

Recessions, Wealth Destruction, and the Timing of Retirement

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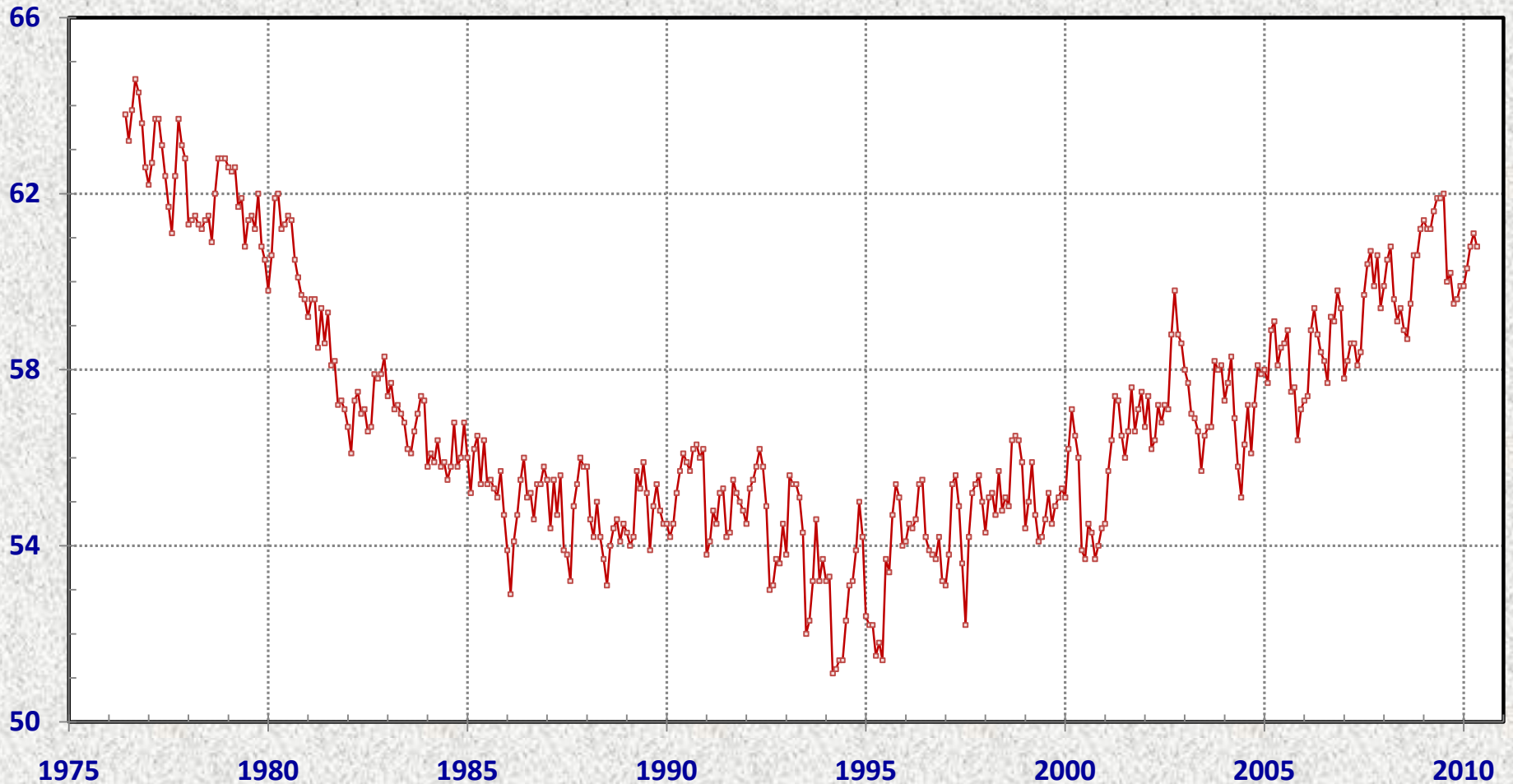
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Objectives of Paper

- **Impact of economic conditions on retirement decisions**
 - Weaker job market could induce retirement by encouraging early exit from the labor force
 - Asset losses may encourage delayed retirement to protect old-age consumption
- **How to define retirement –**
 - Receiving a social security pension?
 - Part-time employment?
 - Out of labor force?

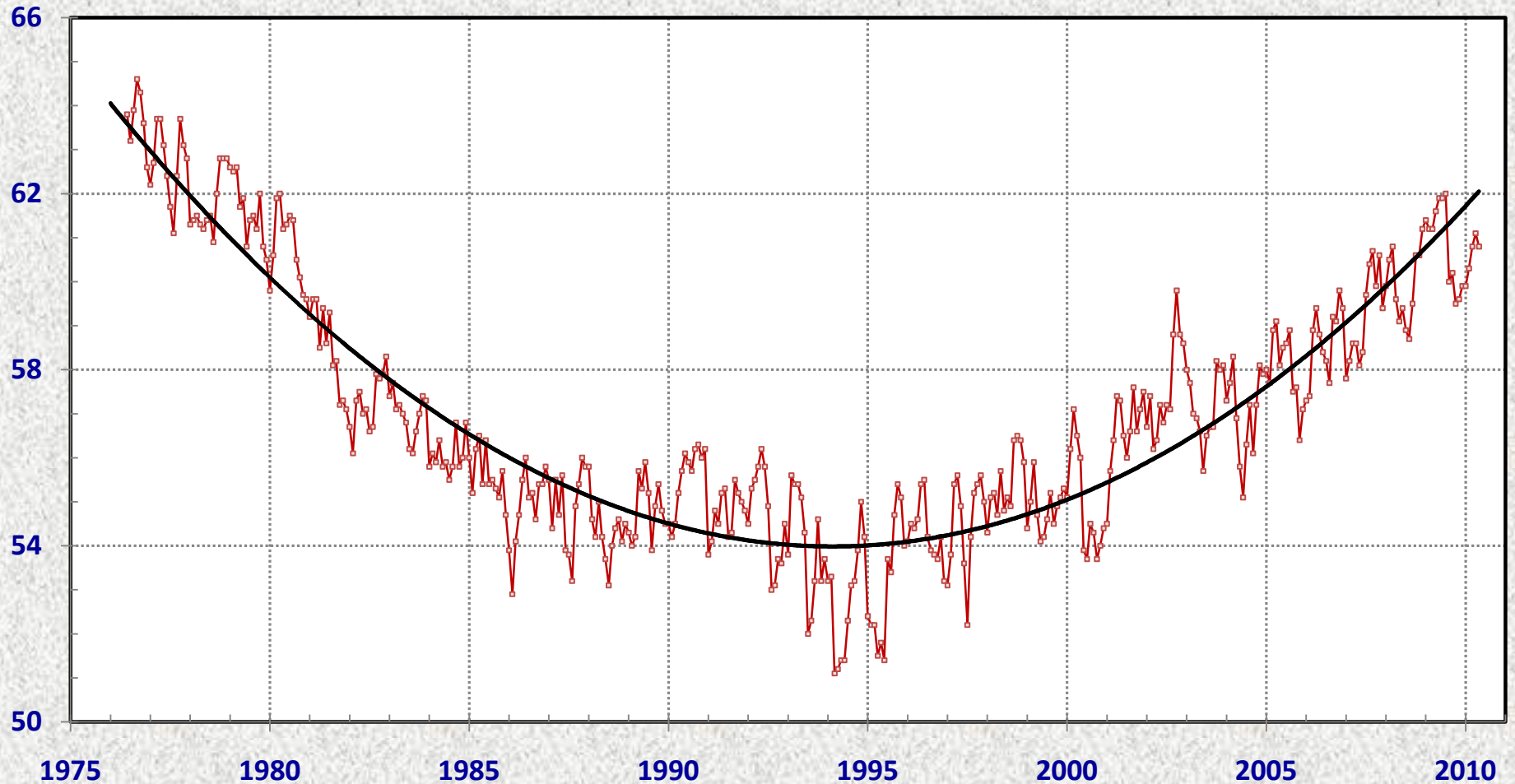
Male Labor Force Participation Rate, Age 60-64, 1976-2010

Percent of the male population 60-64



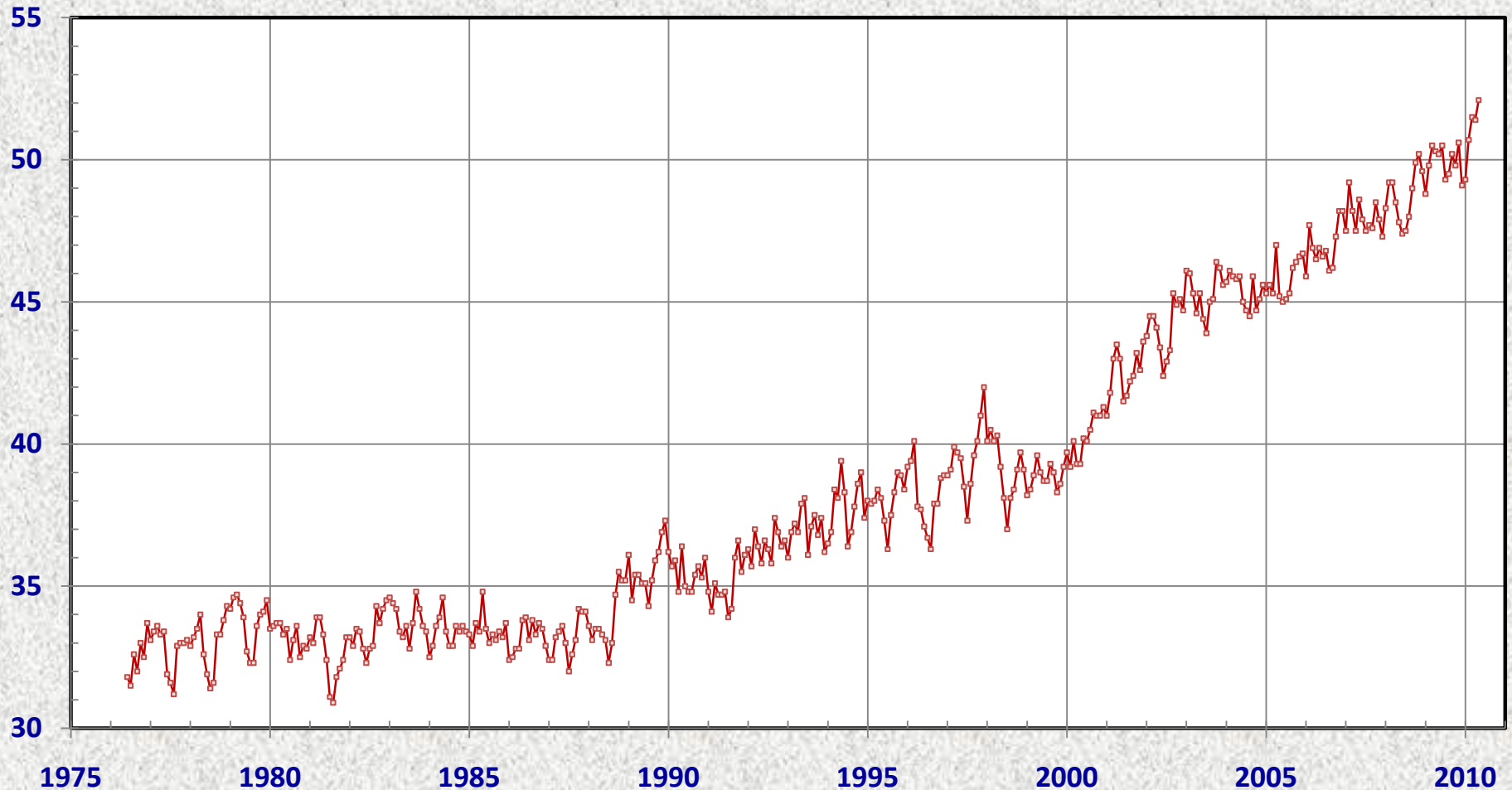
Male Labor Force Participation Rate and Quadratic Time Trend

Percent of the male population 60-64



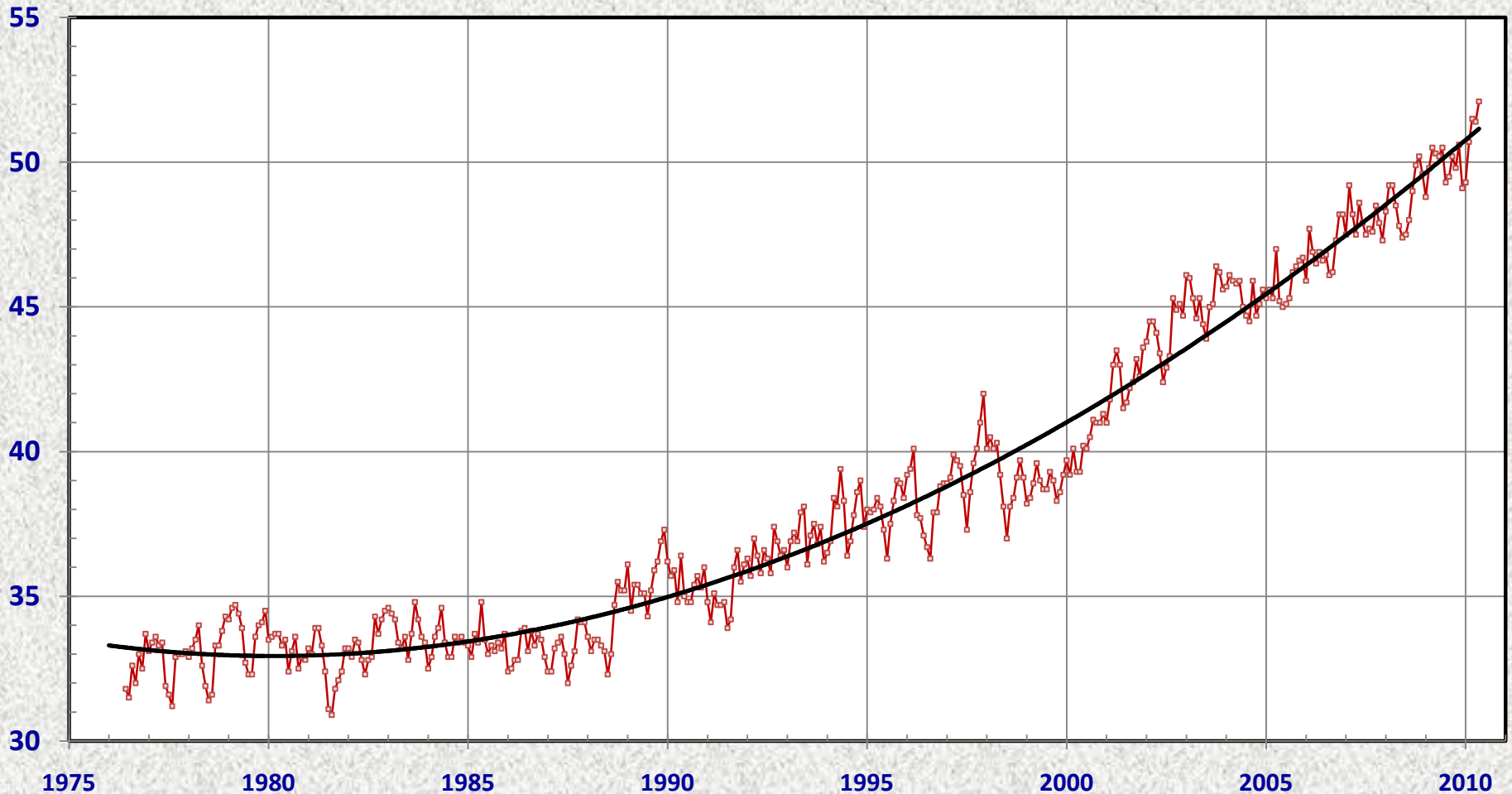
Female Labor Force Participation Rate, Age 60-64, 1976-2010

Percent of the female population 60-64



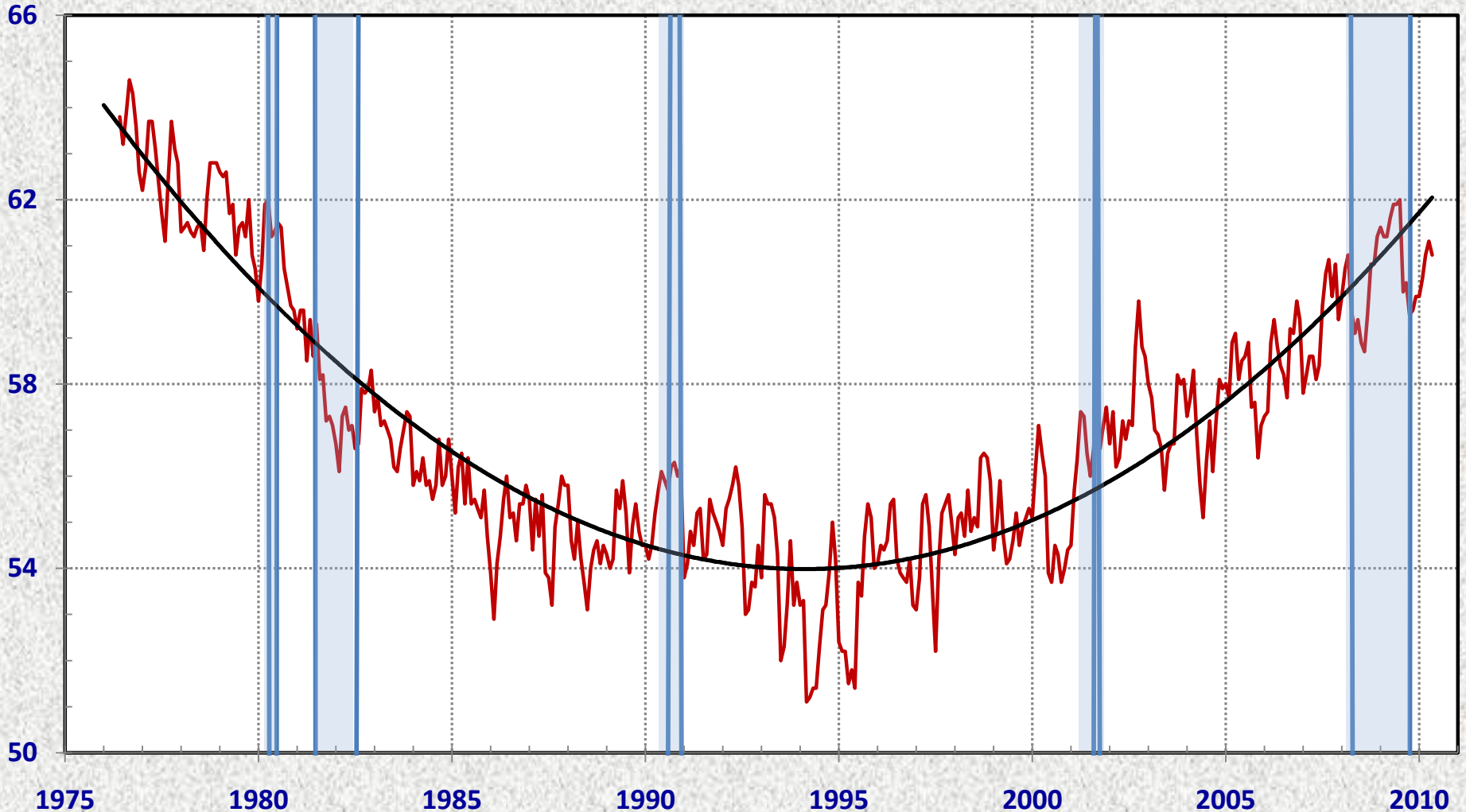
Female Labor Force Participation Rate and Cubic Time Trend

Percent of the female population 60-64



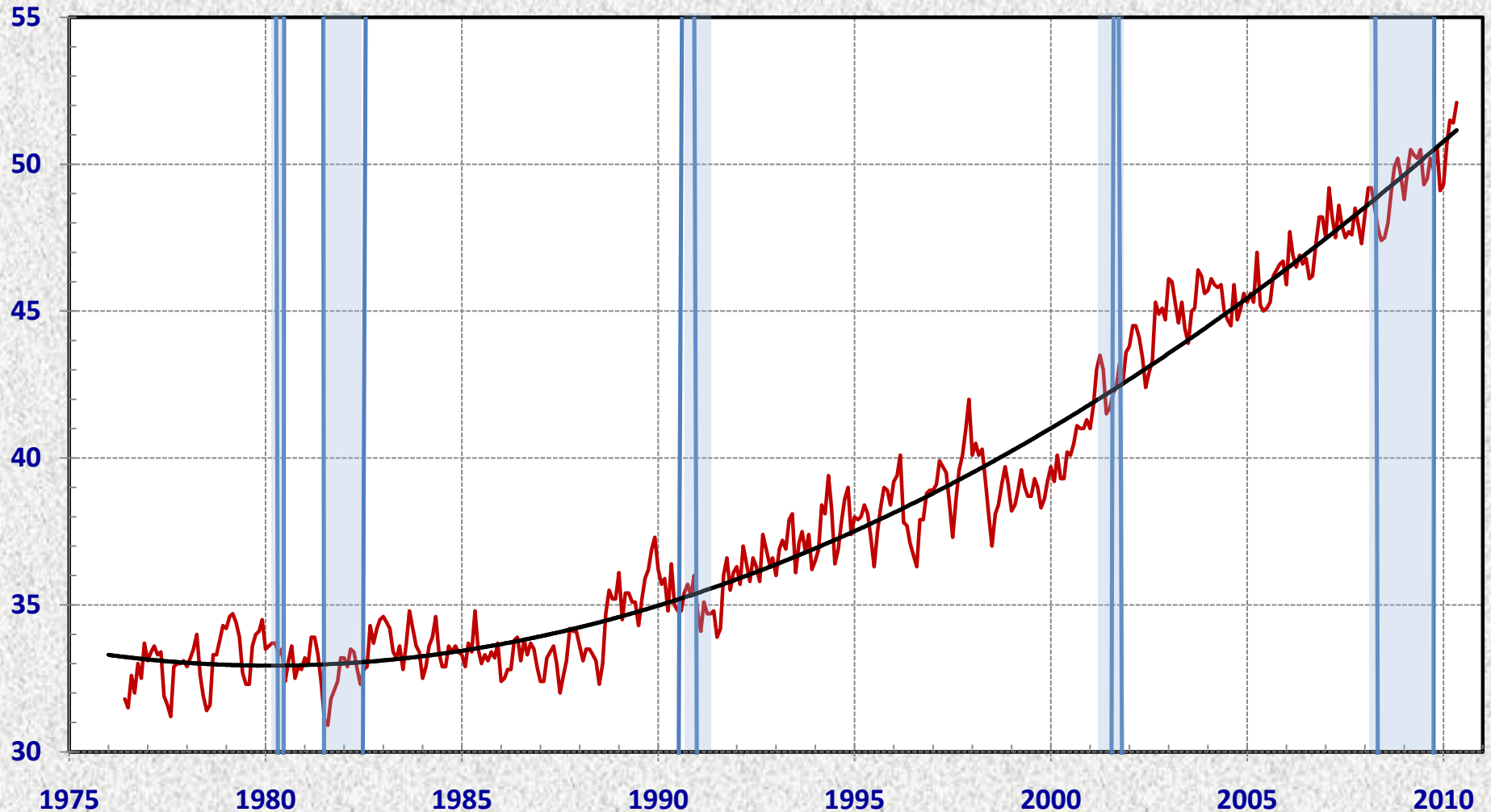
Male Labor Force Participation Rate, Age 60-64 (Recessions in light blue)

Percent of the male population age 60-64



Female Labor Force Participation Rate, Age 60-64 (Recessions in light blue)

Percent of the female population 60-64



Influence of Economic Conditions on Retirement Decision

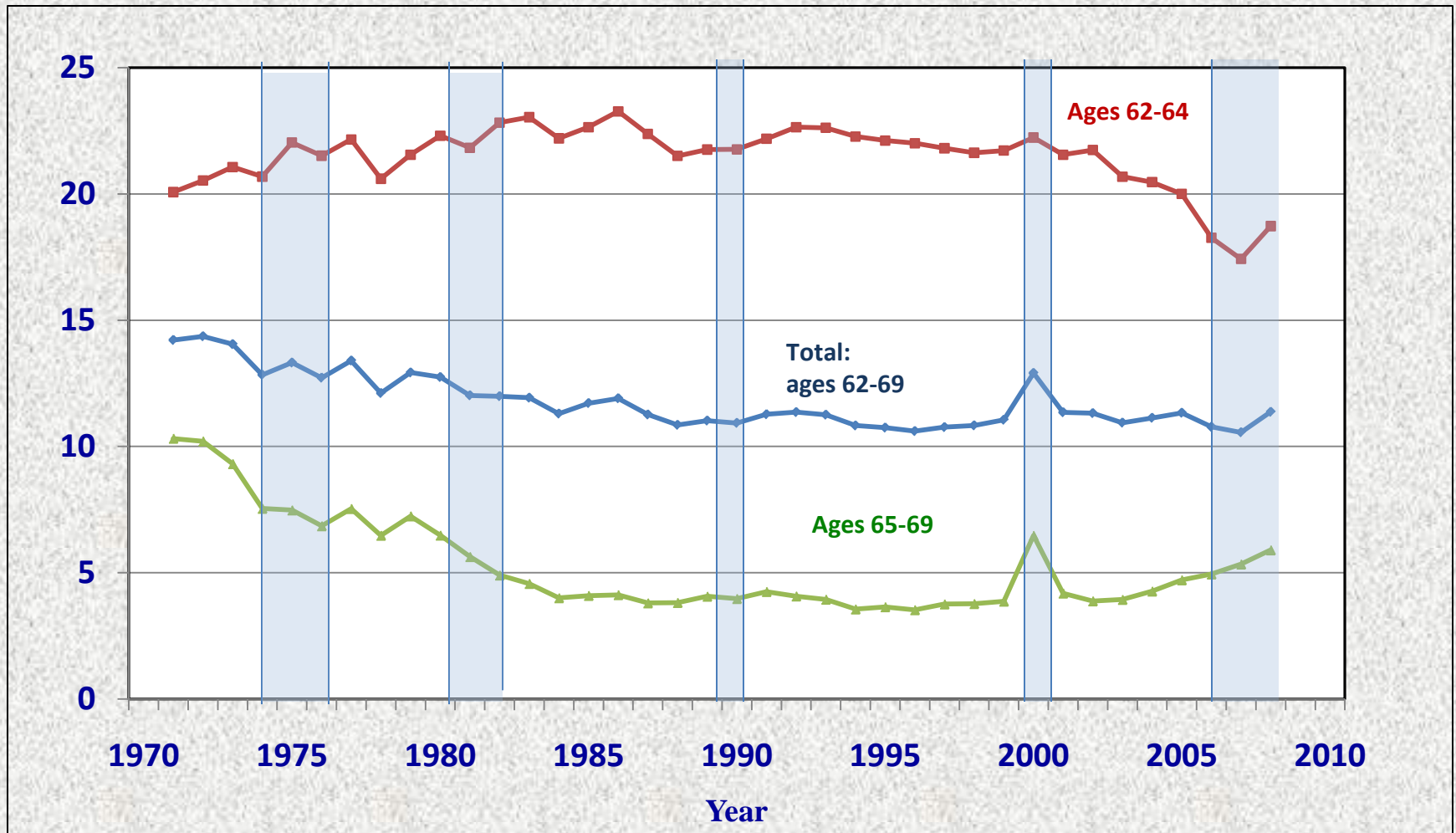
Two alternative approaches:

- **Analyze aggregate data**
 - Administrative data on benefit awards
 - Average survey responses on labor force status
 - Limited number of observations
- **Analyze micro-census data from the Current Population Survey**

I. Social Security New Benefit Awards to Retired Workers

- Direct administrative evidence on retirement decisions
 - Measured as percentage of age-specific insured population.
 - Annual data by age for 1971-2008.
 - Trend toward earlier retirement up to mid-1990s, but has reversed in last decade.
- Does job loss trigger benefit application?
- Surprisingly small short-run variation about trend.

Retired-Worker Benefit Awards (Take-up as % of insured population)



Unemployment and Retired Worker Benefit Awards

- We measure labor market conditions using unemployment of prime-age (25-54) workers
- Surprisingly weak association with new retiree benefit awards
- Statistically insignificant effects for age 62 and age 65 and over
- Economically small effect on persons age 63, but negative correlation for new awards at age 64

Impact of the Unemployment Rate on Social Security Retired-Worker Awards

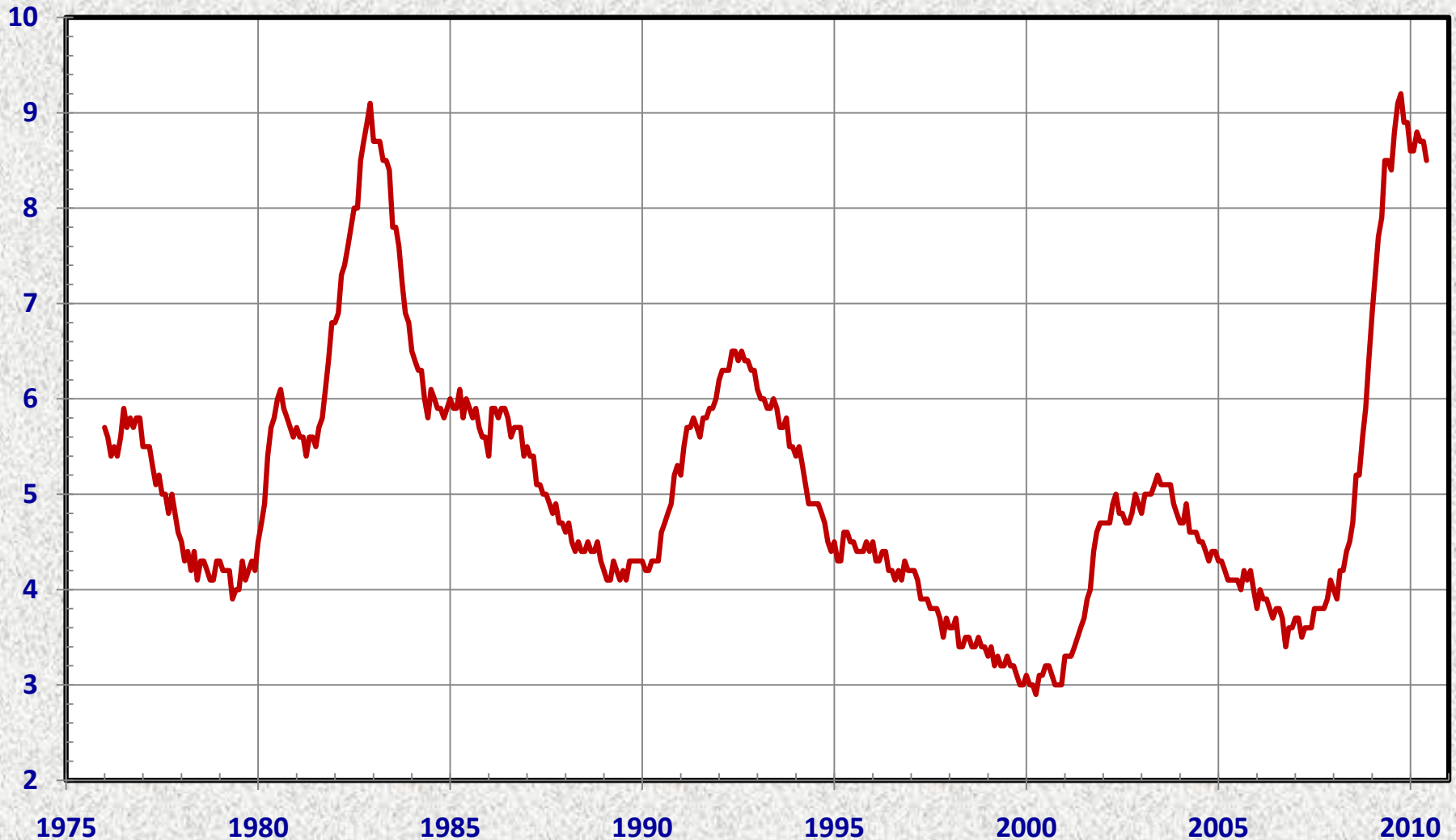
	Total	Age 62	Age 63	Age 64	Age 62-64	Age 65-69
Coefficient on Unemployment in Year t (p-value)	0.101 (0.14)	0.251 (0.23)	0.300** (0.00)	0.266 (0.20)	0.265** (0.04)	-0.069 (0.40)
Coefficient on Unemployment in Year t-1 (p-value)	-0.089 (0.18)	-0.158 (0.44)	0.050 (0.55)	-0.411** (0.05)	-0.175 (0.16)	-0.129 (0.11)
F-Statistic Significance of F-Statistic (p-value)	1.20 (0.31)	0.77 (0.47)	17.44** (0.00)	2.20 (0.13)	2.27 (0.12)	5.88** (0.01)
Number of Observations	38	38	38	38	38	38

II. Impacts on Labor Force Status

- Monthly data for 5-year age groups plus ages 60-61 and 62-64
 - Labor force participation
 - Employment-population
 - Data cover: June 1976 – March 2010
- State of labor market conditions measured with prime-age (25-54) unemployment rate
- Returns on three asset classes – Equities, U.S. bonds, owner-occupied homes.

Unemployment Rate of Adults Age 25-54

Percent of the labor force age 25-54



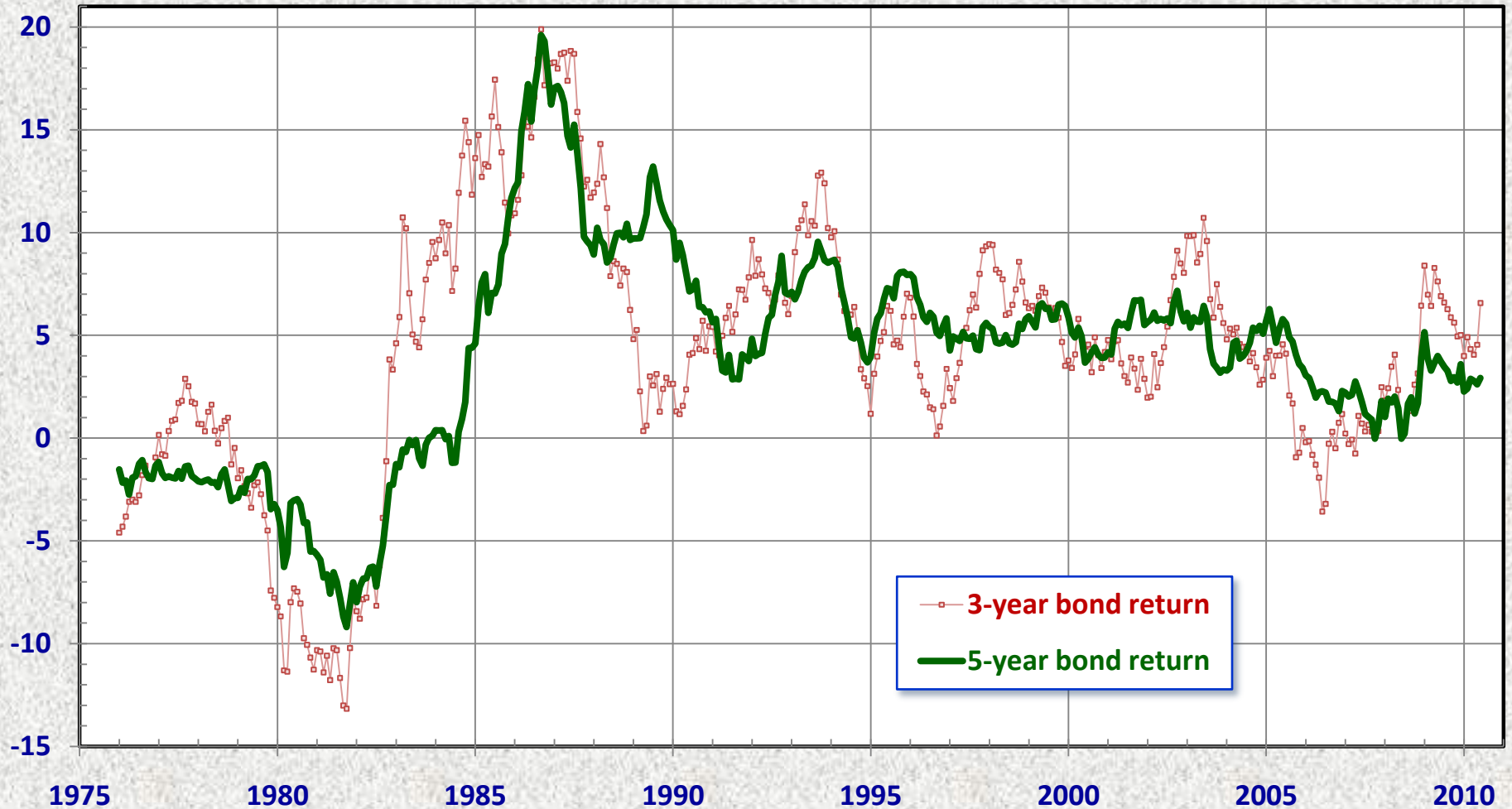
Real Trailing Bond Returns, 1976-2010

Real annual rate of return (percent)



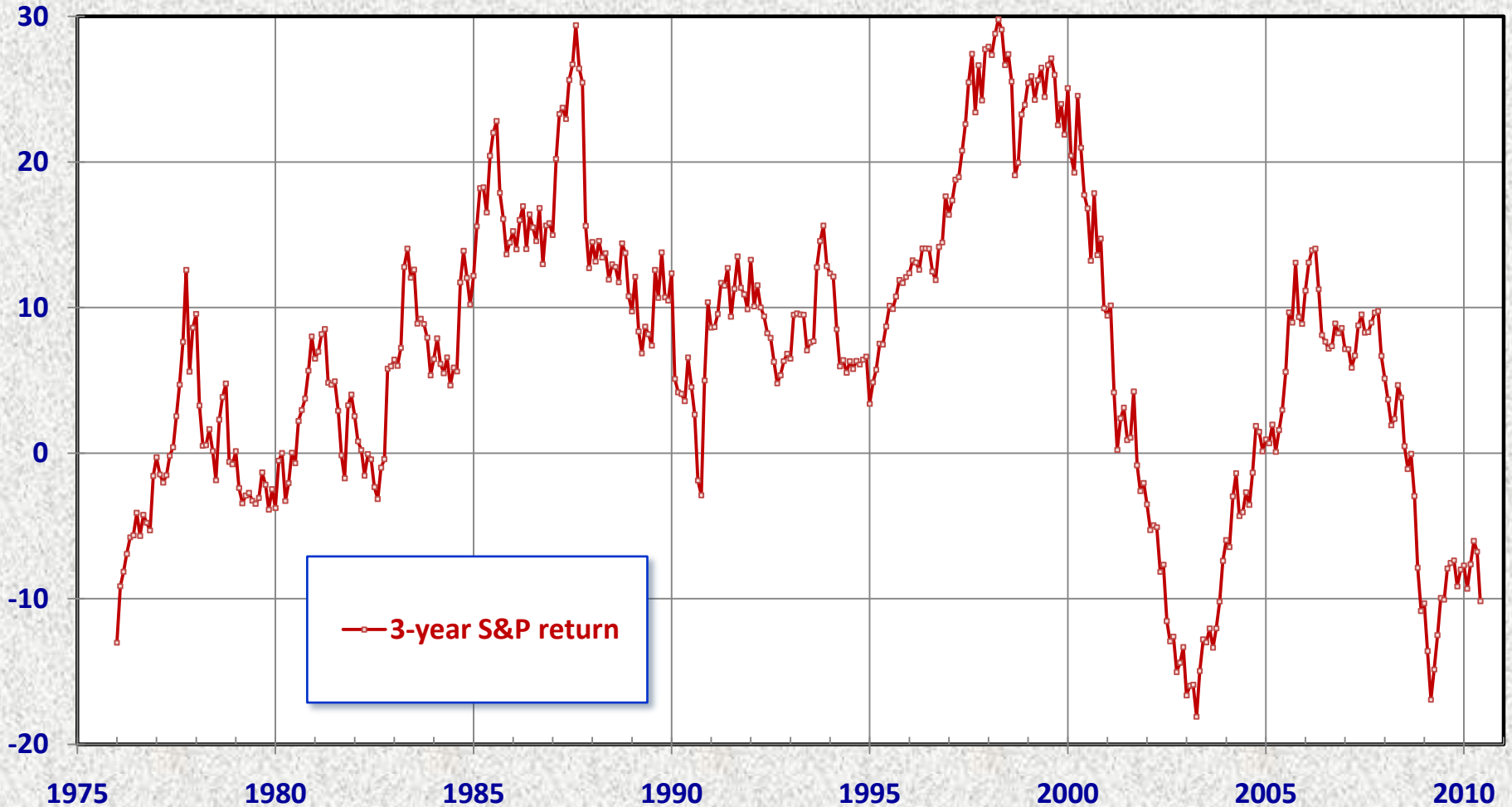
Real Trailing Bond Returns, 1976-2010

Real annual rate of return (percent)



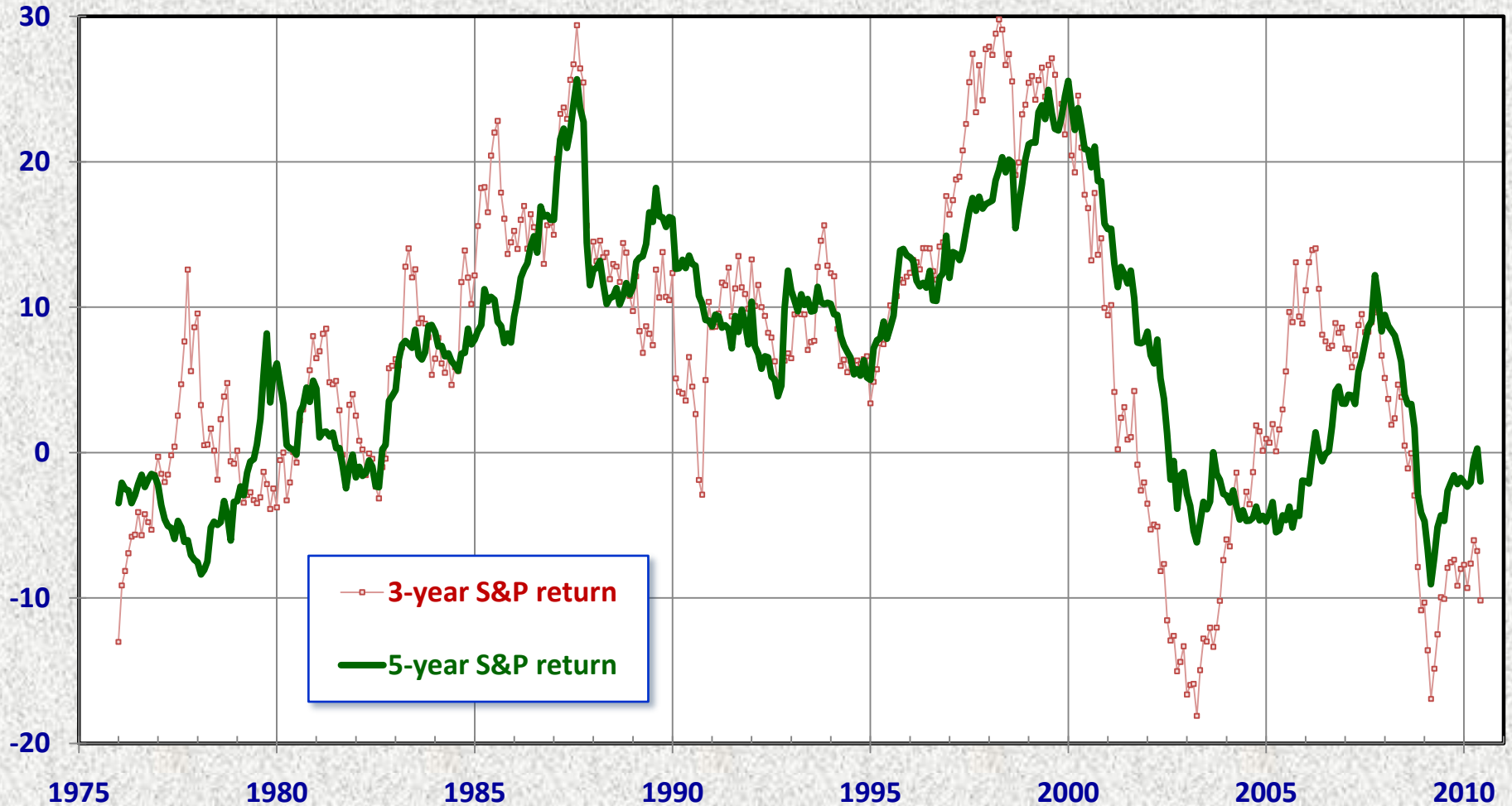
Real Trailing S&P Returns, 1976-2010

Real annual rate of return (percent)



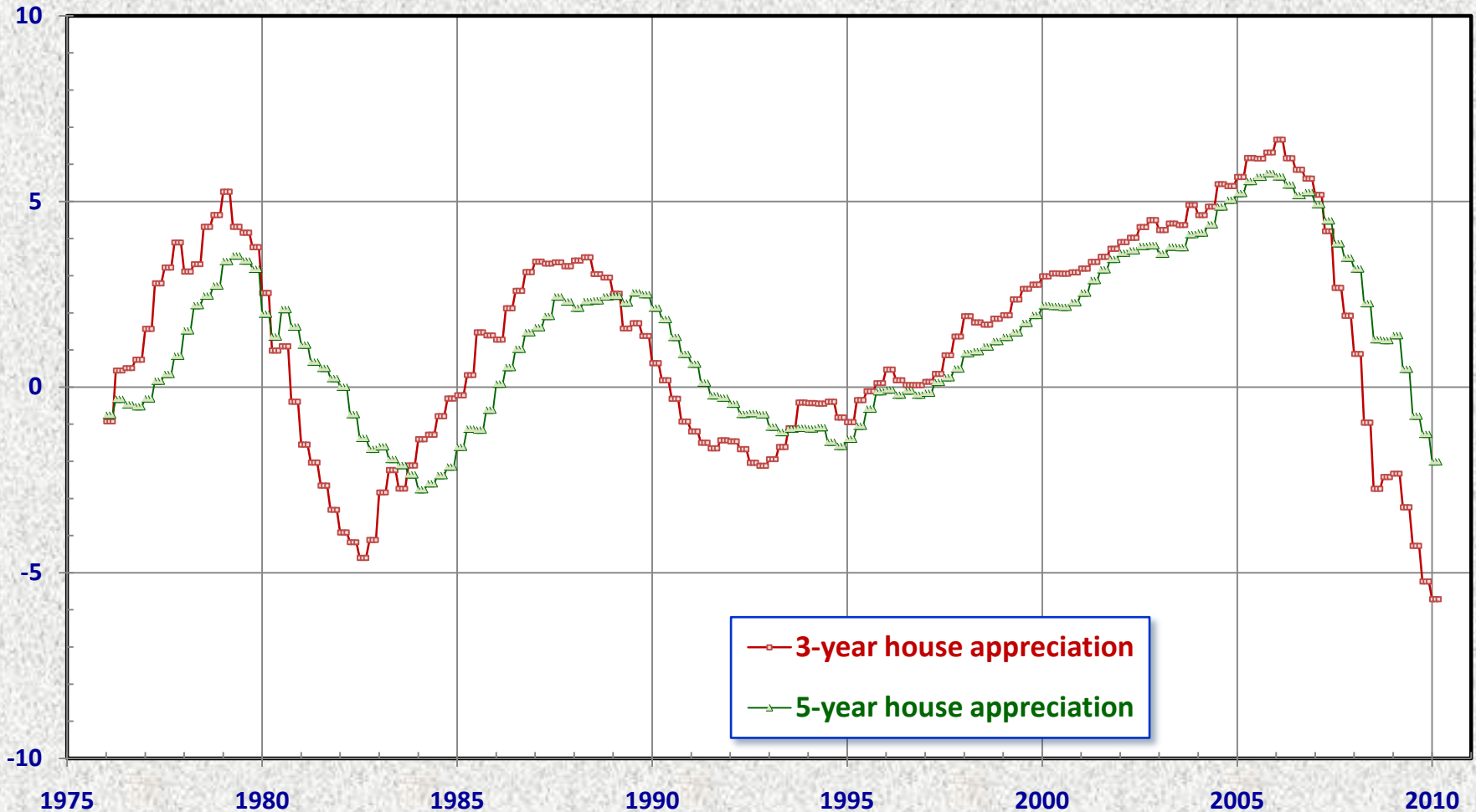
Real Trailing S&P Returns, 1976-2010

Real annual rate of return (percent)



Trailing Real House Appreciation, 1976-2010

Real annual rate of change (percent)



Regression Specification

- **Trend effects**
 - Represented by 2nd- or 3rd-degree polynomial
- **Unemployment**
 - Contemporaneous and lagged rates extending back 12 months
- **Asset prices: Trailing three-year rates of return**
 - S&P total returns, deflated by CPI
 - Total real returns on ten-year government bonds
 - Real house price appreciation - FHFA repeat mortgage transactions
 - Data adjusted for autocorrelation

Regression Estimates for 60-64 Year-Old Men

	<u>Labor Force Participation</u>			<u>Employment-Population Ratio</u>		
UR	0.282 (0.198)	0.279 (0.198)	0.400 * (0.212)	0.112 (0.206)	0.115 (0.207)	0.290 (0.222)
UR(t-3)	-0.486 * (0.251)	-0.483 * (0.251)	-0.448 * (0.252)	-0.675 ** (0.268)	-0.678 ** (0.268)	-0.632 ** (0.268)
UR(t-6)	0.0988 (0.233)	0.0975 (0.233)	0.1010 (0.233)	0.0293 (0.247)	0.0305 (0.247)	0.0271 (0.246)
UR(t-12)	-0.2050 (0.168)	-0.2180 (0.172)	-0.2110 (0.171)	-0.2730 (0.170)	-0.2580 (0.176)	-0.2550 (0.173)
Sum of UR Coefficients	-0.3102	-0.3245	-0.1580	-0.8067	-0.7905	-0.5699
F-Stat on UR	3.404 ***	3.197 **	2.123 *	18.360 ***	15.090 ***	5.966 ***
P-Value of the F	0.009	0.013	0.077	0.000	0.000	0.000
S&P, real return	-0.0183 (0.0118)	-0.0192 (0.0121)	-0.0159 (0.0122)	-0.0111 (0.0117)	-0.0101 (0.0121)	-0.0052 (0.0121)
Gov't Bond Return		0.0055 (0.0206)	-0.0066 (0.0220)		-0.0061 (0.0204)	-0.0226 (0.0216)
House Price Change			0.0917 (0.0591)			0.1220 ** (0.0573)
R-Squared	0.554	0.558	0.565	0.580	0.578	0.599
ρ	0.708	0.706	0.703	0.668	0.670	0.659

Regression Estimates for 60-64 Year-Old Women

	<u>Labor Force Participation</u>			<u>Employment-Population Ratio</u>		
UR	-0.180 (0.192)	-0.180 (0.192)	-0.059 (0.204)	-0.218 (0.197)	-0.218 (0.197)	-0.083 (0.207)
UR(t-3)	0.134 (0.244)	0.134 (0.245)	0.158 (0.245)	-0.0741 (0.246)	-0.0737 (0.247)	-0.0399 (0.247)
UR(t-6)	0.1880 (0.223)	0.1880 (0.224)	0.1780 (0.223)	0.1590 (0.227)	0.1590 (0.227)	0.1530 (0.226)
UR(t-12)	-0.1160 (0.149)	-0.1200 (0.154)	-0.1050 (0.152)	-0.0696 (0.156)	-0.0726 (0.161)	-0.0573 (0.158)
Sum of UR Coefficients	0.0260	0.0220	0.1716	-0.2027	-0.2053	-0.0271
F-Stat on UR	0.522	0.512	0.990	1.045	1.019	0.138
P-Value of the F	0.719	0.727	0.413	0.384	0.397	0.968
S&P, real return	-0.0441 *** (0.0104)	-0.0443 *** (0.0106)	-0.0411 *** (0.0107)	-0.0372 *** (0.0110)	-0.0374 *** (0.0113)	-0.0340 *** (0.0112)
Gov't Bond Return		0.0015 (0.0175)	-0.0123 (0.0188)		0.0014 (0.0187)	-0.0156 (0.0197)
House Price Change			0.0883 * (0.0500)			0.1090 ** (0.0528)
R-Squared	0.898	0.897	0.903	0.870	0.869	0.88
ρ	0.639	0.640	0.630	0.668	0.668	0.653

Conclusions

- Labor market conditions and asset prices usually have expected effects on participation and employment rates of older persons, *but*
- The quantitative effects are very small.
- Puzzling response to higher home prices which are associated with higher participation rates among both elderly men and women.
- Effects of prime-age unemployment rate on LFP were significant only for older men, not for older women.
- Surprisingly, a weak labor market does not seem to appreciably boost the rate of early pension claiming.