The Health of Disability Insurance Enrollees: An International Comparison

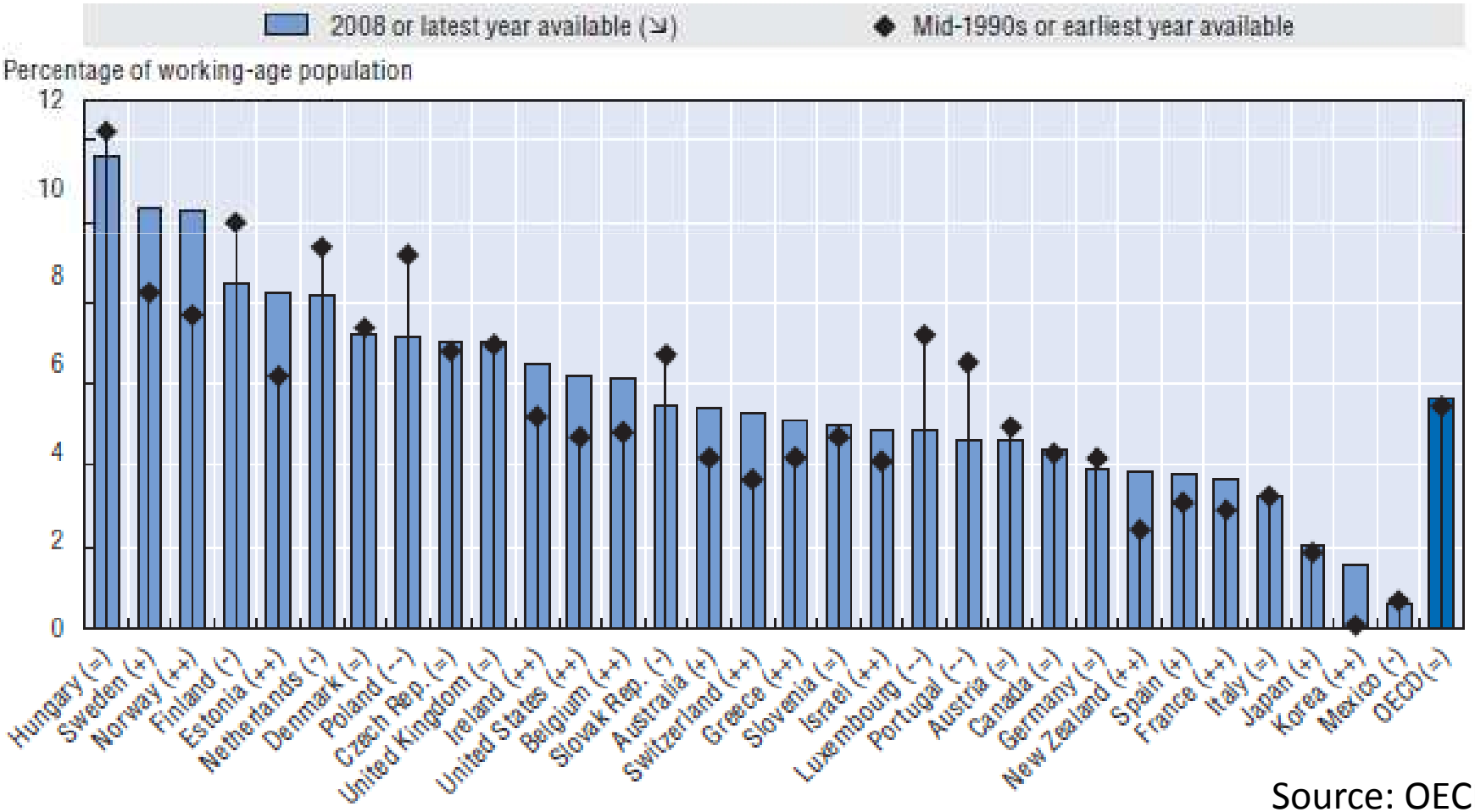
Enrica Croda
Ca' Foscari University of Venice

Jonathan Skinner
Dartmouth College and NBER

Laura Yasaitis
University of Pennsylvania

Wide Differences across Countries in DI *enrollment*…

Disability benefit recipients in percentage of the population aged 20-64 in 28 OECD countries and three accession countries,[a] mid-1990s[b] and latest year available[c, d]



Source: OECD

Enrollment Rates Tell Us Little about the Effectiveness of the DI Program

- About *who* receives DI benefits
  - are they truly in poor health?

- About whether the DI program is providing an effective safety net for people least able to work

- About who is affected by changes in DI policy over time (e.g. Koning and Lindeboom, 2015, Autor and Duggan, 2006)

One approach: Qualitative indexes by country

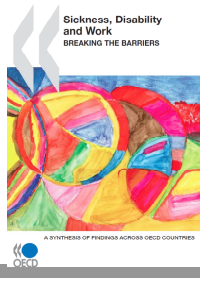


Table 3.A2.1. **OECD disability policy typology: country scores around 2007**

Panel A. Compensation policy dimension (values from 0-5 for each sub-component and 0-50 for the total)

	1	2	3	4	5	6	7	8	9	10	Sum
	Benefit system coverage	Minimum disability benefit	Level for full disability	Disability benefit generosity	Disability benefit permanence	Medical assessment rules	Vocational assessment rules	Sickness benefit generosity	Sickness benefit duration	Sickness benefit monitoring	
Australia	4	1	2	1	2	3	1	1	1	5	21
Austria	2	3	4	2	1	1	4	3	2	2	24
Belgium	3	2	3	1	4	2	4	2	2	2	25

Table 3.A2.1. **OECD disability policy typology: country scores around 2007** *(cont.)*

Panel B. Integration policy dimension (values from 0-5 for each sub-component and 0-50 for the total)

	1	2	3	4	5	6	7	8	9	10	Sum
	Access to employment programmes	Agency responsibility structure	Degree of employer responsibility	Supported employment programme	Subsidised employment programme	Sheltered employment programme	Vocational rehabilitation programme	Vocational rehabilitation timing	Benefit suspension rules	Work incentives rules	
Australia	4	5	3	1	2	3	1	3	5	1	28
Austria	2	3	3	4	4	2	5	4	0	3	30
Belgium	3	3	3	1	5	2	2	3	2	0	24

Qualitative Measures of DI Programs

- Are based on regulations (de jure) and may not reflect how the DI program is actually run (de facto)
- Ordinal measures are summed - not clear each aspect of the program should be weighted equally
- Capture current laws, rather than the cumulative impact of past laws on current DI recipients

This Paper

- Develops quantitative measures that capture effectiveness of disability insurance (DI) programs in *targeting* those in poor health

- Our approach:

  Measure the average (relative) health of DI recipients across countries

This Paper, cont.

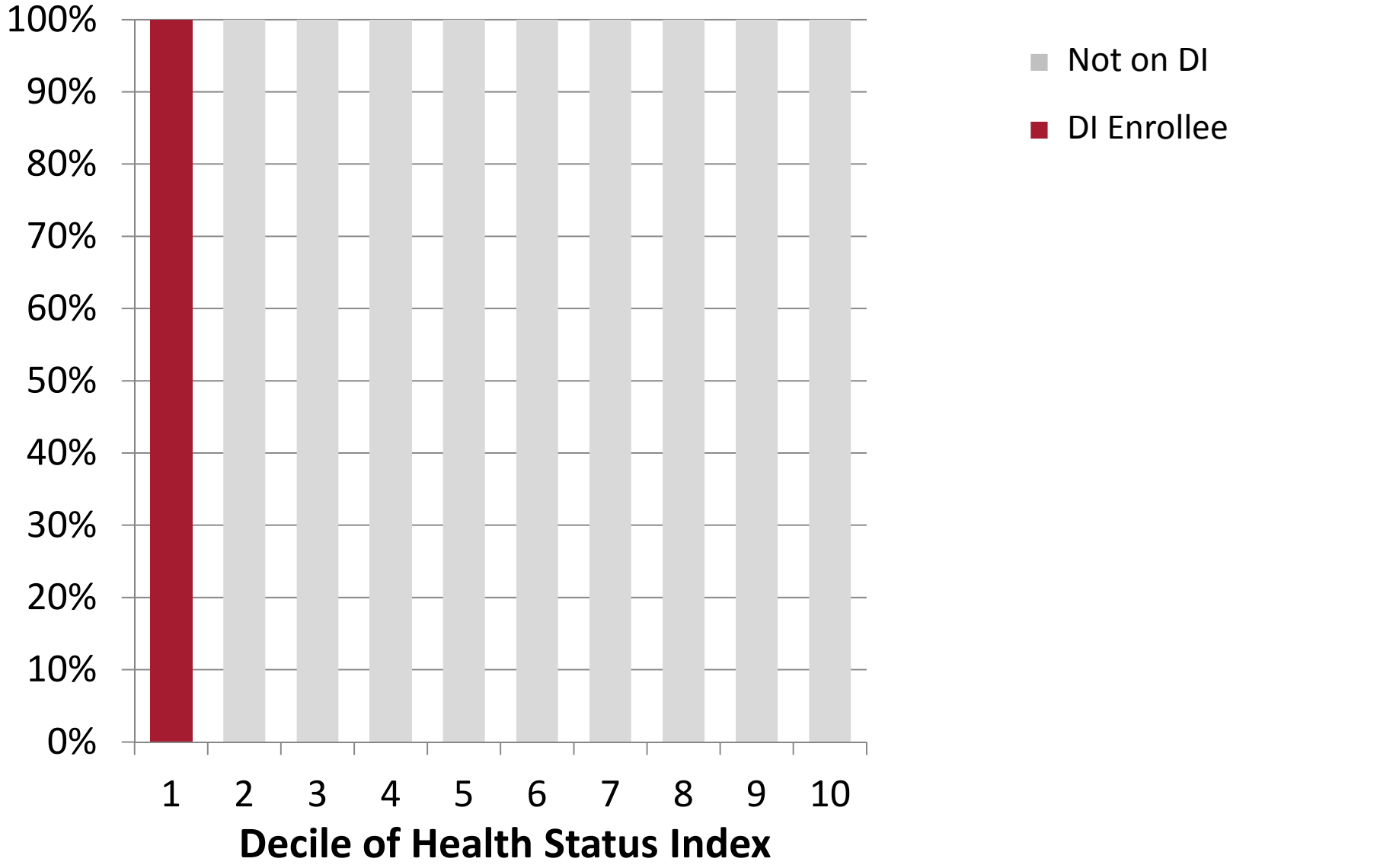
Uses SHARE and HRS to estimate two measures for each of 10 European countries and the US:

1. The average (percentile) health of DI recipients
2. The percentage of people in the bottom decile of health who receives benefits from DI (or any other program)

We argue these measures are useful to compare (similar sized) DI programs across countries, and within countries, changes in DI policies over time

Example: Perfect Targeting of DI Benefits to Least Healthy

10% DI Enrollment Rate



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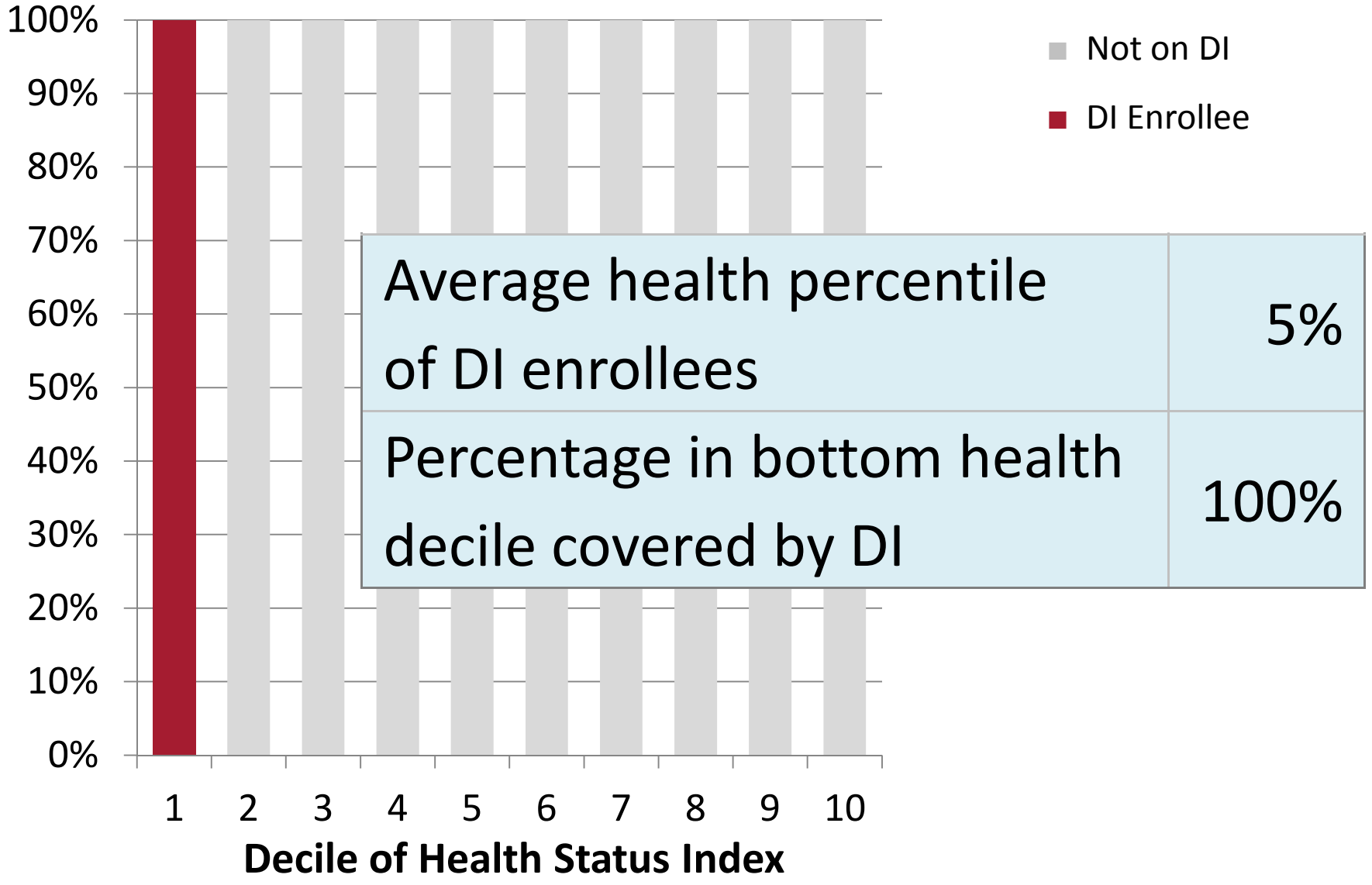
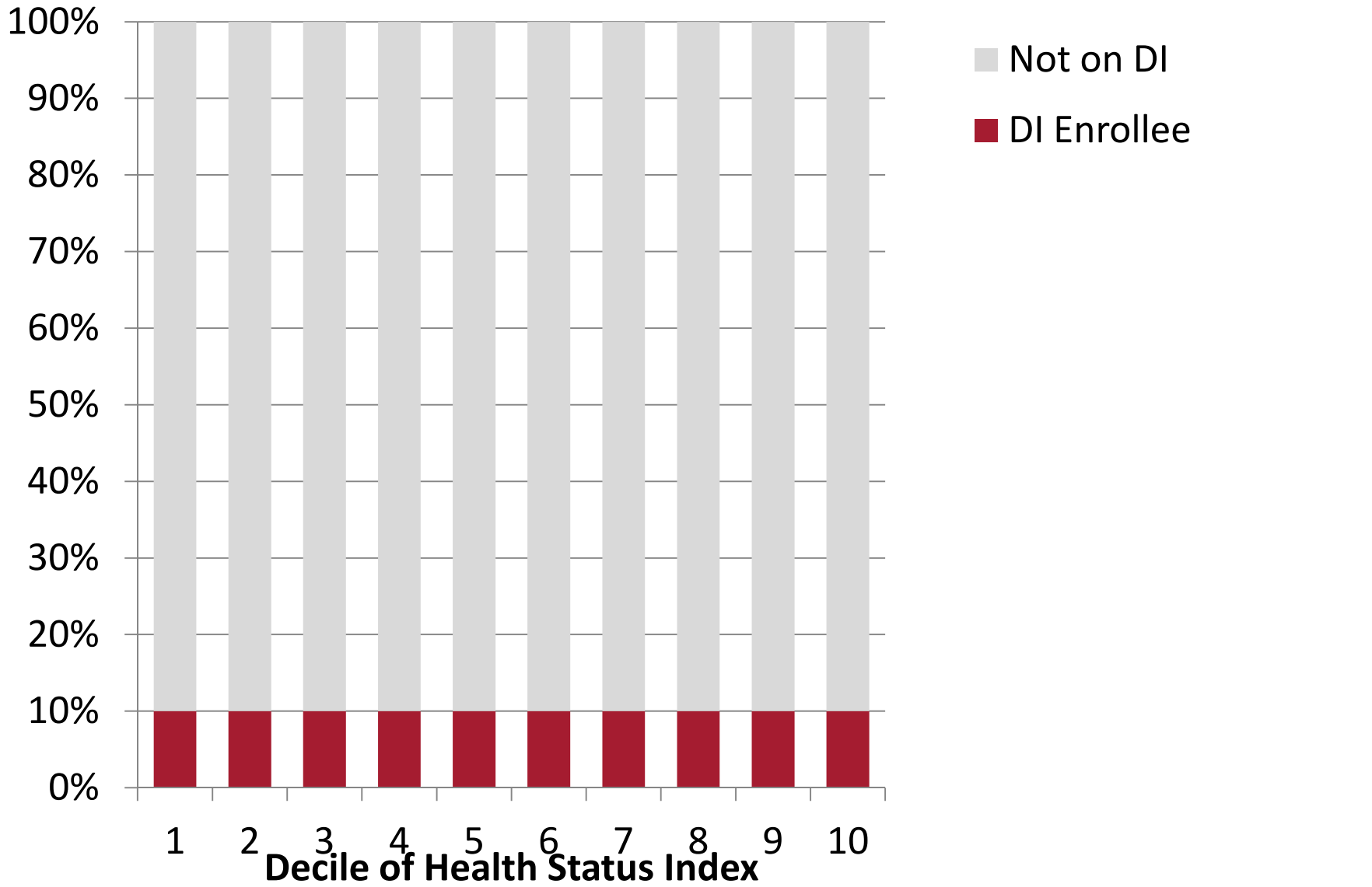


Average health percentile of DI enrollees	5%
Percentage in bottom health decile covered by DI	100%

A Random DI Program: Benefits Distributed Equally Across Health Status

10% DI Enrollment rate



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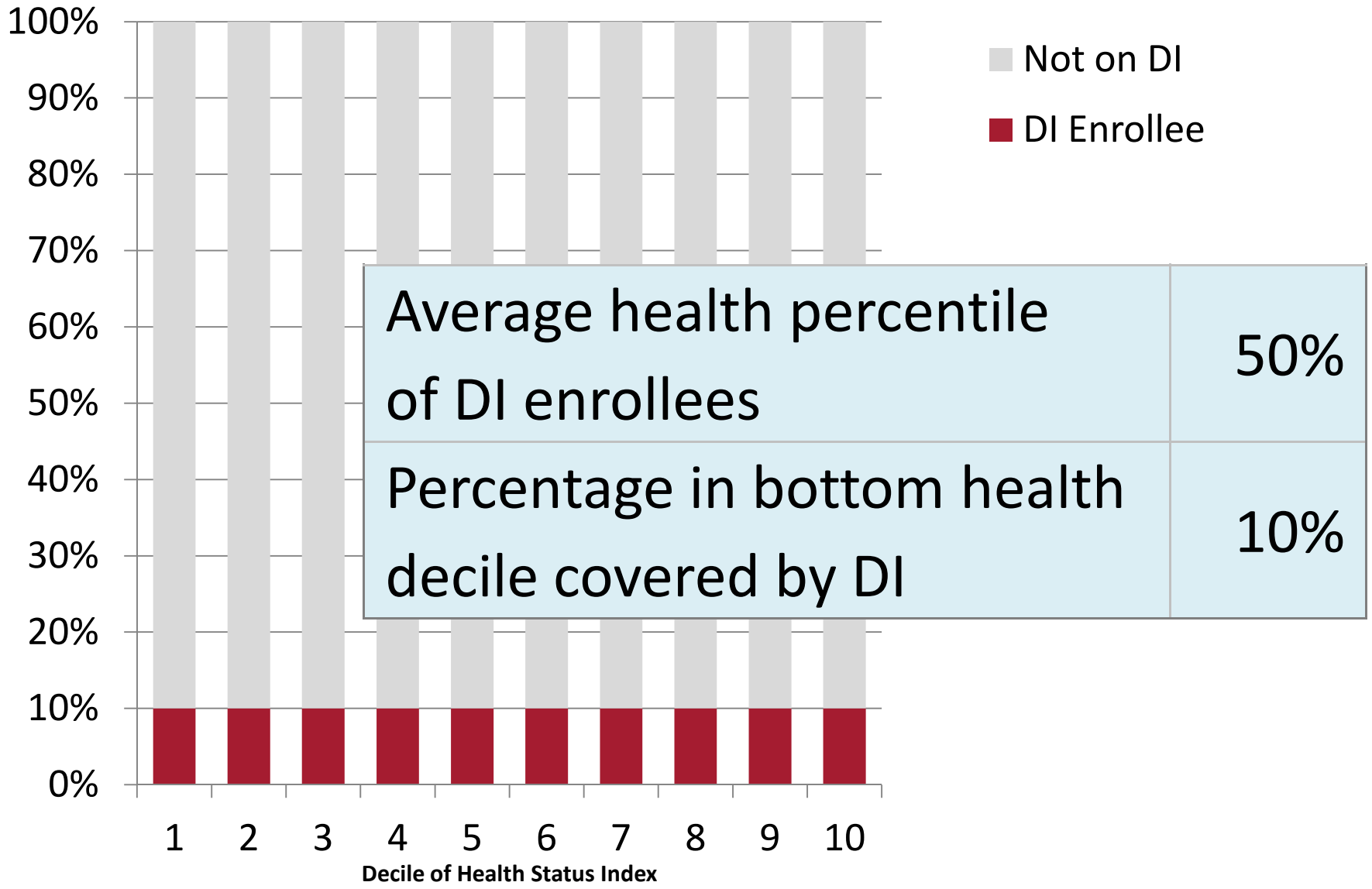
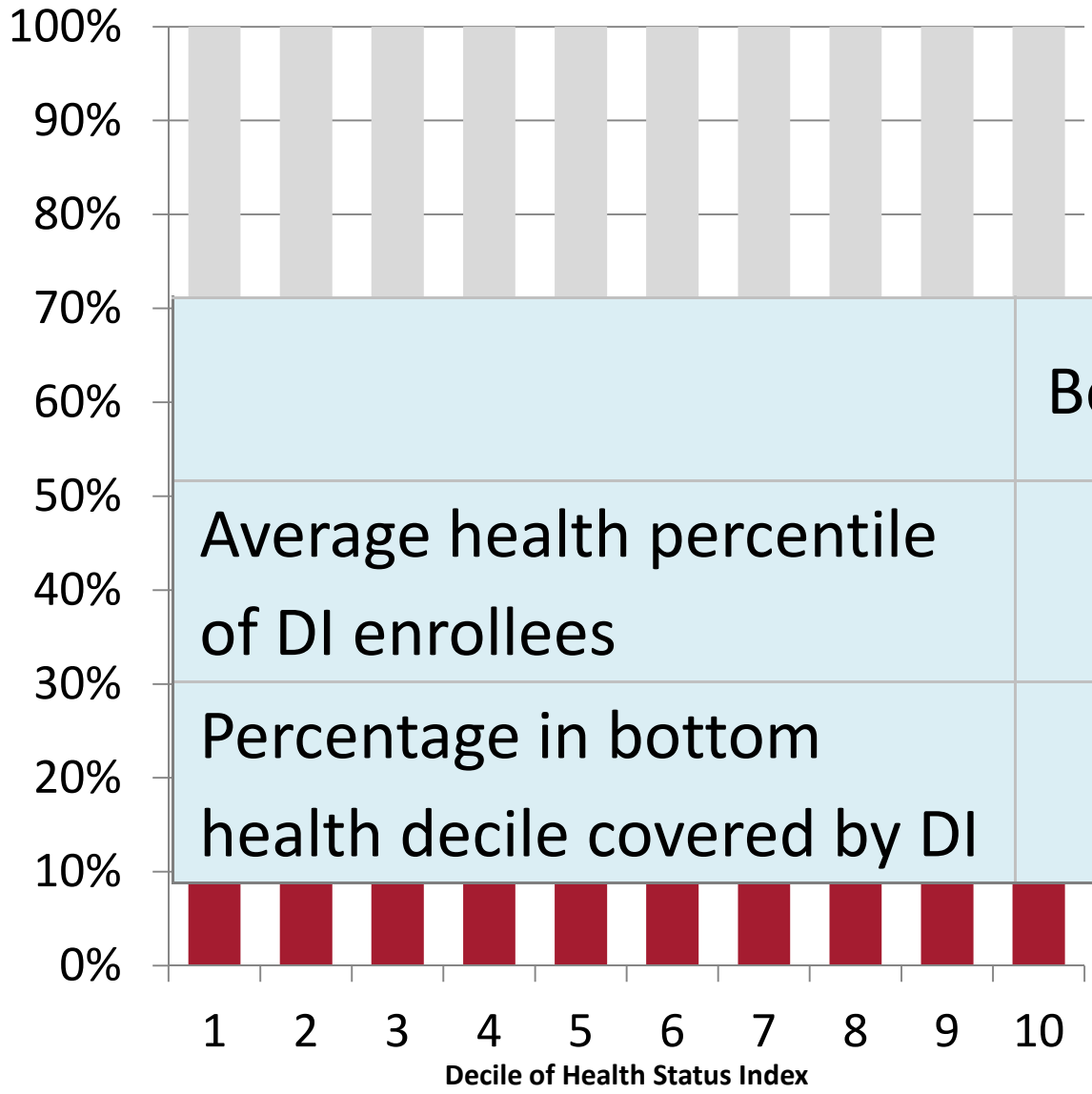


Average health percentile of DI enrollees	50%
Percentage in bottom health decile covered by DI	10%

Actual DI Programs are Somewhere Between These Two Extremes



	Benchmark	Random
Average health percentile of DI enrollees	5%	50%
Percentage in bottom health decile covered by DI	100%	10%

The Data

- For Europe:
  SHARE 2004, 2006, 2010, 2012 (2013) waves
  10 original countries:
  Sweden, Denmark, Germany, the Netherlands, Belgium, France, Switzerland, Austria, Spain, and Italy
- For the US:
  HRS 2004, 2006, 2010, 2012 waves
- Sample:
  Respondents aged 50 through 64 in each wave
  63,929 person-years in SHARE + 32,555 in HRS

Four Health Indexes

1. Poterba, Venti, Wise (2013) health index

   BMI, hospital/nursing home stays, MD visits, any ADL limitation, mobility and physical function (9 questions), previous diagnoses or health problems (9 questions)

   ➔ PVW

2. An index of functionality (Mont and Loeb, 2008)

   ADL questions (eating, dressing, bathing, etc.), mobility and physical function (9 questions), context (using map, phone, managing money, shopping for groceries), health problems limit work

   ➔ ML

Four Health Indexes, cont.

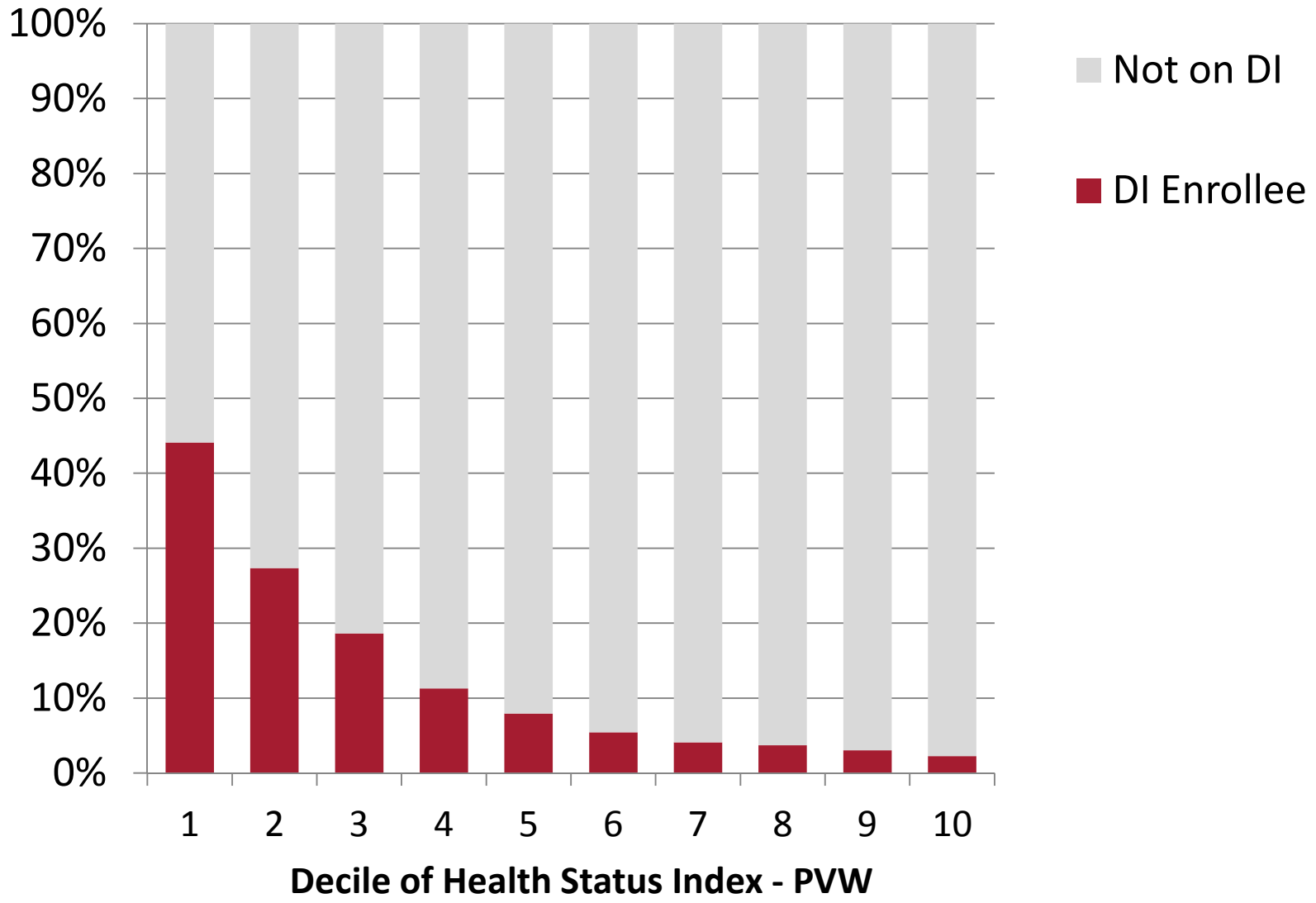
3. Mental Health/Depression Index
   CES-D items in HRS, EURO-D items in SHARE
   ➔ MHD

4. Minimum of PVW, ML, and MHD, rescaled

PVW, ML, MHD indexes each estimated performing separate principal component analysis by country (Poterba, Venti and Wise, 2011, 2013)

Real-world: The Netherlands

13% Enrollment rate for ages 50-64



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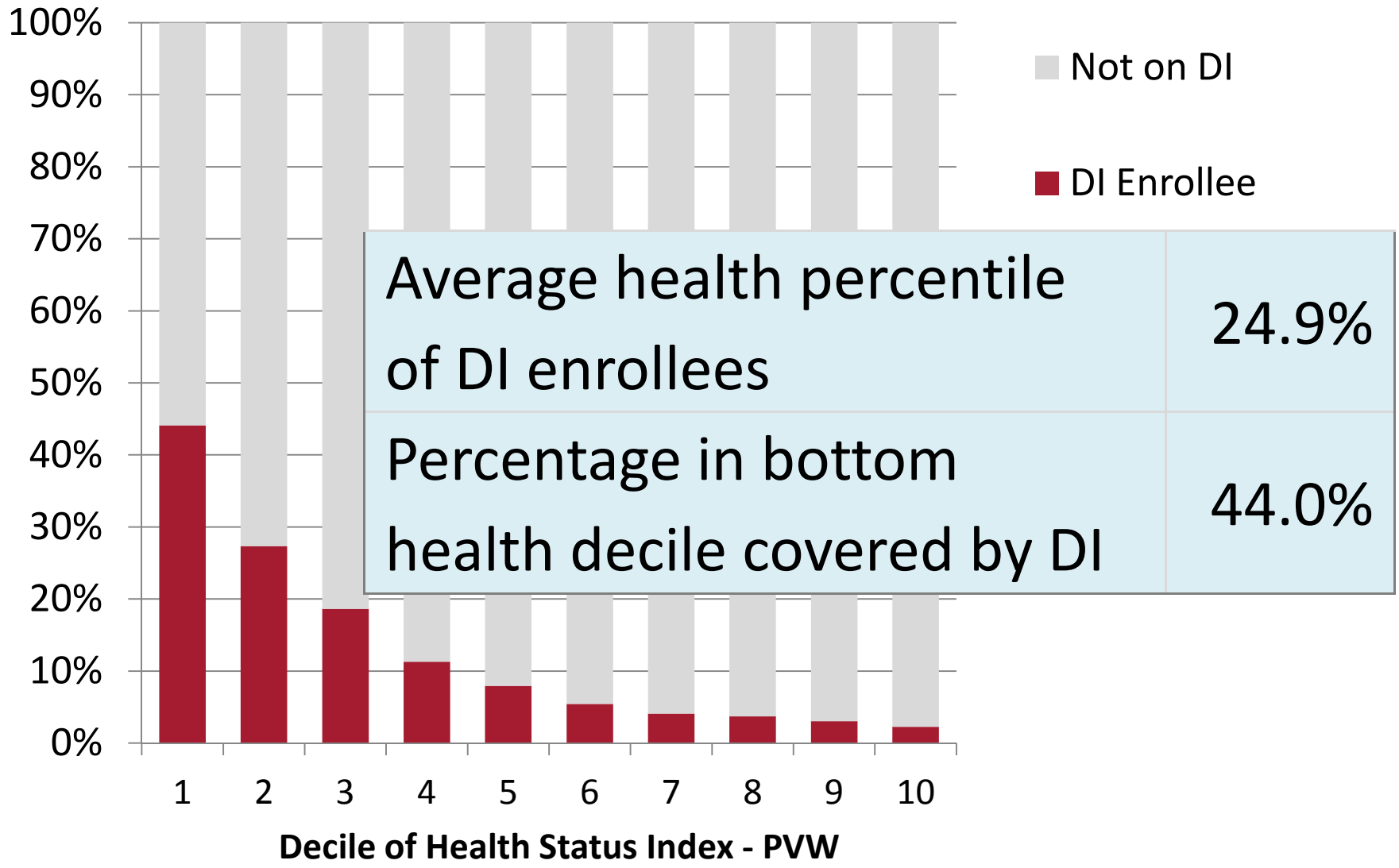
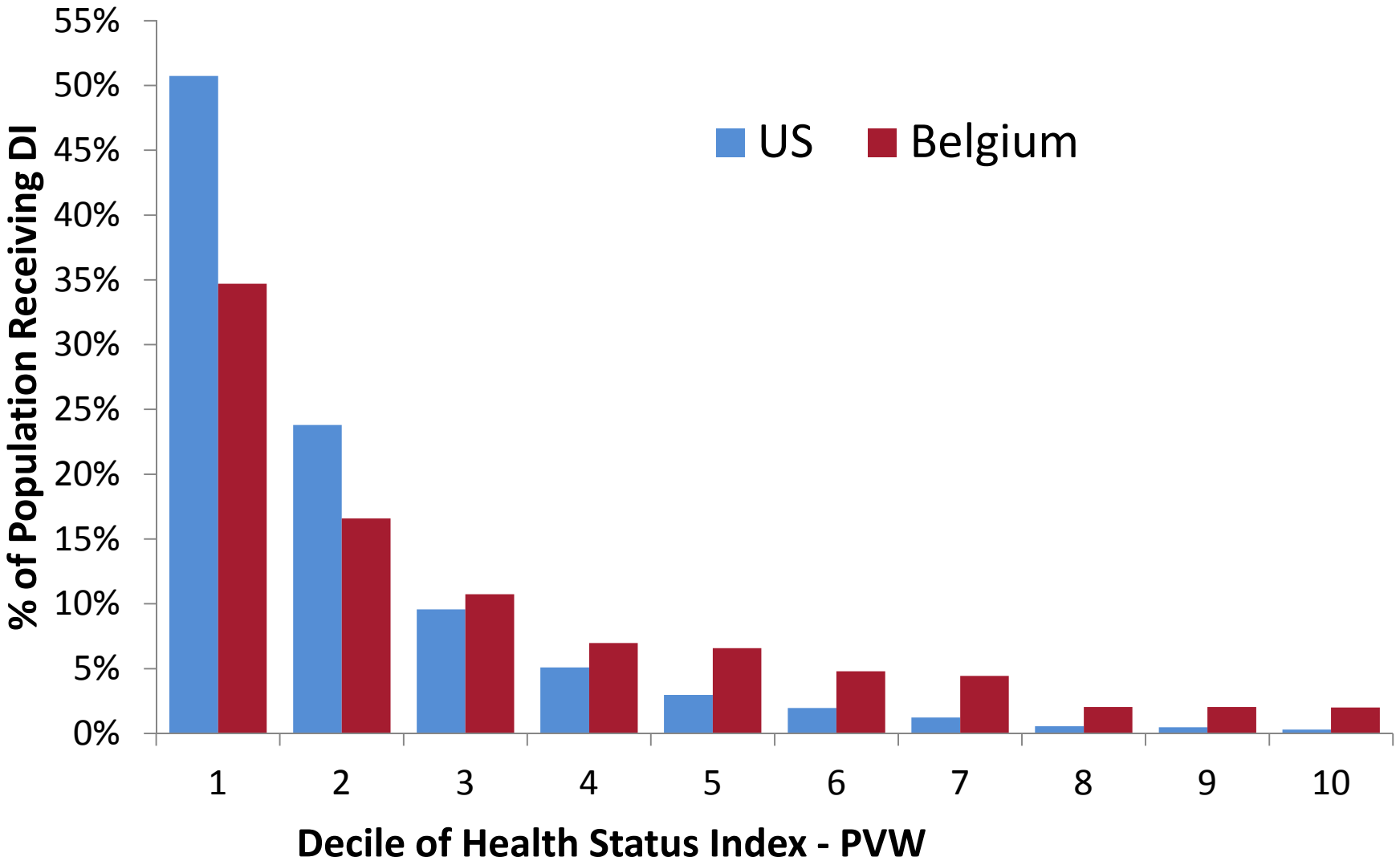


Average health percentile of DI enrollees	24.9%
Percentage in bottom health decile covered by DI	44.0%

Cross-Country Comparisons Using PVW Index

	Percentage on DI	Average PVW Health Percentile of DI Enrollees	Percentage on DI of those in bottom PVW decile
Sweden	15.7	22.5	62.5
Denmark	13.2	22.0	52.1
Germany	7.0	25.6	22.0
Netherlands	13.0	24.9	44.0
Belgium	9.2	25.0	34.7
France	2.8	26.5	11.9
Switzerland	6.0	17.1	34.0
Austria	7.0	26.3	25.0
Spain	8.0	24.7	29.0
Italy	4.6	20.4	20.4
US	9.7	15.0	50.7

Belgium vs the U.S.



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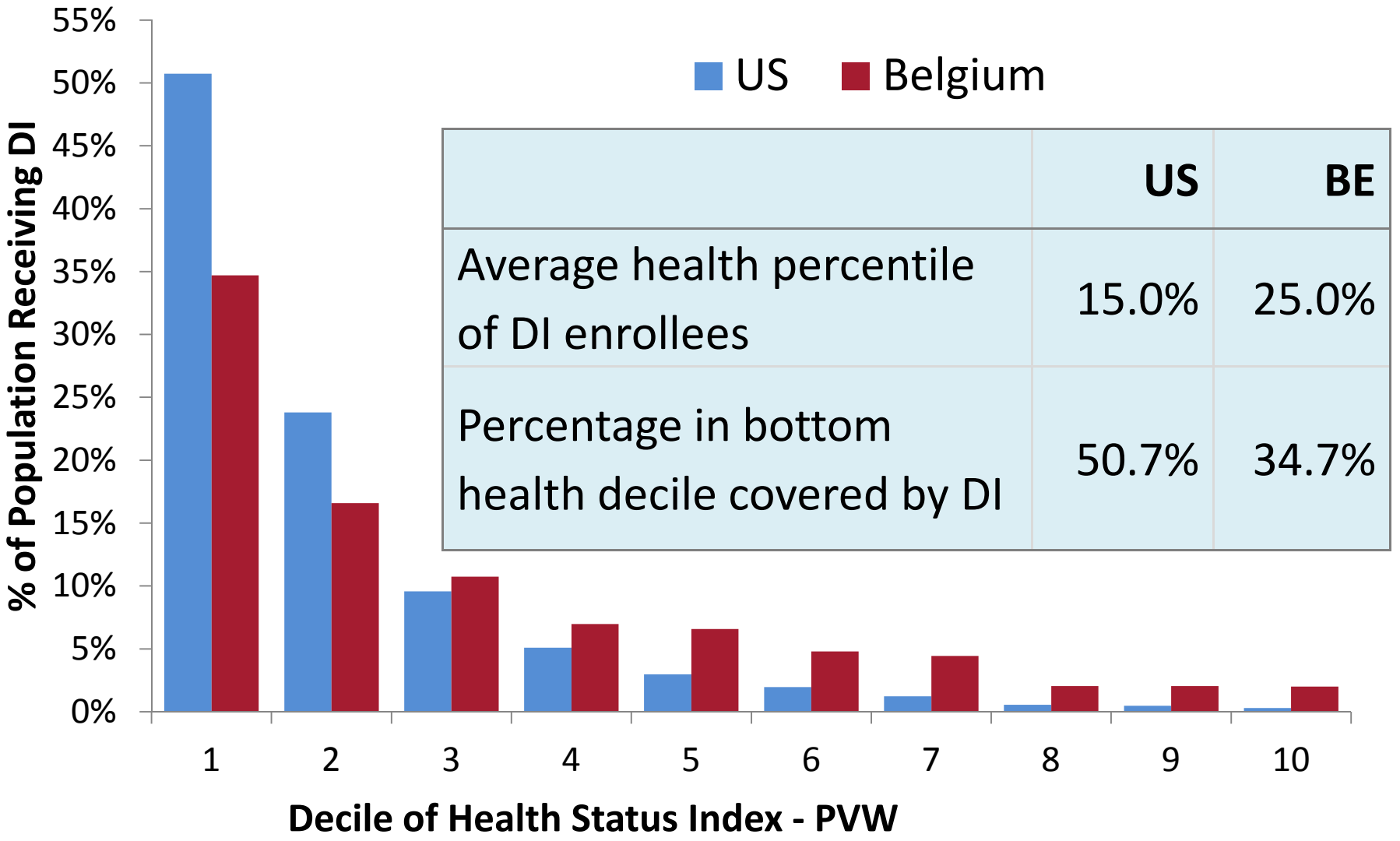
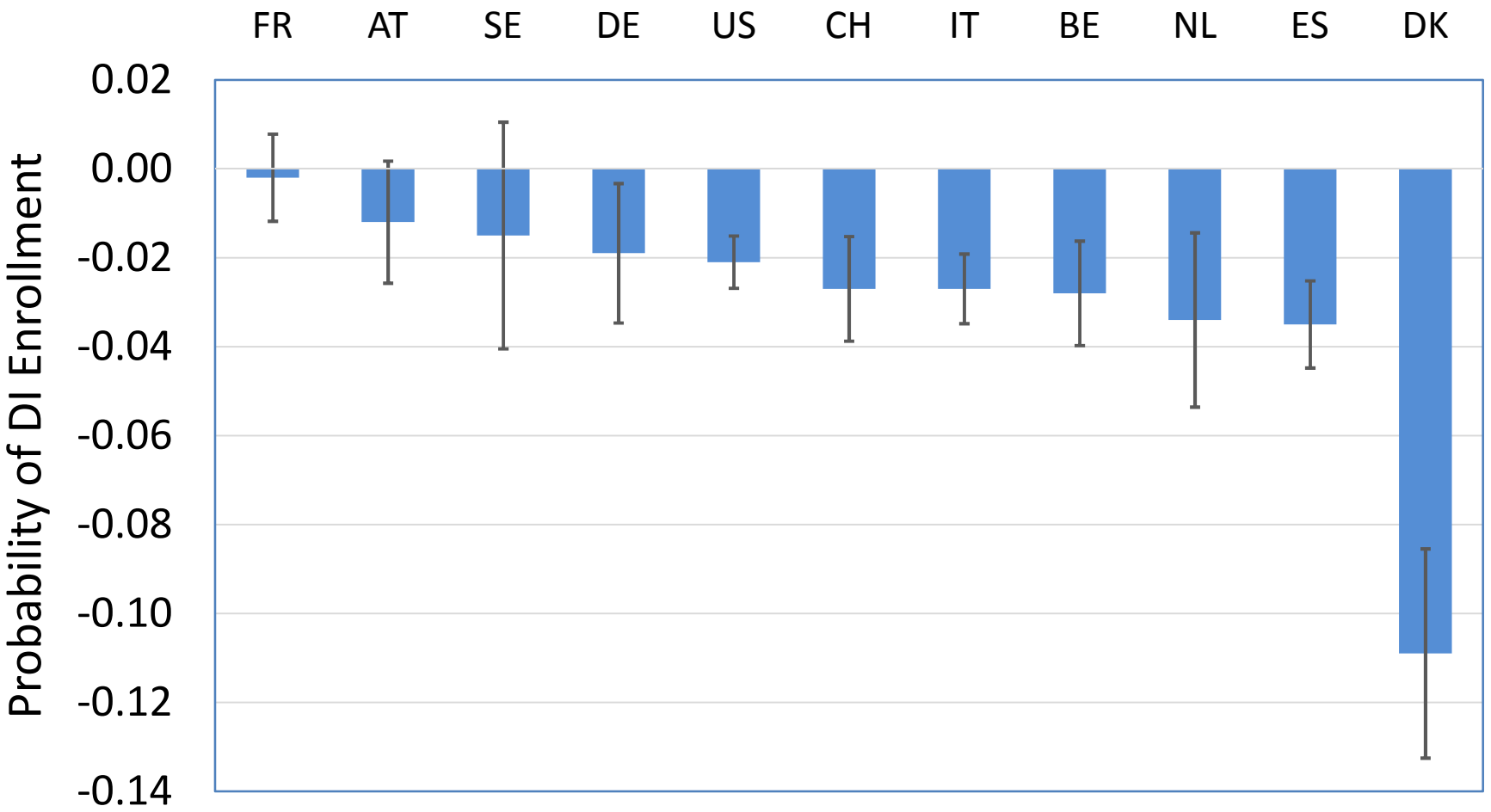


	US	BE
Average health percentile of DI enrollees	15.0%	25.0%
Percentage in bottom health decile covered by DI	50.7%	34.7%

A Model that Allows for DI to be Used in Insuring Against Labor Market Risk

- Perhaps DI programs are designed to insure as well against labor market risk
- To test this model, we estimate Probit regressions for the probability of DI enrollment as a function of a health index (PVW) and secondary or tertiary+ education to proxy for labor market opportunities
  - Control for age, sex, marital status, retirement status, …
- *Hypothesis: More effective DI programs should account for labor market opportunities*

Marginal Effects of Tertiary+ Education on DI



Each estimate obtained from a separate Probit regression holding PVW health index constant. All regressions include controls for age, sex, marital status, retirement status and interview year. 95% CI shown.

Consistent with OECD study…

[In Denmark] … a disability benefit is only granted where capacity is held to be permanently reduced to the extent that a flex-job cannot be performed…. In this respect, Denmark is a best-practice example within the OECD.*

* OECD, 2009. "Sickness, Disability and Work: Keeping On Track in The Economic Downturn", Stockholm, 14-15 May 2009

Conclusions

- New approach to assess the extent to which DI programs target those in poorest health, whether across countries, or over time within a country.

- We measure:
  - Average (percentile) health of DI enrollees
  - Fraction of people in the bottom health decile receiving DI benefits (or some other kind of benefit)
  - Whether the DI program insures against adverse labor market opportunities

Conclusions, cont.

- Across countries:
  - US and Denmark do well in targeting those in poorest health or (for Denmark) poor labor market opportunities
  - France and Belgium less so

Limitations

- DI program may be designed to insure against adverse labor market conditions as well as poor health
  - Only in Denmark did tertiary+ education adversely affect likelihood of DI enrollment (conditional on health)
- Health is not the same as disability
  - True, but our results were broadly similar for all of the different health and disability measures used in the analysis

Limitations, cont.

- Countries use alternative approaches to insure against poor health:
  - Results hold up even when other types of public assistance and pensions are included

- All measures of health are ordinal and apply only to the specific country - perhaps some countries are sicker than others

Final Thought

- Targeting measures may be most useful in analyzing the impact of DI reform over time
  - E.g. successful DI reform in the Netherlands scaled back size of program
    - From 2004 to 2012, the fraction of Dutch in the bottom PVW health decile covered by DI insurance declines from 52% to 42%

      (see also Koning and Lindeboom, 2015)

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Enrica Croda
enrica.croda@unive.it

Jonathan Skinner
jon.skinner@dartmouth.edu

Laura Yasaitis
yasaitis@wharthon.upenn.edu

Research supported by the SSA Disability Research Consortium