Hours and pay insecurity in the UK labour market

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Executive summary

In the last decade, the UK has experienced strong employment growth but also an increase in atypical non-standard forms of employment, such as zero-hours contracts, on-call and agency work, and the gig economy. These types of employment have in common the fact that workers are not guaranteed a minimum level of work and pay or only a very low one. The result is that workers can face a large amount of income instability and difficulties in organizing and planning their time. Nonetheless, workers have been said to benefit workers in at least two ways. First, providing employers with flexibility is assumed to foster employment creation, reduce unemployment and facilitate the labour market integration of groups facing barriers to employment. Second, flexibility is assumed to be beneficial not just to employers but also to employees, particularly those that need to combine work with other responsibilities.

This project aimed to examine the evidence in support of these two claims using quantitative analysis of survey and experimental data. It asked the following two questions:

- Is there evidence that jobs with unstable hours and pay help the unemployed transition into employment? And is there evidence that groups facing barriers to employment are able to benefit?

- How do workers react to instability in hours and pay ? Does the welfare system moderate the impact?

The project consisted of two parts. In the first part, monthly level unemployment histories for approximately 4500 men and 8700 women were combined with information about the incidence of jobs with variable hours and pay . The data was then analysed using survival analysis to ascertain whether unemployed individuals in areas with a higher incidence of variable pay jobs were likely to find employment sooner.

In the second part, 301 low-income, working age, non-student UK residents took part in an experiment hosted on a custom designed web platform. The goal was to test willingness to work under simulated standard and zero-hours contractual conditions.

Findings

- There is no evidence that jobs with variable hours and pay shorten unemployment spells or facilitate labour market reintegration

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- This is true both for men and women, as well as for groups facing barriers to employment such as the low skilled or the long-term unemployed

- Sensitivity checks showed these results to be robust to a variety of specifications including the addition of fixed effects and controls for labour market trends at the local level

- Experimental results compellingly showed that workers avoid work related uncertainty. Participants who faced a 50 percent probability of work not being available were significantly 15 to 30 percentage points less likely to work compared to participants who faced no uncertainty.

- This was not only because variability in work availability reduced total expected pay but also because uncertainty itself was perceived as detrimental. Even when they received a pay rate twice as high and when they had access to out of work benefits when work was unavailable, participants facing uncertainty about work availability chose to work less.

- Welfare policies can be used to encourage people to take up insecure/ flexible work. This can be done either by making sure benefits provide a source of income when work is unavailable or by threatening benefit sanctions. In both cases, the probability to choose work increased by around 11 to 15 percentage points.

Policy implications

Jobs with unstable hours and pay are part of a long-term trend towards labour market deregulation. They allow employers to shift the downside risk of low demand onto their employees and reduce costs.

From a worker perspective however they offer few benefits. These experimental results strongly suggests that workers view uncertainty as a burden and seek to avoid it whenever they can. This result is in line with standard psychological theories that assume humans are risk averse and need predictability in order to plan their lives.

The experimental results also suggest that welfare policies can be used to incentivise individuals to take up unstable employment. Crucially, this can be done both by taking away alternative sources of income such as out of work benefits and by ensuring workers are protected against falls in income when work is unavailable. The former is likely to be much more harmful to living standards and well-being than the latter.

Standard economic theory suggests that any limitations imposed on flexibility would hurt employment, especially that of vulnerable categories such as the low-skilled, immigrants or the long-term unemployed. The empirical results from this project however do not support such an assumption. The results are in line with the literature on unemployment and labour market flexibility which generally finds no or very small effects on unemployment.

The lack of employment effects together with the negative effects on workers both support the case for policy intervention. Employment regulation can be used to limit the extent to which employers can transfer market risks onto their employees, for example by requiring employers to guarantee the number of hours that their employees regularly work. Alternatively, if employer flexibility is to be maintained, policies can ensure that workers adequately compensated for shouldering the risks for example through higher minimum wages or mandatory premiums when hours vary significantly.

1 Introduction

The UK labour market is widely regarded as one of the most flexible among developed countries (OECD, 2020). The cost of hiring and firing employees is comparatively low and the regulatory burden light. Unlike Continental European countries, the use of temporary contracts has traditionally been limited, partly as a result of the comparatively low firing costs associated with the standard employment contract (Barbieri, 2009; OECD, 2013).

During the last decade, the UK experienced an employment boom. The employment rate in the general working age population increased from 72 percent in 2009 to to nearly 76 percent in 2018, while employment rates also increased even more among harder to employ groups. Employment rates among mothers with children under five increased by over 10 percentage points while employment rates among lone parents similarly increased from 57 percent in 2009 to 67 percent in 2018 (Vizard, 2019). The employment rate of non-graduates also went up by 1.5 percentage points (ONS, 2018).

The employment boom has been accompanied by a rise in non-standard jobs. Self employment increased by around 20 percentage points while zero hours contracts, agency and on-call work also experienced significant growth. These jobs share an important feature: the number of hours and associated pay can vary considerably in the short-term, sometimes from week to week. In turn, this variability can induce substantial uncertainty about both pay and time use, especially for low income families.

Psychological and behavioural studies have shown that humans are generally risk-averse and do not cope very well with uncertainty when making decisions (Jackson and Cox, 2013; Kahneman, 2011). In the case of pay, uncertainty can make it difficult to budget and plan financially. Similarly, uncertainty about working hours will interfere with the ability to plan childcare and family activities. Existing research points to significant detrimental effects of financial instability on physical and mental health (Halliday, 2007; Prause et al., 2009; Wolf and Morrissey, 2017), food insecurity (Leete and Bania, 2010; Dahl et al., 2014), indebtedness (Diaz-Serrano, 2005; Schneider and Harknett, 2019), work-family balance and conflict (Henly and Lambert, 2014a) and educational outcomes in children and adolescents (Hill et al., 2013; Gennetian et al., 2015).

The proliferation of non-standard, less secure jobs has been justified on two grounds: employment creation and flexibility. Jobs with flexible working hours and pay allow employers to better match their labour costs to variability in demand. They provide numerical flexibility and limit the excess labour costs associated with

slower business activity. In turn, lower labour costs support job creation benefiting in particular harder to employ workers who otherwise might have been excluded from the labour market.

A second argument in favour of these types of jobs is that they provide some categories of workers with much needed flexibility. Students, older workers, mothers with young children combine work with other duties and responsibilities and typically cannot easily accommodate standard full-time working hours. Jobs with variable hours and earnings can theoretically provide them with increased opportunities to participate in the labour market.

2   Research objectives

This research project set out to test the two arguments outlined above, i.e. that jobs with variable hours and pay provide workers not just employers with flexibility and that they support employment creation, particularly for vulnerable groups. Answering these questions is important from a policy perspective. Whereas previous research has often focused on the negative effects of jobs with unstable hours and pay on worker well-being, their potential benefits have yet to be tested.

The analysis used a combination of longitudinal survey data and newly collected experimental data to answer the following questions:

- Is there evidence that jobs with unstable hours and pay help the unemployed transition into employment? And is there evidence that vulnerable groups facing barriers to employment are able to benefit?

- How do workers react to instability in hours and pay? Does the welfare system moderate the impact?

The study was conducted in two parts. The first part used the UK Household Longitudinal Study (UKHLS) also known as 'Understanding Society' and the Labour Force Survey (LFS) to examine the links between unemployment duration and the incidence of jobs with variable hours and pay. The second part carried out an online experiment with low-income UK participants to determine labour supply responses to uncertainty about availability of work and pay. The experiment sought to reproduce as closely as possible the characteristics of a zero-hours contract and compare labour supply under zero-hours and guaranteed hours conditions. The next section details the data and the methodological choices. Section 4 provides some descriptive results on the rise of jobs with variable hours and pay. Sections 5

and 6 present the main results. Conclusions and policy implications are discussed in Section 7.

3 Data and methods

3.1 Survey data analysis

The first part of the study combined information from the UKHLS and the LFS. UKHLS is a large scale longitudinal survey launched in 2009 that follows approximately 40,000 households (included in the first wave) and interviews them annually. Details about the sampling strategy, the data collected and uses are available at www.understandingsociety.ac.uk. The LFS is the survey used to collect information about the labour market. It interviews approximately 40,000 individuals every quarter and records detailed information about employment conditions.

The aim of the analysis is to assess the extent to which outflows from unemployment and unemployment duration were affected or not by the expansion of jobs with variable hours and pay. For this purpose, unemployment histories were reconstructed using data from UKHLS and a indicator measuring the prevalence of jobs with variable hours and pay was constructed using LFS.

3.1.1 Reconstructing unemployment histories

Individual unemployment histories were reconstructed by combining information about the current labour force status with information from the 'Annual Event History' module which records periods of employment and unemployment in-between the annual interviews. The information from these two sources was harmonized to derive the monthly employment history for every individual who reported themselves to be unemployed in any interview. In case of inconsistencies, priority was given to current over retrospective information. The unemployment history prior to entry into the study was reconstructed using information on when the most recent job ended or when the individual left full-time education. The Annual Event History is not collected for proxy interviews so these were excluded from the analysis.

A person was considered to be unemployed then they reported unemployment or family care as their main economic activity, or when they reported not doing any paid work and not having any paid job. A person was considered to be employed when they reported being employed full-time or part-time, self-employed or on

maternity leave. Periods in full-time education, retirement, long-term sickness, and periods spent in training or apprenticeships were excluded.

To avoid complications, only working age individuals , defined as aged 22 to 64, were retained in the analysis. Individuals who were not observed as being unemployed in any of the waves were dropped. While some of these individuals may have reported unemployment spells in between interviews, retrospective information is usually less reliable and there is little information about their characteristics at the time they experienced unemployment. The duration of unemployment spells was capped at 240 months. This affected only a very small number of observations. The remaining sample consists of 4,488 men observed for a total of 87,641 months and 8,647 women observed for a total of 263,224 months.

3.1.2 Measuring hours and pay instability

Despite jobs with unstable hours and pay becoming more common, there is currently not an agreed way of measuring their prevalence. From a legal perspective, several working arrangements can involve short-term uncertainty in hours worked and associated pay. Examples include zero-hours contracts, false self-employment [1], agency work, temping or even part-time jobs with a small number of guaranteed hours where workers regularly work more than the minimum number of hours stipulated. While the exact contractual conditions will differ, all these types of jobs share a common feature: when combined with low hourly pay they fail to guarantee an income stream that can support living standards.

This feature is not easily captured in the data. The LFS collects information about variability in weekly hours. However, this includes overtime work which is not typically associated with financial instability. Variability in weekly pay is only collected from a small subset of respondents. The LFS does have a question which explicitly asks about flexible working arrangements including agency work, on-call work and zero-hours contracts but this question is not asked in the Summer and Winter quarters.

In this study, unstable jobs are defined as jobs where the respondent reports they are paid hourly and their weekly hours or weekly pay vary. This approach encompasses several types of contracts, maximizes the number of cases that can be included in the analyses (as the questions are asked in all quarters) while at the same time excluding variability due to overtime work. Workers who are hourly

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[1]False self-employment refers to the situation where a person is registered as self-employed but is a de facto employee under the control and subordination of an employer.

paid are more likely to be low paid as well ensuring the measure focuses on 'poor' jobs. Defining unstable jobs as part-time jobs instead of hourly paid ones yielded a nearly identical measure: the correlation between the two measures is 0.95 on a scale of 0 to 1. This result assures that the variability captured by the measure is not related to overtime work.

We use the LFS to calculate the share of unstable jobs in each cell defined by region, SOC-2 digit occupation and year. We subsequently link this information with the UKHLS and refer to cells defined by region and occupation as local labour markets. The region is a relatively large geographical area. While smaller geographical units would in theory be desirable (for example TTWAs), the number of observations would be too small to reliably calculate the share of unstable jobs. A more refined approach combining region and SOC-3 digit occupation indicators yielded very similar results but resulted in a smaller sample size as not all cells in UKHLS could be matched to LFS data.

3.1.3 Empirical estimation

The first research objective of this project is to test the impact of unstable jobs on unemployment. To do so, we compared unemployment spell duration and job finding probabilities of unemployed individuals in local labour markets with varying levels of unstable jobs using survival analysis. If unstable jobs help boost employment, we would expect, all things equal, that unemployed individuals in local labour markets with a higher share of unstable jobs have a greater probability of finding a job and shorter unemployment spells.

Our models include controls for a large number of individual characteristics that might affect job finding probabilities: time spent in unemployment (log transformed and entered as a quadratic), calendar year and region fixed effects, age(quadratic), education (4 categories), number of children (4 categories), having children under 5 (0/1), being a single parent (0/1), suffering form a long-term illness or disability (0/1), a measure of risk aversion (11 point scale) and the income of the partner (transformed using the inverse hyperbolic sine. The inverse hyperbolic sine is very similar to the log transformation : $\log[x + \sqrt{1 + x^2}]$) but allows the inclusion of zero values.

In addition, we also control for two local labour market characteristics: the mean level of wages and the growth rate relative to overall employment. We include the mean level of wages to control for any spuriousness induced by a correlation between wage levels and hours and pay instability. The relative growth rate is included to account for structural changes in the labour market correlated

with the level of pay and hours instability.

Descriptive statistics on all the variables included in the analysis are presented in Table 1. Median unemployment duration is 22 months for women and 14 months for men. Because of the way it has been constructed, the sample is not representative of the universe of unemployment spells but instead is skewed towards longer spells. Because only spells that are ongoing at the time of the interview are included, shorter spells are more likely to be missed.

Table 1: Descriptive statistics

	Women		Men	
Variable	Mean	Std. Dev.	Mean	Std. Dev.
Unemployment duration (months)	42.96	50.33	27.44	37.36
Share unstable jobs	19.49	8.61	20.39	8.86
Age	40.61	10.85	42.08	12.61
Number of children	1.32	1.14	0.60	1.00
Number of children<5	0.45	0.67	0.19	0.50
Single parent	0.18	0.38	0.03	0.16
Education				
HE graduate	0.25	0.43	0.21	0.41
A-levels	0.16	0.37	0.19	0.39
GSCEs	0.28	0.45	0.27	0.44
Other/no qualification	0.31	0.46	0.33	0.47
Poor health (0/1)	0.33	0.47	0.40	0.49
Risk aversion	5.31	2.60	4.53	2.77
Income of partner	1213.42	731.04	1127.68	676.61
Average hourly pay in the local labour market	9.88	3.87	10.11	3.71
Local labour market growth	-0.0013	0.55	-0.0220	0.53
N (obs./ months)	153,676		47,463	

Note: N refers to the number of observations (months) with a valid value on all variables in the table.
Source:Author's calculations using UKHLS and LFS

On average, both men and women find themselves in labour markets in which

around a fifth of jobs are unstable. The average wage in men's labour markets is slightly higher than women's., as expected.

The average age of women in the sample is 40.6 whereas men are slightly older, 42 on average. Almost a fifth of women are single parents whereas very few of the men are. Women are more likely to be higher educated. Around a fourth have a higher education degree compared to a fifth in the case of men. However, a majority of both unemployed men and unemployed women have a qualification level not higher than GCSEs. Around 40 percent of men report themselves to be in poor health while around a third of women do so. Both men and women report risk aversion scores close to the average.

3.2 Experimental study

The second part of the project consisted of an experimental study that evaluated labour supply responses to uncertainty about work availability and pay. Traditionally, the desirability of unstable jobs has been evaluated either by comparing the job satisfaction of workers with different types of contracts or through more in-depth interviews (of Personnel and Development, 2013; Henly and Lambert, 2014b; Pennycook et al., 2013). Unfortunately, both types of studies are vulnerable to biases common to observational studies. Jobs with variable hours and pay tend to be on average lower paid, provide less training, offer fewer opportunities for promotion and tend to be concentrated in particular occupations and industries (Farina et al., 2019; Koumenta and Williams, 2019). Workers in these types of jobs tend to disproportionately be younger, female,immigrant and have lower educational qualifications. Both worker and job characteristics can confound the relationship between uncertainty/ instability and labour supply behaviour. Observational studies, be they quantitative or qualitative, have difficulties in separating out these effects.

To overcome these difficulties, this research project took a different approach. An online experiment replicating the labour supply decision was designed and carried out with low-income working age participants. Experiments have the advantage of providing a controlled environment where the various aspects of the labour supply decision can not only be observed but also manipulated. In this case, the insecurity aspect can be clearly separated and varied across the treatment and control groups. The confounding effects of worker characteristics can similarly be addressed by randomly assigning participants to treatment and control groups.

The experimental method offers a powerful tool to disentangle real world complexities. It also has an important shortcoming: the experimental environment

is somewhat artificial and there is a danger that behaviours observed in an experimental setting are too different from real world ones. Despite its complexity, experimental methods have been successfully used to study many aspects of labour market behaviour (Charness and Kuhn, 2011). The elements deemed most important by theory such as pay incentives, the cost of effort or out of work income streams can be credibly reproduced in an experiment (Falk and Heckman, 2009; Camerer and Hogarth, 1999).

To make the experimental setting as realistic as possible, high monetary incentives and a real effort task (transcribing Latin text) were used. When giving instructions to participants, language associated with real-world decision making was deliberately used. Completing the experimental task is referred to as 'working' and associated payments as 'earnings'. The payment associated with the non-work alternative is referred to as a 'benefit'. Withdrawal of this alternative is referred to as a 'benefit sanction'. The language is designed to encourage participants to identify the experimental context with a real-world work decision situation.

3.2.1 Experimental sample

301 participants were recruited from the working age low income population in the UK to participate in an experiment carried out through a purpose built online platform. To be eligible, participants had to be aged between 18 and 60 (inclusive), have a family income of less than £20,000 per year and not be undergraduate students. Graduate students who satisfied the age and income conditions and who were working were accepted. All participants were UK residents at the time they participated.

Two data collection methods were used. 68 participants tool part in nine face to face (f2f) sessions between July 2019 and February 2020. The sessions took place either at a location in Colchester Town or at the EssexLab centre hosted by the University of Essex. Participants were provided with iPads connected to the internet for purposes of participating in the experiment. Subsequently, data was collected through the online recruitment platform Prolific (www.prolific.co). Prolific is a unique recruitment platform in that it is specifically designed for research purposes. It employs strong ethical safeguards and emphasizes data quality including by vetting its participant pool and providing screening tools. 233 individuals took part in four sessions organized between May and June 2020.

Figures 1 and 2 show the characteristics of the sample. Around two thirds of participants were female. On average, participants were around 37 years old and around a third of participants completed a higher education degree. The

Figure 1: Sample characteristics by source
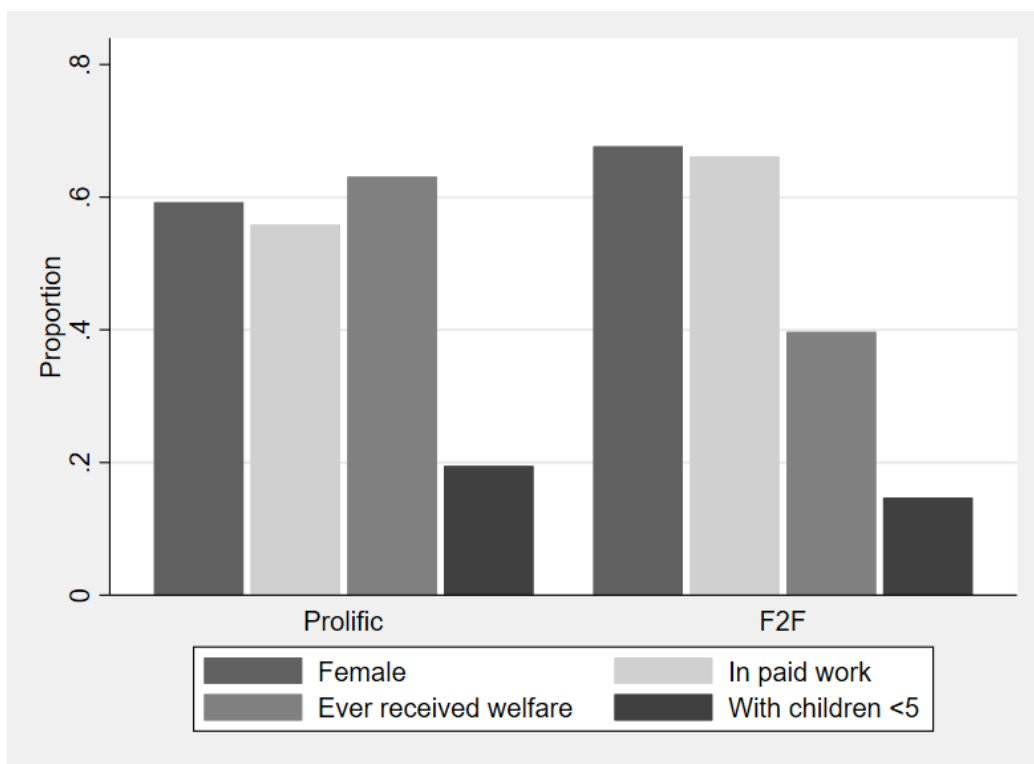
Source: Experimental data

majority of participants were in work at the time they completed the experiment. Prolific participants were slightly less educated, were less likely to be in work and more likely to have experience of receiving benefits compared to face to face participants. They were also less likely to be female and slightly more likely to have children under 5 in their care. As expected, Prolific participants were more likely to have participated in experiments before.

Figure 2: Highest educational qualification
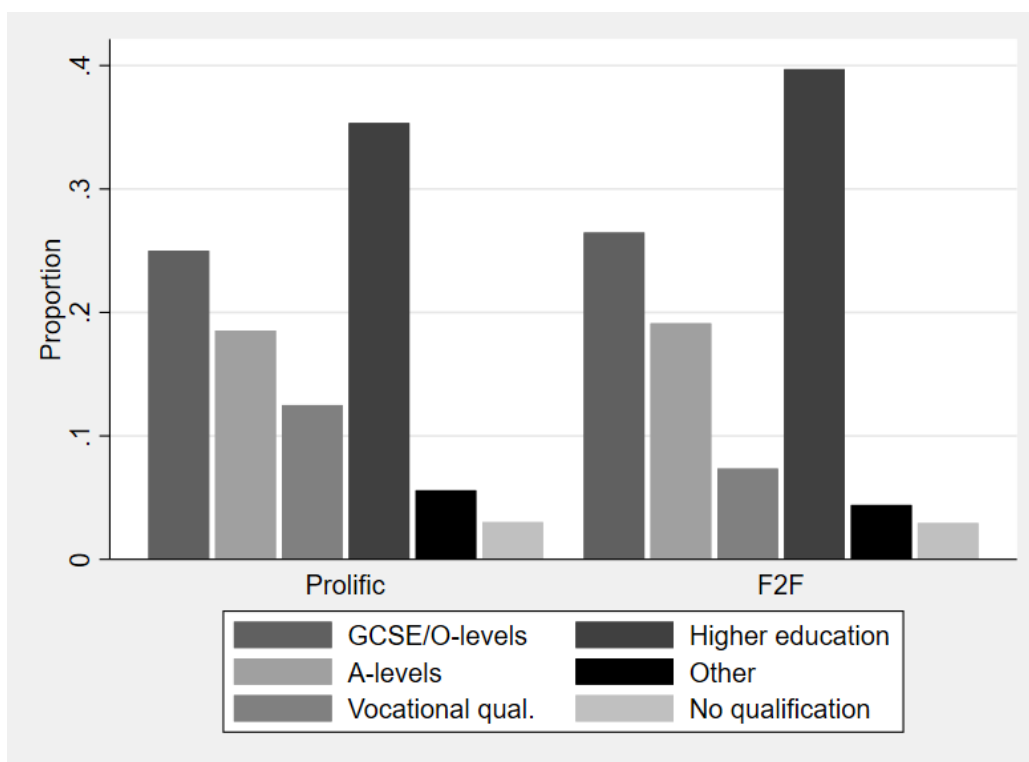
Source: Experimental data

3.2.2 Experimental design

Participants completed the experiment on a custom made web application built using oTree (Chen et al., 2016) and temporarily hosted by a cloud service platform. Full experimental instructions can be found in Appendix 2 of this report. Face to face participants completed the experiment using iPads connected to the internet provided by the research team. Prolific participants used their own devices.

They were advised that the experiment is designed to be completed using either a computer or a tablet but they were free to use whatever device they wished. Participants were advised that the experiment could take up to 90 minutes. However, no participant took longer than 70 minutes and on average they spent around 35-40 minutes.
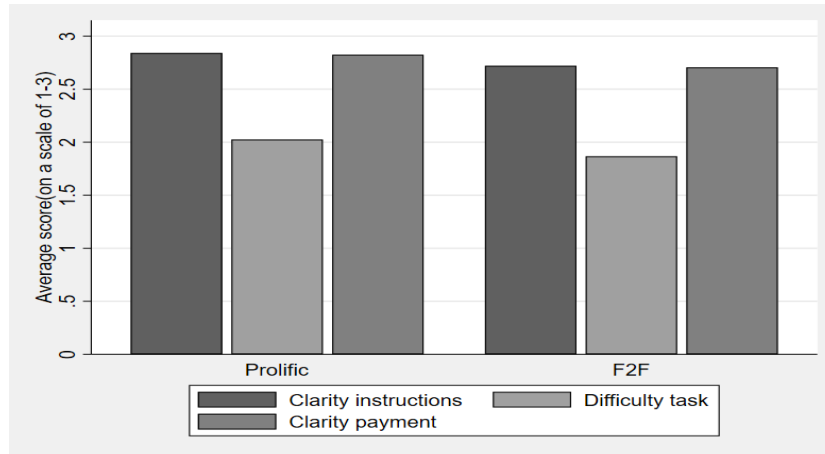
Source: Experimental data

Figure 3: Average rating of clarity and task difficulty

The experiment had five stages.

Introductory stage

In the first stage, participants were given general information about the experiment: purpose and objectives, investigating team, use of data and right to withdraw, expected pay, how to make a complaint etc., and consent was obtained. They also received information about the structure of the session and general instructions before starting.

The lottery stage

In the second stage participants took part in a lottery game designed to measure risk aversion. The lottery is a modification of the widely used Holt and Laury (2002) multiple price list proposed by Drichoutis and Lusk (2016). Participants were asked to choose between two lotteries, one considered 'safe' and one 'risky'. Each lottery had only two outcomes, each with a 50 percent chance of realization. In the 'safe' lottery, the two outcomes were relatively similar whereas in the 'risky' lottery one outcome represented a large gain and the other a very small one. The more favourable outcome in the 'risky' lottery represented a larger gain compared

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to both outcomes of the 'safe' lottery whereas the less favourable one represented a smaller gain than either outcome of the 'safe lottery'.

Participants were asked to repeatedly choose between the 'safe' and 'risky' lottery ten times. As they progressed, the difference between the maximum gain offered in the 'risky' lottery and the 'safe' lottery progressively got larger. A participant's risk aversion was measured by the point at which they switched from the 'safe' to the 'risky' lottery. Participants who were more risk averse switched later (or perhaps not at all), whereas participants who were more tolerant to risk switched sooner.

To encourage participants to pay attention to the various choices, they were told that at the end of the experiment, one of the ten pairs of lotteries will be selected at random and the lottery they chose played out. The amount they won would be added to their total experimental earnings.

The main stage

The lottery stage was followed by the main stage. Participants were randomly allocated to three groups: two treatment groups and a control group. The purpose of the main stage was to simulate the decision to work under 'standard' and 'unstable' working conditions. All participants were asked to choose between receiving a fixed payment, 'a benefit', or completing a work task for higher pay. The task was designed so as to involve significant amounts of effort but be relatively simple and straightforward to complete. It consisted of transcribing short paragraphs in Latin from Tertullian, an early Christian author. Participants had 2 minutes to complete each transcription and were paid in full if they made three or fewer mistakes as measured by the Levenshtein distance. The purpose of this rule was to encourage participants to transcribe as accurately as possible while not penalizing them for small mistakes. Pilot trials showed that the two minutes allowed time was more than enough to allow even slow transcribers to complete the task. There were two unpaid trial rounds designed to familiarize participants with the task followed by 24 paid rounds.

The 24 rounds were grouped into two phases. In the first phase consisting of 12 rounds, the benefit option consisted of a £1 fixed payment for all participants that was always accessible irrespective of work decisions in previous rounds. Participants made the decision to work or not at the beginning of each round. If they chose 'benefit' they would receive the associated pay and move on to the next round. If they chose to work, they were presented with the work task if work was available. If work was available, they completed the task and received the associated payment subject to having three or fewer mistakes. If no work was available, they received no pay and moved on to the next round.

In the control group, work was always available and participants received £1.50 for each correctly transcribed text. In the treatment groups, the computer determined whether work was available using a coin toss, i.e. there was a 50 percent probability that work would be unavailable. The decision to work or not was made *before* work availability was revealed. A participant who chose to work but work was unavailable would not complete the transcription task but would also not receive any payments, similarly to a zero-hours contract.

In the first treatment group, participants were paid £1.50 per correctly transcribed paragraph. In the second treatment group, the payment was doubled to £3.00 per correctly transcribed paragraph. The two treatment groups were constructed so as to allow for a separation of income and uncertainty effects on labour supply. In the first treatment group, participants could expect to earn half of what participants in the control group earned but also to work 50 percent less. This is the zero-hours setting in which the lack of work and pay is only compensated by increased leisure time. In the second treatment group, participants could expect to earn the same as participants in the control group but only work half of the time. Clearly, work should be more appealing in the second treatment group compared to the control group. However, the former group faced uncertainty about work availability whereas the latter group did not.

In the second phase consisting of the last 12 rounds, the availability and payments associated with work remained the same but the availability of the benefit changed. In the first phase, the benefit payment was only offered as an alternative to work. This setting was intended to mirror the time and administrative costs associated with accessing benefits and the fact that many out of work benefits do not easily allow combining income from employment and benefits. A temporary fall in earnings may not necessarily prompt a zero-hours worker to apply for benefits. Even when they are compensated as part of Universal Credit, this compensation normally takes time to be processed (Ball et al., 2017) .

In the second stage, all participants across the three treatment groups were randomly assigned to two groups, creating a 3 by 2 factorial design. In the first group, the benefit payment was automatically awarded whenever a participant chose work but work was unavailable. In this setting, the benefit system provides an insurance mechanism against unavailability of work and associated falls in pay. In the second group, participants could face sanctions in the form of benefit loss whenever they chose to receive benefits twice in a row. More specifically, if a participant chose to receive benefits *both* in the current and previous rounds, the computer determined with a 50 percent probability whether a sanction would be applied. If a sanction was applied, the participant lost the benefit payment

associated with the current round and moved on to the next round. Both benefit treatments were designed to increase the relative attractiveness of the work option, but did so in different ways. While the first treatment made the work option more attractive by reducing the income losses associated with work unavailability, the second treatment made the benefit option less attractive by imposing sanctions and introducing uncertainty on the benefit side, similarly to a workfare based approach.

The productivity stage

After the main stage, participants moved on to a productivity stage designed to measure their ability to complete the transcription task.

Whereas the task was simple and all participants could complete it if they chose to, the associated effort was likely to differ greatly from one individual to another. More typing proficient individuals could complete the task more quickly and effortlessly and so may have been more inclined to choose work over receiving the benefit. Because participants were randomly allocated, typing proficiency is not expected to differ between treatment groups and will not impact on the estimate of average treatment effects. However, differences in typing proficiency could greatly increase variance and hence reduce the precision of the estimates. This issue can be addressed by collecting a measure of participant productivity and using it to adjust results.

To measure their productivity, participants took part in a challenge: they were asked to transcribe as many texts as they could in a 5 minute period. Participants were paid £1.5 for each correctly transcribed text (the same 3 mistakes or fewer rule applied) and were not able to progress to the final stage before the 5 minutes elapsed. On average, participants transcribed between 3 and 4 texts. However, there was considerable heterogeneity. The lowest number was two and the highest number was nine.

The wrap-up stage

In the last stage of the experiment, participants were asked a few demographic questions, rated the experimental instructions and the difficulty of the work task and played out one lottery randomly selected by the computer. Finally, they were given information about their total pay and how to receive it. Face to face participants were paid in cash immediately after they finished the experiment. They were free to leave and did not have to wait for other participants to finish as well. Prolific participants were paid through the Prolific platform within 48 hours of completing the experiment.

4 Pay and hours insecurity in Britain

During the last decade, the UK experienced strong employment growth both among the general working age population and among groups facing barriers to employment such as lone parents or mothers with small children. The employment rates of the latter two groups increased by over 10 percentage points between 2009 and 2018 (Vizard, 2019).

The employment boom coincided with historically weak wage growth and an expansion of atypical jobs. Figure 4 illustrates the increase in various types of non-standard employment between 2009 and 2018, taking 2009 as a baseline. It shows that the number of individuals who reported to be self-employed in their main job increased by around 20 percent. The number reporting to be in a temporary contract also increased initially by about 25 percent between 2009 and 2015 before falling to about 110 percent of the 2009 level in 2018. Finally, the number of employees in part-time jobs also increased by approximately 10 percent.

Figure 4: Trends in atypical forms of employment, 2009-2018
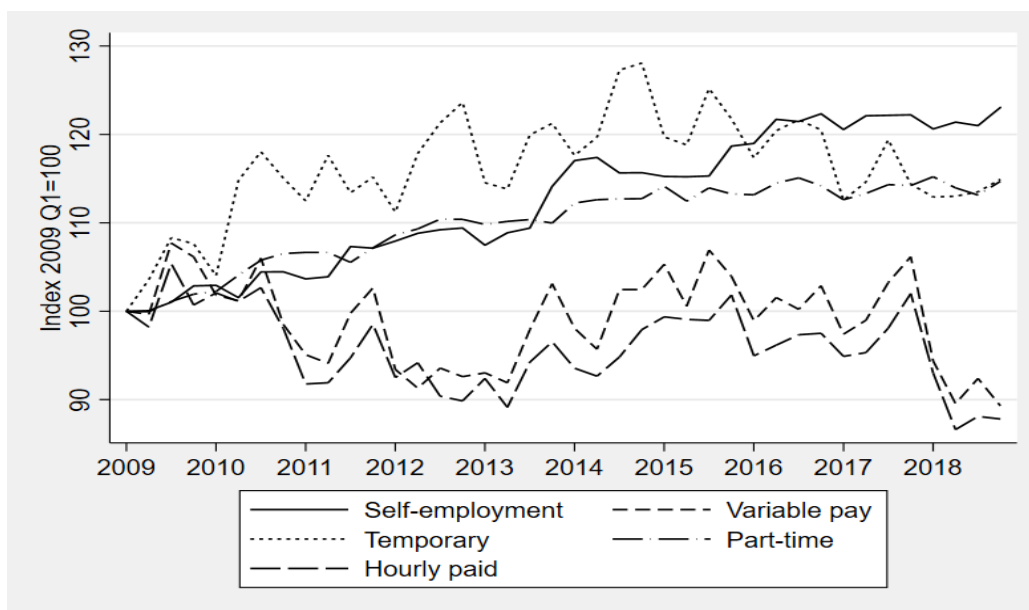
Note: Categories are not exclusive.
Source: Quarterly LFS, 2009-2018

Interestingly, the number of jobs with variable hours and pay was relatively stable. It fell slightly during the recession that followed the financial crisis, re-

covered after 2013 and fell again in 2018. Not surprisingly, the evolution of the number of jobs with variable hours and pay very closely tracks the number of jobs that are hourly paid.

Figure 5: Evolution of the number of zero hours contracts, 2009-2018
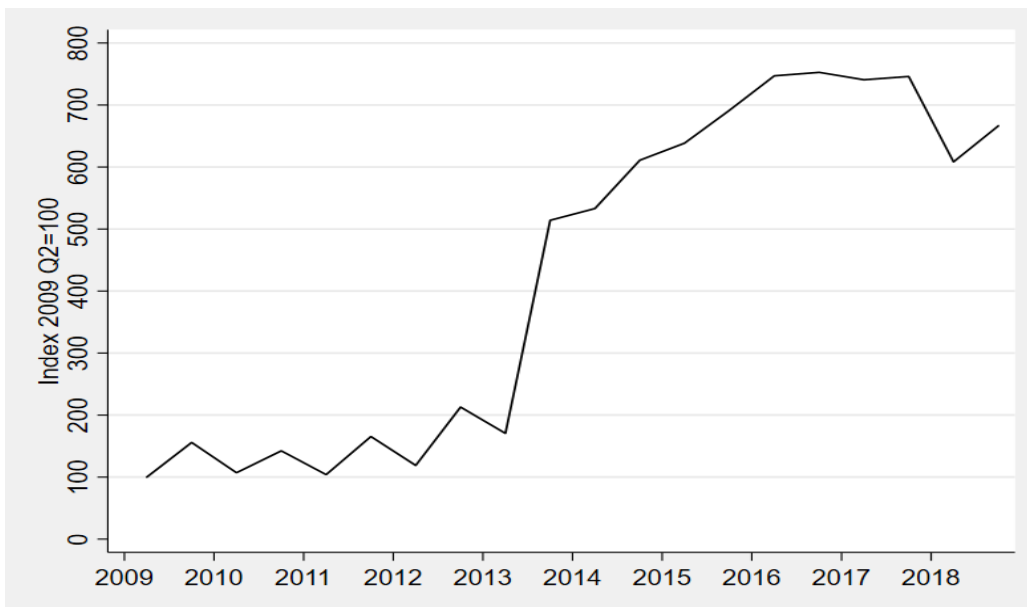
Source: Quarterly LFS, 2009-2018

Among jobs with variable hours and pay, zero-hours contracts have received increased scrutiny. Figure 5 shows the evolution of the number of workers reporting their main job to be a zero-hours contract. Between 2009 and 2013, the number was fairly stable but has grown explosively since. According to Quarterly LFS data, the number of zero hours contracts was approximately seven times higher in 2017 compared to 2009. While there are some inconsistencies in the measurement of zero-hours contracts over time (Adams and Prassl, 2018), it is clear that a substantial increase occurred in the mid 2010s.

Growth of atypical employment is not necessarily surprising in a context of strong overall employment growth. In fact, the only form of atypical employment that clearly grew in relative terms according the the LFS data is self-employment. Between 2009 and 2018, the share of self employment increased by approximately 2 percentage points. The share of temporary jobs and that of part-time jobs remained constant whereas the share of hourly paid jobs fell by approximately five percentage points from around 30 percent to 25 percent.

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Figure 6: Share of jobs with variable hours and pay over time, 2009-2018
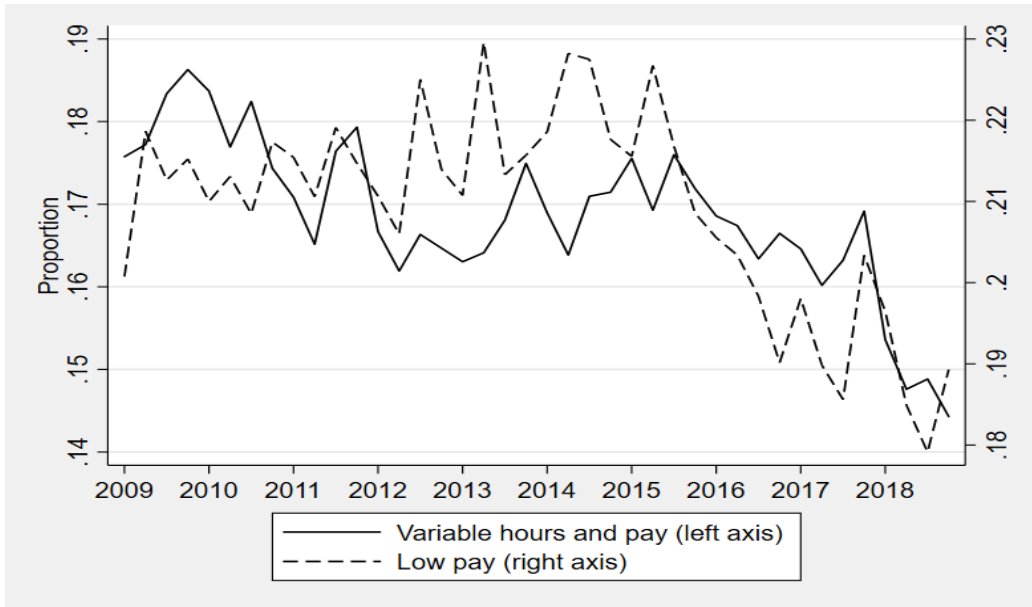
Source: Quarterly LFS, 2009-2018

Figure 6 shows the evolution of the share of employees reporting variable hours and pay in their main job. The share fluctuates somewhat but there is a clear downward trend. While in 2009, approximately 18 percent of employees reported variable hours and pay, in 2018 only 15 percent did so. The trend mirrors the fall in the share of employees who are hourly paid. It is also closely tracking trends in low paid employment (defined as employment paying less than two thirds of median hourly earnings). Both low paid jobs and jobs with variable hours and pay fell substantially in relative terms after 2015.

Figure 7 shows that jobs with variable hours and pay are on average substantially less well paid compared to standard employment. On average, weekly earnings are between 20 and 30 percent lower. This difference is largely explained by lower hourly pay and only to a small extent is due to differences in working hours. Hourly pay in in unstable jobs is approximately 20 to 25 percent lower compared to standard jobs. Moreover, the difference appears to be increasing over time. The exception is 2018, a year of exceptional employment growth and positive real wage growth.

The next two sections present the main results from the project. Section 5 presents an analysis of the links between pay and hours insecurity and unemploy-

Figure 7: Wage differentials between jobs with standard and variable pay
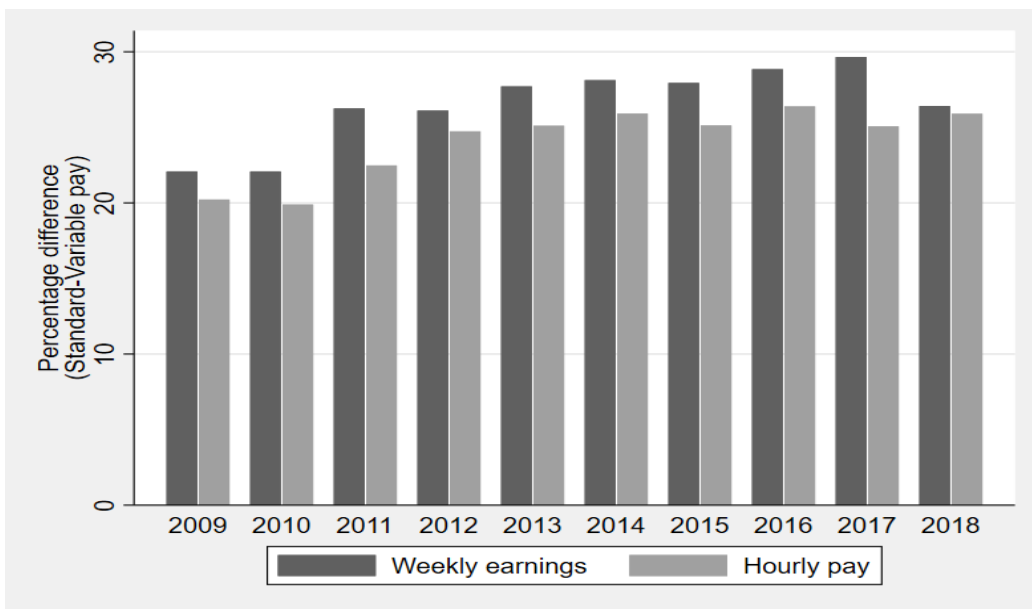
Source: Quarterly LFS, 2009-2018

ment duration using LFS and UKHLS data. Next, section 6 discusses results from an experiment that sought to test labour supply responses to uncertainty about work availability and pay insecurity.

5   Effects of pay insecurity on unemployment

The first goal of this project was to investigate the evidence on unstable jobs and unemployment using individual and household survey micro-data. By several measures, jobs with unstable working hours and pay have increased after 2010. At the same time, the UK experienced strong employment growth, particularly among non-core workers. Are these two trends related? We used LFS and UKHLS data to examine links between unemployment duration and the share of unstable jobs in the unemployed person's labour market.

Figure 8: Average group level earnings instability by unemployment duration
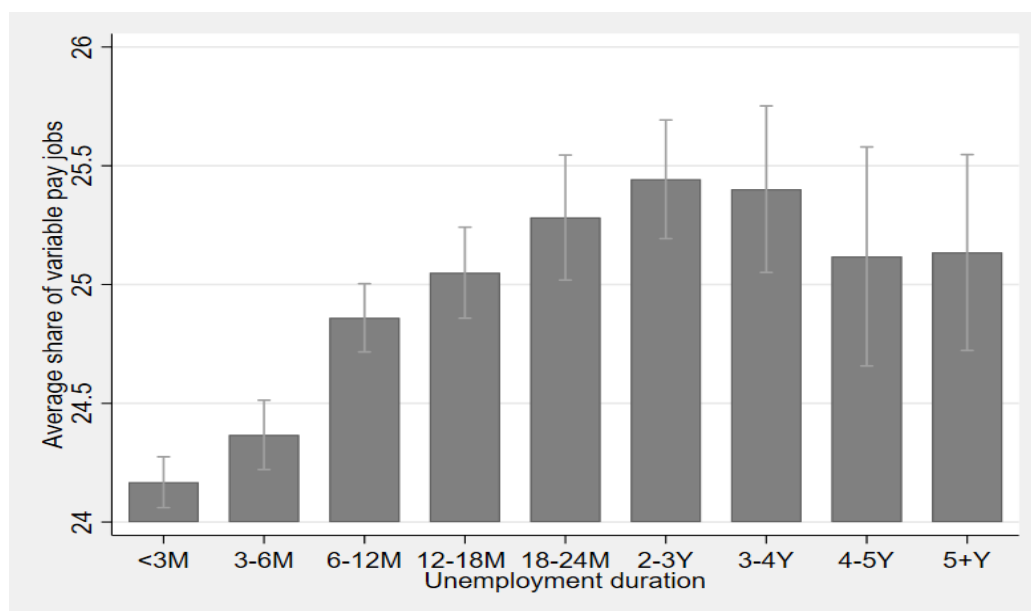
Source: Quarterly LFS, 2009-2018

5.1 What are the patterns in the data?

Figure 8 plots the average share of jobs with unstable hours and pay by unemployment duration using LFS data. It shows that, contrary to expectations, workers reporting longer unemployment durations find themselves in local labour markets with a higher share of unstable jobs. Differences are large and statistically significant. However, this association can be driven entirely by local labour market conditions. Weaker regional economies may have both higher unemployment and more unstable jobs. To gain insight, we model the probability to move from unemployment to employment using survival analysis.

Figure 9: Probability to remain unemployed by prevalence of jobs with variable hours/pay in the local labour market: All

(a) Women   (b) Men
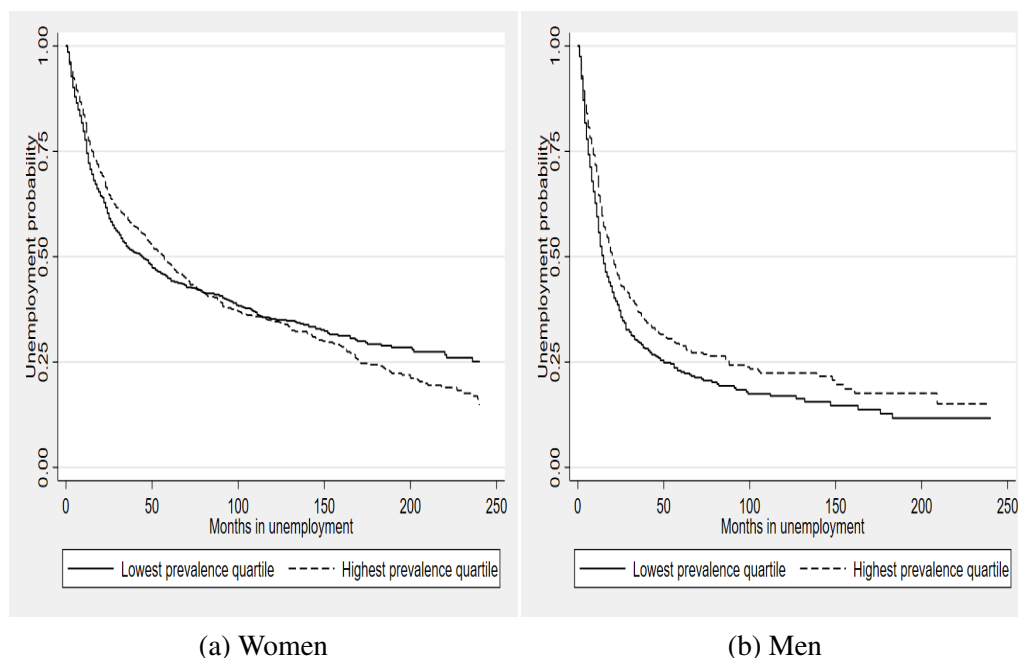
Source: UKHLS, Waves 1-9

One way to visualize the relationship between unemployment and local job and pay instability is to plot the probability to remain unemployed for individuals facing different levels of instability, as in Figure 9. The curves show how the share of individuals that have yet to leave unemployment over time. For example, in the case of women, approximately three quarters remained unemployed after one year.

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The solid lines represent individuals in local labour markets with low incidence of jobs with variable hours and pay whereas the dotted lines represent workers in local labour markets with high incidence.

Women in labour markets with low incidence of unstable jobs are more likely to move out of unemployment at short and medium unemployment durations (Figure 9,left panel). At unemployment durations longer than 5 years, the pattern is reversed and women in labour markets with a higher incidence of unstable jobs are more likely to move out of unemployment. The patterns are different in the case of men (Figure 9, righ panel). First, men are much more likely to exit unemployment after shorter spells compared to women. Second, men in local labour markets with a lower share of unstable jobs are always more likely to leave unemployment compared to men in markets with high shares.

Figure 10: Probability to remain unemployed by prevalence of jobs with variable hours/pay in the local labour market: Low educated

(a) Women   (b) Men
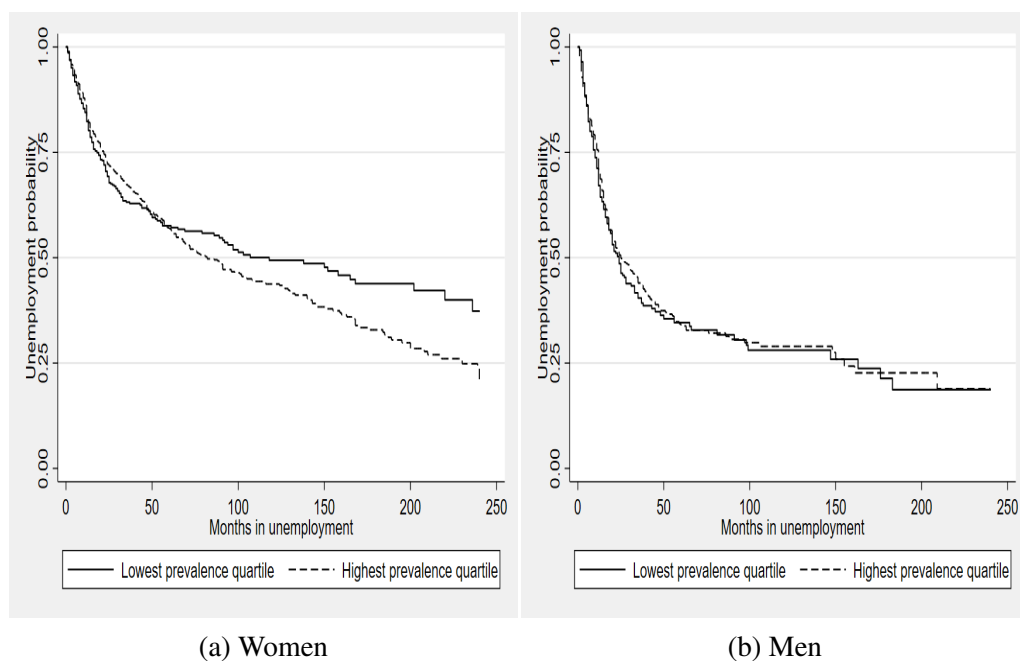
Source: UKHLS, Waves 1-9

It is sometimes claimed that labour market rigidity is particularly harmful for vulnerable workers facing barriers to employment. When employers are prevented from offering certain types of jobs, peripheral workers might simply end up un-

employed. If this is true, jobs with variable hours and pay should have a larger impact on the unemployment spells of low skilled workers. To examine this argument, Figure 10 plots the probability to remain unemployed against time using only individuals holding GSCE-s or lower educational qualifications.

Unemployed women with lower levels of education in labour markets with a higher share of unstable jobs are more likely to exit unemployment only when they have been unemployed for five years or more. Differences in the case of shorter unemployment spells are minimal. There appears to be no relationship between the probability to remain unemployed and the share of unstable jobs in the case of low-educated men. The two curves track each other very closely.

5.2 Estimates from a discrete time survival model

By and large descriptive results do not support the hypothesis that higher shares of unstable jobs lead to shorter unemployment spells. However, differences in worker and local characteristics between regions and occupations with high and low incidence of unstable jobs can introduce distortions. To address this possibility, a discrete time duration model was estimated to adjust for these differences. Three sets of models were estimated separately for men and women. In the first model (Model A), we control for unemployment duration measured in months (and its square)and individual characteristics: age (and its square), education (4 categories), number of children under 14, having children under 5 in care (0/1), single parenthood status (0/1), poor health(0/1), risk aversion (11 point scale) and partner's income. The second model(Model B) includes in addition region and occupation fixed effects, the average wage level in the local labour market and relative employment growth in the local labour market. Model B is a more conservative specification that accounts for unobserved time invariant differences as well as local growth trends that can impact on both unemployment duration and the share of unstable jobs. Finally, the third model (Model C) adds interactions between the instability indicator and unemployment duration and education. The goal is to detect whether the share of unstable jobs has a differential effect on the unemployment exit probabilities of the low educated and the long-term unemployed. The main results from these models are shown in Tabled 2 and 3. A complete list of estimates can be found in Tables X and Y in Appendix 1.

In the first two models, the impact of the share of unstable jobs on women's probability to move into employment is very close to zero both statistically and substantively. When the effects are allowed to differ by education and unemployment duration, higher educated women who have been unemployed for a short

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Table 2: Estimated coefficients from a discrete time model of unemployment duration:Women

	Model A	Model B	Model C
Share of unstable jobs	0.0004 (0.0042)	-0.0010 (0.0068)	-0.0249* (0.0123)
Share of unstable jobs X unempl. duration	-	-	0.0061* (0.0029)
Share of unstable jobs X education (ref.cat tertiary)			
X A-levels	-	-	0.0061 (0.0121)
X GSCE	-	-	0.0039 (0.0109)
X Other/ no qualifications	-	-	0.0155 (0.0135)
Individual characteristics	Yes	Yes	Yes
Region and year fixed effects	No	Yes	Yes
Local labour market wages and employment	No	Yes	Yes
N spells	2604	2528	2528
N individuals	1973	1934	1934

Note: Coefficients are on a logit scale; SE in parenthesis, * p-value <0.05

Source: Author's calculations based on UKHLS, Waves 1-9

Table 3: Estimated coefficients from a logistic discrete time model of unemployment duration:Men

	Model A	Model B	Model C
Share of unstable jobs	-0.0052 (0.0042)	0.0048 (0.0065)	0.0142 (0.0.0132)
Share of unstable jobs X unempl. duration	-	-	-0.0051 (0.0038)
Share of unstable jobs X education (ref.cat tertiary)			
X A-levels	-	-	0.0172 (0.0116
X GSCE	-	-	-0.0054 (0.0112)
X Other/ no qualifications	-	-	0.0047 (0.0132)
Individual characteristics	Yes	Yes	Yes
Region and year fixed effects	No	Yes	Yes
Local labour market wages and employment	No	Yes	Yes
N spells	1873	1782	1782
N individuals	1336	1286	1286

Note: SE adjusted for clustering in parenthesis; * p-value <0.05

Source: Author's calculations based on UKHLS, Waves 1-9

time are less likely to move into employment when the share of unstable jobs increases. This effect disappears in the case of less well educated women and at higher unemployment duration.

Figure 11: Average marginal effects of the prevalence of variable hours and pay jobs on the probability to transition from unemployment to employment:Women
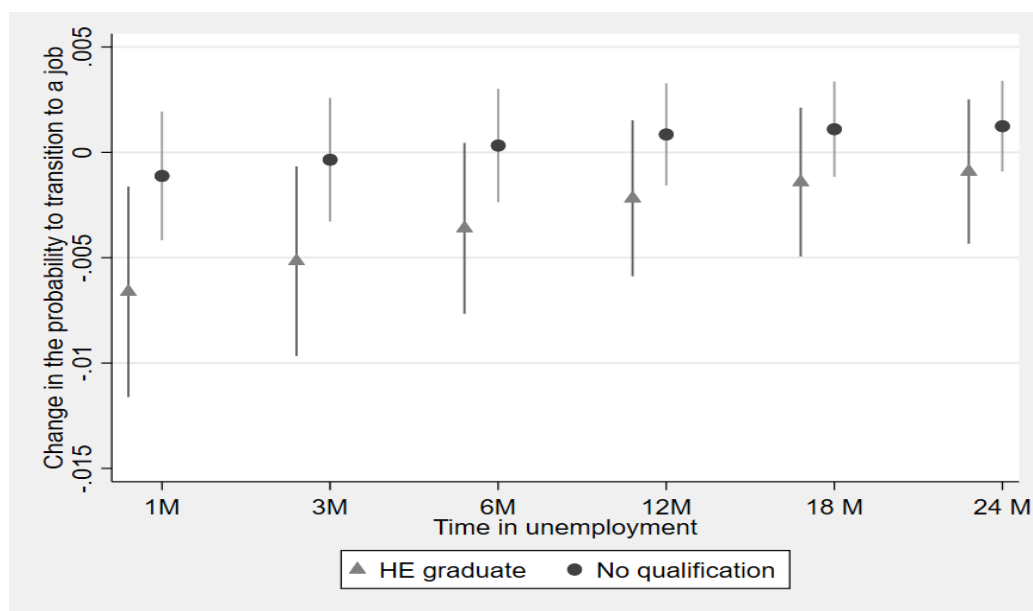
Figure 11 shows how the effect varies according to education and unemployment duration. It plots how the probability to move into employment would change if a woman would move from the 25th to the 75th percentile of the instability indicator. Triangles represent women with a higher education degree while circles represent women with no qualifications. Educated women are actually less likely to move into a job when their local labour market has a high share of unstable jobs and they have been unemployed for less than 6 months. The effect is small (0.5-0.6 percentage points) but is statistically different from zero. As unemployment duration increases, the effect disappears. The share of unstable jobs has no impact on the probability of moving into employment of women with no qualifications irrespective of how long they have been unemployed.

In the case of men, the share of unstable jobs has no effect on the probability to move into employment, in any of the three models. Estimated coefficients are both statistically indistinguishable from zero and very close to zero in substantive

Figure 12: Average marginal effects of the prevalence of variable hours and pay jobs on the probability to transition from unemployment to employment:Men
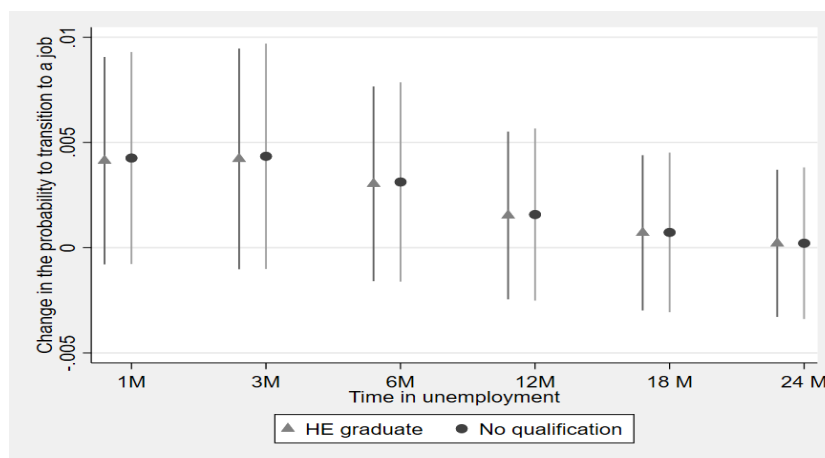
terms. Similarly, there appears to be no difference between individuals with different education levels or different unemployment spell lengths. Figure 12 shows the change in the probability to transition into employment corresponding to a move from the 25th to the 75th percentile of the distribution of the share of unstable jobs. No estimate is statistically significant and estimates for men with higher education are virtually identical to those for men with no qualifications.

6   Effects of pay insecurity on labour supply behaviour

This section summarizes the results of the experimental study carried out as part of this project. Its objective was to quantify the effect of work and pay instability on the decision to work or not. The first subsection focuses on results from the first stage where working and receiving benefits were mutually exclusive options. The second subsection then discusses what happens to labour supply when access to benefits is either eased or restricted.

6.1   Pay insecurity and the decision to work

Figure 13 shows the average number of rounds participants chose to work in the first stage across the three treatment groups. The minimum number of rounds

participants could work is zero and the maximum 12.

Figure 13: Average number of work choices in the first stage, by treatment group
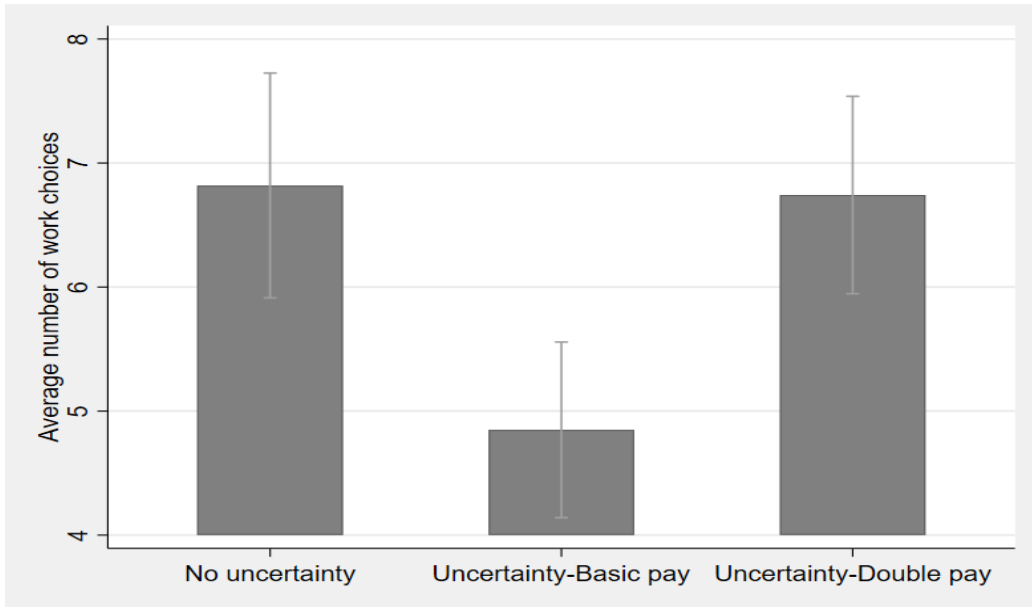
Source: Experimental data

Participants in the first treatment group chose to work on average 4.8 rounds, considerably less than the 6.8 rounds chosen by the control group. This difference is statistically significant at the 1% level (using a non-parametric Mann Whitney test). In the second treatment group, the number of rounds participants chose to work was similar to the control group, despite the associated pay being twice as high.

The evolution of the decision to work over time by treatment group is shown in Figure 14. The lines represent the proportion of participants choosing to work in each round. All three groups experienced some 'fatigue' as indicated by the decline in the proportion choosing to work at later rounds in all three groups. However, the steepness of the decline is very different. In the control group, the proportion choosing to work declines from 64 percent in round 3 (the first paid round) to 53 percent in round 14. In the first treatment group, participants were less likely to choose to work compared to the control group in every round but the difference is much larger in later rounds. The proportion choosing to participate declined from 55 percent in round 3 to 31 percent in round 14. In the second treatment group, the proportion choosing to work was initially higher than in the

control group (71 vs 64 percent in round 3). This partly reflects the much higher pay rate this group received. Yet, as participants became more experienced, the proportion choosing to work declined sharply reaching 45 percent (vs 53 percent in the control group) in round 14. While in theory, participants in the second treatment group should be financially better off when working, they are less likely to choose to work in the later rounds. Interestingly, the steepness of the decline in proportion choosing to work was very similar in the to treatment groups despite the second group facing a much higher pay rate.

Figure 14: Proportion choosing to work in the first stage, by round and treatment group
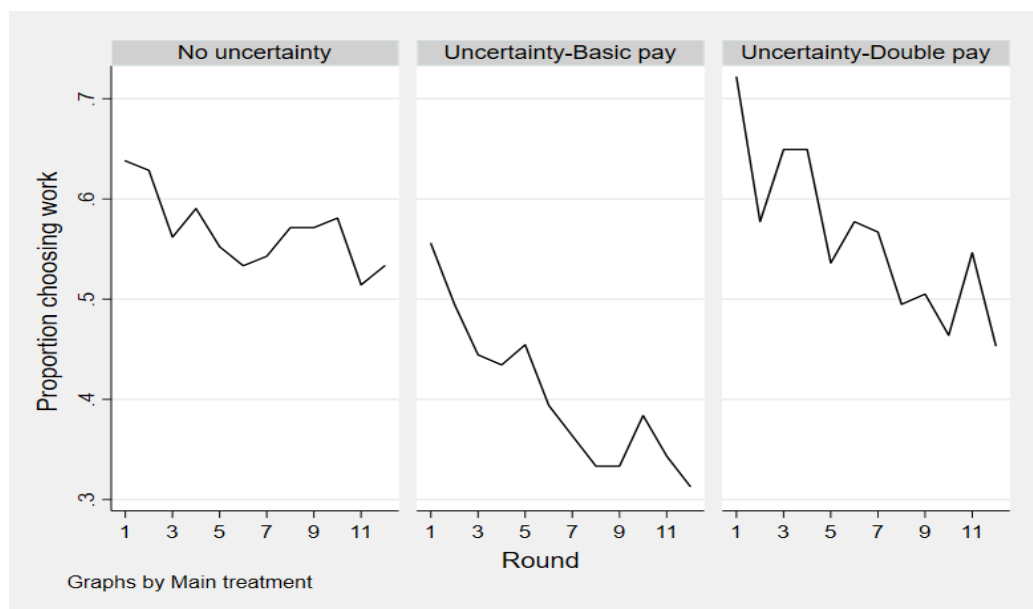
Source: Experimental data

Results presented in Figure 14 represent raw differences. To refine them, a logistic regression was used to estimate differences in the probability to choose work while adjusting for differences in participant characteristics. If the randomization procedure worked correctly, such adjusting should not impact on the main estimate of interest but can reduce its standard error. The variables controlled for in the logistic regression include the round number, the participant's age and gender, the number of children under 5 in their care, current work status, welfare receipt, the participant's productivity measured as the number of correctly transcribed texts in the productivity stage, the participant's rating of the task difficulty, clarity of

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instructions and clarity of incentives, as well as session fixed effects (5 sessions). Interaction effects capture variation in treatment effects over time. Table 4 displays estimated coefficients.

Table 4: Estimated coefficients of a logistic regression predicting the probability to choose work in the *first* 12 paid rounds

	Coefficient	SE	p-value
$T1(Uncertainty, basic\ pay)$	-0.701	0.239	0.003
$T2(Uncertainty, double\ pay)$	0.154	0.235	0.514
$T1XRound$	-0.055	0.030	0.072
$T2XRound$	-0.065	0.030	0.028
$Round$	-0.118	0.043	0.006
$Round^2$	0.007	0.003	0.026
$Productivity$	1.156	0.146	0.000
$Productivity^2$	-0.078	0.019	0.000
$Female$	0.396	0.169	0.019
Age	-0.005	0.007	0.455
$In\ paid\ work$	0.015	0.163	0.926
$Children < 5$			
One	0.287	0.244	0.223
Two	-1.302	0.491	0.008
$Three\ or\ more$	0.119	0.838	0.887
$Ever\ received\ welfare$	-0.045	0.177	0.801
$Task\ difficulty$	-0.086	0.177	0.436
$Clarity\ instructions$	-0.071	0.205	0.728
$Clarity\ payments$	-0.030	0.194	0.877
$Session\ fixed\ effects$		Yes	
$Constant$	-0.770	0.778	0.323
$N\ individuals$		295	
$N\ observatons$		3540	

Note: SE are clustered for 295 individuals; all f2f submissions have been pooled into one session
Source: Author's calculations based on experimental data

To ease interpretation, Figure 15 shows predicted probabilities to choose work by round and treatment status. Results largely confirm the descriptive patterns

Figure 15: Probability to choose work by round and treatment group
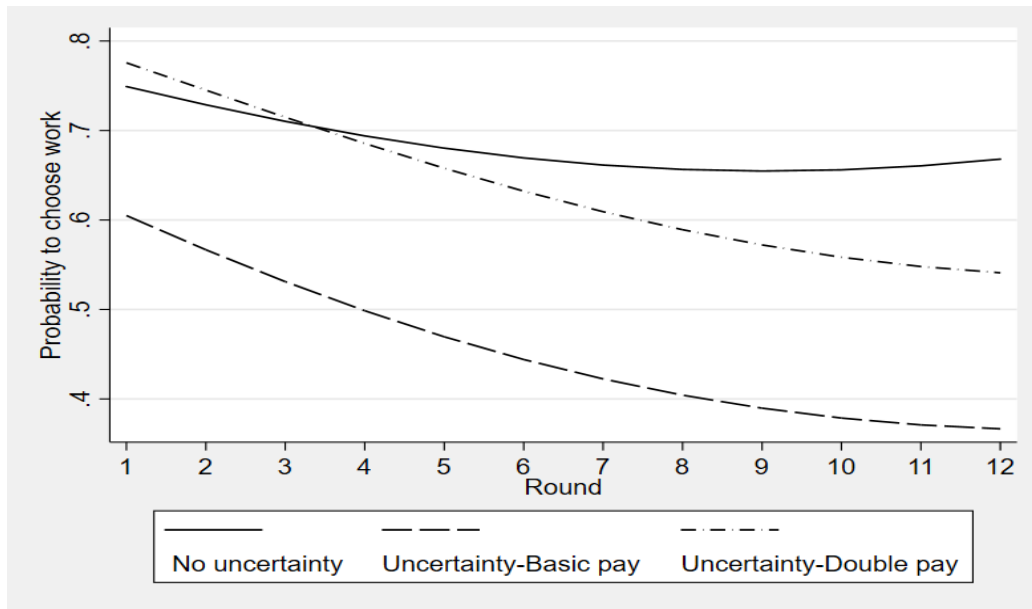
Source: Experimental data

shown in Figure 14. The probability to choose work is higher in the control group and declines much less compared to the two treatment groups. Again, the decline in the probability to choose work is very similar in the two treatment groups despite the difference in the pay rate. In the first treatment group, the probability to choose work starts from a much lower base and then declines precipitously. In the second treatment group, the probability to choose work is similar to the control group in early rounds but then falls more steeply and is significantly lower in the later rounds.

A different way of summarizing results is by examining average treatment effects. These represent the difference in the probability to choose work between the treatment group and the control group. Figure 16 plots them as well as associated confidence intervals by round. In the first treatment group, participants are between 1 and 3 percentage points less likely to choose work. These difference are statistically significant in all rounds but the magnitude more than doubles in later rounds compared to early rounds.

Participants in the second treatment groups are as likely as to choose work as participants in the control group in the first five rounds. In later rounds however, they are less likely to choose work. Similarly to the first treatment group, the

Figure 16: Average marginal effects of treatment group
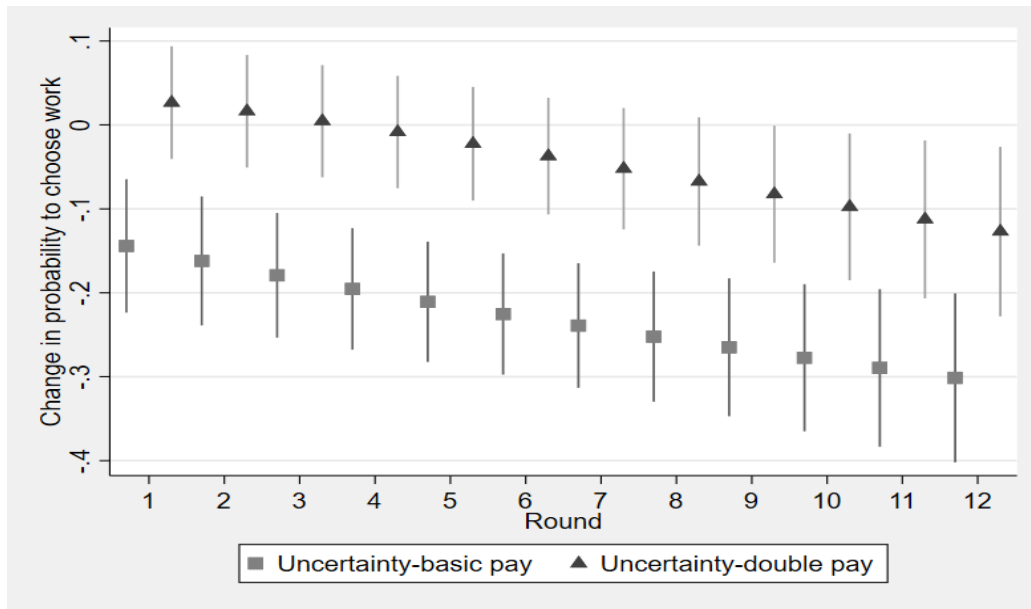
Source: Experimental data

difference increases over time. Participants in the second treatment group are only 0.4 percentage points less likely to choose work in round 8 but over 1 percentage points more likely in the last round. The difference is statistically significant in the last four rounds.

Results from the first stage of the experiment show that uncertainty about work availability and associated pay depressed labour supply and that this effect become stronger over time. The effect was observable in both treatment groups and its evolution over time was very similar despite differences in pay rate.

6.2 The role of welfare benefits

In the first phase of the experiment's main stage, working and benefits were two mutually exclusive options. Participants who chose to receive benefits could not work and those who chose to work would not receive benefits irrespective of whether work was available or not. This set-up mirrored a situation where out-of-work benefits are usually not meant to be combined with work and where time and administrative costs would normally prevent a person who temporarily lost income as a result of work unavailability to be able to access benefits.

Figure 17: Proportion choosing to work in the second stage, by round and treatment
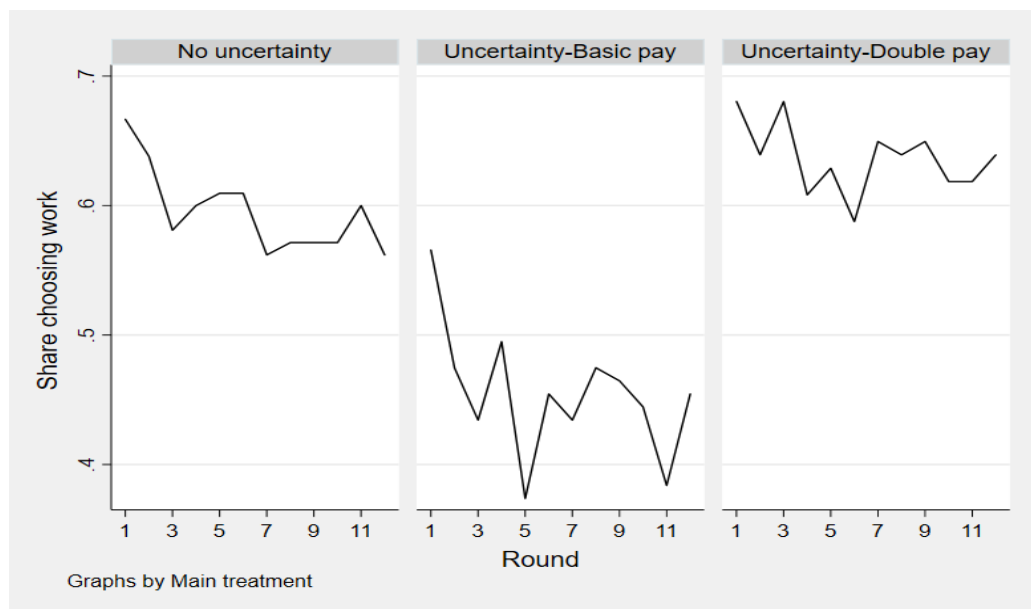
Source: Experimental data

Such a policy design however creates perverse incentives which have been recognized and partly addressed in current policy. Therefore, the second phase of the experiment altered the setting to allow combining work and benefits in two ways. In the first group, participants received the benefit automatically when they chose work but work was unavailable. In the second group, participants were at risk of receiving a benefit sanction if they chose to receive benefits twice in a row. Both policy features are to some extent present in the main British welfare program, Universal Credit. Temporary falls in earnings should be compensated while the use of sanctions has become much more widespread (Reeves and Loopstra, 2017; Dwyer, 2018).

In addition to replicating current policy features, the purpose of the second phase was to test how changes in welfare policies affect labour supply behaviour when work is uncertain and to compare responses to a carrot (benefit insurance) and a stick (benefit sanctions).

Figure 17 shows the proportion of participants choosing work by original treatment group and round in the second phase (rounds 16 to 26). In early rounds the proportion choosing to work is similar to the first phase. In the later round however, the proportion is much higher in all treatment groups. The change in

Figure 18: Proportion choosing to work by benefit treatment
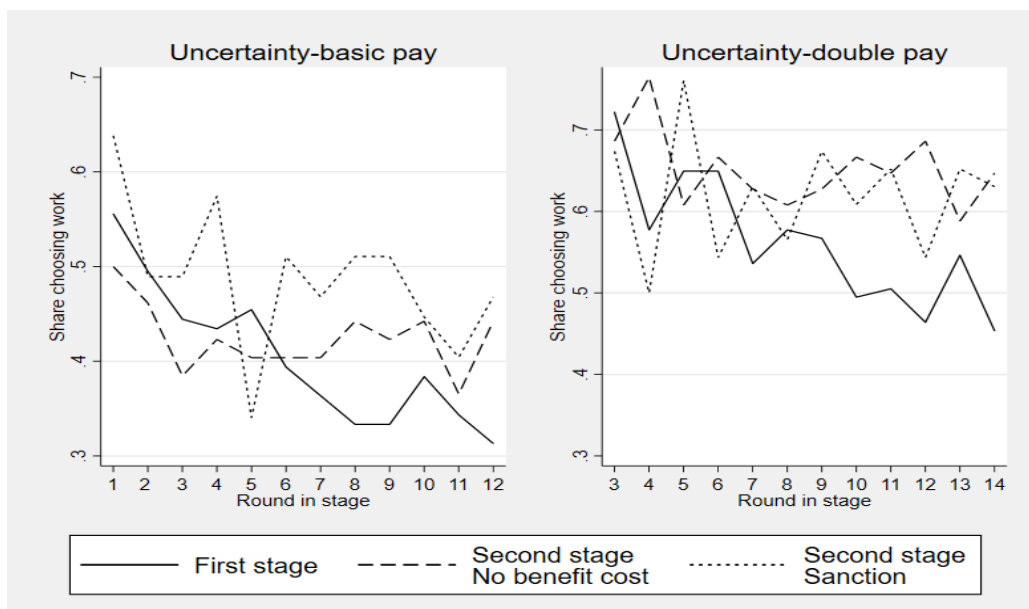
Source: Experimental data

the availability of benefit reduced the decline in the proportion choosing to work considerably in all groups but especially in the two treatment groups where work was uncertain.

To better understand which of the two benefit related changes is driving this behaviour, Figure 18 shows the proportion choosing to work split by benefit treatment along the corresponding proportion in the first phase. Both benefit insurance and benefit sanctions reduce the decline in the proportion choosing to work relative to what is observed in the first phase. In the final round, the proportion choosing to work is about 10 percentage points higher in first treatment group (which received the basic £1.50 pay rate) and around 16 percentage points higher in the second treatment group (which received the double £3.00 pay rate). Interestingly, the size of the effects is very similar across the two benefit treatments.

To obtain a more accurate estimate of treatment effects, a logistic regression predicting the probability to choose work was carried out. The same list of control variables was used as in the first phase regression. A complete list of estimates is presented in Table 5.

Figure 19 shows the predicted probability to work by benefit treatment group and original work treatment group. On average, the probability to choose work

Table 5: Estimated coefficients of a logistic regression predicting the probability to choose work in the *last* 12 paid rounds (Model 1)

	Coefficient	SE	p-value
$T1(Uncertainty, basic\ pay)$	-1.087	0.197	0.000
$T2(Uncertainty, double\ pay)$	-0.329	0.198	0.096
$Benefit\ T1(insurance)$		Omitted	
$Benefit\ T2(sanctions)$	0.570	0.270	0.035
$T1 X Benefit\ T1$	-0.164	0.278	0.555
$T1 X Benefit\ T2$	0.124	0.279	0.658
$T2 X Benefit\ T1$	0.731	0.208	0.000
$T2 X Benefit\ T2$	0.295	0.307	0.335
$Round$	-0.032	0.009	0.000
$Productivity$	1.153	0.129	0.000
$Productivity^2$	-0.087	0.017	0.000
$Female$	0.381	0.158	0.016
Age	-0.013	0.007	0.054
$In\ paid\ work$	0.070	0.155	0.653
$Children < 5$			
One	0.106	0.227	0.641
Two	-1.128	0.398	0.005
$Three+ 0.323$	0.164	0.749	
$Ever\ received\ welfare$	-0.036	0.164	0.825
$Task\ difficulty$	-0.052	0.103	0.587
$Clarity\ instructions$	-0.101	0.187	0.590
$Clarity\ payments$	-0.047	0.169	0.780
$Session\ fixed\ effects$		Yes	
$Constant$	-0.910	0.381	0.017
$N\ individuals$		295	
$N\ observatons$		7080	

Note: SE are clustered for 295 individuals; all f2f submissions have been pooled into one session
Source: Author's calculations based on experimental data

increased by between 11 and 15 percentage points under both benefit insurance and sanctions regimes. This change is of a similar magnitude as the negative effect of work uncertainty detected in the first phase. Regression results confirm that the two benefit conditions in the second phase have very similar effects. While the change in benefit availability increased the average probability to choose work, the effect of uncertainty about work availability continued to depress labour supply in the second phase. In fact, work treatment differences remained similar. The difference is the benefit changes increased the propensity to choose work among all groups. Together, results show that the design of the benefit system can play a crucial role in determining individual labour supply responses to work and pay insecurity.

Figure 19: Average probability to choose to work by treatment groups
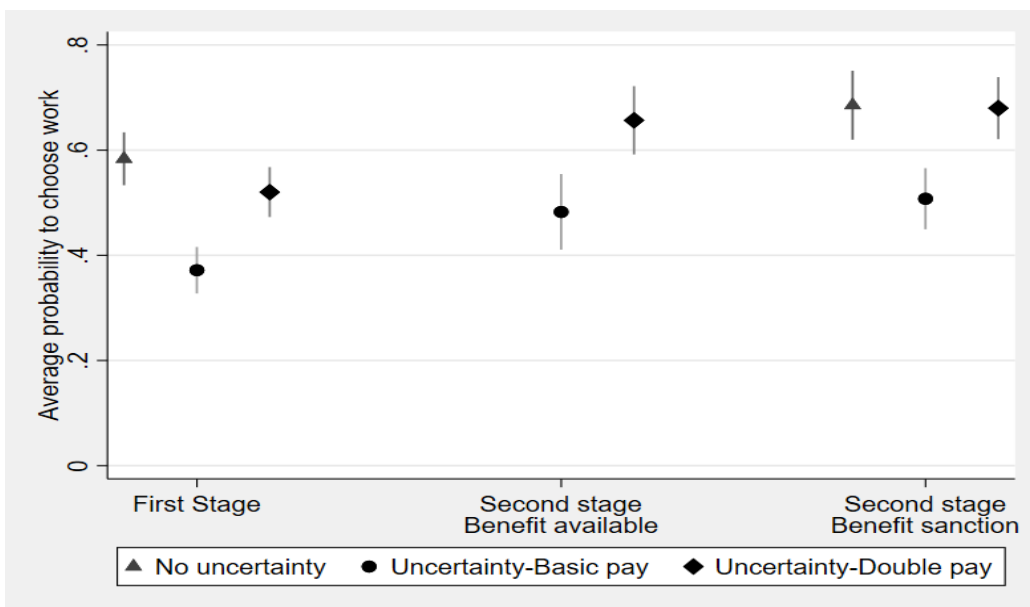
Source: Experimental data

Figure 18 showed the effects of the change in benefit availability to vary by round. To examine timing effects, we re-estimated the logistic regression this time allowing for treatment effects to vary by round. Estimates are shown in Table 6. Figure 20 shows again the predicted probability to choose work. Results confirm descriptive patterns observed in Figure 14. In both treatment groups where work availability was uncertain, the decline in the probability to choose work across rounds was much more limited when either benefit insurance or benefit sanctions

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were introduced. While differences in the probability to choose work were minimal in the first rounds, they gradually increased over time and reached 10-12 percentage points in the last round.

The effect of sanctions is slightly different when work availability is certain. Introducing sanctions has the effect of increasing the proportion of individuals choosing to work in the early rounds. Relative to the first phase, the share of participants choosing work increased by approximately 10 percentage points. However, the effect of sanctions falls in later rounds. In the final rounds, the share of individuals choosing to work is very close to that in the first phase when sanctions were absent.

Figure 20: Average probability to choose to work by treatment group and round
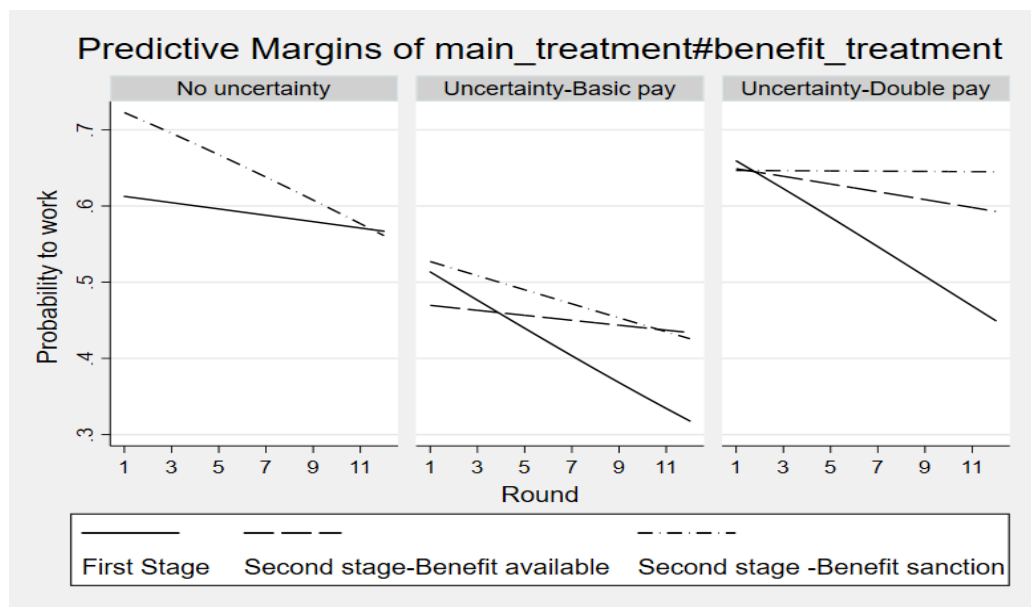
Source: Experimental data

7 Summary and discussion

The strong employment growth the UK experienced in the last decade also brought an expansion of atypical and insecure forms of employment such as self-employment, zero-hours contracts, part-time and temporary employment. The existing evidence suggests that the financial and time instability inherent in these

Table 6: Estimated coefficients of a logistic regression predicting the probability to choose work in rounds 15-26 (Model 2)

	Coefficient	SE	p-value
$T1(Uncertainty, basic pay)$	-0.289	0.263	0.272
$T2(Uncertainty, double pay)$	0.476	0.251	0.0.058
$Benefit\,T1(insurance)$		Omitted	
$Benefit\,T2(sanctions)$	0.783	0.270	0.360
$T1 X Benefit\,T1$	-0.180	0.423	0.671
$T1 X Benefit\,T2$	-0.854	0.413	0.0.038
$T2 X Benefit\,T1$	-0.268	0.293	0.360
$T2 X Benefit\,T2$	-1.140	0.404	0.0.005
$T1 X Round$	-0.071	0.025	0.005
$T2 X Round$	-0.076	0.023	0.001
$Benefit T1 X Round$	0.070	0.031	0.005
$Benefit T2 X Round$ -0.058	0.023	0.001	
$T1 X Benefit\,T1 X Round$		Omitted	
$T1 X Benefit\,T2 X Round$	0.104	0.041	0.010
$T2 X Beenfit\,T1 X Round$	0.005	0.031	0.895
$T2 X Benefit\,T2 X Round$	0.154	0.035	0.000
$Round$	-0.021	0.013	0.111
$Productivity$	0.587	0.066	0.000
$Female$	0.436	0.160	0.006
Age	-0.013	0.007	0.067
$In\,paid\,work$	0.101	0.158	0.523
$Children < 5$			
One	0.078	0.225	0.728
Two	-1.013	0.372	0.006
$Three+$ 0.257	0.812	0.751	
$Ever\,received\,welfare$	-0.048	0.166	0.774
$Task\,difficulty$	-0.052	0.102	0.611
$Clarity\,instructions$	-0.046	0.176	0.794
$Clarity\,payments$	0.062	0.169	0.709
$Session\,fixed\,effects$		Yes	
$Constant$	-0.343	0.691	0.619
$N\,individuals$		295	
$N\,observatons$		7080	

types of employment can be harmful for workers and their families. In contrast, there is little evidence on the potential benefits. This research project set out to evaluate two arguments that are often made in support of jobs with variable hours and pay. First, unstable jobs have been claimed to spur employment growth, reduce unemployment and support the labour market integration of vulnerable groups. Second, they have been claimed to provide workers with flexibility and allow them to more easily combine work with other responsibilities.

To test the first claim, we analysed the relationship between unemployment duration and the probability to move into employment and the prevalence of jobs with unstable hours and pay between 2009 and 2018 using UKHLS and LFS data. We found no evidence that jobs with variable hours and pay reduce unemployment. The share of unstable jobs in an unemployed person's local labour market had zero effect and in some cases even a negative effect on the probability to move from unemployment to employment. This result held for both men and women. In addition, we found no evidence of a beneficial effects for the low educated or the long-term unemployed. Overall, the results cast doubt on the claim that jobs with variable hours and pay speed up the labour market reintegration of the unemployed.

The second part of the project experimentally tested labour supply responses to uncertainty about work availability and pay. The experiment mimicked a zero-hours contract setting, as well as some features of the benefit system. Results strongly support the hypothesis that uncertainty depresses willingness to work. Participants who faced uncertainty about work availability were between 15 and 30 percentage points less likely to choose to work compared to participants who could always work. This result was only in part driven by financial incentives. Participants continued to choose work less often even when their pay rate was doubled so their expected financial gain was the same as that of the no uncertainty group.

Welfare policies can play an important role in either facilitating or pushing people into work in the presence of uncertainty. We found that both benefit sanctions and benefit insurance during times when work is unavailable can increase labour supply. The effects are sizeable and interestingly enough they are of a similar magnitude. Welfare policy however cannot erase the negative effect of uncertainty on labour supply. Even in the presence of sanctions and insurance, participants facing uncertainty were much less likely to choose to work.

In sum, this piece of research found no evidence in support of either of the two claims it set out to investigate. Workers appear to benefit little from jobs with variability in hours and pay. Far from valuing flexibility inherent in such working arrangements, workers appear to view it as a burden and avoid it whenever they can.

There is also no evidence workers are likely to spend less time in unemployment as a result of these jobs being available.

Jobs with variable hours and pay provide employers with a lot of flexibility. They allow employers to better match their labour resources to variability in demand and thus to cut costs. However, they do so by transferring the downside risks of low demand to workers, thereby imposing a significant burden on them. The existing psychological evidence suggests that humans are risk averse and that our decision-making mechanisms are not particularly good at coping with uncertainty. In addition to financial difficulties, earnings instability can also create mental stress (Bender and Theodossiou, 2018; Burgand et al., 2009) that in turn will negatively affect all aspects of life from health to parenting to social networks and community cohesion.

Flexibility can also heighten the power imbalances between employers and employees. Qualitative research with workers and managers has shown that some managers use their discretion over the allocation of hours and shifts as a disciplinary tool and that workers often feel pressured to accept work that they might not necessarily want to do for fear of work being withdrawn in the future (Halpin, 2015; Lambert, 2008). The only way workers can react is by seeking out alternative employment. However, the alternatives may be limited. The fact that workers continue unstable employment relationships is not necessarily proof that these relationships are benign. Experimental results from this project showed that people can be pushed into insecure work by limiting alternative sources of income, for example by imposing benefit sanctions. In this sense, cuts in working age benefits and serious restrictions on eligibility probably also contributed to record employment growth.

The flexibility of the UK labour market has been credited as a driver of its employment performance. Results from this project suggest that at least one form of flexibility-variability in hours and pay- is not beneficial for workers. They also suggest that flexibility might not as central to employment creation as previously thought. From a policy perspective, at least two alternatives are available. First, employment regulation can be used to limit the extent to which employers can transfer market risks onto their employees, for example by requiring employers to guarantee the number of hours that their employees regularly work. Second, if employer flexibility is to be maintained, policies can ensure that workers adequately compensated for shouldering the risks for example through higher minimum wages or mandatory premiums when hours vary significantly.

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8 Appendix 1: Coefficients of discrete time models

Table 7: Estimated coefficients from discrete time models: Women

	Model A	Model B	Model C
Share of unstable jobs	0.0004 (0.0042)	-0.0010 (0.0068)	-0.0249* (0.0123)
Share of unstable jobs X unempl. duration	-	-	0.0061* (0.0029)
Share of unstable jobs X education (ref.cat tertiary)			
X A-levels	-	-	0.0061 (0.0121)
X GSCE	-	-	0.0039 (0.0109)
X Other/ no qualifications	-	-	0.0155 (0.0135)
Unemployment duration	0.125 (0.091)	0.094 (0.093)	-0.009 (0.102)
Unemployment duration 2	-0.056** (0.016)	-0.047** (0.017)	-0.052** (0.017)
Age	-0.017 (0.016)	-0.019 (0.016)	-0.018 (0.016)
Age 2	-0.0000 (0.0003)	-0.0000 (0.0003)	0.0000 (0.0003)
A-levels	-0.222* (0.102)	-0.215* (0.106)	0.006 (0.012)
GSCE	-0.494*** (0.091)	-0.503*** (0.097)	0.004 (0.011)
Other/ no qual.	-0.850*** (0.108)	-0.810*** (0.118)	0.015 (0.013)
Number of children	-0.148** (0.053)	-0.162** (0.054)	-0.158** (0.054)
Child under 5	-1.021*** (0.101)	-1.004*** (0.104)	-1.003*** (0.104)
Single parent	-0.020 (0.104)	0.008 (0.107)	0.011 (0.106)
Poor health	-0.642*** (0.075	-0.648*** (0.078)	-0.647*** (0.077)
Risk aversion	-0.047** (0.014)	-0.046** (0.014)	-0.045** (0.014)

Continued on next page

	Model A	Model B	Model C
Table 7 – *Continued from previous page*			

	Model A	Model B	Model C
Partner income	-0.024 (0.014)	-0.024 (0.014)	-0.023 (0.014)
Year (ref. 2010)			
2011	-	0.030 (0.118)	0.022 (0.118)
2012	-	0.154 (0.114)	0.152 (0.114)
2013	-	0.182 (0.118)	0.179 (0.118)
2014	-	0.155 (0.124)	0.145 (0.124)
2015	-	0.469*** (0.125)	0.467*** (0.125)
2016	-	0.332* (0.140)	0.322* (0.140)
2017	-	0.348 (0.219)	0.316 (0.220)
2018	-	1.767* (0.802)	1.742* (0.798)
Region (Ref. North-East)			
North-West	-	0.334 (0.217)	0.336 (0.216)
Yorkshire	-	0.184 (0.226)	0.186 (0.225)
East Midlands	-	0.351 (0.231)	0.349 (0.230)
West Midlands	-	0.192 (0.224)	0.189 (0.223)
East of England	-	0.454* (0.225)	0.455* (0.224)
London	-	0.167 (0.210)	0.178 (0.209)
South East	-	0.392 (0.212)	0.398 (0.211)
South West	-	0.438 (0.231)	0.439 (0.230)
Wales	-	0.360 (0.236)	0.368 (0.236)
Scotland	-	0.171 (0.242)	0.189 (0.241)

Table 7 – *Continued from previous page*

	Model A	Model B	Model C
N Ireland	-	0.141 (0.268)	0.140 (0.266)
Mean local wage	-	0.012 (0.014)	0.006 (0.015)
Local empl. growth	-	0.138* (0.060)	0.134* (0.060)
Constant	-2.001*** (0.220)	-2.485*** (0.398)	-2.019*** (0.451)
N spells	2604	2528	2528
N individuals	1973	1934	1934

Note: SE in parenthesis; mean local wages are hourly; employment growth is year on year percent change; both are measured at the occupation by region by year level; risk aversion is an 11 point scale; partner income is transformed using the inverse hyperbolic sine
Source:Author's calculations based on UKHLS and LFS.

Table 8: Estimated coefficients from discrete time models: Men

	Model A	Model B	Model C
Share of unstable jobs	-0.0052 (0.0042)	0.0048 (0.0065)	0.0142 (0.0.0132)
Share of unstable jobs X unempl. duration	-	-	-0.0051 (0.0038)
Share of unstable jobs X education (ref.cat tertiary)			
X A-levels	-	-	0.0172 (0.0116
X GSCE	-	-	-0.0054 (0.0112)
X Other/ no qualifications	-	-	0.0047 (0.0132)
Unemployment duration	0.614*** (0.110)	0.588** (0.110)	0.681*** (0.129)
Unemployment duration 2	-0.168*** (0.021)	-0.161*** (0.022)	-0.158*** (0.022)
Age	0.012 (0.014)	0.012 (0.015)	0.013 (0.015)

Table 8 – *Continued from previous page*

	Model A	Model B	Model C
Age 2	-0.0004	-0.0005	-0.0005
	(0.0002)	(0.0003)	(0.0003)
A-levels	-0.155	-0.125	-0.471*
	(0.106)	(0.108)	(0.234)
GSCE	-0.342***	-0.305**	-0.158
	(0.093)	(0.100)	(0.242)
Other/ no qual.	-0.720***	-0.656***	-0.737*
	(0.105)	(0.110)	(0.301)
Number of children	-0.064	-0.077	-0.086
	(0.057)	(0.058)	(0.058)
Child under 5	0.046	0.145	0.166
	(0.128)	(0.131)	(0.131)
Single parent	-0.313	-0.285	-0.304
	(0.213)	(0.220)	(0.223)
Poor health	-0.541***	-0.573***	-0.574***
	(0.079)	(0.081)	(0.081)
Risk aversion	-0.047**	-0.046**	-0.045**
	(0.014)	(0.014)	(0.014)
Partner income	0.017	0.018	0.019
	(0.013)	(0.014)	(0.014)
Year (ref. 2010)			
2011	-	-0.083	-0.081
		(0.110)	(0.110)
2012	-	-0.082	-0.078
		(0.114)	(0.114)
2013	-	0.020	0.025
		(0.121)	(0.121)
2014	-	0.149	0.165
		(0.123)	(0.123)
2015	-	0.039	(0.052
		(0.120)	(0.120)
2016	-	0.173	0.183
		(0.140)	(0.140)
2017	-	0.180	0.191
		(0.254)	(0.256)
2018	-	2.424	2.450**
		(0.768)	(0.784)
Region (ref. North East)			
North-West	-	-0.102	-0.075
		(0.208)	(0.208)
Yorkshire	-	-0.206	-0.186
		(0.222)	(0.219)
East Midlands	-	-0.070	-0.051
		(0.208)	(0.207)
West Midlands	-	0.086	0.108
		(0.204)	(0.204)
East of England	-	-0.127	-0.112
		(0.225)	(0.224)
London	-	-0.201	-0.176
		(0.194)	(0.193)

Continued on next page

	Model A	Model B	Model C
South East	-	0.037 (0.205)	0.054 (0.204)
South West	-	0.040 (0.217)	0.064 (0.215)
Wales	-	0.181 (0.236)	0.188 (0.234)
Scotland	-	-0.454 (0.246)	-0.448 (0.245)
N Ireland	-	-0.005 (0.273)	-0.025 (0.270)
Mean local wage	-	0.042** (0.013)	0.043** (0.014)
Local empl. growth		0.144* (0.067)	0.144* (0.068)
Constant	-2.763*** (0.208)	-3.328*** (0.365)	-3.567*** (0.442)
N spells	1873	1782	1782
N individuals	1336	1286	1286

Note: SE in parenthesis; mean local wages are hourly; employment growth is year on year percent change; both are measured at the occupation by region by year level; risk aversion is an 11 point scale; partner income is transformed using the inverse hyperbolic sine
Source: Author's calculations based on UKHLS and LFS.

9 Appendix 2:Experimental instructions

Welcome to this study on pay insecurity!

I would like to invite you to take part in a study on insecure work. The study aims to better understand how pay insecurity affects the decisions of low income workers. Your participation is entirely voluntary and you are free to withdraw at any point without penalty or disadvantage. Before you agree to participate, please read carefully the information provided.

Background to the study

This experiment is part of a larger project on Risk Aversion, Earnings Uncertainty and Labour Supply funded by the Nuffield Foundation, a charitable trust that funds social science research and led by Dr Silvia Avram, a researcher at the University of Essex. The project aims to better understand how people decide whether and how much to work when wages are unpredictable and whether changing public policies to improve income security would help people stay in work.

The experiment

The experiment will last UP TO 90 minutes. You will be given detailed instructions. During the experiment, you will be asked to choose repeatedly between performing a task (transcribing text) in return for earnings and a fixed payment. You will also be asked to play a lottery and answer a few demographic questions. There are no right or wrong decisions. The purpose of the experiment is to study decision making processes and is in no way intended to be a test.

Payment

In return for your participation, you will receive experimental earnings of between £10 and £50. How much you earn will depend partly on your choices and partly on luck. You will receive your payment via Prolific subject to your submission being approved. Submissions are normally approved within 48 hours from experiment completion.

Are there any risks?

We are not aware of any risks associated with your participation in this study.

Withdrawal

Withdrawal

Your participation in this study is entirely voluntary. You are free to withdraw from the study without giving a reason and without penalty. If you choose to withdraw from the study, any data we collected as part of the experiment will be destroyed. Please note that withdrawal is no longer possible once you are paid for your submission.

What happens with your data?

We do NOT collect any personal data as part of the experiment. The only identifying information we store is your Prolific ID which is needed to link your submission with your payment. We will call the data we collect in the experimental session your experimental data. It includes demographic information(gender, age, education, employment history), a measure for your appetite for risk taking, your choices on the work task and your experimental earnings. Your experimental data is completely anonymized and confidential. The data will be stored in electronic files and analysed using statistical methods. At the end of the project, the anonymized data will be archived and deposited with the UK Data Service, a Data centre based at the University of Essex.

Informed consent

Should you agree to take part in the study, you will be asked to sign a consent form. This is to make sure you understand the study information, the terms under which you participate and what happens with the data your provided.

Findings

Findings from this study will be published in a report available here: https://www.nuffieldfoundation.org/risk-aversion-earnings-uncertainty-and-labour-supply.

Concerns and complaints

If you have any concerns or complaints about the study, please contact in the first instance the principal investigator, Dr Silvia Avram. If you are still concerned or believe your complaint has not been properly addressed, please contact the ISER Research Director, Prof Paul Clarke. If you are still unsatisfied, please contact the University of Essex Research Governance and Planning Manager, Sarah Manning-Press. Contact details are listed below.

Principal investigator
Dr Silvia Avram, Institute for Social and Economic Research

Informed consent

Taking part in the study

I have read and understood the study information on the previous page. I understand that if I have questions, I can contact the lead investigator via the Prolific messaging platform.

○ Yes ○ No

I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason and without penalty.

○ Yes ○ No

I understand that taking part in the study involves performing a work task (transcribing text), playing a lottery and answering a few questions about my age, gender, education and employment history.

○ Yes ○ No

I understand that the study may take up to 90 minutes to complete and that I am free to leave the experiment at any time if I no longer wish to participate.

○ Yes ○ No

I understand that for my participation, I will receive experimental earnings of between £10 and £50.

○ Yes ○ No

Next

Informed consent

Use of the information in the study

I understand that information I provide will be used for aggregate statistical analyses, the results of which will be published in a report and in scientific papers. Neither myself nor any of my individual answers will be identified in any of the publications.

○ Yes ○ No

I understand that no personal information that can identify me is collected other than my Prolific ID which is needed for technical reasons. I understand that my Prolific ID will be deleted from the final dataset and the information destroyed at the end of the study.

○ Yes ○ No

Future use and reuse of the information by others

I give permission for the annonymized experimental data that I provide to be deposited with the UK Data Service so it can be used for future research and learning.

○ Yes ○ No

Next

Welcome to this experimental session!

Thank you for agreeing to take part in this experiment. Please read carefully the following instructions. If you have any questions, you can contact the principal investigator via the Prolific messaging platform.

This experiment may take up to 90 minuted to complete but most people take under an hour. The length of the session partly depends on your choices. During this time, please refrain from using mobile phones, browsing alternative sites or engaging in another activity. If you are using a tablet, you should disable the spelling, autocomplete and predictive features of the keyboard now.

For participating in this experimental session, you will be paid earnings of between £10 and £50. How much you earn will depend partly on your choices and partly on luck.

Instructions

The purpose of this experiment is to better understand how workers make decisions about work when pay is unpredictable and insecure. The experiment will consist of five stages. At the beginning of each stage, you will receive detailed instructions about your tasks in that stage. Please read them carefully, and make your choices. Once you are finished with your current task, press NEXT to continue. Below is a list of the five stages of this experimental session.

- Stage 1: Instructions
- Stage 2: Lottery
- Stage 3: Text transcription-Part I
- Stage 4: Text transcription- Part II
- Stage 5: Short survey and payment information

With the exception of instruction pages, all the other parts of the experiment are timed. It is not possible to pause the experiment. Once you have submitted your choices, it is not possible to change them.

At the end of the experiment, you will be given information about your stage and overall earnings. You will then be automatically redirected back to Prolific to confirm you have completed this experiment.

Thank you and good-luck!

Please press NEXT once you are ready to start.

Next

Lottery stage

The table below shows ten lottery pairs. Each lottery pair corresponds to a row in the table and contains two lotteries: Lottery A and Lottery B. Each lottery has two payoffs- a larger one and a smaller one. Which payoff you receive is determined randomly by a computer coin toss.

For each pair of lotteries , please choose which lottery you would like to play: Lottery A or Lottery B. At the end of the experiment, the computer will randomly select one lottery pair out of the 10. We will then play out the lottery you chose for that pair. The computer will toss a coin. If HEADS come up, you will receive the larger payoff on the left. If TAILS come up, you will receive the smaller payoff on the right.

Please choose which lottery you would like to play for each pair now.

Lottery A	Win if HEADS	Win if TAILS	Lottery B	Win if HEADS	Win if TAILS
○ Choose A	£1.68	£1.60	○ Choose B	£2.01	£1.00
○ Choose A	£1.76	£1.60	○ Choose B	£2.17	£1.00
○ Choose A	£1.84	£1.60	○ Choose B	£2.32	£1.00
○ Choose A	£1.92	£1.60	○ Choose B	£2.48	£1.00
○ Choose A	£2.00	£1.60	○ Choose B	£2.65	£1.00
○ Choose A	£2.08	£1.60	○ Choose B	£2.86	£1.00
○ Choose A	£2.16	£1.60	○ Choose B	£3.14	£1.00
○ Choose A	£2.24	£1.60	○ Choose B	£3.54	£1.00
○ Choose A	£2.32	£1.60	○ Choose B	£4.50	£1.00
○ Choose A	£2.40	£1.60	○ Choose B	£4.70	£1.00

[Next]

Text transcription section

In this section you will be asked to choose between performing a work task for pay or receiving benefits. The task consists of copying Latin texts. You will be shown an image of a text and your task is to type the text in a box. Please try and type the text as accurately as possible, respecting punctuation and upper and lower cases.

You will only be paid if you make 3 or fewer transcription errors.

This section consists of 26 rounds. In each round, the work task will be the same but the payment rate, the availability of benefits or the availability of work may change. You will be given all the information when you choose between working and receiving benefits.

The first two rounds are trial rounds and are NOT paid. Their purpose is to allow you to familiarize yourself with the work task should you wish to do so.

Please press NEXT when you are ready to continue.

[Next]

Text transcription section

Trial round 2. This round is unpaid.

Please copy the text displayed in the image below.

Quodsi nomen istud proprium diuinitatis et simplex
nec interpretatorium in illo deo reprehensum, in
cetera quae deos uultis translatum.

Text returned:

Please press NEXT when you are ready to continue.

[Next]

Text transcription section

The trial rounds are now finished. The following rounds will be paid.

In the next rounds, you will be asked to choose between working and receiving benefits. You can make a different choice in each round.

If you choose to work, you will be presented with the work task and will have 2 minutes to complete it. You will be paid £1.50 for each text with 3 or fewer transcription errors.

If you choose to receive benefits, you will be paid a benefit of £1.00 and will move on to the next round.

Please press NEXT when you are ready to continue.

Next

Text transcription section

The trial rounds are now finished. The following rounds will be paid.

In the next rounds, you will be asked to choose between working and receiving benefits. You can make a different choice in each round.

If you choose to work, the computer will flip a coin to determine whether work is available. If the outcome is HEADS, work is available. To receive the full payment of £1.50, you will need to transcribe a text and make 3 or fewer mistakes. If the outcome of the coin toss is TAILS, work is NOT available. You will not be paid for this round and you will immediately move to the next round.

If you choose to receive benefits, you will be paid a benefit of £1.00 and will move on to the next round.

Please press NEXT when you are ready to continue.

Next

Text transcription section

The trial rounds are now finished. The following rounds will be paid.

In the next rounds, you will be asked to choose between working and receiving benefits. You can make a different choice in each round.

If you choose to work, the computer will flip a coin to determine whether work is available. If the outcome is HEADS, work is available. To receive the full payment of £3.00, you will need to transcribe a text and make 3 or fewer mistakes. If the outcome of the coin toss is TAILS, work is NOT available. You will not be paid for this round and you will immediately move to the next round.

If you choose to receive benefits, you will be paid a benefit of £1.00 and will move on to the next round.

Please press NEXT when you are ready to continue.

Next

Text transcription section

You are playing round 3 out of 26.

Your current total payment from this section is £0.00.

Please choose whether you would like to receive benefits or to work in this round.

If you choose to work, first the computer will flip a coin to determine whether work is available. If the outcome is HEADS, work is available. To receive the full payment of £1.50, you will need to copy a short paragraph and make no more than 3 mistakes. If the outcome of the coin toss is TAILS, work is NOT available. You will not be paid for this round and you will immediately move to the next round. If you choose to receive benefits you will be paid £1.00 and move to the next round.

Would you like to receive benefits or work in this round?

○ Receive Benefits   ○ Work

[Next]

Text transcription section

You have chosen to receive benefits this round.

You have earned £1.00 in this round.

Your total current payment from the Text transcription section is now £1.00.

Please press Next to proceed to the next round or section.

[Next]

Text transcription section

You are playing round 4 out of 26.

The computer tossed a coin to determine the availability of work in this round.

The outcome is TAILS. Work IS NOT available in this round. Please press Next to proceed to the next round.

[Next]

Text transcription section

You have chosen to work this round.

The was no work available in the current round.

You have earned £0.00 in this round.

Your total current payment from the Text transcription section is now £1.00.

Please press Next to proceed to the next round or section.

Next

Text transcription section

You are playing round 7 out of 26.

The computer tossed a coin to determine the availability of work in this round.

The outcome is HEADS. Work IS available this round. Please copy the text displayed in the image below. To receive the payment of £1.50, you should have no more than 3 mistakes.

Nobis excidisse debet omnem patrem filiis antiquiorem, tam Saturnum Ioue quam Caelum Saturno; de Caelo enim et Terra Saturnus.

Text returned:

Next

Text transcription section

You have completed 14 rounds.

In the remaining rounds, if you choose to work, there will still be a 50% chance of work being available. The computer will toss a coin. If HEADS comes up, work is available. To receive the pay rate of £1.50, you need to copy a text and have 3 or fewer errors. If TAILS comes up, work is not available.

However, if work is not available, you will receive a £1.00 benefit instead. You will then move to the next round.

If you choose to receive benefits, you will be paid a benefit of £1.00 and move to the next round.

Please press NEXT when you are ready to continue.

Next

Text transcription section

You have chosen to work this round.

The was no work available in the current round.

You have earned £1.00 in this round.

Your total current payment from the Text transcription section is now £9.00.

Please press Next to proceed to the next round or section.

Next

Text transcription section

Time left to complete this page: **0:44**

You have completed 14 rounds.

In the remaining rounds, if you choose to work, you will continue to be paid £1.50 for each text you copy with 3 or fewer errors.

If you choose benefits twice in a row, there is a 50% chance of being sanctioned. If you choose to receive benefits and have chosen benefits in the previous round too, there is a 50% chance of being sanctioned. The computer will flip coin. If the outcome is HEADS, you will be sanctioned. You will not receive any benefits in the current round. If the outcome is TAILS, you will not be sanctioned. You will receive £1.00 in benefits and move to the next round.

Please press NEXT when you are ready to continue.

Next

Text transcription section

Time left to complete this page: **0:46**

You are playing round 15 out of 26.

In the previous round you have chosen to Receive Benefits and you received £1.00.

Your current total payment from this section is £12.00.

Please choose whether you would like to receive benefits or to work in this round.

If you choose to work, you will be shown a text and ask to copy it. To receive the full payment of £1.50, you will need to copy a short paragraph and make no more than 3 mistakes.

In the previous round you have chosen to Receive Benefits. If you choose to receive benefits this round, there is a 50 % chance you will be sanctioned. The computer will flip a coin. If the outcome is HEADS, you will be sanctioned. You will not receive any benefits this round and you will immediately move to the next round. If the outcome is TAILS, you will not be sanctioned. You will receive £1.00 in benefits and move to the next round.

Would you like to receive benefits or work in this round?

◉ Receive Benefits ○ Work

Next

61

Text transcription section

Time left to complete this page: **0:21**

You have chosen to receive benefits this round.

You have NOT been sanctioned in this round.

You have earned £1.00 in this round.

Your total current payment from the Text transcription section is now £13.00.

Please press Next to proceed to the next round or section.

Next

Text transcription section

Time left to complete this page: **0:27**

You have chosen to receive benefits this round.

You have been sanctioned in this round.

You have earned £0.00 in this round.

Your total current payment from the Text transcription section is now £14.00.

Please press Next to proceed to the next round or section.

Next

Text transcription stage. Part II

You have completed the first part of the text transcription stage. The second part will begin shortly.

In this part, you have 5 minutes to complete as many text transcription tasks as possible. For each transcription that has three or fewer errors, you will receive £1.50. There is no limit on the amount of transcriptions that you can submit in the 5 minutes available. You cannot move to the next section before the 5 minutes elapse.

Press NEXT when you are ready to begin.

Next

Text transcription stage. Part II

Please copy the text below. To receive the payment of £1.50 you should have no more than 3 mistakes.

> Frugi religio et paupertina superstitio; altaria
> temeraria et uasa sordida, et nidor exilis ex illis, et
> deus ipse nusquam. Ergo non ante religiosi quam
> maiores, quia religiosi.

Text returned:

[text box]

Next

Rate the experimental session

The main part of the experiment is complete. Please answer a few questions about the experimental session today.

Please rate the clarity of the instructions you received in this experimental session:
- ○ The instructions were always clear and easy to understand
- ○ The instructions were generally clear but on a few occasions I did not understand them straight away
- ○ I had considerable difficulty understanding the instructions

Please rate the difficulty of the transcription task:
- ○ The task was simple and easy to perform
- ○ The task was neither easy nor difficult
- ○ The task was difficult to perform

Please rate how well you understood the payments associated with the choices you made:
- ○ I clearly understood the payments associated with each option for every choice I made
- ○ I understood the payments associated with each option for most of the choices I made
- ○ I rarely understood the payments associated with each option for the choices I made

If you have any other comments about the experimental session, please write them in the box below:

[text box]

Demographic questions

Please answer a few short questions about yourself to complete the experimental session.

Are you a male or female?
- ○ Male   ○ Female

What is your age (in years)?
[text box]

What is the highest qualification you currently hold?
- ○ GSCE /O-levels
- ○ A-levels
- ○ Vocational qualifications(ex: NVQ 3-5)
- ○ Diploma of higher education or higher
- ○ Other qualification
- ○ No formal qualifications

Are you currently in paid work?
- ○ Not in paid work
- ○ In paid work

How many children aged under 5 do you have in your care?
- ○ None
- ○ One
- ○ Two
- ○ More than two

Have you ever received means-tested out of work benefits such as Income Support, Jobseeker allowance, Employment and support allowance or Universal credit?
- ○ No   ○ Yes

Next

Lottery play

At the beginning of the experiment you were shown 10 lottery pairs and chose which lottery you preferred for each pair. We will now play out your lottery of choice in a randomly selected pair.

The computer has randomly selected lottery pair number 8.

You have chosen to play lottery A. Please press PLAY to play out the lottery. The computer will toss a coin. If the outcome is HEADS, you will receive £2.24. If the outcome is TAILS, you will receive £1.60.

Play

Lottery outcome

The outcome of the coin toss is TAILS. You have won £1.60.

Please press NEXT to receive information about your total payment and how to collect it.

Next

Finish

The experimental session is finished. Thank you for participating!

You have earned £19.00 from the Text transcription stage and £1.60 from the Lottery stage. You will also receive a show-up fee of £0.00. Your total payment is £20.60

You will be paid in the usual way via the Prolific platform after your submission is approved. Your submission will normally be approved in the next 48 hours.

Thank you and good-bye!

Return to Prolific