Measuring Pension Wealth

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Health and Retirement Study

- Frequently used for retirement studies
- Wealth, income, and demographic info
- Self-reported pension characteristics
Problems with Self-Reports

• Many Respondents unable to articulate key attributes

• Substantial Measurement Error
  – Plan type
  – Plan values (specially for DB plans)

• Measurement error correlated with plan values

• Missing values
Matched Administrative Data

• HRS also has matched administrative data
  – SSA covered-earnings records, 1951-91 (97)
  – Pension SPDs from employers
  – W-2 earnings records, 1980-91 (97)
    • Includes earnings above FICA cap
    • Includes pre-tax employee deferrals
Project Objective

- Make improved estimates of DC wealth
  - Exploit fully administrative data
  - Design new pension wealth calculator
  - Analyze HRS original and WB cohorts
    - Extend methods to EBB cohort
Acknowledgements

• Builds on a series of conceptual and empirical studies by CEK and Susann Rohwedder
• Graciously funded by DOL, NIA, NSF, SSA, TIAA-CREF
• HRS staff helped us immeasurably
Background on HRS PEP

- Uses SPDs and economic data
- Produces DB and DC wealth estimates
- Alternatives to self-reported pension wealth
Background on HRS PEP

Input Files for the *Pension Estimation Program*

- Participant Data
- Pension Plan Data
- Economic Parameters

Pension Estimation Program
Background on HRS PEP

• Modeling constraints
  – Time-invariant, common real rate of return
  – Time-invariant inflation rate
  – Time-invariant employee pre-tax deferral rate
  – Eligibility since date of hire
    • SPD only explains plan at a point in time
    • Continuous coverage
    • Current plan replaced plan of same value
DC/401(k) Calculator

• More flexibility in modeling DC wealth
  – Time-varying, individual rates of return
  – Time-varying inflation rates
  – Time-varying employee pre-tax deferral rates
  – Eligibility based on plan adoption dates
DC/401(k) Calculator

- Emphasis on use of administrative data
  - Covered earnings and W-2 earnings
  - Employee pre-tax deferrals from W-2s
- Written in a more transparent manner
- Coded in SAS and easier to modify
DC/401(k) Calculator

Input Files for the DC/401(k) Calculator

- Participant Data
- Pension Plan Data
- Wage Data
- Employee Pre-Tax Deferral Data
- Rate of Return and Inflation Data
Replicating PEP

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DC Plan Balance at Quit Date ($’000)
## Introducing Time Varying Rate of Return

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DC Plan Balance at Quit Date ($’000)
## Sensitivity of DC Wealth to Pre-tax Contribution Rate

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**Expected Present Value of DC Wealth in 1992 ($’000)**
## Sensitivity to Plan Eligibility Date

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Expected Present Value of DC Wealth in 1992 ($’000)
# HRS Original Cohort Vs. War Babies

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Expected Present Value of DC Wealth in Entry Year ($’000); Full Sample
### HRS Original Cohort Vs. War Babies Cohort

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Expected Present Value of DC Wealth in Entry Year ($’000); Subsample with Matched Earnings Records
Findings

1. Details of actual importance of various modeling assumptions laid out in paper

2. “Typical” DC wealth estimates from PEP
   A. Overstate 401(k) wealth by 40%
   B. Overstate total DC wealth by 20%
Findings

3. With administrative data, original cohort
   A. Mean 401(k) balance in 1992 was $15,205
   B. Median balance was $0
   C. Majority of eligible employees did not participate
   D. 44% of balance due to employer match
Findings

4. With administrative data, WB cohort
   A. Mean 401(k) balance in 1997 was $78,000
   B. Median balance was $31,000
   C. 24% of total balance due to employer match
   D. Growing importance of employee saving in 401(k)s for younger cohort
Concluding Remarks

• Most researchers want off-the-shelf pension wealth measure
• But quality of wealth measure depends heavily on
  – Modeling assumptions
  – Use of administrative data
• Requires careful thought in research design
• Extend to EBB cohort when data available