

# A New Look at Technical Progress and Early Retirement

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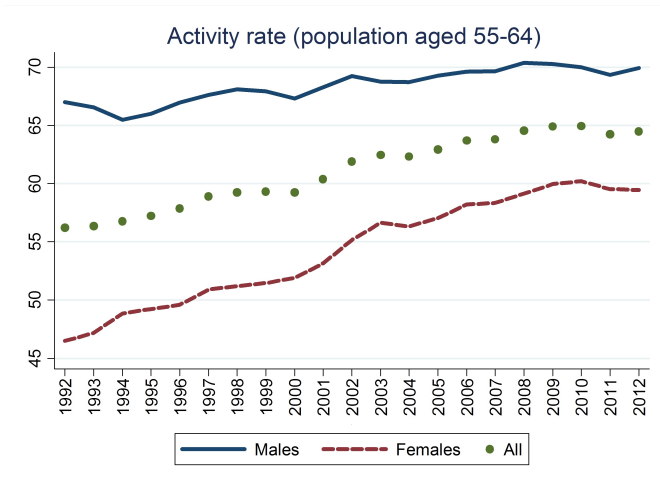
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The views expressed do not necessarily reflect those of the BdI.

# EARLY RETIREMENT

Definition: Being between 50 and 64 years old and retired.



## DETERMINANTS OF EARLY RETIREMENT

- Bad health.
- Wealth.
- Public and private retirement plans (pension and health insurance schemes).
- Coordination in couples.
- Technical progress.

## TECHNICAL CHANGE AND EARLY RETIREMENT

Two opposite effects of technical change:

- erosion effect (obsolescence of individual skills);  
→ on-the-job training;
- wage effect (higher productivity);  
→ returns on training investment;

How to disentangle the two effects in the data?

- Expected vs unexpected (Bartel and Sicherman, 1993);
- Sector-specific vs aggregate (Ahituv and Zeira, 2011);
- Large shocks vs small shocks?

# TECHNICAL CHANGE AND EARLY RETIREMENT

Key questions we address:

- Which measure of technical change is relevant?  
→ erosion starts from the very entry in the labor force.
- How does technical change affect early retirement?  
→ Non-linear relation.

Two contributions:

- Technical change throughout the working life is more relevant;
- The relation is non-monotonic.

# DATA

**Individual data** from US Health and Retirement Study (RAND v.):

- unbalanced panel of around 37K individuals followed for 10 biennial waves from 1992 to 2010;
- info on labor status, personal characteristics, and retrospective job history.

**Aggregate data** from the US World KLEMS:

- TFP growth by sector from 1948 to 2010;
- aggregation of ISIC codes to match US Census codes (13 sectors).

# DATA

- Assign to each individual in each wave the TFP growth occurred in his sector since the entry into the labor market.  
→ **Individual** measure of technical change implies
  - variation within wave across sectors, but also
  - variation within wave and sector across individuals.
- Focus on males between 50 and 64 who are working two years before the survey.  
→ Around 6K individuals for 22K observations.

## DESCRIPTIVE STATISTICS: EARLY RETIREMENT

**Table:** Labor status by age group for 1992 and 2006

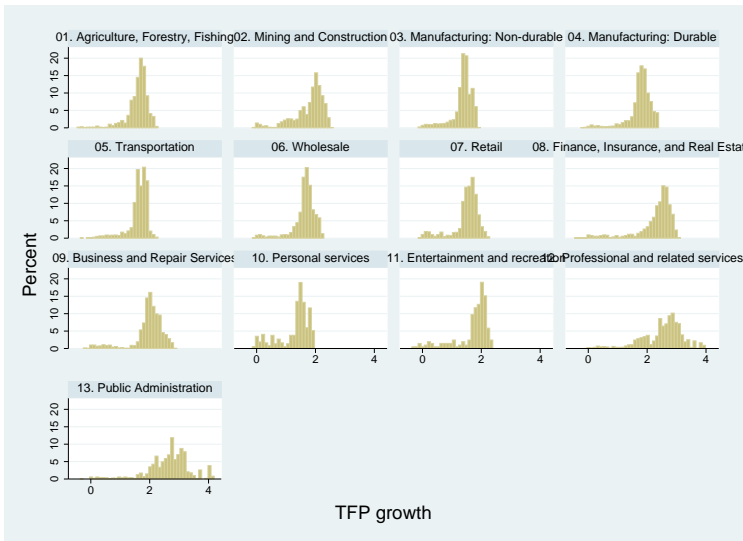
<b>1992 (Wave 1)</b>		<b>Age group</b>		
<b>Labor status</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>Total</b>
Working Full-Time	0.4014	0.3656	0.0804	0.8474
Working Part-Time	0.0286	0.0247	0.0047	0.0580
Unemployed	0.0144	0.0169	0.0032	0.0346
Retired	0.0135	0.0339	0.0127	0.0600
<b>Total</b>	<b>0.4580</b>	<b>0.4412</b>	<b>0.1009</b>	<b>1</b>

<b>2006 (Wave 8)</b>		<b>Age group</b>		
<b>Labor status</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>Total</b>
Working Full-Time	0.2439	0.3906	0.1812	0.8157
Working Part-Time	0.0142	0.0298	0.0149	0.0588
Unemployed	0.0080	0.0105	0.0032	0.0218
Retired	0.0085	0.0326	0.0627	0.1037
<b>Total</b>	<b>0.2745</b>	<b>0.4635</b>	<b>0.2619</b>	<b>1</b>

Notes: We use survey weights for each wave.



# DESCRIPTIVE STATISTICS: TECHNICAL CHANGE



## ECONOMETRIC MODEL

Probability of being retired for individual  $i$  at time  $t$ :

$$\text{Prob}(\text{Retired}_{it} = 1) = f(\alpha + \beta_1 b_{it} + \beta_2 (b_{it})^2 + \gamma X),$$

where

$$b_{it} \equiv \ln(\text{TFP in sector of } i \text{ at } t) - \ln(\text{TFP in sector of } i \text{ at entry})$$

and  $X$  are controls:

- race, foreign-born, education, net wealth, region of residence, age,
- marital status and working status of the spouse,
- presence of privately- or government-provided health insurance, access to a pension plan or current pension income,
- health status,
- sector experience, occupation, cohort, and sector dummies,
- and the unemployment rate.

## ISSUES AND SOLUTIONS

**Individual** measure of technical change may imply:

- endogeneity;
- self-selection.

**Solutions:**

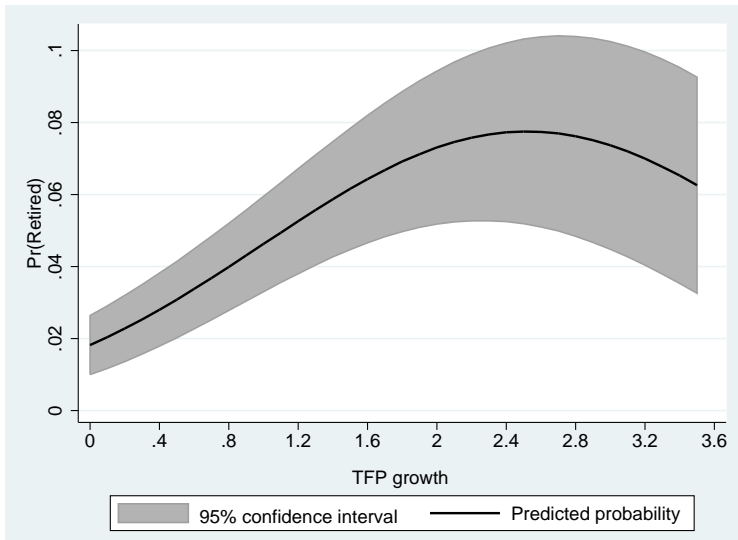
- Observable characteristics:
  - controls;
  - heterogeneity across subsamples.
- Unobservable characteristics:
  - Random effects;
  - Fixed effects;
  - Survival model.

**Plus:** Need to cluster errors at the wave-sector level.

## BENCHMARK RESULTS

Dep. var.: Retired	(1) Logit ( <i>mfx</i> )	(2) OLS	(3) Random efx	(4) Fixed efx	(5) Survival ( <i>mfx</i> )
TFP growth	0.075*** (0.010)	0.091*** (0.011)	0.122*** (0.026)	0.464*** (0.097)	0.059*** (0.009)
TFP growth squared	-0.015*** (0.002)	-0.019*** (0.003)	-0.029*** (0.008)	-0.033* (0.017)	-0.013*** (0.002)
Married (d)	0.009** (0.004)	0.017*** (0.006)	0.026*** (0.007)	0.014 (0.011)	0.007* (0.004)
Spouse working (d)	-0.042*** (0.004)	-0.057*** (0.005)	-0.065*** (0.006)	-0.106*** (0.009)	-0.037*** (0.004)
Emp. health ins. (d)	-0.001 (0.005)	0.002 (0.008)	-0.038*** (0.012)	-0.092*** (0.021)	-0.000 (0.004)
Gov. health ins. (d)	0.127*** (0.013)	0.185*** (0.016)	0.175*** (0.028)	0.195*** (0.033)	0.103*** (0.010)
Wealth	0.062*** (0.023)	0.061* (0.035)	0.073 (0.070)	0.258** (0.111)	0.048** (0.020)
Pension (d)	-0.079*** (0.009)	-0.098*** (0.011)	-0.159*** (0.022)	-0.210*** (0.022)	-0.070*** (0.008)
Very good health (d)	0.014*** (0.005)	0.014*** (0.005)	0.006 (0.004)	0.013** (0.005)	0.014*** (0.005)
Good health (d)	0.026*** (0.005)	0.027*** (0.005)	0.016*** (0.006)	0.031*** (0.010)	0.025*** (0.005)
Fair health (d)	0.076*** (0.010)	0.082*** (0.008)	0.069*** (0.007)	0.087*** (0.012)	0.066*** (0.009)
Poor health (d)	0.279*** (0.026)	0.274*** (0.016)	0.250*** (0.015)	0.258*** (0.020)	0.213*** (0.024)
(Pseudo) R-squared	(0.239)	0.191	0.183	0.422	
Within			0.284	0.191	
Between			0.162	0.041	
Observations	21,856	21,856	21,856	21,856	21,856

# PREDICTED PROBABILITY OF EARLY RETIREMENT



# ALTERNATIVE MEASURES OF TECHNICAL CHANGE

Dep. var.: Retired	(1) Benchmark	(2) 5-years	(3) Sector/Agg.	(4) VA/workers
TFP growth	0.075*** (0.010)			
TFP growth squared	-0.015*** (0.002)			
TFP growth (last 5 years)		0.126 (0.078)		
TFP growth (last 5 years) sq		-0.186 (0.187)		
Sector-spec. TFP growth			0.018 (0.018)	
Sector-spec. TFP growth sq			-0.012 (0.010)	
Aggregate TFP growth			0.128*** (0.021)	
Aggregate TFP growth sq			-0.038*** (0.008)	
VA per worker growth				0.034*** (0.010)
VA per worker growth sq				-0.007*** (0.002)
Pseudo R-squared	0.239	0.238	0.240	0.238
Observations	21,856	21,856	21,856	21,856

# POLYNOMIAL APPROXIMATIONS OF THE DEPENDENCE

Dep. var.: Retired	(1) Benchmark	(2) Linear	(3) Order 3
TFP growth	0.075*** (0.010)	0.017*** (0.005)	0.093*** (0.023)
TFP growth squared	-0.015*** (0.002)		-0.026** (0.013)
TFP growth cube			0.002 (0.002)
Married (d)	0.009** (0.004)	0.009** (0.004)	0.009** (0.004)
Spouse working (d)	-0.042*** (0.004)	-0.042*** (0.004)	-0.042*** (0.004)
Emp. health ins. (d)	-0.001 (0.005)	-0.000 (0.005)	-0.001 (0.005)
Gov. health ins. (d)	0.127*** (0.013)	0.127*** (0.013)	0.127*** (0.013)
Wealth	0.062*** (0.023)	0.066*** (0.023)	0.061*** (0.023)
Pension (d)	-0.079*** (0.009)	-0.078*** (0.009)	-0.079*** (0.009)
Very good health (d)	0.014*** (0.005)	0.015*** (0.005)	0.014*** (0.005)
Good health (d)	0.026*** (0.005)	0.026*** (0.005)	0.026*** (0.005)
Fair health (d)	0.076*** (0.010)	0.077*** (0.010)	0.076*** (0.010)
Poor health (d)	0.279*** (0.026)	0.279*** (0.026)	0.279*** (0.026)
Pseudo R-squared	0.239	0.237	0.239
Observations	21,856	21,856	21,856

# ROBUSTNESS: SUBSAMPLES

Dep. var.: Retired	(1) Benchmark	(2) Only pos. shocks	(3) W/o crisis	(4) W/o shifters
TFP growth	0.075*** (0.010)	0.081*** (0.010)	0.069*** (0.011)	0.256*** (0.029)
TFP growth squared	-0.015*** (0.002)	-0.016*** (0.002)	-0.014*** (0.002)	-0.036*** (0.004)
Married (d)	0.009** (0.004)	0.009** (0.004)	0.009** (0.004)	0.014*** (0.004)
Spouse working (d)	-0.042*** (0.004)	-0.042*** (0.004)	-0.041*** (0.004)	-0.043*** (0.004)
Emp. health ins. (d)	-0.001 (0.005)	-0.000 (0.005)	-0.004 (0.005)	-0.001 (0.006)
Gov. health ins. (d)	0.127*** (0.013)	0.126*** (0.013)	0.124*** (0.013)	0.129*** (0.014)
Wealth	0.062*** (0.023)	0.062*** (0.023)	0.043* (0.026)	0.077*** (0.028)
Pension (d)	-0.079*** (0.009)	-0.079*** (0.009)	-0.075*** (0.010)	-0.091*** (0.010)
Very good health (d)	0.014*** (0.005)	0.014*** (0.005)	0.013*** (0.005)	0.015*** (0.005)
Good health (d)	0.026*** (0.005)	0.026*** (0.005)	0.024*** (0.006)	0.026*** (0.006)
Fair health (d)	0.076*** (0.010)	0.077*** (0.010)	0.079*** (0.011)	0.079*** (0.011)
Poor health (d)	0.279*** (0.026)	0.280*** (0.026)	0.280*** (0.029)	0.295*** (0.026)
Pseudo R-squared	0.239	0.239	0.242	0.254
Observations	21,856	21,757	19,373	19,404



## HETEROGENEOUS EFFECTS OF TECHNICAL CHANGE

- By education.
- By occupation.
- By sector.
- By cohort.

# HETEROGENEITY BY EDUCATION

Dep. var.: Retired	(1) Benchmark	(2) College graduates	(3) Others
TFP growth	0.075*** (0.010)	0.080*** (0.018)	0.082*** (0.013)
TFP growth squared	-0.015*** (0.002)	-0.014*** (0.003)	-0.017*** (0.003)
Married (d)	0.009** (0.004)	0.012** (0.005)	0.009 (0.005)
Spouse working (d)	-0.042*** (0.004)	-0.049*** (0.007)	-0.040*** (0.004)
Emp. health ins. (d)	-0.001 (0.005)	0.002 (0.008)	-0.001 (0.006)
Gov. health ins. (d)	0.127*** (0.013)	0.058*** (0.020)	0.151*** (0.016)
Wealth	0.062*** (0.023)	0.023 (0.025)	0.104*** (0.037)
Pension (d)	-0.079*** (0.009)	-0.083*** (0.012)	-0.077*** (0.010)
Very good health (d)	0.014*** (0.005)	0.020*** (0.006)	0.009 (0.006)
Good health (d)	0.026*** (0.005)	0.045*** (0.009)	0.015** (0.006)
Fair health (d)	0.076*** (0.010)	0.105*** (0.024)	0.067*** (0.011)
Poor health (d)	0.279*** (0.026)	0.238*** (0.077)	0.275*** (0.028)
Pseudo R-squared	0.239	0.209	0.254
Observations	21,856	5,985	15,850

# HETEROGENEITY BY OCCUPATION

Dep. var.: Retired	(1) Benchmark	(2) Managers and professionals	(3) Others
TFP growth	0.075*** (0.010)	0.070*** (0.024)	0.064*** (0.013)
TFP growth squared	-0.015*** (0.002)	-0.013*** (0.005)	-0.012*** (0.003)
Married (d)	0.009** (0.004)	0.010** (0.005)	0.007 (0.005)
Spouse working (d)	-0.042*** (0.004)	-0.045*** (0.013)	-0.035*** (0.005)
Emp. health ins. (d)	-0.001 (0.005)	0.009* (0.005)	-0.007 (0.006)
Gov. health ins. (d)	0.127*** (0.013)	0.069*** (0.023)	0.149*** (0.016)
Wealth	0.062*** (0.023)	0.021 (0.020)	0.097*** (0.035)
Pension (d)	-0.079*** (0.009)	-0.069*** (0.020)	-0.076*** (0.009)
Very good health (d)	0.014*** (0.005)	0.015** (0.006)	0.010 (0.007)
Good health (d)	0.026*** (0.005)	0.030*** (0.011)	0.019*** (0.007)
Fair health (d)	0.076*** (0.010)	0.067*** (0.023)	0.073*** (0.012)
Poor health (d)	0.279*** (0.026)	0.225*** (0.072)	0.288*** (0.028)
Pseudo R-squared	0.239	0.216	0.260
Observations	21,856	7,310	14,519

# HETEROGENEITY BY SECTOR

	(1)	(2)	(3)	(4)	(5)
Dep. var.: Retired	Benchmark	Manufactg.	Profnal. svcs.	P.A.	Rest
TFP growth	0.075*** (0.010)	0.185*** (0.055)	0.040* (0.024)	0.184*** (0.046)	0.055*** (0.015)
TFP growth squared	-0.015*** (0.002)	-0.036* (0.022)	-0.005 (0.005)	-0.033*** (0.009)	-0.015*** (0.006)
Married (d)	0.009** (0.004)	0.017* (0.009)	0.000 (0.006)	0.032** (0.014)	0.005 (0.005)
Spouse working (d)	-0.042*** (0.004)	-0.052*** (0.009)	-0.031*** (0.010)	-0.068*** (0.022)	-0.037*** (0.004)
Emp. health ins. (d)	-0.001 (0.005)	-0.014 (0.013)	0.000 (0.007)	0.003 (0.022)	0.003 (0.006)
Gov. health ins. (d)	0.127*** (0.013)	0.226*** (0.033)	0.060*** (0.017)	0.059 (0.041)	0.124*** (0.015)
Wealth	0.062*** (0.023)	0.210*** (0.072)	-0.019 (0.036)	0.305* (0.160)	0.038 (0.029)
Pension (d)	-0.079*** (0.009)	-0.137*** (0.023)	-0.062*** (0.019)	-0.311*** (0.046)	-0.041*** (0.009)
Very good health (d)	0.014*** (0.005)	0.023* (0.014)	0.011 (0.008)	-0.004 (0.015)	0.012* (0.006)
Good health (d)	0.026*** (0.005)	0.033** (0.016)	0.025*** (0.008)	0.021 (0.015)	0.019*** (0.007)
Fair health (d)	0.076*** (0.010)	0.081*** (0.024)	0.076*** (0.021)	0.062* (0.034)	0.075*** (0.014)
Poor health (d)	0.279*** (0.026)	0.213*** (0.052)	0.159*** (0.044)	0.331*** (0.097)	0.322*** (0.036)
Pseudo R-squared	0.239	0.273	0.167	0.280	0.253
Observations	21,856	5,612	3,034	1,685	11,389

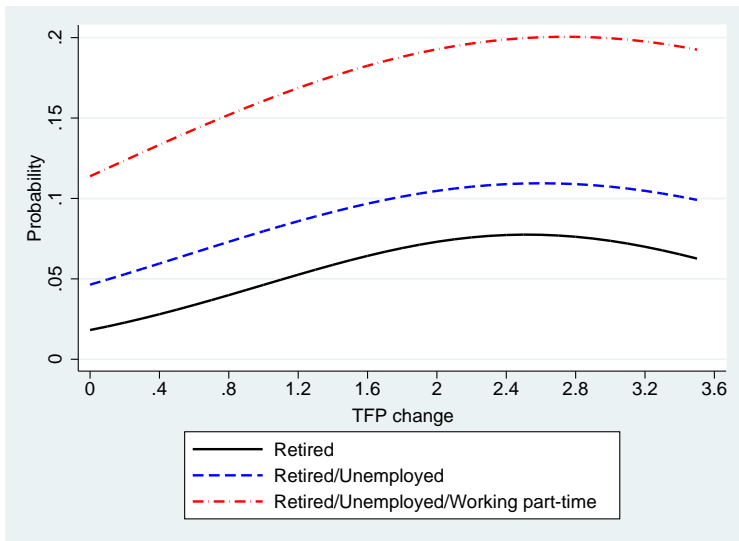
# HETEROGENEITY BY COHORT

Dep. var.: Retired	(1) Benchmark	(2) Pre-war cohort	(3) Post-war cohort
TFP growth	0.075*** (0.010)	0.084*** (0.018)	0.070*** (0.011)
TFP growth squared	-0.015*** (0.002)	-0.018*** (0.003)	-0.013*** (0.003)
Married (d)	0.009** (0.004)	0.006 (0.008)	0.012*** (0.004)
Spouse working (d)	-0.042*** (0.004)	-0.053*** (0.006)	-0.033*** (0.005)
Emp. health ins. (d)	-0.001 (0.005)	-0.008 (0.010)	0.005 (0.005)
Gov. health ins. (d)	0.127*** (0.013)	0.155*** (0.019)	0.105*** (0.017)
Wealth	0.062*** (0.023)	0.037 (0.040)	0.059*** (0.018)
Pension (d)	-0.079*** (0.009)	-0.093*** (0.017)	-0.067*** (0.006)
Very good health (d)	0.014*** (0.005)	0.011 (0.008)	0.019*** (0.006)
Good health (d)	0.026*** (0.005)	0.025*** (0.008)	0.028*** (0.007)
Fair health (d)	0.076*** (0.010)	0.092*** (0.014)	0.065*** (0.013)
Poor health (d)	0.279*** (0.026)	0.325*** (0.041)	0.237*** (0.035)
Pseudo R-squared	0.239	0.229	0.240
Observations	21,856	11,088	10,768

# TRANSITION OUT OF THE LABOR MARKET

Dep. var.:	(1) Retired	(2) Retired/Unemp.	(3) Retired/Unemp./Part-time
TFP growth	0.075*** (0.010)	0.061*** (0.012)	0.066*** (0.016)
TFP growth squared	-0.015*** (0.002)	-0.012*** (0.003)	-0.012*** (0.004)
Married (d)	0.009** (0.004)	0.009* (0.005)	0.005 (0.007)
Spouse working (d)	-0.042*** (0.004)	-0.050*** (0.005)	-0.055*** (0.006)
Emp. health ins. (d)	-0.001 (0.005)	-0.023*** (0.007)	-0.066*** (0.010)
Gov. health ins. (d)	0.127*** (0.013)	0.123*** (0.014)	0.137*** (0.018)
Wealth	0.062*** (0.023)	-0.013 (0.032)	0.078* (0.041)
Pension (d)	-0.079*** (0.009)	-0.138*** (0.011)	-0.197*** (0.013)
Very good health (d)	0.014*** (0.005)	0.015** (0.006)	0.008 (0.008)
Good health (d)	0.026*** (0.005)	0.033*** (0.006)	0.037*** (0.007)
Fair health (d)	0.076*** (0.010)	0.089*** (0.011)	0.109*** (0.012)
Poor health (d)	0.279*** (0.026)	0.292*** (0.025)	0.302*** (0.024)
Pseudo R-squared	0.239	0.214	0.175
Observations	21,856	21,856	21,856

# TRANSITION OUT OF THE LABOR MARKET



## CONCLUSION

- Early retirement depends on technical progress: erosion and wage effects.
- Technical change matters since the very entry into the labor force.
- The dependence is non-monotonic: positive for small shocks, negative for large shocks.
- Policy: training programs for individuals that are likely to remain in the labor force?



## SUMMARY STATISTICS (1/2)

Variable	Mean	Std. Dev.	Min.	Max.
Retired (d)	0.120	0.325	0	1
TFP change	1.884	0.664	-0.468	4.086
Age	57.440	3.694	50	64
Years of education	12.923	3.201	0	17
Health level	2.464	1.049	1	5
Birth year	1941.4	6.051	1927	1960
Race: Black (d)	0.122	0.328	0	1
Race: Hispanic (d)	0.103	0.304	0	1
Foreign born (d)	0.109	0.312	0	1
Married (d)	0.828	0.377	0	1
Spouse working (d)	0.529	0.499	0	1
Private health insurance (d)	0.796	0.403	0	1
Government health insurance (d)	0.066	0.249	0	1
Net wealth (deflated, in \$100,000s)	0.040	0.066	-0.045	2.548
Pension plan or pension income (d)	0.599	0.49	0	1
Sector experience	36.989	8.379	0	51
Residence: Midwest (d)	0.259	0.438	0	1
Residence: South (d)	0.402	0.49	0	1
Residence: West (d)	0.182	0.386	0	1
TFP change (last 5 years)	0.134	0.125	-0.126	0.602
Aggregate TFP change	1.833	0.445	-0.306	2.472
Sector-specific TFP change	0.051	0.474	-0.854	1.750
Value added per worker change	1.153	1.375	-0.48	6.591

Notes: All variables have 21,856 non-missing observations.

## SUMMARY STATISTICS (2/2)

Variable	Mean	Std. Dev.	Min.	Max.
Occuptn.: Managers and professionals (d)	0.336	0.472	0	1
Occuptn.: Clerical and sales (d)	0.142	0.349	0	1
Occuptn.: Services (d)	0.066	0.249	0	1
Occuptn.: Farming, forestry, and fishing (d)	0.043	0.202	0	1
Occuptn.: Mechanics, constructors, operators (d)	0.395	0.489	0	1
Occuptn.: Armed forces (d)	0.019	0.136	0	1
Sector: Agriculture, forestry, and fishing (d)	0.043	0.203	0	1
Sector: Mining and Construction (d)	0.109	0.312	0	1
Sector: Manufacturing Non-durable (d)	0.09	0.286	0	1
Sector: Manufacturing Durable (d)	0.168	0.374	0	1
Sector: Transportation (d)	0.105	0.307	0	1
Sector: Wholesale (d)	0.053	0.225	0	1
Sector: Retail (d)	0.081	0.272	0	1
Sector: Finance, Insurance, and Real Estate (d)	0.049	0.215	0	1
Sector: Business and Repair Services (d)	0.055	0.228	0	1
Sector: Personal services (d)	0.017	0.129	0	1
Sector: Entertainment and recreation (d)	0.009	0.096	0	1
Sector: Professional and related services (d)	0.144	0.351	0	1
Sector: Public Administration (d)	0.077	0.267	0	1

Notes: All variables have 21,856 non-missing observations.

## ADDITIONAL ROBUSTNESS (1/2)

Dep. var.: Retired	(1) Benchmark	(2) Survey weights	(3) Winsorized
TFP growth	0.075*** (0.010)	0.064*** (0.021)	
TFP growth squared	-0.015*** (0.002)	-0.014*** (0.005)	
Win. TFP growth			0.078*** (0.010)
Win. TFP growth squared			-0.015*** (0.002)
Married (d)	0.009** (0.004)	0.008 (0.007)	0.009** (0.004)
Spouse working (d)	-0.042*** (0.004)	-0.054*** (0.005)	-0.042*** (0.004)
Emp. health ins. (d)	-0.001 (0.005)	-0.005 (0.007)	-0.001 (0.005)
Gov. health ins. (d)	0.127*** (0.013)	0.128*** (0.019)	0.127*** (0.013)
Wealth	0.062*** (0.023)	0.039 (0.049)	0.062*** (0.023)
Pension (d)	-0.079*** (0.009)	-0.086*** (0.009)	-0.079*** (0.009)
Very good health (d)	0.014*** (0.005)	0.008 (0.009)	0.014*** (0.005)
Good health (d)	0.026*** (0.005)	0.024** (0.009)	0.026*** (0.005)
Fair health (d)	0.076*** (0.010)	0.085*** (0.018)	0.076*** (0.010)
Poor health (d)	0.279*** (0.026)	0.309*** (0.044)	0.279*** (0.026)
Pseudo R-squared	0.239		0.239

## ADDITIONAL ROBUSTNESS (2/2)

Dep. var.: Retired	(4) Mean growth	(5) Year-by-year cohort	(6) Also females
TFP growth		0.075*** (0.010)	0.044*** (0.013)
TFP growth squared		-0.015*** (0.002)	-0.006** (0.003)
Mean TFP growth	0.795 (1.495)		
Mean TFP growth squared	-2.993 (10.222)		
Male (d)			-0.029*** (0.011)
Married (d)	0.010*** (0.004)	0.009** (0.004)	0.018*** (0.005)
Spouse working (d)	-0.042*** (0.004)	-0.042*** (0.004)	-0.047*** (0.004)
Emp. health ins. (d)	-0.000 (0.005)	-0.001 (0.005)	-0.005 (0.006)
Gov. health ins. (d)	0.126*** (0.013)	0.128*** (0.013)	0.148*** (0.014)
Wealth	0.065*** (0.023)	0.062*** (0.024)	0.041 (0.027)
Pension (d)	-0.079*** (0.009)	-0.079*** (0.009)	-0.125*** (0.012)
Very good health (d)	0.015*** (0.005)	0.014*** (0.005)	0.015*** (0.005)
Good health (d)	0.026*** (0.005)	0.025*** (0.005)	0.033*** (0.006)
Fair health (d)	0.077*** (0.010)	0.075*** (0.010)	0.107*** (0.010)
Poor health (d)	0.278*** (0.022)	0.277*** (0.022)	0.358*** (0.022)

## TECHNICAL CHANGE AND HOURLY WAGE

