

RF

# Resolution Foundation

REPORT

## Opportunities Knocked?

*Exploring pay penalties among the UK's ethnic minorities*

Kathleen Henehan & Helena Rose

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## Executive Summary

In her first speech as Prime Minister just over two years ago on the steps of Downing Street, Theresa May rightly vowed to tackle race inequality as one of the 'Burning Injustices' facing our country. She was right to do so because despite some real progress, disadvantage on the basis of ethnicity too often remains a reality of our labour market.

There is much to celebrate in relation to the UK labour market performance of ethnic minorities in recent decades. Much of this begins with the education system, where there has been significant qualifications growth over recent years. For instance, in the ten years to 2017 there was a 28 percentage point rise in degree attainment among Pakistani/Bangladeshi women, and a 24 percentage point rise among both black men and women.<sup>[1]</sup>

Employment levels have also gone up. Between 1996-97 and 2016-17 the employment rate among black and Pakistani/Bangladeshi men grew by over a quarter, while it doubled among Pakistani/Bangladeshi women. This growth corresponded with a large reduction in employment gaps relative to the employment rate of white men. The gap between white and Pakistani/Bangladeshi men fell from 19 to 3 percentage points. Between white and black men it fell from 16 to 3 percentage points. Given that ethnic minorities form over 15 per cent of the UK working age population these reductions have a positive effect on the labour market more generally.

But in spite of this progress, striking differences in pay remain. The average hourly pay gap between white men and Indian women was 14 per cent in 2016-17. Between white men and black men it was 19 per cent, and for white men and Pakistani/Bangladeshi women it sat at just over a quarter (26 per cent).

While these gaps have reduced for some groups over the past two decades, they remain. This should worry us but it requires careful interpretation. The composition of different sex and ethnicity groups in the UK varies widely,

[1] In order to build up a sample size that will support our regression analyses, we have had to combine different ethnicities into larger categories. This includes placing into the same category people with black Caribbean, black African and other black backgrounds. We attempt to account for some of the differences that exist between these groups. However, the fact that we place heterogeneous groups into a single category is nevertheless a limitation.

and many of these compositional differences will influence employment and pay, often pulling in different directions. For instance, ethnic minorities tend to have a younger age profile than white men and women, and they tend to have a higher proportion of people born outside the UK – both of which have the potential to depress employment and pay. However, they also have, on average, higher levels of degree attainment and are more likely to live in higher-paying regions like London and the South East.

To get a clearer understanding of the pay gaps between white and ethnic minority employees, we present the results of a series of regression models that test whether inflation adjusted hourly pay differs between ethnic groups after holding key personal and work-related factors constant. We compare the size of raw *pay gaps*, which exist before controlling for compositional factors, against adjusted *pay penalties*, which represent the pay difference between the white and ethnic minority population that cannot be explained by the compositional factors we tested. Our analysis is unique in providing a clear breakdown of the raw gaps and remaining penalties that exist between ethnicities by education level. Importantly, the fact that we control for these wider visible characteristics does not mean that disadvantage has played no role in determining them. Some groups are overrepresented in particular occupations: for instance, a third of younger black women graduates work in health and social care.

The characteristics we control for include: age, qualifications, region, whether a person is UK-born, the length of time since they left education (a proxy for experience), whether they work full-time or part-time, occupation, industry, whether they work in the public or private sector, the length of time they have worked for their employer and whether they are on a permanent contract. In order to build up our sample, we run these regressions over two ten-year periods (1996-2006 and 2007-17), using data from the Office for National Statistics' *Labour Force Survey*. We compare ethnic minority men with white men, and white women with white men. We then compare ethnic minority women with white women.

Table 1 and Table 2, at the end of this summary, set out our results. Five key findings stand out:

» **In most instances accounting for compositional factors serves to substantially reduce raw pay gaps experienced in the labour market**

For instance, during 2007-17, the raw difference in average hourly pay between 22-64 year-old white and Pakistani/Bangladeshi graduate men was 27 per cent. After holding work and personal characteristics constant, that *pay gap* more than halved to a 12 per cent *pay penalty*. The pay gap between white men and women graduates also more than halved, from 18 per cent to 8 per cent.

Among non-graduate Pakistani/Bangladeshi men a 30 per cent pay gap fell to a 14 per cent pay penalty. Similarly, the 12 per cent pay gap that non-graduate Pakistani/Bangladeshi women had with white women more than halved (to 5 per cent) once background factors are accounted for.

» **Penalties are largest for black male graduates and for Pakistani/Bangladeshi non-graduate men.**

While the pay penalties that remain in evidence after controlling for where individuals are born, where they live, the qualifications they have and the role they have are significantly smaller than the raw pay gaps in most instances, they are nevertheless very sizeable in many cases.

The largest penalty is recorded by black male graduates, who can expect to be paid 17 per cent less than white male graduates after accounting for their background and their job. This is equivalent to £3.90 an hour, or over £7,000 a year for an illustrative full-time employee. At the opposite end of the spectrum, the penalty accrued by male Indian graduates is statistically insignificant.

All other pay penalties sit between these two. For instance, the pay penalty experienced by black graduate women relative to white women sits at 9 per cent, equating to a full-time equivalent of over £3,000 a year. The pay penalty between white and Pakistani/Bangladeshi male non-graduates was 14 per cent (£1.90 an hour). While this penalty represents a substantial reduction on their pay gap (£4), it nonetheless embodies a significant, unexplained difference from non-graduate white men's pay.

» **There is less variation in the size of penalties that exist between graduates and non-graduates than there is between different ethnic groups themselves.**

With the exception of black men, graduates and non-graduates from most ethnic minority groups experience similarly sized penalties in proportional terms. For instance, relative to white women, Indian women recorded pay penalties of 3 per cent and 4 per cent for graduates and non-graduates respectively. Likewise, both Pakistani/Bangladeshi women graduates and non-graduates had pay penalties of 5 per cent. Although larger, Pakistani/Bangladeshi men also recorded pay penalties that varies little between graduates (12 per cent) and non-graduates (14 per cent).

» **Penalties tend to be smaller among women than among men.**

Where non-graduate penalties among men range from 8 per cent (Indian men) to 14 per cent (Pakistani Bangladeshi men), among women they span from 4 per cent (Indian women) to just over 5 per cent (black women).

Among graduates too the male penalties are larger on the whole – ranging from 17 per cent (black men) to statistically meaningless (Indian men), rather than from 3 per cent (Indian women) to 9 per cent (black women) among women.

» **Penalties have remained stubborn for graduates but moved in different directions for non-graduates**

Among graduates, no penalties improved (or worsened) in a statistically meaningful way between 1996-2006 and 2007-17. Some of this persistence could be down to the fact that our analysis over time is limited to two ten-year consecutive periods. While this approach was necessary for boosting our overall sample size it does have the effect of blunting any change that may have occurred *within* these two decades, and in particular among recent birth cohorts.

Among non-graduates, some groups (like Pakistani/Bangladeshi men and Indian women) experienced substantial progress in reducing their pay penalties. However, for others (like black women) these penalties grew slightly worse.

There are two potential conclusions to draw from the penalties outlined here. First, they may be the result of instrumental factors excluded from our analysis. Second, they may be driven by discrimination and disadvantage. Our working hypothesis is that both issues are likely to be important.

On the first point, there are of course limitations to our model. We can only use a correlate of social class background for example, and we cannot account for subject studied or the perceived prestige of particular qualifications. While we are able to control for whether a person was born abroad, we cannot account for whether they have a foreign qualification, which might explain some of the substantially larger penalties experienced by black graduate men. To the extent that we can use correlates of these factors however, significant penalties remain in place. For instance, adding degree class to our model reduces graduate pay penalties only slightly. Clearly a more highly specified model would provide us with a better understanding of the penalties; however, it is unlikely that it would remove them altogether.

There is, however, some good news. Educational attainment and employment are up among all ethnicities. So, too, is the proportion of young people from ethnic minorities who are in higher-skilled work, and this has supported a rise in absolute levels of pay. However, the real pay gaps and remaining penalties that exist between both graduates and non-graduates of different ethnicities remain too large. And worryingly, we see little evidence of a wholesale improvement over time.

Properly tackling this through public policy requires a more detailed interpretation of the pay penalties. On the one hand, the curbing effect that compositional factors have on pay gaps speaks to the importance of continued educational improvements for young people, as well as access to education and training for adults already in work. On the other hand, the persistence of pay penalties even after compositional issues are factored in highlights the importance of exploring further the role played by disadvantage and discrimination, and what can be done to tackle it.

To that end, it is welcome that to see government initiatives, including the Race Disparity Unit, set to work on these issues. The Prime Minister was right to call out race inequality as one of today's 'Burning Injustices'; we now require action.



**Table 1: Pay penalties with white men, 22-64 year-olds, 2007-17: UK**

	Black men	Indian men	Pakistani/ Bangladeshi men	White women
Raw pay gap, graduates	-24%	-4%	-27%	-18%
Low raw estimate, graduates	-26%	-7%	-29%	-19%
High raw estimate, graduates	-21%	-2%	-24%	-17%
Adjusted pay penalty, graduates	-17%	--	-12%	-7%
Low penalty estimate, graduates	-19%	--	-14%	-8%
High penalty estimate, graduates	-15%	--	-9%	-7%
Raw pay gap, non-graduates	-15%	-12%	-31%	-19%
Low raw estimate, non-graduates	-17%	-14%	-32%	-19%
High raw estimate, non-graduates	-13%	-10%	-29%	-19%
Adjusted pay, non-graduates	-9%	-8%	-14%	-12%
Low adjusted estimate, non-graduates	-11%	-9%	-15%	-12%
High adjusted estimate, non-graduates	-8%	-6%	-12%	-11%

Notes: Blank cells indicate that the difference in average hourly pay is statistically meaningless

Source: RF analysis of ONS, *Labour Force Survey*

**Table 2: Pay penalties with white women, 22-64 year-olds, 2007-17: UK**

	Black women	Indian women	Pakistani/ Bangladeshi women
Raw pay gap, graduates	-9%	-5%	-15%
Low raw estimate, graduates	-11%	-8%	-19%
High raw estimate, graduates	-6%	-3%	-11%
Adjusted pay penalty, graduates	-9%	-3%	-5%
Low penalty estimate, graduates	-11%	-5%	-8%
High penalty estimate, graduates	-7%	-1%	-2%
Raw pay gap, non-graduates	--	--	-12%
Low raw estimate, non-graduates	--	--	-14%
High raw estimate, non-graduates	--	--	-9%
Adjusted pay, non-graduates	-6%	-4%	-5%
Low adjusted estimate, non-graduates	-7%	-5%	-8%
High adjusted estimate, non-graduates	-4%	-2%	-3%

Notes: Blank cells indicate that the difference in average hourly pay is statistically meaningless

Source: RF analysis of ONS, *Labour Force Survey*

## Section 1

# Introduction

*Despite some improvements over recent decades, ethnic minorities in the UK continue to record employment and pay gaps relative to white men and women. That has implications for individuals and, given large changes in the composition of the UK population over the same period, it also has consequences for national labour market outcomes more generally.*

*Yet the story is complicated by the fact that Britain's ethnic minority population differs in many ways from its white one. That is, it is younger, less likely to have been born in the UK and differently distributed across the country. Moreover, the nature of these compositional differences varies by ethnic group and has significantly shifted over time.*

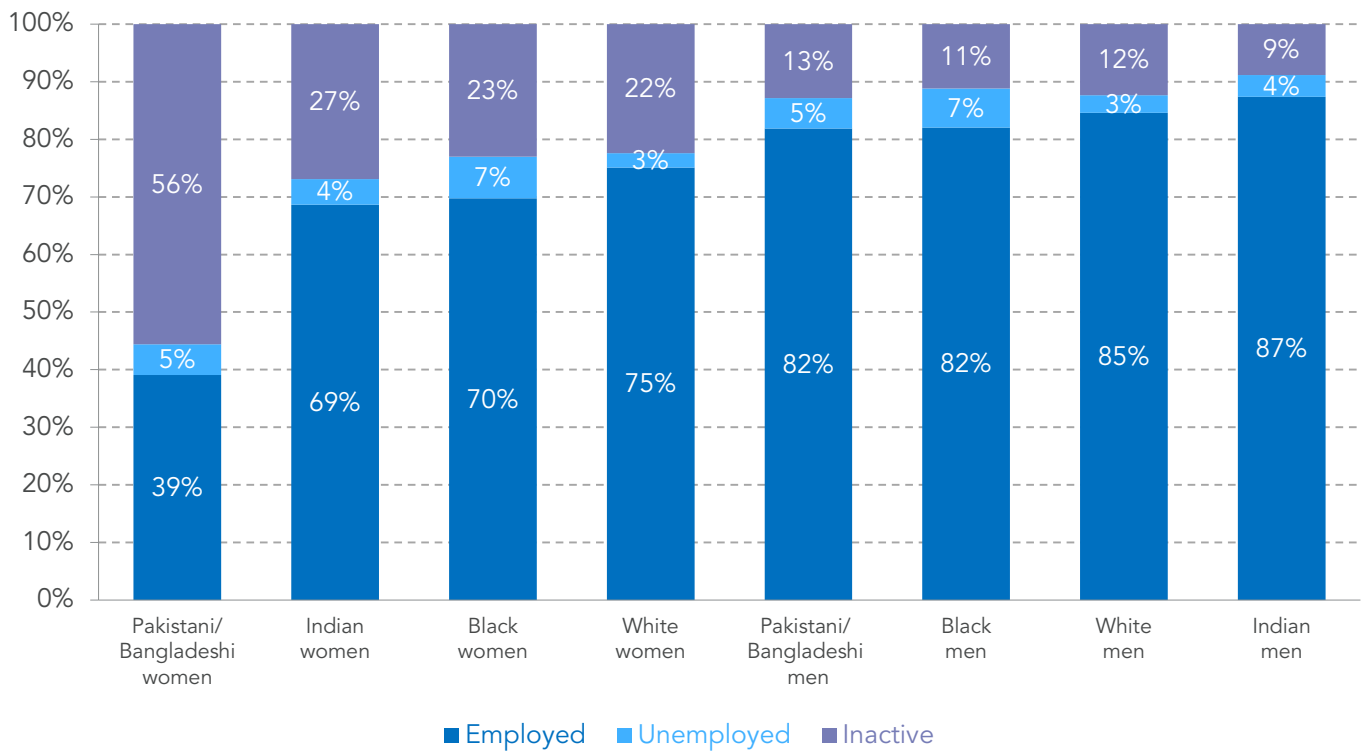
*To truly understand the persistence of pay gaps in the British labour market, we need to recognise these compositional differences and evaluate whether pay gaps would still persist in their absence. That is what this paper sets out to accomplish. In this section we set out the raw gaps in pay and employment that ethnic minorities, relative to white men, experience today. We discuss how compositional and work-related differences feed into employment and pay before delving into these issues further in Section 2.*

## It's widely recognised that employment varies by sex and ethnicity, with some groups having employment rates more than double those of others

The UK's exceptional jobs performance over the last decade is oft-commented on. Despite the economic turmoil of the last decade, each new set of labour market statistics seems to bring new highs for the employment rate and corresponding lows for unemployment. Focusing on 22-64 year-olds, 79 per cent were in work in 2016-17. Of the remainder, 3 per cent were unemployed (that is, out of work but actively seeking a job) and 18 per cent were 'inactive' (that is, not looking for work due to being in education, looking after the family home, ill health or some other reason).

Yet, as Figure 1 shows, these proportions vary significantly across different ethnic categories and by sex. For instance, the employment rate among white men was 85 per cent, but rose as high as 87 per cent among Indian men and dropped as low as 39 per cent among Pakistani and Bangladeshi women. In part this reflects different approaches to work, with Pakistani and Bangladeshi women recording especially large inactivity rates for example. But there is divergence too in relation to unemployment, with the rate ranging from 3 per cent for both white women and white men to 7 per cent for black women and black men (see Box 1 for a discussion of the ethnic categories used in this report).

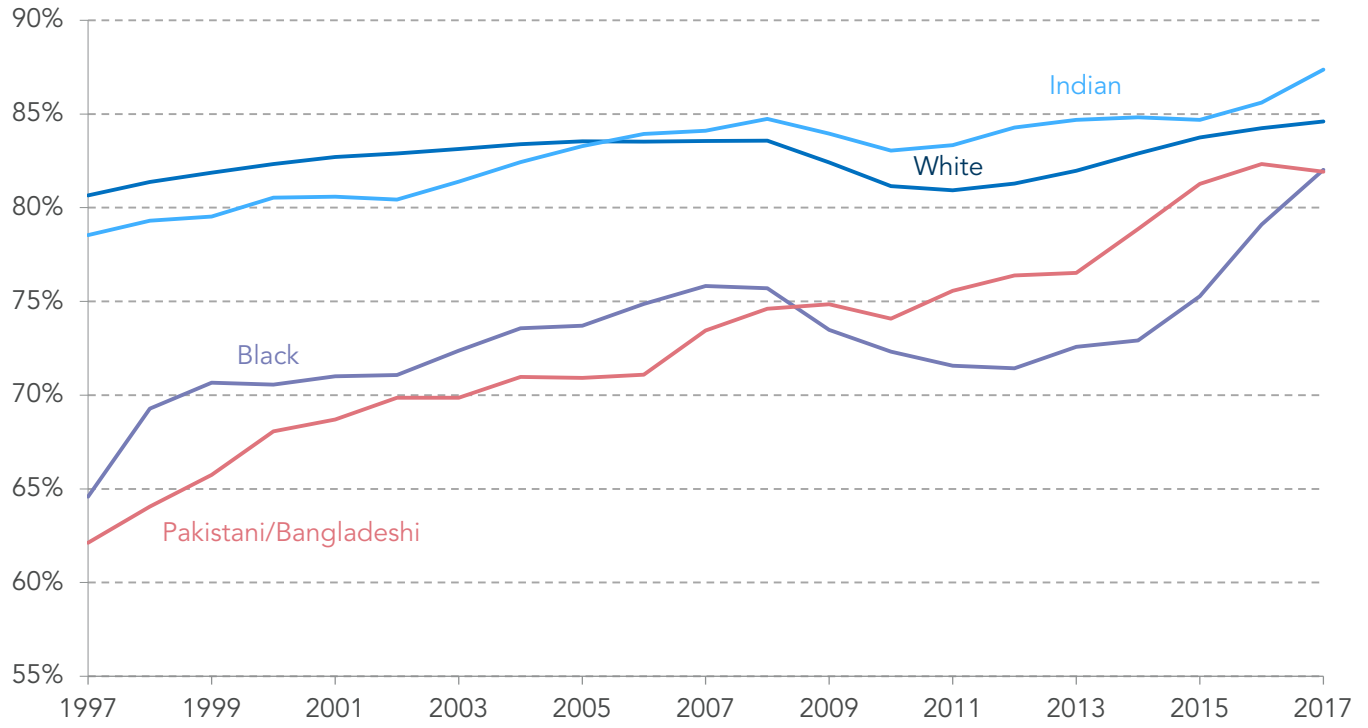
**Figure 1: Economic activity among 22-64 year-olds, 2016-17: UK**



Source: RF analysis of ONS, Labour Force Survey

Large though these gaps are, they are significantly narrower than was the case just 20 years ago. Figure 2 compares employment rates in 1996-97 and 2016-17 for different ethnic groups and by sex, and shows that employment among black and Pakistani/Bangladeshi men grew by roughly 30 per cent over the two decades (from between 60 and 65 per cent to over 80 per cent). Although employment among white men also increased, both groups hugely narrowed their employment gaps (from 16 and 19 percentage points respectively, to just 3 percentage points each). Looking again at the very rapid growth in employment recorded over the last five years, we can see that black men and Pakistani/Bangladeshi men have fared especially well with the latter recording a 27 per cent increase in employment rate between 2012 and 2017 for example.

**Figure 2: Employment rate, 22-64 year-old men, 1996-97 and 2016-17: UK**

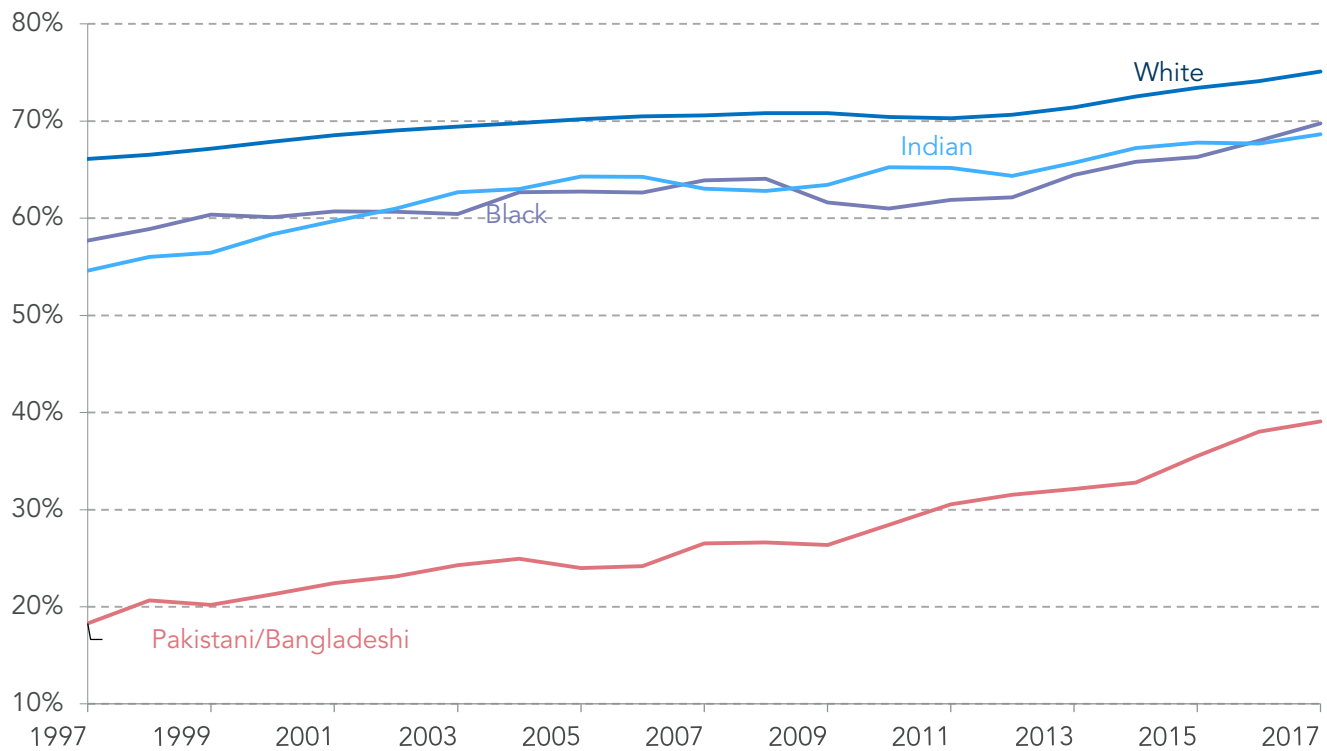


Source: RF analysis of ONS, Labour Force Survey

Employment growth among women over the last two decades has been even more impressive. Figure 3 shows that between 1996-97 and 2016-17, the employment rate grew by 13 per cent among white women and by nearly 115 per cent among Pakistani/Bangladeshi women. And while the gap between white and Pakistani/Bangladeshi women remains large at 36 percentage points, it is significantly smaller than in 1996-97 (47 percentage points).<sup>[2]</sup>

[2] See: A Corlett, [Diverse Outcomes: living standards by ethnicity](#), Resolution Foundation, August 2017

**Figure 3: Employment rate, 22-64 year-old women, 1996-97 to 2016-17: UK**



Source: RF analysis of ONS Labour Force Survey

### *i* Box 1: Data limitations

The report analyses employment, pay and their underlying factors for the years 1996 to 2017. Unless otherwise noted, its data is derived from the ONS Labour Force Survey, which covers a large sample of people (approximately 40,000 households and 100,000 individuals per quarter).

Even still, our analyses require us to drill into the data to a very detailed level. For example, our main linear regression model (see Section 4) separates respondents by ethnicity, sex, age, region, country of birth, qualifications, occupation, industry, public sector status, mode of employment, employment contract type, and length of time with employer. Additionally, in order to ensure that our analyses account for the time it takes graduates to enter the labour force, we focus on a 'working age' population of 22-64 year-olds.

Such detailed analysis bears down on sample size – particularly for ethnic groups that comprise smaller proportions of the UK population – and low sample sizes

reduce the reliability of our results. This requires us to make two adjustments.

First, except when referring to simple descriptive data we combine several ethnic groups into larger categories. For example, we pool black African and black Caribbean groups into an overall 'black' group – split by sex). Similarly, we combine Pakistani and Bangladeshi groups. Our regression analysis is then restricted to men and women from four main groups: 'white', 'black', 'Indian' and 'Pakistani/Bangladeshi'.

In addition to sample size limitations, changes in the Labour Force Survey ethnicity questions would impede our ability to use a consistent detailed ethnicity series from 2011. The particular detailed groups that we reference in many of descriptive statistics would only be available in England and Wales from this time. Our condensed category is unaffected by this.

### *i* Box 1: Data limitations (continued)

This produces inevitable limitations – with the groups proving far from homogenous. For example, just over a third of those identifying as black Caribbean in 2007-17 were born abroad compared with nearly nine-in-ten of those identifying as black African. Likewise, 22 per cent of black Caribbean respondents reported having a degree as compared to 37 per cent of those identifying as black African.

While imperfect – and important to bear in mind – these within group differences are an unavoidable by-product of amalgamating in the interest of sample size, and we attempt to account for them by including relevant control variables in our regression models.

Due to sample size issues we did not report results for 'Other' and 'Other Asian' including Chinese. While each

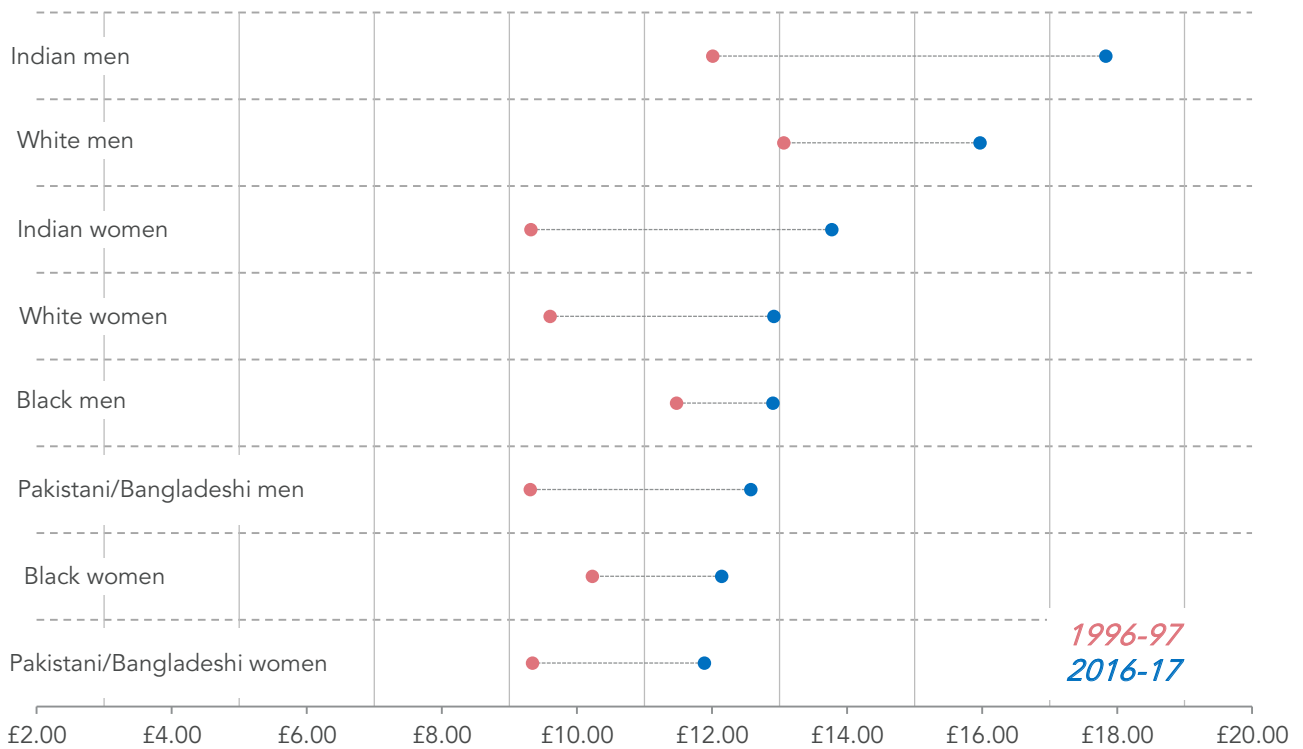
individual group was too small to derive meaningful results from, in combination, they are too heterogeneous to discuss as a single group. While the 'White' population inevitably includes a number of migrants, particularly in the 2007-17 portion of our analysis, we attempt to control for this in our regression analysis by including a dummy variable based upon whether or not someone was born in the UK.

Second, in our pay gap and pay penalty analyses (Section 4), we break the sample's time period into two blocks (1996-2006 and 2007-2017) and compare change between the two. By focusing on differences between two consecutive time periods we likely understate the amount of change that has happened over time, but this is necessary in order to ensure we have a sufficiently sized sample for producing reliable results.

## Like employment, pay has grown for men and women of all ethnicities

Pay has of course performed much less well than employment over the post-crisis period, with real-terms wages falling for a large part of the decade and remaining some way short of their pre-crisis peaks. Nevertheless, average pay over 2016-17 is higher than that recorded two decades earlier (1996-97). Once again however, both the average level of pay in the most recent time period and its pace of change over time varies considerably by ethnic group and by sex. Figure 4 sets this out.

**Figure 4: Average real hourly pay by sex and ethnicity for all qualification levels, 1996-97 and 2016-17: UK**



Notes: 22-64 year-olds, figures adjusted for inflation (CPIH)

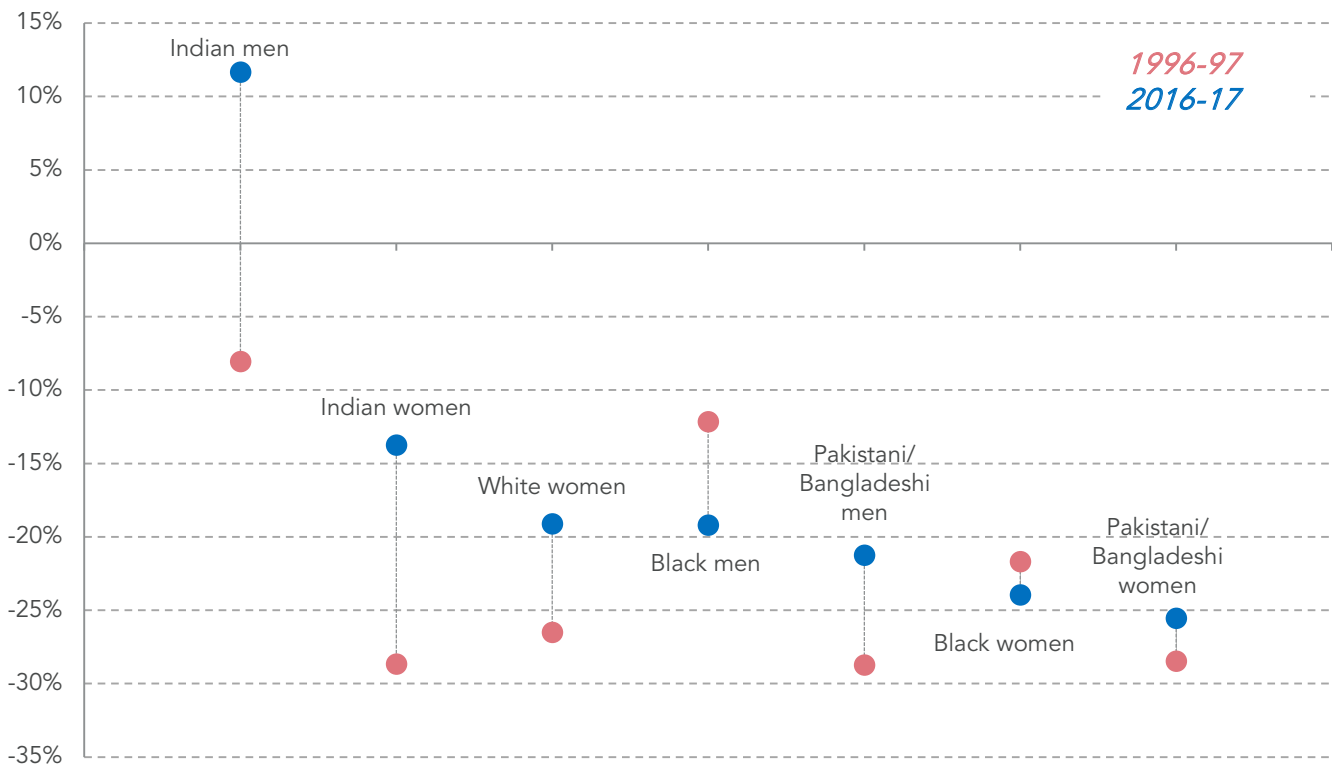
Source: RF analysis of ONS, Labour Force Survey

While pay levels have risen for all groups shown here, we can see that the scale of improvement differs somewhat. For example, Indian women recorded an average hourly pay improvement in excess of £4.45 and pay among white women rose £3.32. But average pay rose by just £1.45 among white men and by only £1.43 among black men.

### Despite pay growth, pay gaps have moved in different directions for different groups

Moreover, wide differentials in average pay remain in place in the latest decade. Figure 5 focuses on the size of pay gaps between white men and men and women in each other ethnicity group for the years 1996-97 and 2016-17. In some cases, these gaps approach 30 per cent. And, while gaps have reduced for some groups over the past two decades, the scale of that reduction varies. Indeed, for some groups things have become worse: mean hourly among black men has fallen from 12-19 per cent of the average among white men in 1996-97 to 17-20 per cent in 2016-17.

Figure 5: Average hourly pay gap with white men by sex and ethnicity, 1996-97 and 2016-17: UK



Notes: 22-64 year-olds, figures adjusted for inflation (CPIH)

Source: RF analysis of ONS Labour Force Survey

These gaps matter. By way of illustration, we can convert the average hourly differences for each group into annual equivalents based on someone working full time.<sup>[3]</sup> This approach produces a *positive* annual pay gap among full time Indian men of between £300 and £1,250, but a *negative* gap among Pakistani/Bangladeshi men of between £6,000 and £7,000. White women working full time could expect to earn between £4,600 and £4,800 less; black women between £4,500 and £5,100 less.<sup>[4]</sup>

### These employment and pay gaps are concerning enough in isolation; when we consider the changing composition of the UK population it becomes clear that they affect a large, and growing, proportion of the potential labour force

The continued presence of sizeable employment and pay gaps for many ethnic minority groups has an obvious direct income effect – lowering the amount being earned relative to white men. Given the overall size of the working-age ethnic minority population in the UK and its growth over time, this income gap has important implications for the UK labour market more generally. As Figure 6 shows, ethnic minorities comprise just under 15 per cent of the 22-64 year-old population; more than double their share of the population in 1996, when our analysis begins.<sup>[5]</sup> (See Box 2 for a discussion on the timing and scale of different periods of immigration over recent decades.)

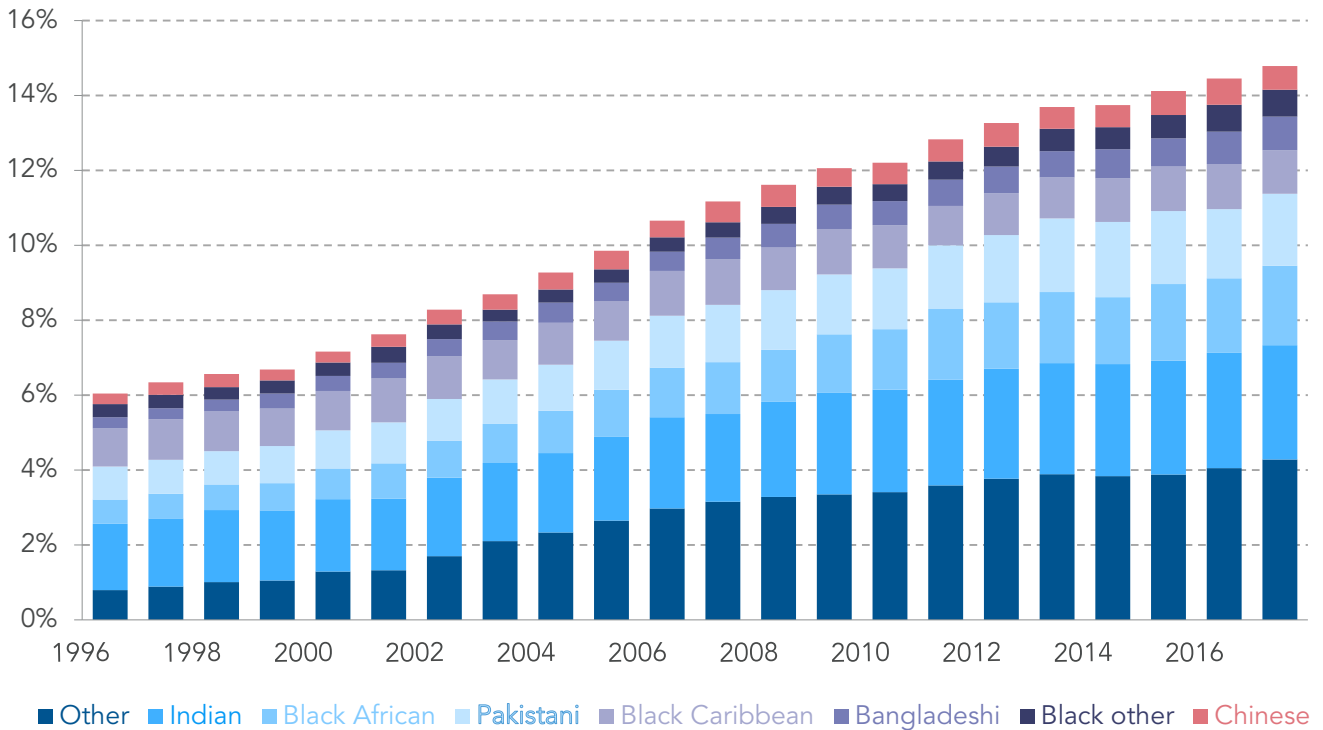
[3] In practice of course, the average hourly pay gaps we record cover full time and part time workers.

[4] Assuming 37.5 hours weeks by 365/7 days

[5] Age 22 is used as here as the starting age of the working age population because the report, in parts, focuses exclusively on the graduate population, and a majority of graduates enter the full-time labour force around or after turning 22 (see Box 1).



**Figure 6: Ethnic minority composition of England & Wales' working age (22-64 year-old) ethnic minority population, 1996-2017**



Source: RF analysis of ONS, Labour Force Survey

### *i* Box 2: Immigration into the UK over recent decades

According to the ONS, the number of long-term migrants arriving annually in the UK has nearly trebled since the mid-1960s, from 211,000 in 1964 to 631,000 in 2015. However, large numbers of Commonwealth citizens, from India, Pakistan (and present-day Bangladesh), Sri Lanka and the Caribbean had begun to arrive in the country in the immediate post-war period, in response to calls from the UK government for migrants to fill skill shortages. There are estimated to be 500,000 people resident in the UK today who were born in a Commonwealth country.

During the late 1960s and early 1970s, unrest in Kenya and Uganda, and civil war in Pakistan and Bangladesh, led to a further rise in South Asians arriving in the UK. From the late 1980s, the UK experienced growth in the number

of African migrants, from both West Africa (Nigeria and Ghana) and well as East (Somalia and Zimbabwe). The size of the Black African population roughly doubled over the first ten years of this century.

The 1988 Immigration Act further loosened restrictions on migrants from the European Economic Community, removing the requirement that they have permission to enter or remain the UK. Britain. From 2004, the "EU 8" (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Malta and Cyprus) joined the EU, leading to an immediate increase in migrant numbers. In 2014 restrictions were removed on the rights of Bulgarian and Romanian citizens to work in the UK.

## But these gaps require careful interpretation: they can in part be driven by personal and work-related factors that differ across groups

Large and important though these employment and pay gap numbers are, their interpretation requires care. That's because both employment probabilities and levels of pay are influenced legitimately by a number of factors that might vary between different groups.

For example, how old a person is, the health of their local economy, what country they were born in (and their English language proficiency) and what qualifications they have can all drive the odds of an individual being in work.<sup>[6]</sup> These same factors also help to drive levels of pay for those who *are* in work, alongside more specific work-related factors like occupation, industry, hours and job type. Therefore, to the extent that different ethnic groups have different profiles (in terms of average age, location, and qualifications for instance) and cluster in different jobs, then we might conclude that at least some of the gaps we have identified can be explained.

In this report we set out to understand the compositional differences that exist between groups, and how they have changed over time. Crucially, we test whether the pay gaps outlined above persist once these compositional differences are controlled for. Where pay gaps remain, they represent a situation in which people from a like-for-like background doing like-for-like work are often unequally rewarded.<sup>[7]</sup>

The remainder of the report is set out over four further sections:

- » **Section 2** delves deeper into the personal compositional factors that we consider to be potential drivers of employment rates. We analyse the extent to which groups differ according to these factors, but also how these differences have converged over time and affected each group's level of employment.
- » **Section 3** focuses on work-related factors, ranging from contract type to industry. It traces how these factors have changed over time for men and women from different ethnic groups, and how these changes have fed into rising levels of pay.
- » The analysis in **Section 4** allows us to understand what size pay penalties would exist for different groups were there no personal or work-related differences between sex and ethnicity. It compares the pay penalties that exist between older and younger groups, and consider how different groups have fared over time.
- » **Section 5** concludes.

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[6] See for example: K Clark & S Drinkwater, [Ethnic minorities in the labour market: dynamics and diversity](#), Joseph Rowntree Foundation, April 2007; M Brynin & S Longhi, [The effect of occupation on poverty among ethnic groups](#), Joseph Rowntree Foundation, March 2015; S Longhi & M Brynin, [The Ethnicity Pay Gap](#), Equality and Human Rights Commission, Research Report 108, 2017

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[7] See Annex 1 for details of our regression analysis

## Section 2

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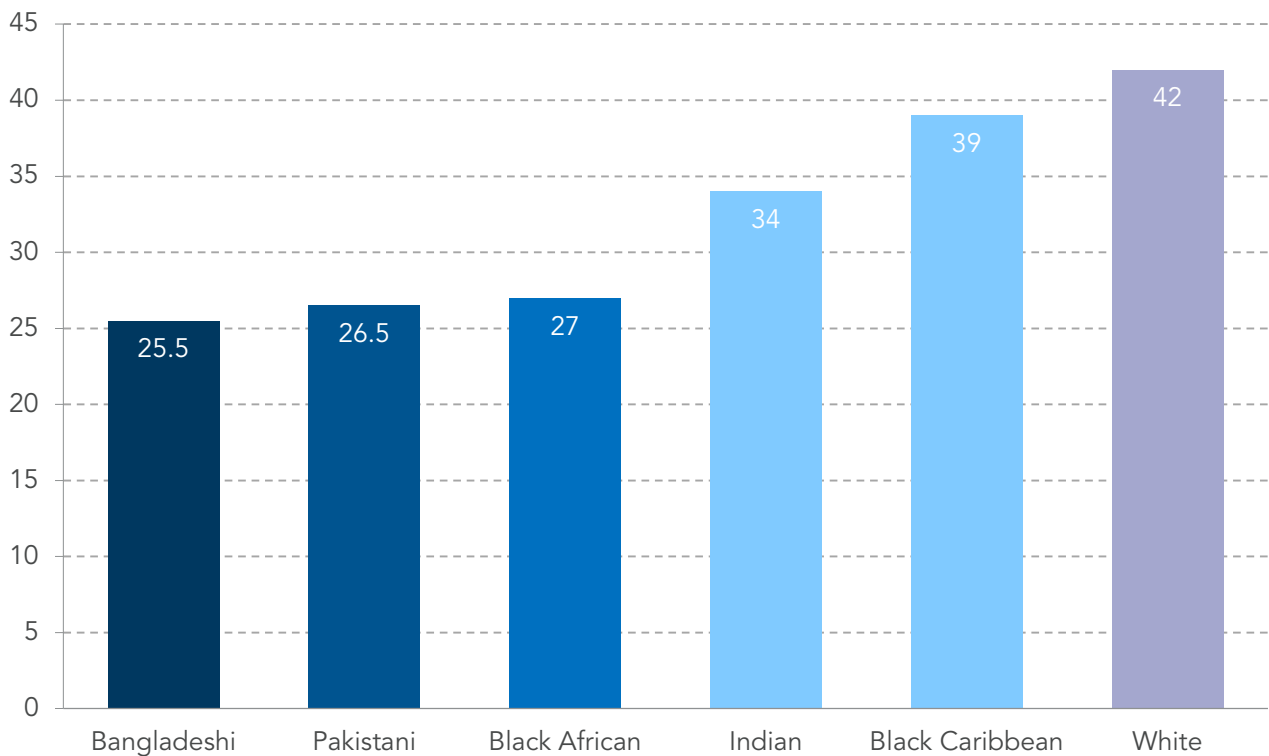
# The changing composition of ethnic minorities

*The employment gaps reported in Section 1 are likely to owe at least something to compositional differences between different ethnicity groups. The probability of an individual's employment is related to their age, location and educational background, but these personal compositional factors vary widely by sex and ethnicity: white men and women are older, more likely to be born in the UK and less regionally concentrated than men and women from other ethnicities for example. In this section we show both how compositional profiles vary by group and how they have changed over time, highlighting the extent to which some changes – such as increases in qualification levels – have helped to drive a narrowing of employment gaps. These compositional differences will also have a bearing on pay levels, something we turn to in Section 3.*

### **Ethnic minorities have a younger age profile than white men and women, but these differences have begun to compress**

Median age varies significantly across groups. Figure 7 shows that the median age for Bangladeshi men and women living in the UK was just 25.5 in 2016-17, with this figure rising to 34 for those with an Indian background and 42 for the white population.

Figure 7: Median age by ethnicity, 2016-17: England &amp; Wales

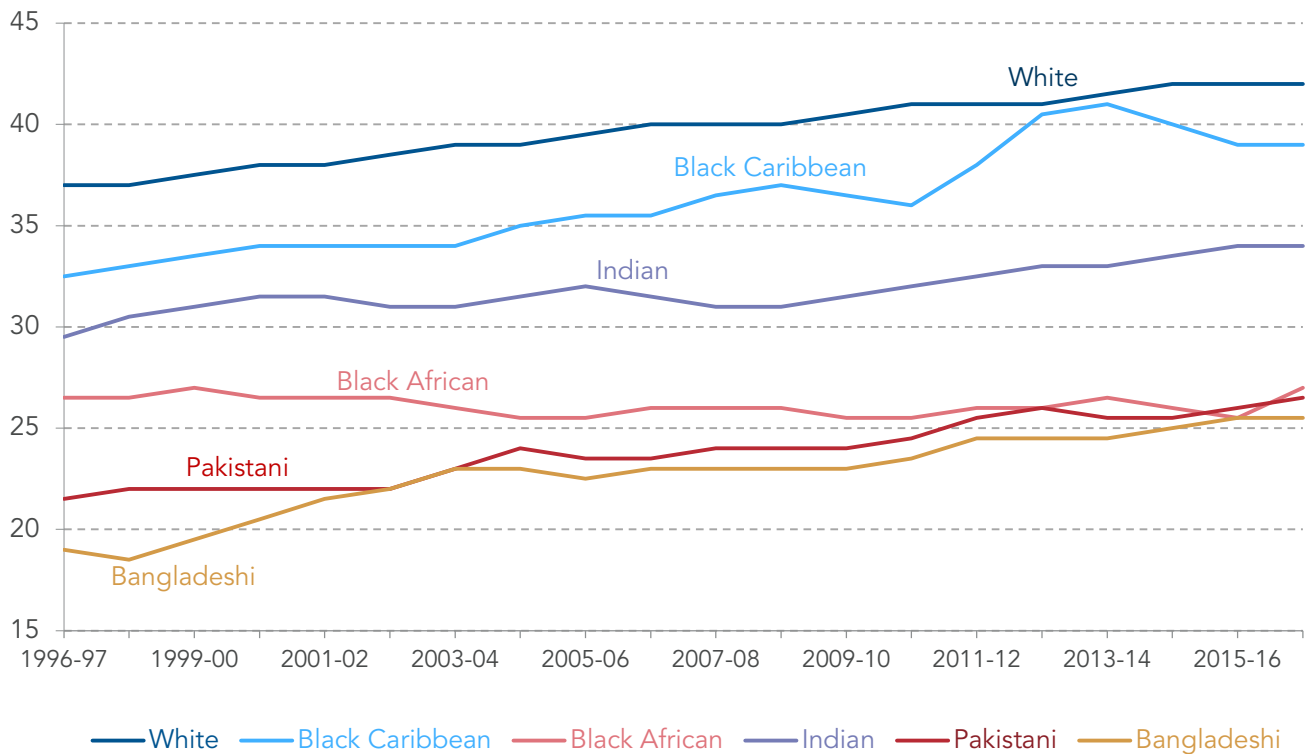


Notes: As discussed in Box 1, when analysing the pay gaps that exist between groups in more detail, we amalgamate groups so as to boost sample sizes. The 'black' group presented in our pay analysis would have a median age of 31; the 'Pakistani/Bangladeshi' group would have a median age of 26. While the detailed groups shown here are only available as a consistent series in England and Wales from 2011, our condensed classification is consistent throughout the time period we analyse (1996-2017).

Source: RF analysis of ONS, *Labour Force Survey*

As Figure 8 shows, some of these medians have moved over time. We can see a clear ageing of the white (from 37 in 1996-97 to 42 in 2016-17), black Caribbean (from 32.5 to 39), Indian (from 29.5 to 34), Pakistani (from 21.5 to 26.5) and Bangladeshi (from 19 to 25.5) populations. This reflects the establishment of those populations that arrived in the UK in the middle of the 20<sup>th</sup> Century (see Box 2). In contrast, the median age of the black African population rose from 26.5 to just 27, driven by fresh periods of inward migration.

Figure 8: Median age by ethnicity and year, two-year average, 1996-2017: UK



Notes: Due to question an ethnicity question in change in the Labour Force Survey, Black Caribbean and Black African groups are only recorded from England and Wales after 2011  
Source: RF analysis of ONS Labour Force Survey

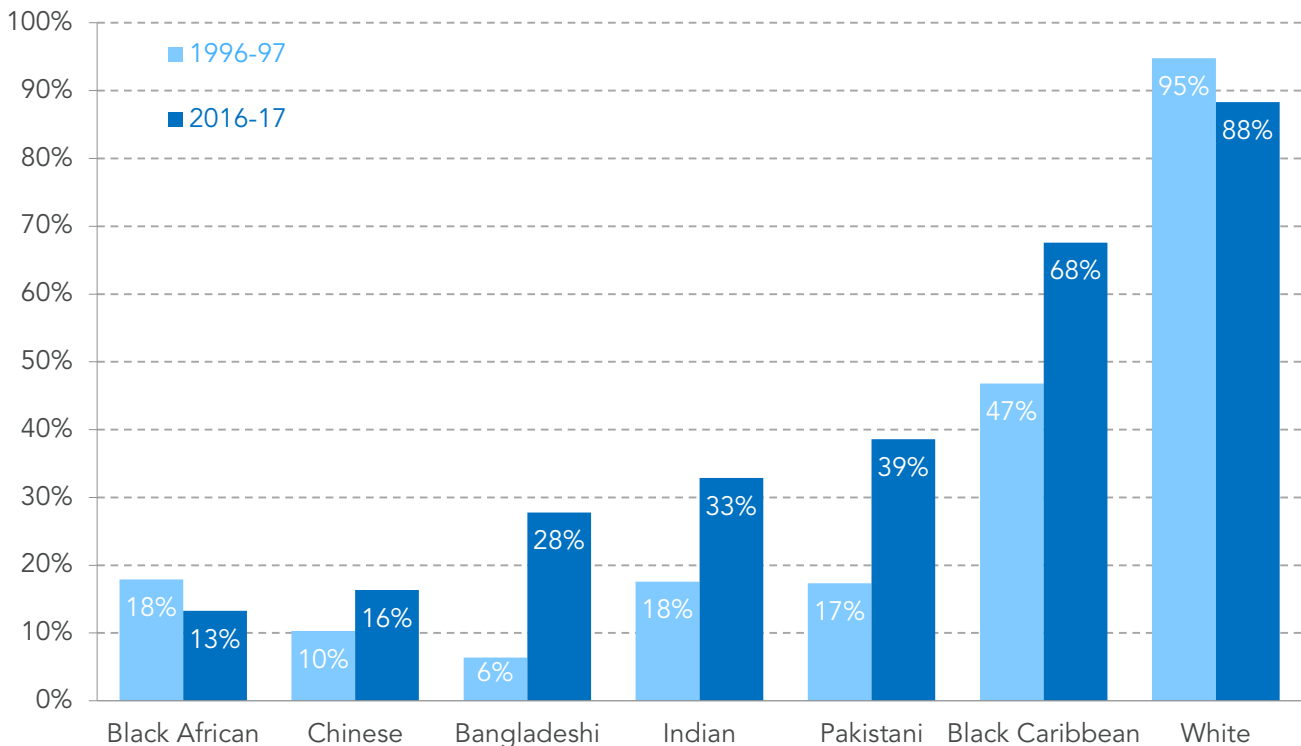
In most instances then, the age profile gaps between the white population and different ethnic minorities have narrowed over time. But the differences remain substantial in 2016-17, with clear implications for employment (and for pay).

### Men and women from ethnic minority backgrounds are less likely to have been born inside the UK, but for some groups this has shifted with time

The country a person was born in is also likely to have an effect on their employment rate (and on pay when in work). This reflects issues around English language competency and recognition of foreign qualifications – both of which can be particularly damaging for higher-skilled immigrants when their substantial education and experience are not put to efficient use.

With this in mind, Figure 9, shows the extent to which country of birth varies by ethnicity. While just over one-in-ten 22-64 year-olds with a black African background were born in the UK in 2016-17, roughly three-in-ten of those with a Bangladeshi background, and nearly seven-in-ten with a black Caribbean background, were. Among 22-64-year-olds with a white background, nearly nine-in-ten were born in the UK.

Figure 9: UK-born proportion of population by ethnicity, 2016-17: England &amp; Wales



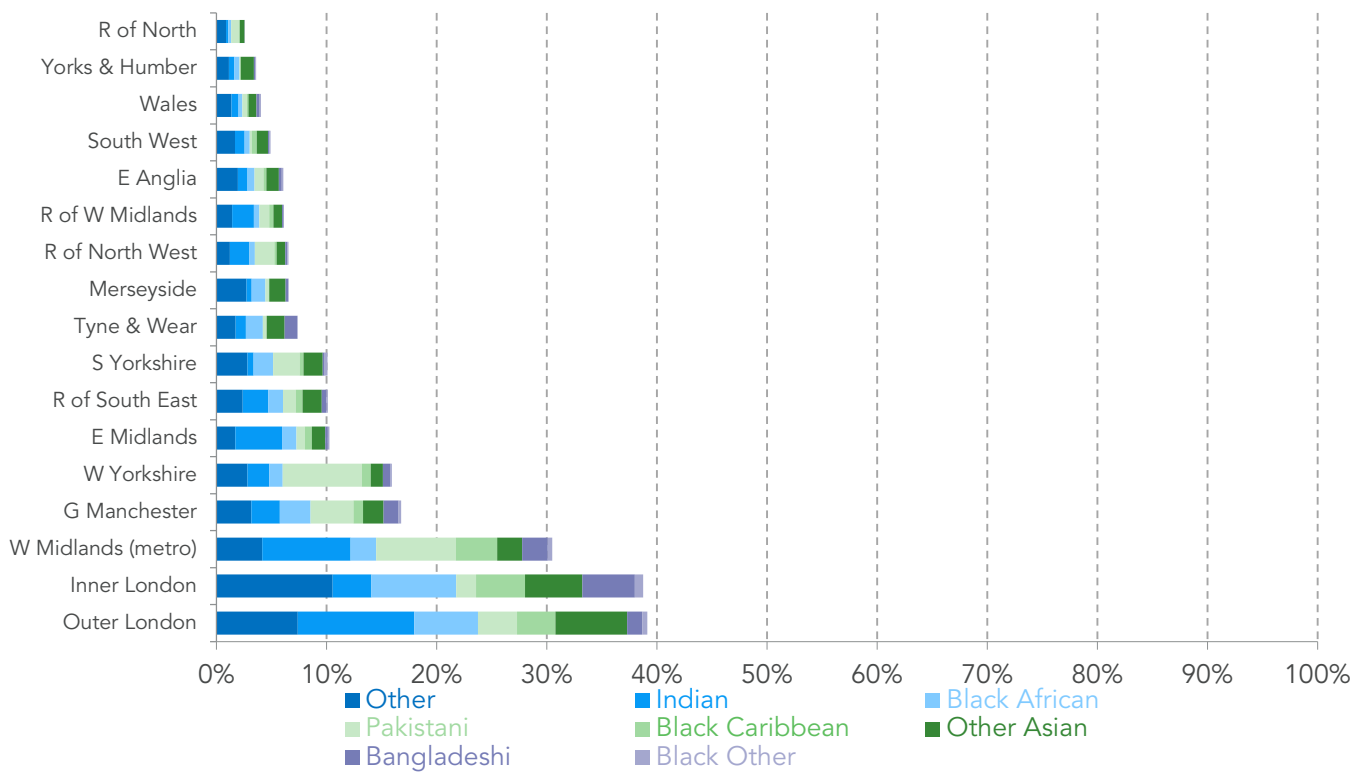
Source: RF analysis of ONS, Labour Force Survey

The proportion of different ethnic groups born in the UK has, unsurprisingly, risen over the past two decades in most instances. Figure 9 also shows the scale of increase for each group in the period since 1996-97. The biggest change is recorded among those with a Bangladeshi background, where the proportion born in the UK has increased by more than 335 per cent. Black African men and women provide an exception, with the proportion born in the UK falling by 26 per cent between 1996-97 and 2016-17. Again, these rather different patterns reflect the changing nature of immigration trends over the period (see Box 2).

## Ethnic minorities are more likely to reside in major metropolitan areas, such as Greater Manchester and London and the South East

Employment rates (and pay) are also affected by the strength of local labour markets. The distribution of different groups across the UK can therefore also have a bearing on the level of employment we might expect each to record. Figure 10 sets out the ethnic composition of different parts of the UK, highlighting the more diverse nature of London and the South East.

Figure 10: Ethnic composition by region, 22-64 year-olds, 2016-17: England & Wales



Notes: White respondents excluded

Source: RF analysis of ONS Labour Force Survey

White 22-64 year-olds are left out so better highlight the regional distribution of different ethnic minority groups. By implication, the ethnic minority population is concentrated in certain locations, while the white population is more evenly distributed across the country. For instance, ethnic minorities comprise nearly 60 per cent of the working age population in inner and outer London but less than 4 per cent in Yorkshire and the Humber.

These locational distinctions are less acute than in years gone by however. Figure 11 compares the geographical distribution of each ethnicity group in 2016-17 with that which prevailed in 1996-97. It shows that the black African, Bangladeshi and black Caribbean populations have displayed a shift outwards from London over time. For example the proportion of black African 22-64 year-olds living in inner London fell by 30 percentage points, while the proportion in the rest of the South East (i.e. outside London), West Midlands and Greater Manchester grew by 18 percentage points.

Figure 11: Percentage point change in region lived in by ethnicity, 22-64 year-olds, 1996-97 to 2016-17: England & Wales



Notes: Detailed ethnicity categories used here are unavailable by region are unavailable outside of England 'Other Asian' includes Chinese. 'Rest of England' includes Tyne & Wear, rest of Northern regions, East Anglia, Merseyside, rest of North West

Source: RF analysis of ONS Labour Force Survey

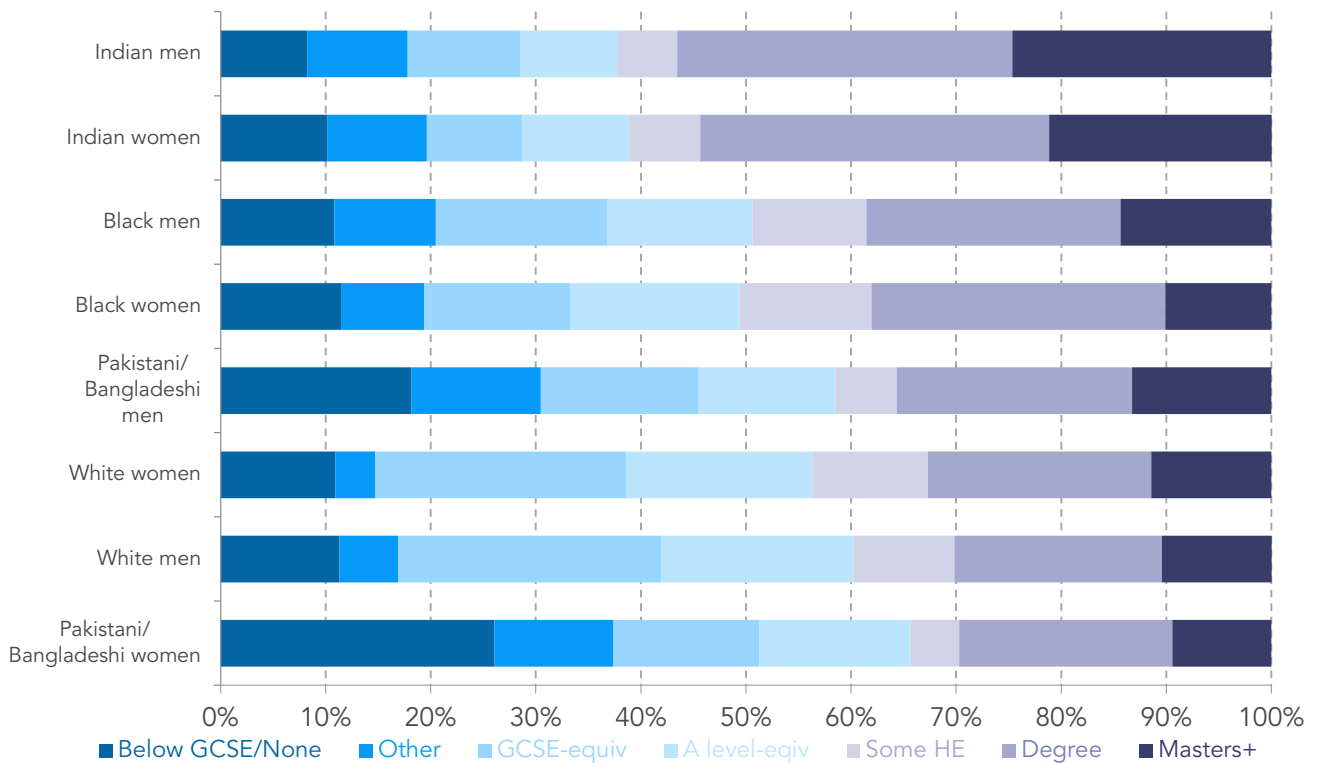
The effects of this regional change on the employment (and pay) probabilities of different groups are unclear. On the one hand, regions like London and the South East have higher median levels of pay: during 2017, real median hourly pay in London was just under £18 as compared to just under £12 for the rest of the UK. However, high-levels of pay for the region overall do not imply an even distribution of earnings within it.

### Most ethnic minority groups have higher levels of educational attainment than white working age people, following substantial recent improvements

Figure 12 shows that well over half of the 22-64 year-old Indian male population has a degree, including a quarter who have a master's degree. Likewise, nearly 40 per cent of black men aged 22-64 have a degree (including 15 per cent with a master's). In contrast, white men and Pakistani/Bangladeshi women have the lowest levels of degree attainment, at roughly 30 per cent (including 11 per cent and 10 per cent with master's degrees, respectively).



**Figure 12: Highest qualification held by sex and ethnicity, 22-64 year-olds, 2016-17**

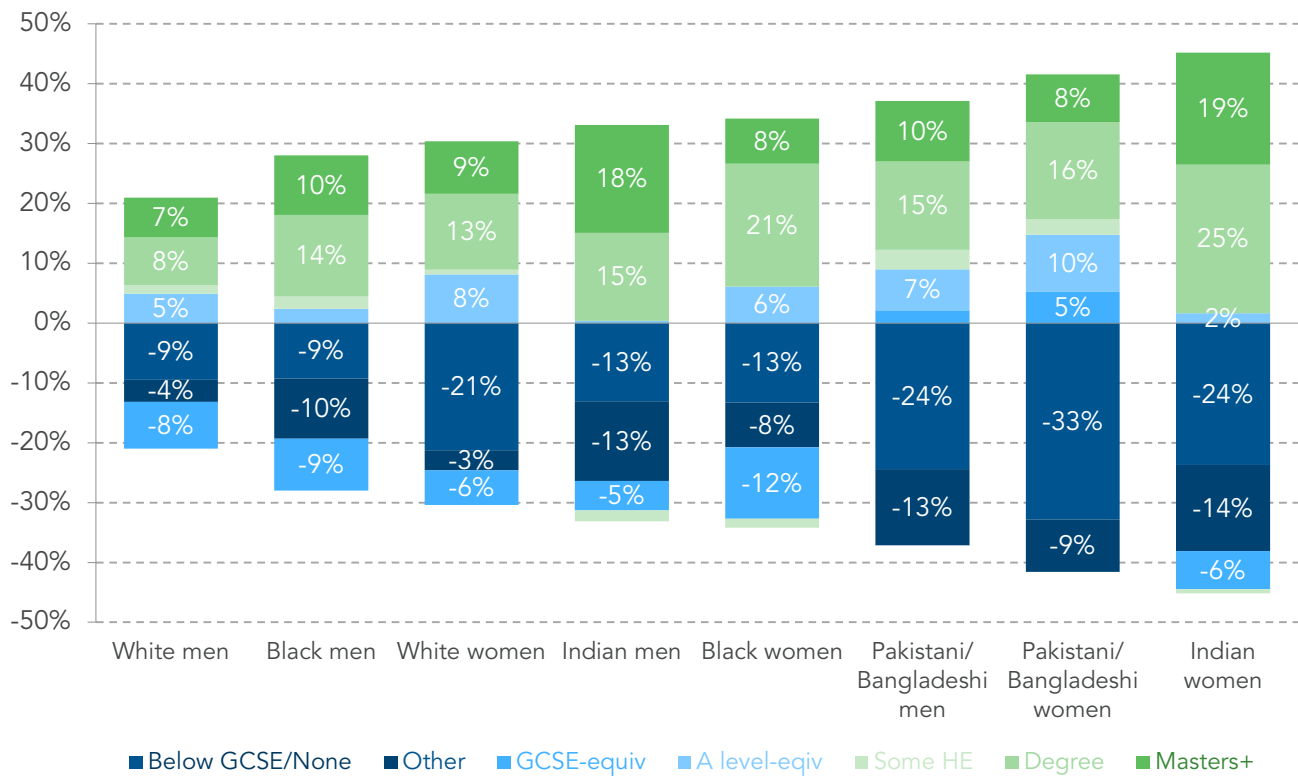


Source: RF analysis of ONS Labour Force Survey

Degree-holding has increased substantially in recent decades for all groups, with the overall proportion of 22-64 year-olds in this position nearly tripling from 13 per cent in 1996 to 33 per cent in 2017.

Looking beneath this impressive headline performance, Figure 13 sets out the changes recorded across each of the different ethnicity groups over the same period. It shows that Pakistani/Bangladeshi (44 percentage points), Indian (44 percentage points) and black women (29 percentage points) all experienced substantial increases in degree attainment. White men experienced slower attainment growth: the proportion with a degree grew by 15 percentage points. The figures among other men range from 24 percentage points (black) to 33 percentage points (Indian).

Figure 13: Percentage point change in highest qualification held among 22-64 year-olds by ethnicity, 1996-97 to 2016-17: UK



Source: RF analysis of ONS, Labour Force Survey

### The rise in attainment levels has been boosted, but not driven, by migration

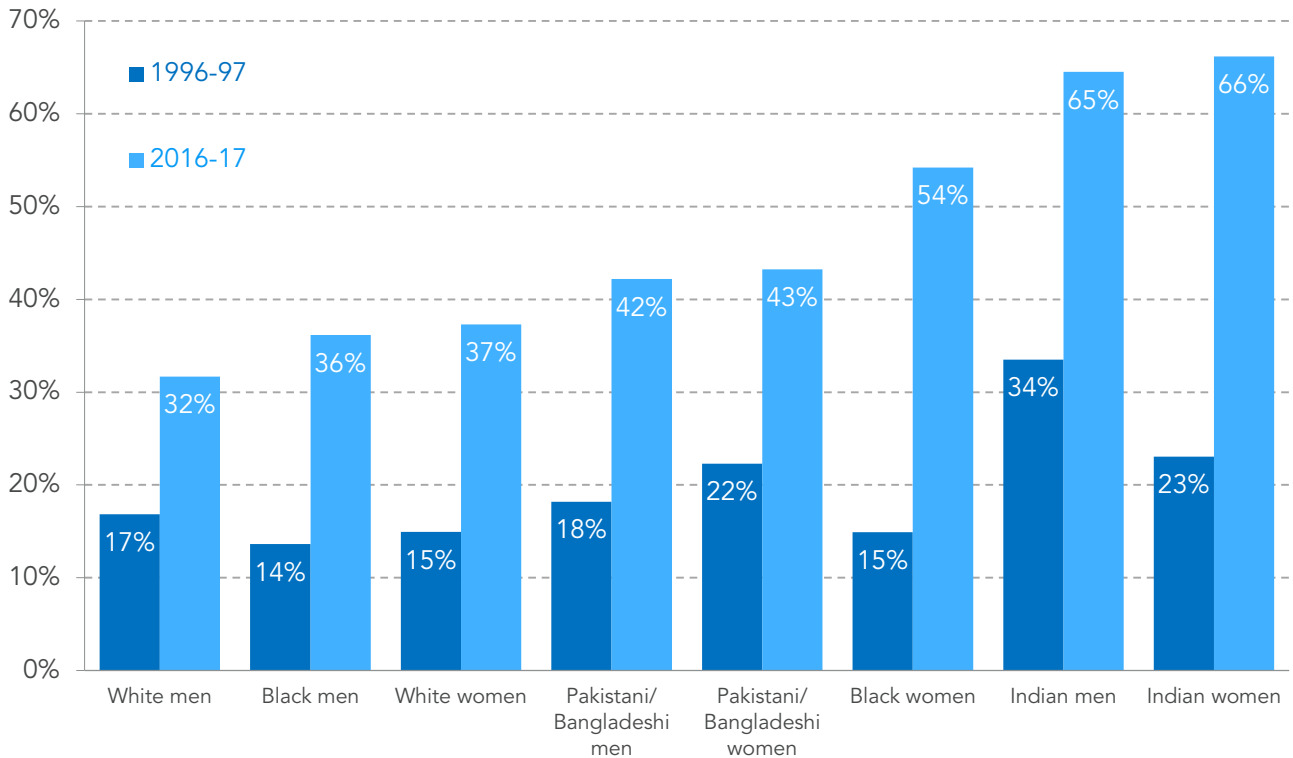
Importantly, migrants will have played a role in boosting average levels of educational attainment both across the labour force and within different ethnicities, particularly migrants arriving with foreign-awarded degrees.

Overall, individuals born abroad formed a minority of the total degree-holding population in the period from 2007 to 2017. But, at 22 per cent, it was a sizable minority; and it varied significantly across different ethnicity categories. So, while just 12 per cent of white degree holders were foreign-born, this figure rose to 66 per cent among black men and women, 64 per cent among Indian men and women and 57 per cent among Pakistani/Bangladeshi men and women.

Despite these high proportions, the probability of holding a degree was higher among UK-born individuals within most ethnicity categories. For example, 30 per cent of UK-born black Caribbean 22-64 year-olds in the period 2007-17 held a degree, compared with 22 per cent of foreign-born members of the group. Similarly, 55 per cent of UK-born black Africans had degrees, compared with 40 per cent of foreign-born ones. Among Bangladeshis, 41 per cent of those born in the UK had a degree, compared with 23 per cent born abroad. The one group that bucked this trend was the white population, where 44 per cent of those born abroad had a degree as compared to 30 per cent born in the UK. Of course, country of birth is only a proxy for qualifications *obtained* abroad, rather than a definitive measure. This will be explored further in Section 4.

Zeroing in on just those born in the UK (and this time focusing on those aged 22-30 in each year in order to more closely match those most likely to be of graduating age). Figure 14 shows that ethnic minorities again outpaced white men and women in obtaining degrees.

**Figure 14: Degree attainment by sex and ethnicity, UK-born 22-30 year-olds, two year-average, 1996-97 to 2016-17**



Source: RF analysis of ONS, Labour Force Survey

A slightly higher proportion of white UK-born men aged 22-30 had degrees (17 per cent) than black men (15 per cent), white women (14 per cent) or black women (15 per cent) in 1996-97. However, while all groups experienced a large boost in attainment over the next 20 years, white women and ethnic minorities overtook white men. By 2017-18, just over a third of UK-born white men (32 per cent) had degrees, as compared to 37 per cent of white women, 43 per cent of Pakistani/Bangladeshi men and 65 and 66 per cent of Indian men and women, respectively.<sup>[8]</sup>

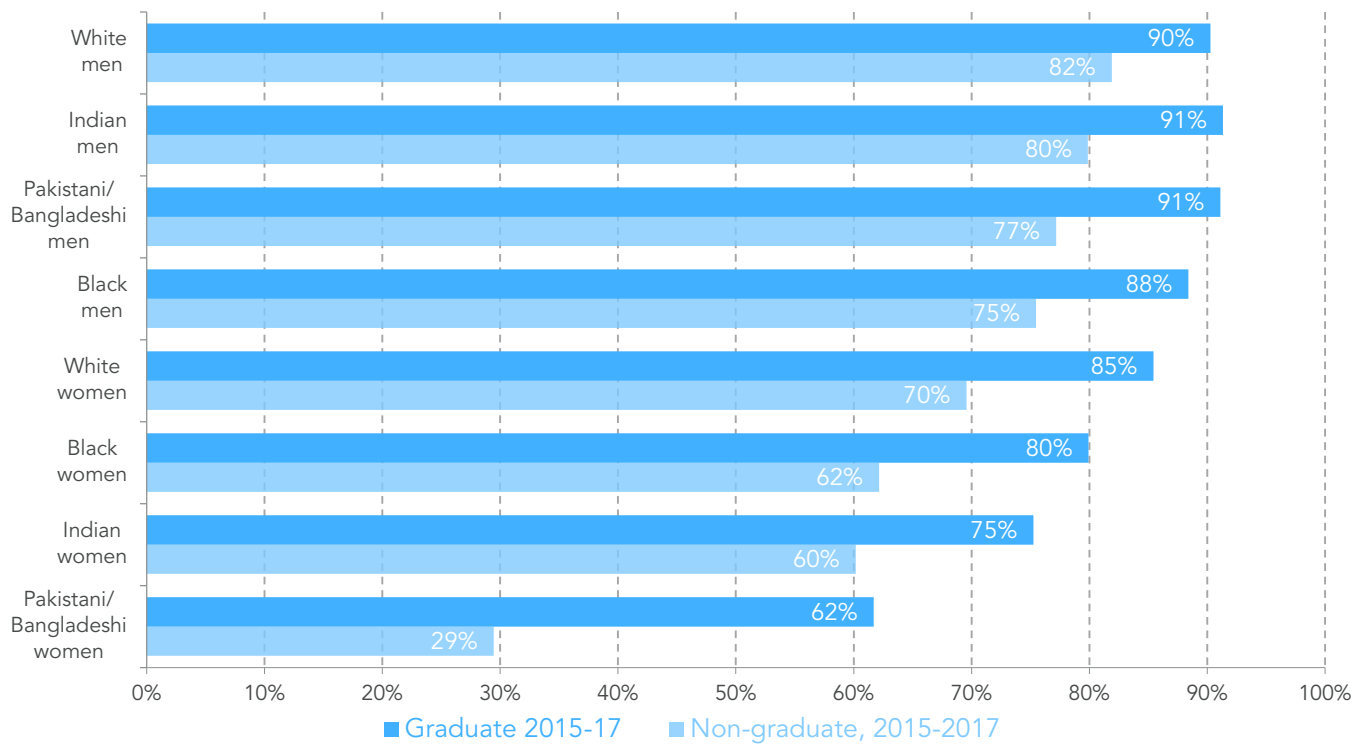
### Crucially, educational attainment has helped drive up the number of people in work, reducing employment gaps between groups

Educational attainment of course plays a key role in determining the likelihood of gaining employment (and the level of pay when in work). In particular, the employment rate among graduates is significantly higher than that held by non-graduates – with this distinction being even more marked for some ethnic minorities.

[8] These patterns correspond to higher-education entry-rate figures published by Universities and Colleges Admissions Service (UCAS), which manages UK university applications. For 2017, UCAS reported a 46 per cent entry rate among Asian 18 year-olds (excluding Chinese), 40 per cent for black 18 year-olds and 29 per cent for white 18 year-olds. See: Universities and Colleges Admissions Service, [End of Cycle Report: 2017](#)

Figure 15 highlights this. It compares employment rates among graduates and non-graduates in each group, with the latter much more spread than the former. That is, graduate employment rates vary from 62 per cent among Pakistani/Bangladeshi women to 91 per cent for both Indian men and Pakistani/Bangladeshi men, whereas non-graduate employment rates vary from 29 per cent (Pakistani/Bangladeshi women) to 82 per cent (white men). Indeed, focusing just on male graduates, we can see that the variation in employment rates (from 88 per cent to 91 per cent) is very much narrower than any variation between graduates and non-graduates displayed *within* ethnicity groups

**Figure 15: Employment rate by degree attainment, 22-64 year-olds, 2015-17: UK**

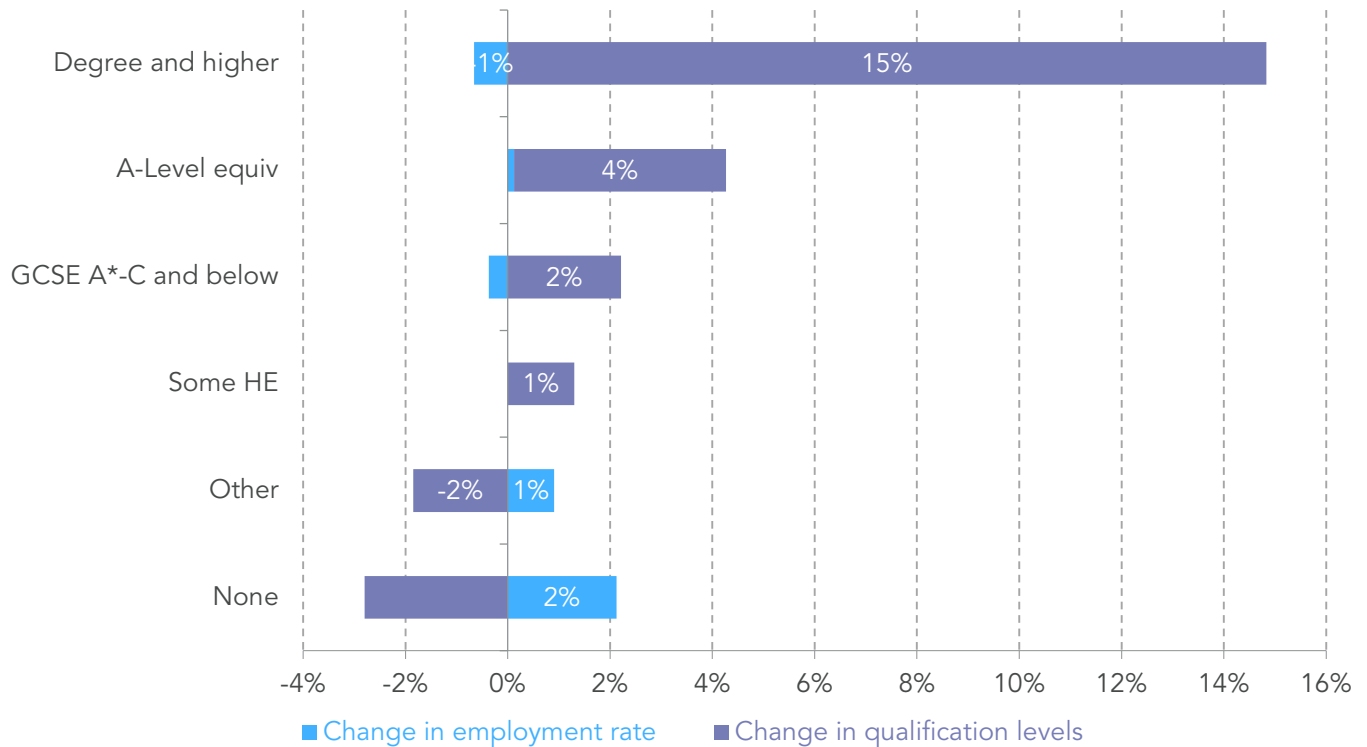


Source: RF analysis of ONS, Labour Force Survey

For some groups, much of the employment growth that occurred over recent years has been driven not by a change in employment rates *within* different qualification groupings but instead by the improved educational attainment discussed above. In other words, the increase in the proportions holding degrees appears to have mattered more than increases in employment rates for non-graduates or graduates.

We can quantify this effect in relation to Pakistani/Bangladeshi women using a simple ‘shift share’ analysis. Figure 16 shows the results, with nearly 90 per cent of Pakistani/Bangladeshi women’s employment growth over the past 20 years being accounted for by rising levels of educational attainment and just 10 per cent flowing from rising levels of employment *within* different qualification levels. Degrees, here, have a particularly large effect.

**Figure 16: Shift share analysis of employment change among 22-64 year-old Pakistani/Bangladeshi women, 1996-98 to 2015-17: UK**

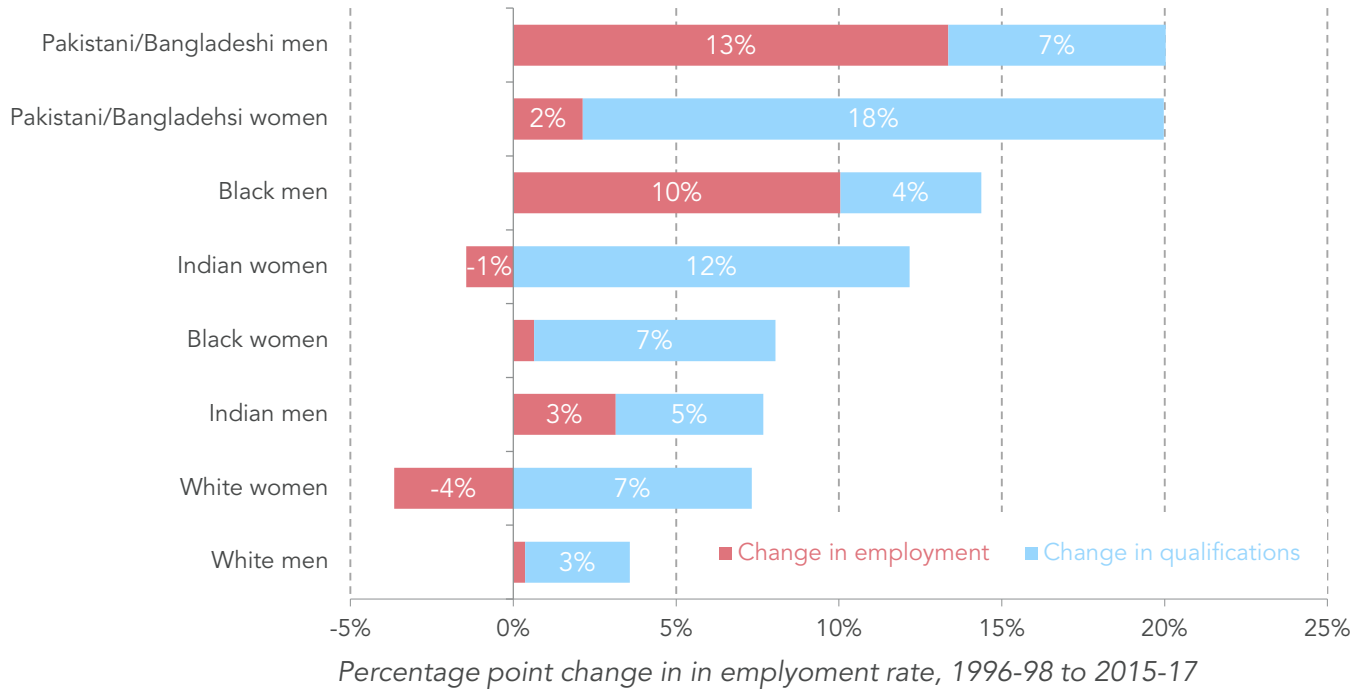


Source: RF analysis of ONS, Labour Force Survey

The purple bars represent the proportion of employment growth attributed to each rising shares of Pakistani/Bangladeshi women at each qualification level; the blue bars represent the proportion of employment growth attributed to rising employment at that particular level. The implication that 90 per cent of total employment growth was driven by Pakistani/Bangladeshi women shifting into higher qualification levels (which have higher employment rates) an 10 per cent by rising employments at a given qualification level.

A similar finding holds across other ethnicity groups, as Figure 17 shows. Black men and Pakistani/Bangladeshi men prove exceptions, with both groups recording relatively large increases in employment driven by changes *within* qualifications ('change in employment'). For all other groups, rising qualification levels ('change in qualifications') dominate. And, on the whole, this is more pronounced among women than among men. Indeed, rising qualification levels offset employment 'drags' associated with within-qualification employment rates for both Indian women and white women over this period.

**Figure 17: Shift share analysis on employment by qualifications and ethnicity, 22-64 year-olds, 1996-98 and 2015-17: UK**



Source: RF analysis of ONS, Labour Force Survey

In this section we have concentrated on the impact of compositional differences on the employment rates of different ethnicity groups. It should be clear, however, that these differences will also have important effects on average pay rates of those who *are* in work. In addition, a range of work-specific compositional factors – such as the types of jobs being done and the occupational level prevailing in each group – will also have a bearing on pay levels. That’s the topic we turn to in Section 3.

## Section 3

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# The changing work profile of ethnic minorities

*We have seen that changes in a number of the personal compositional differences that exist between men and women from white and ethnic minority backgrounds have supported employment growth and a consequent reduction in employment gaps over recent decades – a cause for celebration. However, we also need to care about the type of employment a person is in. Issues ranging from contract type to occupation and industry differ between groups and are likely to drive some of the variation in pay that we outlined in Section 1.*

*As with the personal factors, many of the work-related compositional differences discussed in this section have shifted dramatically over time and have thereby supported rising levels of pay. We outline a range of differences below, examine trends across different groups and link them to shifts in pay. Given overlaps between these different factors however, this approach provides only a partial analysis. We isolate the overall impact of compositional factors by adopting a more sophisticated approach in Section 4.*

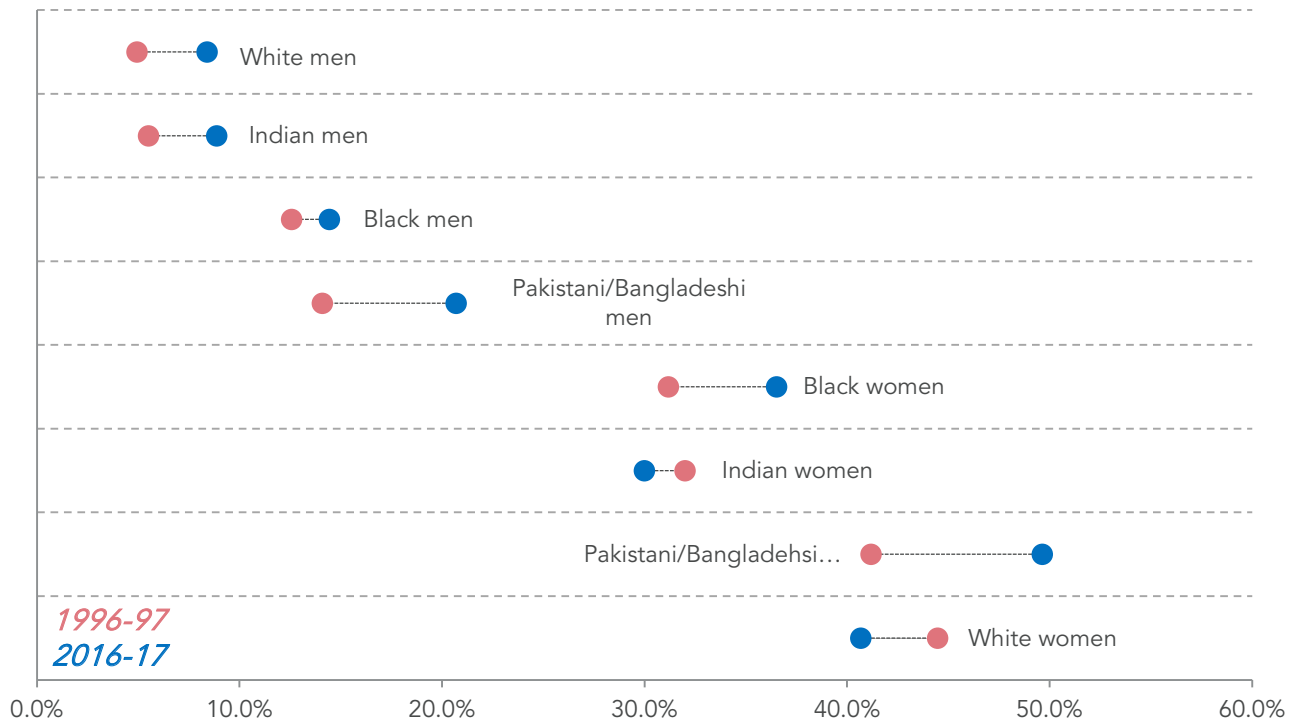
## Ethnic minorities are more likely to work in non-permanent jobs<sup>[9]</sup>

Differences between the jobs done by men and women are well documented, but there are some significant ethnicity-based divergences in evidence too. Looking first at part-time working, Figure 18 shows that women were indeed much more likely than men to be working in this way in 2016-17 within each ethnicity group. But it highlights also the extent to which male and female rates of part-time working vary across ethnicity too.

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[9] These figures only show the full-time/part-time split among those who are in work. The overall proportion of people in each group working this way will of course be affected by the group's total employment rate. (See Figure 1.)

**Figure 18: Part-time work by sex and ethnicity, 22-64 year-olds, 1996-97 and 2016-17: UK**



Source: RF analysis of ONS, Labour Force Survey

For example, Pakistani/Bangladeshi men (21 per cent) were two and half times more likely than either white men (8 per cent) or Indian men (8 per cent) to be working part-time. Among women, fewer than one-in-three Indian women worked part-time, compared with four-in-ten white women and nearly five-in-ten Pakistani/Bangladeshi women.

In the main, part-time work has risen over the period considered in this report – increasing in all ethnicity groups when we consider men and women together. In some groups – white and Indian for example – that increase has been driven entirely by men, with female rates of part-time working declining. This could reflect a welcome rebalancing of paid and non-paid work within families, but there is also evidence that it is driven in part by a reduction in full-time opportunities for young men.<sup>[10]</sup>

In both the black and Pakistani/Bangladeshi groups, part-time working has increased among women too in this period. This needs to be set against large increases in overall employment, however. We might speculate for instance that we've seen a generational shift among women in some groups from 'not working' to 'part-time' working; a shift that might edge towards 'full-time working' in future generations.

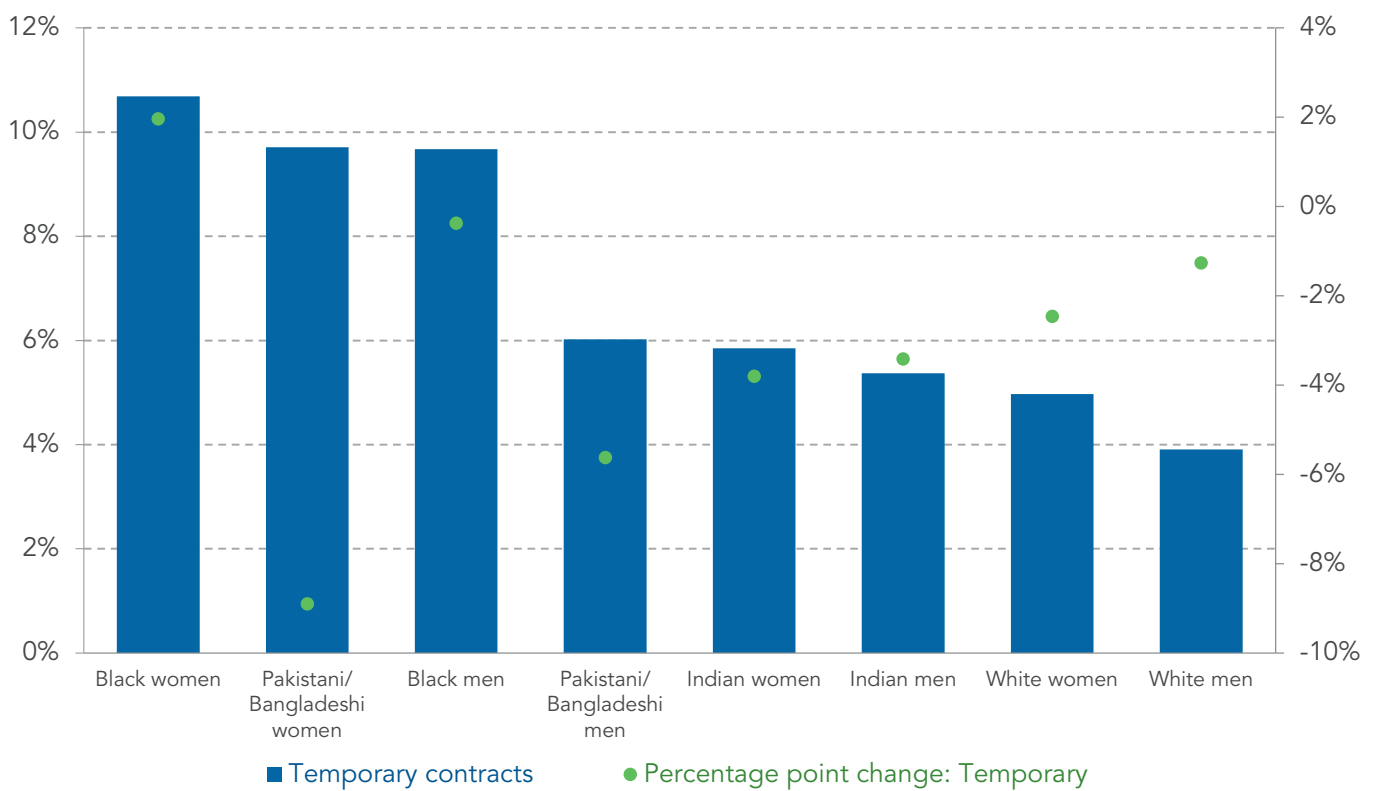
[10] See: S Clarke and G Bangham, [Counting the hours: two decades of changes in earnings and hours worked](#), Resolution Foundation, January 2018



## Ethnic minorities are also more likely to be in temporary and insecure work

While part-time working may be a gender issue with an ethnicity element, Figure 19 shows that temporary working is very much the other way around – an ethnicity issue with a gender element. For example, the gaps between men and women working on this basis in 2016-17 was no greater than 1 percentage point within the white, black and Indian groups (rising to 4 percentage points in the Pakistani/Bangladeshi group), but diverged by roughly 6 percentage points between white (95 per cent to 96 per cent) and black (89 per cent and 90 per cent) men and women. In most instances, this pattern is broadly unchanged over time.

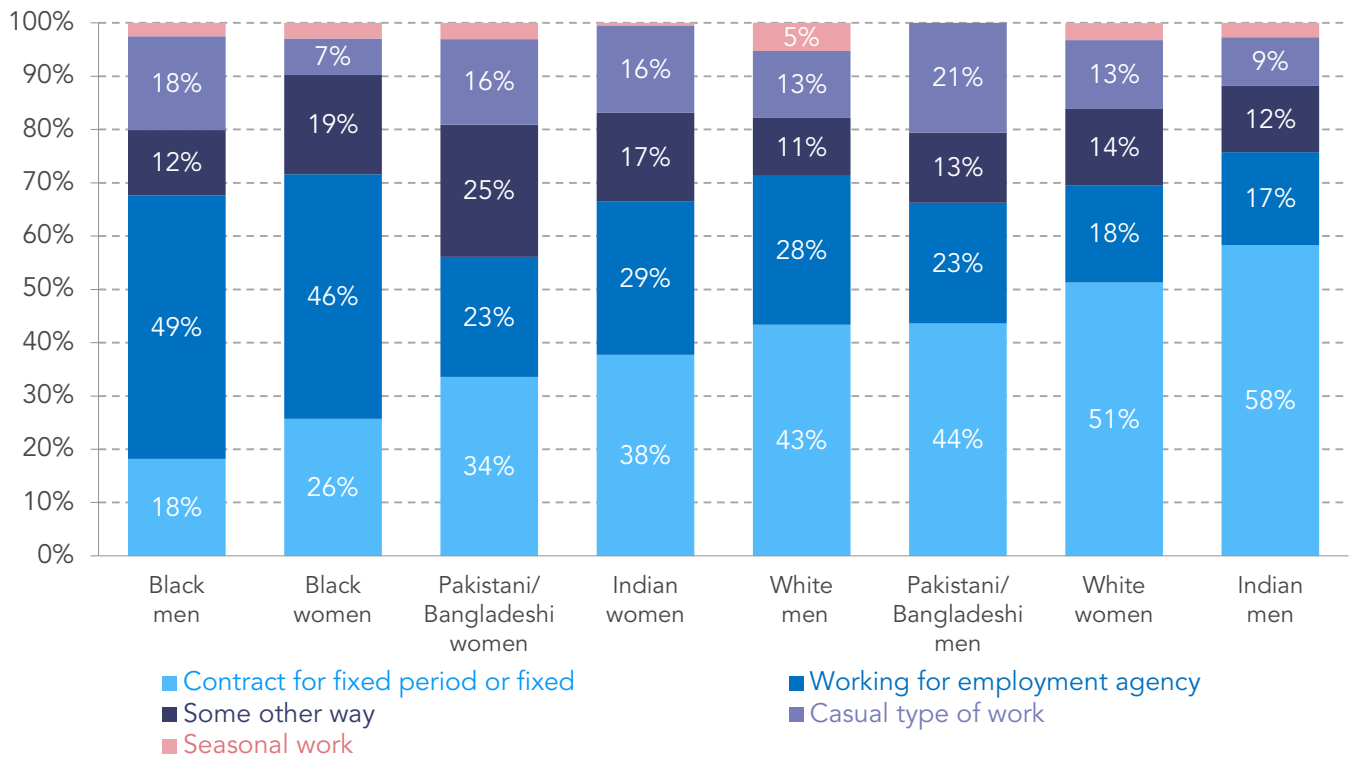
Figure 19: Temporary contracts among 22-64 year-old employees, 2016-17: UK



Source: RF analysis of ONS, Labour Force Survey

Digging deeper into the type of non-permanent work that people work in, Figure 20 depicts the type of contracts temporary workers were on during 2016-17. Black men and women are much less likely than other groups to have the security of a fixed-term contract, and more likely to be in precarious employment. This includes working for an employment agency or in casual/seasonal work. In fact more than twice as many black men and women are working for an employment agency than are white women or Indian men.

**Figure 20: Type of non-permanent work taken up by 22-64 year-olds, 2016-17: UK**



Source: RF analysis of ONS, Labour Force Survey

Previous Resolution Foundation research has pointed to the concentration of ethnic minorities within agency work; for instance finding that black African and Caribbean workers are three times as likely to be agency workers than average. Moreover, it found that being an agency workers carries with it an 22p pay penalty per hour.<sup>[11]</sup>

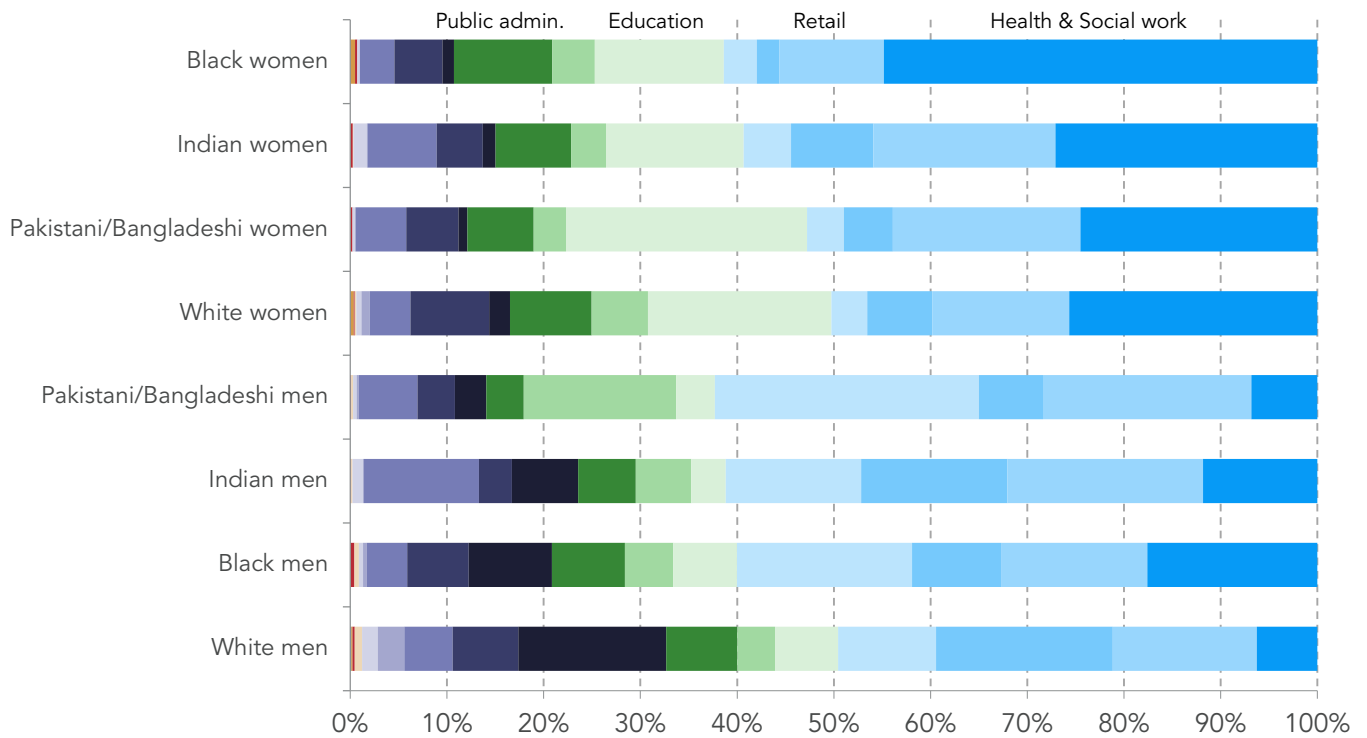
### The pay of different groups is also affected by the industries they work in

Alongside the types of contracts workers have, an individual's industry is also likely to have a bearing on their rate of pay. It is potentially important therefore that the industrial distribution of workers varies so significantly across different ethnicity categories.

For example, Figure 21 shows that a larger share of Pakistani/Bangladeshi men work in the (relatively low paying) hotels and restaurants (14 per cent) sector than do white men (3 per cent). The distribution of women working in sectors like retail, education and real estate is largely similar. However, the proportion of black women working in the (low paying) health and social work (39 per cent) sector is significantly higher than that of white, Indian and Pakistani/Bangladeshi women (23 per cent each).

[11] L Judge and D Tomlinson, [Secret agents: Agency workers in the new world of work](#), Resolution Foundation December 2016

**Figure 21: Industrial composition of 22-64 year-olds by ethnicity and sex, 2015-17: UK**

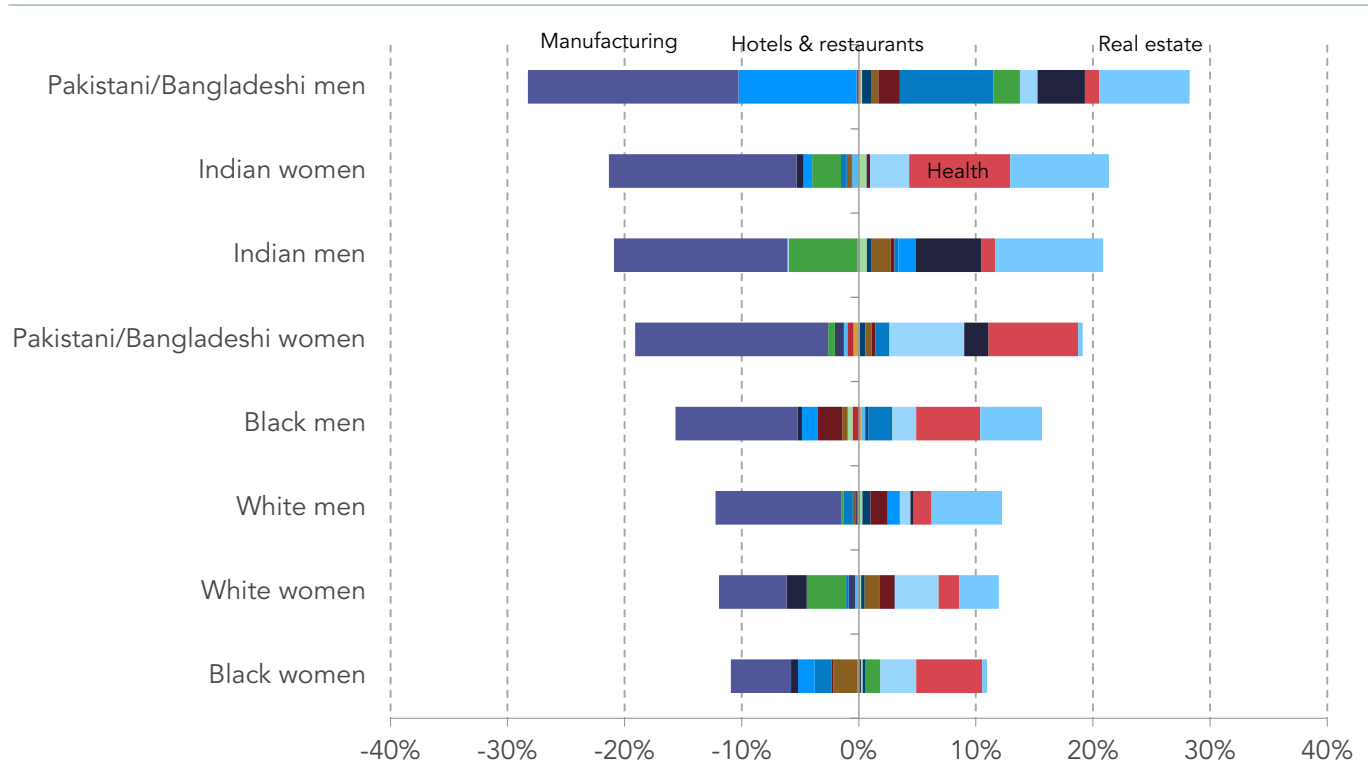


*Notes:* Industrial data is structured according to the ONS's Standard Industrial Classification (SIC) 2007 framework; previous year's data, under the SIC 1992 framework have been made consistent with the 2007 framework.

*Source:* RF analysis of ONS, Labour Force Survey

These distinctions have changed somewhat over time. Figure 22 sets out the percentage point shifts in the share of total employment accounted for by different industries in the two decades between 1996-98 and 2015-17. A generalised movement from mid-paying sectors like manufacturing into often lower-paying service-based sectors like real estate or health and social work is evident, but some big differences stand out too. For example, white women, white men and black men recorded comparatively little industrial change, whereas very large swings were reported among Pakistani/Bangladeshi men and Indian men.

**Figure 22: Percentage point change in Industrial composition of 22-64 year-olds by ethnicity and sex, 1996-98 to 2015-17: UK**



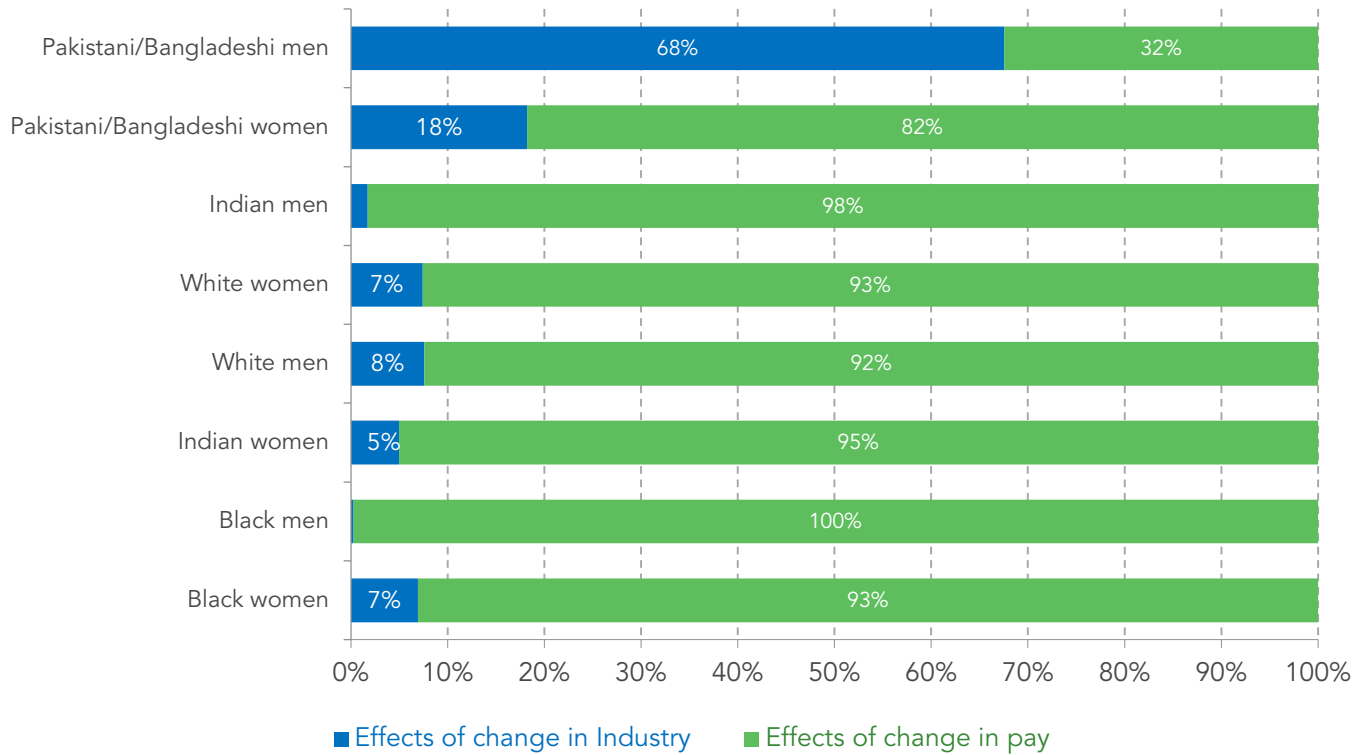
Notes: Our analysis uses converts all prior years industrial classification into the ONS's 2007 Standard Industrial Classification (SIC) code.

Source: RF analysis of ONS, Labour Force Survey

To untangle the effect of these complex and varied trends on pay, we can undertake another shift share analysis. In doing so, we can quantify the extent to which overall real hourly pay growth in each ethnicity group was accounted for by increases in pay *within* industrial sectors or by changes in their industrial mix.

Figure 23 sets out this analysis. It shows that for most groups, pay was driven primarily by rising levels of pay *within* industries. Indeed, compositional change acted as a *drag* on pay growth in both the Indian women and black women groups. Pakistani/Bangladeshi men stand out as the sole exception, with 68 per cent of overall pay growth in the group being accounted for by compositional change rather than pay increases *within* sectors.

**Figure 23: Shift share analysis of industrial compositional change and pay growth, 22-64 year-olds by sex and ethnicity, 1996-98 and 2016-17: UK**



Source: RF analysis of ONS, Labour Force Survey

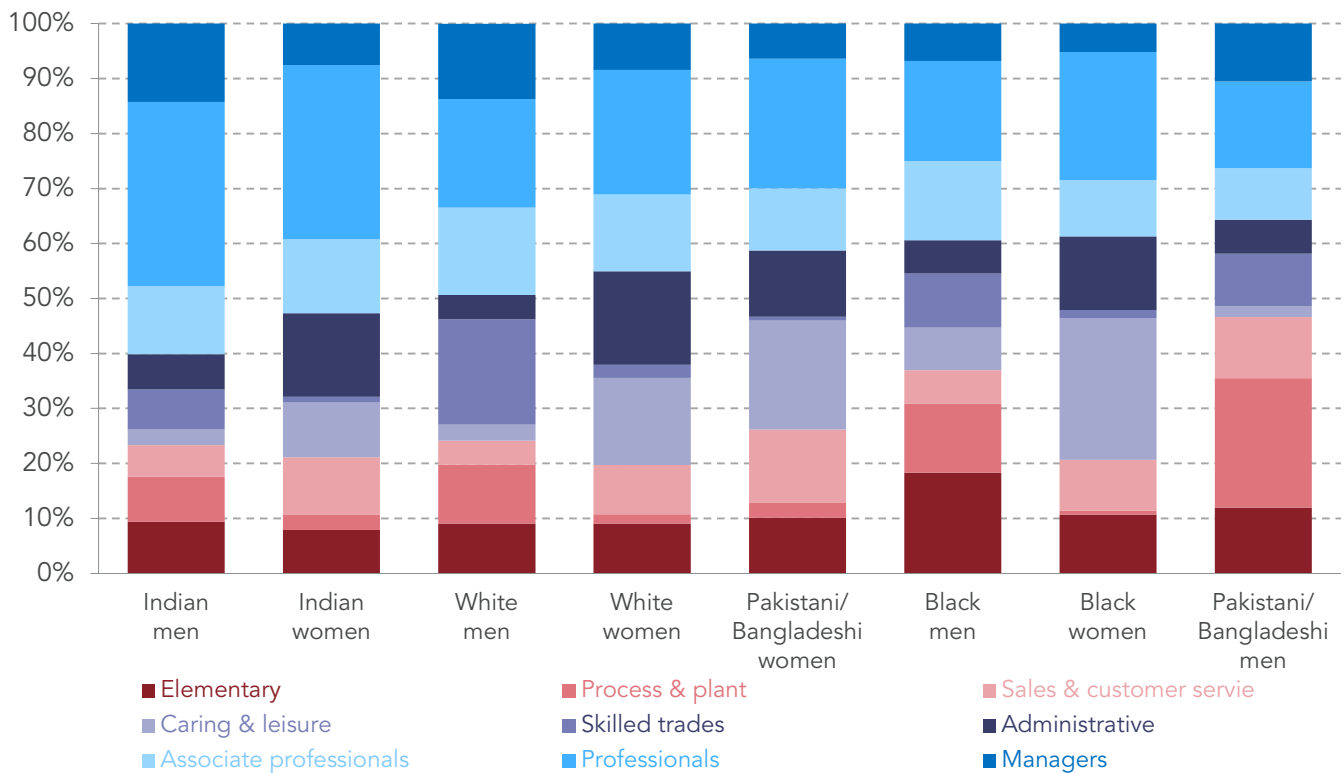
## Upward occupational shifts have supported higher levels of pay, particularly for Indian men, Indian women and white women

Perhaps more so than the industry individuals work in, the roles they hold – or their occupations – are key to the pay they receive. Occupations can also serve as something of a proxy for job quality in some instances: those sitting at the top of the ONS’s occupational classification system are, on average, associated with higher levels of skill, pay and security, whereas those at the bottom are associated with higher levels of precariousness.<sup>[12]</sup>

It matters then that the *type* of occupations that people enter into varies substantially by sex and ethnicity. Figure 24 shows each group’s occupational composition during 2016-17, setting out both the concentration of each group and the skill level of each occupational group held (blue occupations are classed as ‘higher-skilled’ roles, those in purple are classed as a ‘mid-skill’ and those in pink/red are considered ‘lower-skilled’).

[12] For example, the ONS *Labour Force Survey* indicates that among those not working on a permanent contract in 2017, seven in ten professionals were on a fixed-term contract, as compared to one in four working in sales roles and one in ten elementary workers. A majority of elementary workers (68 per cent) were either casual employment or working for an employment agency.

Figure 24: Occupational composition, by sex and ethnicity, 22-64 year-olds, 2016-17: UK



Source: RF analysis of ONS, Labour Force Survey

While white men hold a mix of white collar professional roles (such as corporate managers, business professionals and researchers) and mid-skilled blue collar roles (such as metal and electrical trades and construction), men in other ethnicity groups are more likely to record lower-skilled roles in their top five occupations too.

For example, four-in-ten Pakistani/Bangladeshi men were in lower skilled occupations (sales, elementary administration such as postal workers and basic clerical work and drivers and machine operators), with smaller numbers working in mid-skill trade roles, including textile and printing roles. Roughly 10 per cent were in management, half of whom were in non-corporate management roles (such as shop or restaurant proprietors, or hotel managers).

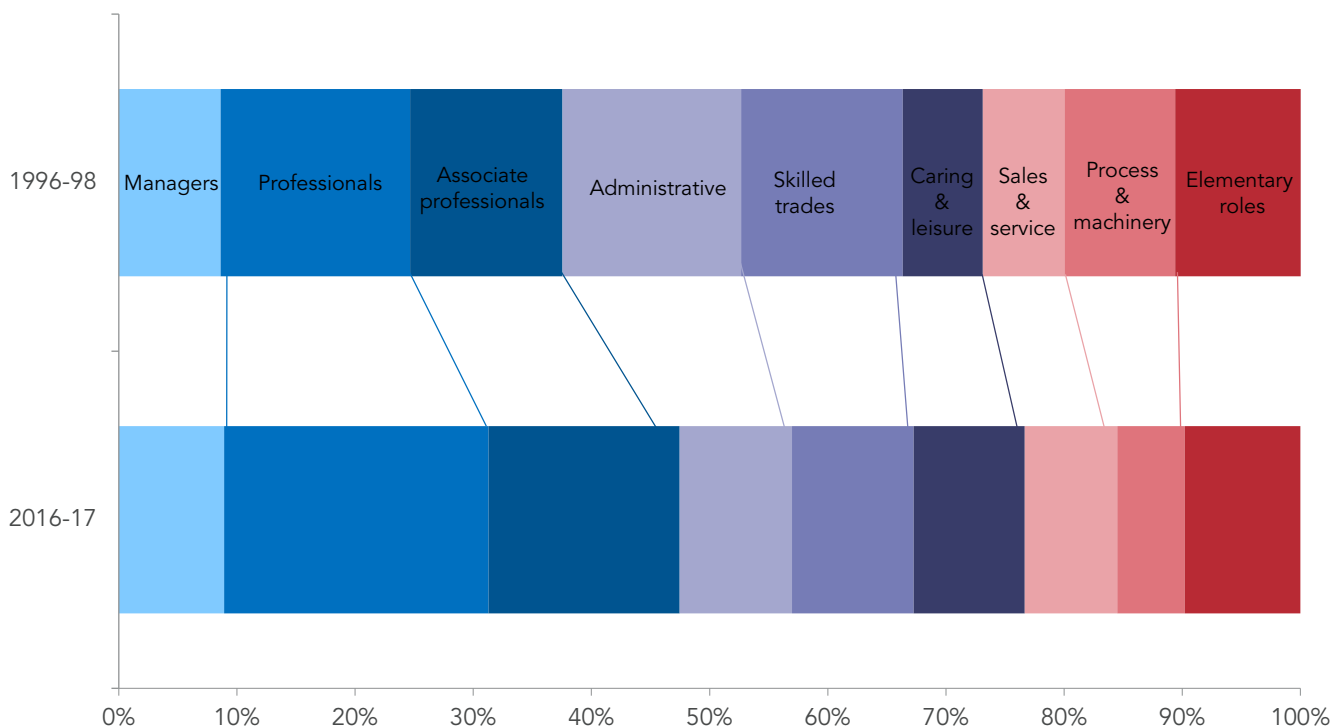
Likewise roughly one-in-four black men are in lower-skilled roles. Indian men present a more mixed picture. Over 40 per cent of employees are covered by higher-skilled roles (which include science and research, corporate managers, business professionals and health professional), but just over one in five were in lower-skilled ones.

Overall, women have a less polarised skill mix: across all ethnicities, they include higher-, mid- and lower-skilled roles, which include occupations such as teaching/health, caring and administrative work, and elementary administration and sales. Compared to other groups, a smaller proportion of black women are in higher-skilled roles, but a larger proportion are in caring and personal service roles (over a quarter of the 22-64 year-old population of black women in employment). Care work is also particularly prevalent among Pakistani/Bangladeshi women.

Stepping back from differences by ethnicity and sex, we know that there have been big shifts in occupational patterns of employment in the UK over recent years. Trends have been influenced by a variety of factors, including changes in technology (the automation of particular administrative and secretarial tasks), the growth of international trade (the relocation of some lower-skilled manufacturing roles to foreign countries), demographics (in particular the rise of caring roles in line with an aging population) and the advance of service sector roles, both at the upper (finance) and lower (caring and hospitality) ends of the pay distribution

Figure 25 compares the occupational composition of the labour force in 1996-97 and 2016-17, with a particular focus on the younger portion of the working age population (reflecting the fact that young people will experience occupational changes more acutely than older people).

**Figure 25: Occupational composition of 22-43 year-olds, 1996-97 and 2016-17: UK**

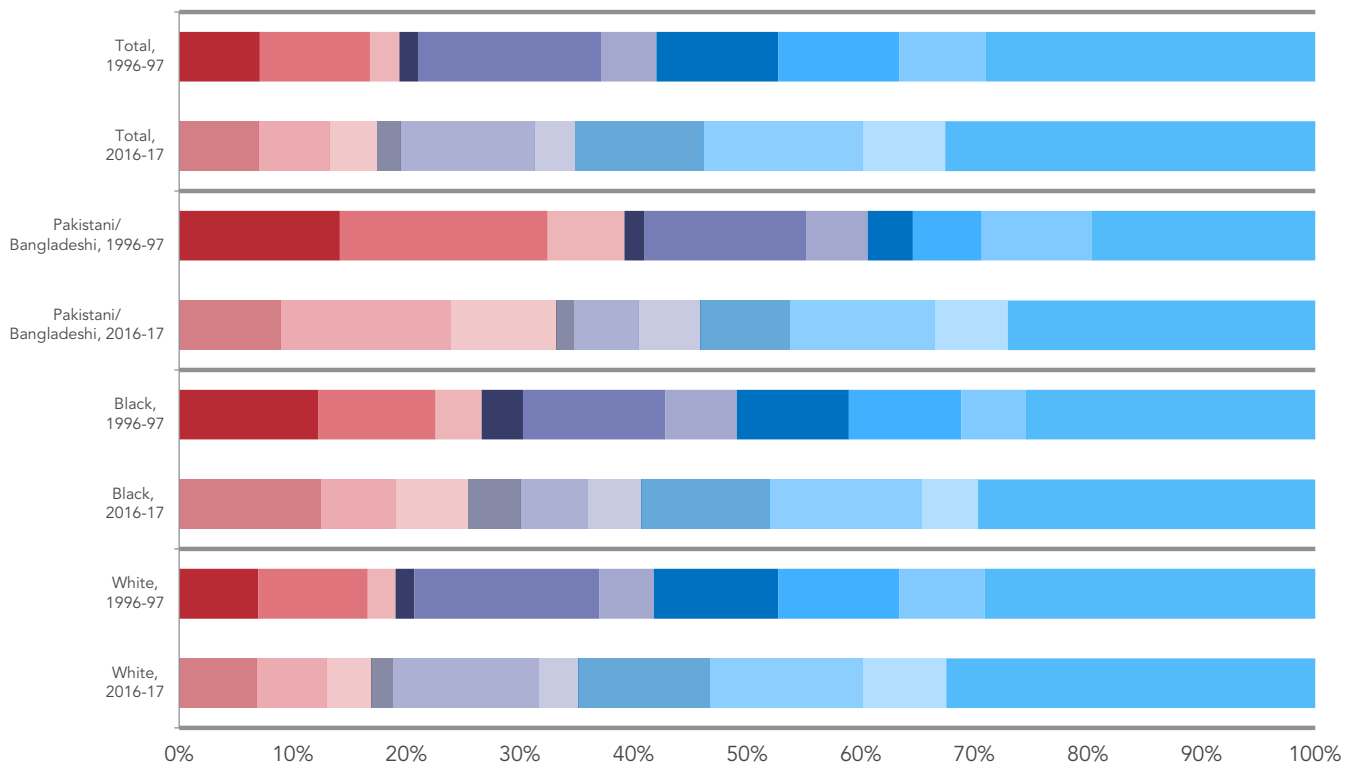


Notes: The figures used here are derived from the ONS's 2010 Standard Occupational Classification (SOC) system. Previous years' qualification frameworks are converted into the 2010 framework for consistent analysis. Occupations classed as high-skilled are shaded in blue; mid-skilled in purple and lower-skilled in red.

Source: RF analysis of ONS, Labour Force Survey

It shows that a larger share of today's younger people are employed in higher-skilled professional and associate professional roles, in caring and in sales and customer service. The proportion in mid-skill work like administrative and skilled trades has fallen, while the share in elementary work has held roughly flat. As Figure 26 shows (for men) however, these changes have not occurred in a uniform manner across ethnicity groups. Instead, some groups have shifted into higher-skilled and out of lower-skilled jobs at higher rates.

**Figure 26: Occupational structure by ethnicity, men aged 22-43, 1996-97 and 2016-17: UK**



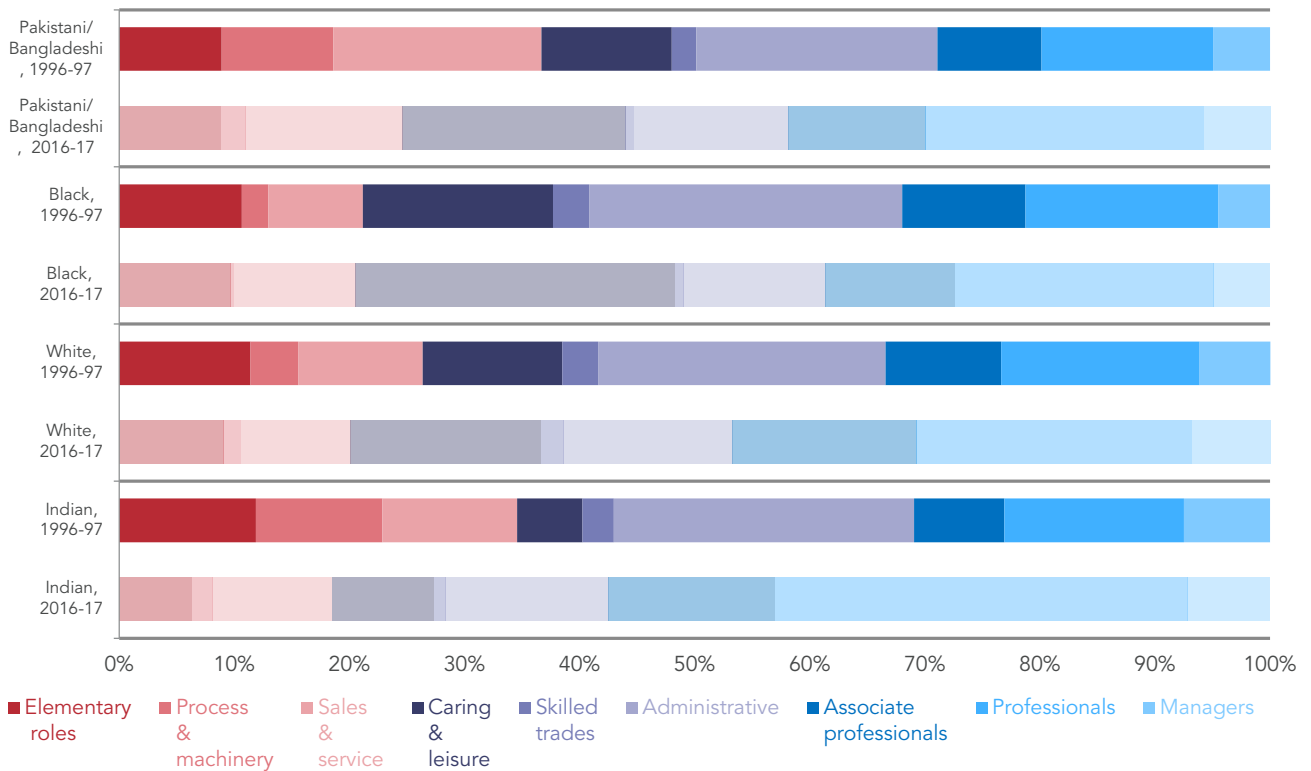
Source: RF analysis of ONS, Labour Force Survey

Three patterns become clear. First, Indian men have experienced substantially more occupational change than other groups of men: the share working in higher-skilled roles grew by 17 percentage points over the past two decades while the shares working in mid- and lower-skilled roles fell by 7 and 10 percentage points, respectively. Second, all groups experienced a rise in higher-skilled employment and reduction in mid-skilled employment. Third, however, reductions in lower-skilled work have been less clear cut: while the fall share of Pakistani/Bangladeshi men working in these by 3 percentage points dropping to just 1 percentage point among white men. And the share actually rose by 0.5 percentage points among black men.

Figure 27 repeats the exercise for women. Overall, younger women have experienced greater occupational change over the past two decades than younger men have.



**Figure 27: Occupational structure by ethnicity, women aged 22-43, 1996-97 and 2016-17: UK**

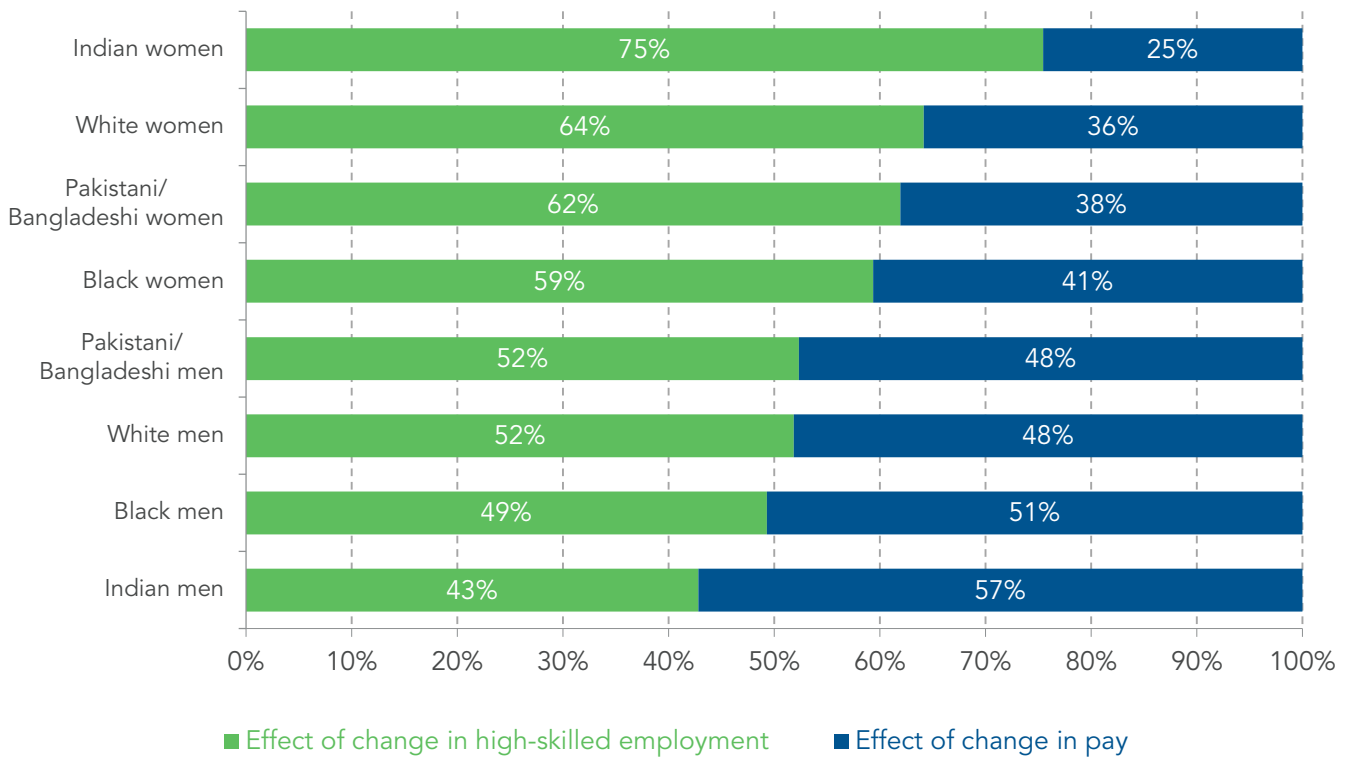


Source: RF analysis of ONS, Labour Force Survey

As with men, all groups experienced a rise in higher-skilled employment and a fall in mid-skilled work. Even more positively, there was an across-the-board fall in lower-skilled employment. However, as with men, progress was uneven. Indian women experienced the greatest levels of change: a 27 percentage point rise in higher-skilled employment, an 11 percentage point fall in mid-skill work and a 16 percentage point fall in lower-skilled work. In contrast, the share of black women in lower-skilled roles fell by just 1 percentage point.

The shift into higher-skilled employment (defined as those that sit within the managerial, professional or associate professional categories) experienced by many groups is likely to have supported the raw pay rises which occurred over 1996-2006 to 2007-2017, and which were illustrated in Section 1. So far, however, it remains unclear whether different groups' pay increases were driven more by rising levels of pay *within* different occupations, or by groups *shifting into* higher-skilled (and better paid) occupations. To dig into this, Figure 28 displays the results of a shift share analysis that decomposes the occupational drivers of changes in median real hourly pay between 1996-98 and 2016-17.

**Figure 28: Shift share analysis of effects of changing pay and changing shares of high-skilled employment on real median hourly pay, 22-64 year-olds, 1996-98 and 2016-17: UK**



Source: RF analysis of ONS, Labour Force Survey

In most instances, it is clear that increases in the share of higher-skilled occupations account for a sizeable proportion of the overall change in earnings over the two decades. Indeed, changing compositional mixes drove more than half of the overall increase among Indian women (75 per cent of the total), white women (64 per cent), Pakistani/Bangladeshi women (62 per cent), white men (64 per cent), Black women (59 per cent) Pakistani/Bangladeshi women (52 per cent) and white men (52 per cent).

As with education and employment then, the occupational story should in part be celebrated: all groups have made progress shifting into higher-skilled, and typically better-paid, more secure employment. However, the scale of this progress differs across both sex and ethnicity, with substantial gaps remaining. Even today, fewer than four-in-ten black women are in higher-skilled work compared to nearly seven-in-ten Indian men. These uneven figures, uneven progress on boosting them, and their significant effects on pay all point to the importance of interrogating why different groups face barriers to higher-skilled, better paid occupations and how such barriers can be removed.

## Different groups' personal and work-related factors have changed over recent decades, which has improved employment and pay, but big – and unexplained – gaps persist

Recent decades have been characterised by both change in different ethnicities' compositional and work-related factors and change – mostly for the better – in employment and pay. Some of these compositional changes, like education, have had a positive impact on employment and pay: human capital investments have driven positive labour market outcomes for those who have, in the past, experienced large pay gaps. Work-related changes, and in particular, the ability of some groups to shift into higher-skilled, better-paid occupations has helped to boost pay among some ethnic minorities and, relatedly, reduce pay gaps with white men and women.

Of course, many of these compositional factors overlap – with job contracts often related to age and to educational attainments for example – making it difficult to provide a definitive sense of the extent to which they help explain the scale of the pay gaps that exist between ethnic minorities and white men and women. To isolate the impact of compositional factors, and thereby explore what remains unexplained, we run a series of regression models in the next section.

## Section 4

# From pay 'gaps' to pay 'penalties'

*The previous sections outlined how personal characteristics and work-related factors vary according to ethnicity and also by sex, with some discussion of what this means for employment and pay gaps. This section goes further, asking whether the pay gaps would still exist in the absence of such compositional differences. To the extent that they do, we can consider these to no longer be simply pay 'gaps' but instead pay 'penalties'.*

*We find that, even after assuming like-for-like backgrounds and job profiles, statistically significant pay penalties persist between different ethnic minorities and the white population. And they are large. Black graduate men would still earn 17 per cent less than white graduate men per hour even after controlling for factors such as age, location and occupation. Likewise, Pakistani/Bangladeshi non-graduate men would still earn 14 per cent less than white non-graduate men.*

*Three other findings stand out. First, pay penalties are smaller among women than among men. Second, penalties are larger for some ethnicities than others. For example, controlling for compositional factors plays a much larger role in reducing the pay disparity experienced by Pakistani/Bangladeshi women than it does for black women. Finally, there is little difference in the proportional size of the pay penalties recorded by graduates and by non-graduates within each ethnic minority (with the exception of black men where the graduate penalty is somewhat higher).*

## Among both graduates and non-graduates, pay penalties persist – even under a like-for-like comparison

This section tests whether the raw hourly pay gaps that we see between white and ethnic minority working age adults persists even after we hold key personal and work-related factors constant. Given that graduates typically differ from non-graduates in their overall employment rate and the occupations and industries they work in, we have run separate analyses for the two groups.

Personal factors include age, qualifications, region, whether a person was UK-born, the length of time since they left education (a proxy for experience), and whether they work full-time.<sup>[13]</sup> Work-related factors include occupation, whether they work in the public or private sector, the industry they work in, the length of time they have worked for their employer and whether they are on a permanent contract.

These factors are placed into a linear regression model, with real hourly pay serving as the dependent (or 'explanatory') variable and the various personal and work-related characteristic above serving as our independent (or 'control') variables.<sup>[14]</sup> We refer to the pay gap that exists before running our regression model (i.e. the gap that exists in the real world) as the 'real' or 'raw' pay gap. The gaps that persist even after placing our control variables into the regression model are referred to as 'adjusted pay penalties,' or simply 'pay penalties' – given that they are the unexplained penalty accrued by different sexes/ethnicities even after we adjust our model to compare like with like.

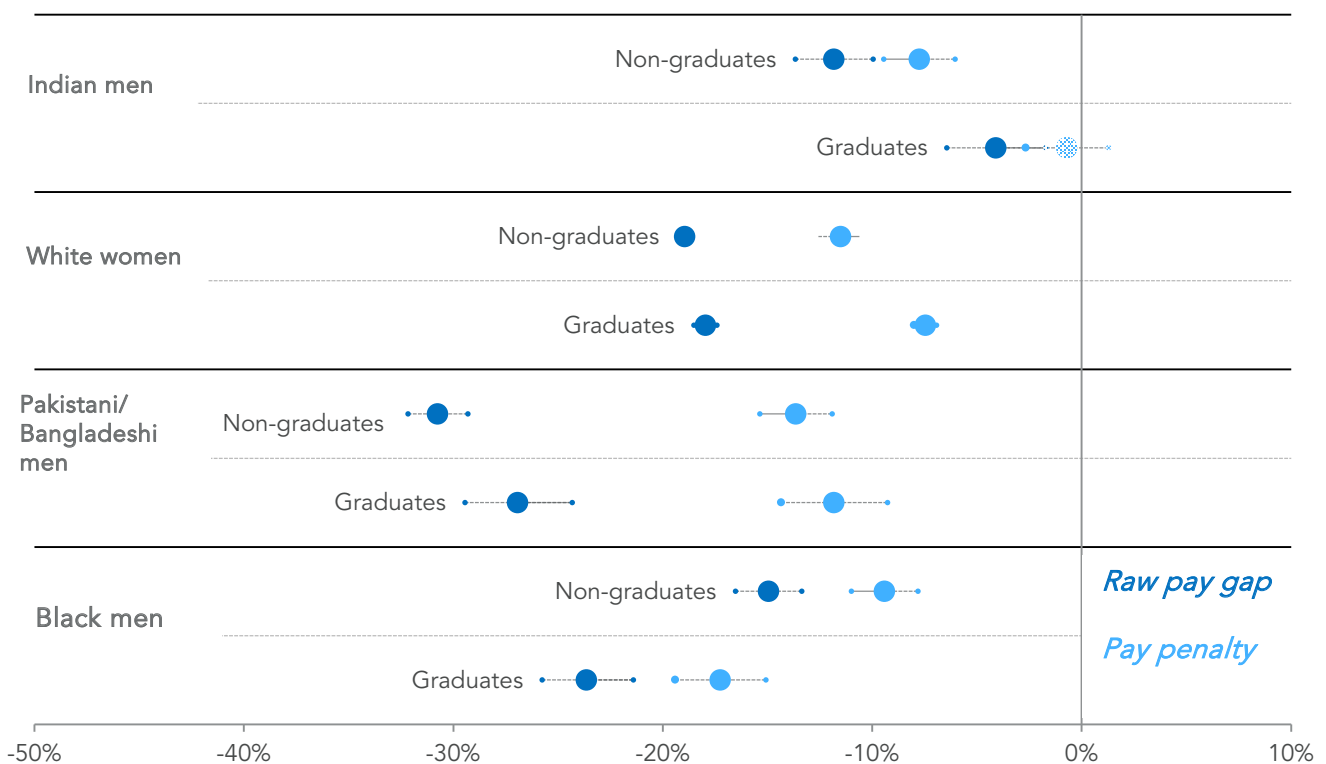
[13] The full-time part-time split could equally be considered a work-related factor. However, for some the ability and inclination to work full-time is driven by personal circumstances, including caring responsibilities.

[14] See Annex for more details on our approach.

We attempt to avoid conflating issues of gender and ethnicity (which can overlap but are distinct) by separately comparing ethnic minority men with white men and ethnic minority women with white women. We then look at the effects of gender within ethnicity by running a third series of regressions that test for pay penalties between white women and white men.

Figure 29 sets out the real proportional pay gaps and adjusted pay penalties that exist between white men and our usual group of three ethnic minorities (see Box 1 in Section 1), as well as those recorded between white women and white men. Raw hourly pay gaps are depicted in dark blue, with the adjusted hourly pay penalties in light blue. The smaller diamonds indicate confidence intervals.<sup>[15]</sup>

Figure 29: Raw and adjusted pay penalty between white men, ethnic minority men and white women, 2007-17: UK



Notes: Shaded penalty markers indicate a statistically insignificant result

Source: RF analysis of ONS, Labour Force Survey

Controlling for compositional characteristics has a large and significant effect on raw pay gaps. For instance, Indian male graduates have a raw pay gap with white men in the range of 2 per cent to 6 per cent which drops below 1 per cent (and becomes statistically meaningless) once we control for compositional factors.

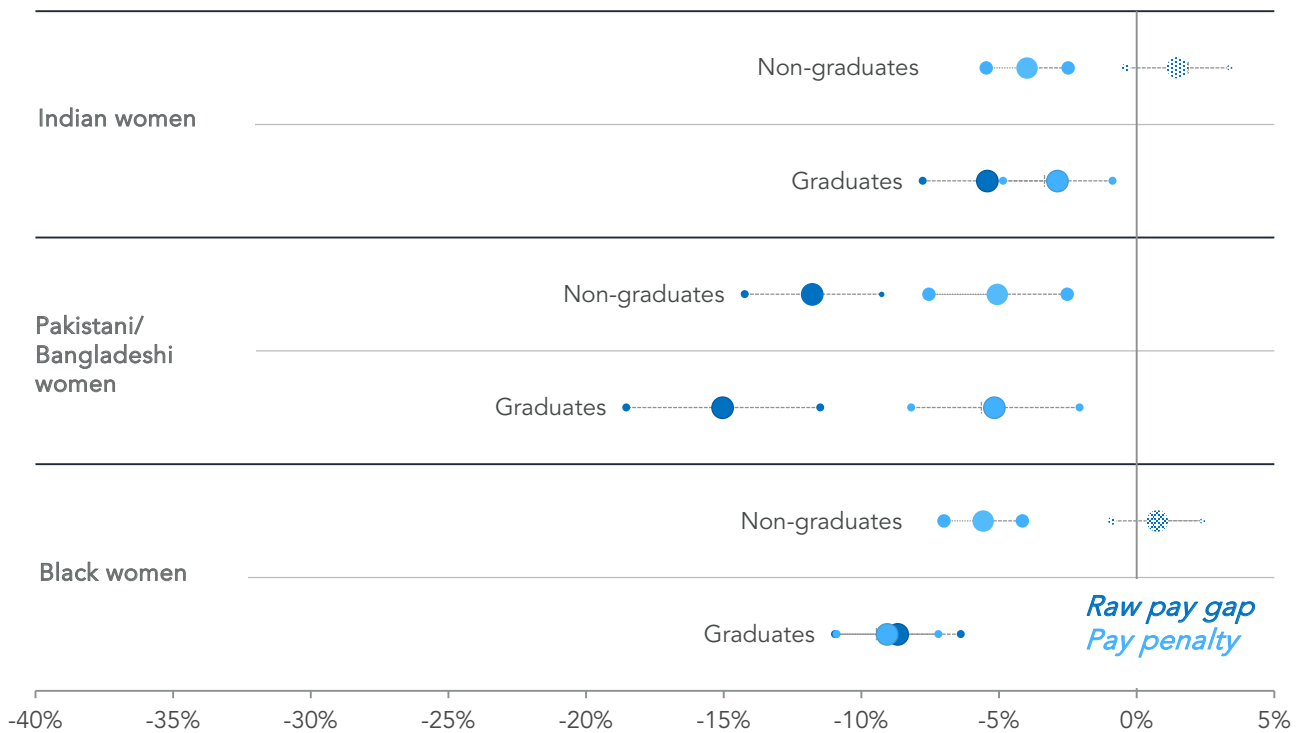
For all other groups however, the remaining pay penalties are large. All else being equal white women are paid between 7 and 8 per cent less than white men at the graduate level, and between 11 and 12 per cent less at the non-graduate level. Likewise, Pakistani/Bangladeshi men are paid between 9 and 14 per cent less at the graduate level and between 12 and 15 per cent less at the non-graduate level. Black men are unique in that their graduate pay penalty is larger than their

[15] For example we are 95 per cent confident that the adjusted pay penalty between white and black male graduates is somewhere between 15 and 19 per cent, with a central estimate of 17 per cent.

non-graduate penalty: they are paid between 15 and 19 per cent less than white men at the graduate level, and between 7 and 9 per cent less at the non-graduate level.

Figure 30 repeats this exercise, setting out raw pay gaps and adjusted pay penalties between white women and ethnic minority women. Both raw pay gaps and remaining pay penalties are smaller among women than they are among men. For instance, Pakistani/Bangladeshi women have a graduate pay penalty that is less than half the size of the penalty experienced by Pakistani/Bangladeshi men.

Figure 30: Raw and adjusted pay penalty between white women and ethnic minority women, 2007-17: UK



Notes: Shaded penalty markers indicate a statistically insignificant result

Source: ONS Labour Force Survey

In contrast to men however, we can see that the scale – and even *direction* – of impact associated with controlling for compositional factors varies by ethnicity. It more than halves the graduate pay penalty for Pakistani/Bangladeshi women, but has little if any effect on the graduate pay penalty experienced by black women. The regression analysis appears to have a different affect among Indian and black non-graduates. In both instance the raw pay gap is statistically insignificant, but then *worsens* (and becomes statistically significant) once background factors are taken into account.

The smaller penalties experienced by ethnic minority women should of course be considered against a background in which white women already face sizeable penalties relative to white men, as Figure 29. In other words, although there is less variation among women's pay than there is among men, we should not forget that ethnic minority women face an especially large pay penalty relative to white men, and appear subject to compounding effects of both sex and ethnicity.

## Pay penalties persist even when we account for more recently available variables, like degree class

How should we interpret the pay 'penalties' set out above? They represent the residual, unexplained pay gap that remains in place even after we control for a selection of personal and work-related characteristics. There are therefore two ways of explaining them: first, they may be the product of additional legitimate factors uncontrolled for in our model; second, they may reflect discrimination and disadvantage.

Certainly our model doesn't cover everything. In particular, we do not include any data showing the 'signalling effect' to employers of institutional prestige, including the value that foreign qualifications hold in the UK – a factor that may be important in explaining the substantially large pay penalty among black graduate men. While we are able to control for the country a person was born in, as a proxy for qualifications obtained abroad, the two are not the same.

Degree class (first-class honours, 2:1, 2:2 etc.) is another signalling effect that our main model does not account for, due to the time period concerned: The *Labour Force Survey* has asked graduates to report their degree classification in every quarter since the end of 2005. We exclude this variable from our main model due to the lack of any earlier data, but we can run a separate model to test whether the inclusion of degree class during our 2007-17 period would have a meaningful effect on different group's pay gaps. While its inclusion does not substantially reduce pay penalties, for a small number of groups it yields a limited but statistically significant effect.

Specifically, after including degree attainment, Pakistani/Bangladeshi's men's pay penalty is reduced from 12 per cent (with a range of 9 to 14 per cent) to 9 per cent (ranging from 5 to 12 per cent). Where white women's main penalty was 6 per cent (ranging from 5 to 8 per cent), in this version of the model it is reduced to 6 per cent (5 to 6 per cent). For black women the pay penalty is lowered from 9 per cent (7 to 11 per cent) to 8 per cent (6 to 10 per cent). These are small differences and go no way to making a substantive change to the penalties we have outlined above. They are however, statistically meaningful, and speak to the importance of recent initiatives that look to raise disadvantaged students' retention and attainment in higher education in particular.<sup>[16]</sup>

## Socioeconomic background is important for driving labour market outcomes but is unlikely to explain away the sex and ethnicity-based pay penalties outlined here

Pay is also likely to be affected by factors intrinsically linked to socioeconomic background. This can manifest itself in direct outcomes (like private schooling and access to tutoring), but also in less tangible areas (like social networks and confidence).

Once a year since 2014 the *Labour Force Survey* has included a rough proxy for social class background: it asks respondents to detail the occupation that their parent had when the respondent was aged 14. In the future, this could provide a good basis for analysing the effects of parental social class on pay penalties controlling for a host of compositional factors. As it currently stands however, the sample sizes are too small to draw reliable conclusions from when using our regression model. For example, the *Labour Force Survey* includes data on parental occupation and pay for fewer than 90 Pakistani/Bangladeshi women graduates and less than 30 of them had a parent in higher-skilled (Standard Occupational Classification 2010 major category 1-3) roles.

In any event, it is doubtful that including parental occupation in our model would explain away the pay penalties we outlined above. In part, this is because a person's educational attainment

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[16] See: M Miller, '[The Ethnicity Attainment Gap: Literature Review](#),' Widening Participation Research and Evaluation Unit, University of Sheffield, April 2016

and occupation are already heavily linked with their parents<sup>[17]</sup> – meaning our model already (inadvertently) accounts for effects of socioeconomic background.

## Although there are some exceptions, pay penalties have not shifted very much over time

After establishing that pay penalties persist once a host of important compositional factors are accounted for, we can next ask whether the current penalties represent an improvement – or a deterioration – on the past. To do so, we compare our main regression model for 2007-17 with results for the 1996-2006 period and test whether the over-time penalty differences were statistically significant. We also test the models on two age categories – 22 to 43 and 22 to 64 – in order to understand whether today's younger people have had a different early career experience from their predecessors.

For most groups, there appears to have been little pay penalty change over the two time periods. Among graduates, no group of men or women recorded a statistically meaningful change in their pay penalty. There was more variation among non-graduates however, including a positive shift for Pakistani/Bangladeshi men. Encouragingly, it appears that younger Pakistani/Bangladeshi men have particularly benefited: among 22-64 year-olds, the penalty fell from 14 per cent (12 to 15 per cent) to 12 per cent (9 to 14 per cent); for the younger group the penalty fell further, from 20 per cent (17 to 24 per cent) to 13 per cent (11 to 15 per cent).

There was also a small but significant reduction in the pay penalty that younger (22-43) white women experienced relative to younger white men (from roughly 13 to 11 per cent). Younger Indian women also reported a reduced penalty, dropping from 12 per cent (10 to 13 per cent) in 1996-2006 to 3 per cent (1 to 5 per cent) in 2007-17. In contrast, the pay penalty experienced by younger black women slightly, but statistically significantly, worsened: from 5.5 per cent (4 to 7 per cent) to 7 per cent (5 to 9 per cent).

On the whole this analysis highlights a mixed picture: stasis for most, but some encouraging progress for younger male and female non-graduates. The apparent immobility of these pay gaps is not helped by the fact that we record them over just two consecutive ten-year periods. This was necessary in order to achieve a sample size that could respond well to the number of categories that we break the sample into, as well as the number of variables that we deploy in our model. However, by focusing on such long time periods we potentially obscure any progress (or deterioration) experienced by younger cohorts in more recent years.

## Beyond the headline trends, groups have had different experiences

The analysis set out in Figure 29 and Figure 30 shows that both raw pay gaps and residual pay penalties vary by sex and ethnicity, but we can dig deeper still on a group-by-group basis.

### The pay penalties experienced by Indian men are smaller than most other groups: among graduates, they are not statistically significant

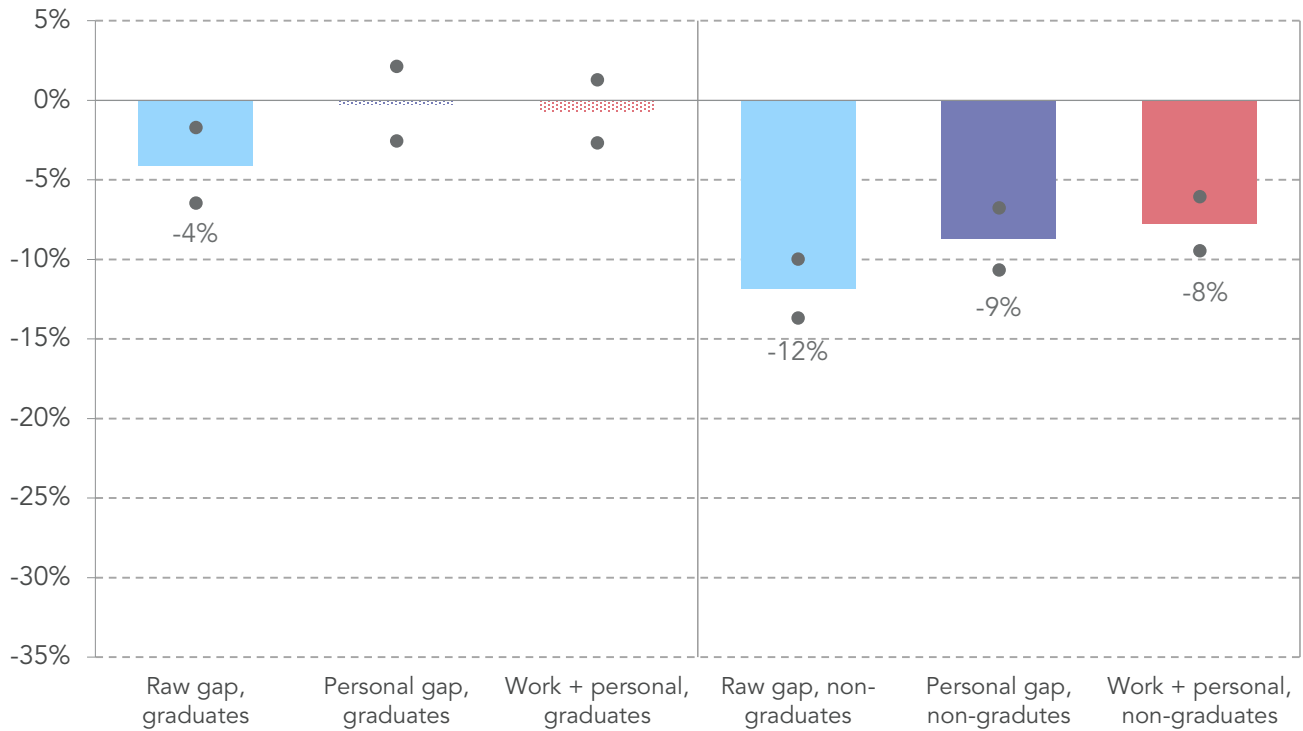
Figure 31 shows the pay gaps and penalties experienced by graduate and non-graduate Indian men. It takes a stepwise approach, first displaying raw pay gaps, then pay penalties that exist once

[17] For example, 60 per cent of 22-64 year-olds whose parents had a professional role have a degree, including 25 per cent who have a masters. In contrast, less than a quarter of those whose parents were in a skilled trade or care work have a degree, and just 16 per cent of those whose parents were in elementary roles had one. Crucially, these patterns are similar across sex and ethnicity, with the exception of Indian men and women, for whom the link between parental occupation and educational attainment is tighter. Across all groups, between 55 and 60 per cent of 22-64 year-olds who had professional parents now have a degree. For Indian men and women approximately 80 per cent do. Source: RF analysis of ONS, *Labour Force Survey*



personal factors are accounted for<sup>[18]</sup> and finally, the penalties that persist when both personal and work factors are accounted for (our full pay penalty model).

Figure 31: Pay gaps among white and Indian men by regression model, 2007-17: UK



Notes: Shaded penalty markers indicate a statistically insignificant result

Source: RF analysis of ONS, Labour Force Survey

At 4 per cent, the raw pay gap that exists between white and Indian male graduates is significantly smaller than that of any other group. Once personal factors are accounted for this reduces to zero and becomes statistically insignificant. The pay penalty remains statistically insignificant once work-related factors are added to the model – meaning that graduate Indian men maintain the most advantageous position relative to white men (or white women) in our sample.

By contrast, the raw and adjusted pay penalties that exist between non-graduate white and Indian men are both larger and statistically significant. In raw terms, non-graduate Indian men are paid 12 per cent less than white men; once personal factors are taken into account this is reduced to 9 per cent. Adding work-related factors into the model does not make a large difference: the pay penalty persists at 8 per cent.

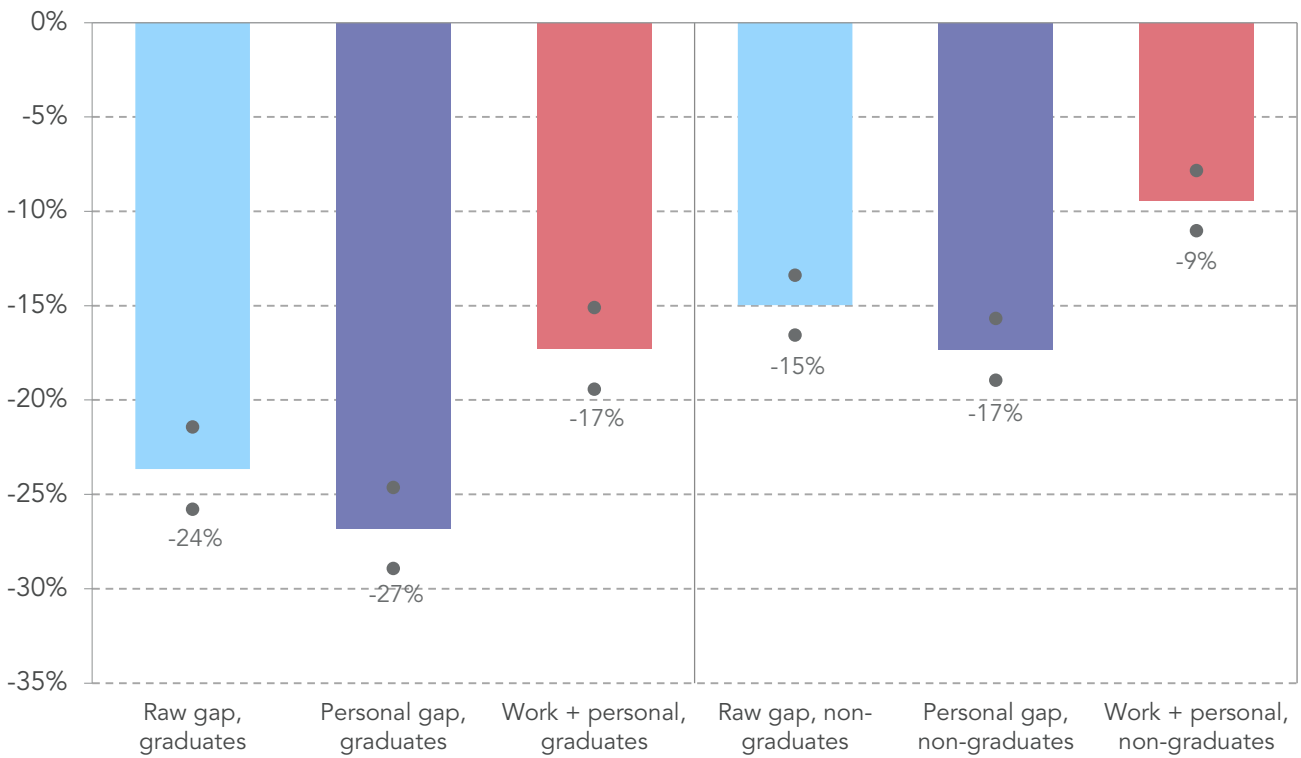
[18] Personal factors include: age, age-squared, region, qualifications, whether UK-born, length of time since left education and whether working part-time or full-time (assuming part-time may in fact be driven by personal circumstances)

Although non-graduate black men experience pay penalties that are on a par with other groups, their graduate pay penalty is substantial – and has remained so over our two periods

In stark contrast to Indian men, the raw pay gaps that exist between white and black men are large and significant. However, the relative size of these gaps differs by education level: while the pay penalty faced by graduate Indian men is smaller than the pay penalty faced by non-graduate Indian men, the reverse is true among black men. In other words, proportional pay penalties are smaller for black non-graduates than for black graduates, and this is a rare pattern.

Figure 32 sets these penalties out. First, controlling for personal factors actually appears to worsen the graduate pay gap – an effect that could be down to region and higher levels of educational attainment among black men relative to the white population. This penalty attenuates once work-related factors are also accounted for but, at 17 per cent, this remains the largest pay penalty recorded in our study.

Figure 32: Pay gaps among white and black men by regression model, 2007-17: UK



Source: RF analysis of ONS, Labour Force Survey

We see a similar story – albeit with smaller gaps – when looking at the non-graduate pay penalty. Here the raw pay gap worsens slightly when only personal factors are accounted for, but reduces from roughly 17 to 9 per cent once we account for work characteristics. This is a substantial reduction and leaves black non-graduate men with a 'mid-pack' pay penalty. Worryingly, neither graduate nor non-graduate black men have experienced reductions in pay penalties over the two decades considered.

75 per cent of black male degree holders in our 2007-17 sample are categorised as black African, and 81 per cent of black Africans were born abroad. Overall, 66 per cent of black graduates were born abroad. While this is a striking figure, it is not entirely unique among ethnic minorities: 63 per cent of Indian graduates were also born abroad.

One possibility is that a large proportion of the penalty experienced by black graduate men stems from having a large share of black African graduates with degrees obtained abroad, which we cannot directly measure. The limited testing that we can undertake suggests this cannot explain all of the variation between graduate black men's pay penalty and that of other groups.<sup>[19]</sup>

### **Pakistani/Bangladeshi men experience the largest raw pay gaps in our analysis; but, in contrast to black men, these gaps are reduced considerably once background factors are accounted for**

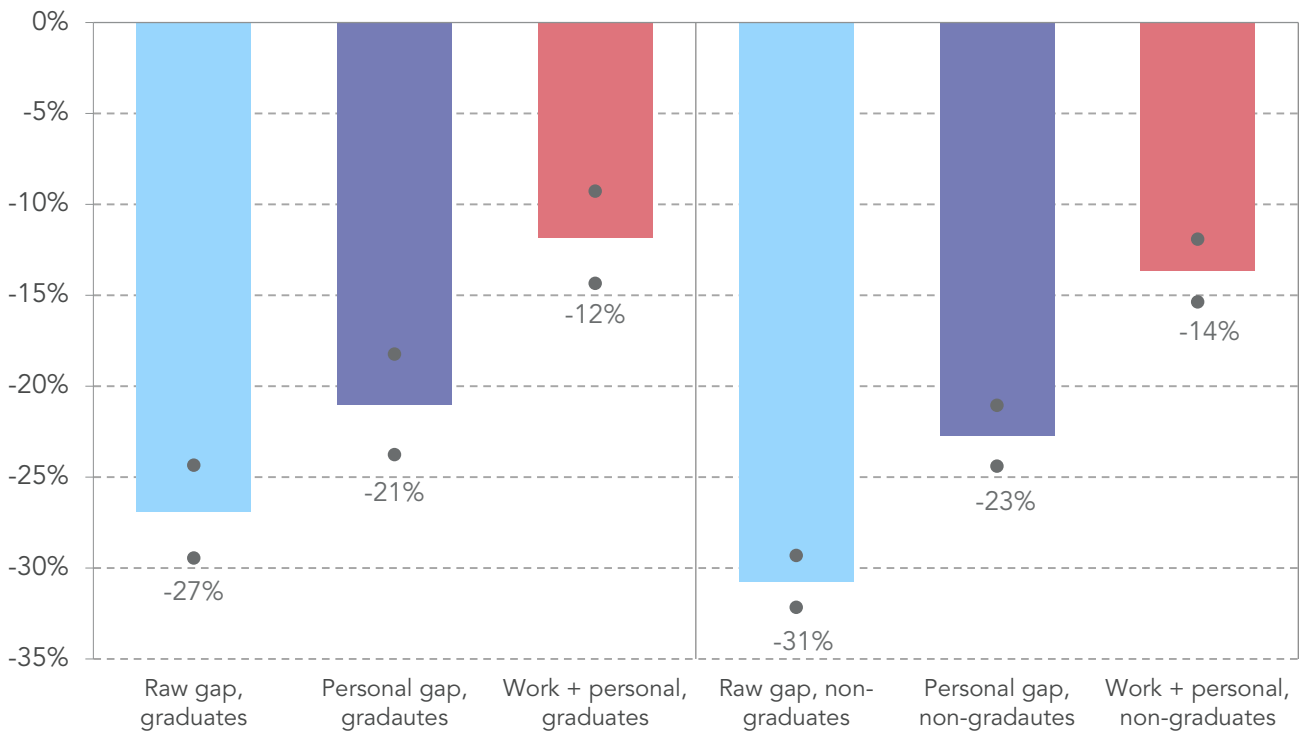
Figure 33 shows the raw and adjusted pay penalties that exist between white and Pakistani/Bangladeshi men. The scale of the raw gaps is worth noting, standing at 29 per cent and 32 per cent for graduates and non-graduates, respectively. Pakistani/Bangladeshi men therefore record by far the largest real hourly pay gaps relative to white men of any ethnicity group.

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[19] In the absence of a direct foreign qualifications control variable we attempt to test the effect of migrants on the black male graduate pay penalty by running our main regression with non-UK born degree holders stripped out. The remaining pay penalty is statistically significant, and large (16 per cent), but by reducing the sample size of our model we increase our confidence intervals: the 'real' pay penalty is likely to sit between 12 and 19 per cent. We repeat this exercise by removing black African men from the sample: again, the pay penalty is high (15 per cent) but the confidence intervals wider (the pay penalty is estimated to sit between 10 and 19 per cent).

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Figure 33: Pay gaps among white and Pakistani/Bangladeshi men by regression model, 2007-17: UK



Source: RF analysis of ONS, Labour Force Survey

This disadvantage is substantially reduced once background factors are accounted for. In fact, the raw pay gaps halve when both personal and work-related variables are held constant – this is the largest reduction found in our analysis. Although these pay penalties, at 14 and 15 per cent, remain large, this leaves male Pakistani/Bangladeshi pay penalties somewhere ‘mid-pack’.

As with black men, raw graduate pay gaps have worsened over time while their penalties have not meaningfully shifted. While the non-graduate pay penalty among 22-43 year-olds has reduced, progress among graduates is less clear.

**White women with degrees appear to have had little progress in reducing either the raw, or adjusted, pay penalties that exist between themselves and white men**

Figure 34 illustrates the extent to which our regression model reduces raw pay gaps among white men and women. For example, a raw graduate pay gap of 19 per cent places white women somewhere mid-pack. Once personal and work-related factors are added in though, this more than halves to roughly 8 per cent – lower than the penalties recorded among Pakistani/Bangladeshi men and black men. Among non-graduates the white women penalty is reduced from 19 to 12 per cent.

Figure 34: Pay gaps and pay penalties by education level and age, white men and white women, 2007-17: UK



Source: RF analysis of ONS, Labour Force Survey

Of course, these gaps are still large and do not appear to have shifted over time for graduates. More encouragingly, there has been a small but significant reduction in the penalty experienced by younger non-graduate white women.

### Like Indian men, Indian women experience smaller penalties than other ethnic minority groups

Among graduates, the raw hourly pay gap faced by Indian women is 5 per cent. Accounting for personal and work factors reduces this to 3 per cent, which is smaller than that experienced by either black or Pakistani/Bangladeshi graduates. Figure 35 sets out these pay gaps and adjusted penalties between white and Indian women.

Figure 35: Pay gaps and pay penalties by education level and age, white and Indian women, 2007-17: UK



Notes: Shaded penalty markers indicate a statistically insignificant result

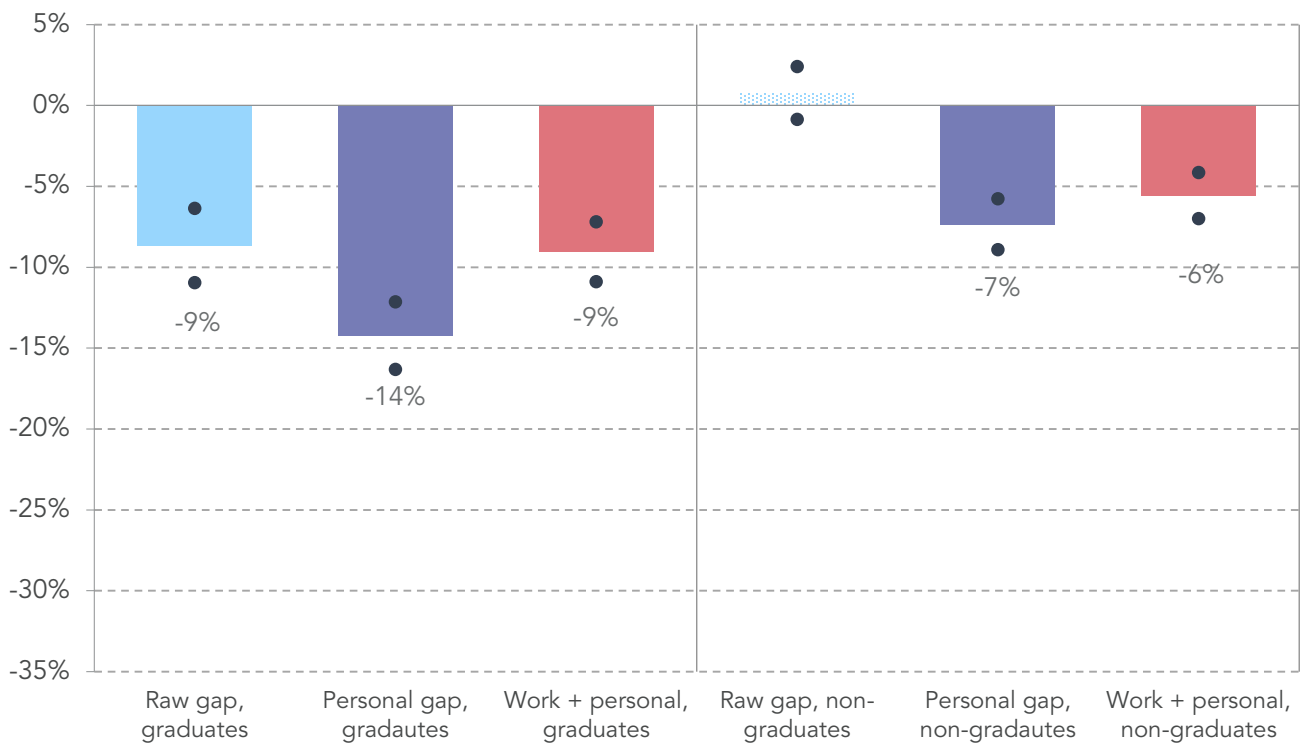
Source: RF analysis of ONS, Labour Force Survey

Interestingly, the raw gap among non-graduates is both statistically insignificant and reversed (in other words, real average hourly pay is higher for Indian women than it is for white women). After adjusting for background factors it does become significant – and turns negative – meaning that all else being equal, Indian non-graduate women earn 4 per cent less per hour than white non-graduate women. This does, however, represent an improvement on the past: among younger Indian women the pay penalty reduced from 12 to 3 per cent for example.

**The raw and adjusted pay penalties that exist between white and black women are substantial – and do not reduce once background variables are accounted for, nor have they reduced over time**

The pay gaps experienced by black women are especially worrying given they do not reduce once personal and work-related factors are accounted for, as Figure 36 sets out.

**Figure 36: Pay gaps and pay penalties by education level and age, white and black women, 2007-17: UK**



Notes: Shaded penalty markers indicate a statistically insignificant result

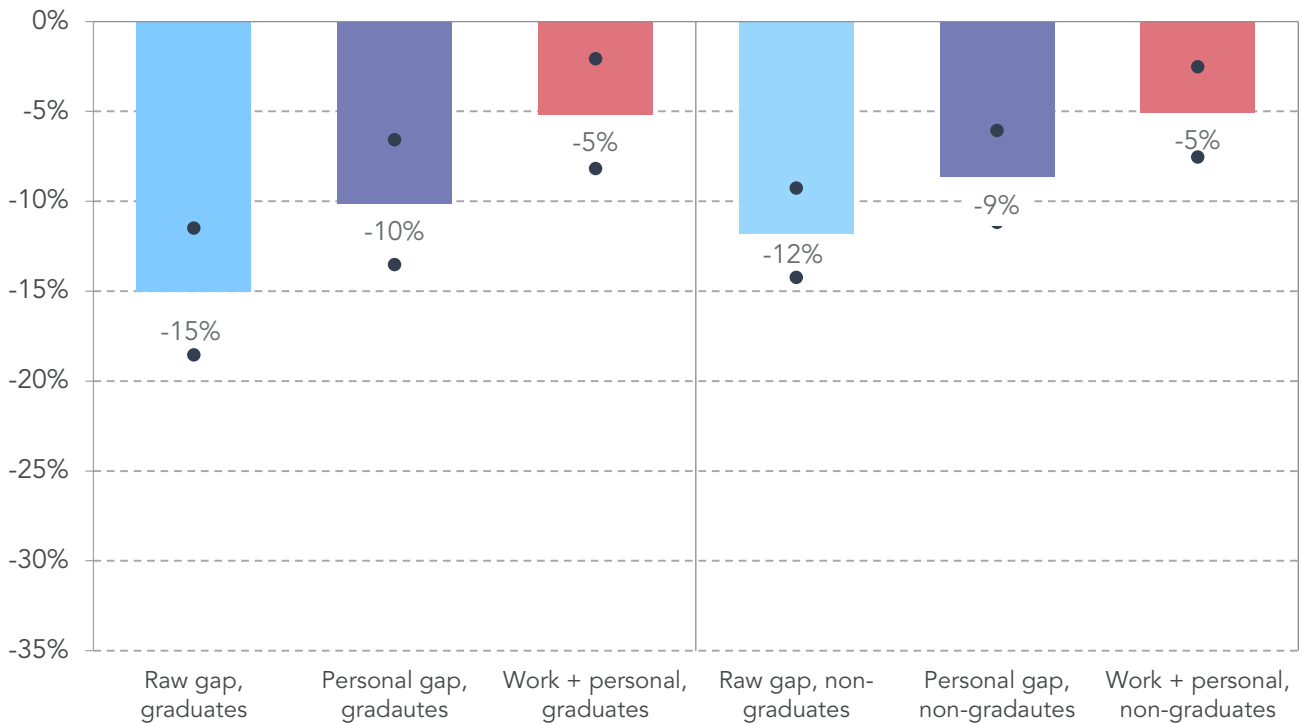
Source: RF analysis of ONS, Labour Force Survey

The figures imply that, even if they had similar personal and work-related characteristics, we would expect black women graduates to be paid between 7 and 11 per cent less than white women per hour. Among non-graduates the pay gap actually worsens when personal characteristics are accounted for, reducing just slightly when work-related factors are added in. These penalties have largely held flat, with some evidence of a worsening for non-graduates.

**Pakistani/Bangladeshi women experience the largest raw pay gaps in our sample but these are reduced considerably once personal and work-related factors are taken into account**

Both graduate and non-graduate Pakistani/Bangladeshi women face large pay gaps with white women, as detailed in Figure 37. As with Pakistani/Bangladeshi men, accounting for background factors reduces these gaps significantly: among graduates the pay gap is more than halved; among non-graduates it is reduced by 75 per cent. Still, it remains substantial and significant, at 8 per cent for both groups.

Figure 37: Pay gaps and pay penalties by education level and age, white and Pakistani/Bangladeshi women, 2007-17: UK



Source: RF analysis of ONS, Labour Force Survey

### While inevitably incomplete, our modelling implies that substantial pay penalties for ethnic minorities persist in the labour market

Nonetheless, we have found that within a sample of tens of thousands of individuals and two decades of labour market information, significant pay inequalities persist beyond the effects of core personal and work-related factors.

We can however take encouragement from the positive gains associated with higher-level qualifications and moving into higher occupations. Our report indicates that compositional factors, and in particular education, play a key role in boosting employment and pay. Universal policies that push for continued educational improvements including adult education and training, should further progress employment and pay, and serve to ameliorate some of the penalties that remain. And yet it is not entirely simple: penalties persist even in the face of higher-level qualifications. A proportion of them could be driven by less tangible factors that drive outcomes even before one steps foot in school, university or workplace.

It is widely established that having a socioeconomically privileged background brings with it benefits that accumulate from early years through to early retirement. Towards the top end, it is easy to understand how from tutoring and private schooling, to social networks and the financial freedom to take early career risks, social class background can inform the educational pathways and career decisions a person makes.



It has also been shown that the lack of 'insider information' about higher-status roles at home, in combination with biased school-based advice (unconscious or not) about the course choices a child should make, and the careers to which they should aim, will heavily structure outcomes. It is no coincidence that as of last year just under a quarter of 22-43 year-old graduate white women worked in education, or that just under a third of similarly aged black graduate women worked in health and social care.<sup>[20]</sup> Aspirations don't form in a vacuum. A proportion of the penalties that we have isolated in our research could indeed be driven by our exclusion of key social class-driven factors as outlined above. And even still, it may not be that simple.

## Digging into components that sit behind pay penalties is a critical but difficult challenge

Penalties are unlikely to be driven by class alone. To truly understand their cause we need to disentangle the proportion of penalties that are driven compositional and/or class-related effects from those that are driven by discrimination and bias. While the effects of social class and ethnicity overlap, they are separate entities and combine to affect different groups in different ways.<sup>[21]</sup>

The effects of discrimination continue beyond schools, careers advice and hiring committees. For instance, those who start on a lower-career track, or are passed over for development and promotions at a young age, may experience a pay penalty relative to their equally qualified counterparts that multiplies with age. Our working hypothesis is that this explains at least some of the penalties found in this research. It is right that government bodies like Race Disparity Unit begin to grapple with these issues: understanding the suite of components that drive labour market inequalities and, crucially, developing policies to address it.

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[20] See for example: N Khattab, "Students' aspirations, expectations and school achievement: what really matters?," British Journal of Education Research, 21 January 2015; See for example: Cheung, S & A Heath, "[Nice Work If You Can Get It: Ethnic Penalties in Great Britain](#)," In Unequal Chances. Ethnic Minorities in Western Labour Markets, by A Heath & S Cheung (eds), Oxford University Press, 2007; G Catney & A Sabater, "[Ethnic minority disadvantage in the labour market](#)," Joseph Rowntree Foundation, March 2016

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[21] For the interaction of race and class, see: O Khan & F Shaheen, 'Race and Class in post-Brexit Britain,' Runnymede Trust, March 2017

## Section 5

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# Conclusion

The UK working-age population has experienced outstanding progress in educational attainment over recent decades, and men and women from ethnic minorities have been at the forefront of this. Equally, employment and real hourly pay has risen significantly, with ethnic minority groups on average experiencing a substantial improvement in this regard.

And yet, this report has shown that the 'Burning Injustices' the Prime Minister highlighted on the steps of 10 Downing Street are very real indeed. Employment gaps persist between people from different ethnicities, as do average levels of pay. More worryingly, while accounting for personal and work-related effects, like age, education and occupation can reduce some of these gaps, large differences remain.

We may expect some improvement over time; as populations become increasingly settled in the UK and qualification levels rise even further, some of the compositional factors that we know to reduce pay gaps could gather more strength. This can be supported by active intervention in areas that we know improve outcomes, such as helping young people onto better educational and career-related pathways or giving adults access to careers advice and development.

But this improvement is not guaranteed. The variation in penalties that exists between groups, their size and significance, and their persistence over time suggests more work needs to be done. Along with developing interventions that help boost people 'up' we also need a better understanding of the discrimination and disadvantage that could bring them 'down.' Government interest in this area is timely and welcome: policymakers and researchers have a challenge on their hands.

## Annex: Regression analysis

The approach we take in our regression analysis is specified as follows:

- » Results are calculated using estimated coefficients from an ordinary least squares regression of the natural logarithm of pay (CPIH-adjusted to 2017 prices) on an ethnicity and sex indicator.
- » Coefficients are converted to percentages and cash values following R Halverson & R Palmquist, 'The interpretation of dummy variables in semi logarithmic equations,' American Economic Review 70:3, 1979.
- » Raw differential (and all other specifications) include a dummy variable for each quarter of the year.
- » Region is a 12-category variable; qualification a seven-category variable based on highest qualification extending up to Master's degree-level; country of birth binary-category variable; ethnicity a five-category variable split by sex; full-time/part-time is a binary variable, experience is measured by age minus age of leaving education, occupation and industry are based on the standard coding at the one-digit level, experience (EMPLLEN) is based on an eight-category variable; public/private sector split is a binary variable; job contract length is based on a binary variable; degree class is based on a seven-category variable.
- » Qualifications are interacted with age, age squared and region.
- » All standard errors are robust to heteroscedasticity. \*, \*\* and \*\*\* indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.
- » Weighted using LFS income weights. Full results are set out in Tables 1 and 2.

# Resolution Foundation

*Resolution Foundation is an independent research and policy organisation. Our goal is to improve the lives of people with low to middle incomes by delivering change in areas where they are currently disadvantaged. We do this by:*

- » *undertaking research and economic analysis to understand the challenges facing people on a low to middle income;*
- » *developing practical and effective policy proposals; and*
- » *engaging with policy makers and stakeholders to influence decision-making and bring about change.*

*For more information on this report, contact:*

**Kathleen Henehan**

Research and Policy Analyst

[kathleen.henehan@resolutionfoundation.org](mailto:kathleen.henehan@resolutionfoundation.org)

020 3372 2980