

How much do we save for retirement? An Empirical Evaluation of Benchmarks of Retirement Income Adequacy

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DO BENCHMARKS WORK?

Our Paper's Contribution

- first study to use both objective and subjective measures of economic wellbeing to determine whether replacement ratios and budget standards accurately classify retirees.
- first to develop a framework for evaluating both benchmarks together.
- first to use of HILDA to investigate this issue

DO BENCHMARKS WORK?

Central findings

- The 70% replacement ratio does **WORKS** - this benchmark is able to correctly classify individuals as having an adequate retirement income.
- The prescribed Budget Standards tend to misclassify individuals in terms of whether they are having an adequate retirement income or not.

LITERATURE REVIEW

- Retirement consumption puzzle: consumption drops at retirement
- Expenditure analysis - Browning & Crossley (2001), Aguiar & Hurst (2005), Hurst (2008), Barrett & Brozowski (2012)
- Subjective Well Being (SWB) approach - by Alan, Atalay, and Crossley (2008), Barrett and Brzozowski (2012), Barrett and Kecmanovic (2013) Heybroek, Haynes, and Baxter (2015).

REPLACEMENT RATIOS

- Replacement ratios represent a share of pre-retirement income that is needed to maintain living standards over retirement.
- No consensus on which income to use
- → 70% of final working year earnings (Mitchell & Moore 1998, Haveman, Holden, Romanov, and Wolfe (2007) .
- Pros: Simple, easy
- Cons: Final year earnings can be volatile, unreliable

BUDGET STANDARDS

- Budget standards represent the income needed to afford a pre-determined bundle of goods and services, to meet a socially defined standard of living.
- For example, the ASFA Retirement Standard.
- Pros: Easy to use
- Cons: appears Ad-Hoc, can be misleading

BUDGET STANDARDS

**Budgets for various households and living standards for those aged around 65
(September quarter 2017, national)**

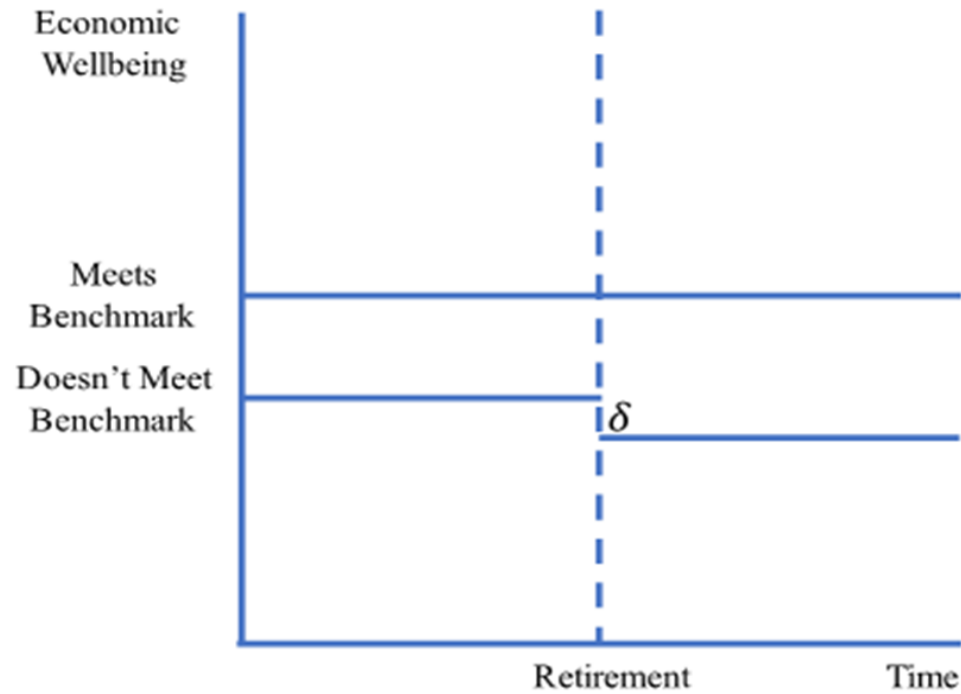
	Modest lifestyle		Comfortable lifestyle	
	Single	Couple	Single	Couple
Total per year	\$24,506	\$35,189	\$44,011	\$60,457

**Budgets for various households and living standards for those aged around 85
(September quarter 2017, national)**

	Modest lifestyle		Comfortable lifestyle	
	Single	Couple	Single	Couple
Total per year	\$24,097	\$35,622	\$39,702	\$55,696

CONCEPTUAL FRAMEWORK

Figure 1: Changes to Economic Wellbeing at Retirement



EMPIRICAL MODEL

$$y_{it} = \alpha_i + \beta R_{it} + \gamma B_i + \delta(R_{it} \cdot B_i) + \varphi \mathbf{X}_{it} + \eta \mathbf{W}_t + \varepsilon_{it}$$

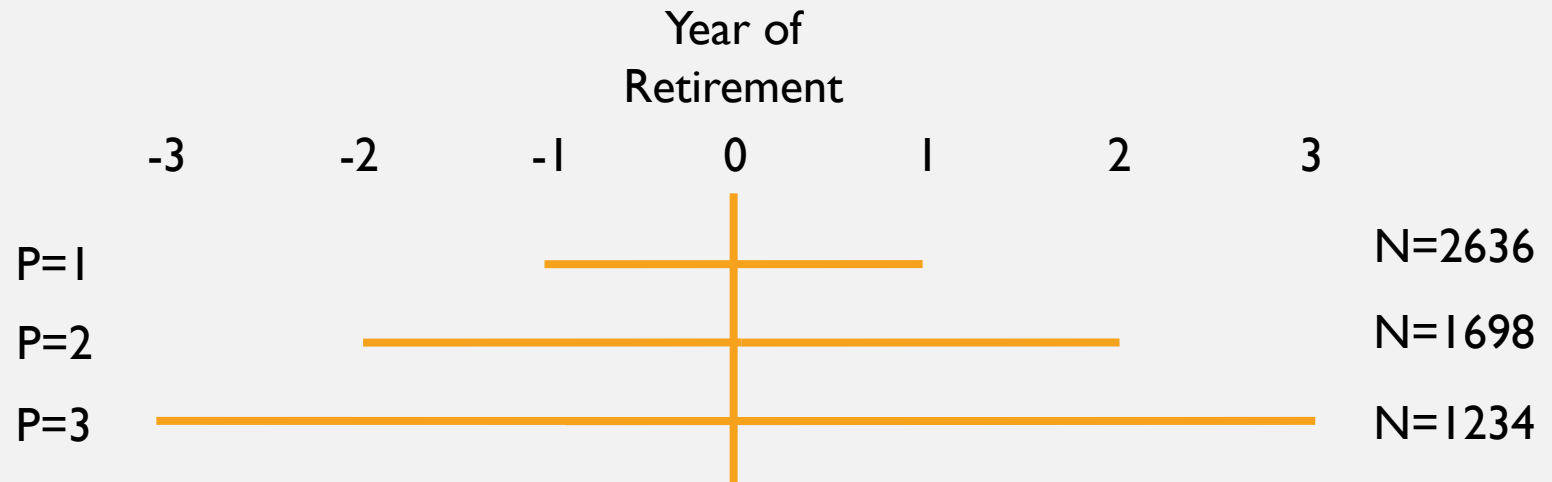
y_{it} is the outcome variable for individual i at time t

\mathbf{X}_{it} is a vector of control variables

\mathbf{W}_t is a vector of wave dummies

ε_{it} is the error term

SAMPLE CONSTRUCTION: HILDA DATA

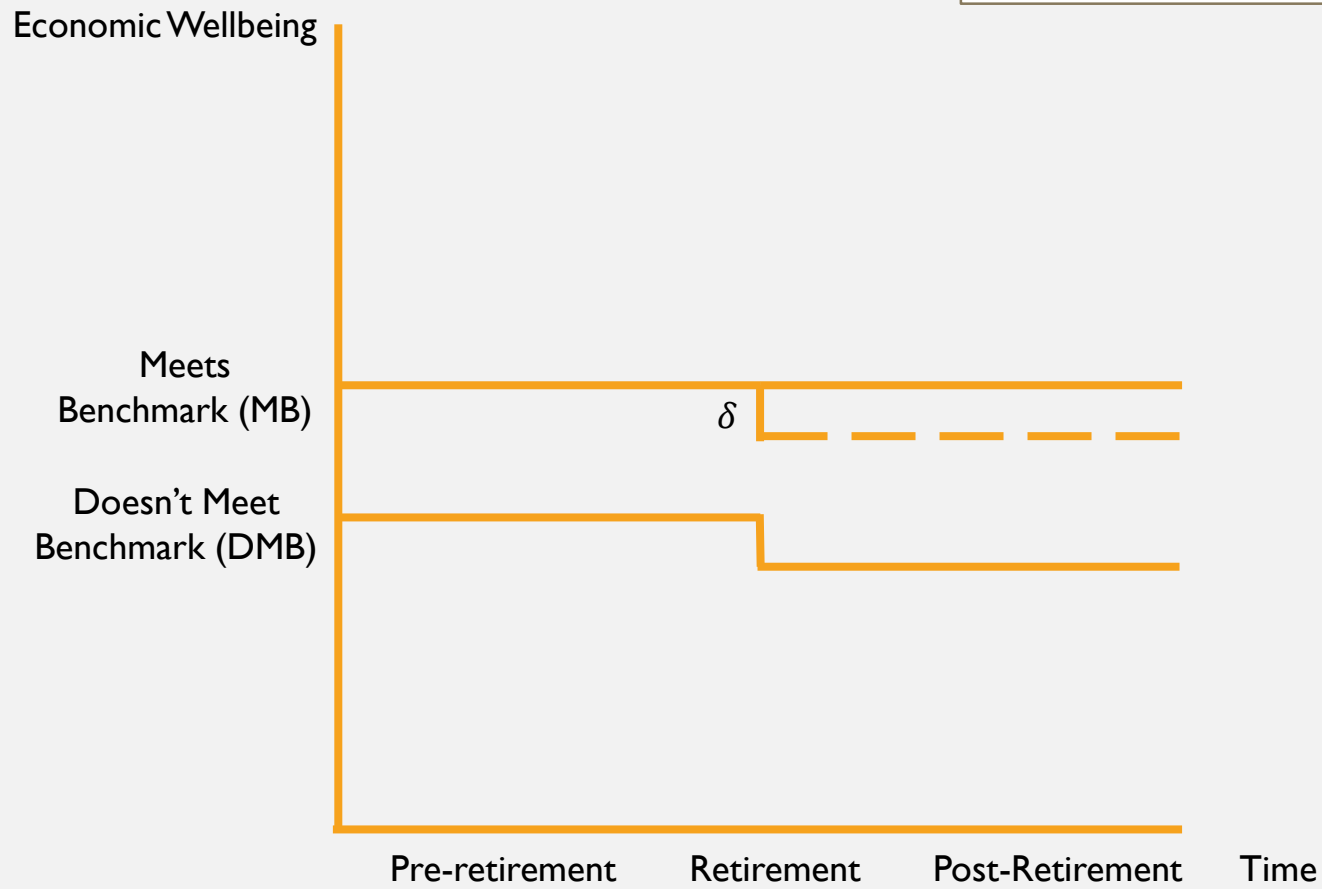


BENCHMARK DUMMIES

BUDGET STANDARD = 1 IF INCOME > ASFA MODEST RETIREMENT STANDARD

REPLACEMENT RATIO = 1 IF POST-RETIREMENT INCOME > 0.7*PRE-RETIREMENT INCOME

Expected Results



Variable	Retired = 0	Retired = 1
Age	59.4407	60.4407
Female	0.5494	0.5494
Health Status	2.8912	2.8851
Partnered	0.7580	0.7535
Higher Education	0.4727	0.4758
Family Size	2.5095	2.4158
Home Owner	0.8120	0.8124
Income	48872.31	46612.15
Region		
[1] Major Urban	0.6327	0.6131
[2] Other Urban	0.2066	0.2178
[3] Bounded Locality	0.0327	0.0315
[4] Rural Balance	0.1280	0.1376
Observations	1234	1234

REPLACEMENT RATIO

Variable	Expenditure	Financial Satisfaction
Retired	-0.074***	-0.201*
RR*Retired	0.022	0.361**
Observations	2468	2468
R-Squared	0.117	0.056

BUDGET STANDARD

Variable	Expenditure	Financial Satisfaction
Retired	-0.131***	-0.100
BS*Retired	0.084*	0.139
Observations	2468	2468
R-Squared	0.124	0.043

ONE-PERIOD SAMPLE

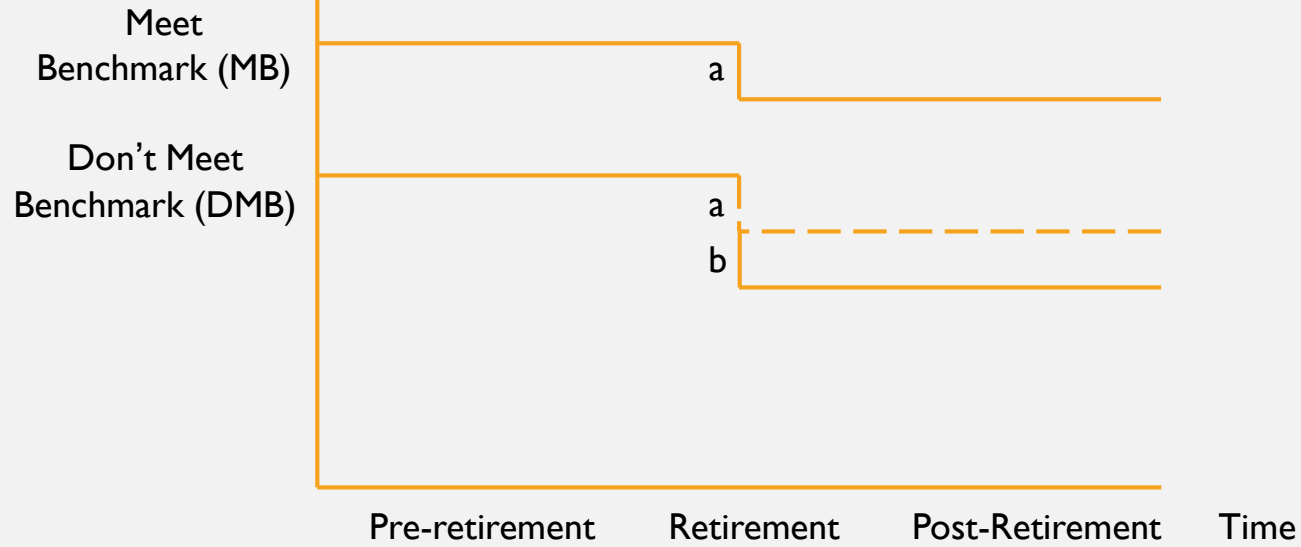
Variable	Expenditure	Expenditure	SWB	SWB
Retired	-0.056*	-0.032	-0.077	0.130
RR*Retired	0.021		0.083	
BS*Retired		-0.009		-0.177
Observations	5272	5272	5272	5272
R-Squared	0.061	0.061	0.026	0.27

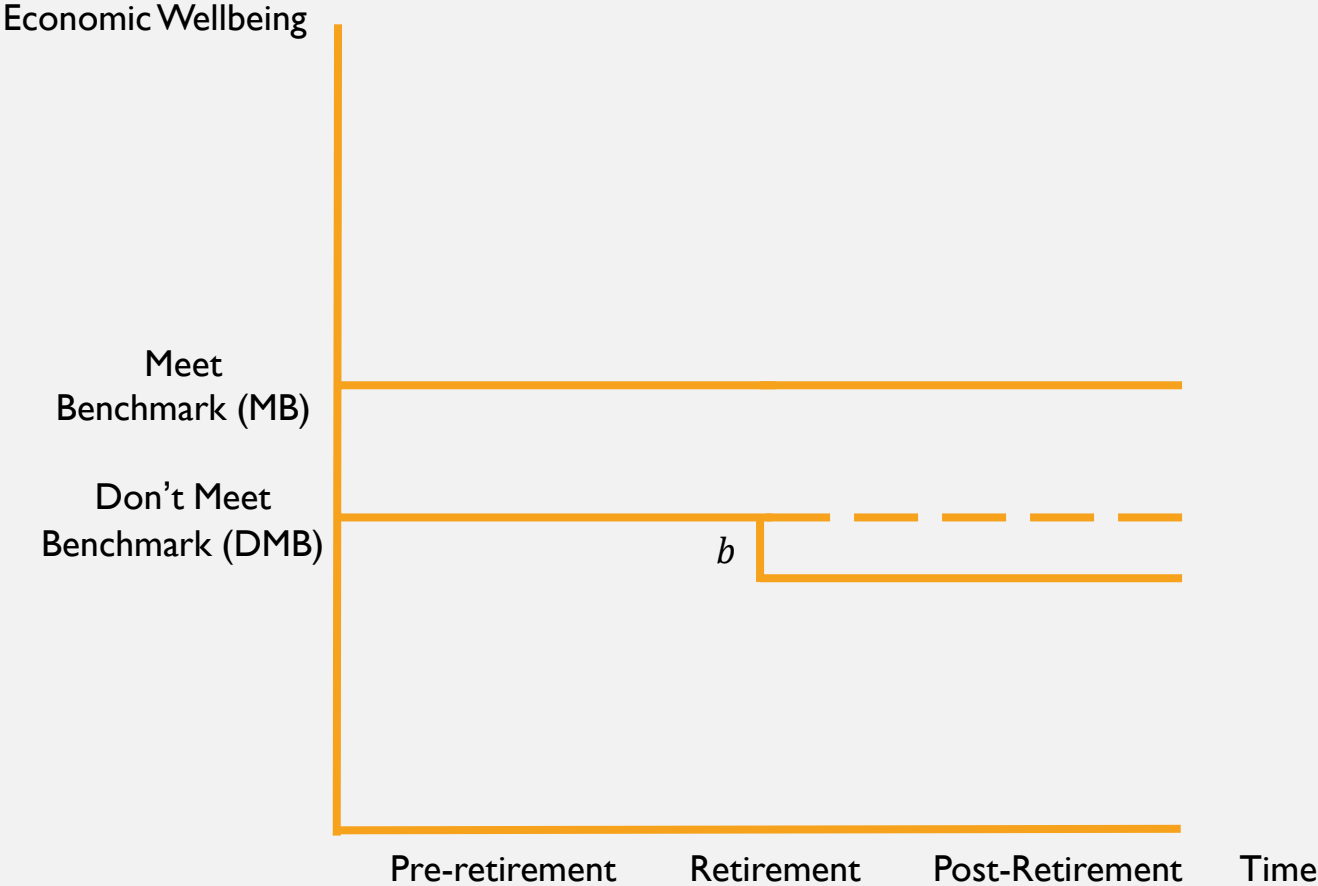
TWO-PERIOD SAMPLE

Variable	Expenditure	Expenditure	SWB	SWB
Retired	-0.065***	-0.082**	-0.166*	0.057
RR*Retired	0.017		0.244*	
BS*Retired		0.034		-0.075
Observations	3396	3396	3396	3396
R-Squared	0.093	0.094	0.041	0.36

Living Standards

MB	MB
	DMB
DMB	MB
	DMB





Perfect Classification		Meets Benchmark	
		Yes	No
Living Standards and SWB Do Not Fall	Yes	100%	0%
	No	0%	100%

Q&A

