Low-Paid Workers and On-the-Job Training in Canada

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Overview

- Workplace Employee Survey 2001.
- Examine the workplace and individual factors associated with a worker receiving on-the-job training.
- Are low-paid workers receiving less on-the-job training than higher-paid workers?
- Workers in low-paid jobs have less opportunity for on-the-job training as compared to workers in higher-paid jobs.

Motivation
Trends

- In recent decades a polarization has appeared in the Canadian labour market with some workers having favourable working conditions and others enduring poor working conditions (Betcherman and Lowe, 1997).
- Income inequality has grown (Moore and Pacey, 2003), and
- There is growing disparity in hourly wage rates (Johnson and Kuhn, 2004) and benefits coverage (Zeytinoglu and Cooke, 2005).

Motivation
Trends

- real GDP per worker has increased by 22% between 1989 and 2004,
- real after-tax income per worker increased only 4% over this fifteen-year period (Drummond and Caranci, 2005).
- a substantial segment of the labour force are in jobs that have unfavourable conditions of employment, job insecurity or downward economic mobility (Chaykowski, 2005).

Motivation
Trends

- Training has been found to:
  - improve workers' performance and employability,
  - enable them to quickly adjust to technological changes,
  - improve earnings, and
  - contribute to their workplaces' productivity.
  - (Statistics Canada, 1997) (Achieving Excellence, 2002; Knowledge Matters, 2002) (OECD, 2006b; Saunders, 2006).

Objectives

- Understand the extent of on-the-job training.
- Examine training experiences of low-paid and higher-paid workers and the determinants of their on-the-job training.
- Identify the gap in training and explain why low-paid workers are trained less than higher-paid workers.

Literature Review

- Productivity enhancing human capital investment can be formal or informal (Becker, 1964), in competitive market incentives for:
  - workers to pay for any general training
  - employer should pay only for the firm-specific training.
- However, employers have superior information regarding employees abilities
  - Monopsony power, and encourages the employer to provide and pay for training, even if the skills are general
  - Labour market regulations and institutions, and their impact on the structure of wages play a significant role in employers' willingness to provide and pay for training.

Data Set
Workplace and Employee Survey (2001)

- WES merged employer and employee data—employee unit of analysis
- 2001 WES has data on 20,377 employees from 6,223 workplaces (business sector establishments)
  - with a response rate of 88% and 91% respectively Reference period
- Sub-sample workers with a regular (continuous) full-time job (n=16,295)
  - separated into low and higher-paid (14% and 86%)

Data Description
Dependent Variables

- Respondents were asked 'in the last 12 months, have you received any informal training related to your job (that is, on-the-job training)?' (coded as 1= Yes, 0=No).

	Low-paid	Higher-paid	All-paid
Proportion of Workers receiving on the job training	22.1%	33.2%	31.6%

Data Description
Independent Variables

Proportions	All workers	Only low-paid	Only higher-paid
Size of the workplace			
Very small workplace (<30)	39.3	58.4	36.2
Small workplace (30-99)	23.9	27.2	23.4
Medium workplace (100-499)	21.0	11.7	22.5
Large workplace (500>)	15.8	2.7	17.9
Innovation in the workplace:			
Non-innovator	38.0	46.2	36.7
Low level innovator	9.5	10.1	9.4
Middle level innovator	17.6	18.3	17.4
High level innovator	10.9	8.0	11.4
Very high level innovator	24.0	17.4	25.1
Industry:			.
Primary sector	1.8	0.1	2.1
Manufacturing & related sector	38.4	22.5	41.0
Service sector	59.8	77.3	56.9
Collective agreement coverage	24.1	8.9	26.6

Data Description

Proportions (Means*)	All workers	Only low-paid	Only higher-paid
Age:			
Younger (<25)	8.8	25.8	6.0
Middle (25 to 50)	72.9	59.9	75.0
Older (50>)	18.3	14.3	18.9
Gender (i.e. female)	46.4	58.0	44.5
Immigrant Status:			
Canadian-born (not immigrant)	79.1	79.4	79.0
Earlier Immigrant (before 1996)	18.3	16.9	18.6
Recent Immigrant (since 1996)	2.6	3.7	2.4
Education:			
Lower education (highschool or less)	30.6	54.3	26.8
Higher education	69.4	45.7	73.2
Occupation:			
Manager/Professional	29.2	6.6	32.9
Lower white collar	18.8	30.5	16.9
Blue collar (technical, trades or produc	52.0	62.8	50.2
Full-time work experience*	17.3	12.5	18.1
Full-time work exp. squared*	410.4	270.1	433.3
Marital Status:			
Married/Common-law	69.5	55.1	71.9
Other (Single/Widowed/Divorced)	30.5	44.9	28.1
(Has) Dependent children	47.6	36.6	49.4

Estimation Methods

- Logit Model

$$\ln\left(\frac{P_i}{1-P_i}\right) = X_i\beta + \varepsilon_i$$

$$Y = F(X\beta)$$

Results and Discussion

TABLE: Associations with On-the-Job Training (Logistic regression)	Low-paid Workers			Higher-paid Workers		
	OR	Coeff.	(BS Std. Error)	OR	Coeff.	(BS Std. Error)
Workplace Size [Very small workplace]						
Small workplace	0.747	-0.292	(0.29)	1.292	0.256	(0.115)**
Medium workplace	1.020	0.020	(0.36)	1.110	0.104	(0.11)
Large workplace	0.765	-0.268	(0.66)	1.464	0.381	(0.147)**
Innovation in the workplace	1.007	0.007	(0.09)	1.107	0.101	(0.025)***
Industry [Manufacturing & related]						
Primary sector	1.014	0.014	(1.45)	1.072	0.069	(0.14)
Service sector	1.471	0.386	(0.27)	1.161	0.149	(0.10)
Collective agreement coverage	1.396	0.333	(0.34)	0.805	-0.217	(0.083)***
Number of Observations	1,314			14,981		
Wald Chi-Square	30.02			158.1		
Prob>Wald	0.052			0		
Pseudo R-Square	0.075			0.038		

Significance levels: *p<.10, ** p<.05, *** p<.01

Excluded reference categories are shown in brackets, where appropriate.

Sample: Regular full-time workers earning under $10/hour.

Results and Discussion

TABLE: Associations with On-the-Job Training (Logistic regression)						
	Low-paid Workers			**Higher-paid Workers**		
	OR	Coeff.	(BS Std. Error)	OR	Coeff.	(BS Std. Error)
Age [Middle]						
Younger	0.461	-0.774	(0.416)*	1.794	0.584	(0.154)***
Older	0.436	-0.83	(0.60)	0.623	-0.474	(0.136)***
Gender (i.e. female)	0.805	-0.217	(0.26)	1.07	0.068	(0.08)
Immigration status [Canadian-born]						
Earlier immigrant	0.671	-0.399	(0.42)	1.087	0.084	(0.11)
Recent immigrant	0.46	-0.777	(0.56)	1.799	0.587	(0.310)*
Education [Lower Education]						
Higher education	1.869	0.625	(0.274)**	1.497	0.404	(0.092)***
Occupation [Blue collar]						
Manager/Professional	1.121	0.114	(0.44)	1.361	0.308	(0.099)***
Lower white collar	1.233	0.209	(0.31)	1.112	0.106	(0.12)
Full-time work experience	0.931	-0.071	(0.038)*	1.022	0.022	(0.012)*
Full-time work experience squared	1.001	0.001	(0.00)	1.000	0.000	0.00
Marital status [Married/Common-law]						
Single	1.638	0.493	(0.30)	1.011	0.011	(0.09)
(Has) Dependent children	0.814	-0.206	(0.36)	0.769	-0.263	(0.09)
Constant		-1.073	(0.506)**		-1.582	(0.160)***

Decomposition

Difference in the average predicted outcome

$$\hat{Y}_{HH} = F(X_H \hat{\beta}_H) \qquad \hat{Y}_{LH} = F(X_L \hat{\beta}_H)$$

$$\hat{Y}_{HL} = F(X_H \hat{\beta}_L) \qquad \hat{Y}_{LL} = F(X_L \hat{\beta}_L)$$

$$\bar{\hat{Y}}_{HH} - \bar{\hat{Y}}_{LL} = \left[\overline{F(X_H \hat{\beta}_H)} - \overline{F(X_L \hat{\beta}_H)}\right] + \left[\overline{F(X_L \hat{\beta}_H)} - \overline{F(X_L \hat{\beta}_L)}\right] \quad \textbf{S1}$$

- Endowment effect: due to the different observable characteristics
- Coefficient effect: due to differences in behaviour (or the estimated coefficients) of the groups

$$\bar{\hat{Y}}_{HH} - \bar{\hat{Y}}_{LL} = \left[\overline{F(X_H \hat{\beta}_H)} - \overline{F(X_H \hat{\beta}_L)}\right] + \left[\overline{F(X_H \hat{\beta}_L)} - \overline{F(X_L \hat{\beta}_L)}\right] \quad \textbf{S2}$$

Results and Discussion

Table: Decomposition of High and Low Paid Workers On the Job Training

Component	Effect	Bootstrap Standard Error	p-Value
S1: Endowment Effect: equations (HH-LH)	0.0139	0.0058	0.019
S2: Endowment Effect: equations (HL-LL)	-0.0053	0.0084	0.523
Mean Endowment Effect	0.0043	--	--
S1: Coefficient Effect: equations (LH-LL)	0.0973	0.0092	0.000
S2: Coefficient Effect: equations (HH-HL)	0.1166	0.0024	0.000
Mean Coefficient Effect	0.107	--	--
Total Effect: equations (HH-LL)	0.1112	0.0082	0.000

Concluding Remarks
Summary

- 22% of low-paid workers and 33% of higher-paid workers receive on-the-job training
- Decomposition indicates the 11% gap in on-the-job training is not due to the low-paid workers' endowment relative to higher-paid workers
- But it is behavioural and depends on the workplace's choice to offer and workers' decision to accept training
- This suggests policy approaches should focus on workplace and employee decision-making

Concluding Remarks
Policy Question

- Given the gap:
  - Is there a role for public programs to close the gap in training between workers grouped by wage-level?
  - If workplaces and employees do not take action independently (or action in the presence of an appropriate incentive structure).

Concluding Remarks
Policy Approaches

- Target low-paid worker group and provide workplaces and employees incentives to offer and accept training
- Incentives to reward training performance

- The government of Ontario started the process by initiating an academic upgrading programme for 'adults in low-wage low-skill employment'

Future Research and Limitations

- Ideally, on-the-job training could be supplemented by other measures (training quality or intensity)
- Selection bias, we look at those receiving training not those offered training and declined—it is an issue if the characteristics of those declining training are different, on average, from other workers.
- Endogeneity issue, low-paid workers have lower incidence of on-the-job training--however, workers with insufficient training are more likely to be low-paid

Questions and Comments
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