

Resolution Foundation

Follow the money

Exploring the link between UK growth and workers' pay packets

Matthew Whittaker August 2019

info@resolutionfoundation.org +44 (0)203 372 2960 @resfoundation resolutionfoundation.org

Acknowledgements

The author is grateful to Brian Nolan and Anna Stansbury for helpful comments and pointers on an earlier draft of this paper. Of course, all errors remain the author's own.

This work contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

Download

This document is available to download as a free PDF at: <u>https://www.resolutionfoundation.org/publications/</u>

Citation

If you are using this document in your own writing, our preferred citation is: M Whittaker, Follow the money: Exploring the link between UK growth and workers' pay packets , Resolution Foundation, August 2019

Permission to share

This document is published under the <u>Creative Commons Attribution Non Commercial No</u> <u>Derivatives 3.0 England and Wales Licence</u>. This allows anyone to download, reuse, reprint, distribute, and/or copy Resolution Foundation publications without written permission subject to the conditions set out in the Creative Commons Licence. For commercial use, please contact: info@resolutionfoundation.org

Contents

5
16
16
10
18
າບ
~U 22
~~
24
24
26
27
30
30
33
34
39
40
43

Section 5: The growth of non-wage compensation – dealing with	
deficits	46
Non-wage compensation has grown in importance over time, particularly	10
Irom 1990 onwards	46
Recent growth stems primarily from an increase in employer pension	10
And much of this increase in pension contributions stoms in turn from	40
the need to plug scheme deficits	51
The rise of 'special' pension payments means that a significant part of	01
the growth of non-wage compensation is benefiting a very particular	
group of 'workers'	54
Rising non-wage compensation has partially offset the rising labour share	
since the turn of the century, meaning the overall wage share of income	
has drifted downwards	55
Section 6: Measurement matters – moving from macro to micro	
data	58
Switching from National Accounts to survey data changes the apparent	
scale and timing of decoupling in the UK	58
The use of a point estimate for inflation is a bigger factor than the change	
of data source	59
Section 7: The distribution of pay – from growing apart to	co
Widening wage in equality wag by far the biggost driver of the everall	04
decoupling of modian pay growth from productivity growth between 1080	
and 2018	63
Changes in working patterns mean weekly wage growth has been weaker	00
than hourly pay growth – especially at the bottom end of the distribution	65
Overall, the share of UK growth flowing to lower paid employees has	00
fallen by more than one-quarter since 1980	68
Section 8: Conclusion – productivity growth still matters	72

Executive Summary

With pay growth slowing across advanced economies in recent decades, some have concluded that a rising tide no longer lifts all boats

Such is the scale of the pay squeeze affecting employees in the UK over recent years that, after accounting for inflation, **median weekly pay remained lower in 2018 than it was in 2004**. The cumulative drop of 1.8 per cent recorded over this 14-year period is unprecedented in the UK in modern times, and stands in stark contrast to growth of 20.9 per cent over the preceding 14 years.

This pay squeeze owes much to the financial crisis, with the UK enduring a very sharp drop in wages in the immediate post-crisis years. But the subsequent pay recovery has been sluggish too and, relative to historical norms, pay growth was already slowing *before* the crisis hit. **There may be more than the crisis at play here** therefore. Particularly as it's a pattern that has been repeated elsewhere, with many other advanced economies suffering wage slowdowns that have been less severe but more prolonged than the UK's. In the US for example, real-terms median weekly pay has grown by just 9.1 per cent over the entirety of the period since 1972.

This shared experience of prolonged pay growth slowdown across countries lends itself to the notion that there is some common structural cause sitting behind the phenomenon. One oft-cited possibility is the presence of a 'decoupling' between productivity growth and median pay growth that is affecting all advanced economies. That is, the notion that the gains from economic growth no longer flow smoothly through to the pockets of employees in the middle of the pay distribution in the way they did over the post-WWII decades.

Certainly the US experience lends itself well to this argument, with the 45year stagnation in median pay standing in sharp contrast to sustained strong growth in output per hour worked. The divergence has been less dramatic elsewhere, but the OECD has identified something similar going on across two-thirds of countries in the period since the mid-1990s. But what of the UK experience? Has the UK followed the US example over the longer term? And does decoupling offer a good explanation of the wage slowdown faced here over the past decade and a half?

Median pay growth does appear to have 'decoupled' from productivity growth in the UK in recent decades – but the story is far from straightforward

On the face of it, decoupling *is* present in the UK economy. But **on closer inspection the UK story looks somewhat unlike the US experience, with apparent differences of scale, timing and cause**. Here, the difference between productivity growth and median employee pay growth over the period from 1980 to 2018 stood at 24.4 percentage points – a gap that is less than half the 58.2 percentage point divergence recorded in the US over the same period. And, unlike the US where decoupling appears to have been present since the early-1970s, a sustained gap between productivity and median pay growth only really arrives in the UK after 1990. This divergence has also been driven (and pushed back against) by a variety of different factors that have waxed and waned – and often changed direction – over the period.

Table 1 offers more detail, splitting the divergence between output per hour and hourly pay in the UK into its five composite points of potential 'leakage'. Alongside the full 38-year period, it also presents results for the scale and composition of decoupling in three distinct business cycles: 1980-1990, 1990-2008 and 2008-2018. It shows that, over the longer term, the UK's 24.4 percentage point decoupling was a product of:

- a fall in the share of national income flowing to employees in the form of labour compensation (the **'labour share' effect** accounting for 4.7 percentage points, or 19 per cent of the total decoupling);
- a push back in the opposite direction associated with divergence between producer and consumer deflators (the **'deflator' effect** lowering the decoupling total by 1.4 percentage points);
- a fall in the share of overall employee compensation being paid out in the form of wages (the **'wage share' effect** – accounting for 8.4 percentage points, or 34 per cent of the total);
- a sizeable second offset associated with switching from National Accounts data to pay survey data (the 'measurement' effect – reducing the decoupling total by 10.4 percentage points); and
- widening hourly pay inequality (the **'distribution' effect** accounting for 23.1 percentage points, or nearly all (95 per cent) of the total decoupling).

Table 1: Contributions to percentage point difference between growth in output per hour and median hourly pay, UK

	Overall decoupling	Labour share effect	Deflator effect	Wage share effect	Measurement effect	Distribution effect
1980-2018	24.4ppt	4.7ppt	-1.4ppt	8.4ppt	-10.4ppt	23.1ppt
1980-1990	-2.0ppt	12.5ppt	-11.3ppt	-2.3ppt	-8.6ppt	7.8ppt
1990-2008	14.5ppt	-10.5ppt	4.5ppt	8.5ppt	1.9ppt	10.1ppt
2008-2018	4.8ppt	-1.1ppt	5.8ppt	0.7ppt	-0.4ppt	-0.3ppt

Notes: 'Overall decoupling' refers to the percentage point difference in growth recorded between total GVA per hour worked at basic prices (deflated using the GVA-deflator) and median hourly employee pay (deflated using the CPIH deflator). CPIH is only available as a 'National Statistic' from 2005 onwards and is a modelled series before this date. We reset the productivity and pay indices to 100 at the start of each sub-period, meaning the sub-period decoupling totals don't sum to the total for the 1980-2018 period.

Source: RF analysis of ONS, National Accounts, ONS, Annual Survey of Hours and Earnings and ONS, New Earnings Survey

Above all else, what's clear is that **the importance of each of the different potential points of 'leakage' has varied across the periods**, with all of the effects switching direction at least once and all going through at least one phase in which they had very little impact.

- Headline level decoupling was absent in the 1980-1990 period, but only because of the deflator and measurement effects. The forces which are often thought of as the 'classic' culprits of decoupling a falling labour share and widening pay disparity were in evidence.
- However, the labour share effect pulled in entirely the opposite direction in the 1990-2008 period – boosting labour compensation relative to productivity. The pay distribution effect again contributed to the divergence of productivity and pay growth, but this time around the wage share effect also played a significant role. So employees as a whole gained relative to capital owners in this phase – an outcome that runs counter to many people's impression of the phenomenon of decoupling – but they received relatively less of their reward in the form of pay and median pay growth lagged the mean.

• The post-crisis decade from 2008 to 2018 was different again, with decoupling stemming entirely from the deflator effect. In this period, both the labour share and distribution effects – the 'classic' decoupling culprits – pulled in the opposite direction, reducing the divergence between productivity and median pay growth.

The implication of the contrast in this story from the US one is that **the** nature of the UK's apparent decoupling has shifted somewhat over time – cautioning against any simplistic conclusion about the breakdown of the link between productivity and pay.

This cycle-by-cycle breakdown also highlights the relatively muted role played by decoupling after 2008. Divergence of 4.8 percentage points in this phase appears small relative to the 14.5 percentage point decoupling recorded in the (admittedly longer) 1990-2008 period – a time when wages for the most part grew relatively strongly. **The decoupling phenomenon does not therefore on its own appear to offer an especially good explanation of the UK's recent wage slowdown.**

The UK decoupling story then, is more complex than it might at first appear. Digging into what lies beneath it can shed light on what has, and hasn't, influenced pay growth in recent decades.

The UK's labour share has fallen over the longer term, but more marginally than we have seen elsewhere – with the share growing since the mid-1990s

In many countries a declining labour share is believed to sit at the very heart of the decoupling story, with the forces of globalisation, technological progress and diminished worker power assumed to have combined to shrink the portion of overall economic gains flowing to employees. But the **labour share explains only one-fifth of the UK decoupling story** between 1980 and 2018, and has pushed in the opposite direction for much of the period. UK decoupling does not then appear to be primarily a story of a growing imbalance between capitalists and employees.

The UK's labour share *has* fallen since 1980, but it has dropped by much less than has been observed in other countries. Indeed, having fallen sharply in the period to 1996, it subsequently rebounded in a way not seen elsewhere. By 2002 it was broadly back in line with the rate recorded at the beginning of the 1980s, and has remained on a relatively even keel since then: by the start of 2019, the UK's labour share was just 1.1 percentage points down on its level at the start of 1980. Measured on a three-year rolling average basis, the **2.6 per cent reduction in the UK's labour share between 1980 and 2018**

compares with falls of 7.6 per cent in the US, 11.5 per cent in Germany, 12.1 per cent in France, 16.9 per cent in Australia and 20.5 per cent in Japan.

Given the UK has been no less exposed to the economic challenges assumed to underpin labour share decline in other countries over recent decades, this exceptionalism is worth digging into. It does not appear to be the product of any shift in the UK's industrial mix or of outlier performance in any one sector. The declining importance of the relatively high labour share sector of manufacturing *did* drag on the aggregate share after 1996, but this was offset by the growth of other above-average labour share sectors like information and communication, professional and technical activities and public administration. Overall, **compositional changes accounted for just 15 per cent of the overall 6 percentage point increase in labour share recorded between 1996 and 2018**.

The implication is that the shift stemmed instead from economy-wide factors. A tightening labour market – with the 16-64 employment rate rising from 69.9 per cent in 1996 to 72.7 per cent in 2002 - is likely to have played a key role, by strengthening the bargaining power of workers in this period. The arrival of a Labour government in 1997 might also have contributed, by providing at least a partial re-strengthening of the union hand. Perhaps more concretely though, it seems likely that the introduction and development of the National Minimum Wage directed an increasing share of the income pie to workers. Subsequent productivity improvements in firms meant this served as a one-off step change in the labour share, rather than continuing to drive it upwards. However, this is unlikely to be the only explanation - with rising labour shares observed in higher-paying sectors as well as lower paying ones, and with the rise pre-dating the introduction of the wage floor in 1999. As discussed below, the rise in the labour share from the mid-1990s may also be the product of a potential mis-capturing of what constitutes 'employee compensation' in this period.

Over the longer term, workers in the UK have enjoyed a terms of trade boost that raised pay relative to productivity – but this effect has reversed more recently

The GVA deflator used to adjust the productivity time series captures the change in prices of all domestically-produced goods (including those that are sold and consumed abroad), whereas the consumer deflator captures the change in prices paid by households when doing their weekly shop (including those goods and services that are imported from elsewhere). Divergence between the two alters the value of consumption relative to output, leaving workers facing either a terms of trade drag (where the cost of consumption rises more quickly than the value of production) or a terms of trade boost (where each unit of production affords them more consumption).

Such divergence plays an important part in the US decoupling story over the last four decades, with consumer prices rising consistently faster than producer ones and leaving workers facing a terms of trade drag. The UK story is more nuanced, however. **Here the deflator effect produced a very modest push back against decoupling over the longer run. But this headline masks a shift from a very marked terms of trade boost in the 1980s, to a drag that has pulled especially strongly in the post-crisis decade. The more recent effect was prompted initially by the sharp drop in the value of the pound that arrived with the crisis (reflecting the UK's particular exposure to a financial market slowdown)**, which had the effect of increasing the cost of imported consumption in 2010-12. It was then compounded by the more modest – but still sizeable – devaluation that followed the EU referendum of 2016.

This is a real effect, with genuine, negative consequences for pay growth. But we should be careful in our interpretation. Taking a long view, there is nothing to suggest that the deflator effect should serve as a permanent barrier to employees being rewarded for the fruits of their labour in the UK. And the scale of this effect is sensitive to our choice of consumer deflator, with the absence of a consistent National Statistics-badged measure over the period from 1980 introducing considerable uncertainty to our analysis.

What is clear however, is that global shocks can be felt asymmetrically – with the nature of the last downturn going a long way to explaining why the pay squeeze was more tightly felt in the UK than in many other countries. The shape of the next UK recession, when it comes, will therefore determine whether it results in more or less deflator-led decoupling.

The growth of non-wage compensation – and in particular employer pension contributions – has played an unusually large role in the UK decoupling story

In the same way that the UK stands out internationally by recording only a modest drop in its labour share over recent decades, so its experience in relation to the growing importance of non-wage elements of employee compensation warrants comment. The share of overall compensation accounted for by factors such as employer National Insurance and pension contributions jumped from 13.4 per cent at the start of 1980 to 17.2 per cent by the start of 2019. It's this rise which explains why the wage share effect contributed substantially more to UK decoupling between 1980 and 2018 (34 per cent) than the labour share effect (19 per cent) did.

Most of the wage share effect was delivered after 1990, with the share of compensation accounted for by such elements rising by 5.4 percentage points in this period alone (the non-wage share of compensation had fallen to a low of just 11.7 per cent by the middle of 1990). This rise was, in turn, primarily the product of increases in employer pension contributions: **the increase in non-wage compensation in 2018 relative to the 1980 level was equivalent to around £55 billion, with roughly two-thirds (£37 billion) of the difference stemming from pension contributions.**

At first glance this is a somewhat surprising finding, given that this period was characterised by a very marked shift in workplace pension coverage from defined benefit (DB) to defined contribution (DC) schemes – with the latter attracting substantially lower employer contributions on average than DB schemes do. The increase in the non-wage share of compensation accounted for by pension contributions in this period therefore owed much to emergence, and subsequent plugging, of sizeable DB scheme deficits from around 2000.

These deficits arose as a result of faltering equity market performance, rising longevity and falling interest rates, with roughly 70 per cent of DB schemes recorded as being in deficit in any month between 2006 and 2018. Being legally obliged to plug these deficits, firms increasingly made 'special contributions': such payments went from accounting for an average of 17 per cent of overall employer pension contributions before 2000 to a peak of 46 per cent in 2012, and an overall post-2000 average of 32 per cent. These 'special' deficit payments accounted for 28 per cent (1.5 percentage points) of the overall 5.4 percentage point increase in the share of compensation accounted for by non-wage elements recorded between 1990 and 2018.

With the vast majority of DB schemes in the private sector closed to new entrants (just 12 per cent of schemes allow new members, and 41 per cent are also closed to any new benefit accrual by existing members), the main beneficiaries of deficit-plugging are older and often already-retired (41 per cent of DB scheme members have already retired) workers. **As such, a sizeable share of the rise in non-wage compensation is likely to be offlimits to large numbers of today's employees – raising the prospect that we might want to think about this as being something other than 'labour' compensation**. To put it another way, if firms are lowering profits in order to plug pension deficits, at least some of the rise in the UK's labour share from the mid-1990s might be accounted for by payments which don't actually benefit today's workers. But 'normal' DC contributions accounted for another quarter (1.4 percentage points) of the post-1990 increase in the non-wage share of compensation, and these *do* represent genuine deferred payments for younger employees. Likewise, increased employer National Insurance contributions (NICs) made up a further quarter (1.3 percentage points) of the non-wage rise. Once again the interpretation of this key part of the UK decoupling story is far from straightforward.

The UK's reduced wage share of income has been compounded for lower earners by a sharp rise in earnings inequality – though compositional factors are also at play

The final step in the decoupling story takes us from a focus on how the gains from growth are shared between capitalists and workers, to how the overall wage share gets divided across employees. And it is a major part of the story: the distribution effect accounted for 95 per cent of the 24.4 percentage point gap that opened up between productivity growth and hourly pay growth between 1980 and 2018.

So important is the distribution effect that **the decoupling we observe when focusing on median pay converts into a positive gap (that is, pay rising more quickly than output per hour) of 10.6 percentage points when we instead consider hourly pay growth at the 90th percentile of the earnings distribution.** In contrast, the divergence between pay and productivity widens to 33.3 percentage points when hourly pay at percentile 25 is instead used. Moving further down the pay scale however, the magnitude of decoupling heads back towards that recorded at the median – with pay growth at percentile 10 lagging productivity growth by 23.8 percentage points.

This pattern flows from a U-shape of hourly pay growth over the past four decades. Between 1980 and 2018, hourly pay grew by 2.2 per cent a year in real terms in the top decile and by 1.5 per cent a year in the bottom decile, but by just 1.3 per cent a year between percentile 10 and the median.

This longer-term pattern is in turn made up of some important shifts over the course of the different business cycles under consideration. Hourly pay growth was straightforwardly regressive between 1980 and 1990, with pay growing fastest at the top (4.2 per cent a year in the top decile) and slowest at the bottom (1.6 per cent a year in the bottom decile). The U-shape of the full period most closely matches the 1990-2008 cycle, with the introduction of the National Minimum Wage helping to ensure that average annual pay growth at percentile 3 (2.2 per cent) outpaced growth at percentile 90 (2.1 per cent) for instance. More recently, the post-crisis decade was characterised by a slight narrowing of pay inequality – but set against the context of negative pay growth across all but the bottom quarter of the hourly distribution.

The patterns look different again when focusing instead on weekly pay – a measure that moves us away from the story of decoupling, but which is more relevant to the broader argument sometimes advanced about the growing unevenness of the distribution of the gains from growth across workers. Here pay growth has been weaker in general than that recorded for hourly pay, but especially so towards the bottom of the distribution. Taking the 1980-2018 period as a whole, average growth of 1.9 per cent in the top decile compares with an average of just 0.1 per cent a year in the bottom decile for instance.

Sitting behind this difference between hourly and weekly pay growth is a shift in working patterns. Average weekly hours have fallen over time, but most especially among lower-paid employees – with the pattern most pronounced among men. This trend is the product of both a fall in the average hours being worked each week by full-time workers and a marked increase in the prevalence of part-time working, and may well reflect desired changes in working patterns within and across households. As such, **the pattern of pay growth we see across the weekly earnings distribution in this period will in part reflect compositional changes – the low-paid workers of today are not the same as those of yesteryear.** Notwithstanding this however, the fact that the weekly wage received at the bottom end of the earnings distribution has barely changed in four decades – in very clear contrast to all other parts of the distribution – remains a big deal.

What we can say for certain is that the weekly pay of lower earners is accounting for a smaller share of overall national income than it used to, while the opposite is true for higher earners. Between 1980 and 2018, the share of GVA paid as wages to the bottom half of employees fell from 14.1 per cent to 10.8 per cent – a drop of 23 per cent. In contrast, the top 10 per cent's wage share of GVA increased by 20 per cent (from 10.5 per cent to 12.6 per cent). The largest gain came at the very top however, with the share of GVA paid out in salaries to the top 1 per cent of employees increasing by 63 per cent (from 1.7 per cent to 2.8 per cent).

A rising tide *can* still lift all boats, with the UK's decoupling experience highlighting the importance of restoring productivity growth

The UK's experience of decoupling differs in important ways from that exhibited in many other advanced economies in recent decades, in

particular the US. The labour share has fallen, but by less than elsewhere; producer and consumer deflators have diverged in a way that has provided a terms of trade boost over the longer period that stands in direct contrast to the US experience; and non-wage compensation has grown in importance since 1990, such that it has contributed significantly more to the decoupling of pay growth from productivity growth than the declining labour share has.

Where the UK experience has chimed most closely with the US is in relation to the relatively poor performance of median pay relative to mean. Even here though the UK looks a little different, with a strong minimum wage policy helping to support hourly pay growth at the bottom of the distribution and so contributing to a U-shape pattern.

The slight narrowing of pay inequality and the absence of any further labour share effect in the post-crisis decade means that decoupling has played only a limited role in this phase. Instead, what we've seen is a significant terms of trade adjustment that has reflected an expectation of long-run damage to UK productivity associated with the financial crisis (and more recently Brexit). The implication is that **decoupling cannot on its own explain the wage slowdown endured in this period. Instead, it remains the case that productivity growth is of central importance to pay growth**.

The relatively muted scale of headline decoupling in the UK over the last four decades masks a complex and unusual story. It is a story which, once we scratch beneath the surface, offers four key lessons. First, **the UK isn't the US**: some form of decoupling may be present across a number of advanced economies, but the variety of experiences on display caution against drawing any simplistic conclusions about what this means for the longevity of the relationship between productivity and pay growth.

Second, **earnings inequality is a big part of the story**: the gap between the top and bottom of the earnings distribution may not have widened in recent years, but it remains much larger than it once was. And changing patterns of working shift what it feels like to sit towards the bottom end of the weekly pay distribution – with a profound effect on people's *sense* of labour market equity.

Third, we don't know enough about what lifted the UK's labour share in the late-1990s and early-2000s: it may be a combination of strengthening labour market institutions and the potential mis-labelling of pension deficit payments as employee compensation, but better understanding what happened could yield important lessons for the future.

Fourth, if we follow the money from the aggregate down to the level of the individual worker, the size of the pie matters as much as how it is shared. So we should aim always to avoid big recessions. And given where we find ourselves today, we must above all else find a way of ending our productivity stagnation.

Section 1

Introduction

The UK has faced an unprecedented wage stagnation over the past 15 years, driven in no small part by the country's particular exposure to the global financial crisis. However, there are signs that a slowdown in pay growth was forming even before the start of the crisis. And the UK is far from alone in facing this earnings pressure, with median pay in the US almost unchanged over the past four decades for instance. Many economists have therefore focused on potential structural drivers – including globalisation, technological growth and falls in worker power – that have been commonly felt across advanced economies and might be evidenced by the trend towards cross-country 'decoupling' of pay growth from productivity growth.

In this report we revisit the experience of decoupling in the UK context over the longer term, to both compare the UK experience with the US one and see what trends over the last 15 years can tell us about the drivers of our pay growth slowdown. We consider what sits behind the UK picture by digging in detail into the various points of potential 'leakage' between output and median pay, including changes in the labour share of national income, changes in the wage and non-wage composition of overall employee compensation, differences in producer and consumer deflators and trends in pay inequality.

Slowing pay growth is not limited to either the UK or the postcrisis period, prompting a search for common structural causes across countries

A decade on from the start of the financial crisis, the UK labour market has changed in a number of important ways. Most obviously, the number of people in work (both in absolute terms and relative to the size of the working-age population) has risen to record levels. But the composition of the workforce and the types of jobs being completed have also shifted. Occupational upgrading has persisted, with jobs at the top of the earnings distribution undergoing the most rapid expansion in number. Yet there has also been a very marked increase in various forms of 'atypical' working (such as self-employment and agency working), with associated implications for levels of job security.^[1] Whatever the relative merits of these different developments, the overall increase in employment – which has been especially pronounced among lower-income households and those who typically face participation barriers (such as ethnic minorities and those with disabilities) – is incontrovertibly positive. However, the flipside of the apparent jobs 'boom' of the post-crisis period is an equally inconvertibly negative pay squeeze.

Figure 1 sets the post-crisis squeeze in historical context, showing how real-terms median (or 'typical') hourly and weekly pay have evolved since 1980. Hourly pay has tended to grow more quickly than weekly pay, reflecting a structural decline in average working hours. But on both measures the disaster of the post-crisis decade stands out.

Figure 1: Weekly median pay remained lower in 2018 than it was in 2004



Indices of real-terms median pay among employees, CPIH-adjusted, 1980=100: UK

Notes: CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI. Source: ONS, Annual Survey of Hours and Earnings and New Earnings Survey, various; ONS, Consumer Prices Index including owner occupiers' housing costs (CPIH) historical series: 1988 to 2004, December 2018

Median hourly pay increased by an average 2.6 per cent a year over the 1980-1990 economic cycle, and by 1.7 per cent over the 1990-2008 phase. But average year-on-year growth in the period since the start of the financial crisis has been negative, dropping to -0.2 per cent a year. This result is driven by consistent falls in real-terms pay between 2008 and 2014. But even if we focus on just the final four years of the period – when wage growth had returned at the median – the annual average stands at just 1.0 per cent (that is, still well below the averages recorded across the *entirety* of the economic cycle in earlier periods).

And it's a similar picture in relation to weekly pay, with annual growth falling from an average of 2.3 per cent in the 1980-1990 cycle and 1.2 per cent in the 1990-2008 one, to -0.4 per cent in the 2008-2018 period.

This is a much commented on development, and one the Resolution Foundation has done a great deal of work on. As we have argued, there are numerous different drivers which have varied in importance in different parts of the post-crisis period.^[2] However, it is also worth noting that a slowdown in pay growth is something that has affected many different advanced economies.^[3] And in many instances (including in the UK, as Figure 1 highlights) such slowdowns pre-dated the start of the financial crisis. With that in mind, it is worth exploring the extent to which common structural shifts at play across different countries can explain the UK experience.

Cross-country evidence of a decoupling of pay and productivity growth has caused some to conclude that a rising tide no longer lifts all boats

One oft-cited phenomenon is that of 'decoupling', whereby pay growth has become somehow detached from broader economic growth within a country. Given the centrality of a country's workers to its national output we would, on the face of it, expect there to be a close relationship between the income generated by each hour of work (productivity) and the hourly pay received by the labour force – with the relationship potentially working both ways (productivity growth driving pay, and pay growth driving productivity). Any breakdown in this relationship is therefore worth digging into – particularly if it helps to explain the pay growth slowdowns experienced across advanced economies in recent decades.

The US provides the most famous case study of the phenomenon. Figure 2 presents data from the Economic Policy Institute which compares growth in net (i.e. after depreciation) output per hour across the entire economy (adjusted using the GDP deflator) with growth in median pay (deflated using the consumer price index). It shows that median pay growth flat-lined in the US from the early-1970s, breaking the apparent relationship between productivity growth and compensation that had been in place in the post-war decades.^[4]

The OECD has shown that decoupling is similarly evident across a number (two-thirds of those studied) of advanced economies over the period from the mid-1990s.^[5] In some instances (such as Korea, Poland and the Slovak Republic), productivity growth has been strong enough to mean that decoupling has been consistent with above-average rates of

^[2] See for example S Clarke & P Gregg, <u>Count the pennies: Explaining a decade of lost pay growth</u>, Resolution Foundation, October 2018 for a detailed discussion of the various drivers of the pay squeeze and subsequent sluggish recovery.
[3] A Cormier, M Francis, K Hess & G Poulin-Bellisle, <u>Drivers of Weak Wage Growth in Advanced Economies</u>, Bank of Canada Staff Analytical Note 2019-3, 2019

^[4] Here we focus on output and median pay, for the purposes of comparison with the UK experience. But much US analysis focuses on compensation instead of pay. This reflects the fact that the vast majority of non-wage compensation in the US is made up of employer health insurance contributions, which most commentators believe are best considered as part of an employee's current pay package. However, the non-wage share has been broadly stable over this period, so the decoupling outcome is little altered by this distinction. See A Stansbury & L H Summers, *Productivity and Pay: Is the Link Broken?*, Peterson Institute for International Economics Working Paper, June 2018 for more discussion of the US experience.

^{[5] &}quot;<u>Decoupling of wages from productivity: what implications for public policies?</u>" Chapter 2 in OECD Economic Outlook, Volume 2018 Issue 2, 2018

wage growth. However, in many other cases (such as Canada and Japan) the pay outcome more closely resembles the US picture. Faced with such evidence, some economists have concluded that raising productivity is no longer sufficient to lift real wages for typical workers.^[6]

Figure 2: Earnings have very clearly decoupled from economic growth in the US



Indices of real-terms median pay and labour productivity, 1980=100: US

Notes: Wages from the CPS ORG are the hourly wages of a population subsample that includes all wage and salary workers with valid wage and hour data, whether paid weekly or by the hour. In order to be included, respondents had to be 16 and older and employed in the public or private sector (i.e. the self-employed were excluded). Net productivity of the total economy covers the growth of output of goods and services less depreciation per hour worked. Output is deflated using the GDP deflator, while pay is deflated using the CPU-U-RS deflator (covering the inflation experienced by urban consumers, measured as an average across US cities).

Source: The Economic Policy Institute's State of Working America Data Library

But what is the UK experience? We have reported on this before, including as part of the two-year Commission on Living Standards that concluded in 2012.^[7] But in the years since, new data has been released, old data has been (sometimes significantly) revised^[8] and interest in the area has increased.^[9] In this report we therefore provide an update of our past work by way of considering both the extent to which the UK has or hasn't followed the US trend over the longer period and the extent to which we might pin the UK's pay growth slowdown on decoupling.

^[6] See for instance, C Schwellnus, A Kappeler & P Pionnier, <u>Decoupling of wages from productivity: macro-level facts</u>, OECD Economics Department Working Papers No. 1373, ECO/WKP(2017)5, January 2017

^[7] See J Van Reenen & J P Pessoa, <u>Decoupling of Wage Growth and Productivity Growth? Myth and Reality</u>, Resolution Foundation, February 2012; J Plunkett, <u>Gaining from growth: The final report of the Commission on Living Standards</u>, Resolution Foundation, October 2012

^[8] See for example, ONS, <u>National Accounts articles: Analysis of revisions in Blue Books and Pink Books</u>, 2017, March 2018. Changes in the GVA deflator have, for instance, boosted the real-terms growth of employee compensation since roughly the turn of the century in a way that hasn't been observed for real-terms GVA. This has had the effect of raising the labour share over this period relative to earlier estimates.

See for example: IPPR, <u>Prosperity and Justice: A Plan for the New Economy: The final report of the IPPR Commission on Economic Justice</u>, September 2018; A Haldane, <u>Labour's Share</u>, speech at Trades Union Congress, Bank of England, 12 November 2015; "<u>Decoupling of wages from productivity: what implications for public policies?</u>" Chapter 2 in OECD Economic Outlook, Volume 2018 Issue 2, 2018.

'Following the money' from aggregate value added to typical employee pay reveals a number of sources of potential 'leakage'

Taking the income approach to measuring GDP,^[10] we can look in a very mechanical way at the relationship between national output and worker pay. It is, of course, less straightforward than it might at first seem – not least because decoupling analysis focuses not on aggregates, but on the link between output per hour and median pay per hour, with some conceptual differences at play here. As Figure 3 shows, there are various key points of potential 'leakage' between aggregate output and the pay received in particular parts of the employee earnings distribution.



Figure 3: There are five potential points of 'leakage' between national output and median employee pay

Source: ONS, National Accounts

^[10] As opposed to either the 'expenditure approach' or the 'output approach'. Technically, we also remove taxes and subsidies from GDP in order to focus on production at basic prices. This gross value added (GVA) measure therefore captures the value that is generated by any unit engaged in production (for example, an employee at work or a machine producing goods), and covers both the private and public sectors.

There are five steps of interest:

- As a first step we can think of the value generated by the economy being split between either owners of capital (capital income^[11]) or providers of labour (employee compensation), with Figure 3 showing that the share of GVA flowing to employees stood at 55 per cent in 2018. There is therefore the potential for an increase in GVA to *not* feed through to pay if, in the first instance, a disproportional amount of it accrues instead to owners of capital (lowering the 'labour share' of income).
- Secondly, there is a potential 'deflator' effect associated with adjusting gross value added and employee compensation for inflation. Adjusting the former requires the use of a production deflator (covering all domestically-produced outputs, including exports), while adjusting the latter requires the use of a consumption deflator (covering all domestically-bought goods, including imports). These deflators can differ, even over the longer-term, raising the possibility that a given change in the value of national income might prompt a differing change in the value of employee compensation.
- The third step splits the overall pot of employee compensation (now deflated with a consumer deflator) into wages and salaries and other elements of compensation (such as employer pension contributions). It is of course the 'wage share' that matters to the immediate pay prospects of employees, with the potential for any increase in national income to 'leak' away from pay thanks to a growth in the share of overall compensation accounted for by non-wage elements.
- Step four is a technical one, reflecting the potential 'measurement' effect arising from the fact that GVA data and median pay data come from different sources. The former is sourced from National Accounts, and can be tracked all the way through to the overall pot of wages and salaries. But in order to identify the distribution of this pot (and chart median instead of average pay, as per the standard decoupling approach) we must switch to survey data. Additionally, this survey measure covers a different period. It captures the circumstances of survey respondents in the relevant April, as opposed to the year-to-Q2 average used in relation to the National Accounts measures. Reflecting this, we also switch from using a full-year average CPIH deflator, to the appropriate single-month April figure. Over the longer run, we would expect the two sources to show broadly similar trends. But there is again the potential for divergence especially over shorter periods.
- The final step covers the 'distribution' effect that flows from the division of the overall pot of wages and salaries between different groups of workers. If wage inequality is rising, then we would expect median pay growth to lag mean pay growth, thereby introducing another potential point of decoupling. More broadly, we can use the distribution effect to consider how the overall gains from economic growth are being shared across employees. Figure 3 shows that the share of GVA

[11] In this simplified version, 'capital' income also incorporates 'mixed' income – which covers both capital and labour income among the self-employed. We look at alternative definitions in more detail in Section 3.

flowing as pay to employees in the year to Q2 2018 ranged from 12 per cent for those in the top 10 per cent of the earnings distribution to 1 per cent for those in the bottom 10 per cent.

The fact that we can identify these potential points of 'leakage' between national income and median pay means that we must focus not just on whether we can see evidence of decoupling in a country, but also on what is driving it. At the very least, the appropriate policy responses associated with such different drivers are likely to differ.

If it is primarily the product of a declining labour share, then we might look at what this tells us about the relative power of workers versus the owners of capital. Is a fall in union coverage facilitating increased rent extraction by employers for instance? Or is a declining labour share the inevitable by-product of the twin forces of globalisation and technological progress – with the associated increase in offshoring of activity and favouring of high-return capital over labour? If decoupling is instead driven by differences between producer and consumer deflators, then we should consider whether these are structural or temporary – that is, has a devaluation created a one-off terms of trade drag for workers (who must pay more for imported goods) that will be reversed in the fullness of time, or is the effect here to stay? If the decoupling of median pay from productivity is instead associated primarily with the distribution effect then we might conclude that we face less a problem of declining worker power overall and more an issue of asymmetry of power – with technological advances (via skills-biased technical change) again a potential factor.^[12]

And if we are to accept that decoupling is an international phenomenon that is playing out across advanced economies for structural reasons, then we would expect to see the same forces driving the trend again and again. If we do not, then we must instead place more emphasis on the country-specific circumstances we observe – with the implication that decoupling is not inevitable.

Navigating this report

That then, is the purpose of this report – an investigation into the evidence for and drivers of decoupling in the UK over the longer term, both to compare our experience with that observed elsewhere (especially the US) and to better understand what lies beneath our recent wage slowdown.

We start, in Section 2, by exploring the extent to which median pay in the UK has or hasn't appeared to diverge from productivity growth in the period since 1980.^[13] In doing so, we

^[12] For more detailed discussion see for example the distinction drawn between 'net' and 'gross' decoupling in J P Pessoa & J Van Reenen, <u>Decoupling of Wage Growth and Productivity Growth? Myth and Reality</u>, CEP Discussion Paper No 1246, October 2013.

^[13] Earlier work (see J Van Reenen & J P Pessoa, <u>Decoupling of Wage Growth and Productivity Growth? Myth and Reality</u>, Resolution Foundation, February 2012) has taken 1972 as the start point for analysis. We choose to start later due to data quality concerns for the earlier period. The gap we observe between producer and consumer deflators between 1972 and 1980 has a very large impact on the decoupling story in this period (casting a shadow over the longer term too), but it rests on a constructed CPIH deflator which is very uncertain. Using the directly observed RPI deflator instead changes the story very significantly and, while the RPI no longer has National Statistics status and therefore can't reliably be used, this causes us to question the validity of our CPIH finding during what was a period of very high and volatile inflation. By starting in 1980, we begin our analysis in a recession – prompting us to further split our longer focus into three business cycles (beginning 1980, 1990 and 2008) which each start in economic downturn.

are clear that this simple accounting approach provides only a partial analysis of what has underpinned trends in pay in the UK in recent years. Nevertheless, we believe that following the money in this way provides useful insights into the relative importance of different drivers. It highlights also the way in which the challenge of ensuring growth feeds through to pay in the UK has both shifted over time and differed from that experienced by many other countries. We outline also the relative importance of the different sources of 'leakage' that can occur between aggregate output and median pay.

We then explore each of the five potential 'leaks' in more detail, focusing on the changing role they have each played in different periods over the last four decades:

- We look in **Section 3** at trends in the UK labour share of income, considering too the effect of different approaches to defining this share;
- **Section 4** explores differences between producer and consumer price indices, including the extent to which such differences represent a genuine barrier between aggregate growth and individual gain;
- In **Section 5** we focus on the split between wage and non-wage elements of total employee compensation, with a particular emphasis on recent trends in employer pension contributions;
- **Section 6** provides a brief overview of the coverage and timing differences between the National Accounts and Annual Survey of Hours and Earnings pay data that explain the measurement effect.
- We turn in **Section 7** to consider how the overall wage pot has been shared between employees over time, reflecting on both changes in wage distributions and levels of growth. Bringing all this together, we record how the shares of overall economic output that flow to the pay packets of employees in different parts of the earnings distribution have shifted over the long-term.

We draw some conclusions in **Section 8**.

Section 2

The decoupling of pay and productivity growth in the UK context

The decoupling of median pay growth from productivity growth does appear to have been a feature of the UK economy between 1980 and 2018, but there are three important differences from the US experience. First, there is the scale of the effect. Median pay grew by 24.4 percentage points less than output per hour in the UK over the period – a wedge that is less than half the 58.2 percentage point decoupling recorded in the US over the same years. Secondly there is the timing. Decoupling has been present in the US economy since the early-1970s, but productivity and pay only appeared to diverge in the UK after 1990. Thirdly – and perhaps most importantly – there is what sits beneath the headline decoupling. In moving step-by-step from output per hour to median hourly pay growth we can identify significant effects that push and pull in different directions and to differing magnitudes across the three business cycles that have played out since 1980.

The implication is that we should avoid drawing any simplistic conclusions about the nature of decoupling in the UK – that is necessarily the same as the US for instance – and that we should instead spend time looking in more detail at each of the different elements that underpin the relationship between productivity and median pay.

Decoupling *does* appear to have occurred in the UK, but the pattern is different from that observed in the US

Turning first to the overall question of whether or not decoupling has occurred in the UK, Figure 4 repeats the analysis undertaken in relation to the US in Figure 2. Once again, we observe a clear divergence between productivity growth and median pay growth over the longer period. The gap opening up between 1980 and 2018 equated to 24.4 percentage points, with productivity growing by around 94 per cent and median pay growing by about 70 per cent.

Resolution Foundation | Follow the money

The decoupling of pay and productivity growth in the UK context





Notes: Data cover hourly wages of all employees and total output (GVA at basic prices) per hour worked by all workers (including the self-employed). Output is deflated using the GVA deflator, while pay is deflated using the CPIH deflator. CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI. Median wage data refers to April, so we contrast this with GVA in each year in the four quarters ending Q2 (on the basis that pay is a product of observed, rather than projected, productivity).

Source: RF analysis of ONS, National Accounts; ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

The magnitude of this divergence is significantly smaller than that recorded in the US however, where a gap of 58.2 percentage points opened up over the same period. And the timing of the divergence differs in the UK too. We saw in Figure 2 that decoupling was a feature of the US economy across the entirety of the period from 1980 (starting earlier still, in 1972). But it is only after 1990 that a sustained gap appears to open up in the UK.

It is also worth noting that US decoupling has corresponded with almost zero growth in median pay: that is, it appears to be a story of productivity growth persistently failing to feed through to pay growth in any way. In the UK by contrast, the picture is more nuanced. Pay and productivity have diverged, but wages grew for most of the period. It is only in the post-crisis period that median pay fails to grow; first falling and then flat lining. But this period was also marked by a significant slowdown in productivity growth itself – contrasting once again with the US experience.

Digging beneath the headline UK trend reveals there is much going on

The differing patterns observed in the US and UK caution against any simplistic assumption that the decoupling stories are the same in the two countries. To better understand the nature of the relationship between productivity and median pay in the UK over the past four decades we must dig beneath the headline. As discussed in the previous section, there are a five steps we must take between output per hour and median hourly pay, all of which introduce the potential for some 'leakage'. Figure 5 sets out this more detailed approach.

Figure 5: While median pay has diverged from productivity, other measures of compensation haven't



Indices of real-terms productivity, compensation and pay, 1980=100: UK

Source: RF analysis of ONS, National Accounts; ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Taking a step-by-step approach that corresponds with each of the five stages discussed in the previous section, we can see:

- 'Labour share' effect: mean employee compensation showed some signs of detaching from productivity growth in the early-1980s and again in the early-1990s, before recovering nearly all of this lost ground over subsequent years.
- 'Deflator' effect: switching from the GVA-deflator to a consumer-deflator (CPIH) pushes the mean compensation line back towards the productivity one in the 1980s. But the gap between the GVA- and CPIH-deflated compensation lines narrows after the financial crisis.

- Wage share' effect: moving from the CPIH-deflated measure of compensation to pay highlights an apparent divergence from the mid-2000s, with pay growth underperforming relative to overall compensation.
- 'Measurement' effect: switching from the National Accounts measure of pay to the survey-based one has a significant effect, with pay growth appearing stronger on this measure particularly in the early part of the period. By 2018, cumulative mean (survey-based) employee pay growth is almost completely aligned with the output per hour measure.
- 'Distribution' effect: the final step of moving from mean pay to median pay highlights divergence in the 1980s and 1990s, with the former growing more quickly than the latter in this period. This final step accounts for the overwhelming majority of the overall 24.4 percentage point decoupling recorded over the period.

And the different points of potential 'leakage' have varied in importance over different periods

The implication of these different divergences is that the five points of potential 'leakage' between productivity and median pay have played differing roles over time. Figure 6 makes this clear by focusing on the size of the gaps between the different lines in Figure 5. In doing so it marks out the 24.4 percentage point wedge that opened up between productivity and median pay between 1980 and 2018, and decomposes the overall change by each point of 'leakage'.

The chart makes clear that the relatively modest level of overall decoupling recorded between 1980 and 2018 masks a range of competing contributions from the different potential points of 'leakage'. The 24.4 percentage point gap between cumulative growth in output per hour and median hourly pay breaks down into: a 4.7 percentage point pull associated with a declining labour share, an 8.4 percentage point pull flowing from a fall in the wage share of compensation and a 23.1 percentage point pull related to wage inequality, partially offset by a 10.4 percentage point 'push' associated with measurement differences between National Accounts and survey data, and a further 1.4 percentage point push stemming from divergence between producer and consumer deflators.

This decomposition is then repeated for three separate periods, corresponding to broad business cycles. Because we reset the indices to 100 at the start of each sub-period, the percentage point wedges identified in the four phases don't sum to the total 24.4 percentage point decoupling recorded over the longer period; instead the analysis provides a clearer depiction of the variation in the strength of each different factors across the four business cycles.

Figure 6: Different potential drivers of decoupling have pushed and pulled in different directions over recent business cycles

Cumulative contributions to percentage point 'wedge' between output per hour and median pay: UK



Notes: Bars show the contribution of different points of 'leakage' in the move from productivity to median pay to the overall gap that develops between the two over time – as displayed in Figure 5. The 'labour share' step considers how overall output per hour is split between capital and employees in aggregate (that is, overall employee compensation). The 'deflator' step measures the impact of changing from measuring compensation using the GVA deflator to using the consumer (CPIH) deflator. The 'wage share' step captures the divergence driven by changes in the split of overall employee compensation between pay and non-pay items. The 'measurement' step considers any difference arising from switching from National Accounts measures of compensation and pay to survey based measures, and to switching from a full-year measure to one that focuses specifically on April. Finally, the 'distribution' step covers the move from mean pay to median pay, highlighting any contribution to the overall divergence deriving from some difference in growth across the earnings distribution. We reset the productivity and pay indices to 100 at the start of each sub-period. Therefore the individual sub-period 'wedges' don't sum to the total for the 1980-2018 period.

Source: RF analysis of ONS, National Accounts; ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Taking this approach highlights the importance of the start year used whenever an exploration of decoupling is undertaken. The magnitude of decoupling recorded varies in each period and, more importantly, the apparent drivers of the phenomenon differ very considerably over time. We can see that:

- Rather than decoupling from it, median pay growth actually outperformed productivity growth in the 1980-1990 phase, resulting in a decoupling of -2 percentage points. There *were* factors driving a wedge between productivity growth and median pay growth with a falling labour share (+11.3 percentage points) and widening wage inequality (+7.8 percentage points) both playing a role. But these points of 'leakage' were more than offset by the deflator effect (which boosted pay growth relative to productivity by 11.3 percentage points) and a sizeable measurement effect (-8.6 percentage points).
- The opening up of a +14.5 percentage point gap in the 1990-2008 business cycle was the product of all but one of the different points of potential 'leakage' acting to increase decoupling. The distribution effect (+10.1 percentage points) again made

a significant contribution, but this time the falling wage share of compensation also played a sizeable role (+8.5 percentage points) and the deflator effect changed direction (+4.5 percentage points). In contrast to the previous cycle, the labour share effect pushed in a significant way in the opposite direction (-10.5 percentage points).

• The final, post-financial crisis, phase of 2008-2018 was marked by the opening up of a +4.8 percentage point gap between productivity growth and median pay. Once again there was a change in the primary cause, with the deflator effect (+5.8 percentage points) dominating this time. The other four factors had only modest effects in this phase.

The fact that a number of these effects have not just varied in magnitude across different business cycles but have actually acted in entirely opposite directions further cautions against any simplistic interpretation of decoupling in the UK context.^[14] Overall, the implication of all this is that we should focus less on the magnitude of any apparent divergence (or the lack of it) between productivity and median pay growth, and more on what sits beneath the headline.

That's what we turn to in the following sections, taking deeper dives into the five potential points of 'leakage'. We look first at what's happened to the UK labour share of income.

^[14] At the international level too, the OECD has highlighted the extent to which factors such as the labour share and changing wage distribution have made very different contributions to the common phenomenon of decoupling across countries. See "Decoupling of wages from productivity: what implications for public policies?" Chapter 2 in OECD Economic Outlook, Volume 2018 Issue 2, 2018.

Section 3

The UK labour share – the dog that hasn't barked (very loudly)

In common with many other advanced economies, the UK labour share of income – whether adjusted for self-employment or not – fell markedly over the course of the 1980s and early-1990s. As such, workers secured a shrinking share of the gains from growth during this period. However, in contrast to the persistence of such trends in many other parts of the world after this point, the UK recorded an increase in its labour share over the second half of the 1990s. It subsequently reached a new equilibrium level, below its pre-1980s norms but above the mid-1990s trough, which has largely held since the turn of the century.

This exceptionalism comes despite the UK facing many of the same forces that are thought to explain the generalised downward drift in labour shares in other advanced economies – namely technological advances, globalisation and the erosion of worker power. And it has occurred across the UK economy – no one sector stands out as having recorded an especially marked increase in labour share and compositional change has had very little effect on the aggregate trend. Instead, trends within sectors accounted for 5.1 percentage points of the overall 6 percentage point increase in the labour share recorded between 1996 and 2018.

It seems likely that the introduction and development of the minimum wage has played a role over this period, helping to offset falling worker bargaining power. But – as explored in more detail in Section 5 – developments in non-wage elements of worker compensation are also likely to have played their part.

The UK labour share has fallen since 1980, but only marginally so

The first of the potential points of 'leakage' we have identified in the relationship between productivity and pay relates to the way in which national income flows through to overall worker compensation. During periods where output rises more quickly than compensation, we observe a decline in the labour share of income; whereas during periods where output rises more slowly than compensation, we observe an increase in the labour share. As we saw in the last section, both trends are in evidence at different points within the 1980 to 2018 period.

Over this period as a whole, productivity growth outstripped mean compensation growth, implying that the labour share fell and acted as a headwind to median pay growth. But the effect was relatively modest, accounting for just 19 per cent (4.7 percentage points) of the 24.4 percentage point gap opening up between productivity growth and median pay growth in the period. And it was front-loaded too, with Figure 6 showing that it was entirely accounted for by the 1980-1990 business cycle. The fact that the labour share effect acted in the opposite direction in both the 1990-2008 and 2008-2018 cycles implies that the UK's labour share of income was *increasing* in these periods.

It is worth noting however, that calculation of the true labour share is complicated by the classification of the self-employed. The accounting approach we use in Section 2 compares output per hour among *all* workers with the compensation of *employees* only. The 'earnings' secured by the self-employed sit within the "mixed income" part of National Accounts and are therefore categorised as a form of capital income (with "operating surplus" accounting for the remainder of the capital income total). Adjusting for this is not straightforward, because mixed income covers elements of self-employed income corresponding to both 'labour' remuneration and returns on 'capital': disentangling the two is difficult.

Figure 7 provides four alternative measures.

[15]

- The "unadjusted labour share" corresponds to the employee-only approach used in Section 2, and is almost certainly an under-estimate of the true picture.
- The "inc. all mixed income" measure simply assumes that all of the income categorised as mixed in the National Accounts relates to self-employed remuneration. By ignoring the capital employed by the self-employed in the production of goods and services this almost certainly overstates the labour share.
- The "inc. part mixed income" measure charts a path between these first two series and is the approach taken by the ONS.^[15] It attempts to split the mixed income total into that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' income and that part which might be considered 'labour' and capital recorded for employees that is, mixed income is multiplied by the ratio of labour compensation to the sum of labour compensation and operating surplus.
- The final measure, "adjusted for s/e numbers", takes an entirely different approach. It ignores the mixed income category in the National Accounts and instead corrects the unadjusted labour share figure by applying a ratio of the self-employed to all in employment. In effect, this approach assumes that the 'earnings' of the self-employed are precisely in line with those of employees. It has the benefit of reflecting changing balances in the nature of work capturing the increasing share of employment accounted for by self-employment in the past 15 years for instance but it fails to account for the fact that self-employed earnings are lower

than employees' on average. It's this failure which helps explain why the measure sits above the "inc. all mixed income" measure – a figure which must by definition mark the labour share ceiling (in technical terms it falls outside of the "production boundary").





Labour share of GVA: UK

Notes: "Unadjusted labour share (employees)" is calculated by dividing total employee compensation (wages plus employer social contributions like pension contributions and employer NICs payments) by GVA at basic prices. The "adjusted for s/e numbers" measure takes the 'unadjusted' figures and applies the ratio of the self-employed to all in employment. In so doing, it assumes that the 'earnings' of the self-employed are precisely in line with those of employees. It takes no account of reported 'mixed income'. In contrast, the "inc. all mixed income" measure takes no account of the number of people in self-employment but instead assumes that all income categorised as 'mixed' in the National Accounts is equivalent to self-employed earnings. In practice, mixed income "measure instead applies a ratio to the mixed income, so this is likely to be an overstatement. The "inc. part mixed income" measure instead applies a ratio to the mixed income total to estimate how much of it might be considered equivalent to 'labour' income rather than 'capital'. The ratio is calculated by dividing employee compensation by the sum of employee compensation and gross operating surplus. Source: RF analysis of ONS, National Accounts

Clearly none of the different approaches is without its drawbacks, and the 'level' effects they generate help to explain why labour share estimates can vary from source to source (and why international comparison is so difficult). But the important thing in this context is that they all describe broadly similar *trends* over time. And these trends correspond with the relationship between productivity growth and growth in employee compensation described in Section 2.

Focusing again on the business cycles set out in Figure 6, it is worth considering what happened in each phase:

• 1980-90: The labour share spiked in 1980 and 1981,^[16] stemming from the second oil crisis of 1979 and the economic recession (which depressed profits). Thereafter,

[16] In a much more muted way that had been observed in the 1970s. On each measure, the labour share grew sharply

each of the four labour share measures describe clear structural declines over the course of the 1980s. Again oil price trends are likely to have played some role, with crude oil prices falling steadily from their 1980 peak. But other factors are almost certainly at play too.

- 1990-2008: The recession of 1990 coincides with another brief upturn in the labour share, reflecting the cyclical effect of falling profits on the capital share. Each of the measures subsequently head downwards again during the economic recovery, reaching news lows in each instance by the end of 1996. But thereafter the labour share picks up rapidly, rising on each measure through to around 2002 before broadly plateauing in the run-up to the financial crisis.
- 2008-19: The post-crisis downturn again produces a temporary jump in the labour share, with a subsequent correction in 2011 and 2012. Each of the four measures displays a sharp drop in 2014, but in each instance this decline has since been largely recovered. By the start of 2019, each of the four labour share measures is broadly back where it was in 2000 and only slightly down on its 1980 level.

Overall then, we observe a steady fall in the labour share between 1980 (beginning in actuality in the 1970s) and the mid-1990s (with some cyclical interruption) followed by a pick-up at the end of the century and a plateau ever since.

Recent UK performance contrasts with a more generalised decline across other advanced economies

Such trends mark the UK out as something of an outlier compared with other advanced economies, as Figure 8 shows. Differences in domestic economic cycles go some way to explaining short-term variations across counties, but the overall impression is one of a generalised downward drift in labour shares ahead of the global financial crisis.^[17]

This shared experience has been remarked upon by others, with common causes being advanced as potential drivers.^[18] A combination of technological progress (which lowers the cost of capital relative to labour and raises its relative return), globalisation (which encourages the offshoring of some labour intensive production in advanced economies and increases capital inflows) and the erosion of worker power (associated with falling

between 1972 and 1975, before falling just as sharply in subsequent years. This temporary spike was associated with the oil price crisis of 1973, with the more-than-quadrupling of crude oil prices in 1974 depressing non-labour productivity and therefore profits (see BP, <u>Statistical Review of World Energy</u>, data annex).

^[17] Note, the US labour share debate is again more advanced than in many other countries, with considerable disagreement over how best to measure it. In part that reflects the same discussion regarding self-employment income considered above in relation to the UK, but it also relates to the role of depreciation. Some US economists have argued that the correct denominator when thinking about the distribution of income is income net of depreciation (the measure used in Figure 2), rather than gross. Since the measured rate of depreciation has risen a lot over recent decades in the US, the distinction makes a noticeable difference to labour share movements. In the interests of international comparability we focus on the standard gross income measure here, but see A Stansbury & L H Summers, *Productivity and Pay: Is the Link Broken?*, Peterson Institute for International Economics Working Paper, June 2018 for more discussion.

^[18] See for instance, ILO & OECD, <u>The Labour Share in G20 Economies</u>, Report prepared for the G20 Employment Working Group Antalya, Turkey, 26-27 February 2015; IMF, "Understanding the downward trend in labor income shares" in <u>World</u> <u>Economic Outlook, April 2017: Gaining Momentum?</u>, April 2017; D Acemoglu & P Restrepo, <u>The Race Between Machine and</u> <u>Man: Implications of Technology for Growth, Factor Shares and Employment</u>, NBER Working Paper No. 22252, June 2017; M Elsby, B Hobijn & A ahin, <u>"The Decline of the U.S. Labor Share"</u>, *Brookings Papers on Economic Activity*, Fall 2013, pp1-63

Resolution Foundation | Follow the money The UK labour share – the dog that hasn't barked (very loudly)

unionisation, growing monopsony power and the deregulation of labour markets) appears to have played out to varying degrees and in differing time periods across countries. UK exceptionalism from the late-1990s – despite continuing to face many of the very same drivers – has been identified, but not explained.

Figure 8: Labour shares have been falling across many advanced economies, with the UK bucking the trend this century

Indices of labour share of income in selected advanced economies, 1980=100 (three-year averages)



Notes: The labour share is depicted here by 'real unit labour cost', which equates to employee compensation per employee divided by GDP per worker (i.e. including the self-employed). That's equivalent to the "adjusted for s/e numbers" measure in Figure 7. For each country, the chart shows the evolution of the labour share relative to its 1980s level – the lines say nothing about differences in labour share *levels* across countries. Source: RF analysis of European Commission AMECO dataset

Labour shares have moved broadly in line across industries, with compositional shifts having little effect on the aggregate trend

We can dig into this UK exceptionalism from the mid-1990s by considering labour share trends at the sectoral level. Figure 9 provides an overview, setting out movements in (unadjusted) labour shares across 11 different industrial categories.

Figure 9: Labour shares have picked up across most sectors in the period since 1996



Unadjusted labour share of income in different industrial sectors: UK

Notes: Figures are unadjusted for self-employment. For ease of reading, three grey lines are shown but not labelled; these depict professional, technical, admin & support services; information & communication; and other service activities. Source: RF analysis of OECD data

The first thing of note is the very sizeable difference in labour share *levels* across industries – with real estate activities and non-manufacturing industry (largely comprising energy) recording relatively low labour shares, and public administration, retail and manufacturing recording relatively high labour shares.

But the trends are also interesting. While some are a little volatile, in almost all instances the labour shares follow the aggregate pattern of drifting up between 1996 and 2008. There is less consistency after the financial crisis, with a marked decline in the manufacturing labour share contrasting with increases in some other sectors such as finance for instance. But 2018 labour shares are above 1996 levels in all but two of the sectors (information & communication and professional, technical, admin & support services) – and even in these the decline is very marginal. Overall, no one industry stands out in any way that might explain the aggregate labour share trend. The implication is that the UK labour share rose after 1996 not because of some change in the country's economic mix or of factors applying in just one part of the economy, but rather because of increases that were relatively evenly spread across sectors.

We can test this more formally by undertaking a shift-share analysis. This approach lets us split out that bit of the change in overall labour share that is accounted for by movements in labour shares *within* sectors and that bit which is accounted for changes in the *composition* of the UK economy.

Figure 10 presents the results of such an analysis, and confirms that within-sector movements *have* played by far the most important role in driving the aggregate trend over

this period. Of the overall 5.9 percentage point increase in the unadjusted labour share recorded between 1996 and 2008, within-sector effects accounted for 5.3 percentage points (91 per cent). Compositional shifts played more of a role after the financial crisis, but within-sector effects continued to dominate. Ultimately, within-sector effects accounted for 5.1 percentage points (85 per cent) of the overall 6 percentage point increase in the unadjusted labour share between 1996 and 2018.

Figure 10: The post-1996 increase in the UK's aggregate labour share has been driven by trends within sectors rather than any compositional shift



Contribution to percentage point change in unadjusted labour share relative to 1996 baseline: UK

Notes: Results generated using a standard shift-share analysis that uses GVA weights and employee compensation figures split by: agriculture, forestry & fishing; industry excluding manufacturing; manufacturing; construction; distribution, trade, repairs, transportation, restaurants & hotels; information & communication; financial & insurance services; real estate activities; professional & scientific activities and admin & support services; public administration, education & health; and other service activities Source: RF analysis of OECD data

This is not to say that the rise and fall of different economic sectors had *no* effect on the UK's labour share, merely that they largely cancelled out at the aggregate level. Figure 11 shows this in action. The very modest overall compositional effect recorded in the period after 1996 was made up of compositional boosts associated with the growing importance of professional and technical activities, information and communication, and public administration, information and communication (all of which record labour shares at or above the aggregate level), alongside a sizeable compositional drag as the relatively high-labour share sector of manufacturing declined as a proportion of overall output.
Figure 11: The decline of the high-labour share manufacturing sector largely offset the compositional boost provided to the aggregate labour share after 1996 by growth in sectors such as finance



Compositional-only contribution to percentage point change in unadjusted labour share: UK

If there is little to suggest that the UK's exceptionalism on the labour share was due to a change in its industrial mix or to the behaviour of any individual sector, then we must look instead for drivers that applied across the economy.

Employment picked up sharply in the period over which the UK labour share rose, with the 16-64 employment rate rising from 69.9 per cent in 1996 to 72.7 per cent in 2002. That is likely to have strengthened the bargaining power of workers, and so supported a rebound in labour share. Noticeably, both the employment rate and the labour share plateaued after 2002.

The arrival of a Labour government in 1997 might also have had some effect – by emboldening the unions for instance. More concretely, the introduction and development of the minimum wage by the new government is likely to have played a role.^[19] In the short term at least, we might expect the imposition and uprating of a new wage floor to raise firm labour costs and mean that workers secure a larger share of the overall pie than would otherwise be the case. In effect, public policy in this period pushed back against the more generalised trend across advanced economies towards the erosion of worker power. Over time, we might expect compensation and productivity growth to have moved back into line – with evidence to suggest that firms reacted to higher wage costs by taking strides to boost productivity^[20] – helping to explain why the labour share stopped rising after 2002. However, the fact that we observe rising labour shares in nearly all sectors –

[19] The National Minimum Wage was first introduced in April 1999 and rose relatively rapidly over its first few years, reflecting the fact that the original wage floor was set at a deliberately conservative level.

Source: RF analysis of OECD data

^[20] R Riley & C Rosazza Bondibene, <u>Raising the standard: Minimum wages and firm productivity</u>, NIESR Discussion Paper No. 449, NIESR, May 2015

higher paying ones as much as lower paying ones – suggests that the introduction of the minimum wage is unlikely to be the only explanation for UK exceptionalism. Likewise the minimum wage explanation cannot account for what drove the labour share to rise in 1997 and 1998.

As we shall see in Section 5, developments in the non-wage part of employee compensation (and in particular the plugging of pension scheme deficits that have been especially prominent in the UK) also appears to be a factor over this period.

As Figure 5 showed, the step from GVA to employee compensation is only one part of what matters to the way in which economic growth is experienced by workers. A rising labour share (or at least a shallower decline over the longer term than has been endured elsewhere) is almost certainly good news for employees in the UK, but it does not automatically feed through to more pounds in the pocket. We turn in the next section to consider the importance of differences in the inflation experiences of producers and consumers.

Section 4

The deflator divergence – from tailwind to headwind

A divergence between producer (GVA) and consumer price (CPIH) inflation in the period since 1980 has presented workers with a terms of trade boost that has militated against the tendency towards decoupling associated with other points of potential 'leakage' between aggregate output and pay. But the effect has been very mild: in the absence of this deflator effect the 24.4 percentage point gap that opened up between productivity and median pay growth between 1980 and 2018 would only have increased by a further 1.4 percentage points.

This relatively neutral long-run position masks some important variations in the deflator effect across business cycles however. It provided a very significant terms of trade boost between 1980 and 1990, with the GVA deflator rising more rapidly than the CPIH and ensuring each unit of worker output converted into a higher relative amount of consumption than would otherwise be the case. Thereafter however, the prices paid by consumers for goods and services rose more quickly than the prices associated with domestic production, producing a terms of trade drag that contributed to decoupling. The sharp sterling devaluation occurring around the financial crisis (and again, in a more modest way, following the EU referendum) prompted a particularly sharp divergence that has accounted for the entirety of UK decoupling in the post-crisis decade.

The implication is that the deflator effect has played an important role in the UK decoupling story, but that is not necessarily a structural factor that we would expect to persist or be repeated in all other advanced economies. The impact on the purchasing power of workers is genuine, but it something that needs to be interpreted with care. This is especially the case given the number of different ways of measuring consumer inflation that exist, with the scale of the deflator divergence being sensitive to the approach we take.

UK consumers have enjoyed a terms of trade boost over the longer period that has militated against the decoupling of pay from productivity, but the boost has reversed over the last decade

We saw in Figure 6 that deflator effects pushed modestly back against the phenomenon of decoupling over the period from 1980 to 2018, boosting median pay growth relative to productivity to the tune of 1.4 percentage points. This boost was front-loaded however, with the deflator effect contributing to decoupling in both the 1990-2008 and 2008-2018 periods. Indeed, in the latter it was *the* driving force behind the divergence of productivity and pay. This is clearly an important part of the UK decoupling story then, but what should we make of it?

At first glance, the switching of deflators can seem like a technicality. But it picks up a genuine difference in the way in which we think about labour productivity and worker remuneration. The GVA deflator that is used in relation to productivity measures the change in prices of all domestically produced goods, and is therefore the appropriate approach to take when thinking about the value added by the production process. The consumer deflator instead measures the change in prices experienced by households when buying their weekly basket of goods, and is therefore the right approach to take when focusing on purchasing power and changes in living standards. One way of thinking about it is to consider how employers and employees approach wage negotiations: the former group will think about the wage bill impact in relation to wider producer costs, while the latter group will be focused on how far any given wage rise will stretch given movements in consumer prices.

Crucially, unlike the producer deflator, the consumer deflator captures import costs but ignores changes in the prices of goods being exported to households overseas. The two forms of inflation can therefore diverge, even over the longer term, in open economies. Their relative values can also be very sensitive to exchange rate movements, and the nature of the economic shocks that can create such movements.

Figure 12 shows how the consumer and producer deflators used in the analysis in Section 2 have compared over the period considered in this paper. Over the longer run, it highlights very little divergence between the two measures: both the consumer (CPIH) and GVA deflators grew by averages of 3.6 per cent a year between 1980 and 2018. But these averages have varied across the three business cycles we focus on, with the GVA deflator growing more rapidly in the 1980-1990 phase and the CPIH deflator growing more rapidly.

Figure 12: Consumer prices have increased more rapidly than producer prices in the post-crisis period



Deflator indices, year to Q2 1980=100: UK (four-quarter averages)

Notes: CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI. Source: ONS, *Consumer Prices Index including owner occupiers' housing costs (CPIH) historical series: 1988 to 2004*, December 2018; ONS, *National Accounts*

Deflator divergences vary somewhat from country to country,^[21] and the UK experience is again different from the US one. As Figure 12 shows, US consumers have suffered a persistent terms of trade drag over the period from 1980 (contributing to the apparent decoupling of median pay growth from productivity growth set out in Figure 2).

[21] See for example, B Nolan, M Roser & S Thewissen "<u>GDP Per Capita Versus Median Household Income: What Gives Rise</u> to the Divergence Over Time and How Does This Vary Across OECD Countries?", *Review of Income and Wealth*, 2018.





Deflator indices, 1980=100: US

Notes: CPI-U is the deflator experienced by urban consumers, measured as an average across US cities. Source: OECD stat and Bureau of Economic Analysis, NIPA Table 1.1.9

What then explains the changing direction of the UK deflator effect – and the post-crisis divergence in particular? Figure 14 provides more detail, comparing annual producer and consumer inflation in each year from 1980 and situating this alongside changes in the sterling/dollar exchange rate. The immediate post-crisis divergence in the two measures of inflation is clear, with the consumer measure outpacing the producer one in 2010, 2011 and 2012. This effect owed much to the very large fall in the value of the pound associated with the financial crisis (reflecting the importance of financial services to the UK economy), which fed through over time into higher import costs and therefore a spike in UK consumer inflation. A smaller but still sizeable sterling depreciation and subsequent inflation spike followed the 2016 vote to leave the EU.

These are genuine effects, and have played an important role in the wage squeeze affecting the UK economy over the course of the post-crisis decade.^[22] But they are not necessarily a marker of any *structural* change in the relationship between producer and consumer deflators in the UK (though in the near term, Brexit uncertainty does appear to have increased currency market fluctuations and could have further effects to come). More generally though, Figure 14 highlights the extent to which differences between the two inflation measures have tended to be modest – especially as inflation and exchange rate movements moderated from the 1990s.

^[22] See S Clarke & P Gregg, <u>Count the pennies: Explaining a decade of lost pay growth</u>, Resolution Foundation, October 2018

Figure 14: The post-crisis terms of trade drag has been driven by sterling devaluation



Annual inflation in each quarter: UK

Notes: See notes to Figure 12. Source: ONS, Consumer Prices Index including owner occupiers' housing costs (CPIH) historical series: 1988 to 2004, December 2018; ONS, National Accounts

The implication of all this is that, while deflator divergences *have* served to affect the relationship between productivity and median pay growth, the effect has tended to be the result of specific shocks. They matter – and they have a real effect on the living standards trends experienced by workers, with the post-crisis wage squeeze being a good case in point – but there is no reason for supposing that there is any substantial ongoing divergence which acts to either benefit or hinder workers in the UK in any structural way.

And the precise outcome associated with the deflator effect is sensitive to the measures used

A further cause for caution in interpreting the deflator effect relates to the fact that there are several different forms of consumer deflator, with the available choices changing over time and significant controversy over the best approach to take.

The CPIH deflator used in our analysis is the UK's headline measure of consumer inflation, but has only been so since March 2017 (having only been created in 2013).^[23] The CPI deflator had temporarily served as the headline measure before this,^[24] taking prominence only after the previous headline measure – the RPI – had its 'National Statistics' status revoked in 2013. That followed a marked widening of the always-present

^[23] See S Clarke, <u>The going rate: Moving from CPI to CPIH and the inflation experiences of UK households</u>, Resolution Foundation, March 2017

^[24] This is the UK's version of the EU-standard Harmonised Index of Consumer Prices (HICP), and so has the merit of providing international comparability. But it fails to take any account of owner occupiers' housing costs – a key element of many households' budgets – and is therefore less well suited to the task of capturing changes in real household living standards than the CPIH.

gap between CPI and RPI (reflecting differences in coverage and approach) in 2010, which the ONS subsequently concluded stemmed from a structural – and ultimately fatal – problem in the RPI methodology.^[25]

Despite clear signalling from the ONS as to the primacy of the CPIH, debate continues about precisely which measure best captures the inflation experience of households.^[26] And the picture is complicated still further by the relatively limited official back series available for both the CPI and the CPIH: the former stretches back to 1988,^[27] while the latter begins in 2005.^[28] As noted alongside our analysis, we must therefore rely on an artificially constructed back series for the period from 1980 to 2004, adding inevitable uncertainty to its effect on the decoupling story.

To illustrate how much the choice of deflator (and any inaccuracies in our modelled back series) matters, Figure 15 overlays the CPIH and GVA deflators set out in Figure 12 with the RPI and CPI deflators. Looking across the full 38-year period, it describes a sizeable terms of trade drag when using the RPI (with this measure moving away from the others from the mid-1990s) and a modest terms of trade boost when using the CPI (with the importance of owner occupiers' housing costs – excluded from the CPI - in the 1990-2008 period likely explaining most of this outcome). Once again though there is variation across different cycles – with CPI outpacing CPIH in the post-crisis period for example.

Figure 15: The RPI deflator has increased particularly rapidly over the last decade



Deflator indices, year to Q2 1980=100: UK (four-guarter averages)

Notes: See notes to Figure 12.

Source: ONS, Consumer Prices Index including owner occupiers' housing costs (CPIH) historical series: 1988 to 2004, December 2018; ONS, National Accounts

^[25] ONS, Shortcomings of the Retail Prices Index as a measure of inflation, March 2018

^[26] See House of Lords Economics Affairs Committee, *Measuring Inflation*, 5th Report of Session 2017-19, HL Paper 246, 17 January 2019 for a good summary of the various elements of this debate.

^[27] With a modelled non-National Statistic series back to 1949. See R O'Neill & J Ralph, <u>Modelling a Back Series for the</u> <u>Consumer Price Index</u>, ONS, January 2013

^[28] With a modelled non-National Statistic series back to 1988. See ONS, <u>Consumer Prices Index including owner occupiers'</u> housing costs (CPIH) historical series: 1988 to 2004, December 2018

In practice, none of the different consumer deflators are likely to provide entirely 'true' measures of the consumer inflation experienced by households over the period from 1980.^[29] Certainly the different outcomes associated with adopting different measures of consumer inflation – and the fact that long-term relationships can be so affected by very short-lived divergences – should caution us against drawing especially strong conclusions about the presence or otherwise of structural decoupling based purely on producer and consumer deflator divergences.

We have seen so far that overall employee compensation grew slightly less quickly than productivity between 1980 and 2018, with terms of trade differences pushing against decoupling over the longer term but making a significant contribution towards it in the post-crisis decade. But how has this translated into money in employees' pockets? We turn in the next section to consider how the spoils flowing to employees have been split between pay and non-pay elements of compensation.

^[29] In considering the decoupling of productivity and pay, we might also argue for the use of a consumer deflator that focuses not on the economy as a whole but specifically on the in-work population (additionally, an arithmetic mean might be more appropriate than the plutocratic weighting used in the CPI/CPIH which places greater emphasis on the spending patterns of wealthier households). New work from the ONS has highlighted modest but non-trivial variation of inflation experiences by age and by income group. See ONS, <u>CPIH-consistent inflation rate estimates for UK household groups: October to December 2018</u>, February 2019.

Section 5

The growth of non-wage compensation – dealing with deficits

The effect of the fall in the UK's labour share on employee pay, while modest by international standards, has been compounded over recent decades by the increasing share of overall worker compensation being accounted for by nonwage elements of remuneration. The share of compensation taken up by such components increased from 13.4 per cent in 1980 to 17.1 per cent in 2019, accounting for around one-third (8.4 percentage points) of the 24.4 percentage point divergence between productivity growth and median pay growth recorded over the longer term.

The rise in the non-wage share of compensation is not unique to the UK, but it is unusual. It is also highly concentrated in the period after 1990. A rise in employer National Insurance contributions associated with increases in the rate and the impact of the minimum wage on the number of workers earning above the tax threshold played some role in this period, but two-thirds of the change stemmed from increases in employer pension contributions. In the latest few years, pension auto-enrolment has helped to push up the share of compensation accounted for by payments into defined contribution schemes. But much of the increase in pension contributions has been associated with the plugging of the widespread defined benefit pension deficits that opened up in the 2000s. To the extent that firms filled the holes by lowering their profit shares, this phenomenon is likely to have contributed to the relatively strong performance of the UK's labour share of income over the same period.

Non-wage compensation has grown in importance over time, particularly from 1990 onwards

The third element of potential 'leakage' between aggregate output and pay relates to the way in which the overall pot going to employees (deflated using the CPIH) is shared between wage and non-wage (such as employer National Insurance contributions and employer pension contributions) elements. A rise in the share of overall compensation accounted for by non-wage components would – for any given labour share – serve to drive a wedge between productivity growth and median pay growth. That is, the 'wage share' of income would fall.

As Figure 6 showed, that is precisely what has happened in the UK over recent decades. The growing share of compensation accounted for by non-wage elements accounted for 34 per cent (8.4 percentage points) of the overall 24.4 percentage point gap that opened up between productivity growth and median pay growth over the period from 1980 to 2018. Focusing on the three business cycles that we have defined within this longer period, Figure 6 showed that this effect was primarily associated with the phase from 1990 to 2008.

Figure 16 sets out what sits behind this finding. It shows that the share of overall compensation accounted for by non-wage elements fell between 1980 and 1990 (from 13.4 per cent to 11.7 per cent), before rising steadily to 13.7 per cent by 2001 and more rapidly to 16.9 per cent by 2008. Post-crisis it has fluctuated a little, starting 2019 at 17.2 per cent – some 28 per cent above its 1980 level.

Figure 16: Non-wage compensation has gone from accounting for 13p of every £1 of labour remuneration in 1980 to 17p of every £1 in 2018



Employer social contributions as a share of total employee compensation: UK

Source: RF analysis of ONS, National Accounts

Figure 17 puts the UK post-1990 performance in international context. As in relation to the labour share, the UK looks somewhat different from many other advanced economies in this period. Over the full 38-year period, the UK recorded a rise in its non-wage share of compensation that outpaced most countries. And if we focus just on the period from 1990 to 2018, the UK increase was matched only by Canada and Denmark, with most other countries (outside of Japan) recording relatively flat trends. Once again, the shape and timing of the UK trend differs significantly from that in the US (although on this occasion the long-term movement is relatively similar).

Figure 17: The rise in the non-wage share of compensation is not unique to the UK, but it is unusual

Indices of non-wage share of overall employee compensation in selected advanced economies, 1980=100 (three-year averages)



Notes: For each country, the chart shows the evolution of the non-wage share of compensation relative to its 1980 level – the lines say nothing about differences in *levels* across countries. Source: RF analysis of OECD Stat

Recent growth stems primarily from an increase in employer pension contributions

Figure 18 digs into the overall trend in the UK, splitting the non-wage share into employer National Insurance contributions, employer pension contributions and other social contributions (such as maternity and sickness pay). It shows that employer NICs and pension contributions each accounted for just under half of the overall non-wage total in 2018 (45 per cent in both cases), broadly in line with their relative positions in 1980 (when they accounted respectively for 44 per cent and 47 per cent of the non-wage total). However, it was primarily movements in employer pension contributions which drove the overall non-wage share trend (downwards in the 1980s and upwards from the mid-1990s) over the period.

The share of total employee compensation accounted for by employer NICs did increase between 1990 and 2018 (by 1.3 percentage points). This was driven both by increases in the NICs rate in 2003-04 and 2011-12 and by the effect the development of the minimum wage had on lifting lower-paid workers above the Secondary Threshold (the point at which standard rate employer NICs become payable). However, the share of compensation accounted for by employer pension contributions jumped by significantly more (3.6 percentage points) over the same period (having fallen substantially over the course of the 1980s). Overall then, the higher non-wage share of compensation recorded in 2018 relative to 1990 was equivalent to £55 billion – with employer pension contributions accounting for £37 billion of this total.

Figure 18: The rise in non-wage compensation has been driven by employer pension contributions



Share of total employee compensation accounted for by non-wage elements: UK

Notes: Data is annual, covering the year to Q2 in each instance. Source: RF analysis of ONS, National Accounts. Pre-1987 data is imputed using historical National Accounts data provided by Dr Brian Bell of Kings College London and used in B Bell & M Whittaker, *The Pay Deficit: Measuring the effect of pension deficit payments on workers' wages*, Resolution Foundation, May 2017.

This change came about despite a shift in workplace pension coverage over this period that might have been expected – before 2012 at least – to *reduce* the importance of employer contributions to overall compensation. Figure 19 shows that the overall proportion of employees contributing to occupational pension schemes fell from 55.2 per cent in 1997 to a low of 46.5 per cent in 2012.^[30] It subsequently picked up very sharply, reaching 76.2 per cent by 2018, though this was driven by an increase in defined contribution (DC) coverage: the coverage of defined benefit (DB) schemes continued to fall.^[31]

[31] Defined benefit (DB) pensions are occupational schemes which specify the rates of benefits to be paid in retirement. Most frequently DB schemes are salary-related, with benefits based on the number of years of pensionable service, the accrual rate and either the employee's final salary, some form of career average salary or the best year's salary within a specific period before retirement. In contrast, the pay-outs associated with defined contribution (DC) schemes are determined by the magnitude of contributions paid in, the investment performance of those contributions and the type of annuity (if any) purchased at retirement. DC pensions can be occupational, personal or stakeholder based. Hybrid pension schemes are part-DB and part-DC.

^[30] ONS, Employee workplace pensions in the UK: 2018 provisional and 2017 revised results, April 2019

Figure 19: Workplace pension coverage declined over the course of the 2000s, with DB coverage falling especially rapidly

Proportion of employees with active workplace pensions with their current employer: UK



Notes: The 'defined contribution (DC)' category covers both 'occupational defined contribution' and 'group personal and group stakeholder' schemes. The 'occupational defined contribution' category includes employees who have pensions with the National Employer Savings Trust (NEST). The "group personal and group stakeholder" category includes group personal pensions, group stakeholder pensions and group self-invested personal pensions. Results for 2005 onwards are based on a new questionnaire and may not be comparable to earlier results. The Annual Survey of Hours and Earnings (ASHE) collects information on only the current employer's pension scheme. Employees may hold preserved rights in former employers' pension schemes or be in receipt of a pension from a former employer. This information is not captured by the survey. In ASHE, employees are defined as making contributions to a workplace pension if they have made a contribution, or had a contribution made on their behalf, in the survey pay period. Data relates to April each year. Source: ONS, Employee workplace pensions in the UK: 2018 provisional and 2017 revised results, April 2019

This compositional shift matters because the typical employer contribution rates associated with DB and DC schemes differ considerably, with the former being much higher on average. Figure 20 draws out this distinction by setting out the distribution of employer contributions for DB and DC pensions in April 2018. It shows that 30 per cent of employees with active DC memberships received employer contributions of less than 2 per cent, with the median sitting somewhere between 2 per cent and 4 per cent. In contrast, the median employer contribution received by those with active DB membership fell in the range 15 per cent to 20 per cent. In total, 85 per cent of this group received employer contributions of 12 per cent or over, compared with just 8 per cent of those with DC pensions.

Figure 20: Employer contributions to DB pensions are typically significantly higher than those made to DC schemes

Cumulative proportion of employees by banded rate of employer contribution to workplace pension: UK, April 2018



Notes: The 'defined contribution (DC)' category covers both 'occupational defined contribution' and 'group personal and group stakeholder' schemes. The 'occupational defined contribution' category includes employees who have pensions with the National Employer Savings Trust (NEST). The "group personal and group stakeholder" category includes group personal pensions, group stakeholder pensions and group self-invested personal pensions. Source: ONS, Employee workplace pensions in the UK: 2018 provisional and 2017 revised results, April 2019

The DC contribution rates are likely to have increased since this data was released, reflecting the April 2019 increase in the minimum employer contribution required under auto enrolment (from 2 per cent to 3 per cent).^[32] Nevertheless, it remains the case that DB schemes draw significantly higher employer contributions.

Overall then, we have seen a period since the 1990s in which occupational pension coverage first fell and then shifted markedly towards DC. That this should coincide with an increase in the share of employee compensation being accounted for by employer pension contributions seems somewhat surprising at first glance. Squaring the circle requires looking in more detail at trends in DB pension valuations and deficits.

And much of this increase in pension contributions stems in turn from the need to plug scheme deficits

DB pension pay-out levels are specified ahead of time, with contributions during the accumulation phase therefore being reverse engineered to ensure sufficient funds are set aside to match those commitments for the duration of members' future retired lives. This involves predicting a number of things over a relatively long timeframe, and is therefore very difficult to get right.

[32] The overall minimum contribution increased from 5 per cent to 8 per cent from April 2019 too.

Strong equity market performance supported DB fund values during the 1990s, allowing some firms to take contribution holidays as they ran down apparent scheme surpluses. Yet from around 2000, asset returns started to falter. In addition, longevity rose relative to previous expectations (meaning schemes had to adjust for more years of potential pension payment) and interest rates fell (lowering the discount rate applied to pension scheme valuations). As a result, DB schemes were increasingly assessed as being in deficit. A shift within DB funds away from equities and towards government bonds around the financial crisis amplified the effect of falling yields after 2008 too. As a result, roughly 70 per cent of schemes were recorded as being in deficit in any month between March 2006 and March 2018.^[33]

Under the *2004 Pensions Act*, firms cannot simply walk away from their DB promises. Instead, they must make 'special contributions' – with the level agreed with the pension trustees and signed off by the independent Pensions Regulator – over and above the 'normal' contributions that relate to current scheme members. As scheme deficits increased over the course of the 2000s then, so too did the payment of 'special contributions'. Figure 21 describes the impact, splitting the change in total contributions in the period from 1993 into DB, DC and hybrid 'normal' and 'special' contributions.

Figure 21: DB deficit payments played a significant role in raising overall employer pension contributions after 2000

Index of real-terms employer pension contributions, CPIH-adjusted, Q1 1993=100: UK (four-quarter totals)



Notes: Hybrid pension schemes are those offering a choice, or mixture, of DB and DC rights at retirement. Source: RF analysis of ONS, *Investment by insurance companies, pension funds and trusts: October to December 2018,* March 2019

Four conclusions stand out:

- First, DB schemes dominate the picture for much of the period, accounting for an average 93 per cent of all pension contributions between 1993 and 2012. This reflects both the higher share of workplace pensions accounted for by DB in most of this period and the higher employer contributions rates associated with such schemes.
- But, secondly, this share has dwindled since the introduction of auto-enrolment. It fell to 63 per cent by the end of 2018, with DC contributions accounting for a rapidly-growing share.
- Third 'special' contributions shifted from accounting for an average of 17 per cent of overall employer pension contributions before 2000 to a peak of 46 per cent in 2012 and an overall post-2000 average of 32 per cent.
- Finally, alongside this increase in 'special' payments, the scale of 'normal' DB contributions also increased sharply in the 2000s. The real-terms value nearly tripled between 1998 and 2006, even as DB coverage dwindled and schemes increasingly closed to new members. This increase reflects the fact that the same factors that caused deficits to open up in DB schemes also required firms to make increased contributions outside of specific recovery plans. 'Normal' DB payments did fall sharply between 2013 and 2018, but remained double the 1998 level in real terms.

We can more formally quantify the magnitude of these different effects by splitting the overall 5.4 percentage point increase in the share of compensation accounted for by non-wage elements recorded between 1990 and 2018 into its constituent parts.

Figure 22 presents the results. It shows that the increase in 'special' payments associated with pension deficits accounted for 28 per cent (1.5 percentage points) of the overall change, with the increase in 'normal' DC payments contributing a further 26 per cent (1.4 percentage points). Altogether, employer pension contributions accounted for two-thirds (66 per cent, or 3.6 percentage points) of the change. Employer NICs accounted for just under one-quarter (24 per cent, or 1.3 percentage points).

Figure 22: Pension deficit payments accounted for more than one-quarter of the increase in the share of overall compensation accounted for by non-wage elements between 1990 and 2018

Contribution to 5.4 percentage point increase in share of employee compensation accounted for by non-wage elements: UK, 1990-2018



Notes: To undertake this decomposition we apply the proportional pension contribution splits presented in Figure 21 to the overall employer pension contributions totals used in Figure 18.

Source: RF analysis of ONS, National Accounts; ONS, Investment by insurance companies, pension funds and trusts: October to December 2018, March 2019

The rise of 'special' pension payments means that a significant part of the growth of non-wage compensation is benefiting a very particular group of 'workers'

If non-wage compensation was divided equally across workers, then we might be relatively sanguine about any change in the share of overall compensation it accounts for. That is, it would represent a change in the balance between immediate and deferred compensation, but the lifetime remuneration received by each employee would be unaltered. However, the fact that employer pension contributions – and 'special' contributions in particular – have played such an important role in this trend raises two important considerations.

First, we know that higher earners tend to build bigger pension pots. Therefore any swing away from pay and towards pensions might be expected to disproportionately benefit this group. Secondly, the plugging of DB pension deficits is in many instances most beneficial to those towards the end of their working lives. The vast majority of DB schemes in the private sector are no longer open to new entrants (just 12 per cent of the 5,450 schemes in place in 2018 allowed new members, with 41 per cent also closed to any new benefit accrual for existing members),^[34] and 41 per cent of DB scheme members are already in

retirement.^[35] As such, much of the increase in non-wage compensation we've observed in recent years is likely to have little bearing on very significant numbers of current workers.

We have looked previously in some detail at the potential impact of deficit payments on the pay of workers in firms with deficits in their schemes.^[36] This analysis uncovered a strong statistically significant negative effect – that is, we found pay growth to be lower in pension deficit firms than in other businesses – though the scale of the impact was modest. For every increase in deficit payment equivalent to 1 per cent of a firm's total wage bill, the hourly pay of its workers was lowered by roughly 0.1 per cent. This negative pay effect even extended to staff who had never been members of the firm's scheme when focusing specifically on the bottom quarter of the pay distribution.

While statistically significant, the aggregate 'savings' to firms associated with lower pay growth accounts for only a small portion of the overall increase in 'special' pension contributions they have made over time. It is possible – though hard to prove – that further savings have been achieved by a more generalised slowdown in pay growth in industries where deficits are prevalent among some of the bigger players. That is, the wage restraint of deficit firms may have spilled over into the wider market. It is hard to see any such effect accounting for much more of the overall deficit burden however. Instead, the implication is that the majority of the 'special' contribution costs must be accounted for by some combination of lower profits and investments – with work from the Bank of England providing some evidence for this.^[37]

Rising non-wage compensation has partially offset the rising labour share since the turn of the century, meaning the overall wage share of income has drifted downwards

To the extent that firms have lowered profits in order to plug deficits that benefit a very particular group of workers (or former workers), we might consider at least some of the increase in the labour share of income that we identified in Section 3 to have only limited benefit to the majority of workers. To put it another way, the UK's labour share trend over the past couple of decades might have been more in keeping with international norms in the absence of the DB pension issue. However, it is worth remembering that the more recent rapid increase in compensation accounted for by 'normal' DC payments *is* likely to benefit younger employees – and therefore is a genuine part of the 'labour share'.

As a thought experiment, it is worth considering how the labour share and non-wage compensation trends have interacted over recent years: that is, what has happened to the overall share of GVA flowing to workers in the form of pay?

Figure 23 compares this wage share with the unadjusted labour share of GVA (with both covering employees only) over the period from 1980.^[38] It shows that the two measures

- [37] P Bunn, P Mizen & P Smietanka, <u>Growing pension deficits and the expenditure decisions of UK companies</u>, Bank of England Working Paper No. 714, February 2018
- [38] For this thought experiment, we ignore the effect of switching from the GVA to the CPIH deflator.

^[35] Pension Protection Fund, The Purple Book: DB Pensions Universe Risk Profile, December 2018

^[36] B Bell & M Whittaker, <u>The Pay Deficit: Measuring the effect of pension deficit payments on workers' wages</u>, Resolution Foundation, May 2017

Resolution Foundation | Follow the money The growth of non-wage compensation – dealing with deficits

moved broadly in line with each other between 1980 and 2002, with both falling through to the mid-1990s and then picking up sharply. However, while the labour share thereafter remained relatively flat, the wage share of income drifted downward once more. By the start of 2019 it stood at 46 per cent, higher than its 1996 trough of 43 per cent but down on the 49 per cent recorded both at the start of the period in 1980 and at the more recent 2001 peak.

Figure 23: Unlike the labour share, the wage share of income has drifted downwards over the last two decades



Wage share of GVA: UK

Notes: "Unadjusted labour share (employees)" is calculated by dividing total employee compensation (wages plus employer social contributions like pension contributions and employer NICs payments) by GVA at basic prices. The "wage share (employees only)" measure is calculated by dividing total wages and salaries captured in the National Accounts by GVA at basic prices. Nominal figures are used meaning, unlike the analysis above, no deflator adjustment is made. Source: RF analysis of ONS, National Accounts

Taken together, the UK's exceptionalism on both the labour share (not falling to the same extent as observed elsewhere) and non-wage compensation (rising significantly in the period from 1990) to some extent cancel each other out. As Figure 24 shows, the UK's wage share pattern is much closer to that recorded by many other advanced economies. The labour share pick-up of the late-1990s is still evident on this measure, meaning the UK's wage share has fallen by less since 1980 than is the case in many other countries, but the difference is relatively slight.

Figure 24: The UK no longer looks like an international outlier when focusing on trends in the wage share of income

Indices of wage share of income in selected advanced economies, 1980=100 (three-year averages)



Notes: The wage share is depicted here by wages and salaries divided by GVA. For each country, the chart shows the evolution of wage share relative to its 1980s level – the lines say nothing about differences in wage share levels across countries.

Source: RF analysis of OECD Stat

Relatively modest though it is, the overall wage share of GVA in the UK *has* fallen over the longer post-1980 period. That means a smaller proportion of the gains from growth are flowing to employees than used to be the case. As we saw in Figure 6 however, when we move from mean hourly pay derived from the National Accounts to mean hourly pay captured by survey data, this effect looks much more muted. That is, the measurement effect pushes back against the appearance of decoupling. We look briefly at what this means in the next section.

Section 6

Measurement matters – moving from macro to micro data

We saw in Table 1 that the second most important step in the move from productivity growth to median pay growth related to the seemingly technical switch from National Accounts data to survey pay data – that is, the measurement effect. In this brief section, we consider what sits beneath this finding. We discuss the importance not just of the survey switch, but also the change in the inflation reference period this requires – emphasising the subtle but different nature of the macro productivity and micro pay data used in decoupling analysis.

Switching from National Accounts to survey data changes the apparent scale and timing of decoupling in the UK

After three of the five potential points of 'leakage' between productivity growth and median pay growth set out in Figure 6, the gap that opened up in the period from 1980 to 2018 between mean hourly pay (deflated using the CPIH) and output per hour (adjusted using the GVA deflator) stood at 11.7 percentage points. Taking the next step – by switching from the National Accounts measure of pay to a survey-based one – reverses almost all of that divergence however. As Table 1 showed, this measurement effect pushed back against decoupling by 10.4 percentage points over the longer run – making it the second most influential of the five steps we consider.

If we take this effect to be primarily a technical one, reflecting differences in measurement (and timing), then we might conclude that it is something we should overlook. Doing so certainly alters the UK decoupling story somewhat – in terms of both scale and timing.

As with each other potential point of 'leakage', the measurement effect varies across business cycles. The majority of the push against decoupling was recorded in the 1980-1990 period, with the switch from National Accounts to survey data pulling in the opposite direction between 1990 and 2008 (thereby adding to decoupling in this period) and barely registering in the post-crisis decade.

In the absence of this measurement effect, the overall level of longer term decoupling would rise to 34.8 percentage points. And the initial 1980-1990 business cycle would no longer stand out as a period in which decoupling didn't happen: instead, a 6.6 percentage

point decoupling would be recorded. That would be broadly in line with the same per-year decoupling that would exist in the 1990-2008 period (where the cumulative divergence would now stand at 12.6 percentage points), and bigger than the 5.1 percentage points gap that would now open up between 2008 and 2018. The UK decoupling story would therefore look larger and more persistent – closer then to the US experience.

However, we *can't* just write off the measurement effect in this way. It isn't necessarily the case that the survey data is 'wrong' – the problem may lie in the National Accounts pay data instead, with some inaccuracy introduced earlier in the decoupling analysis. Or it may just be that the comparison of economy-wide productivity with median employee hourly pay inevitably involves measuring subtly different things, with no perfect way of reconciling the two. And of course, similar measurement effects might be in place in other countries. We can't therefore simply ignore the effect – but we should aim to better understand it.

The use of a point estimate for inflation is a bigger factor than the change of data source

There are two elements to the measurement effect: the way in which the raw hourly pay measure differs between the National Accounts and the *Annual Survey of Hours and Earnings* (ASHE),^[39] and the reference period used for deflating the nominal pay data in each instance.

The National Accounts pay variable that we use in the decoupling analysis is itself a derived (rather than directly observed) measure, and therefore subject to some uncertainty. While we can accurately pick up quarterly wages and salaries data from the macro figures, we don't have a direct measure of the hours worked by employees. Instead, we adjust overall worked hours data by applying the ratio of employees to total employed. We are therefore assuming that employees work the same hours on average as the selfemployed population. That is unlikely to be the case – and the difference in working hours between the two populations is likely to have shifted over recent years as more people have taken up part-time self-employment. Given the almost inevitable misreporting of hourly pay in the National Accounts variable therefore, we might view the measurement effect as providing at least partial rectification – better capturing the truth of decoupling than a National Accounts-only approach could.

However, the ASHE pay variable is not without its issues either. It has the benefit of being directly recorded, but it is of course sample-based. The sample is very large – targeting roughly 1 per cent of employee jobs, and capturing around 180,000 records – but it is nevertheless incomplete. Jobs that are not registered on PAYE schemes – which typically have relatively low levels of pay – are not surveyed, introducing some upward bias into the ASHE figures. And the series has been subject to a number of methodological breaks which, while smoothed over in our analysis, complicate the measurement of growth over time.^[40]

^[39] And its precursor, the New Earnings Survey (NES).

^[40] See ONS, <u>Annual Survey of Hours and Earnings, Low Pay and Annual Survey of Hours and Earnings pension results QMI</u>, October 2018.

The bigger difference from the National Accounts measure relates to the timing of the survey however. The ASHE picks up pay data relating very specifically to the April survey month. In contrast, the National Accounts figures that we use represent the average across the four quarters ending in Q2 of each year. Given our focus is on wage *growth* rather than levels, this shouldn't matter if (over the longer run) April-to-April moves are broadly in line with those recorded between July-to-June and July-to-June. The differing reference periods for the deflators can introduce some persistent divergence however.

To test the relative importance of these two elements of the measurement effect, Figure 25 splits the overall measurement effect recorded in each business cycle into its two constituent parts. Over the longer period, it shows that the 10.4 percentage point effect is primarily the product of the deflator timing difference: this element reduced decoupling over the piece by 8.7 percentage points, while the initial switch from a 12-month average National Accounts-derived hourly pay figure to an ASHE-base April figure produced a push of just 1.7 percentage points. It is the survey difference effect which dominates in the key 1980-1990 period however; it's just that this effect is subsequently reversed in the 1990-2008 period in a way that the deflator timing difference isn't.

Figure 25: The measurement effect has primarily been driven by switching from a four-quarter average measure of CPIH inflation to an April one



Contribution to cumulative measurement effect when switching from National Accounts hourly pay data to ASHE data: UK

Notes: Bars show the contribution of the measurement effect to the decoupling displayed between productivity and median pay growth in different time periods – as displayed in Figure 6. The measurement step considers any difference arising from switching from National Accounts measures of compensation and pay to survey-based measures, and to switching from a full-year measure to one that focuses specifically on April. It can therefore be split into that element relating to differences in the survey definitions and coverage and that element relating to differences in the deflator reference points.

Source: RF analysis of ONS, National Accounts; ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Once again then, we find that what appears to be a simple switch between surveys introduces significant complexity to the decoupling story. The conclusion is not that either measure is better or worse than the other, but rather another reminder that it is

Resolution Foundation | Follow the money Measurement matters – moving from macro to micro data

what is going on at each potential point of 'leakage' between productivity and median pay that matters more than the headline decoupling itself.

As shown in Figure 6, the most important point of 'leakage' is the last – namely how the wage share of national income is being distributed across employees. That's the issue we turn to in the next section.

Section 7

The distribution of pay – from growing apart to squeezed together

Changes in the distribution of the overall pot of wages and salaries across employees play a very significant role in explaining the apparent phenomenon of decoupling across many advanced economies, with growing pay inequality in the UK similarly driving a wedge between mean productivity growth and median pay growth. This effect was most pronounced through the 1980s and 1990s, with the introduction and development of the minimum wage from the late-1990s helping to support pay growth at the bottom of the distribution since then. Taking the last four decades as a whole, hourly pay growth has been U-shaped – growing more strongly at the top and bottom of the earnings distribution than in the middle.

However, changes in working patterns mean that weekly wage growth has been more straightforwardly regressive across employees. Average hours have fallen since 1980, driven both by a reduction in the hours worked by full-time employees and by the growing incidence of part-time working. But the drop has been most pronounced at the bottom end of the earnings distribution, thereby changing what it means to sit in this part of the pay scale.

The pay of those earning the least on a weekly basis has thus accounted for a declining share of the overall gains from growth in the economy. The lowest paid 50 per cent of employees took 10.8p of every £1 of GVA generated in 2018 in the form of wages, down 23 per cent from 14.1p in 1980. By contrast, the share of GVA accounted for by the wages of the highest earning 10 per cent of employees increased by 20 per cent from 10.5p to 12.6p. And the GVA share flowing to the top 1 per cent of earners in the form of wages increased by 63 per cent, from 1.7p to 2.8p. Rising weekly wage inequality has therefore more than offset the decoupling of pay from productivity at the top end of the earnings distribution over recent decades, but amplified it at the bottom end. However, in the post-crisis decade the deflator effect has dominated, with all parts of the earnings distribution facing modest declines in their shares of GVA.

Widening wage inequality was by far the biggest driver of the overall decoupling of median pay growth from productivity growth between 1980 and 2018

As noted in Figure 6, the final potential source of 'leakage' between productivity growth and median pay growth - the distribution of the total pot of wages and salaries across employees - is an important one. It accounted for 95 per cent (23.1 percentage points) of the overall 24.4 percentage point gap that opened up between 1980 and 2018, contributing to decoupling in the first two of the three business cycles we focus on.

Given this importance, it is worth considering how changes in the pay distribution have played out more broadly over this period. Figure 26 recreates the original UK decoupling chart we set out in Section 2, but this time includes growth in pay towards the bottom (the average of earnings at the 10th percentile and the 25th percentile) and towards the top (the average of earnings at the 75th and 90th percentiles) of the earnings distribution too.

Figure 26: The closeness of the relationship between productivity and pay varies according to which part of the earnings distribution we focus on



Notes: Data cover hourly wages of all employees and total output (GVA at basic prices) per hour worked by all workers (including the self-employed). Output is deflated using the GVA deflator, while pay is deflated using the CPIH deflator. CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI. The percentile figures are not point estimates, but instead an average across all parts of the sample sitting within that part of the distribution (i.e. between percentile 9 and percentile 10, between percentile 24 and percentile 25 and so on).

Source: RF analysis of ONS, National Accounts; ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

It shows that some measure of 'decoupling' was present at most parts of the earnings distribution between 1980 and 2018, but that pay growth at the top end outpaced mean productivity growth. Hourly pay at the 90th percentile increased by 10.6 percentage points more than productivity, while pay at the 75th percentile lagged productivity by just 4.2 percentage points. In contrast, pay at p25 grew by 33.3 percentage points less than productivity.

Pay at the very bottom of the distribution, while much weaker than that at the top, actually just about outperformed the median over the full period (and was stronger than at p25), with the p10 measure decoupling from productivity growth to the tune of 23.8 percentage points. That has much to do with the very sizeable increases recorded at p10 in the last few years, following the introduction of the National Living Wage for those aged 25 and over.

Figure 27 provides more detail, showing the average annual growth recorded in hourly pay across the entirety of the earnings distribution in the period between 1980 and 2018. This trend is further broken down for each of the three business cycles we have focused on in our analysis.

Figure 27: The pace and distribution of pay growth has shifted over different business cycles

Average annual growth in real-terms hourly employee pay by earnings percentile, five-percentile averages, CPIH-adjusted: UK



Notes: CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI. Source: RF analysis of ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Overall it highlights the growth in earnings inequality over recent decades, with average real-terms growth of 2.2 per cent a year in the top decile of the distribution contrasting with average growth of 1.3 per cent a year between the percentile 10 and the median. Growth at the very bottom of the distribution is a little higher, averaging 1.5 per cent a year in the bottom decile for instance. Within this overall trend however, there is a clear distinction to be made across the three periods from 1980:

- The 1980-1990 period stands out as the era in which wage inequality grew most rapidly, with hourly pay rising by 4.1 per cent a year in the top decile, 2.5 per cent in the middle of the distribution, and 1.6 per cent a year in the bottom decile.
- Average annual growth was weaker across most of the distribution in the 1990-2008 period than in the 1980s, but somewhat stronger at the very bottom. It was still a period in which overall wage inequality increased though, with earnings in the top decile growing particularly rapidly, but the distribution was much flatter than in the preceding decade. The introduction and development of the National Minimum Wage in this period played a significant role in underpinning this trend. For example, average annual growth at percentile 3 (2.2 per cent) actually outstripped the average annual figure at percentile 90 (2.1 per cent).
- The 2008-2018 period was marked not by rising wage inequality, but instead by a widely felt wage squeeze in which average annual growth was negative across all but the bottom quarter of the distribution. Again the minimum wage and, from 2016, the National Living Wage helped to support growth towards the bottom of the distribution resulting in a *narrowing* of wage inequality in this period (reflected in the small 'push' against decoupling provided by the distribution effect in this period, as shown in Figure 6). But even at the bottom of the distribution, growth was significantly weaker than had been recorded between 1990 and 2008.

Changes in working patterns mean weekly wage growth has been weaker than hourly pay growth – especially at the bottom end of the distribution

It is hourly pay growth that matters for the analysis of decoupling. But testing the broader hypothesis sometimes advanced in relation to this phenomenon – that it is indicative of a model of growth in which the gains from economic expansion are failing to reach the pockets of lower earners – requires us to switch from hourly to weekly pay.^[41]

In doing so, the extra step we must take is to explore how the pattern of weekly hours worked has changed over time. Figure 28 presents this picture. It shows that the average working week has shrunk from 34 hours in 1980 to just over 32 hours in 2019. That's the product of both a drop in the average hours undertaken each week by those working full time (from nearly 39 hours to just over 37 hours) and a compositional shift in the workforce towards more part-time working.

[41] There is a further related literature which more explicitly focuses on this question, by looking at the relationship (and any decoupling) between GDP per head and median equivalised household income. See for example, B Nolan, M Roser & S Thewissen 'GDP Per Capita Versus Median Household Income: What Gives Rise to the Divergence Over Time and How Does This Vary Across OECD Countries?', Review of Income and Wealth, 2018.





Note: Chart covers all workers rather than just employees due to lack of historical data. Source: RF analysis of ONS, *Labour Force Survey*; Bank of England, *Millennium of data*

Overall then, we'd expect this drop in working hours to mean that hourly pay growth in any given period converts into slower growth in weekly pay. But how does this play out across the distribution?

Previous Resolution Foundation research showed the drop off in average hours to be especially marked among those situated in the bottom half of the pay distribution, with male employees particularly affected.^[42] As Figure 29 highlights, between 1997 and 2016 average hours fell sharply among male employees at the bottom end of the hourly pay distribution but remained broadly flat in the top half of the distribution.

As with the overall hours trend, this shift was driven by a combination of falling hours within different contract types and the growth of part-time working. Weekly pay growth figures must therefore be interpreted with care. The drop in hours worked will have acted as a drag on weekly wages relative to hourly pay, but it may well be that some of this reflects a desired change in working patterns – alongside a rebalancing of work within households for instance.^[43]

[42] S Clarke & G Bangham, <u>Counting the hours: Two decades of changes in earnings and hours worked</u>, Resolution Foundation, January 2018

[43] See A Corlett et al, <u>The Living Standards Audit 2019</u>, Resolution Foundation, June 2019 for a much more detailed discussion of changes in the sources of income flowing to households in different parts of the distribution.

Resolution Foundation | Follow the money The distribution of pay – from growing apart to squeezed together

Figure 29: Average hours have dropped especially sharply among lower-paid male employees

Average hours worked by male employees in each pay band relative to median hourly pay: UK



Source: RF analysis of ONS, Annual Survey of Hours and Earnings

Whatever the cause of this change in hours worked, it has undoubtedly had an effect on what it means to sit towards the bottom of the earnings distribution. Figure 30 repeats the presentation of Figure 27, but this time focuses on weekly pay. In each of our three periods (and over the longer period overall), the average annual growth in weekly pay appears to be a little weaker across much of the distribution than observed for hourly pay. However, the difference is especially marked at the bottom end of the earnings scale. As a result, the widening of the pay distribution recorded for hourly pay in both the 1980-1990 and 1990-2008 periods appears much more pronounced for weekly wages. And the narrowing of hourly pay inequality recorded in the decade after the financial crisis is not evident in relation to weekly pay – with wages on this measure being squeezed to a similar extent across more or less the entirety of the distribution.

Resolution Foundation | Follow the money The distribution of pay – from growing apart to squeezed together

Figure 30: Changes in working hours have fed into much slower weekly wage growth at the bottom of the earnings distribution than we observe in relation to hourly pay



Average annual growth in real-terms weekly employee pay, by earnings percentile, CPIH-adjusted: UK

Notes: CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI. Source: RF analysis of ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Overall, the share of UK growth flowing to lower paid employees has fallen by more than one-quarter since 1980

By taking these weekly pay distributions and applying them to the overall pot of wages and salaries flowing to employees, we can consider how the share of total GVA making its way to the pockets of different groups of employees has shifted over time.^[44]

Figure 31 shows that the bottom half of employees accounted for 10.8 per cent of total GVA in 2018, down from 15 per cent in 1980 – a fall of 28 per cent. The proportional drop experienced by the bottom 10 per cent of employees is greater still, with the group's share of GVA dropping 41 per cent from 1.1 per cent in 1980 to just 0.7 per cent in 2018. In contrast, the share flowing to the top 10 per cent of earners increased from 11.2 per cent to 12.6 per cent over the period, having peaked at 13.5 per cent in 2010. The trend exhibited by the top 1 per cent of employees followed a similar pattern, ending the period at 2.8 per cent of GVA, up 52 per cent on the group's 1980 share of 1.8 per cent.

[44] In this instance, we simply apply shares derived from survey data to National Accounts figures for total wages and salaries. We therefore encounter no 'measurement effect', because we take the National Accounts data as the base for our estimates.

Figure 31: The lowest-paid half of employees account for just 11p of every £1 of GVA, down from 14p in 1980

Part of every £1 of GVA paid as wages to different parts of the employee weekly earnings distribution, UK $\,$



Notes: This analysis considers how much real-terms GVA (GVA-deflated) flows as real-terms wages and salaries (CPIHdeflated) to different parts of the weekly earnings distribution. CPIH is only available as a 'National Statistic' from 2005 onwards. The ONS has modelled a historical CPIH series from 1988, by supplementing the CPI measure of inflation with measured changes in those housing cost elements comprising the Owner Occupied Housing (OOH) series that CPIH includes. The OOH series can't be measured in a directly comparable way to the 2005-2018 CPIH series, but is instead based on movements in Council Tax/rates in the RPI and private rents in the RPI (1998-95)/CPI (1996-2004). Appropriate weights are calculated using National Accounts data. Before 1988, we construct our own version of the CPIH by adjusting the RPI for both the estimated 'formula effect' (which drives a difference between RPI and CPI) and the imputed rents deflator from the National Accounts. This construction adds inevitable uncertainty, but the result closely matches the ONS's historical estimate for CPI.

Source: RF analysis of ONS, National Accounts; ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Focusing on the different business cycle periods we have identified throughout this analysis, we can see how interactions between the labour share, deflator, wage share of compensation and earnings distribution (this time including changes in hours as well as changes in hourly pay distributions) effects have played out over time.

- Between 1980 and 1990 for instance, the falling labour share acted as a barrier between GVA and pay. But the simultaneous increase in weekly wage inequality more than compensated for this effect for the top 10 per cent of earners (whose wage share of GVA increased from 10.5 per cent to 12.0 per cent), while amplifying the reduction in the shares of growth recorded among the bottom half of earners (which dropped from 14.1 per cent to 12.7 per cent).
- In the 1990-2008 period, the rising labour share *increased* the amount of GVA flowing to workers more generally. But falling wage share of compensation pushed back against this and further increases in weekly earnings inequality meant that any improvements were wiped out for the bottom half of employees. Their overall wage share of GVA fell from 12.7 per cent to 11.5 per cent, while the share flowing

in the form of pay to the top 10 per cent again increased (from 12.0 per cent to 13.6 per cent)Finally, in the post-crisis decade from 2008 to 2018, the negative terms of trade effect associated with the divergence of the producer and consumer deflators dominated the picture. This lowered the overall share of GVA flowing as pay, with the other factors doing very little to alter the picture. With only a very marginal (positive) change in weekly wage inequality in this period, all parts of the earnings distribution were affected to a similar degree. The share of GVA paid out to the top 10 per cent of earners dropped from 13.6 per cent to 12.6 per cent, while the share going to the bottom half of employees fell from 11.5 per cent to 10.8 per cent.

These changes over time are depicted in Figure 32. Each panel in the chart breaks down the proportional change in GVA flowing to different parts of the earnings distribution in different periods into its constituent parts.

The top panel covers the overall period, and makes clear how important the weekly pay distribution effect is to the overall story. All parts of the employee earnings distribution were equally (negatively) affected by the labour share and wage share (with a very modest deflator offset). But the weekly pay distribution effect played out very differently across earnings groups, leading to very different outcomes at the top and bottom of the weekly pay scale. In effect, the distribution effect – driven both by hourly pay changes and by shifts in working patterns – more than offset the decoupling of pay from productivity at the top end of the earnings distribution, but amplified it towards the bottom end. Only in the final business cycle (2008-2018) was this not the case, with all parts of the earnings distribution facing a fall in their shares of GVA in this decade.

Figure 32: Higher earners have captured more of the gains from growth over time, driven by rising weekly wage inequality

Contributions to overall proportional change in share of GVA flowing as pay to different parts of the employee weekly earnings distribution: UK



Notes: Bars show the contribution of different 'steps' to the proportional change in GVA (adjusted with the GVA deflator) accounted for by the wages and salaries (adjusted with the CPIH deflator) of different parts of the employee earnings distribution. The 'labour share' effect shows the contribution of changes in the division of overall GVA between capital and employees (that is, overall employee compensation). Here the labour share effect is shown to be negative in 2008-2018, whereas it is assumed to make a small positive contribution to overall worker compensation in Figure 6. This is due to the hours assumption underpinning the earlier decomposition, with total hours worked in the economy divided between employees and the self-employed on the basis of the changing ratio of employment between the two. This assumption likely understates employee hours, and so overstates the change in the hourly employee compensation in this period and therefore the labour share too. The 'deflator' effect captures the impact of changing from measuring compensation using the GVA deflator to using the consumer (CPIH) deflator. The 'wage share' effect reflects changes in the split of overall employee compensation between pay and non-pay items. Finally, the 'pay distribution' effect covers the way in which the overall pot of wages and salaries is shared across the distribution in each period.

Section 8

Conclusion – productivity growth still matters

The story of decoupling is a neat one: directly linking the slowdown in median pay growth recorded across a range of advanced economies over recent decades to the various points at which the gains from growth can escape the grasp of the typical employee. It is especially powerful in the US, where median pay has barely grown relative to inflation since the early 1970s. It is, however, also a complex story: relying on macroeconomic data that can be subject to uncertainty and revision, and highly sensitive to the choice of start and end years.

The case of the UK encapsulates this complexity. Productivity growth and median pay growth have diverged over the last 38 years in a way that points towards a decoupling experience that is smaller and more recently established than the one endured in the US. But there is much going on beneath the headline, with the drivers of this apparent decoupling shifting from business cycle to business cycle. It is hard to look at the UK experience and conclude that the feed through from productivity growth to pay growth is fundamentally 'broken'.

Despite enduring many of the same pressures of globalisation and technological change that are taken to be drivers of decoupling in other countries, the UK's labour share hasn't fallen to the same extent as we've seen elsewhere. Employees in the UK have, however, seen more of their overall compensation taking the form of non-wage remuneration in a way that hasn't occurred in most other countries – flowing largely from the peculiarity of UK firms' defined benefit pension scheme valuations. Likewise, divergence between producer and consumer price inflation – which has been *the* big driver of continued decoupling in the UK in the post-crisis decade – is a product of the particular exposure faced by the country to the financial crisis (and, more recently, to the decision to leave the EU).

Where the UK story *does* resemble others, is in relation to pay inequality. Growing pay disparity has had the effect of amplifying the UK's relatively modest experience of decoupling for lower-paid employees, while allowing pay growth at the top of the earnings distribution to outstrip mean productivity growth. As a result, employees in the bottom half of the pay scale account for a significantly lower share of GVA than they did four decades ago, whereas those at the top have increased their share.
But here too the story is more complicated than it might seem. Minimum wage policies have actually supported hourly wages at the bottom over the past 20 years, but they have been outweighed by changes in working patterns. Average hours have fallen across the board, but the largest drops have come towards the bottom of the weekly earnings distribution – driven both by an increase in part-time working and by a reduction in the average hours being worked by lower-paid full-time workers. Some of the decline in the GVA share accounted for by the lowest paid may therefore reflect voluntary and positive choices – about how to share paid work within households for instance. Disentangling how much this is the case, and how much it reflects unwanted hours restrictions or a response to broader income shocks instead, is inevitably difficult.

One thing *is* clear however: productivity growth remains centrally important to pay prospects in the UK. That is, the slowdown in pay growth recorded since the mid-2000s in the UK owes much more to productivity stagnation than it does to decoupling. The deflator effect has certainly played a key role in holding back real-terms wage growth since the financial crisis, but the impact is slight relative to the role played by the slowdown in productivity growth itself.

Figure 33 presents a simple thought experiment to illustrate this point. It recreates the productivity and median pay trends for the period from 1980 to 2018 set out in Figure 4 and Figure 5, but adds two additional post-crisis scenarios. In the first, the 4.8 percentage point decoupling that we have identified in the 2008-2018 period does not occur. Instead, median pay growth moves precisely in line with productivity. In the second, the productivity stagnation that characterises the post-crisis decade no longer applies. Instead, output per hour continues to grow at its historical average of 2.2 per cent a year. Median pay then grows in line with a 4.8 percentage point decoupling from productivity.

Under the first scenario, median hourly pay would stand at £13.40 in 2018 instead of ± 12.78 – an increase of 4.9 per cent, and equivalent to an extra £1,230 a year for a full-time employee earning the typical hourly pay rate. Under the second scenario however, median hourly pay would be 21.8 per cent higher in 2018 than it actually was. It would stand at £15.56, providing a full-time median-earning employee with an extra £5,500 a year.

This is of course a highly simplified approach. We can't disentangle productivity and decoupling in the way suggested in this thought experiment: the post-crisis sterling devaluation was itself a reflection of lower long-run productivity growth expectations in the UK, causing pay growth to more quickly adjust to the new reality than output growth did (resulting in the observed decoupling). Were productivity growth to have been stronger than it was in the post-crisis decade then we might not have recorded the same remarkable growth in employment (indeed, we might well argue that the post-crisis pay moderation associated with sterling depreciation directly fed through into higher employment and lower productivity growth). And there is no guarantee that a faster-growing economy would result in the same balance between labour and capital and between wages and non-wage compensation for example. The potential scale of the effect is nonetheless revealing.

Figure 33: Had productivity growth continued at its trend rate after 2008, median pay would likely have been much higher today



Indices of real-terms productivity and pay, 1980=100: UK

Notes: See notes to Figure 4. In the 'post-crisis thought experiment' period, we increase the productivity measure in line with the average growth rate recorded between 1980 and 2008 (2.2 per cent). We then maintain the same relationship between our counterfactual median pay measure and this constructed productivity one as exists in the outturn data between productivity and median pay.

Source: RF analysis of ONS, National Accounts, ONS, Annual Survey of Hours and Earnings; ONS, New Earnings Survey

Unpicking the relationship between productivity and pay growth provides an important insight into the variety of factors that influence pay growth for different groups of employees in the UK – from trends in the labour share to terms of trade movements, and from the role of employer pension contributions to the impact of changes in working patterns and the distribution of pay. Ultimately however, the central message from the UK's decoupling story is a repeat of the one heard multiple times in the post-crisis period: namely that restarting wage growth and supporting household living standards rests above all else on restoring productivity growth to its former levels (or vice versa, potentially). All boats *can* still be lifted, but for this to happen it's imperative that the tide starts rising again.

Resolution Foundation

The 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: **Matthew Whittaker** Deputy Chief Executive <u>Matthew.whittaker@resolutionfoundation.org</u> 020 3372 2958