source: Data are mainly from the International Passenger Survey (IPS). From 1991, the ONS supplements the IPS with administrative data on asylum seekers and their dependents, and estimates of the migrant flow between the United Kingdom and the Republic of Ireland; the ONS also makes other adjustments to account for those whose intended length of stay changes (from less than a year to more than a year, and *vice versa*).

(a) The number of people (all ages) entering/leaving the United Kingdom with the intention of staying/leaving for at least one year.

Chart 2 The foreign-born share of the population aged 16 to 64



Source: Labour Force Survey (LFS).

- (a) The number of 16–64 year olds born outside the United Kingdom as a proportion of the total population aged 16–64.
- (b) Average share of foreign-born individuals in the UK population between 1985 and 1995.
- (c) 'Recent' immigrants are those who entered the United Kingdom in the survey year or at some time in the previous four (calendar) years.
- (d) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

(1) See Layard, Nickell and Jackman (1991).

(2) See King (2005a).

Data sources and definitions

All estimates of immigration are highly uncertain. By their very nature, immigrant flows are unlikely to be accurately captured by any data source.⁽¹⁾ But knowing what the available data say — and the potential limitations of those data — is at least a natural starting point for policymakers who wish to understand the impact of immigration on the labour market and the wider economy.

Data sources

Official estimates of net migration are primarily based on the International Passenger Survey (IPS), a survey of individuals passing through the main UK air and sea ports and the Channel Tunnel. The ONS supplements the IPS with administrative data on asylum seekers and their dependents, and estimates of the migrant flow between the United Kingdom and the Republic of Ireland; the ONS also makes other adjustments to account for those whose intended length of stay changes (see definitions below). The IPS questions 250,000 travellers annually. Of those, approximately 1% are migrant interviews. Headline IPS data are available for 2005, but more detailed statistics are only available for 2004 at present. In 2004, the IPS statistics were based on 2,801 people who entered the United Kingdom and 755 people who left. This is obviously a very small sample and is one reason why there are large uncertainties surrounding the official migration numbers. Other reasons why the IPS may mismeasure immigration are that: the survey was originally designed to capture tourism and business travel; and participation in the survey is voluntary and immigrants may be less likely to respond (perhaps because of language difficulties). Other sources of data on the gross inflow of immigrant workers include the Worker Registration Scheme (WRS), covering nationals solely from the A8⁽²⁾ countries, and National Insurance Number (NINo) allocations to overseas nationals entering the United Kingdom.⁽³⁾

But because the focus of this article is on the characteristics of immigrants, how they have changed over time, and how they compare to UK-born workers, the most useful data source is the UK Labour Force Survey (LFS). The IPS, WRS and NINo data are, however, used to cross-check, wherever possible, the results obtained from the LFS data.

The LFS is a quarterly survey of households living at private addresses, student halls of residence and NHS accommodation in the United Kingdom, which provides a broad range of information on a large number of individuals. Throughout this article, the four LFS seasonal quarters are combined to produce annual data.⁽⁴⁾ In 2005, the survey questioned over 300,000 individuals aged between 16 and 64, of whom 31,500 were born outside the United Kingdom (Table 1). Like any survey,

the LFS relies on additional information about the size and composition of the population — population weights — to produce an estimate of the 'true' immigrant population. In this respect, the accuracy of the LFS relies on the accuracy of the underlying population data (which in turn utilises the ONS estimates of the net migrant inflow). The accuracy of the survey will also depend on how representative the sample is of the population. For example, it might be the case that immigrants are less likely to respond to the LFS survey and so are underrepresented in the LFS data. Similarly, if immigrants, particularly temporary immigrants, are less likely to live at private addresses and more likely to live in communal establishments, such as guest houses or hotels, than the domestically born population, then the LFS data will not accurately reflect the size and characteristics of the immigrant population. Data from the 2001 Census suggest that immigrants are more likely than UK-born individuals to live in communal establishments. But just 1% of the total population (and 2% of the immigrant population) lived in communal establishments in 2001, suggesting that this is not a major source of bias.

Table 1 LFS sample size^(a)

	2005 ^(b)		Immigrants			1995 ^(b)			
	All	UK born	Immigrants		Immigrants		New ^(d)		
			All	Recent ^(c)	All	Recent ^(c)			
Sample size (thousands)	305.1	273.6	31.5	8.1	3.1	29.5	4.4	1.8	
Population (millions)	38.1	33.8	4.3	1.1	0.4	3.0	0.5	0.2	
Immigrants (per cent of UK population)				11.3	3.0	1.1	8.2	1.3	0.5

Source: LFS.

(a) Based on individuals aged 16–64.

(b) Annual data reflect LFS seasonal quarters.

(c) 'Recent' immigrants are those who entered the United Kingdom in the survey year or at some time in the previous four (calendar) years.

(d) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

Who is an immigrant?

When using LFS data in this article, an immigrant is defined as someone born outside the United Kingdom, but who now resides in the United Kingdom.⁽⁵⁾ Considering foreign-born individuals in this way is informative about the stock of immigrants. With the recent increase in immigration following EU Accession, it is particularly interesting to look at recent changes in the stock of immigrants. In this vein, 'new' immigrants are defined as foreign-born individuals who arrived in the survey year or the preceding calendar year, and 'recent' immigrants are defined as foreign-born individuals who arrived in the survey year or at some time in the previous four (calendar) years. The reason for considering 'new' immigrants separately from the stock of foreign-born immigrants is that they may be different in important ways from those who

arrived earlier.⁽⁶⁾ **Table 1** shows that the LFS sample for 'new' immigrants in 2005 is small, around 3,000 individuals, so it is useful to see if the qualitative patterns observed for new immigrants is borne out by the larger sample (8,000 individuals) of 'recent' immigrants.

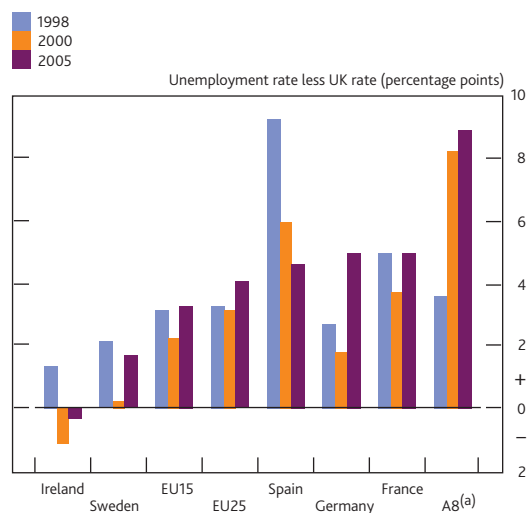
It would be preferable to employ the same definition of an immigrant in the LFS and the IPS data, but unfortunately that is not possible. Instead the IPS provides aggregated data consistent with the UN-recommended definition of an international (long-term) migrant; that is, a migrant is someone who changes his or her country of usual residence for a period of at least a year, so that the country of destination effectively becomes the country of usual residence. In other words, individuals surveyed by the IPS are classified as a migrant if they report an intention to stay in the United Kingdom for a year or more. However, intentions may or may

not be realised: those entering the country as a short-term 'visitor', may later decide to remain in the United Kingdom for longer than a year, and *vice versa*. To account for such changes in intentions (and therefore migratory status) the ONS makes adjustments to the IPS numbers.⁽⁷⁾

- (1) See King (2005b).
- (2) Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.
- (3) For more details on the uncertainties with these and other data sources see Bank of England (2006b) pages 22 and 23 and the box on 'International migration data', in Bank of England (2005).
- (4) Prior to 2006, the ONS collated LFS data by seasonal quarters. For example, in this article the year 2005 embodies LFS data from 2005 Q1 (March-May) to 2005 Q4 (December 2005-February 2006).
- (5) This definition is widely used by others, for example, Borjas (2005), Card (2005) and Dustmann *et al* (2005).
- (6) See Borjas (1985) for a discussion on differences in the profile across waves of immigrants to the United States.
- (7) For more details, see Office for National Statistics (2006), Appendices A and B.

Several factors might explain the dramatic rise in immigration over the past decade. First, much of the most recent increase in immigration is likely to have been driven by the expansion of the European Union (EU) on 1 May 2004, to include ten new central and eastern European countries. The ten EU Accession countries were: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Cyprus and Malta. An important distinction is often made between the first eight countries and the last two, as citizens from Cyprus and Malta had already enjoyed relatively free access to the UK labour market prior to EU expansion. Citizens from the first eight countries, referred to as the A8, only obtained free movement and the right to work in the United Kingdom, Sweden and Ireland from 1 May 2004. Finland, Greece, Portugal and Spain opened their labour markets to these workers on 1 May 2006,

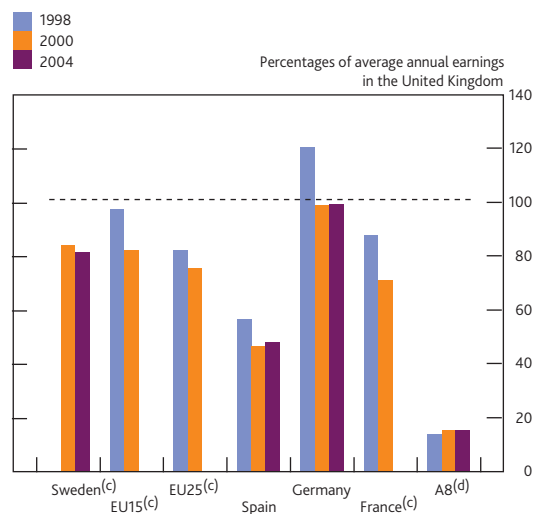
Chart 3 European unemployment rates relative to the United Kingdom



Source: Eurostat.

(a) Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

Chart 4 European gross average annual earnings relative to the United Kingdom^{(a)(b)}



Source: Eurostat.

- (a) Average annual gross earnings in industry and services (of full-time employees in companies with ten or more employees). Data are at current prices, based on purchasing power parity.
- (b) Latest available data are for 2004.
- (c) Missing bars occur because of a lack of data.
- (d) A8 data are weighted averages of earnings in Hungary, Poland and Slovakia in each period. Data are not available for the other A8 countries.

while Italy followed in late July 2006. The remaining EU member states (including Germany, France and Austria) chose to retain restrictions on immigration from the A8 countries for up to seven years. Prior to accession, unemployment in the A8 economies was higher, and earnings lower, than in many EU countries, especially the United Kingdom (**Charts 3 and 4**). So it seems likely that at least some of the inflow of immigrants to the United Kingdom from the A8 since accession reflects pent-up labour supply that has been released with the removal of restrictions on labour movement.

Second, because the bulk of the rise in net migration predates EU expansion in 2004 (**Chart 1**), it seems likely that immigration has grown rapidly since the mid-1990s in part because of the United Kingdom's low level of unemployment and higher earnings (**Charts 3 and 4**). Over this period, immigrants are therefore likely to have been attracted to the United Kingdom by the relative strength of its labour market, both in terms of higher relative wages and favourable cyclical position.

Finally, since 2002, the United Kingdom has adopted a more flexible and open approach to attracting highly skilled immigrants and immigrants to fill particular skill shortages. Potential immigrants from outside the EU are given points according to their qualifications. Individuals who accumulate a number of points beyond a certain threshold become eligible for a work permit. The Government has also introduced a sector-based work permit scheme to attract immigrants to fill particular skill shortages.

The expansion of the EU is set to continue, with Bulgaria and Romania due to join on 1 January 2007. The UK Government has, however, announced some restrictions on the extent to which these citizens may enter the UK labour market.⁽¹⁾ There are also EU 'candidate countries' and 'potential candidate countries' who may at some stage accede to the EU.⁽²⁾ The opening up of the UK labour market to nationals of an expanded EU therefore not only represents a long-term structural change to the UK labour market, but is likely to be a continuing influence as the EU expands further in the years to come.

In summary, the increase in net migration over the past decade is likely to reflect an endogenous response to both the higher level of wages and the cyclical position of the UK economy, as well as UK immigration policy.

Where do immigrants to the United Kingdom come from?

The LFS data suggest that around 11% of the working-age UK population were foreign born in 2005. Within that, around one fifth were born in EU countries, one fifth in the Indian subcontinent and a quarter in Africa or the Middle East (**Table A**). Those born in the A8 countries made up a small fraction of the stock of immigrants in 2005, but they are the biggest group in those defined as 'new' immigrants. In other words, while A8-born individuals represented a small proportion of immigrants before 2004, the share of A8-born individuals has been much greater among immigrants who arrived in the past two years. In particular, according to the LFS, A8 immigrants account for one in four of new arrivals since 2004, but only one in twenty of the total stock of immigrants. **Table A** also shows that the share of 'new'

immigrants has grown by 0.63 percentage points between 1995 and 2005, with those born in the A8 accounting for nearly half (0.26 percentage points) of the increase. The share of 'new' immigrants born in Africa and the Indian subcontinent has risen strongly as well.⁽³⁾ Overall it appears that 'new' immigrants are much more likely to come from A8 countries than previous immigrant waves, though other countries remain important. That is very much as one would probably expect.

Table A Share of immigrants in the population: by country of birth^{(a)(b)}

	All migrants			New migrants ^(c)		
	2005	1995	Change (percentage points)	2005	1995	Change (percentage points)
Per cent of population	11.32	8.16	3.16	1.15	0.52	0.63
of which:						
A8 ^(d)	0.59	0.10	0.49	0.28	0.02	0.26
Africa and Middle East	2.79	1.64	1.15	0.22	0.10	0.12
Indian subcontinent	2.40	1.85	0.55	0.16	0.06	0.11
EU14	2.16	2.23	-0.07	0.16	0.14	0.02
Americas	1.18	1.00	0.18	0.11	0.07	0.03
Rest of Asia	1.05	0.63	0.42	0.09	0.07	0.03
Rest of Europe ^(e)	0.77	0.46	0.31	0.06	0.04	0.02
Australia and New Zealand	0.38	0.24	0.14	0.06	0.03	0.03

Source: LFS.

(a) Based on individuals aged 16–64.

(b) Annual data reflect LFS seasonal quarters. See the box for more details.

(c) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

(d) Country of birth data by all A8 countries are only available from 1998. For 1995, Czechoslovakia, Hungary and Poland (which account for 80% of A8 immigrants) are used to proxy the A8.

(e) Rest of Europe includes countries not in the EU15 and A8.

Whether or not these 'new' immigrants intend to remain in the United Kingdom permanently is likely to be a key determinant of how much of their income they spend locally, and thereby how much they boost aggregate demand in the United Kingdom. There are few reliable data on the length of time immigrants stay in the United Kingdom. IPS data give a partial read on the length of time immigrants intend to stay in the United Kingdom, but this is not a reliable metric because intentions may change after arrival. The IPS definition of a migrant is someone who intends to stay in the United Kingdom for at least one year (see the box on pages 376–77). Of this group of immigrants, the data suggest that the majority intend to stay in the country for at most four years. If this is broadly true, one might expect the impact on aggregate demand to be more limited than if immigrants intend to stay for longer. That is because temporary immigrants may be less

(1) The press release from October 2006 is available at: www.ind.homeoffice.gov.uk/aboutus/newsarchive/controlledaccessstouklabourmarket.

(2) Croatia, the Former Yugoslav Republic of Macedonia and Turkey are classified as 'candidate countries'. Albania, Bosnia and Herzegovina, Serbia, Montenegro and Kosovo, are classified as 'potential candidate countries'.

(3) Immigrants from these other countries will normally require work permits to enter the United Kingdom. Salt and Millar (2006), show that the trends observed in the LFS data are consistent with the work permits data. The broad trends for 'new' immigrants are also consistent with the IPS data.

willing to incur the full costs of setting up home; for example, they may purchase fewer durable goods. But permanent settlement may be encouraged by the presence of large immigrant communities, since a network of friends or family would be expected to raise the quality of life of 'new' immigrants and may ease adjustment to living in a new country.

How skilled are immigrants?

The skills of immigrants relative to domestically born individuals are important in determining the implications for wages in the economy. One way to proxy skills is by education (Table B), while another is by occupation.

Table B Educational attainment: immigrants and those born in the United Kingdom^{(a)(b)}

	2005				1995			
	All	UK born	Immigrants		Immigrants			
			All	Recent ^(c)	New ^(d)	All	Recent ^(c)	New ^(d)
By age left full-time education (per cent)								
<16 years (incomplete schooling)	17	17	12	7	6	21	9	6
16–20 years (completed secondary school)	65	66	52	48	49	52	47	41
21+ years (completed a degree)	19	17	36	45	45	26	44	53
By highest qualification (per cent)								
Degree	26	26	27	20	17	22	11	10
A-level or equivalent	24	26	13	8	6	15	9	8
Up to GCSE or equivalent	28	30	11	3	2	13	4	2
Other	8	5	31	53	59	28	62	70
None	14	13	18	15	16	23	14	11
Average age	39.7	39.9	38.4	30.2	29.0	39.4	29.7	28.9

Source: LFS.

(a) Based on individuals aged 16–64.
 (b) Annual data reflect LFS seasonal quarters. See the box for more details.
 (c) 'Recent' immigrants are those who entered the United Kingdom in the survey year or at some time in the previous four (calendar) years.
 (d) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

The LFS records the highest qualification of individuals. One can divide these qualifications into: Degree, A-levels (or equivalent) and up to GCSE (or equivalent), Other, and None. Little information is available on the types of qualifications that are assigned to 'Other' qualifications. But Table B shows that nearly 60% of 'new' immigrants were allocated to this category in 2005. The ONS's policy for coding any foreign qualification not on the list of (mainly UK-specific) qualifications is to code them as 'Other'. One example of this is the International Baccalaureate. This is roughly equivalent to an A-level, but was only explicitly introduced into the LFS in 2005 — prior to that it was coded as 'Other'. So the LFS definitions are not very useful for assessing the relative qualifications of immigrants.⁽¹⁾

However, it is also possible to look at the amount of time spent in education. The LFS asks individuals the age at which they completed full-time education. In the United Kingdom, the minimum age for leaving school is 16, and the standard age for graduating with a degree is 21. The timings are likely to be different in other countries. But based on these data, people who left full-time education before 16 are classified in this article as having incomplete schooling, and those who left after age 21 as having completed a degree. This leaves individuals who left full-time education between the ages of 16 and 20 — who are classified as having completed secondary school.

The above groupings will not be entirely accurate because they will misclassify individuals who go through school faster or slower than the average person. They will also fail to capture those who take time out of full-time education (for example to work or travel) and those who continue further education on a part-time basis. But if this inaccuracy affects both immigrants and UK-born workers in a similar way, then the groupings should still provide a useful guide to the relative skills of immigrants. Using these definitions, 66% of the UK-born population have only completed secondary school while 17% have a degree (Table B). A smaller fraction (52%) of immigrants have only secondary school qualifications and a greater fraction (36%) have degrees. An even higher proportion of 'new' immigrants (45%) have degrees. So, on the basis of the age at which individuals left full-time education, immigrants, especially 'new' immigrants, generally appear to be more skilled than those born in the United Kingdom.

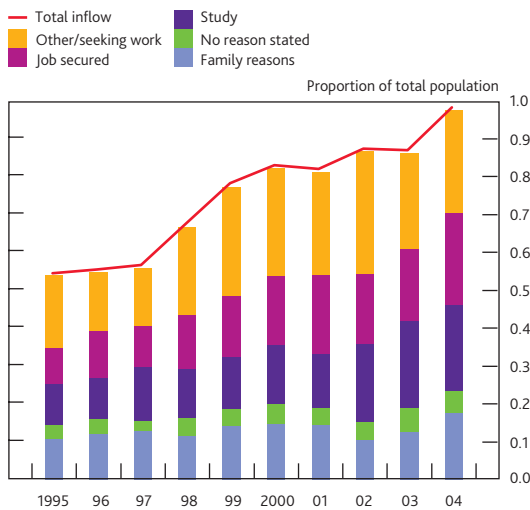
Table B shows that the average immigrant in the United Kingdom is 38 years old, compared to nearly 40 for the UK-born population. In fact, both IPS and LFS data show that over 90% of immigrants are aged between 15 and 44. 'Recent' immigrants and 'new' immigrants are younger, with average ages of 30 and 29 respectively, suggesting that they have fewer years of work experience.

What are the employment, unemployment and wage rates of immigrants?

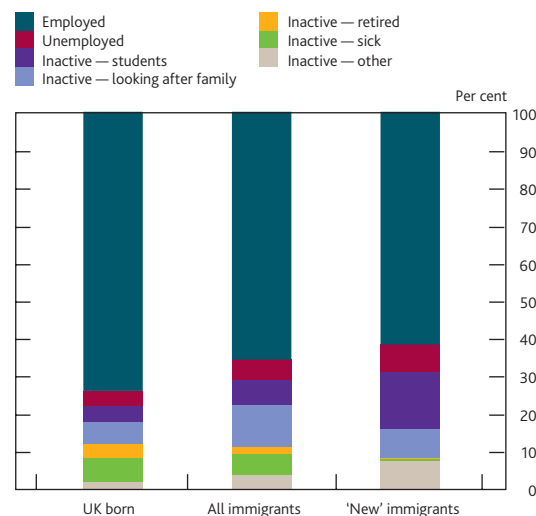
Chart 5 shows the estimated gross inflow of immigrants to the United Kingdom by reason, available from the IPS data. It shows that increasing shares of the population have entered the United Kingdom as job holders, students, and for 'other' — this last category includes job seekers.⁽²⁾

Chart 6 and Table C show that most immigrants are employed. They also show that compared with UK-born

(1) Interestingly, the Census 2001, filled out by individuals themselves, does not suffer from this same problem. See Manacorda, Manning and Wadsworth (2006), Table A4.
 (2) Splitting 'new' immigration from the LFS into students, employed and unemployed shows a similar picture.

Chart 5 Reason for migrating to the United Kingdom

Source: ONS; data are mainly from the International Passenger Survey (IPS). The ONS supplements the IPS with administrative data on asylum seekers and their dependents, and estimates of the migrant flow between the United Kingdom and the Republic of Ireland; the ONS also makes other adjustments to account for those whose intended length of stay changes (from less than one year to more than one year, and vice versa). The IPS sampling methodology changed in 1999.

Chart 6 Type of economic activity in 2005: UK born and immigrants^{(a)(b)(c)}

Source: LFS.

- (a) Based on individuals aged 16–64.
 (b) Annual data reflect LFS seasonal quarters. See the box for more details.
 (c) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

workers, immigrants (on the LFS foreign-born definition) are on average somewhat less likely to be employed and somewhat more likely to be inactive or unemployed.⁽¹⁾ Individuals who are inactive in the labour market include a varied group of people such as students, retired workers, those who are sick or looking after their family, and those who do not want work. **Chart 6** shows that sickness is an important reason for inactivity among UK-born workers and the stock of immigrants — but it is virtually zero for 'new' immigrants. 'New' immigrants are inactive primarily because they are students or looking after family. According to LFS data, of the remaining inactive 'new' immigrants — labelled as 'other' in **Chart 6** — most of them do not (or are not eligible to) claim

Table C Labour market outcomes: immigrants and those born in the United Kingdom^{(a)(b)}

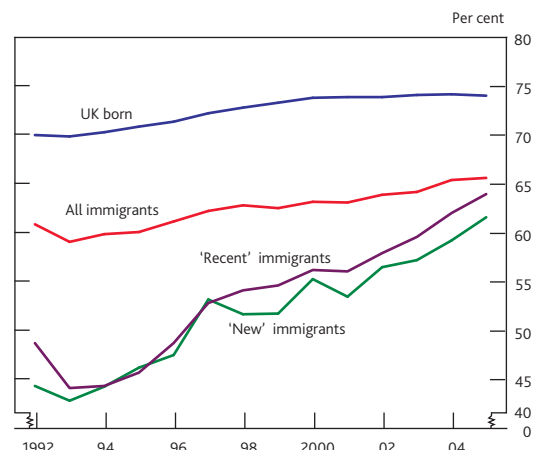
	2005					1995		
	All	UK born	Immigrants			Immigrants		
			All	Recent ^(c)	New ^(d)	All	Recent ^(c)	New ^(d)
Employment rate (per cent of population)	72.8	73.7	65.4	63.7	61.3	59.8	45.5	46.0
Inactivity rate (per cent of population)	23.4	22.7	29.4	30.0	31.4	31.6	44.3	45.8
Unemployment rate (per cent of workforce)	5.0	4.7	7.4	8.9	10.6	12.5	18.3	15.1
Average basic hours worked per week	34.7	34.6	36.1	36.4	36.8	36.7	36.4	36.2
Average paid overtime hours per week	3.0	3.0	3.2	4.3	4.8	3.6	3.8	4.4

Source: LFS.

- (a) Based on individuals aged 16–64.
 (b) Annual data reflect LFS seasonal quarters. See the box for more details.
 (c) 'Recent' immigrants are those who entered the United Kingdom in the survey year or at some time in the previous four (calendar) years.
 (d) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

any form of benefits,⁽²⁾ and over half of them are inactive because they do not want a job.

Chart 7 shows how the employment rates of UK-born workers and new immigrants have evolved over time. The LFS data suggest that 74% of UK-born individuals were employed compared with 65% of all immigrants in 2005 (**Table C**). Since 1995, 'recent' and 'new' immigrants have had lower employment rates than immigrants in general, though the gap between the groups has narrowed substantially. When employed, the average immigrant worked 1½ hours per week

Chart 7 Employment rates^(a)

Source: LFS.

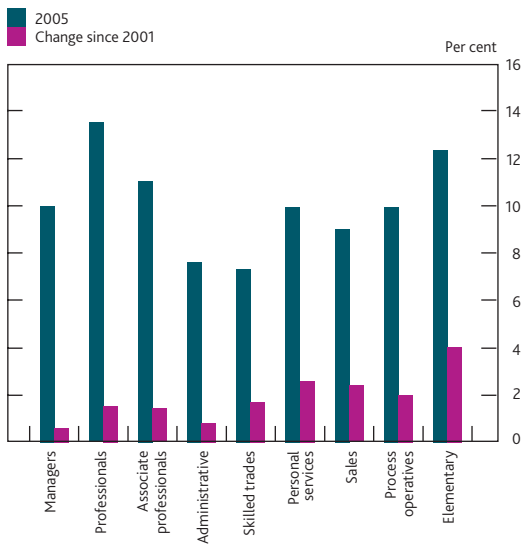
- (a) Defined as the total number of 16–64 year olds in employment in each category as a fraction of the population aged 16–64 in each category.

- (1) The impact of A8 migration on unemployment is examined by Gilpin *et al* (2006).
 (2) For example, many non-EU citizens are ineligible to claim benefits in the United Kingdom and A8 citizens are only entitled to claim unemployment benefit if they have previously been in employment in the United Kingdom for twelve months.

more in 2005 than the average individual born in the United Kingdom.⁽¹⁾

Chart 8 shows the share of total employment in each occupation accounted for by foreign-born workers. According to the data, about 10% of all ‘Managers’ in the United Kingdom were foreign born in 2005. The chart shows a U-shaped profile, where there is a greater share of immigrants at both ends of the occupational distribution than in the middle. The pink bars plot these shares of immigrants since 2001. It shows that the immigrant share has increased in all occupations, but by proportionally more in lower-skilled jobs. The bottom two occupational groups are ‘Process operatives’ — including food and textile operatives — and ‘Elementary’ — including cleaners, shelf fillers, packers, labourers and kitchen and catering assistants.

Chart 8 Share of total employment in each occupation accounted for by immigrants^{(a)(b)}

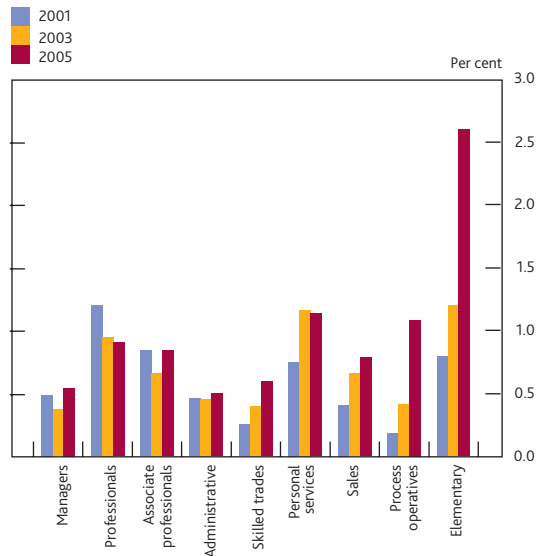


Source: LFS.

- (a) Based on all employed individuals aged 16–64.
- (b) The number of all foreign-born workers in each occupation as a percentage of the total number of people employed in that occupation.

Chart 9 shows a similar picture for ‘new’ immigrants. The first set of bars shows that in 2005, only half a per cent of all UK ‘Managers’ were ‘new’ immigrants; this share has not changed much since 2001. By contrast, 2½% of all individuals employed in ‘Elementary occupations’ in 2005 were ‘new’ immigrants, compared with 0.8% in 2001.⁽²⁾ The fraction of ‘new’ immigrants has grown fastest in Elementary occupations and among Process operatives. **Chart 10** shows that these jobs are also lower-paid jobs. In other words, despite apparently being relatively well-educated, ‘new’ immigrants are overrepresented in low-skill, low-paid jobs. The fact that ‘new’ immigrants are concentrated in low-skilled occupations is in line with evidence from the Worker Registration Scheme (WRS) data.⁽³⁾ This finding is also consistent with what businesses have been telling the Bank’s regional Agents. It is, however, possible that over time these immigrants will

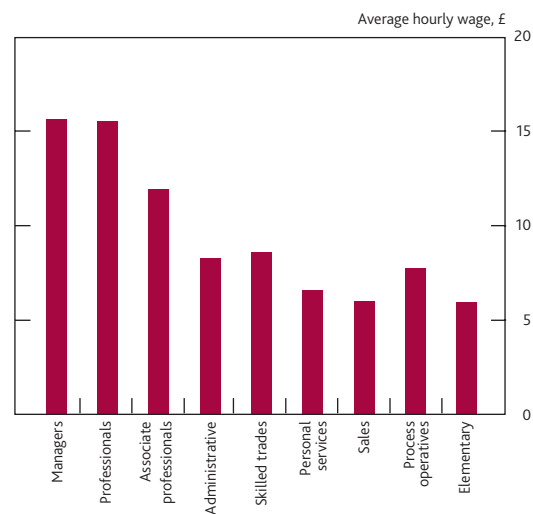
Chart 9 Share of total employment in each occupation accounted for by ‘new’ immigrants^{(a)(b)(c)}



Source: LFS.

- (a) ‘New’ immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.
- (b) Based on all employed individuals aged 16–64.
- (c) The number of ‘new’ immigrants in each occupation as a percentage of the total number of people employed in that occupation.

Chart 10 Hourly wage^(a) in 2005: by occupation^(b)



Source: LFS.

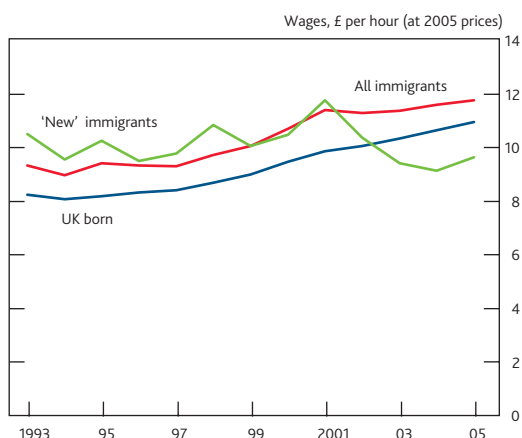
- (a) The average hourly wage of all employed individuals (both UK and foreign-born) in each occupation in 2005.
- (b) Based on all employed individuals aged 16–64.

develop the English language skills and knowledge of the local labour market that may enable them to move to higher-paid jobs that are better matched to their educational skills.⁽⁴⁾

- (1) This differential in hours is driven by women: immigrant women on average work 2.4 hours more a week than UK-born women. Even after one controls for demographics and job characteristics, immigrants still work longer hours than UK-born workers.
- (2) Those individuals defined as ‘new’ immigrants in 2001 that are still working will not be captured as ‘new’ immigrants in 2005.
- (3) See Home Office (2006), *Accession Monitoring Report*, May 2004–September 2006, page 15.
- (4) See for example, Eckstein and Weiss (2004).

Chart 11 shows that, according to LFS data, immigrants have on average earned more than UK-born individuals since 1993. This result is partly explained by the fact that immigrants have been more likely to live in London, where hourly wage rates are higher than the rest of the country. The chart also shows that average hourly pay of 'new' immigrants was not very different to existing immigrants through the 1990s. But since 2002, the real wages of 'new' immigrants have fallen relative to the real wages of those born in the United Kingdom. What has driven this fall? Part of it arises because 'new' immigrants are

Chart 11 Average hourly wage^{(a)(b)}



Sources: LFS and ONS.

- (a) Based on employees aged 16–64 who report their wage. This chart excludes those earning above £100 per hour or less than £1 an hour to avoid the analysis being influenced by such extreme observations.
- (b) Wages are adjusted using CPI, relative to a 2005 base.

increasingly taking up low-paid jobs: Table D shows that there are more 'new' immigrants (16%) earning less than £5 per hour than UK-born workers (10%). But part of it reflects the fact that 'new' immigrants are increasingly settling outside London, where wages are on average lower. Chart 12 shows

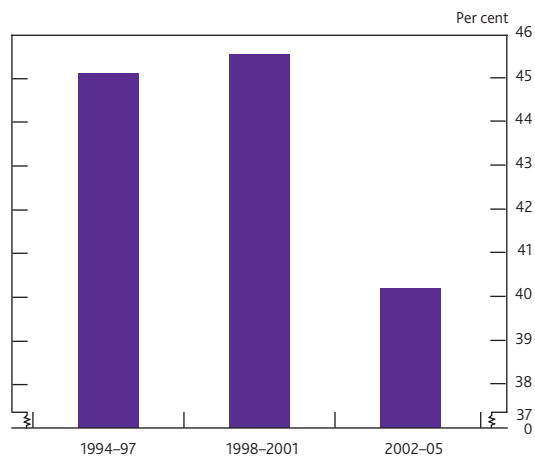
Table D Hourly wages: immigrants and those born in the United Kingdom^{(a)(b)}

	2005				1995			
	All	UK born	Immigrants All	Immigrants Recent ^(c)	Immigrants All	Immigrants Recent ^(c)	Immigrants New ^(d)	Immigrants New ^(d)
Average wages per hour (£ at 2005 prices) ^(e)	10.9	10.8	11.6	10.0	9.5	9.3	10.5	10.2
Distribution of workers (per cent)								
<i>£ per hour (at 2005 prices)^(e)</i>								
<£5.00	10	10	9	13	16	27	34	34
£5.00–£9.99	48	48	45	52	54	41	28	27
£10.00–£14.99	23	23	22	18	15	18	18	20
>£15.00	20	19	23	17	15	13	20	18

Source: LFS.

- (a) Based on individuals aged 16–64. Those earning above £100 an hour or less than £1 an hour are considered to be extreme outliers and are excluded.
- (b) Annual data reflect LFS seasonal quarters. See the box for more details.
- (c) 'Recent' immigrants are those who entered the United Kingdom in the survey year or at some time in the previous four (calendar) years.
- (d) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.
- (e) Wages are adjusted using CPI, relative to a 2005 base.

Chart 12 Proportion of 'new' immigrants that settle in London^{(a)(b)(c)}



Source: LFS.

- (a) Based on individuals aged 16–64.
- (b) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.
- (c) The number of 'new' immigrants living in London as a percentage of the total number of 'new' immigrants.

that between 2002 and 2005, 40% of all 'new' immigrants settled in London, down from more than 45% between 1994 and 2001.⁽¹⁾

What impact does such a wage gap have on aggregate nominal wages? If there is an increase in labour supply from 'new' immigrants, and they tend to work in low-paid jobs then, other things being equal, this will lower average wages. A simple metric of this compositional or 'batting average' effect, based on the difference in average wage rates and employment shares, suggests that it has lowered the level of aggregate nominal wages by around a quarter of a per cent over the past two years. This would lower aggregate nominal wage growth temporarily. The weakness in nominal wage growth can be interpreted in one of three ways.

First, workers pay may accurately reflect their productivity. Under this scenario, the temporary fall in aggregate nominal wage growth would be interpreted as capturing a fall in aggregate productivity growth. That should mean that there is no impact on unit labour costs or inflationary pressures and therefore no implications for monetary policy. This interpretation would suggest that the observed weakness in nominal wage growth may not be as much of an indication of weakness in the labour market as it would have been in the past, because immigration has temporarily lowered the rate of nominal wage growth consistent with the inflation target.

Second, the new immigrants may have displaced similar, or even less productive, workers. In this scenario the effects on

(1) National Insurance Number (NINo) allocations also show that while London remained the most likely destination for immigrants, the proportion residing in London has fallen in recent years. For more details see Department for Work and Pensions (2006).

aggregate productivity could be less pronounced, or even positive. The weakness in aggregate nominal wage growth then feeds through to weaker growth in unit labour costs and reduced inflationary pressures.

Finally, the weakness in nominal wage growth may be a reflection of improvements on the supply side of the economy, in particular a lower natural rate of unemployment. This could arise through two channels. First, immigration may have helped to fill skill gaps. Contacts of the Bank's regional Agents have reported that the increased recruitment of migrant workers has been prompted by skill shortages. It seems likely that, without the influx of 'new' immigrants to fill these skill gaps, earnings would have risen at a faster rate, putting upward pressure on the costs of employers and, ultimately, inflation.⁽¹⁾ Second, the increased international mobility of labour and the threat of outsourcing to other countries may have altered the wage-setting process by increasing the competitive pressures on domestic workers.⁽²⁾ As a result, domestic workers may be willing to work for lower wages than in the past.

In summary, the impact of immigration on nominal wage growth, productivity and the supply side of the economy is complex.

Table E shows that the share of immigrants varies considerably by industrial sector. For example, the immigrant share is highest in the Hotels and restaurants sector, a relatively low-paid sector. The industry with the second highest immigrant share is Finance, real estate and business activities, a relatively high-paid sector. Of those reported here, the

Table E Share of total employment in each industry accounted for by immigrants^{(a)(b)}

Per cent	2005			1995		
	Immigrants			Immigrants		
	All	Recent ^(c)	New ^(d)	All	Recent ^(c)	New ^(d)
By industry^(e)						
Hotels and restaurants	19.7	6.9	2.8	13.8	2.5	1.0
Finance, real estate and business activities	12.1	2.8	1.0	7.5	1.1	0.4
Transport and communications	11.8	2.4	0.9	7.0	0.6	0.2
Public sector	10.1	2.4	0.7	7.8	0.7	0.3
Wholesale, retail and repairs	8.8	2.1	0.7	6.0	0.5	0.2
Mining and quarrying	6.7	1.8	0.2	5.5	1.2	0.7
Construction	6.0	1.7	0.6	4.3	0.2	0.1
Agriculture	4.3	1.3	0.5	2.9	0.4	0.1
Immigrants ^(f)	11.3	3.0	1.1	8.2	1.3	0.5

Source: LFS.

(a) Based on all employed individuals aged 16–64.

(b) Annual data reflect LFS seasonal quarters. See the box for more details.

(c) 'Recent' immigrants are those who entered the United Kingdom in the survey year or at some time in the previous four (calendar) years.

(d) 'New' immigrants are those who entered the United Kingdom in the survey year or the (calendar) year before the survey was carried out.

(e) The number of foreign-born workers in each industry as a percentage of the total number of people employed in that industry.

(f) The number of foreign-born individuals as a proportion of the total UK population.

immigrant shares are lowest in Agriculture and Construction. However, contacts of the Bank's regional Agents suggest that the immigrant share is relatively high in Agriculture.⁽³⁾ This divergence is likely to reflect the fact that immigrant workers in the Agricultural sector are more likely to be temporary seasonal workers who are likely to be underrepresented in the LFS survey. The data by industry echo the data by occupation in that new immigrants are overrepresented in relatively low-paid sectors.

Conclusion

The data on immigration to the United Kingdom are subject to considerable measurement error. But knowing what the available data say is at least a natural starting point for policymakers who wish to understand the impact of immigration on the labour market and the wider economy.

The available data suggest that most immigrants are employed. They also suggest that the characteristics of immigrants and those born in the United Kingdom are somewhat different. Importantly, immigrants to the United Kingdom (regardless of how long they have been in the country) are overrepresented in both high-paid occupations (Managers and Professionals) and low-paid occupations (Elementary). They are also overrepresented in both high-paid industries (Finance, real estate and business activities) and low-paid industries (Hotels and restaurants). Immigrants also tend to be younger, better educated and work longer hours than those born in the United Kingdom.

It appears that 'new' immigrants (those who entered the United Kingdom up to two years ago) are more educated than both previous waves of immigrants and those born in the United Kingdom, but they are more likely to be working in Elementary occupations.

Will these recent trends continue? Although the data show that 'new' immigrants are overrepresented in low-paid jobs, they appear, on average, to be relatively well-educated. So they may move into better paid jobs over time, or leave to return to their homeland. On the other hand, a new wave of immigrants may replace the current inflow. There is a lot of uncertainty in this area, which makes monitoring developments all the more important.

What are the implications of these findings for productivity and the supply side of the economy? The increasing share of 'new' immigrants in low-paid jobs appears to have led to the emergence of a striking wage gap between 'new' immigrants and UK-born workers. One possibility is that the lower pay of

(1) See King (2005a, 2005b).

(2) See Bean (2006).

(3) For more details see Bank of England (2006a).

'new' immigrants reflects lower productivity, in which case aggregate productivity growth would fall temporarily. An alternative possibility is that the new immigrants may have displaced similar or less productive workers. In this case, the effects on aggregate productivity could be less pronounced, or even positive.

Immigration may also have increased the supply potential of the economy by lowering the natural rate of unemployment; either by reducing skills gaps in a tight labour market or by tempering the wage demands of domestic workers, or both.

These different possibilities and the difficulty of quantifying the impact of immigration on wages, productivity and the natural rate of unemployment, demonstrate that the implications for overall productivity and the supply side of the economy are complex. And, of course, the overall impact on inflation is determined by the extent to which immigration affects the balance between supply and demand in the economy.

References

- Bank of England (2005)**, *Inflation Report*, August.
- Bank of England (2006a)**, *Inflation Report*, February.
- Bank of England (2006b)**, *Inflation Report*, November.
- Bean, C (2006)**, 'Globalisation and inflation', speech at London School of Economics and reproduced in this *Bulletin* on pages 468–75.
- Borjas, G (1985)**, 'Assimilation, changes in cohort quality, and the earnings of immigrants', *Journal of Labor Economics*, Vol. 3, pages 463–86.
- Borjas, G (2005)**, *Labour Economics*, Third Edition, McGraw-Hill Irwin publishers.
- Card, D (2005)**, 'Is the new immigration really so bad?', *Economic Journal*, Vol. 115, No. 507, pages 300–23.
- Department for Work and Pensions (2006)**, 'National Insurance Number Allocations to Overseas National Entering the UK'.
- Dustmann, C, Francesca, F and Preston, I (2005)**, 'The impact of immigration on the British labour market', *Economic Journal*, Vol. 115, No. 507, pages 324–41.
- Eckstein, Z and Weiss, Y (2004)**, 'On the wage growth of immigrants: Israel 1990–2000', *Journal of the European Economic Association*, Vol. 2(4), pages 665–95.
- Gilpin, N, Henty, M, Lemos, S, Portes, J and Bullen, C (2006)**, 'The impact of free movement of workers from Central and Eastern Europe on the UK labour market', Department for Work and Pensions, *Working Paper no. 29*.
- Home Office, Department for Work and Pensions, HM Revenue & Customs and Department for Communities and Local Government (2006)**, *Accession Monitoring Report*, May 2004–September 2006.
- King, M (2005a)**, Governor's speech at Salts Mill, Bradford. This speech can be found at www.bankofengland.co.uk/speeches/2005/speech248.pdf.
- King, M (2005b)**, 'Remarks to central bank Governors' panel', Jackson Hole Conference 2005, *Bank of England Quarterly Bulletin*, Autumn, pages 382–84.
- Layard, R, Nickell, S and Jackman, R (1991)**, *Unemployment: macroeconomic performance and the labour market*, Oxford University Press.
- Manacorda, M, Manning, A and Wadsworth, J (2006)**, 'The impact of immigration on the structure of male wages: theory and evidence from Britain', *CEP Discussion Paper no. 754*.
- Office for National Statistics (2006)**, 'International migration', *Series MN no. 31*.
- Salt, J and Millar, J (2006)**, 'Foreign labour in the United Kingdom: current patterns and trends', Office for National Statistics, *Labour Market Trends*, October.