

WELFARE REFORM AND THE BEHAVIOUR OF THE UNEMPLOYED

**Sarah Brown and Karl Taylor
Department of Economics
University Of Sheffield
InstEAD and IZA**

**“Understanding Behaviour Change and the Role of Conditionality”
International Expert Panel. Monday 12th May 2014**

Introduction and Background

- Impact of a welfare reform on the relationship between reservation wages, expected wages and unemployment.
- RW, the lowest wage at which an individual is willing to work, key role in labour market theory.
- An extensive empirical literature exists, which has explored the implications of RWs focusing on the duration of unemployment.

Introduction and Background

- Empirical evidence has supported a positive relationship between RWs & the duration of unemployment predicted by job search theory.
- A number of issues have complicated the empirical analysis.
- In particular, RWs & the duration of unemployment are arguably jointly determined: RWs influence the probability of exiting unemployment & RWs are influenced by the duration of unemployment.

Introduction and Background

- Two main approaches have been adopted to explore the relationship between RWs & the duration of unemployment.
- Lancaster & Chesher (1983) calculate elasticity of the RW with respect to the rate of arrival of job offers via non parametric procedures. This approach has been recently used by Blackaby et al. (2007) & Addison et al. (2009).
- The second approach is the IV approach of Jones (1988).

Introduction and Background

- In the existing literature, EWs have not been explicitly incorporated into the empirical analysis.
- E.g., Lancaster & Chesher (1983) regard RWs, EWs & the duration of unemployment as jointly determined. However, within their non parametric approach they do not calculate the effect of EWs on RWs.
- We analyse the effect of EWs on RWs and how including EWs influences the relationship between the RW & the duration of unemployment.

Introduction and Background

- Although individuals' expectations play a key role in many areas of economic theory, microeconomic evidence of their causes & effects is relatively sparse.
- Existing work focuses on financial expectations, exploring, e.g., consumption & saving (e.g., Brown et al., 2005, 2008, Das & van Soest, 1999 & Souleles, 2004).
- The absence of a wider research programme is perhaps reflective of both a shortage of relevant data & scepticism.

Data

- Our empirical analysis is based on the British Household Panel Survey – *BHPS*.
- Random sample survey of each adult member from a nationally representative sample of more than 5,000 private households (approx. 10,000 individual interviews). First wave 1991. The same individuals are re-interviewed in successive waves.
- Given the availability of detailed information on job search in the *BHPS*, we focus on 1996 to 2002.

Data

- The start of the study coincides with the introduction of the JSA, which tightened the job search requirements for benefit eligibility.
- Claimants had to sign a Job Seeker's Agreement (JSA) indicating: the type of job sought; when the claimant is able to work; and the steps taken to identify and apply for jobs.
- In 2003, Working Tax Credit & Child Tax Credit replaced WFTC, hence our sample ends in 2002.

Data

- If the respondent *'is not currently working but has looked for work or has not looked for work in last four weeks but would like a job'*, he/she is asked to specify: *'What is the lowest weekly take home pay you would consider accepting for a job?'*
- Individuals are then asked: *'About how many hours in a week would you expect to have to work for that pay?'*
- We construct the hourly RW.

Data

- Turning to EWs, job seekers were asked: *‘About how many hours in a week do you think you would be able to work?’*
- Such individuals are then explicitly asked about their expected wage: *‘What weekly take-home pay would you expect to get (for that)?’*
- We construct the hourly expected wage.
- The duration of unemployment is measured as the length of time in the current labour market spell (measured in days).

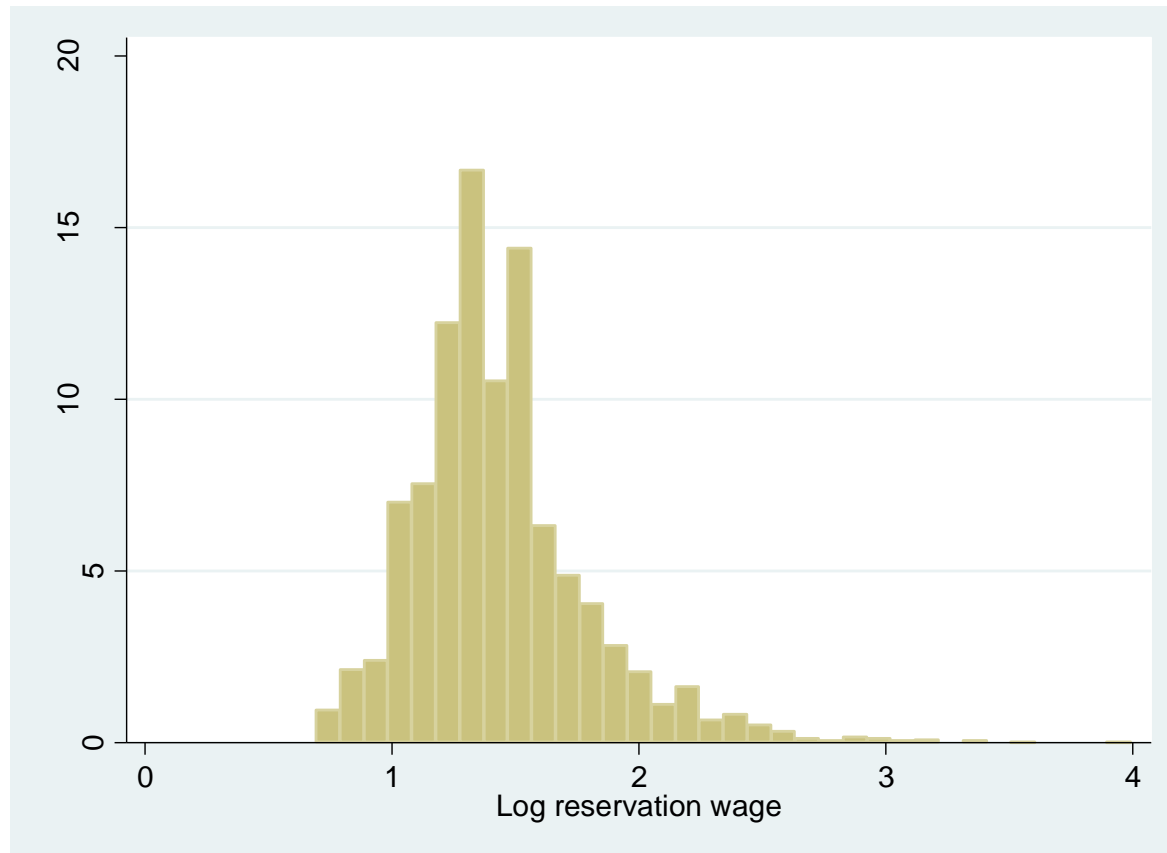
Data

- The data set, which comprises individuals not in employment or self-employment, is unbalanced with 3,034 observations.
- It includes individuals of working age (16-65) who satisfy the rationality restriction of Lancaster & Chesher (1983):

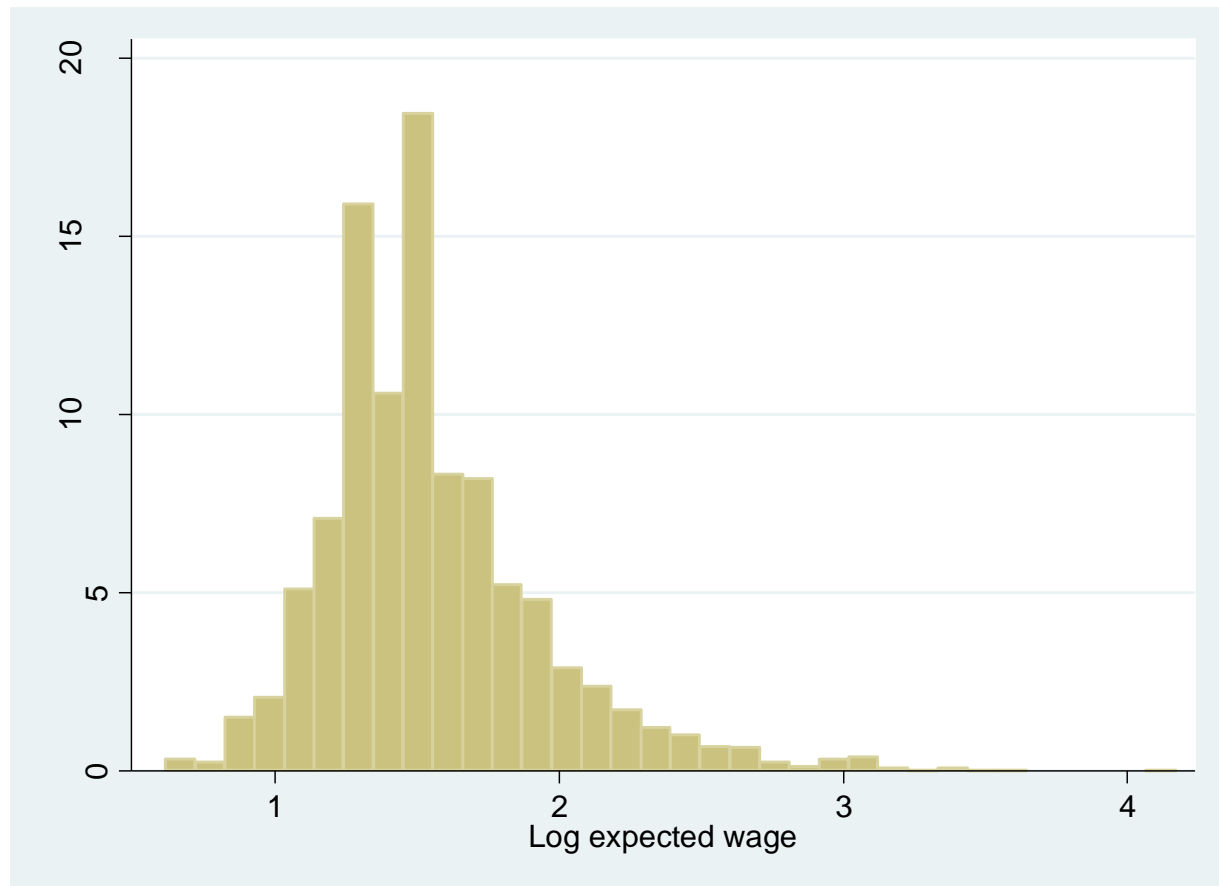
$$UB \leq RW \leq EW$$

- 4% of the sample fail to meet this condition.

Distribution of the Log RW; mean hourly RW is approximately £4.21



Distribution of the Log EW; mean hourly EW is approximately £4.71



RW, EW and the Minimum Wage

	1999	2000	2001	2002
MW	£3.60	£3.70	£4.10	£4.20
%RW>MW	65%	59%	58%	62%
%EW>MW	79%	70%	72%	74%

Reservation Wages & the Duration of Unemployment

$$\log(t)_{it} = \mathbf{X}_{1it}\beta + \gamma \log(rw)_{it} + \varepsilon_{1it}$$

$$\log(rw)_{it} = \mathbf{X}_{2it}\phi + \lambda \log(t)_{it} + \varepsilon_{2it}$$

- γ measures the elasticity of unemployment duration with respect to reservation wages.
- λ measures the elasticity of reservation wages with respect to unemployment duration.

Reservation Wages & the Duration of Unemployment

- X_1 and X_2 : gender; ethnicity; marital status; educational attainment; regional unemployment rate; age; an index of job search intensity; a set of region, year & month of interview binary controls.
- To identify the unemployment duration equation, X_2 also includes: log unemployment benefits; the log of the sum of all other types of benefit income; the log of pay in last job; working spouse; the number of children under 16; & the number of dependent children aged 16 to 19.

	Duration		Res. wage	
	COEF	TSTAT	COEF	TSTAT
Log(unemployment duration)			-0.836	(2.46)
Log(reservation wage)	1.948	(2.97)		
Regional UE rate	0.053	(1.61)	-0.012	(1.95)
Job search	-0.154	(4.00)	0.001	(0.07)
Log(UE benefits)			-0.327	(1.84)
Log(other benefits)			-0.065	(1.83)
Log(pay last job)			0.080	(2.39)
Chi squared [p value]	1128.33	[0.000]	532.47	[0.000]
Observations		3034		

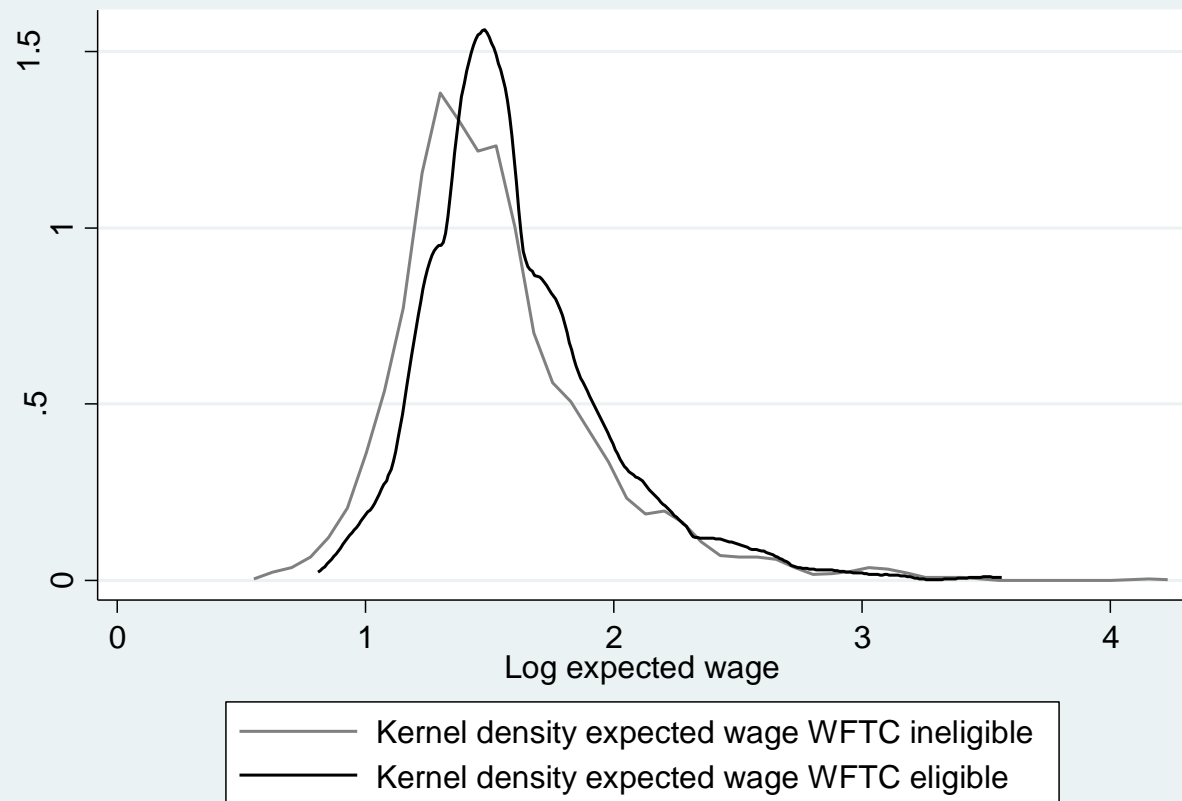
Reservation Wages, Expected Wages and the Duration of Unemployment

- Arguably, RWs, EWs & unemployment duration are jointly determined.
- The introduction of a change in labour market policy may act as an exogenous shock, impacting on the EW.
- We focus on the introduction of WFTC in the UK.
- We analyse how eligibility for WFTC influences the EWs of the unemployed.

Reservation Wages, Expected Wages and the Duration of Unemployment

- WFTC aimed to encourage those currently in receipt of benefit income into employment.
- Approximately doubled the generosity of previous in-work benefits under Family Credit.
- Eligibility for WFTC depended on hours of work (i.e. one adult in the family must work 16 hours or more a week), the number of dependent children (under 16 or under 19 and in full-time education) and capital (less than £8,000).
- WFTC were introduced in October 1999 and were fully phased in by April 2000.

Density Plot: Log EW by WFTC Eligibility



kernel = epanechnikov, bandwidth = 0.0619

Reservation Wages, Expected Wages and the Duration of Unemployment

$$\log(t)_{it} = \mathbf{X}_{1it}\beta + \gamma \log(rw)_{it} + \varepsilon_{1it}$$

$$\log(rw)_{it} = \mathbf{X}_{2it}\phi + \lambda \log(t)_{it} + \tau \log(ew) + \varepsilon_{2it}$$

$$\log(ew)_{it} = \mathbf{X}_{3it}\eta + \varphi WFTC_{it} + \varepsilon_{3it}$$

- \mathbf{X}_3 contains: gender; ethnicity; marital status; educational attainment; age; & wage level from their last period of employment.

Reservation Wages, Expected Wages and the Duration of Unemployment

- Define WFTC in two alternative ways.
 - **Specification 1.** Binary indicator denoting eligibility for WFTC in any year from 1999;
 - **Specification 2.** Three binary indicators each equal to unity if it is the first, second, or third year that the individual has been eligible for WFTC.
- Specification 2 preferred a priori – expect effect to dissipate as individuals become more informed about labour market conditions once WFTC taken into account.

	Specification 1						Specification 2					
	Duration		Res. wage		Exp. wage		Duration		Res. wage		Exp. wage	
	COEF	TSTAT	COEF	TSTAT	COEF	TSTAT	COEF	TSTAT	COEF	TSTAT	COEF	TSTAT
Log(unemployment duration)			-0.805	(3.68)					-0.517	(3.52)		
Log(reservation wage)	1.858	(2.94)					1.841	(1.93)				
Log(expected wage)			1.479	(5.34)					1.488	(8.62)		
WFTC eligible					0.047	(3.18)						
WFTC eligible year 1											0.046	(3.11)
WFTC eligible year 2											0.051	(1.71)
WFTC eligible year 3											0.017	(0.31)
Regional UE rate	0.026	(0.78)	0.016	(3.17)			0.025	(0.75)	0.015	(3.58)		
Job search	-0.161	(4.19)	-0.009	(0.97)			-0.161	(4.19)	-0.005	(0.72)		
Log(UE benefits)			0.414	(2.71)					0.260	(2.36)		
Log(other benefits)			0.009	(3.53)					0.056	(3.48)		
Log(pay last job)			0.077	(3.56)	0.004	(2.09)			0.051	(3.52)	0.005	(2.12)
Chi squared [<i>p</i> value]	1067.53	[0.000]	5209.43	[0.000]	754.70	[0.000]	1064.35	[0.000]	7970.17	[0.000]	744.87	[0.000]
AIC (BIC)			16,335.65	(16,979.54)					14,469.28	(15,119.19)		
Observations							3034					

Conclusion

- Incorporating EW into the framework lowers the effect of the RW on the duration of unemployment & moderates the inverse effect of the duration of unemployment on the RW.
- However, with the exception of one specification, the differentials in the key elasticities across the two models are not statistically significant.
- The effect of incorporating EWs only has a significant effect on the differentials in the key elasticities when controlling for the period of WFTC eligibility.
- Our empirical results also suggest that the introduction of WFTC had a positive influence on EWs, which in turn were positively associated with RWs.

Conclusion

- Our empirical findings highlight the importance of incorporating wage expectations in the analysis of the behaviour & decision-making of the unemployed.
- Given the influence of EWs on RWs, policy-makers may be able to influence the reservation wages of those out of work.
- E.g., Government agencies such as Job Centre Plus may serve to not only help make job search more effective but also to shape EWs of the unemployed.
- An important part of the process is to help to inform those out of work about the operation of tax credits in order to influence their wage expectations.