watsonwyatt.com

Will Boomers Work Longer? New Evidence on the Determinants of Retirement

Global Aging Forum
Center for Strategic & International Studies

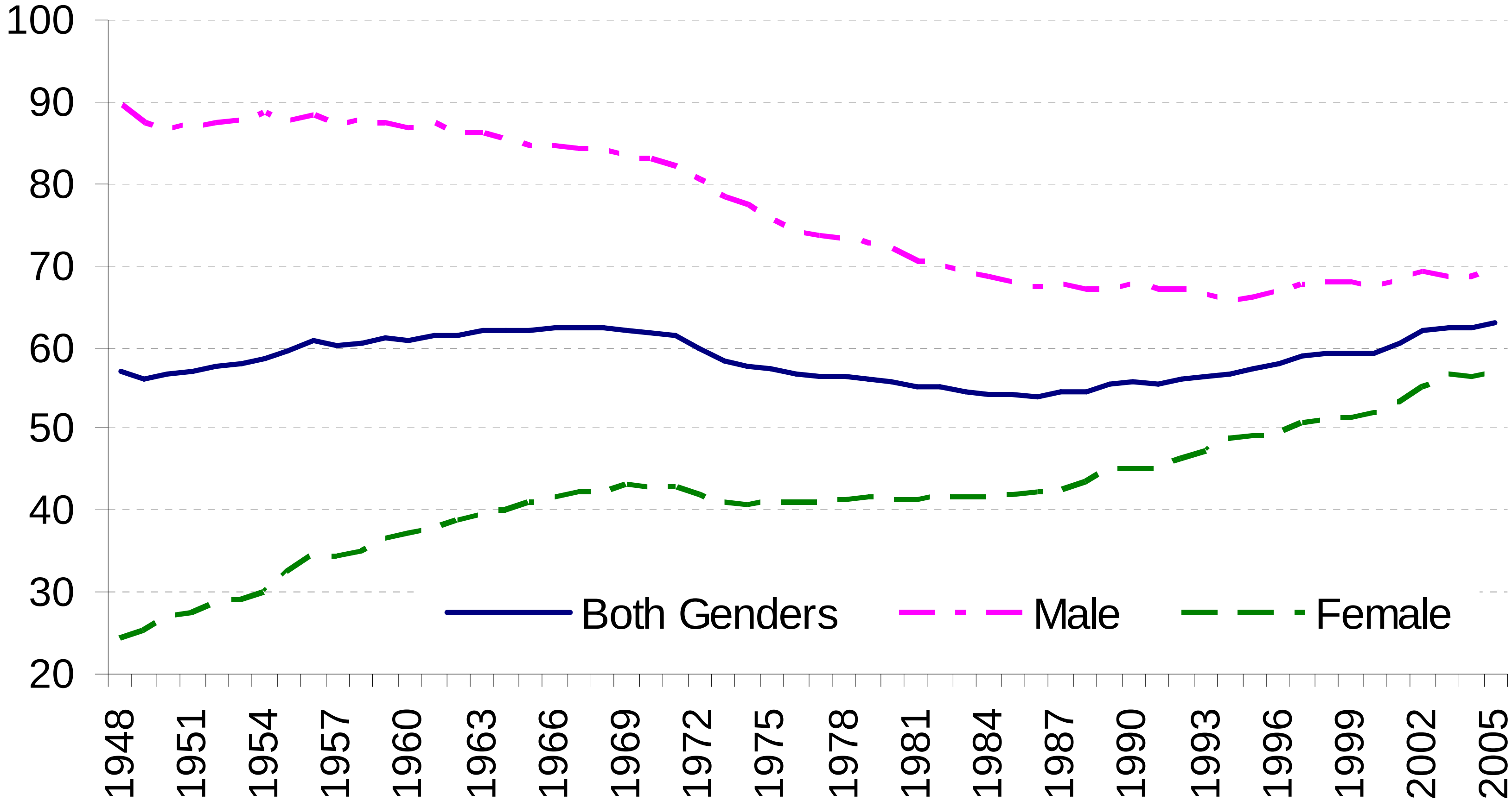
Mark Warshawsky and Gaobo Pang
January 9, 2008

Watson Wyatt
Worldwide

Recent developments influencing retirement behavior

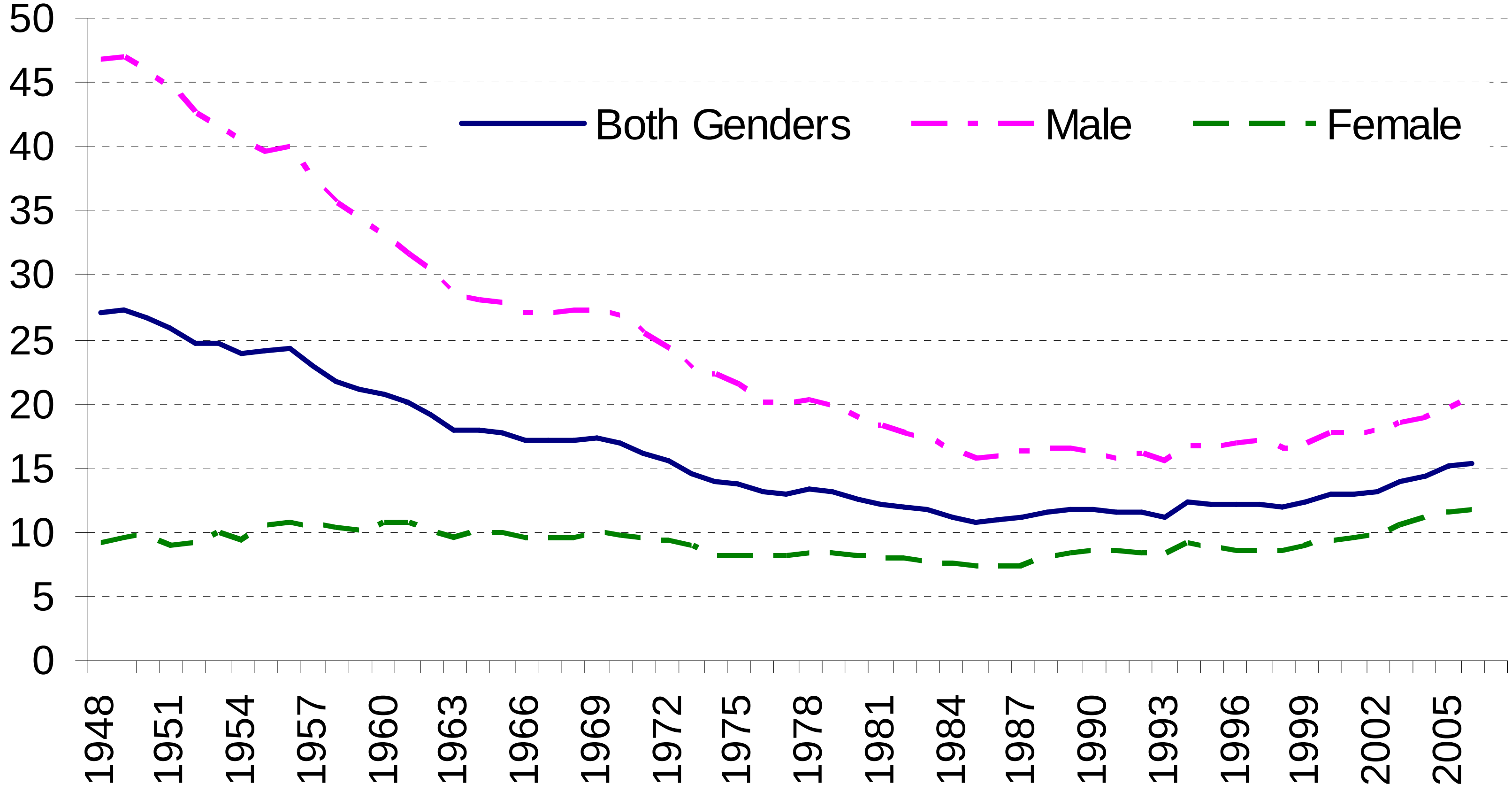
- Decline of defined benefit (DB) pension plans and shift to defined contribution (DC) plans in private sectors
- Ongoing changes and proposed Social Security reforms
- Exploding health care costs and the elimination of retiree health insurance by many private employers
- Growing burden of Medicare, Medicaid and employee pension and retiree health expenses on federal & state governments
- Older workers and retirees have experienced two bursting bubbles in recent years – stock market and housing
- Employers want to retain older but productive workers and promote an orderly retirement process in a dynamic and competitive labor market

Aggregate labor force participation among older workers (%, age 55-64)



Data source: CPS, Bureau of Labor Statistics

Aggregate labor force participation among older workers (%, age 65+)



Data source: CPS, Bureau of Labor Statistics

What does the literature tell us?

- Impact of wealth accrual and pension coverage on the timing of retirement
  - Workers have an incentive to remain employed if pension or S.S. accrual remains attractive (Stock & Wise, 1990; Coile & Gruber, 2000)
  - The rapidly growing pension coverage and S.S. entitlements since the 1940s could be the cause of the decline of labor force participation in the early postwar period (Samwick, 1998)
- Impact of pension types on retirement behavior
  - DB plans tend to have age-related work (dis)incentives that first discourage and later encourage retirement
  - DB covered workers retire almost two years earlier on average than DC covered workers (Friedberg & Webb, 2005)
  - DB (DC) coverage raises (reduces) probability of actual retirement, other things equal (Munnell, Triest & Jivan, 2004)
  - Faculty members in DC-only coverage expect to retire nearly a year later than those in DB plan, though earlier enrollments in DB or DC plans may reflect their differential preferences (Flaherty, 2006)

What does the literature tell us? (cont.)

- Impact of stock market booms and busts on DC plan participants
  - The run-up in the stock market was not the primary determinant of employment changes in the market boom period 1994-1999 (The labor force participation rates increased among those who should be expected to retire earlier with large unanticipated wealth increase. Cheng & French, 2000)
  - There is no evidence that stock market changes were the driving force for the aggregate increase in labor force participation in the 2000-2002 recession (Coile & Levine, 2006)
  - Stockholders retired 7 months on average ahead of their expectations than non-stockholders (Coronado & Perozek, 2003)
  - Stock market crash caused increase in labor force participation and lowered probability of retirement for older workers (Hermes & Ghilarducci, 2006)

What does the literature tell us? (cont.)

- Impact of health insurance (HI) on retirement
  - Small effect of employer-provided HI on retirement (Gustman & Steinmeier, 1994)
  - Strong impacts of HI & Medicare on retirement (Rust & Phelan, 1997)
  - Availability of retiree HI and/or Medicare increases the rate of labor exit (Blau & Gileskie, 2001; Blau & Gileskie, 2003)
  - An increase in Medicare eligibility age would significantly delay retirement, absent other source of HI but that tied to employment (French & Jones, 2004)
  - Eliminating RHI (or reducing its generosity) may significantly reduce the incentive for the existing faculty to retire (Rust, 2005)
  - Availability of RHI boosts the likelihood of early retirement and linking ER-paid insurance premium to service tenure would mitigate such early exit (Mulvey & Nyce, 2005)

Data and estimation approach

- We use the Health and Retirement Study – survey waves 1992 through 2004
- Focus on the transition into retirement of older private sector workers aged 50 through 75
- Estimate a “probit” regression model to explain the influences on timing of retirement – hazard rate from “not retired” to “retired”
- Control for personal and household characteristics – age, education, marital status, spouse employment, health, union membership, opportunity cost in wages, etc.

Defining retirement status

- Definition of “retired”:
  - full or partial retirement (working part-time & “mention of retirement”) based on labor force participation status, as reported in HRS
  - missing labor force participation status but older than 65
  - disabled or not in labor force but older than 62
  - disabled, younger than 62 and receiving SSDI benefits
- Definition of “not retired”:
  - full- or part-time employment (working part-time & “no mention of retirement”)
  - unemployed but looking for a full-time job

Key policy-relevant variables in the probit model

- Retirement plan coverage
  - Based on implicit or explicit value, attributable to all work histories, not necessarily confined to current job
  - Categories: DB only, DC only, or Both
- Wealth adequacy (constant dollars)
  - Measured at household level, as reported in HRS
  - Categories: S.S. & DB wealth (PDV), DC & IRA account balances, Net housing equity, Non-housing financial wealth
- DC (and IRA) wealth-earnings replacement rate
  - Calculated as annuity payouts available from insurance marketplace that can be generated by the DC wealth as a percentage of average earnings
  - Reflecting the effects of business cycle and timing of annuity purchase

Watson Wyatt Worldwide

Key policy-relevant variables in the probit model (cont.)

- Social Security early retirement benefit reduction factor
  - Cohort-specific according to SSA law
  - Ex: -20% for a person born in 1937 (Full Retirement Age 65) starting S.S. at age 62, -13.3% at age 63, -6.7% at age 64 and 0% at age 65; -20.83% for a person born in 1938 (FRA 65 and 2 months) at age 62, etc.; and -30% for a person born in 1960 (FRA 67) at age 62, etc.
- Health insurance (HI) availability
  - Conditional on employment via own employer
  - Unconditional on employment via retiree HI, spouse's HI, or spouse's RHI
  - Public program via Medicare, Medicaid, or VA/CHAMPUS

Watson Wyatt Worldwide

Summary data statistics

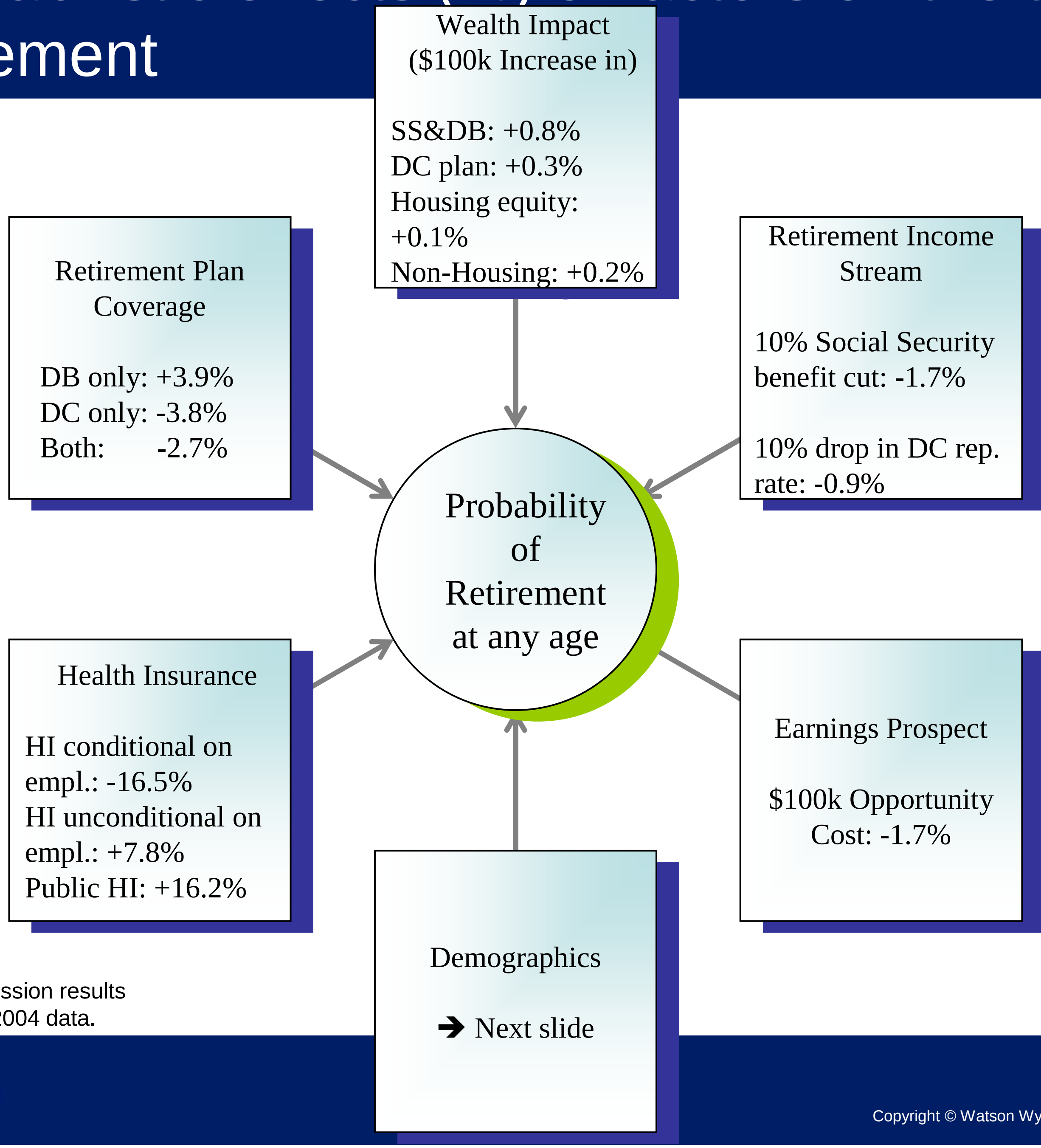
Variable	Median	Mean	Std. Dev.	Min	Max
Retired	0	0.23	0.42	0	1
Age	59	58.42	4.19	50	74
Male	0	0.46	0.50	0	1
Married	1	0.75	0.43	0	1
Spouse retired	0	0.22	0.41	0	1
Self-Employed	0	0.13	0.34	0	1
Bad health	0	0.13	0.34	0	1
Current job physically challenging	0	0.23	0.42	0	1
Union member	0	0.22	0.41	0	1
High school degree or GED	0	0.38	0.49	0	1
Some college education	0	0.23	0.42	0	1
College degree and above	0	0.24	0.43	0	1
Probability of living to age 75+ (%)	75	67.77	26.84	0	100
S.S. early retirement benefits reduction (- %)*	-50	-39.30	17.98	-50	0

Note: 1. Wealth and income variables are in constant 2004 terms and the unit is $10,000. * S.S. benefits reduction is set to -50% for respondents younger than 62 and ineligible for S.S. Results are not sensitive to alternative values, say, -100%.
2. Source: Watson Wyatt calculations based on Health and Retirement Study 1992-2004 survey data.

Summary data statistics (cont.)

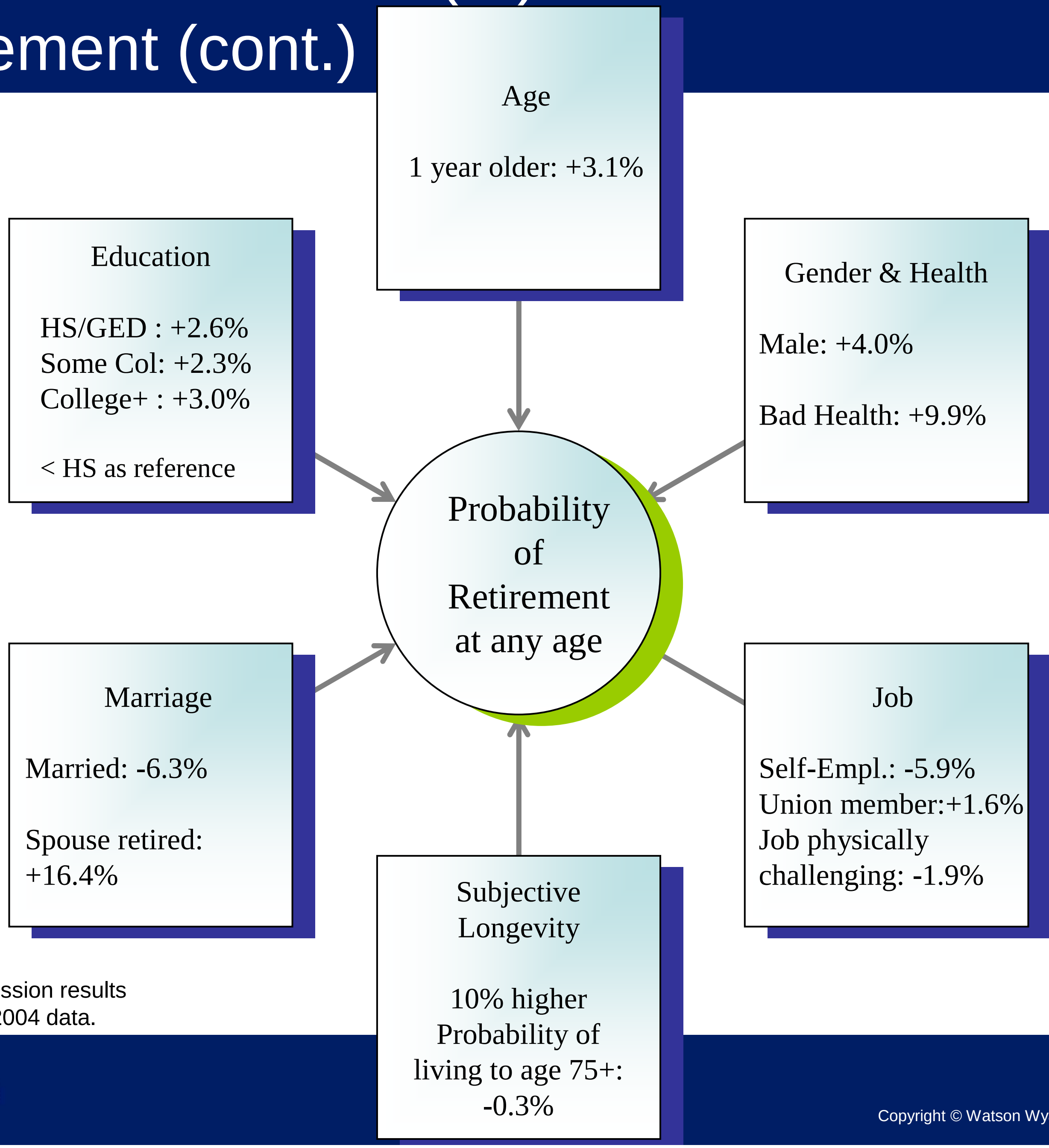
Variable	Median	Mean	Std. Dev.	Min	Max
DB coverage only	0	0.17	0.37	0	1
DC coverage only	0	0.30	0.46	0	1
Both DB and DC coverage	0	0.35	0.48	0	1
Health insurance, conditional on employment	1	0.62	0.49	0	1
Health insurance, unconditional on employment	1	0.58	0.49	0	1
Health insurance, public	0	0.10	0.29	0	1
Social Security Wealth (PDV)	16.04	17.02	7.46	0	69.1
Defined Benefit pension wealth (PDV)	14.34	24.30	34.76	0	1510.1
S.S. + DB Wealth (PDV)	21.67	29.15	29.40	0	1546.2
Defined Contribution plan wealth	1.51	8.15	23.40	0	2265.8
Net housing equity	8.36	12.36	30.47	-655.3	2390.1
Non-housing financial wealth	1.90	10.20	42.96	-91.9	3675.5
Total household wealth	42.66	59.86	78.57	-634.1	4791.7
Earnings prospect or Opportunity cost	3.27	4.25	5.67	0	419.8
Total household income	6.14	8.33	11.70	0	781.0
DC wealth-earnings replacement rate (%)	2.91	16.03	43.69	0	398.4

Probabilistic effects (%) of factors on the timing of retirement



Source: Watson Wyatt regression results based on HRS 1992-2004 data.

Probabilistic effects (%) of factors on the timing of retirement (cont.)



Source: Watson Wyatt regression results based on HRS 1992-2004 data.

Concluding remarks

- Wealth adequacy in all categories (pension, housing equity and other financial wealth) increases the probability of retiring
- Good earnings prospects induce continued employment
- DB (DC) plan coverage implies higher (lower) likelihood of retirement
- The probability and timing of retirement for DC plan participants are susceptible to the influence of business cycles
- Health insurance conditional (unconditional) on employment *strongly* defers (encourages) retirement
- The scheduled increase in the full retirement age for Social Security encourages younger cohorts to work longer

Watson Wyatt Worldwide

Looking Forward

- Continued decline of DB plans?
  - Some evidence of slowing down in private sector
  - No extensive evidence of reversal
  - What will happen in the public sector?
- Increased risk exposure under DC plans
  - Insecurity in wealth creation *and* distribution against longevity risk
  - Older workers may become more cautious about retirement decision given lower labor flexibility
- Constrained health insurance for the rising health care costs
  - Some private employers are cutting HI or eliminating RHI
  - Similar actions by public employers may happen
  - Medicare is deemed to change with possible increase in eligibility age or adoption of DC-type approach
- Long-lasting impacts of Social Security reforms
  - Pushing up retirement age
  - Probably providing less income for retirement

- ***Your thoughts***