PATHWAYS TO RETIREMENT AND THE SELF-EMPLOYED*

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The views in this presentation are those of the authors and not of the US Department of the Treasury

Motivation

- Studies show that retirement tends to be an extended process rather than abrupt change.
  - Workers reduce hours, take bridge jobs, or re-enter the labor force after retirement (Maestas 2010, Cahill, Giandrea, and Quinn 2011).

- Self-employment may offer workers a flexible transition to retirement.
  - Increased access to self-employment through rise in companies like Uber/Lyft.

- To what extent does self-employment serve as a bridge job between working and retirement?
  - Extending working lives has important policy implications for retirement security.

Research Questions

- What is the pattern of self-employment transitions at older ages?

- Is Social Security or private pension receipt associated with increase in likelihood of self-employment? And if so, what is the mechanism?
  - Liquidity
  - Part of retirement process
  - Correlated with Medicare eligibility

- What happens to incomes of older workers when they transition to self-employment?

Preview of Findings

- Around 1 percent of wage-earners become self-employed each year.

- Social Security receipt (instrumented by reaching eligibility age) increases the probability of transitioning from wage-employment to self-employment, but not reverse.
  - Similar effect for those with and without employment-based health insurance.
  - Larger effect for individuals with more wealth.

- Larger income drop for older wage-earners who switch to self-employment than younger ones.
  - For older workers, income drop grows with time self-employed.

Administrative Tax Data

- 10 % random sample of two birth cohorts: 1945 and 1965
  - 1965 cohort used as comparison to control for various unobserved factors that might also impact employment transitions and income

- Roughly 10.5 million observations spanning 1999-2013
  - 1945 cohort: Ages 54 to 68
  - 1965 cohort: Ages 34 to 48

- Pull data on gender, age (SSA) self-employment income (Form SE), wages (W-2), IRA balance (Form 5498), and household demographics (Form 1040)

Defining Employment Status in Tax Data

- Total Individual Earnings = Wages + Self-employment income
  - Wages come from Form W2
  - Self-employment income comes from Schedule SE (excludes negative income)

- Must have at least $3000 in total earnings to be considered working

- Conditional on working
  - Self-employed: greater than or equal to 50% of total earnings come from self-employment income
  - Wage Earner: less than 50% of total earnings come from self-employment income

Summary Statistics

	1965 Cohort	1945 Cohort
Married	0.64	0.71
Female	0.48	0.48
Self-employed	0.06	0.06
Not Working	0.24	0.40
Earnings	38,175	31,595
Has IRA	0.22	0.41
IRA Balance	9,219	55,979
Observations	6,804,675	3,691,455

1 Year Transition Matrix

T \ T+1	1945 Cohort			1965 Cohort		
	NW	WE	SE	NW	WE	SE
NW	0.92	0.06	0.02	0.81	0.16	0.04
WE	0.10	0.89	**0.01**	0.06	0.93	**0.01**
SE	0.18	0.07	0.75	0.14	0.13	0.73

NW = Not Working; WE = Wage Earner; SE = Self-employed

- In both cohorts, around 1% of wage earners become self-employed in the following year
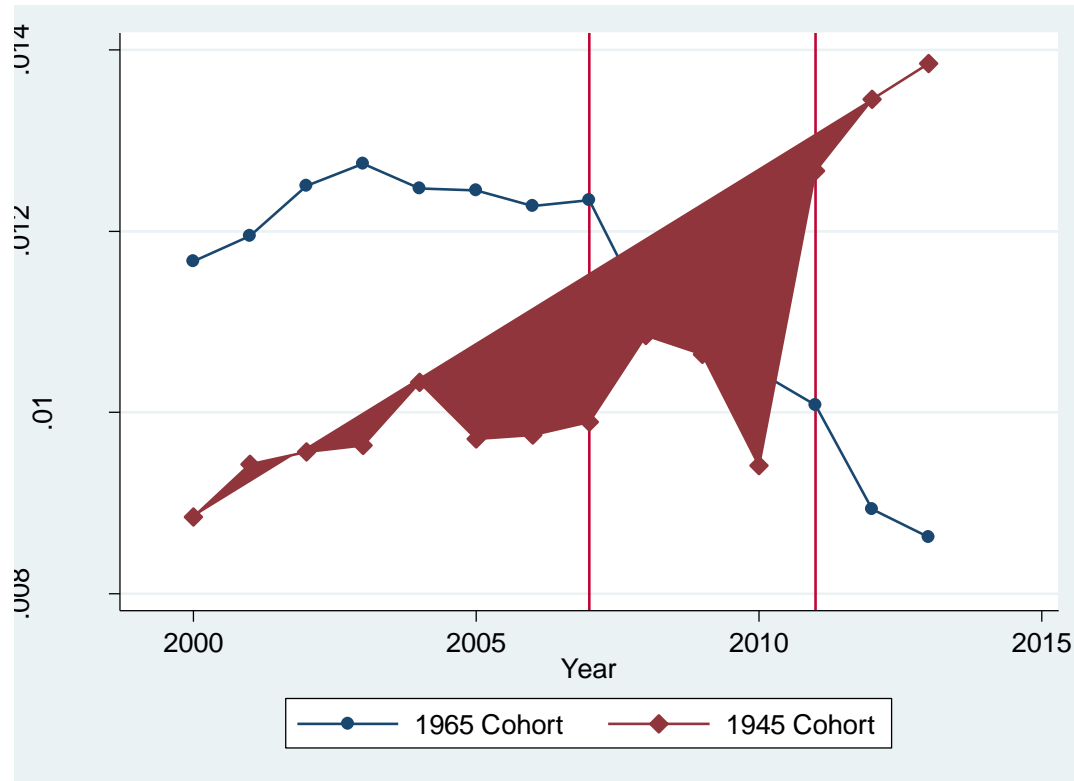
Comparison to HRS Data

		1945 Cohort, Tax Data			HRS Data		
T ⟍ T+2		NW	WE	SE	NW	WE	SE
NW		0.89	0.08	0.03	0.92	0.05	0.02
WE		0.18	0.81	**0.01**	0.16	0.81	**0.02**
SE		0.24	0.09	0.66	0.16	0.07	0.77

NW = Not Working; WE = Wage Earner; SE = Self-employed
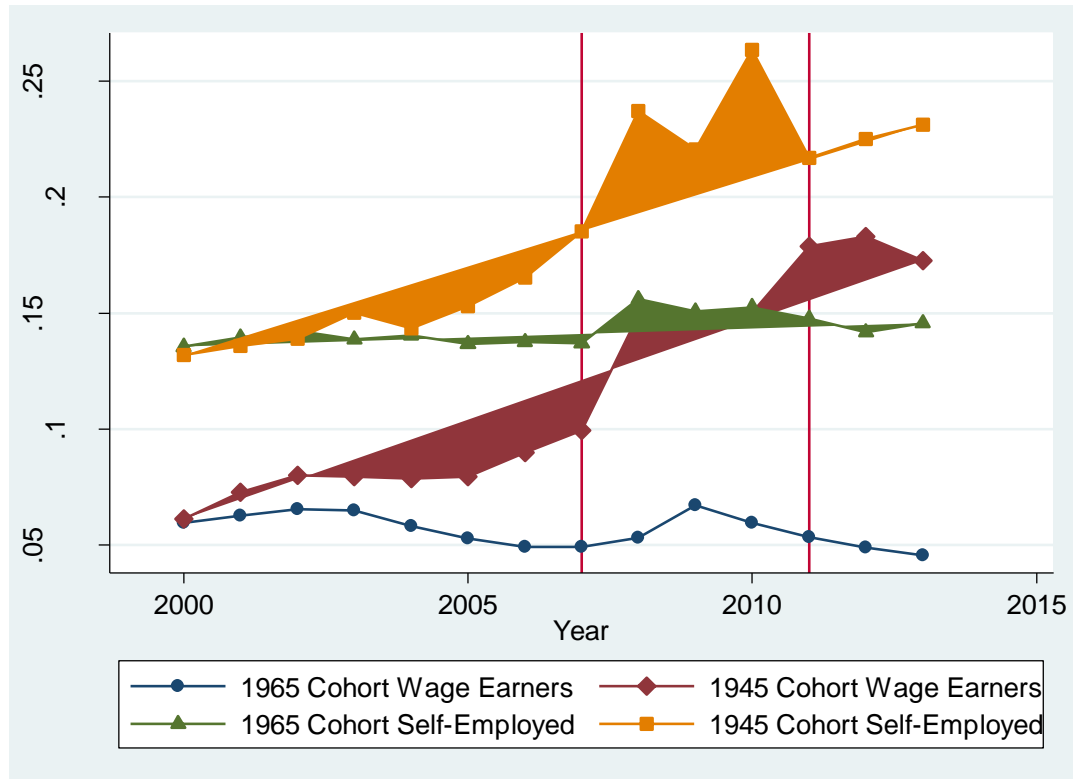
- 2-year transitions to SE in tax data seem roughly consistent with HRS

Hazard of Self-Employment

- Hazard of SE rises for older cohort after ages 62 and 65, while hazard falls in those years for the younger cohort

Hazard of Not-Working

- Gap in not-working hazard between younger and older cohorts begins at earlier age for wage earners compared to SE

Impact of Social Security Receipt on Work Transitions (Tax Data)

VARIABLES	P(Become Self-Employed | Wage Earner)	P(Become Wage Earner | Self-Employed)
Claim Social Security	0.005***	0.003
	(0.001)	(0.004)
Age	0.003***	0.005*
	(0.000)	(0.003)
Age^2	-0.000***	-0.000***
	(0.000)	(0.000)
Observations	2,605,911	293,546
Dependent Variable Mean	0.011	0.075

*** p<0.01, ** p<0.05, * p<0.1

Impact of Social Security and Pension Receipt on Work Transitions (HRS)

VARIABLES	P(Become Self-Employed | Wage Earner)	P(Become Wage Earner | Self Employed)
Claim Social Security	0.0167**	0.000875
	(0.00770)	(0.0212)
Claim Pension	0.0183	0.0767*
	(0.0222)	(0.0400)
Age	0.000646***	-0.000898
	(0.000236)	(0.000741)
Age^2	-4.47e-07***	4.34e-07
	(1.54e-07)	(4.37e-07)
Observations	36,609	10,120
Dependent Variable Mean	0.028	0.085

*** p<0.01, ** p<0.05, * p<0.1

Impact of Social Security and Pension Receipt on Self-Employment/Occupation Transition (HRS)

VARIABLES	P(Become Self-Employed in New Occupation | Wage Earner	P(Become Self-Employed in Same Occupation | Wage Earner
Claim Social Security	0.0124**	0.00331
	(0.00608)	(0.00469)
Claim Pension	0.0355**	-0.0148
	(0.0173)	(0.0137)
Age	0.000558***	0.000108
	(0.000174)	(0.000160)
Age^2	-4.08e-07***	-5.29e-08
	(1.15e-07)	(1.03e-07)
Observations	36,593	36,593
Dependent Variable Mean	0.015	0.012

*** p<0.01, ** p<0.05, * p<0.1

Heterogeneity (Tax Data)

VARIABLES	P(Become Self-Employed | Wage Earner)	P(Become Wage Earner | Self-Employed)
Instrument = early retirement age[a]	0.002	0.022**
	(0.001)	(0.010)
Instrument = full retirement age[a]	0.006***	-0.000
	(0.001)	(0.004)
Zero IRA wealth[b]	0.004***	0.013***
	(0.001)	(0.004)
50,000 > IRA wealth > 0[b]	0.009***	-0.014
	(0.003)	(0.019)
100,000 > IRA wealth ≥ 50,000[b]	0.016***	-0.042
	(0.005)	(0.026)
IRA wealth ≥ 100,000[b]	0.017***	-0.025
	(0.004)	(0.015)

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Heterogeneity (HRS)

VARIABLES	P(Become Self-Employed | Wage Earner)	P(Become Wage Earner | Self-Employed)
Instrument = early retirement age[c]	0.00887	-0.0225
	(0.0140)	(0.0298)
Instrument = full retirement age[c]	0.0211**	0.0271
	(0.00842)	(0.0235)
Zero retirement wealth[d]	0.0139	0.0520
	(0.0124)	(0.0369)
Positive retirement wealth[d]	0.0173*	-0.0467*
	(0.0100)	(0.0252)
Health insurance independent of employment[d]	0.0155*	-0.00291
	(0.00915)	(0.0253)

*** p<0.01, ** p<0.05, * p<0.1

Summary of Employment Dynamics

- Probability of self-employment increases at a decreasing rate with age.

- Probability of self-employment increases by 45% (60% in HRS) upon claiming Social Security.
  - No significant increase in the reverse transition (self-employment -> wage employment)

- Heterogeneity
  - Effect driven by reaching full retirement age (not early retirement age).
  - Larger effect for individuals with greater wealth.
  - Similar effect for individuals with and without employment-based health insurance.

Impact of SE on Earnings

- What happens to incomes of older workers when they transition to self-employment?

  - Use younger cohort as comparison group.

$$E_{it} = \beta_0 + \beta_1 SE_{it} + \beta_2 NW_{it} + \beta_3 SE_{it} * 1945cohort_i + \beta_4 NW_{it} * 1945cohort_i + \gamma_t + \gamma_t^o + \alpha_i + u_{it}$$

- Includes self-employment dummy, not-working dummy, individual fixed effects, year fixed effects, and interactions with cohort dummy.

- Separately look at changes for those who started out as wage earners in 1999.

Regression Results: Earnings

	Wage Earner in 1999	Full Sample
SE	-10,649***	-7,971***
	(-1,002)	(-522)
SE*1945 Cohort	-18,160***	-7,487***
	(-2,441)	(-1,130)
Not Working	-32,666***	-28,155***
	(-205)	(-143)
NW * 1945 Cohort	-1,323***	-5,291***
	(-372)	(-282)
Observations	7,252,994	10,496,130
1945 Avg Wage Earner	54,365	52,501
1965 Avg Wage Earner	54,877	50,868

Regression Results: Duration of SE

	Wage Earner in 1999	Full Sample
Self-Employed 1-2 Years	-14,673.577***	-10,878.007***
	(776.519)	(429.597)
Self=Employed 3-4 Years	-4,824.385***	-4,339.810***
	(1,855.141)	(844.154)
Self Employed 4+ Years	3,942.567*	969.435
	(2,135.094)	(985.919)
Self-Employed 1-2 Years * 1945 Cohort	-14,119.462***	-7,315.809***
	(1,899.244)	(992.467)
Self=Employed 3-4 Years * 1945 Cohort	-24,799.463***	-8,518.532***
	(4,170.007)	(1,591.944)
Self Employed 4+ Years * 1945 Cohort	-31,385.762***	-8,935.621***
	(4,832.182)	(1,955.521)
Observations	7,252,994	10,496,130
Individuals	518,071	699,742
Dependent Variable Mean for Wage Earners (1945 Cohort)	54364.91	52500.55
Dependent Variable Mean for Wage Earners (1965 cohort)	54877.31	50868.06

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Summary of Income Dynamics

- Older workers transitioning to SE experience a decline in earnings beyond that experienced by younger workers transitioning to SE
  - Roughly half that experienced by those who transition to not working in full sample.
  - Even more pronounced for people who began as wage earners.

- Decline in earnings for SE is correlated with years of prior self-employment.
  - Consistent with a smoother transition to retirement for SE compared to wage earners.

Conclusion

- Overall results suggest self-employment could be a form of partial retirement for older people.
  - Associated with Social Security claiming.
  - Associated with occupational shift.
  - Roughly 30% loss of earnings compared to younger workers who switch to self-employment.

- But the work to self-employment path is less common than one might expect
  - Roughly 1% of wage earners per year

- A year of self-employment is much less productive than an extra year of work for an employer