The Effect of Firm Compensation Structures on the Mobility and Entrepreneurship of Extreme Performers

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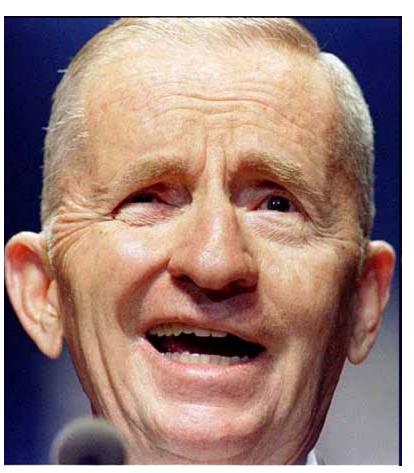
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The small print…

The research in this paper was conducted while Ben Campbell and Seth Carnahan had Special Sworn Status as researchers of the U.S. Census Bureau at the Chicago Census Research Data Center. Research results and conclusions expressed are those of the authors and do not necessarily reflect the views of the Census Bureau. This research has been screened to insure that no confidential data are revealed.

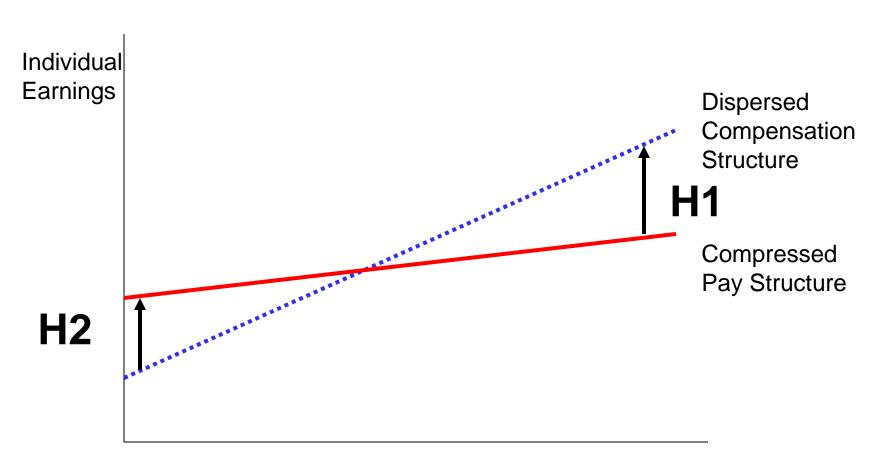# Ross the Boss

He who will remain anonymous

Research Question

- How does the firm's compensation structure influence the mobility and entrepreneurship decisions of employees who differ in their performance?

Compensation Structure and Individual Performance and Earnings

Individual Earnings

Dispersed Compensation Structure

H1

Compressed Pay Structure

H2

Individual Performance

Bringing in Entrepreneurship

Pay Dispersion

Low   **High**   Entrepreneurship

Employee
Perform.

L

H

H4

H3

Context

- **Employer-employee linked data in the legal services industry**
  - ❑ Longitudinal Employer-Household Dynamics (LEHD) Project available at the Census Research Data Centers.
  - ❑ The data are longitudinal spanning over 10 years and covering 10 large states.
  - ❑ We can see the wages and demographics of **all** workers who have ever worked in the legal services industry from **all** firms that have ever reported operating in the legal services industry.

Empirical Strategy

1. Identify extreme performers as those in the top and bottom 10% of firm's wage residual distribution

2. Measure compensation structure of firms using Gini coefficient

3. Estimate linear probability model on mobility and mobility to start-up.
    - ❑ Controls: Age, Education, Tenure, Gender, Race, etc.
    - ❑ Firm-year fixed effects and robust standard errors clustered by firm-year

Transition Matrices

Key

Big number

Small number

High Performers

		Exits What Type of Pay Structure?							
		Compressed		Average		Dispersed		Total	
Joins What Type of Pay Structure?	Compressed	739	32%	356	8%	70	4%	1,165	13%
	Average	746	32%	2,503	54%	386	20%	3,635	41%
	Dispersed	380	16%	961	21%	690	36%	2,031	23%
	Startup	447	19%	823	18%	762	40%	2,032	23%
	Total	2,312	26%	4,643	52%	1,908	22%	8,863	100%

Low Performers

		Exits What Type of Pay Structure?							
		Compressed		Average		Dispersed		Total	
Joins What Type of Pay Structure?	Compressed	480	29%	560	8%	466	13%	1,506	12%
	Average	518	31%	4,926	69%	1,157	33%	6,601	53%
	Dispersed	343	21%	1,068	15%	1,133	32%	2,544	21%
	Startup	312	19%	632	9%	776	22%	1,720	14%
	Total	1,653	13%	7,186	58%	3,532	29%	12,371	100%

Results

		Dependent Variable	
		Mobility	*Startup|Mobility*
Independent Variables	*High performer*Wage Dispersion*		
	*Low performer*Wage Dispersion*		

What We Hope You Will Remember

- **Managerial Implications**
  - ❑ Human resource and knowledge management practices are inextricably linked
    - ■ Extreme rewards will retain high performers
    - ■ BUT these firms need to be aware of the risk of spinout creation
      - ❑ Spinout creation is worse for parent firm performance than mobility to established firms (Campbell, et al. 2010; Wezel, et al. 2006)

- **Policy Implications**
  - ❑ High performers require the best pecuniary and nonpecuniary incentives and will create them via entrepreneurship if necessary
  - ❑ Policy focus should be on how to encourage the most productive people to engage in new (small) firm creation.
    - ■ Employee entrepreneurs are the most successful among new firms (Agarwal et al, 2004), they are critical to economic recovery
    - ■ We have identified what types of people leave what types of firms to start new firms (as opposed to join other established and bigger firms).

Thank you!

Results

Model 1, DV: Mobility				
		Prediction	Result	
High Perform*Gini	H1	**-**	-0.0458	**
Low Perform*Gini	H2	**+**	0.0349	**

N = 1,869,633 ; N groups = 87,273 ; R-sq = .0160

• A one standard deviation increase in Gini results in a 8% decrease in the probability that a high performer leaves the firm.

• A one standard deviation increase in Gini results in a 4% increase in the probability that a low perfomer leaves the firm.

Results

•A one standard deviation increase in Gini results in a 6.7% increase in the probability that a high performer forms a startup | mobility.

Model 2, DV: Startup|Mobility				
		Prediction	Result	
High Perform*Gini	H3	**+**	0.1304	**
Low Perform*Gini	H4	**-**	-0.0474	

N = 149,392 ; N groups = 41,306 ; R-sq = .0278

Alternative explanations

- Errors in measuring extreme performers
  - ❑ Results robust to use of raw wages instead of the wage residual.
  - ❑ Results unchanged for comparison group at firm, MSA, and state level
- A firm's compensation structure only matters in comparison to peer firms
  - ❑ Results robust to gini/avg gini of state
- Dispersion is related to seniority, not performance
  - ❑ Results robust to s.d. of wage residuals
- Low performers are secretaries, etc.
  - ❑ Robust to restricting sample to >= 16 years of education
- Linear probability model is misspecified
  - ❑ Robust to conditional logit applied to random sample
- Reverse causality
  - ❑ Granger causality tests reject the hypothesis that the departure of high and low earners determines the firm's Gini coefficient

Sample Means

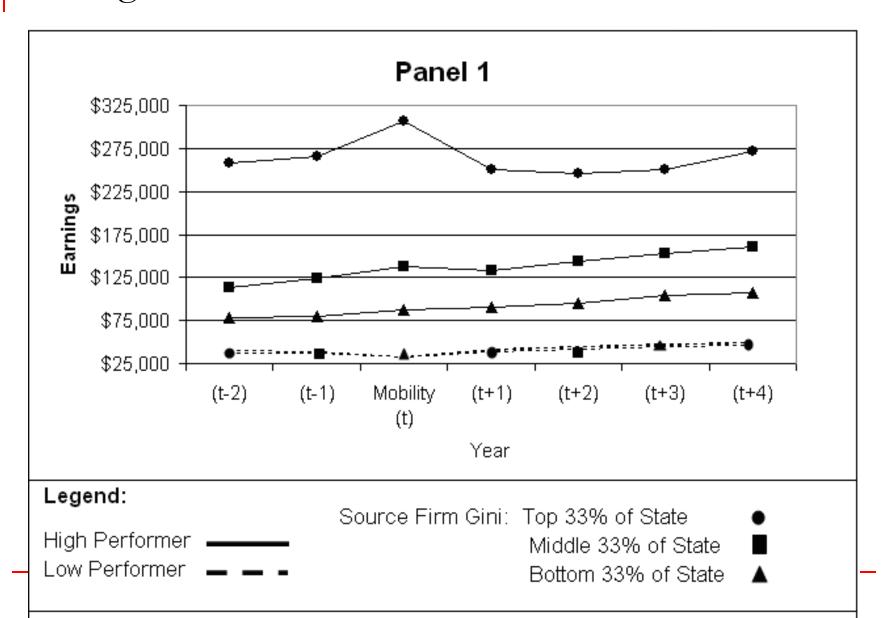|		Full Sample			Mobility-only sample		
		Obs	Mean	SD	Obs	Mean	SD
v1	Mobility?	1869633	0.08	0.27	149392	1.00	0.00
v2	Mobility to Start-up?	1869633	0.01	0.12	149392	0.18	0.38
v3	Annual Earnings	1869633	80373	387849	149392	62004	86643
v4	Age	1869633	40.90	10.48	149392	38.39	9.52
v5	Years of Education	1869633	14.93	2.41	149392	14.81	2.42
v6	Tenure	1869633	3.29	2.72	149392	2.41	2.09
v7	Tenure < 1 year?	1869633	0.28	0.45	149392	0.40	0.49
v8	Tenure is Censored?	1869633	0.19	0.40	149392	0.11	0.31
v9	White?	1869633	0.88	0.33	149392	0.85	0.35
v10	Male?	1869633	0.38	0.49	149392	0.33	0.47
v11	Gini of firm's wage distribution	1869633	0.33	0.11	149392	0.34	0.11
v12	High performer? (Top 10% MSA wage residual)	1869633	0.15	0.35	149392	0.10	0.30
v13	High Perform*Gini of firm's wage distribution	1869633	0.06	0.14	149392	0.04	0.11
v14	Low Performer? (Bottom 10% MSA wage residual)	1869633	0.14	0.35	149392	0.17	0.38
v15	Low perform*Gini of firm's wage distribution	1869633	0.04	0.12	149392	0.06	0.13

Sample Correlations

			Correlations for full sample													
		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14	v15
v1	Mobility?	1.00														
v2	Mobility to Start-up?	0.41	1.00													
v3	Annual Earnings	-0.01	0.00	1.00												
v4	Age	-0.07	-0.01	0.04	1.00											
v5	Years of Education	-0.01	0.01	0.04	0.09	1.00										
v6	Tenure	-0.10	-0.02	0.03	0.26	0.08	1.00									
v7	Tenure < 1 year?	0.08	0.00	-0.02	-0.14	-0.06	-0.58	1.00								
v8	Tenure is Censored?	-0.07	-0.03	0.01	0.08	0.14	0.34	-0.31	1.00							
v9	White?	-0.02	0.00	0.03	0.12	0.06	0.05	-0.04	0.04	1.00						
v10	Male?	-0.03	-0.01	0.09	0.01	0.03	-0.01	0.01	-0.02	0.08	1.00					
v11	Gini of firm's wage distribution	0.01	0.02	0.09	0.02	0.07	0.03	-0.03	-0.01	0.04	0.05	1.00				
v12	High performer? (Top 10% MSA wage residual)	-0.04	0.00	0.16	0.07	0.02	0.02	-0.01	-0.02	0.05	0.33	0.20	1.00			
v13	High Perform*Gini of firm's wage distribution	-0.04	0.00	0.19	0.09	0.04	0.04	-0.03	-0.01	0.06	0.33	0.28	0.96	1.00		
v14	Low Performer? (Bottom 10% MSA wage residual)	0.03	0.00	-0.05	0.12	0.09	0.07	-0.07	-0.01	0.04	-0.15	-0.08	-0.17	-0.16	1.00	
v15	Low perform*Gini of firm's wage distribution	0.03	0.00	-0.05	0.11	0.09	0.07	-0.07	-0.01	0.04	-0.16	0.06	-0.16	-0.15	0.94	1.00

Linear Probability Tables

	Model 1 DV: Mobility		Model 2 DV: Mobility to Spin-out | Mobility	
Is the employee a high performer? (Top 10% MSA wage residual)	0.0122 ***	(0.0031)	-0.0275 *	(0.0145)
Is the employee a low performer? (Bottom 10% MSA wage residual)	0.0125 ***	(0.0022)	0.0093	(0.0086)
High Performer*Gini of firm's wage dist	-0.0849 ***	(0.0075)	0.1097 ***	(0.0414)
Low Performer*Gini of firm's wage dist	0.0315 ***	(0.0066)	-0.0889 ***	(0.0255)
Age	-0.0010 ***	(0.0001)	0.0017 **	(0.0007)
Age^2 (x100)	-0.0002	(0.0001)	-0.0014 *	(0.0008)
Years of Education (Imputed)	-0.0004 ***	(0.0001)	0.0015 ***	(0.0004)
Years of Tenure	-0.0206 ***	(0.0005)	0.0169 ***	(0.0020)
Years of Tenure^2	0.0013 ***	(0.0000)	-0.0010 ***	(0.0002)
Tenure < 1 year?	0.0003	(0.0013)	0.0047	(0.0037)
Tenure is Censored?	-0.0127 ***	(0.0011)	0.0062	(0.0054)
Male	-0.0049 ***	(0.0007)	0.0103 ***	(0.0022)
Annual Earnings (x100,000)	-0.0006 ***	(0.0001)	0.0163 ***	(0.0036)
Annual Earnings^2 (x100,000^2)	0.00001	(0.0003)	-0.0163 ***	(0.0055)
Constant	0.1639	(124.5679)	0.0618 ***	(0.0144)
N Observations	1869633		149392	
N Groups	87273		41306	
R^2	0.0160		0.0278	

Earnings Patterns: Mobile Extreme Performers

Descriptive Evidence

Legend:

High Performer ——————
Low Performer — — —

Source Firm Gini: Top 33% of State ●
Middle 33% of State ■
Bottom 33% of State ▲

Panel 2

% of Earnings at (t-2)