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# **Dynamics of Individual Information about Social Security**

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# Retirement planning

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- **intertemporal problem with long horizon; need to form expectations**
- **involves financial planning**

## **Requires information:**

- **Social Security, employer pensions (if individual has one)**
- **other financial options**
- **expectations about events that affect the financial position**

## **Little known about planning process leading up to retirement:**

- **What information do individuals use?**
- **When do they acquire it and/or act on it?**

# Prior studies (and some presentations today)

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Raise considerable concern about

- **widespread poor financial literacy**  
(Lusardi and Mitchell, 2005)
- **inertia and lack of financial planning**  
(Mardrian and Shea, 2001; Lusardi, 1999, 2001, 2003)
- **lack of knowledge about their retirement resources**  
(Mitchell '88, Gustman and Steinmeier '2001)

Yet, in Italy ...

individuals forecast their replacement rates from pensions fairly accurately.

(Japelli, 1995; Miniaci, Monfardini and Weber, 2002)

# In this study

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- **show evidence from the U.S. on Social Security expectations**
  - situation not as bad as found in previous studies
- **study extent of misperceptions about Social Security benefits in a dynamic context**
- **relate misperceptions about Social Security to measures of well-being in retirement**

# My findings differ from prior findings ...

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## Because

- study information / knowledge in **dynamic setting**  
(cross-section results tend to be misleading)
- account for sources of **uncertainty**  
(timing of retirement, risks related to health, earnings, job loss)
- recognize that **value of the same information differs**  
across individuals (e.g., by distance from event)

# **This study: Information about Social Security**

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- **acquire information if**  
**benefit > cost**
  
- **benefit varies with**
  - \* **relevance of the information**
  - \* **size of mistake relative to economic resources**
  
- **cost varies with**
  - cognitive ability**
  - accumulated stock of related knowledge**

# DATA: Health and Retirement Study (HRS)

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- U.S.
- individuals age 51-61 in 1992 and their spouses
- follows the same individuals over time
- interviews every two years
- six waves of data (1992, 1994, ... 2002)
- very rich information on economic status, health, expectations ...

# Expectations about Social Security in HRS

6 waves, 1992 – 2002

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*Do you (spouse/partner) currently receive SS benefits?*

*(no) Do you expect to receive SS benefits at some time in the future?*

*(yes) At what age do you expect to start collecting these benefits?*

*If you start collecting these benefits then, how much do you expect the benefit payments to be in today's dollars?*



# Expectations and Uncertainty

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**Expectations about SS contain uncertainty about**

- **future events such as earnings, job loss**
- **the SS program**
- **individual's own past earnings histories**

**Question design is not optimal and leads to increased non-response and measurement error.**

**Expect some missing or noisy observations**

**≠ lack of knowledge**

# Expectations about Social Security in HRS

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*If you start collecting these benefits then, how much do you expect the benefit payments to be in today's dollars?*

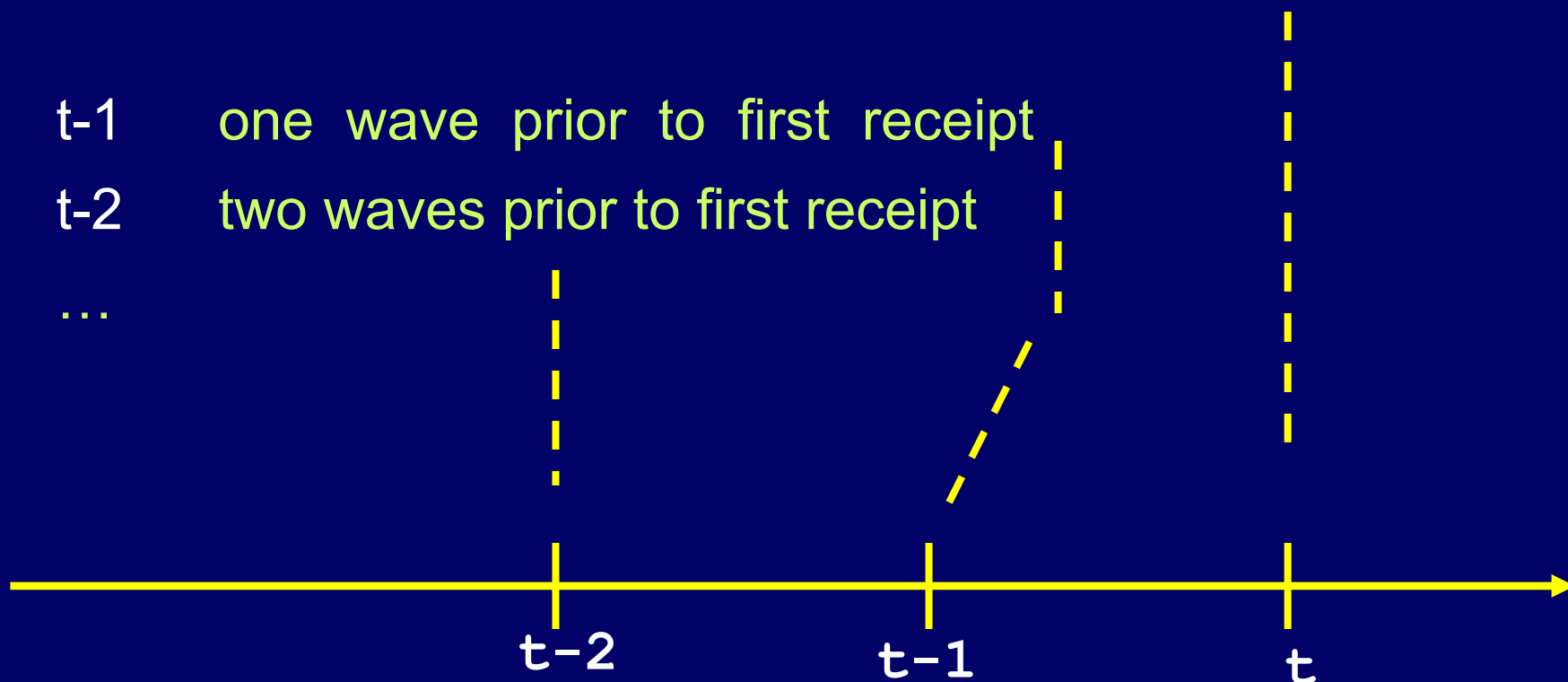
# Approach: study SS expectations with reference to SS benefits observed at first receipt

Let  $t$  be the wave in which R starts receiving SS benefits

$t-1$  one wave prior to first receipt

$t-2$  two waves prior to first receipt

...



# Expectations about future Social Security receipt

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( yes / no ) answer categories

→ no room for uncertainty

- virtually no item non-response
- high accuracy which increases further the closer the event
- inaccuracy largely related to genuine uncertainty about eligibility

# Accuracy of Expected Claiming Age

Percent within one year of actual claiming age.

Number of waves before receiving SS benefits	Length of panel, including wave t		
	3 waves N=2699	4 waves N=2569	5 waves N=1646
1	81.6	82.4	81.8
2	71.7	72.4	71.3
3		67.1	67.6
4			61.2

- Substantial updating leading up to the event
- Accuracy increases

# Expected Benefit Amounts

HRS cohort, financial respondents own reports

	Survey Year					
	1992	1994	1996	1998	2000	2002
Reports Value	2704	2561	2723	2145	1685	1012
Brackets	12	-	-	-	-	276
don't know / refuse	3359	2008	1405	1213	852	158
Item non- response [percent]	55.29	42.28	33.98	36.12	33.58	10.93

# Responses about Expected Benefit Amounts

Number of waves before receiving SS benefits	Fraction reporting an expected amount [%]
1	74.3
2	71.2
3	64.4
4	55.2

N = 1964, panel.

Source: Rohwedder and Kleinjans (2004)

Once a non-respondent does not mean always a non-respondent:  
Only 7% would never respond in 4 wave panel (without brackets).

# Probability of reporting an expected benefit amount

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- **Multivariate analysis**
- **observations from all waves pooled (N=42,101)**
- **include multiple observations on same individuals (up to six)**

## **Non response varies systematically with**

- distance from claiming (-)**
- uncertainty about timing of claiming (-)**
- uncertainty about related future events (-)**
- income, wealth (+)**
- low education (-)**



# Probability of reporting an expected benefit amount effect of distance from claiming

	Odds Ratio	P-value
Age (in years)	1.012	0.014
Expected distance from claiming	0.961	0.000
Probability of working past 62		
<50	-	-
=50	0.864	0.000
>50	0.923	0.006

# Probability of reporting an expected benefit amount effect of uncertainty/risk

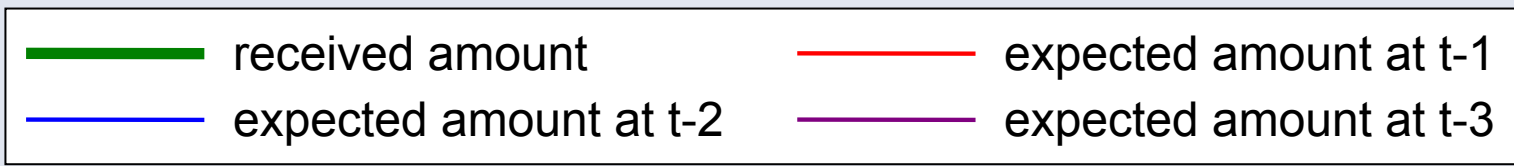
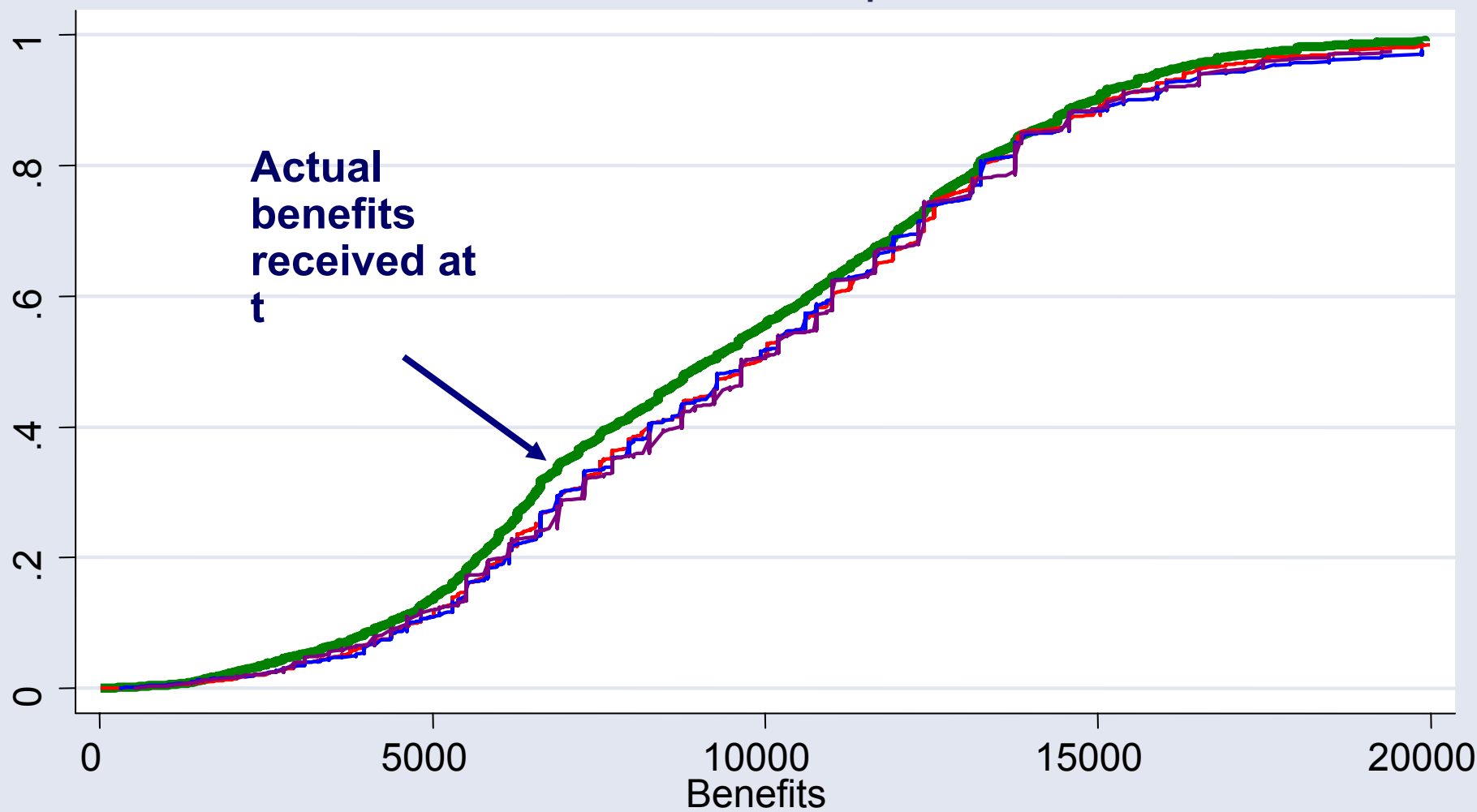
	Odds Ratio	P-Value
<b>Health (self-rated)</b>		
<b>excellent</b>	<b>1.074</b>	<b>0.022</b>
<b>very good</b>	<b>1.085</b>	<b>0.002</b>
<b>good</b>	-	-
<b>fair</b>	<b>0.939</b>	<b>0.074</b>
<b>poor</b>	<b>0.879</b>	<b>0.021</b>
<b>Subjective Probability of losing one's &lt;50</b>		
<b>job over the next 12 months =50</b>	<b>0.929</b>	<b>0.090</b>
<b>&gt;50</b>	<b>1.145</b>	<b>0.010</b>
<b>Subjective Probability of work limiting &lt;50</b>		
<b>health event over next 10 years =50</b>	<b>1.017</b>	<b>0.561</b>
<b>&gt;50</b>	<b>1.053</b>	<b>0.135</b>

# Accuracy of Expectations about Benefit Amounts

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**How does population distribution of expected benefits compare with received amounts?**

# Cumulative Distribution of Expected SS Benefits



Source: Rohwedder and Kleinjans (2004)

# Distribution of individual deviations from t-1 to t

Deviation = amount received at t – expected amount at t-1

	<b>Abs. Deviation</b>	<b>Percentage Deviation</b>
<b>N</b>	<b>3,540</b>	<b>3,540</b>
<b>Mean</b>	<b>-35</b>	<b>-14.1</b>
<b>P10</b>	<b>-2,781</b>	<b>-36.2</b>
<b>P25</b>	<b>-868</b>	<b>-10.5</b>
<b>P50</b>	<b>54</b>	<b>0.6</b>
<b>P75</b>	<b>1,180</b>	<b>11.9</b>
<b>P90</b>	<b>3,192</b>	<b>29.4</b>

# Distribution of percent deviations at t-1, t-2, t-3

individuals who  
started claiming as  
planned  
(78% at t-1)

	t-1	t-2	t-3
<b>N</b>	2,744	1,785	1,131
<b>mean</b>	<b>-8.8</b>	<b>-7.5</b>	<b>-5.0</b>
p10	-28.2	-42.5	-40.4
p25	-7.0	-11.3	-13.7
<b>p50</b>	<b>1.3</b>	<b>3.9</b>	<b>4.9</b>
p75	11.5	17.5	19.9
p90	25.8	34.1	35.6

individuals who  
claimed earlier  
than planned  
(exp.>actual)  
11% at t-1

	t-1	t-2	t-3
<b>N</b>	394	444	295
<b>mean</b>	<b>-32.9</b>	<b>-25.3</b>	<b>-23.1</b>
p10	-56.7	-83.1	-92.7
p25	-26.8	-36.6	-39.4
<b>p50</b>	<b>-5.2</b>	<b>-6.7</b>	<b>-3.9</b>
p75	8.9	14.8	16.6
p90	33.4	35.2	40.4

Financial respondent held constant.

# What drives early claiming?

Probability of claiming earlier than anticipated (logit)

		Odds Ratio	P> z
<b>Self-rated Health</b>	excellent	0.802	0.002
	very good	0.996	0.944
	good	-	-
	fair	1.178	0.046
	poor	1.284	0.079
<b>Reached claiming age</b>	age>=62	4.631	0.000
<b>Means of insuring adverse shocks</b>	married/partnered	0.854	0.039
	Employer pension		
	one plan	0.635	0.000
	2 or more plans	0.541	0.000
<b>Time at risk</b>	expected distance	1.753	0.000
<b>Education</b>	less than HS	0.827	0.015
	HS & GED	0.818	0.003
		-	-
	college or more	0.862	0.062

# Who over- or underestimates benefits substantially?

Probability(deviation<-20%|deviation>20%)

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## More likely to be accurate:

- multiple pensions on current job

## Less likely to be accurate:

- large distance from expected claiming age
- uncertainty about timing of claiming
- lowest income quartile
- highest wealth quartile



# Conclusions so far

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- lack of knowledge less severe than previously found
- non-response systematically related to factors that make knowing the amounts more difficult like  
    uncertainty  
    larger distance from event
- still some groups who under or overestimate, but we can study these in much more targeted way in dynamic context

# Question of interest for policy makers

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**To what extent do the observed  
misperceptions lead to  
adverse outcomes in retirement?**

# Impact of misperceptions on Comparison of post- to pre-retirement years

Percent Deviation =  $(SS \text{ received at } t - \text{expected at } t-1) / \text{received at } t$   
Calculated at individual level

Retirement years compared to before	N	Mean Percent Deviation between t and t-1
1. better	939	- 3.0
3. about same	536	- 5.5
5. not as good	220	- 9.6
Total	1,695	- 4.7

# Reasons for retirement: poor health

Retirement reasons: poor health	N	Mean percent deviation betw t and t-1
1.very important	265	- 10.2
2.moderately important Or 3.somewhat import.	246	- 5.3
4.not important at all	1,262	- 4.5
Total	1,773	- 5.5

# Concerns about retirement: Having enough income to get by

Retirement concerns: not enough income to get by in retirement	N	Mean percent deviation betw. t& t-1
1. worry a lot	702	- 7.3
2. worry somewhat	611	- 4.7
3. worry a little	377	- 5.7
4. worry not at all	921	- 5.9
Total	2,611	- 6.0

# Recollections about change in total spending at retirement (from CAMS)

Categories:	Percentage change in spending at retirement		
Percent deviation			
SS bens t and t-1	N	mean	median
overest. by > 20%	115	-14.5	-10.0
overest. by <=20%	266	-10.7	0.0
underest. by <=20%	319	-10.3	0.0
underest. by >20%	94	-11.6	0.0

# Conclusions

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- Findings from panel data analysis show different results from prior (cross-section) studies:  
**lack of knowledge less severe**
- Important when using and interpreting these data to
  - control for distance from claiming.
  - take into account uncertainty.
- Substantial updating of expectations about timing of claiming
- About 20 percent of sample experience shocks and show larger deviations (leading to earlier or later than anticipated claiming)

## Conclusions (cont.)

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**Some indication that misperceptions about future Social Security benefits lead to worse outcomes in retirement;**

**- sizeable for some.**

**Next:**

**- study evolution of expectations to learn directly about information acquisition and retirement planning.**

**- relate to saving behavior**

**Longitudinal studies the only way to**

**- establish causality on ret. planning and fin. literacy;**

**- improve our understanding of ret. planning process.**