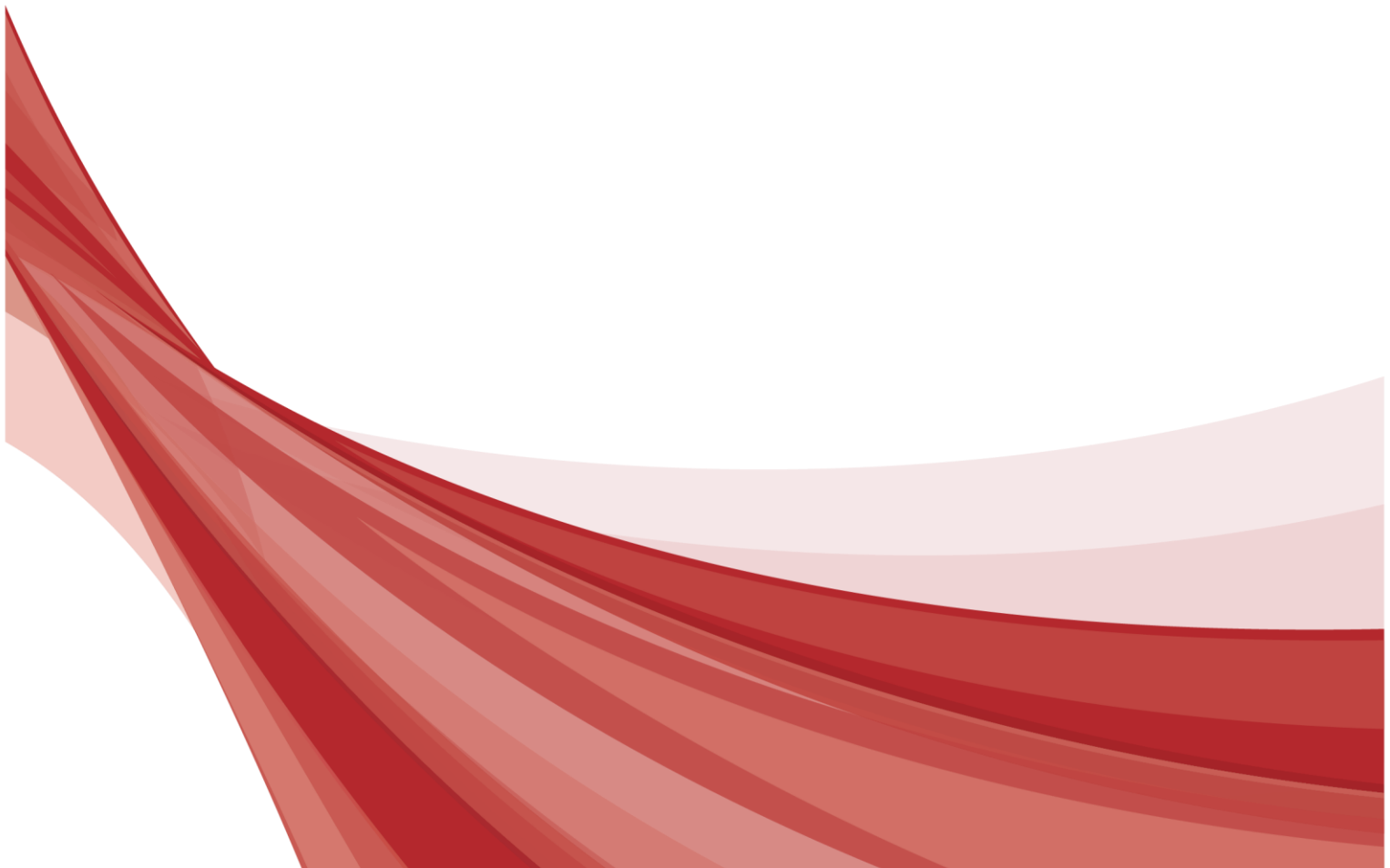# The impact of increased self-employment and insecure work on the public finances

Executive Summary

Acknowledgements

Corrections

The first version of this report featured some mistakes in the description of the income taxation system for dividends in Chapter 3, which affected Tables 3.1 and 3.2 and Tables 5.3, 5.4 and 5.5 in the results. These have now been corrected in the current version.

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Executive Summary

Executive Summary

In recent years the idea that work is growing more insecure has risen up the policy agenda. The TUC has documented the growth in insecure work in recent years in its recent report *Living on the Edge: the Rise of Job Insecurity in Modern Britain.*

The current report addresses an important dimension of work insecurity not addressed in previous TUC work, which is the **fiscal** impact of insecure work on the public finances. This impact has two components:

1) There is an **earnings penalty** for insecure work. Self-employed workers and employees on temporary contracts (such as zero-hours contracts) earn considerably less than employees. This earnings penalty adversely affects the public finances because lower gross earnings mean lower revenue from income tax and National Insurance Contributions (NICs), and secondly because many workers on lower earnings have a higher entitlement to tax credits and Housing Benefit.

2) The treatment of self-employed workers for **income tax and National Insurance** purposes means that a self-employed worker pays less tax above the lower limits for NICs than an employee on comparable annual earnings.

The aim of this report is to estimate the size of the 'fiscal gap' which occurs due to increased levels of insecure work. We model the impact of two changes in the UK labour market which occurred between 2006 and 2016:

- an increase in the number of self-employed people in the UK, from 13.1% to 15.1% of the workforce (around 1 million extra self-employed workers);

- a net increase in the number of employees on zero hours contracts (ZHCs) from 0.2% to 2.0% of the workforce (around 700,000 extra employees on zero-hours contracts).

The earnings penalty for self-employment and zero-hours contracts

Analysis of data from the UK Family Resources Survey shows that self-employed people have lower earnings than employees across almost the whole of the distribution of weekly incomes from work (with the exception of the very top of the distribution). At the median – in the middle of the earnings distribution – self-employment earnings are 36 per cent lower than employee earnings, not controlling for other factors which affect earnings (such as age, gender, qualifications, occupation and industry). When these other factors are controlled for, the median pay penalty is slightly higher, at 44 percent. The gap between self-employed incomes and employee earnings is larger (in percentage terms) lower down the distribution of weekly earnings.

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Analysis of data from the UK Labour Force Survey shows that employees on ZHCs earn between 55 and 70 per cent per week less than employees on other types of contract across the whole distribution of earnings, not controlling for other worker and job characteristics. When other characteristics are controlled for, the median weekly pay penalty for ZHC workers compared to other employees is 37 percent. The penalty is smaller in percentage terms at higher points in the distribution, and bigger below the median.

Differences in the treatment of self-employment income and employee earnings in the tax and National Insurance systems

The income tax system in the UK treats employees and self-employed workers the same in terms of headline rates on earnings. However, the National Insurance Contributions (NICs) system is more generous for self-employed people than employees. Whereas employee earnings are subject to Class 1 Employee and Employer NICs, self-employed workers who are registered as 'sole traders' pay Class 4 NICs at a much lower combined marginal rate than Class 1 NICs. Meanwhile, self-employed people who have incorporated their own business ("owner-directors") do not pay any NICs on dividends paid out of company profits. Furthermore, the income tax regime for dividends is more generous than it is for earned income - these differences in tax mean that self-employed people pay a lower combined income tax and NICs sum on earnings above the lower limits for NICs. For example, given annual gross earnings of £30,000, a sole traders' income tax and NICs liability is around 37% lower than an employee's, while an owner-director's income tax and NICs liability is over 97% lower than an employee's.

Estimating the size of the 'fiscal gap'

The size of the fiscal penalty to insecure work is estimated using data from the UK Family Resources Survey and the Landman Economics tax-benefit model.

The tax-benefit model is used estimate the impact on the public finances of the increase in self-employment and zero-hours contracts as a proportion of the UK labour force between 2006 and 2016. This analysis compares the growth in the proportion of self-employed and ZHC workers against a counterfactual scenario where the total number of people in employment increased by the same amount, but the proportion of self-employed and ZHC workers was unchanged from 2006. This would have meant that 1.25 million workers entered more secure employee jobs rather than self-employment or ZHC jobs.

Rather than just modelling the impact of an increase in self-employment at the average (mean or median) self-employed incomes and ZHC earnings, the methodology used here takes account of the distribution of earnings of the extra self-employed and ZHC workers. Analysis of recent income data for self-employed people and earnings data for ZHC workers shows that most of the increase in the

proportion of insecure workers in the workforce has come in the lowest 60% of the weekly earnings distribution, with the fastest growth in insecure work for the lowest-paid workers. Accordingly, the analysis here assumes that the extra self-employed and ZHC workers are mainly low-paid.

The model used here estimates the fiscal impact of increased self-employment and ZHC 'in reverse' – by estimating the extra tax receipts which would accrue to the Exchequer if the increases in self-employment and ZHCs as a proportion of the workforce between 2006 and 2016 had not happened, and instead, self-employment and ZHCs had remained constant as a proportion of the workforce since 2006 and more people had moved into secure employee jobs.

Results

- The overall impact of additional insecure working over the last decade on the public finances is estimated to be a net loss of revenue of £5.3bn (assuming that all the additional self-employed people in the UK workforce are sole traders), or £5.9bn (assuming that all the additional self-employed people are owner-directors). In tax terms, this is roughly equivalent to the revenue yield from raising the basic and higher rate of income tax by 1p. In public expenditure terms, it is equivalent to just over a third of the social care budget for England.

- The negative impact of increased self-employment on the public finances is around £3.4bn, compared to £1.9bn for the impact of increased zero-hours contracts.

- Around 45% of the total fiscal impact is due to reductions in NICs receipts, 32% due to reduced income tax receipts and 23% due to increased tax credit and benefit payments.

- Most of the impact of increased self-employment on the public finances (between 80 and 92 per cent, depending on the assumptions about whether the extra self-employed are sole traders or owner-directors) is due to self-employed people having much lower wages than employees (conditional on worker and job characteristics). Only between 8 and 20 percent of the impact is due to the more generous treatment of self-employees in the National Insurance Contribution system. This implies that equalisation of the tax and NICs treatment of self-employed people with employees, while welcome for other reasons, would only close a small part of the fiscal gap arising from increased self-employment.

- The lowest-paid self-employed people and ZHC employees – those in the bottom quintile of the weekly earnings distribution – account for around one-third of the total fiscal impact, while workers in the bottom two quintiles (the bottom 40% of weekly earnings) account for over two-thirds of the total impact.

- For the group of insecure workers which the TUC looked at in its previous report Living on the Edge – the lowest paid 40% of self-employed workers plus all those on ZHCs – the fiscal impact of additional insecure work over the last decade is

estimated to be a net revenue loss of £4.0bn (assuming that all the additional self-employed people in the workforce are sole traders). This breaks down into an impact of increased self-employment of £2.1bn, and an impact of increased ZHC working of £1.9bn

- In the top quintile, the fact that the proportion of self-employed people actually fell between 2006 and 2016 – coupled with the fact that there are almost no ZHC workers in the top quintile – means that the fiscal impact in the top quintile is actually *positive* – strengthening the public finances by between £470m and £850m depending on which definition of self-employment is used. However, this only makes a small impact on the overall negative fiscal impact of the increase in insecure work.

Introduction

In recent years the idea that work is growing more insecure has risen up the policy agenda[1]. The TUC has documented the growth in insecure work in recent years in its recent report *Living on the Edge: the Rise of Job Insecurity in Modern Britain* (TUC, 2016). The report focused on three types of insecure work in particular:

Low-paid self-employment (approximately 1.7 million people were in this category in the UK in 2016 according to survey data);

Insecure temporary work (e.g. agency, casual or seasonal work) – approximately 730,000 people in 2016);

Workers on zero hours contracts (approximately 810,000 people in 2016).

Living on the Edge examined several aspects of insecure work including which sectors and which types of workers it affects most, and the statutory rights which workers in these categories miss out on compared to workers on more permanent employee contracts. The current report addresses an important dimension of work insecurity not addressed in previous TUC work, which is the **fiscal** impact of insecure work on the public finances.

The impact of insecure work on the public finances has two components. First, there is an **earnings penalty** for insecure work. Previous research has established that self-employed people earn considerably less than employees (either based on a simple comparison of earnings levels between self-employed people and employees, or when controlling for individual factors which may affect earnings such as gender, age, education and location)[2] . There is also an earnings penalty for various types of temporary worker compared to permanent employees (Resolution Foundation, 2016). This earnings penalty adversely affects the public finances because lower gross earnings mean lower revenue from income tax and National Insurance Contributions (NICs), and secondly because many workers on lower earnings have a higher entitlement to tax credits and Housing Benefit.

Second, the treatment of self-employed workers **for income tax and National Insurance** purposes means that a self-employed worker pays less tax above the lower limits for NICs than an employee on comparable annual earnings.

The size of the 'fiscal gap' in income tax and NICs received has already received some attention from Government sources. For example, the Office for Budget Responsibility (OBR) has noted that actual income tax and NICs receipts in the 2015-16 tax year were lower than forecast receipts as estimated in the Conservative/Liberal Democrat Coalition Government's first Budget in June 2010. According to the OBR's

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[1] See for example Standing (2011) and Srnicek and Williams (2016)
[2] See BIS (2016) and Dellot and Reed (2015).

Introduction

Forecast Evaluation Report, "The distribution of incomes, notably for new workers and among the self-employed, has... been skewed toward the lower end" and this is part of the explanation for income tax and NICs receipts being lower than forecast (OBR, 2016). Lower-than-forecast *earnings across the economy¬* – not just for insecure workers – were also identified by the OBR as a partial explanation for the fiscal gap

The increase in self-employment and ZHCs have resulted in a considerable reduction in the tax revenue accruing to the UK Exchequer due to the increase in the proportion of work accounted for by the self-employed and low-paid employees (particularly those on zero hours contracts), relative to a hypothetical situation in which the proportion of insecure workers in the UK workforce were unchanged over the last decade. The aim of this report is to estimate the size of the 'fiscal gap' which occurs due to increased levels of insecure work. The analysis controls for trends in overall wages across the economy over the last decade, so that the particular impact of insecure work can be identified on its own.

The report is structured as follows. Chapter 1 summarises data on the extent to which insecure work in the UK has increased over the last decade, drawing on evidence from the Living on the Edge report. Chapter 2 examines the extent to which there is an earnings penalty for self-employment and insecure employee work, while Chapter 3 gives details of how the tax system treats self-employed workers more generously than employees. Chapter 4 outlines the methodology used to measure the fiscal penalty arising from the increase in insecure work over the last decade in the UK, while Chapter 5 presents the results from the empirical work. Chapter 6 offers analysis and conclusions

Insecure work in the UK over the last decade

The previous TUC research in Living on the Edge used data from the UK Labour Force Survey to show how insecure work evolved in the UK over time. Table 1 below shows data on the number of workers in each of three different categories in 2006 and 2016:

i)   Low-paid self-employment;

ii)   Insecure temporary work (e.g. agency, casual or seasonal work);

iii)   People on zero hours contracts.

In addition to this, Table 1 also gives figures for the *overall* numbers of self-employed people in the UK labour market in 2006 and 2016. This is because, as shown in Chapter 2 below, the earnings penalty for self-employed people compared to employees with similar characteristics extends across almost the whole earnings distribution; it is not just low earners who are affected (although low earners certainly are affected). Also, the different treatment of National Insurance Contributions for self-employed people means that there is a bigger reduction in net tax revenues for high-paid self-employed people relative to high-paid employees than for the low paid. Hence for the current research it is important to look at increased self-employment across the whole earnings distribution (rather than just the low paid, as in *Living on the Edge*).

Insecure work in the UK of the last decade

Table 1. Insecure work in the UK, 2006 and 2016

	2006		2016		Change	
Group	Number	% workforce	Number	% workforce	Number	% workforce
Self-employment (all, not just low-paid)	3.8m	13.1	4.8m	15.1	1m	2.0
Insecure temporary work (agency, casual, seasonal, other)	770,000	2.7	730,000	2.3	-40,000	-0.4
Zero-hours contract employees (excluding ZH workers describing themselves as self-employed)	70,000	0.2	810,000	2.6	740,000	2.4
Total insecure + ZHC employees	840,000	2.9	1,540,000	4.9	700,000	2.0
Total insecure workers, all self employed + employees	4.6m	16.0	6.3m	20.0	1.7m	4.0

Source: Labour Force Survey data as analysed by TUC (2016) with some additional calculations by the author

Table 1 shows an increase of around 1.7 million in the total number of insecure workers between 2006 and 2016. This breaks down into an increase of 1 million in the total self-employed population and 700,000 in the population of insecure employees. A small fall of 40,000 in the number of agency, casual and seasonal workers has been more than offset by a rise of 740,000 in the number of employees on zero-hours contracts[3] . Overall, the number of workers in these insecure situations has expanded from 16 percent to 20 percent of the workforce over the last decade.

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[3] It is possible that the apparent fall in the number of agency, casual and seasonal workers reflects responses to LFS interview questions; it is likely that interviewees were substantially more likely to classify themselves as on zero-hours contracts in 2016 than in 2006 as the phrase 'zero hours contracts' was much better known by 2016 than it was in 2006. See TUC (2016), pp15-20.

In this report we simulate the impact of the public finances of two changes since 2006:

an increase in the proportion of self-employed from 13.1% of the workforce to 15.1%;

an increase in the proportion of workers on zero-hours contracts from 0.2% to 2.0% of the workforce.

We model the impact of an increase in ZHC workers from 0.2% to 2.0% rather than 2.4% because we net off the reduction of 0.4 percentage points in the number of agency, casual and seasonal workers from the total increase in the percentage of ZHC workers, to avoid exaggerating the impact of the rise in the number of employees on ZHC. We model the increase in self-employment and ZHC work in percentage terms rather than the raw numerical increase because the total size of the workforce increased substantially between 2006 and 2016 (from 28.8 million to 31.5 million), meaning that even in the absence in a shift in the type of work, the number of people in low paid self-employment and on zero hours workers would have increased, and we wanted to be sure that this was taken into account in the calculations. Compared to a situation where the proportion of self-employed people and ZHC workers was unchanged from 2006, the actual 2016 levels of insecure work imply an increase of 650,000 self-employed workers and just over 600,000 extra ZHC employees.

The earnings penalty for self-employment and zero-hours contracts

As explained in the Introduction, a key component of the fiscal gap is the earnings penalty to insecure work. This chapter compares income from work for self-employed workers and workers on zero-hours contracts with other types of employee and looks at the penalty which self-employed workers, and employees on ZHC, face – both "in the raw" and controlling for other employee and job characteristics.

The focus in this section is on weekly rather than hourly earnings as weekly (or annual) earnings are more relevant for the penalty to the Exchequer for self-employment and zero-hours contracts than are hourly earnings. This is because employee NICs are assessed on the basis of weekly earnings, while income tax and self-employed NICs are assessed on the basis of annual earnings. In addition, tax credits are assessed on monthly earnings.

The earnings penalty for self-employment

Earnings not controlling for other factors

It is well known from previous empirical research that self-employed workers face a substantial earnings penalty relative to employees across most of the earnings distribution (Dellot and Reed, 2015). Table 1 shows earnings for employees, and business income for self-employed people, at various points in the distribution of each (including dividend and earnings income), using data from the UK Family Resources Survey which is the best source of survey data on incomes in the UK which collects data on both employees and the self-employed.[4]

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[4]   Note that the Labour Force Survey data, while more timely than the FRS, does not contain information on incomes for self-employed people, and so cannot be used here.

Table 2.1. Weekly employee earnings and self-employment income for people in work in the UK Family Resources Survey, 2014-15

Percentile	Employee earnings (£/week)	Self-employed income (£/week)	Difference in self-employed income vs employee earnings	
			£/week	percentage
5th	86	0	-86	-100%
10th	125	26	-99	-79%
20th	205	100	-105	-51%
30th	273	153	-120	-44%
40th	333	200	-133	-40%
Median	400	253	-147	-37%
60th	476	343	-133	-28%
70th	575	433	-142	-25%
80th	703	552	-151	-21%
90th	959	863	-96	-10%
95th	1,312	1,276	-36	-3%

Notes: earnings and income are gross, before tax and in-work benefits.

Table 2.1 shows that self-employed people earn less than employees across all the percentile points of the distribution of earnings from work shown in the table. In cash terms the largest disadvantage for self-employed people compared to employees is at the 80th percentile (£151 per week) but self-employed people are worse off by at least £130 at all points between the 40th and 80th percentiles. Above the 80th percentile the losses are smaller; this reflects the fact that the distribution of self-employed incomes is more unequal than the distribution of employee earnings and there are a small number of self-employed people at the top of the distribution with very high earnings[5] .

In percentage terms, the penalty to self-employment is largest at the bottom of the earnings distribution (mainly because many self-employed people in the bottom 10 percent of the self-employed earnings distribution have a gross income of zero, or even make losses). At the median – in the middle of the earnings distribution – the self-employment penalty is 37 per cent.

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[5]   At the 99th percentile self-employed income is actually around £300 per week higher than employee earnings but this statistic has not been presented in Table 2.1 as the data for the very high-paid in the FRS are not very reliable due to low response rates to the FRS questionnaire among those with very high incomes.

Controlling for other factors

The results for the self-employed earnings penalty above just show the "raw" difference between self-employed incomes and employee earnings, and do not control for any other factors that affect earnings in work (such as age, education levels, industry, occupation and so on). This means that the raw statistics in Table 2.1 may be a poor indication of the true penalty to self-employment compared with being an employee. For example, if self-employed people were (on average) much less skilled or much younger and less experienced than employees, then we might expect the earnings penalty to self-employment to reduce (or even disappear entirely) once we control for other factors which affect earnings in work.

In this research project we use regression modelling to analyse the differences between self-employed incomes and employee earnings, controlling for a range of other factors. The regressions control for the following employee and job characteristics (a full regression specification is contained in Appendix B)[6] :

- age of worker (in 10-year age bands);

- gender of worker;

- age of youngest child in worker's family (interacted with gender of worker);

- highest qualification of worker;

- ethnicity of worker;

- region where worker lives;

- industry of job (1-digit);

- occupation of job (1-digit).

The regression technique used to evaluate the difference in weekly self-employment incomes and weekly earnings from employment, controlling for the factors above, is called quantile regression. Conventional regression methods evaluate the impact of each of the explanatory variables in the regression on the dependent variable (weekly earnings in this case) at the mean (average) of the dependent variable. Quantile regression, by contrast, evaluates the impact of the explanatory variables at a particular point in the distribution (quantile) of the dependent variable – most commonly the median of the distribution, but any percentile or other quantile can be used. By using quantile regressions it is possible to measure the apparent effect of self-employment on weekly income from work at any point in the distribution of incomes from work.

Figure 2.1 shows the weekly earnings penalty to being self-employed compared with being employed, estimated using quantile regressions across the whole distribution of

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6   Note that job tenure was not included as a control variable in the regressions because job tenure in self-employment compared to employee jobs may be endogenous to the choice of employment type, rather than a determining factor of earnings. The same may be true of zero-hours contracts compared to other employee contracts.

weekly incomes from work, from the 1st to the 99th percentile. The figure compares the raw earnings penalty (in red) as shown in Table 2.1 above with the regression-adjusted estimate of the earnings penalty (in blue). The earnings penalty is measured in percentage terms. As the Figure shows, after controlling for worker and job characteristics the weekly earnings penalty is actually *bigger* rather than smaller across most of the distribution (up to the 75th percentile). For example, at the 20th percentile self-employed people earn 72% less per week than employees when controlling for other factors, compared with 46% if not controlling for other factors. The penalty for self-employment at the median of the distribution is 44% regression-adjusted, compared to a raw penalty of 37%. It is only at the 85th percentile and above that self-employed people do better when controlling for other factors than they do when we just look at the raw data, and even here the effects of regression adjustment are not large; for example there is a premium to self-employment of 3 per cent at the 95th percentile when controlling for other factors, compared to a raw penalty of 3%.

Figure 2.1. Raw and regression-adjusted penalty for self-employed weekly incomes vs employee earnings at different points in the distribution
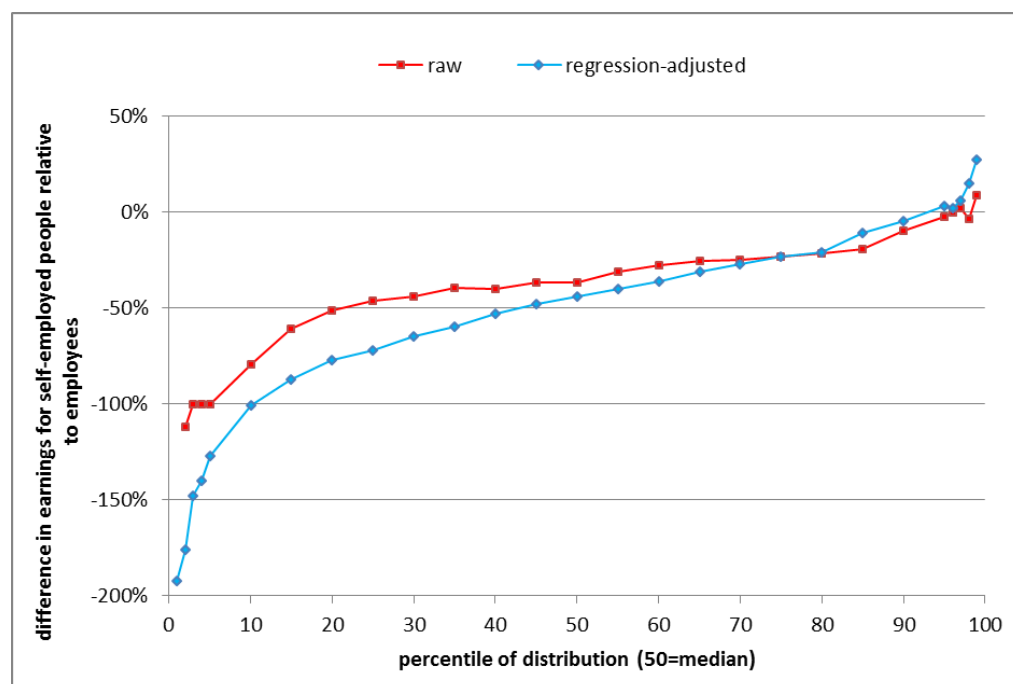
Notes: penalty of -100% means that earnings for self-employed people are zero; penalty of lower than -100% (e.g. -150%) means that earnings for self-employed people are negative (i.e. losses).

The earnings penalty to zero-hours contracts

Previous research from the Resolution Foundation has focused on the hourly earnings penalty to zero-hours contracts (ZHC) compared with permanent employment and found a sizeable hourly pay penalty for ZHC workers compared to those on permanent contracts. Although around four-fifths of this pay penalty disappeared when employee and job characteristics were controlled for, there was still a hourly earnings penalty to ZHC of approximately 7% which could be explained by differences in observable characteristics (Resolution Foundation, 2016).

By contrast, the focus in this research is on the weekly penalty to ZHC compared to other employee jobs as this is the most relevant measure from a fiscal point of view.

The dataset used for the analysis of zero-hours contracts is the UK Labour Force Survey, which is a quarterly 'rolling panel' survey of around 60,000 households per year. The summer 2016 quarterly survey of the LFS, which is the wave used for this research, contains wage data on approximately 14,000 employees.[7] Crucially, unlike the FRS, the LFS asks a specific question to employees about whether they are on a zero hours contract or not. Approximately 2.5 percent of employees in the summer 2016 LFS were on a zero-hours contract.

Table 2.2 shows the weekly earnings for people on zero-hours contracts compared to other employees at various percentiles of the earnings distribution. These are the 'raw' differences, which do not control for any employee or job characteristics

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[7] Note that each individual in the LFS is interviewed for 5 consecutive quarters, but wage data are only collected for the 1st and 5th waves of the survey. Thus in each quarterly LFS wave, the sample of wage data is approximately 40% of the size of the whole sample of employees.

Table 2.2. Earnings for employees on zero-hours contracts compared to other employees in the UK Labour Force Survey, Summer 2016

Percentile	Weekly earnings (£)		Difference in ZHC earnings vs other employees	
	Zero hours contract workers	Other employees	£/week	percentage
5th	32	88	-56	-64%
10th	45	135	-90	-67%
20th	67	213	-146	-69%
30th	98	288	-190	-66%
40th	138	346	-208	-60%
Median	162	415	-253	-61%
60th	207	485	-278	-57%
70th	255	577	-322	-56%
80th	308	712	-404	-57%
90th	381	923	-542	-59%
95th	462	1,225	-763	-62%

Notes: earnings are gross, before tax and in-work benefits

Table 2.2 shows that the 'raw' earnings penalty to zero hours contracts is relatively stable across the distribution of earnings, at between 55 and 70 per cent across the whole distribution. The median ZHC employee is paid 61 percent less than the median employee on other forms of contract. This is a larger 'raw' penalty in median weekly earnings than for self-employment, which was 37 per cent, although the self-employment income penalty varies a lot more across the earnings distribution.

As with Figure 2.1 for self-employment, Figure 2.2 below shows the regression-adjusted pay penalty for ZHC workers compared to other employees across the distribution of earnings, controlling for the same set of employee and job characteristics as in the case of the regressions for self-employed people vs employees shown earlier in this chapter (but using the Summer 2016 LFS dataset instead of the 2014-15 FRS).

Figure 2.2. Raw and regression-adjusted weekly earnings penalty for ZHC employees compared to other employees at different points in the distribution
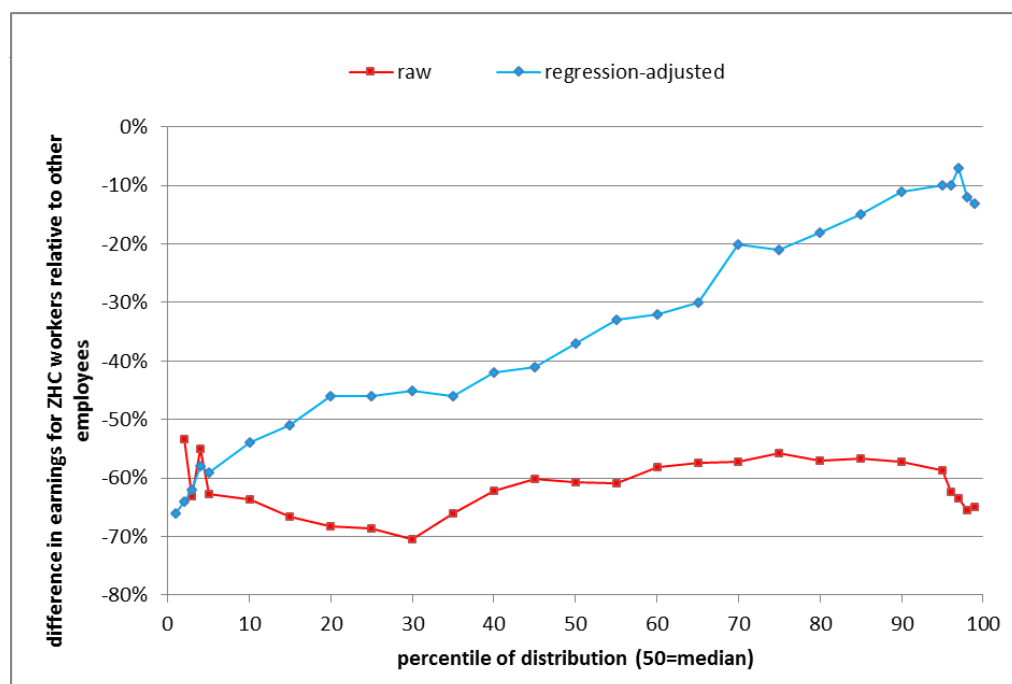

Figure 2.2 shows that the regression-adjusted weekly earnings penalty for employees on ZHCs is substantially smaller than the raw earnings penalty across most of the distribution, from around the 5th percentile upwards. Furthermore, the regression-adjusted weekly earnings penalty is smaller (in percentage terms) the further up the distribution one goes. At the median the regression-adjusted penalty is 37 per cent, while at the 75th percentile it is 21 percent.

Comparing the regression-adjusted earnings penalty for self-employed and ZHC employees

Figure 2.3 graphs the regression-adjusted earnings penalty for self-employed workers (compared to employees) and the regression-adjusted earnings penalty for ZHC employees (compared to other employees) on the same graph, to show the differences in the patterns across the earnings distribution. The penalty for self-employed workers is bigger than for ZHC employees across the lower half of the earnings distribution. Between the 50th and 90th percentiles the earnings penalty is very similar for both types of worker. At the 95th percentile and above there is a small earnings premium for the self-employed but there is still an earnings penalty for ZHC employees.

Figure 2.3. Regression adjusted earnings penalty across the gross earnings distribution for self-employed workers and ZHC employees compared
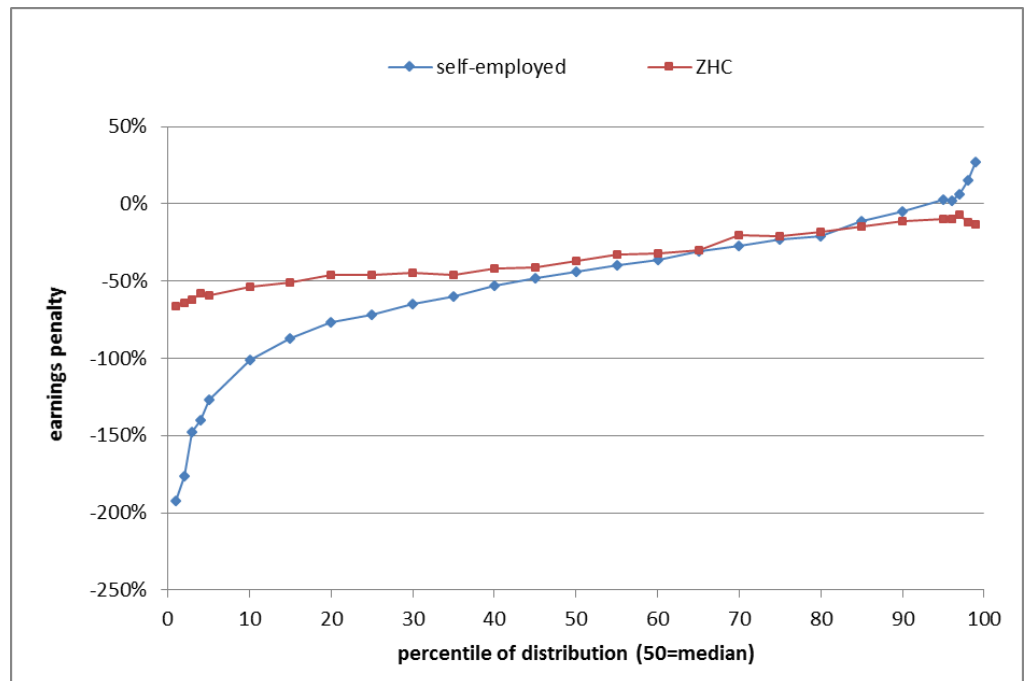
Differences in the treatment of self-employment income and employee earnings in the tax and National Insurance systems

This section compares the treatment of earnings and profits for self-employed people by the income tax and National Insurance Contributions (NICs) systems to the treatment of employee earnings, pointing out any differences between the generosity of the system for self-employed people and employees. Note that employees on zero-hours contracts face the same treatment by the tax and NICs systems as employees, and so this chapter does not deal with ZHC employees specifically.

Income tax system

The headline rates of **income tax** in the UK for employees and self-employed workers are the same for earned income (i.e. where employees are receiving income as earnings, and where self-employed people are paying themselves earnings). In the 2016-17 tax year the rates of tax on earned income are as follows:

- Each person has a tax-free personal allowance of £11,000 per year.

- The next £32,000 of gross income (i.e. up to £43,000 gross income) is taxed at a marginal rate of 20% (the "basic rate")

- Gross income from £43,000 to £150,000 per year is taxed at 40% (the "higher rate")

- Above £100,000 gross income, the amount of tax-free personal allowance is reduced by 50p per extra pound of income until £122,000 where the personal allowance is reduced to zero. In practice this means an effective marginal rate of 60% for incomes between £100,000 and £122,000.

- Gross income above £150,000 per year is taxed at 45%.(the "additional rate")

Many self-employed people pay themselves partially (or in some cases wholly) in *dividends* rather than earnings, particularly in cases where a self-employed person has set up their own company and is a director of that company[8] . Recent analysis of Labour Force Survey data by the Institute for Fiscal Studies (Adam et al, 2017)

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[8]   Company forms involving a small number of directors (but more than one, such as a Limited Legal Partnership (LLP), raise similar issues to self-employed owner-directors.

suggests that out of the total population of self-employed people, 12.5% (one in eight) report being sole directors of their own limited company, whereas the other 87.5% are "sole traders" who are not incorporated.

The tax treatment of dividends is more complicated than for earned income. Dividends are paid out of company profits which are also subject to Corporation Tax (currently charged at a rate of 20% for companies based in the UK). Income from dividends is taxed at a lower rate than income from earnings to reflect the fact that dividends are paid out of profits after Corporation Tax. In the 2016-17 the rates of tax on dividends are 7.5% for basic rate taxpayers, 32.5% for higher rate taxpayers and 38.1% for additional rate taxpayers. There is also an additional tax-free allowance on dividend income (separate from the tax-free allowance for earned income) of £5,000[9] . In practice this means that the total average rate of tax on dividend income for self-employed people who are self-incorporated is likely to be lower than the rate of income tax for employees paid the equivalent amount, depending on how much Corporation Tax a self-employed person's company is liable to, and what the total amount of dividend payments is..

National Insurance system

The National Insurance Contributions (NICs) system treats income from work for self-employed people more generously than employee earnings. Earnings for employees are subject to two types of NICs, Class 1 Employee NICs and Class 1 Employer NICs, at the following weekly (rather than annual) rates:

- Employee NICs are paid at a marginal rate of 12% above the Primary Threshold of £155 per week up to the Upper Earnings Limit (UEL) of £827 per week, and then at a marginal rate of 2% for earnings above the UEL[10] .

- Employer NICs are paid at a marginal rate of 13.8% for all earnings above the Secondary Threshold of £156 per week (with no upper limit).

By contrast, self-employed workers who are registered as 'sole traders' (rather than being owner-directors of a company) pay Class 4 NICs which are assessed on an annual basis as follows:

- Class 4 NICs are paid at a marginal rate of 9% for all profits above the Lower Profits Limit of £8,060 per year up to the Upper Profits Limit (UPL) of £43,000 per year, and then at a marginal rate of 2% for earnings above the UPL.

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[9] Prior to 2015-16 dividend payments were eligible for a tax credit which reduced effective tax rates on dividends to 0% (basic rate), 25% (higher rate) and 30.6% (additional rate). The dividends tax regime introduced for 2016-17 is less generous, and is projected by the OBR to raise around £2bn per year by 2019-20 (HMT 2015, Table 2.1)

[10] Note that workers above State Pension Age do not pay Employee NICs (but their employers do pay Employer NICs on their salaries).

Differences in the treatment of self-employment income and employee earnings in the tax and National Insurance systems

There is also a small weekly NICs contribution for self-employed workers (Class 2 NICs) of £2.80 per week (although this is being abolished from 2018-19 onwards).

Finally, for self-employed people who have incorporated their own business ("owner-directors"), earnings paid from the business are subject to Class 1 Employee and Employer NICs but dividends paid from the business do not incur any NICs charge

Illustrative differences between tax payments for employees and self-employed

Figure 3.1 shows the differences in total income tax and NICs payments for three different types of worker over an earnings/profits range between zero and £200,000 per year:

   a) an employee (red line);

   b) a self-employed sole trader (green line);

   c) a self-employed person incorporated as a company (blue line).

Note that the vast majority of workers have earnings (and/or profits, for self-employed people) in the left hand part of the diagram – between zero and £50,000 per year.

Figure 3.1 shows that there is a large, and growing, difference in the combined tax and NICs payments of employees and sole traders above the lower limits for various types of NICs (approximately £8,000 per year). Incorporated self-employed people have even lower combined tax and NICs payments as they have no liability at all for NICs if they are wholly (or mostly)[11] remunerated in profits. However, the gap between the 'incorporated' line and the 'sole trader' line is much smaller than the gap between the 'employee' line and the 'sole trader' line. This reflects the fact that the NICs liability for self-employed people is much smaller than the NICs liability for employees, so sole traders are already avoiding most of the NICs payment which employees on similar levels of remuneration are liable to.

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[11]   A common strategy for self-employed people incorporated as companies is to pay enough income as earnings to preserve eligibility for the State Pension (by paying at or just above the Lower Earnings Limit of £112 per week) but to pay less than the Primary and Secondary Thresholds (£155 and £156 per week respectively in 2016-17) to avoid attracting a NICs liability. Note that self-incorporated people are treated as employee directors by the tax system and liable to Class 1 rather than Class 4 NICs (if their earnings are high enough to incur a NICs liability).

Figure 3.1. Combined income tax and NICs paid by employee, sole trader and self-incorporated person for gross incomes from £0 to £200,000/year

Table 3.1 gives more detailed information on income tax and NICs payments for various levels of gross incomes between zero and £100,000 per year. Reading from left to right, the left-most column shows annual gross earnings/profits, followed by:

- total tax and NICs paid for an employee with that level of gross earnings;

- total tax and NICs paid by a sole trader with that level of gross income from work (and the reduction in total tax and NICs paid relative to an employee);

- total tax and NICs paid by an incorporated owner-director (and the reduction in total tax and NICs paid relative to an employee).

Table 3.1 shows that at gross annual earnings of £10,000, a sole trader pays around 35% less NICs than an employee (due to the lower rates of NICs for self-employment) whereas an owner-director pays no tax whatsoever (due to not paying any NICs). Note that £10,000 is below the current income tax personal allowance so any tax payment at this level of annual earnings is made up entirely of NICs. At gross earnings of £20,000, sole traders pay 38% less tax/NICs than employees, while owner-directors pay 63% less. The relative tax advantage of owner-directors compared to employees and to sole traders is smaller at higher gross income levels because income tax (which all three types of worker pay at the same rate) becomes a larger part of the overall tax/NICs bill as gross earnings rise, due to the progressiveness of the tax system compared to the NICs system. At a gross income of £100,000 per year, sole traders pay around 29% total tax/NICs less than employees, whereas owner-directors pay around 38% less than employees.

Differences in the treatment of self-employment income and employee earnings in the tax and National Insurance systems

Table 3.1. Total income tax and NICs paid by employee, sole trader and incorporated owner-director for various gross annual earnings/profits

Annual Gross earnings/profits (£)	Employee	Sole trader		owner-director	
	Total tax & NICs paid (£)	Total Tax & NICs paid (£)	Reduction relative to employee (%)	Total Tax & NICs paid (£)	Reduction relative to employee (%)
0	0	0		0	
10,000	493	320	35.1%	0	100.0%
20,000	4,873	3,020	38.0%	1,800	63.1%
30,000	9,453	5,920	37.4%	3,800	59.8%
40,000	14,033	8,820	37.1%	5,800	58.7%
50,000	19,314	12,630	34.6%	9,200	52.4%
60,000	24,894	16,830	32.4%	13,200	47.0%
70,000	30,474	21,030	31.0%	17,200	43.6%
80,000	36,054	25,230	30.0%	21,200	41.2%
90,000	41,634	29,430	29.3%	25,200	39.5%
100,000	47,214	33,630	28.8%	29,200	38.2%

Methodology for estimating the size of the 'fiscal gap'

Previous chapters have outlined the size and nature of the fiscal penalty arising from insecure work for self-employed workers and employees on zero hours contracts. This chapter explains the methods by which the size of the fiscal penalty is estimated using data from the UK Family Resources Survey and the Landman Economics tax-benefit model.

The tax-benefit model is used to estimate the impact on the public finances of the increase in self-employment and zero-hours contracts as a proportion of the UK labour force between 2006 and 2016. In particular, we model:

(i) an increase in the proportion of self-employed from 13.1% of the workforce to 15.1%;

(ii) an increase in the proportion of workers on zero-hours contracts from 0.2% to 2.0% of the workforce.

This analysis compares the growth in the proportion of self-employed and ZHC workers against a counterfactual scenario where the total number of people in employment increased by the same amount, but the proportion of self-employed and ZHC workers was unchanged from 2006. This counterfactual scenario would have meant that 1.25 million workers entered more secure employee jobs rather than either self-employment or ZHC jobs

Accounting for the income and earnings levels of the additional self-employed and zero-hours contract workers over the last decade

Rather than just modelling the impact of an increase in self-employment at the average (mean or median) self-employed incomes, the methodology used here tries to take account of the distribution of earnings of the extra self-employed. Figure 4.1 below shows the location of self-employed workers in the overall distribution of weekly earnings (including employees and self-employed people), by quintile of weekly earnings. This analysis uses the FRS for 2005-06 and then compares it with the FRS for 2014-15. Because the FRS is known to undersample self-employed workers, the total proportion of self-employed workers in the FRS for 2005-06 and 2014-15 is adjusted using data from the LFS for 2006 and 2015. The FRS data for 2014-15 is then further adjusted to take account of increases in self-employment between 2015 and 2016 in the LFS. Therefore the estimated overall increase in self-employment across the whole labour force is adjusted to match the increase in self-employment between 2006 and 2016 from the LFS.

Figure 4.1. Incidence of self-employment across the distribution of weekly incomes from work: estimates for 2006 and 2016 (FRS data adjusted using LFS self-employment estimates)
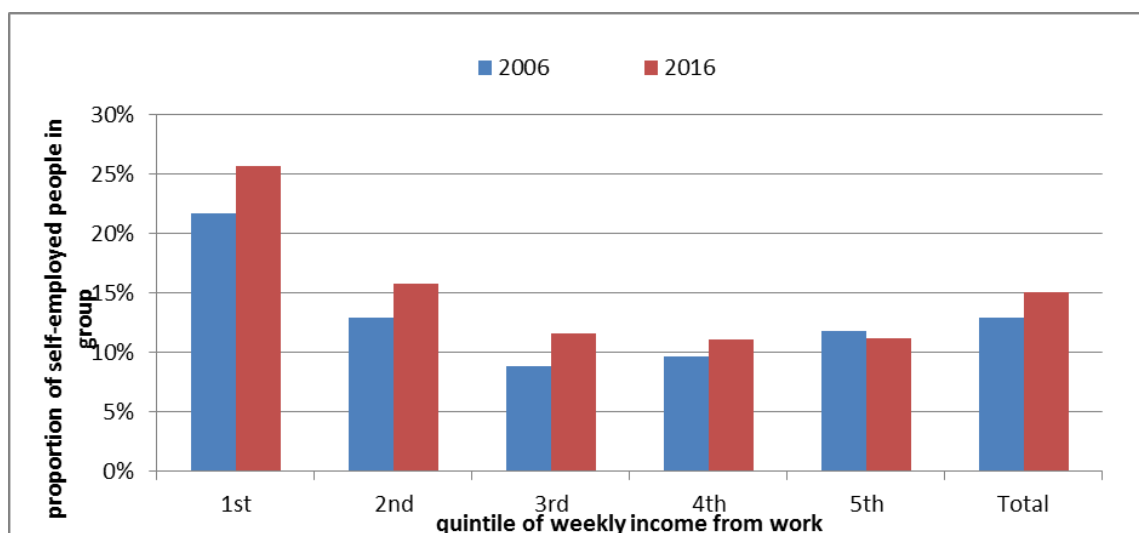

Data source: UK Family Resources Survey (for 2005-06 and 2014-15) adjusted using UK Labour Force Survey data for 2006 and 2016

Figure 4.1 shows that self-employment in 2016 was more skewed towards the lower end of the income distribution than in 2006. The biggest increase in self-employment was in the lowest quintile of weekly incomes, and going up the income distribution the increase in self-employment became gradually smaller until in the top quintile, the proportion of people in self-employment actually decreased slightly. Thus, when calculating the impact of increased self-employment on the public finances, the weights for self-employed people in the tax-benefit model are adjusted to reflect the fact that most of the extra self-employment over the last decade is at relatively low earnings levels.

Figure 4.2 shows a similar analysis to Figure 4.1 but this time for employees on zero hours contracts using data from the Labour Force Survey for summer 2006 and summer 2016. The figure is shown using the same vertical axis scale as Figure 4.1 to show the relative importance of ZHC working compared to self-employment in the UK economy.

Figure 4.2. Incidence of ZHC employees across the distribution of weekly earnings: 2006 and 2016
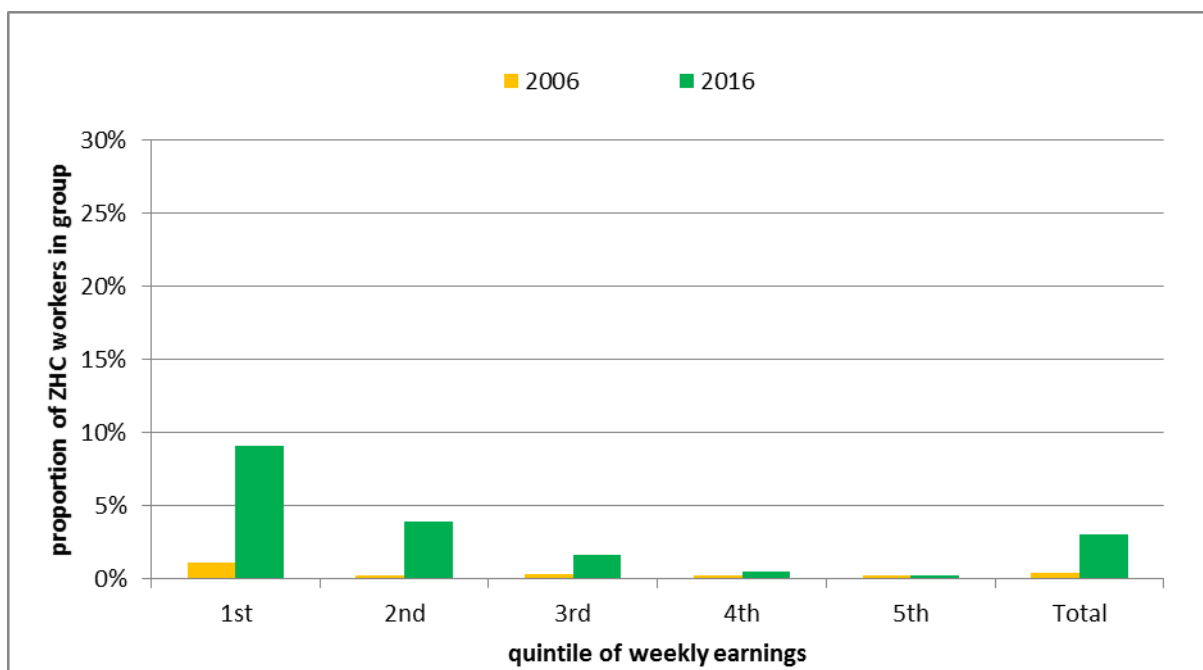
Data sources: UK Labour Force Survey, summer 2006 and summer 2016

Figure 4.2 shows that the increases in employees on zero hours contracts have been skewed heavily towards the bottom of the weekly earnings distribution. Over half the total increase in ZHCs is in the lowest quintile of the weekly earnings distribution, and the increases in the number of employees on ZHCs in the 4th and 5th quintiles have been negligible. Again, when calculating the fiscal impact of increases in ZHCs over the last 10 years, the model calculations are re-weighted so that a much higher weight is assigned to ZHC employees in the lower quintiles, and the lowest quintile in particular.

In addition, it should be noted that the simulation of the impact of self-employment and ZHCs uses the distribution of wages in 2016 and so takes into account the overall decline in real wages for much of the period since the 2008-09 recession. This is because in this report we are specifically interested in estimating the fiscal penalty arising from insecure work rather than any wider impact on the public finances arising from average wages falling in real terms.

Modelling the impact of increased self-employment

The analysis uses the Landman Economics tax-benefit model running the 2014-15 FRS, the most up-to-date data available at the time of writing. The tax-benefit model uses the data on individuals in households in the FRS (for example employment status, gross earnings from work and income from other sources, etc.) to calculate the

amount of income tax and NICs each adult in the FRS pays, and the amount of transfer payments received by individuals families in tax credits and benefits such as Housing Benefit, Employment and Support Allowance, and so on. The model is developed jointly in collaboration with the Institute for Public Policy Research and the Resolution Foundation, who also use it for empirical analyses. More technical detail on the model is given in Appendix A in the Technical Appendix document.

The analysis uses the population of self-employed people in the FRS and then first works out what the impact on the public finances would be if each of them were shifted into employment as an employee, boosting their weekly earnings using the coefficients from the weekly earnings regressions the results of which are summarised in Figure 2.1 (and shown in more detail in the appendix.) Note that the gain to weekly income varies across the distribution so there is a larger percentage gain for individuals lower down the distribution of weekly incomes from work[12] .

This technique then produces an estimate of the impact on the public finances if everybody in self-employment were switched into being an employee. This overall fiscal impact is then scaled down using the results for the distribution of increased self-employment by weekly incomes (as shown in Figure 4.1) to give a realistic estimate of the fiscal impact of the increased self-employment over the last decade.

In other words, the modelling estimates the fiscal impact of increased self-employment 'in reverse' – by estimating the extra tax receipts which would accrue to the Exchequer if the increase in self-employment as a proportion of the workforce between 2006 and 2016 had not happened, and instead, self-employment had remained constant as a proportion of the workforce since 2006 and more people had moved into secure employee jobs.

The fiscal impact of increased self-employment breaks down into three components:

1. reduced income tax payments;

2. reduced NICs payments;

3. increased payments of tax credits and in-work benefits such as Housing Benefit for working families on low incomes.

The income tax and NICs receipts, and the tax credit and benefit payments for self-employed people in the FRS, are calculated under two different assumptions about the tax status of self-employed people;

– a) that all self-employed people are sole traders;

– b) that all self-employed people are owner-directors of their own companies.

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[12]   Note that for self-employed people in the lowest decile of weekly earnings, regression coefficients for weekly earnings in levels, rather than percentage impacts, are used; this is because many self-employed people in the lowest decile have negative or zero earnings and so altering their incomes by multiplication won't work properly, so an additive approach has to be used instead.

Note that in scenario (a), the switch from employee to self-employed (or vice-versa) only has a direct impact on the fiscal treatment of each person in the model in the case of component (2) – the NICs treatment of self-employed workers compared to employees (as shown in Chapter 3 above). For income tax payments and tax credits, the fiscal impact in this scenario is solely due to the difference in weekly gross incomes from work for self-employed people compared to employees. In scenario (b) there is a direct fiscal impact from income tax as well as National Insurance; we assume that owner-directors pay no NICs (as their earned income is below the NICs Primary and Secondary Thresholds), and that the rest of their remuneration above the NICs thresholds is in the form of dividends (so they pay income tax at the dividend rates which are lower than the equivalent rates for earned income, while also benefiting from the £5,000 annual tax-free allowance for dividends).

Two important additional points regarding the methodology should be noted. One is that the classification of self-employed or employee for each individual in the Family Resources Survey is based on their primary job – the one in which they work the most hours per week. Working individuals in the FRS data can report up to three current jobs, and just over 3 percent of workers report doing two or more jobs; around 40 per cent of second jobs are self-employed. The reclassification from self-employed to employee is for people whose primary job is self-employed only – self-employed second jobs are disregarded.

Secondly, it should be noted that when tax credits are replaced by Universal Credit at some point in the next few years, there will be a more direct impact of moving into self-employment on UC payments, as the UC system is less generous for self-employed people than for employees. Analysis of the impact of the introduction of UC by the OBR suggests that the 'minimum income floor' in UC (the assumption that self-employed people have a minimum income equal to 30 hours' work per week at the National Minimum Wage and their assessment for UC on this basis rather than their actual income) will save the Exchequer £800 million per year by 2020-21[13] . This is an important change to how self-employment people will be treated by the welfare system which is likely to leave many low-paid families with one or more self-employed worker substantially worse of, but it is not considered in the results reported in Chapter 5 below.

Modelling the impact of increased ZHC working

To model the impact of increased numbers of zero-hours contract workers, the analysis in this report uses the population of employees in the FRS and then works out what the impact of the public finances would be if each of them shifted from being a worker on a ZHC to a worker on a more permanent employee contract, boosting their weekly earnings using the coefficients from the weekly earnings regressions summarised in Figure 2.2 (and shown in more detail in the Appendix).

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[13]   OBR (2016) Economic and Fiscal Outlook, March 2016

Methodology for estimating the size of the 'fiscal gap'

If it were possible to do so, it would have been best to perform this upward shift in earnings only for employees in the FRS who are on a zero-hours contract. Unfortunately the FRS does not contain questions about the form of contract which employees are on, and so it is necessary to apply the upward shift in earnings for all employees in the FRS and then to re-weight the resulting estimated fiscal effects according to our estimates from the LFS of the number of extra employees in ZHC jobs over the last decade (as a proportion of the UK workforce) in each quintile of the weekly earnings distribution.

Note that the pattern of ZHC working across the earnings distribution shown in Figure 4.2 implies that any fiscal impact of increased ZHC in the top 2 quintiles is negligible, and so accordingly, the estimated impacts of changes to earnings in the top 2 quintiles carry a very low weight in the calculations. Most of the estimated fiscal impact of ZHCs results from simulating changes to wages in the lowest quintile.

As with increased self-employment, the fiscal impact of increased ZHC working breaks down into three components. However, in this case classification as a ZHC worker or another type of employee does not have a direct impact on the tax or NICs treatment of that worker. The only fiscal impacts for ZHC employees are indirect, arising entirely from reduced gross earnings for ZHC workers compared to workers on secure employee contracts, and the effect that lower earnings have in terms of lower income tax and NICs receipts and higher expenditure on tax credits and other in-work benefits such as Housing Benefit.

Estimating the proportion of the fiscal impact due to the tax system

For increased self-employment, it is possible to decompose the fiscal impacts into three components:

i)   the impact due to decreased earnings for self-employed people compared to employees due to lower income tax and NICs payments, and higher in-work benefit and tax credits entitlements

ii)   the impact due to differential treatment of self-employed people by the National Insurance Contributions system (Class 4 Self-employed NICs compared to Class 1 Employer and Employee NICs)

iii)   the impact due to self-employed people choosing to incorporate themselves as companies and paying themselves mainly in dividends rather than earnings, thus avoiding NICs altogether.

Accordingly, many of the results presented in Chapter 5 feature this decomposition. The estimated fiscal impacts based on components (i) and (ii) only should be taken as a 'lower bound' estimate of the overall fiscal impact (on the assumption that none of the additional self-employed workers set themselves up as companies, thus avoiding NICs). On the other hand, the impacts which also include component (iii) should be taken as an 'upper bound' estimate, for two reasons: firstly, because these impacts assume that all the additional self-employed workers set themselves up as companies,

and secondly, because companies with positive net profits will attract Corporation Tax payments, which will compensate for at least some of the decrease in NICs from incorporation of self-employed people[14] .

For increased ZHC working this decomposition is not necessary because all the fiscal impact is due to decreased earnings for ZHC workers compared to other employees.

Estimating the fiscal impacts by quintile of weekly earnings

The results also show a decomposition of the fiscal impact by quintile of weekly earnings. This allows us to show how much of the fiscal impact is due to low-paid self-employed and/or ZHC workers compared to high-paid workers. It should be noted that the impacts for the highest-paid self-employed workers are actually reversed because the proportion of self-employed in the highest quintile actually fell by 2016 relative to 2006. Meanwhile, for ZHC employees, there is almost nobody in the top two quintiles on a zero-hours contract anyway so almost all the impact comes from the low-paid

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[14] The Landman Economics tax-benefit model does not attempt to model Corporation Tax payments because there is insufficient information in the Family Resources Survey data to be able to model corporate taxes accurately.

Results

Size of the 'fiscal gap' if all the additional self-employed workers are sole traders

Table 5.1 below shows the fiscal impact of increased self-employment and zero-hours contract working over the last decade from 2006 to 2016 on the assumption that all the extra self-employed workers (as a proportion of the UK workforce) are sole traders paying Class 4 NICs

Table 5.1. Fiscal impact of increased self-employment and ZHC working: lower bound estimate assuming the increase in self-employed workers between 2006 and 2016 is all sole traders paying Class 4 NICs (£bn/year)

Source	Self-employed	ZHC employees	total
Income tax	-1.09	-0.62	-1.71
NICs	-1.58	-0.81	-2.39
Tax credits and benefits	-0.77	-0.44	-1.21
Total	-3.44	-1.87	-5.31

Note: negative figures imply a net revenue loss.

The results show that the overall impact of additional insecure working over the last decade on the public finances is a net revenue loss £5.3bn. In tax terms, this is roughly equivalent to the revenue yield from raising the basic and higher rate of income tax by 1p (HMRC, 2016). In public expenditure terms, it is equivalent to just over a third of the social care budget for England (NHS Digital, 2016, Table 1).

Increased self-employment has approximately twice the impact on the public finances as increased numbers of employees on ZHCs.

In terms of the relative importance of each component of the tax-benefit system around 45% of the total fiscal impact is due to reductions in NICs receipts, 32% due to reduced income tax receipts, and 23% due to increased tax credit and benefit payments.

What about the relative importance of more generous treatment of self-employed workers by the tax system (as discussed in Chapter 3) compared to the gross income penalty for self-employed workers compared to employees (as discussed in Chapter 2)? Table 5.2 shows the results of a decomposition of the "self-employed" total fiscal impact from Table 5.1 into the impact due to the tax treatment of self-employed workers and the impact due to lower gross incomes. The results show that over 92%

of the fiscal impact of increased self-employment is due to self-employed people having lower gross incomes from work than employees. Only just under 8% is due to the more favourable treatment of self-employed people by the tax system.

Table 5.2. Decomposition of fiscal impact from Table 5.1 due to increased self-employment into impact due to tax system and impact due to lower gross incomes

Fiscal impact due to:	£bn	%
Tax/NICs/benefit/tax credit system	-0.26	7.6%
Lower gross incomes from work	-3.18	92.4%
Total	-3.44	100.0%

Size of the 'fiscal gap' if all the additional self-employed workers are owner-directors

Table 5.3 below reports results in a similar format to Table 5.1, but this time on the assumption that all the additional self-employed workers (as a share of the total UK workforce) since 2006 are owner-directors with their own companies rather than sole traders. Making this assumption increases the total size of the fiscal gap slightly, but only by around £600m – from £5.3bn to £5.9bn. Furthermore, it should be noted that £5.9bn is an 'upper bound' estimate of the size of the fiscal gap arising from insecure working, and is almost certainly an overestimate, for two reasons. One is that owner-directors only comprise a small proportion of the total number of self-employed people in the UK (around one-eighth of the total, according to recent estimates by the IFS)[15]. The other reason is that many owner-directors pay Corporation Tax on company profits which would reduce the size of the fiscal gap compared to the estimates shown in Table 5.3.

Table 5.3. Fiscal impact of increased self-employment and ZHC working: upper bound estimate assuming the increase in self-employed workers between 2006 and 2016 is all incorporated small companies paying no NICs (£bn/year)

Source	Self-employed	ZHC employees	total
Income tax	-1.33	-0.62	-1.71
NICs	-1.89	-0.81	-2.70
Tax credits	-0.77	-0.44	-1.21
Total	**-3.99**	**-1.87**	**-5.86**

Note: negative figures imply a net revenue loss.

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[15]   See Adam *et al,* 2017

Table 5.4 shows the decomposition of the fiscal impact of the self-employment increase but using the data from Table 5.3 instead of Table 5.1. The results show that if all of the increase in self-employed people over the last decade is due to owner-directors rather than sole-traders, the proportion of the fiscal impact due to more generous treatment of owner-directors in the NICs system does increase – to just over 20 per cent. However this is still only around one-fifth of the total fiscal impact of increased self-employment.

Table 5.4. Decomposition of fiscal impact from Table 5.3 due to increased self-employment into impact due to tax system and impact due to lower gross incomes

Fiscal impact due to:	£bn	%
More generous treatment of owner-directors in the NICs system	-0.81	20.4%
Lower gross incomes	-3.18	84.8%
Total	-3.99	100.0%

Fiscal impacts by quintile of weekly earnings

Finally in this chapter, Table 5.5 presents the fiscal impacts broken down by quintile of weekly earnings. The top row shows a breakdown of the figures from Table 5.1 (assuming all the extra self-employed people in the UK labour market are sole traders), while the bottom row shows the figures from Table 5.3 (assuming all the additional self-employed people are owner-directors). In the former case, the lowest paid self-employed people and ZHC employees - those in the bottom quintile of the weekly earnings distribution – account for one-third of the total fiscal impact, while workers in the bottom two quintiles (the bottom 40% of weekly earnings) account for over two-thirds of the fiscal impact. In the latter case where the additional self-employed are owner-directors, the proportion of the fiscal impact accounted for by the low-paid is slightly lower, but only by around four percentage points. Meanwhile, in the top quintile, the fact that the proportion of self-employed people actually *fell* between 2006 and 2016 – coupled with the fact that there are almost no ZHC workers in the top quintile – means that the fiscal impact in the top quintile is actually *positive* – strengthening the public finances by between £470m and £850m depending on which definition of self-employment is used. However, this only makes a small impact on the overall negative fiscal impact of the increase in insecure work.

Table 5.5 Fiscal impacts by quintile of weekly earnings, £bn

Quintile of weekly earnings	1 (low)	2	3	4	5 (high)	total
Assuming all additional self-employed are sole traders	-1.76	-1.86	-1.46	-0.69	0.47	**-5.31**
Assuming all additional self-employed are owner-directors	-1.77	-2.01	1.89	-1.89	08.5	**-5.86**

Note: negative figures imply a net revenue loss, positive figures imply a net revenue gain.

Conclusion

This report has estimated the size of the fiscal gap arising from increased numbers of self-employed workers, and employees on zero-hours contracts, as a proportion of the UK workforce over the last decade. The results show that the UK public finances are between £5.3bn and £5.9bn worse off (depending on the precise definition of self-employment used) than they would have been if the proportion of self-employed and ZHC workers in the UK workforce had been unchanged since 2006. Around two-thirds of this fiscal gap is due to increased numbers of insecure workers in the bottom two-fifths of the weekly income distribution.

The clear implication of this finding is that increased levels of insecure work are imposing costs on the UK Exchequer, at a time when the public finances are still heavily in deficit.

Furthermore, this report finds that only a small proportion (one-fifth at best, and less than a tenth at worst) of the total fiscal gap could be closed if the treatment of self-employed people in the tax and National Insurance systems were reformed so that they were no longer more lightly taxed than employees. That is not to say that measures to equalise the treatment of self-employed people by the NICs system in particular, as recommended (for example) by the Institute for Fiscal Studies in its recent Green Budget (Adam et al, 2017) are not welcome and overdue. But by themselves they would only close a small part of the fiscal gap which has opened up as a result of increased insecure working over the last decade.

The fiscal consequences of increased insecure work are a subject which has received relatively little attention from policymakers in recent years. The analysis in this report suggests that such attention is long overdue

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