Economics Letters 126 (2015) 31–34

Contents lists available at ScienceDirect

Economics Letters

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

Performance pay and unemployment during the great recession

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HIGHLIGHTS

- Individuals in performance pay jobs are less likely to be unemployed.
- There is little evidence that this association was any weaker during the 2008 recession.
- Results are similar if one separates bonus pay from other forms of performance pay.

ARTICLE INFO

Article history:
Received 3 February 2014
Received in revised form
10 November 2014
Accepted 11 November 2014
Available online 21 November 2014

JEL classification:
J6
J3

Keywords:
Unemployment
Performance pay
Recession

ABSTRACT

With data from the Panel Study of Income Dynamics I show that individuals in performance pay jobs were much less likely to be unemployed at the time of the interview than those in "fixed" wage jobs during the 2008 recession. While their unemployment rate is always lower in non-recession years, there is little evidence that this association was any weaker during the recession. Additional evidence shows that performance pay has a similar effect on the incidence of layoffs vs quits in both non-recession and recession years.

1. Introduction

In this note I exploit the availability of the Panel Study of Income Dynamics (PSID) data until interview year 2011 to look at whether workers in performance pay jobs were less likely to be unemployed at the time of the interview than was the case for non-performance pay job workers when the Great Recession hit the US economy in 2008. Given the severity of the downturn in the labor market, it is difficult to think of a more stringent test of the ability of performance pay to add flexibility than the one provided by the worst recession since the 1930s. I then explore the connection between the lower probability of unemployment associated with being in a performance pay job and the probability of being unemployed due to a layoff, as opposed to a quit.

2. Data

Only male heads of households working in the private sector and with positive earnings during the calendar year are used. The definition of performance pay jobs is essentially the same as in Lemieux et al. (2012). Namely the employment relationship is defined as being a performance pay job if the receipt of either a bonus, a commission, a tip, or piece rate payment is observed at least once over the course of that relationship. Note that although I am using the information from interview years 2003–2011 for the analysis, I make use of all the years before 2003 so as to catch most employment relationships at the beginning.[1]

Unemployed individuals are identified by their response to a question on their employment status. Those who are active report being either employed and working at the time of the interview, on a temporary layoff or absent from work, or unemployed and looking for work. Individuals who are unemployed at the time of the interview are assigned to their last job to determine whether it is a performance pay job or not. Also, the self-reported reason for separation is used to examine the relationship between the job type and the reason for being unemployed. As for what constitutes a recession, I use the starting and ending dates chosen by the National

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http://dx.doi.org/10.1016/j.econlet.2014.11.011
0165-1765/

[1] Since 1997 the PSID has become a biennial survey, with interviews performed during odd calendar years. All estimates and descriptive statistics reported in the paper use the sample weights.

Table 1
Summary statistics: Panel Study of Income Dynamics 2002–2011.

	Non-performance pay jobs	Performance pay jobs
Average hourly earnings ($2008)	23.10	28.81
Education	12.68	13.31
Potential experience	23.94	23.52
Married	0.60	0.65
Nonwhite	0.31	0.29
Fraction unemployed at interview	0.101	0.020
Annual hours worked	2117.6	2285.2
# Workers (Tot: 1784)	1412	627
# Observations (Tot: 5179)	3486	1693

Notes: The sample consists of male household heads aged 18–64 working in private sector, wage and salary jobs. All figures in the table represent sample means. Education and potential experience are measured in years. Potential experience is defined as age minus education minus 6. Temporarily laid off workers are included among the employed. The number of workers in either type of jobs is larger than the total number of workers because a subset of individuals are employed in both types of jobs.

Bureau of Economic Research (NBER) to represent recessions and assign the relevant years in the sample period to the 2008 recessionary episode.[2]

We can see in Table 1 that performance pay jobs are associated with higher hourly earnings and also more hours of work. In addition, the fraction of individuals who are unemployed at the time of the interview is much lower if their last job was a performance pay job. The goal of the multivariate analysis performed next is to establish whether this simple correlation between the incidence of being unemployed and performance pay jobs holds when controlling for observed and unobserved worker heterogeneity.

3. Results

Estimates of the association between working (or having worked) in a performance pay job and being unemployed at the time of the interview are reported in Tables 2 and 3. In Table 2 I group all forms of performance pay together while in Table 3 I separate bonus pay jobs from the other forms of performance pay (commissions, tips, and piece rates) which I call "commission jobs". Note that individuals who report being absent from work or on a temporary layoff are included in the group of employed individuals, although the results are basically left unchanged if instead they are grouped with the unemployed. Also, to control for the time trend in unemployment I use a cubic function of calendar years.[3]

As a check on the robustness of the results, both linear and nonlinear models are used.[4] In both Tables 2 and 3 the average partial effect estimates reported in columns [1] and [2] do not exploit the panel structure of the data-except for computing the appropriate standard errors-while those reported in columns [3], [4], and [5] do. While the standard random effects probit allows for a limited role played by unobserved heterogeneity by assuming that it is not correlated with the explanatory variables, the correlated random effects model (see Chamberlain, 1984) allows for such a correlation by assuming that the conditional expectation of the unobserved worker heterogeneity term is normally distributed with a constant conditional variance and is a linear function of the individual-specific means of the regressors. To address the issue of adapting the correlated random effects framework to unbalanced panels, I use the extension to the standard model recently proposed by Wooldridge (2010). Finally, one can also difference out the unobserved worker effects by using a fixed-effects linear probability model, as is done in column [5].

Focusing first on Table 2, we can see that irrespective of the estimation method being used, the results show that there is a strong negative association between working (or having last worked) in a performance pay job and being unemployed at the time of the interview. In fact, both the linear probability model and the random effects probit estimates suggest that taking unobserved worker heterogeneity into account actually results in increasing the measured association between performance pay and the probability of being unemployed. The estimates are also similar across methods in terms of the substantial increase in the probability of being unemployed associated with the 2008 recession. The main difference in the results is in the interaction term between the recession and the performance pay job dummy indicators. The linear probability model estimates suggest that the association between performance pay and unemployment was actually stronger at the time of the 2008 recession whereas the evidence is considerably weaker with all of the probit estimates. In any case, what is perhaps more important to point out is that there is little evidence in these estimates that the association was weaker when the recession hit. It does appear as though being in a performance pay job partially shielded workers from the risk of being unemployed, even with a negative shock of the magnitude experienced by the US economy in the late 2000's.

To check whether grouping all forms of performance pay together may be masking important differences, in Table 3 I separate performance pay into two types, namely bonus pay jobs and commission jobs (including piece rates and tips). In contrast to commission jobs, bonus pay jobs are likely to involve some form of subjective performance evaluation and such employment relationships may be better characterized as a "relational contract" type of relationship. As we can see, the results are very similar to those reported in Table 2. Both types of performance pay jobs are negatively associated with the incidence of being unemployed and there is no evidence that the statistical relationship was weaker during the recession.[5]

I have also estimated the relationship between the fraction of performance pay in total labor income and being unemployed. A reasonable conjecture would be that the probability of being unemployed should be negatively associated with the share of labor income coming from a performance pay component. Although not shown here, there is little evidence that this is the case. If one includes only that fraction as a regressor, there is an imprecisely measured association with the expected sign, but once the dummy for being in a performance pay job is included, the coefficient basically decreases to zero.

It is worth emphasizing that the estimates reported in Tables 2 and 3 are very similar across estimation methods, including those which control for unmeasured worker characteristics. If selectivity is an issue, it does not appear to be purely at the individual level. That said, selectivity at the job match level remains a possibility.

3.1. Layoffs and quits

To look at whether the relationship between performance pay and unemployment is mainly driven by layoffs, I estimate a multinomial logit where the three possible outcomes at the time of

[2] http://www.nber.org/cycles.html.

[3] Of course it would not be possible to identify the coefficient associated with the 2008 recession dummy indicator if unrestricted year dummies were used to control for trends, thus the choice of a polynomial to control for smooth time effects.

[4] This is particularly relevant in this case since the event-being unemployed-is relatively rare. It is well known that linear and nonlinear dichotomous choice models give very similar answers for events that occur often enough such that the linear approximation is not too different from the cumulative normal distribution in its mid-range, but that the results may diverge in the tails.

[5] One caveat to this statement would be that the estimates are not very precise in the case of commission jobs.