Labour Economics 38 (2016) 1–11

Contents lists available at ScienceDirect

Labour Economics

journal homepage: www.elsevier.com/locate/labeco

Wealth effects on job preferences☆

Luke Haywood

DIW Berlin, Mohrenstrasse 58, 10117 Berlin, Germany

HIGHLIGHTS

- Labour supply reductions after a wealth shock depend on jobs' non-wage aspects.
- Demand for non-wage aspects is measured using differential job leaving in Britain.
- Wage and satisfaction are found to evolve differently when wealthy people move jobs.
- Marginal willingness to pay for job satisfaction increases for large windfall gains.

ARTICLE INFO

Article history:
Received 7 April 2014
Received in revised form 12 October 2015
Accepted 17 October 2015
Available online 26 October 2015

JEL classification:
J21
J28
J32
J64

Keywords:
Labour supply
Wealth
Job satisfaction
Duration models

ABSTRACT

Preferences over jobs depend on wages and non-wage aspects. Variation in wealth may change the importance of income as a motivation for working. Higher wealth levels may make good non-wage characteristics relatively more important. This hypothesis is tested empirically using a reduced form search model in which differential job leaving rates identify willingness to pay for non-wage aspects of jobs. Marginal willingness to pay for non-wage aspects (measured by "job satisfaction for work in itself") is found to increase significantly after large windfall wealth gains in British panel data. Thus, wealth influences more than just the hours worked.

1. Wealth and labour supply

Wealth inequality is the subject of much debate in light of Piketty (2013). How do differences in wealth affect the labour market? Many studies examine a reduction in labour supply: workers substitute working with leisure (Henley, 2004), and unemployed individuals search longer for higher-paid jobs (Algan et al., 2003; Lentz and Tranaes, 2005; Lise, 2013). In all these models, job quality is a function only of the wage. This paper considers the influence of changing wealth levels on workers' labour supply in a model where workers are concerned about wages and non-wage characteristics with no attempt to identify what causes a job to have good non-wage characteristics. In the empirical part, reported "job satisfaction for work in itself" is used as an indicator of the value of non-wage aspects in a given job. British panel data reveals how workers' valuation of non-wage characteristics changes as a result of a wealth shock.

Identifying workers' valuation of non-wage characteristics is not trivial. If employers have to pay workers more to fulfil less satisfying tasks, it should be possible to recover preferences from wage differentials across jobs with different non-wage characteristics. However, Bonhomme and Jolivet (2009) find a "pervasive absence of compensating differentials". This may be due to informational deficiencies of firms (ignorant about workers' current preferences) and workers (ignorant about job offers, see Hwang et al., 1998). Furthermore, legal and fairness constraints may prevent wage adjustments. As a result, jobs with better non-wage characteristics do not pay correspondingly lower wages, in line with the finding that high job satisfaction reduces turnover rates (Clark, 2001). Instead of using wage differentials to identify the value of non-wage characteristics, differential job quitting can be exploited. By observing the relative importance of differences in non-wage characteristics vis-à-vis wages in determining job leaving, it is possible to estimate workers' marginal willingness to pay (MWP) for physical working

☆ Subject to the usual disclaimer I would like to thank Andrew Clark, Jean-Marc Robin, Helena Skyt Nielsen, Antoine Terracol, two anonymous reviewers as well as conference and seminar participants in Paris, Dubrovnik, Rome, Angers, Marseille and Oslo for their helpful comments.

E-mail address: LHaywood@diw.de.

http://dx.doi.org/10.1016/j.labeco.2015.10.002
0927-5371/

conditions (Gronberg and Reed, 1994), commuting distance (van Ommeren et al., 2000) or the remaining duration of a contract (van Ommeren and Hazans, 2008). The approach allows an estimation of MWP, a structural preference parameter, in absence of a full structural model. We hypothesize that the MWP for non-wage characteristics increases with wealth: a diminishing marginal utility of consumption will imply a reduction in the relative importance given to wages whilst non-wage characteristics gain in importance when choosing a job. Thus an individual's change in labour supply as a result of a change in wealth will depend on the balance of their job's wage and non-wage characteristics. Wealthier individuals are predicted to move away from jobs with poor non-wage characteristics. Since switching jobs takes time in a labour market with frictions, a change in preferences is best modelled as influencing workers' decisions to accept or reject job offers.

Increases in wealth result from savings, which may be derived from labour income, making identification of wealth effects on job preferences difficult. Thus, this article considers reactions to windfall gains (mainly from lottery winnings and inheritances). Since these windfalls are not related to labour market behaviour, they provide a source of identification for the effect of wealth on workers' job preferences. Windfall gains are used in other contexts (e.g., Imbens et al., 2001 and Kuhn et al., 2011 use US and Dutch lottery data). The impact of windfalls on the quantity of labour supply is studied by Henley (2004). Lindh and Ohlsson (1996) and Taylor (2001) study the effect of wealth on increasing self-employment. These studies do not discuss non-wage aspects of work. Taking non-wage dimensions into account allows us to explain the small overall reaction of hours and participation to changes in wealth. Whilst we have little to say about savings, trends in inheritance wealth suggest that our analysis is increasingly relevant to understand the labour market. Differences in unearned wealth may importantly influence the allocation of more or less satisfying jobs across individuals.

Section (2) presents a model to infer changes in MWP for non-wage characteristics from data on job leaving, adapting Gronberg and Reed (1994) to our context. Section (3) details our estimation of the determinants of job leaving with a focus on the estimators' treatment of heterogeneity and duration dependence. Section (4) presents the data. Section (5) provides evidence of changing job preferences by tracing the evolution of wages and job satisfaction for individuals who receive a windfall and subsequently change jobs. Section (6) estimates changes in MWP using all job leavers. Focusing on this larger set allows us to include the effect of wealth on transitions to non-participation in the analysis. Large changes in wealth, especially relative to income, are found to significantly increase MWP to pay for non-wage characteristics. Section (7) puts these findings into perspective and concludes.

2. A model of labour market responses to windfalls

Here we present a basic job search model and trace out how changes in assets can affect labour market behaviour. Workers care about consumption, c, non-wage characteristics, s, and not spending too much time searching, t^s. We assume that wealth is exogenous, disallowing wealth accumulation, so that all income is consumed. Thus we have that $c = m = r\ a + w$, where m is the total income, w is the labour income and $r\ a$ gives the returns to wealth.

Firms post job offers with fixed wages, w, and non-wage characteristics, s, that workers receive stochastically at Poisson rate λt^s. The utility cost of search effort $e(t^s)$ is linearly additive in the utility function such that different job characteristics do not influence optimal search effort.[1] Once an offer is received, workers have perfect information about its characteristics[2]. We now allow workers to voluntarily leave the labour market. Assume that with some probability μ workers update their home production opportunities. Model this as a combination of material and other conditions m^h, s^h, valued by the same function $\psi(.)$ as in the labour market. Instantaneous utility can then be given as

$$\begin{aligned} u(c,s,e) &= \psi(w + r\ a, s) - e(t^s) \\ &= \psi(m,s) - e(t^s). \end{aligned} \tag{1}$$

Workers' acceptance strategies only depend on the instantaneous utility of their current job, since workers do not forego any option value by accepting an offer with higher instantaneous utility[3]: arrival rates of job offers and home production opportunities vary only by search intensity t^s and do not depend on employment status. Workers will move when the instantaneous utility of an offer exceeds the utility in their current job. By taking into account non-wage characteristics, the usual reservation wage is replaced by a reservation wage function $w^R(s)$. To proceed, note that if instantaneous utility fully describes the relative attractiveness of a job, it also determines expected returns to search. With this in mind, job leaving occurs either when workers are made redundant (at rate δ), when they receive an attractive home production opportunity (at rate $\mu \mathbb{1}[\psi(m^h, s^h) > \psi(m,s)]$), or when they receive a job offer whose value exceeds the value of their current job offer — with probability $\lambda t^s(\psi(a,w,s))\overline{F}(\psi(a,w,s))$, where $\overline{F}(.)$ is the inverse CDF of job vacancies. The overall rate of job quits $\theta(.)$ can then be given as

$$\theta(\psi(m,s)) = \delta + \mu \mathbb{1}\left[\psi\left(m^h, s^h\right) > \psi(m,s)\right] + \lambda t^{s*}(\psi(m,s))\ \overline{F}(\psi(m,s)).$$

The rate of job leaving depends on the non-wage characteristics of the current job and on the current wage. Using $m = r\ a + w$,

$$\frac{\partial \theta}{\partial s} = \frac{\partial \psi}{\partial s}\left[\mu\ \frac{\partial Pr\left[\psi(m^h,s^h) > \psi(m,s)\right]}{\partial \psi(m,s)} + \frac{dt^{s*}}{d\psi}\ \lambda \overline{F}(\psi) + \frac{d\overline{F}(\psi)}{d\psi}\lambda t^{s*}(\psi(m,s))\right]$$

$$\frac{\partial \theta}{\partial w} = \frac{\partial \psi}{\partial m}\left[\mu\ \frac{\partial Pr\left[\psi(m^h,s^h) > \psi(m,s)\right]}{\partial \psi(m,s)} + \frac{dt^{s*}}{d\psi}\ \lambda \overline{F}(\psi) + \frac{d\overline{F}(\psi)}{d\psi}\lambda t^{s*}(\psi(m,s))\right].$$

These expressions can be combined to give Eq. (2). As in Gronberg and Reed (1994), we find that observing the relative weight of determinants of the observed job leaving rate (on the left-hand-side) is informative of the marginal rate of substitution between earnings and non-wage characteristics, i.e., the MWP for non-wage characteristics s (on the right-hand side),

$$\frac{\partial \theta / \partial s}{\partial \theta / \partial w} = \frac{\partial \psi / \partial s}{\partial \psi / \partial m}. \tag{2}$$

We can then show under which conditions changes in wealth influence the MWP for non-wage characteristics:

$$\frac{\partial}{\partial a}\left[\frac{\partial \theta / \partial s}{\partial \theta / \partial w}\right] = \frac{\partial}{\partial a}\left[\frac{\partial \psi / \partial s}{\partial \psi / \partial m}\right] = \frac{\psi_{sm}\psi_m - \psi_{mm}\psi_s}{[\psi_m]^2}. \tag{3}$$

Under standard assumptions about the form of the monetary utility function (diminishing marginal utility of income), expression (3) is positive. Extra income is less important to wealthier individuals. Consider an additive specification $\psi(m,s) = \psi_1(m) + \psi_2(s)$: then $\psi_{sm} = 0$ and as long as $\psi_{mm} < 0$, expression (3) will be positive. When might more wealthy individuals show *lower* marginal willingness to pay for non-

[1] Including search effort in models with two-dimensional jobs is not trivial. If search costs are monetary, or time is valued at the wage rate, the instantaneous utility of a job is no longer the only way in which wage levels influence job leaving, creating problems for our identification strategy. van Ommeren et al. (2000) overcome this issue with an additive linear specification of utility, but this removes the role that diminishing marginal utility of money may play in increasing demand for non-wage characteristics at higher wealth levels. Instead, we assume that search takes time.

[2] Gielen (2013) shows that "learning about jobs" is not a major determinant of transitions.

[3] This excludes the cases where workers renegotiate their contracts or firms match workers' outside offers. In this case not only the instantaneous utility of a job would be of interest, but firms' ability to match future offers (see e.g., Postel-Vinay and Robin, 2002).