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# Work Disability, Health, and Incentive Effects

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## Background and significance

- ▶ **Disability insurance** – the insurance against the loss of the ability to work – is a substantial part of social security expenditures in most countries.
- ▶ Typically for any social security system, DI faces **trade-off**:
  - **Essential part of social safety net**:  
prevent income losses if no ability to work
  - **Early retirement route**:  
even if ability to work not affected
- ▶ **Enrolment rates** in DI vary strikingly across countries
- ▶ Paper investigates the extent of, and the **causes** for, this cross-national variation: **1. Demographics, 2. Health, 3. Incentives** in order to better understand the above trade-off
- ▶ Uses data merged from **SHARE 2004, ELSA 2002** and **HRS 2004**

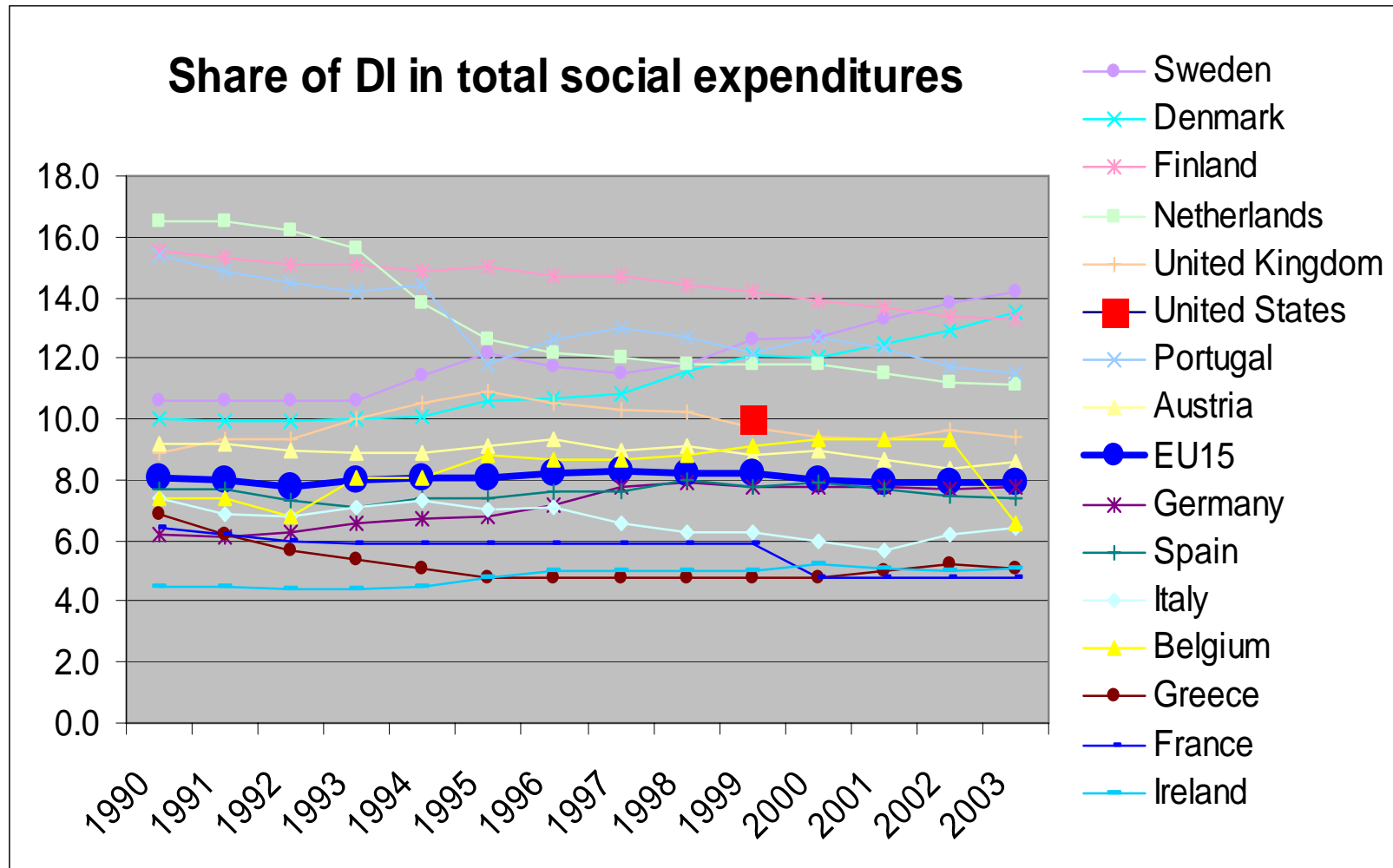


## Country definition of disability insurance

**Table 2: Disability insurance schemes considered**

Austria (AT)	Staatliche Invaliditätspension
Belgium (BE)	Assurance invalidité légale/Wettelijke uitkering wegens arbeidsongeval of beroepsziekte; Pension de maladie, d'invalidité, maladie professionnelle/Wettelijke uitkering wegens ziekte of invaliditeit of tegemoetkoming aan personen met een handicap
Switzerland (CH)	Invalidenrente aus IV, assurance invalidité légale (AI) and Rendita invalidità (AI)
Germany (DE)	Erwerbsminderungsrente and Beamtenpension wegen Dienstunfähigkeit
Denmark (DK)	Offentlig sygedagpenge and offentlig førtidspension
Spain (ES)	Pensión pública contributiva y no contributiva de invalidez/incapacidad
France (FR)	Prestation publique d'invalidité (AAH, APA)
Greece (GR)	Σύνταξη αναπηρίας
Italy (IT)	Assicurazione pubblica di disabilità (anche assegno di accompagnamento)" and pensione pubblica di invalidità o di inabilità
Netherlands (NL)	WAO, Waz of invaliditeitspensioen and Algemene bijstandswet (Abw), IOAW/IOAZ, aanvullende bijstandsuitkering, Toeslagenwet (TW)
Sweden (SE)	Förtidspension (sjukersättning), yrkesskadepension, and sjukbidrag
England (UK)	Incapacity benefits (previously invalidity benefits)
United States (US)	SSDI and SSI disability pension

Figure 1: Share of disability insurance expenditures in total expenditures (percentages)

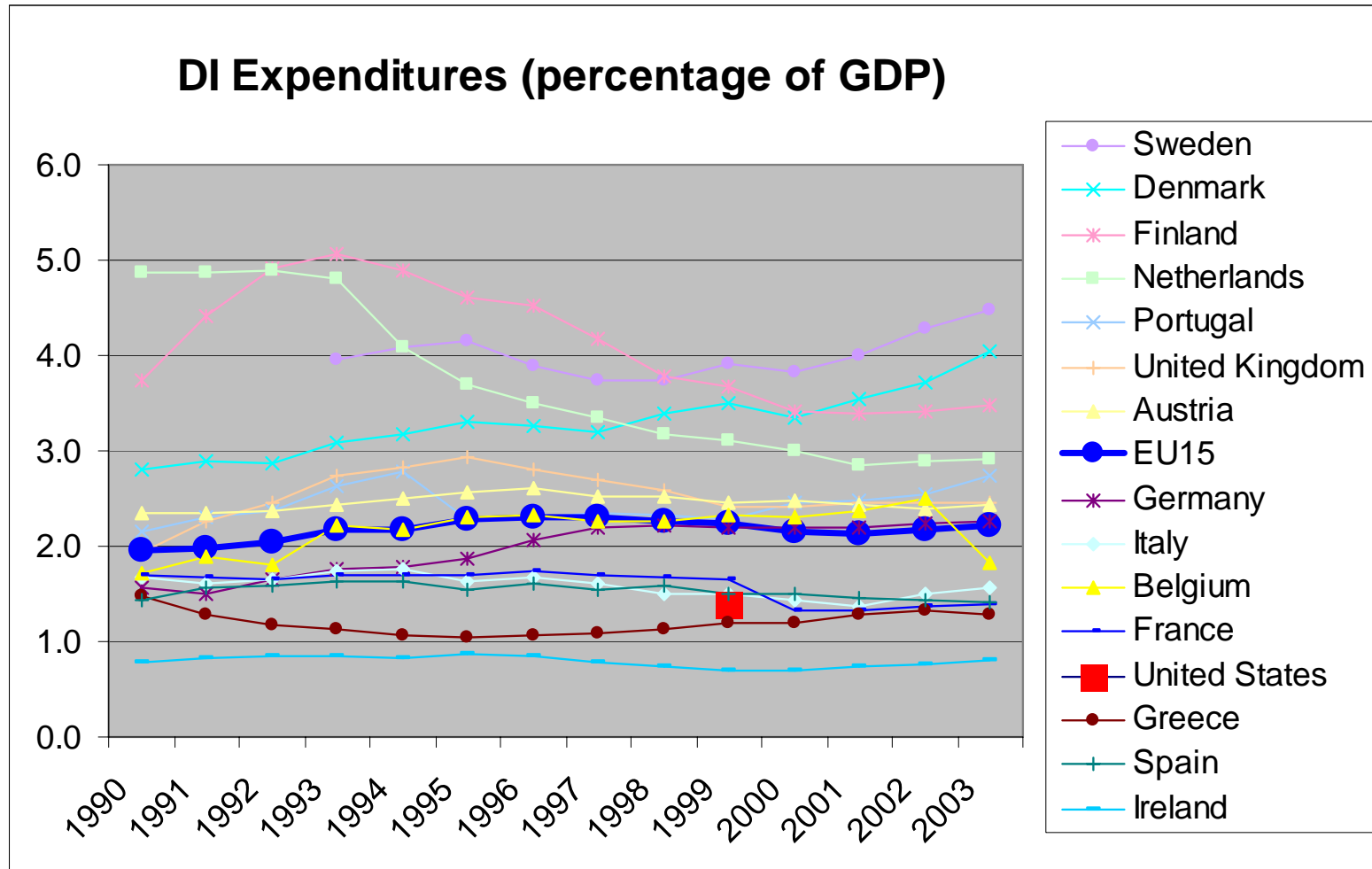


Source: Eurostat Data Archive 2005 and OECD 2003.



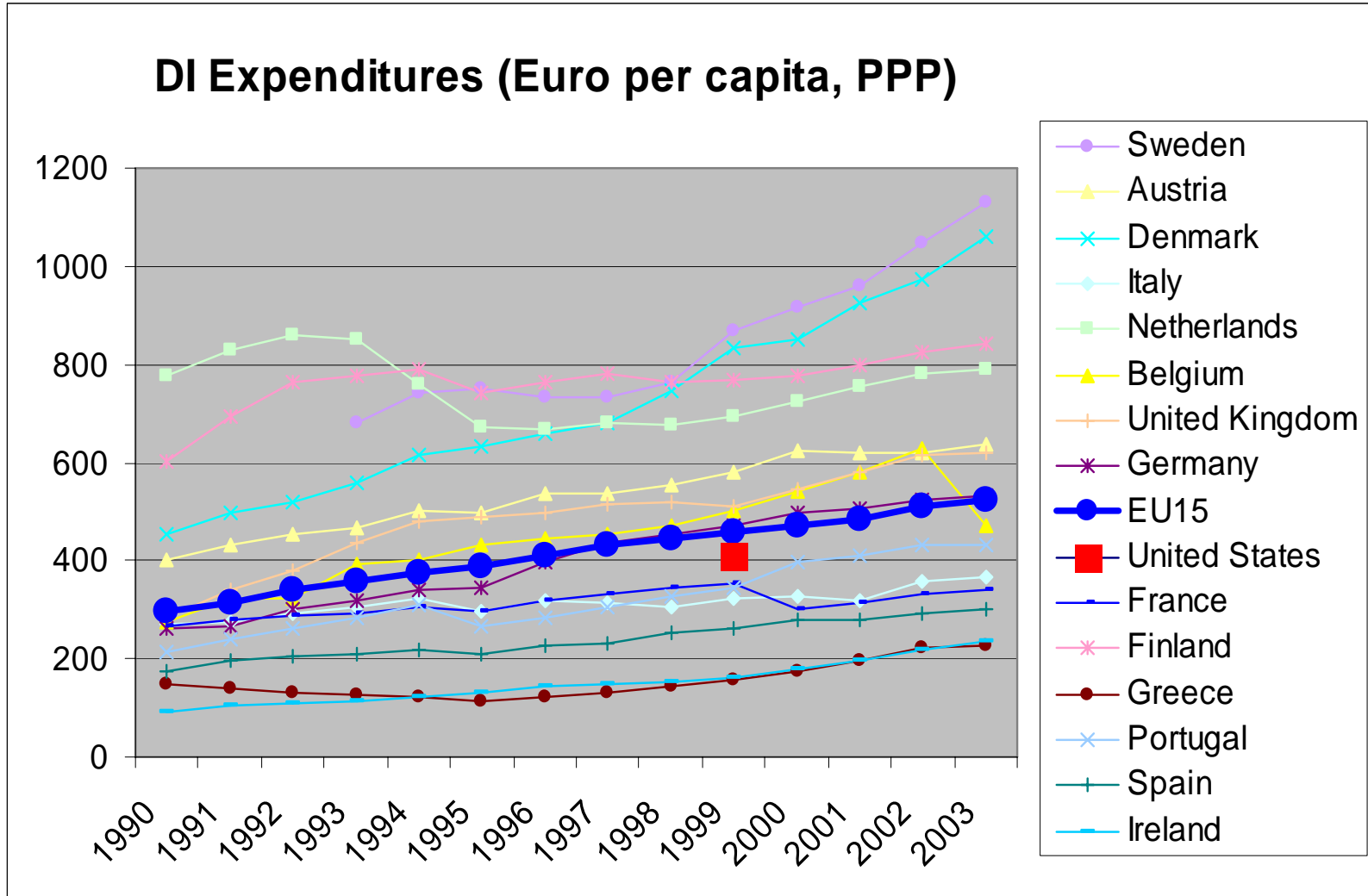
# Disability insurance relative to GDP

Figure 2: Disability insurance expenditures as percent of GDP (percentages)



Source: Eurostat Data Archive 2005 and OECD 2003.

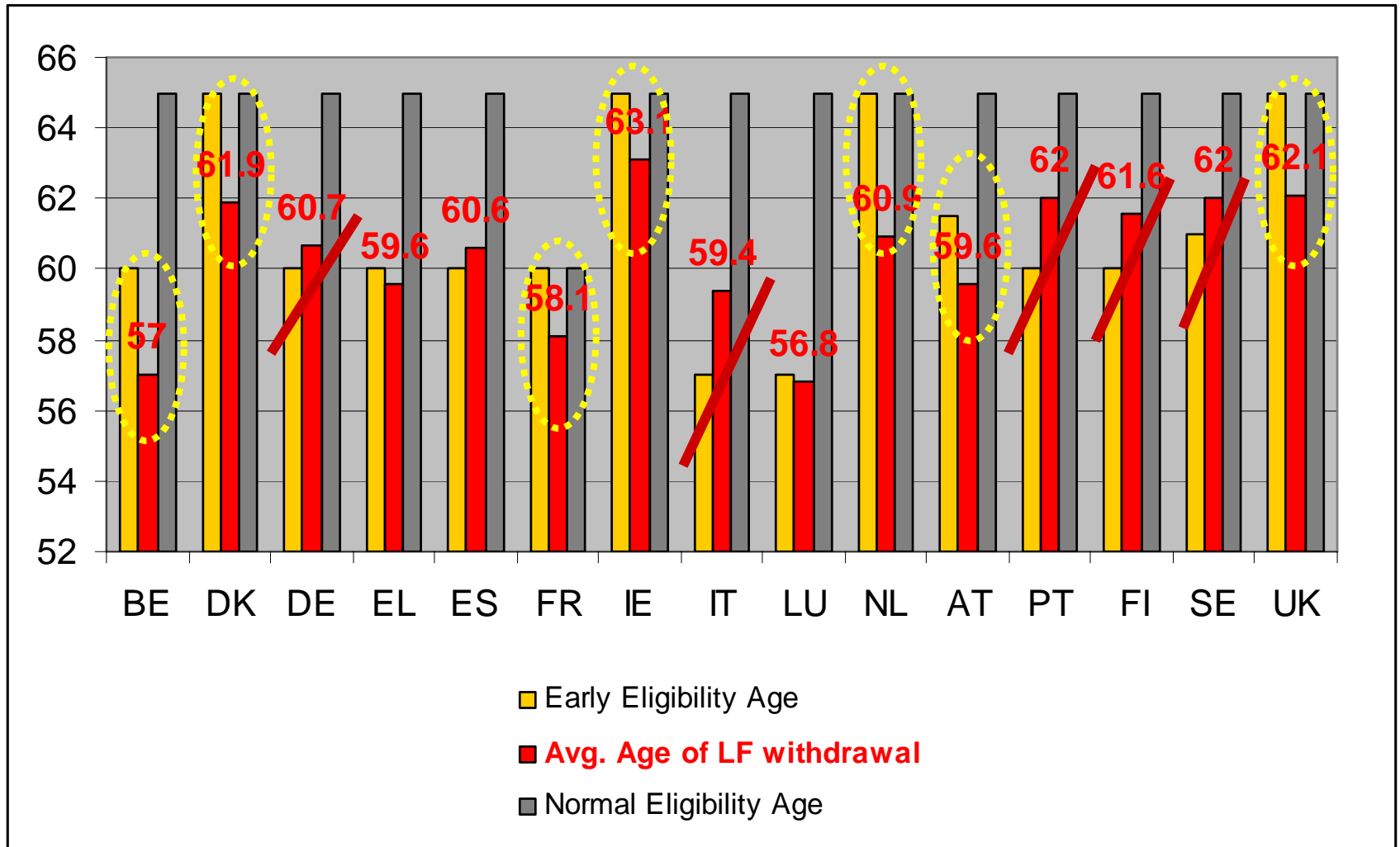
Figure 3: Disability insurance expenditures per capita (Euro, purchasing power parity)





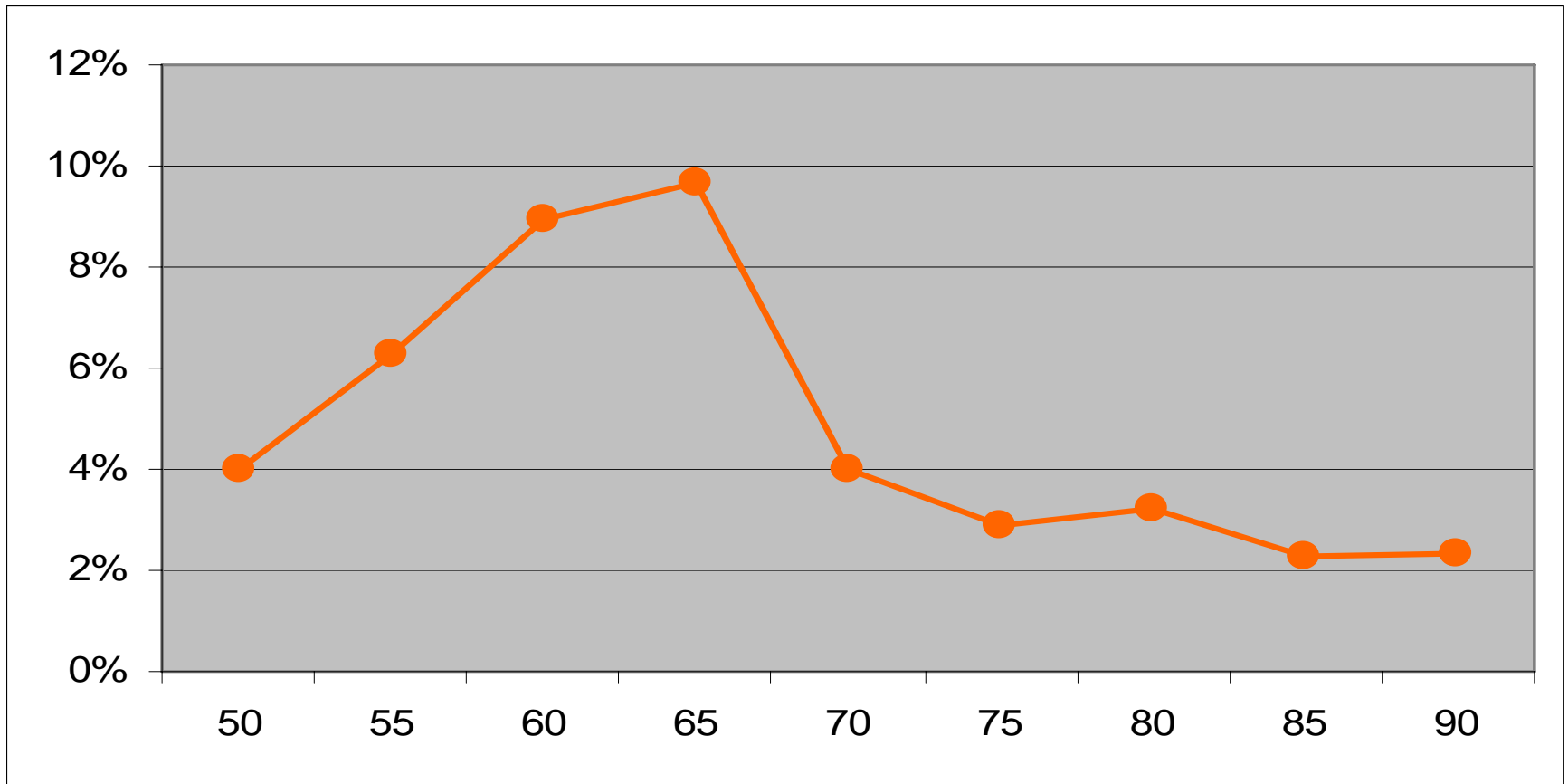
# Disability insurance as early retirement device: *Average age of labor force withdrawal*

Figure 4: Retirement age in Europe



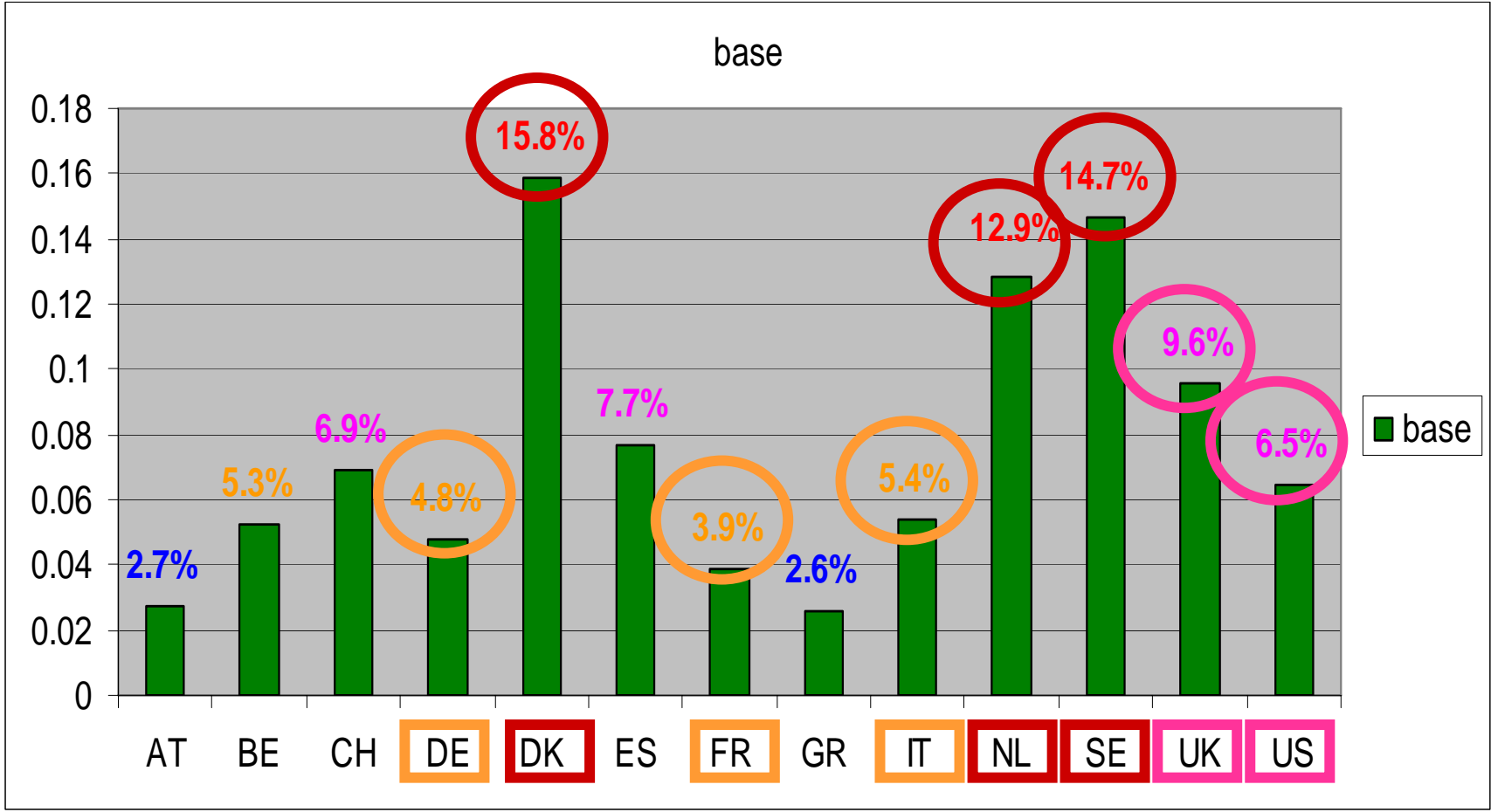
Source: European Commission (2003).

*Figure 5: Disability insurance enrolment by age*



*Note:* Percentage of individuals enrolled in disability insurance by age.

Figure 6: Disability insurance enrolment in Europe, 2004



**Note:** Based on 26810 individuals aged 50 through 65 interviewed in SHARE 2004, ELSA 2002 and HRS 2004. Weighted data.



## Potential causes for variation in enrolment

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- **Demographic characteristics** (age and gender)
- Broad set of **health measures** (self-reported health, functional physical status: ADL, IADL; mental health status: CES-D; *grip strength, walking speed*)
- Variables characterizing the **generosity of the disability insurance** in each country (coverage, minimum disability level required, benefit generosity, medical assessment, vocational assessment), taken from OECD (2003)

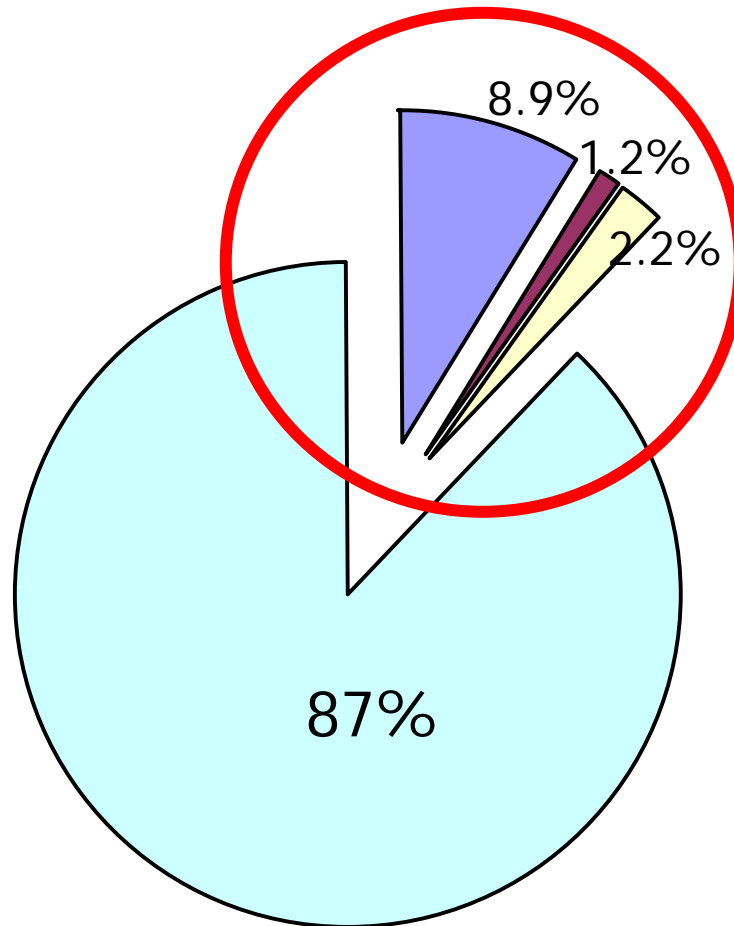


## Regression results

*Table 3: Regression results*

Variable	Linear	t-stat	Probit	t-stat	Logit	t-stat
<b>Gender</b>	-0.0242	-6.2	-0.1696	-5.6	-0.3228	-5.5
<b>Age</b>	0.0007	0.5	0.0072	0.7	0.0131	0.6
<b>Age_50</b>	0.0166	0.6	0.1148	0.5	0.1789	0.4
<b>Age_55</b>	0.0076	0.4	0.0406	0.3	0.0906	0.3
<b>Age_60</b>	0.0152	1.1	0.1016	1.0	0.1947	1.0
<b>Age_65</b>	0.0197	2.2	0.1438	2.1	0.2773	2.1
<b>Self-reported health</b>	0.0563	29.0	0.4301	27.4	0.8579	27.4
<b>CES-D (Sum)</b>	0.0153	9.5	0.0791	7.2	0.1465	7.1
<b>ADL (Sum)</b>	0.0445	13.2	0.1381	7.5	0.2197	6.7
<b>IADL (Sum)</b>	0.0364	8.0	0.1145	4.6	0.1907	4.2
<b>Coverage</b>	0.0467	11.2	0.3426	10.6	0.6583	10.5
<b>Minimum disability level</b>	0.0149	7.4	0.1154	6.5	0.2317	6.4
<b>Benefit generosity</b>	-0.0180	-7.3	-0.1648	-8.3	-0.3115	-7.9
<b>Medical assessment</b>	-0.0088	-3.7	-0.0849	-4.6	-0.1587	-4.4
<b>Vocational assessment</b>	-0.0136	-4.7	-0.1591	-6.4	-0.3266	-6.6
<b>Constant</b>	-0.2255	-2.4	-3.6933	-5.1	-6.9566	-5.0
<b>R-squared</b>		13.1%		19.9%		19.8%

*Note:* Based on 18434 individuals aged 50 through 65 interviewed in SHARE 2004, ELSA 2002 and HRS 2004.



Health

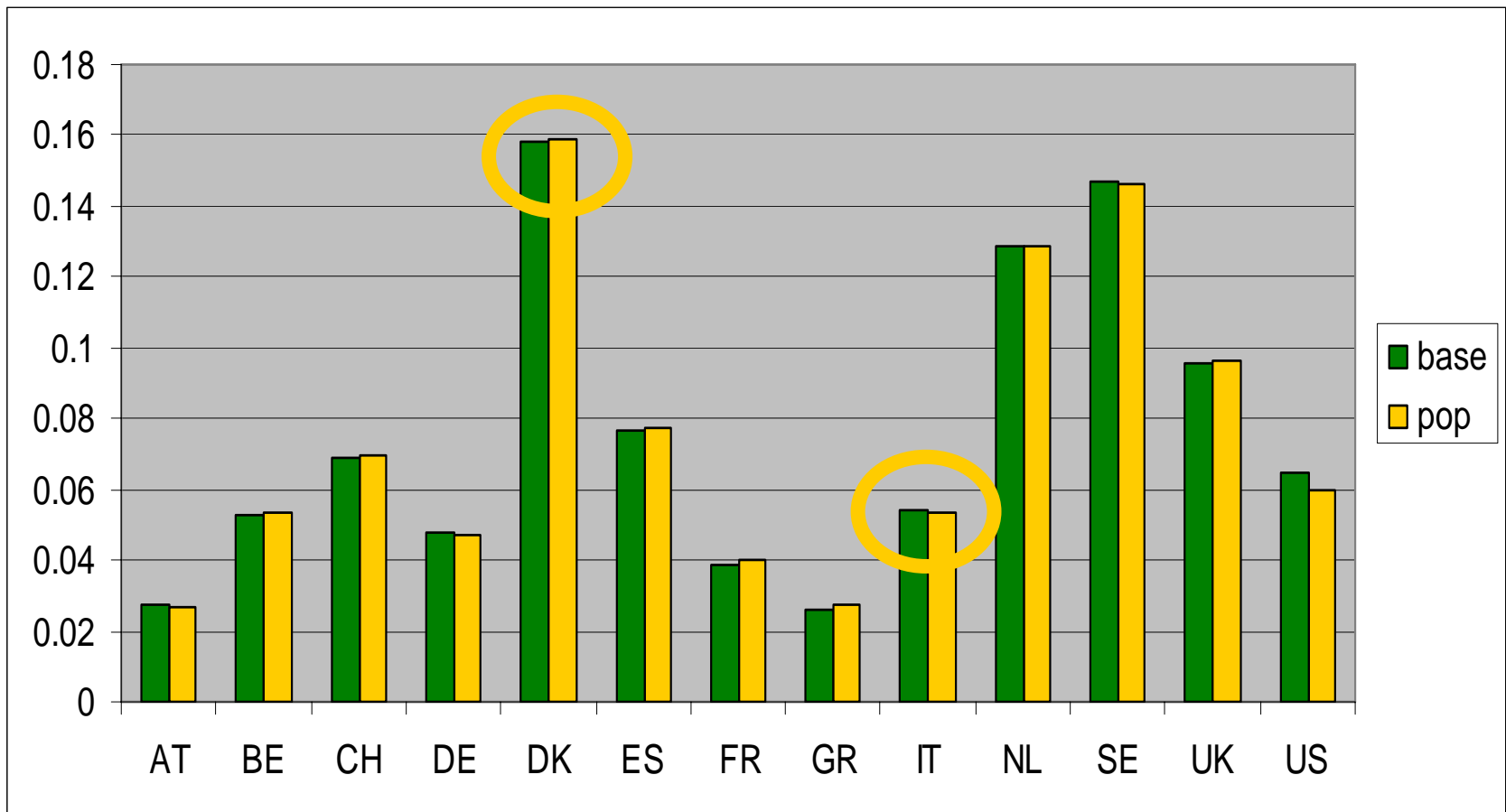
Demographics

Country specifics

Residual within country variation which is not health, age or gender

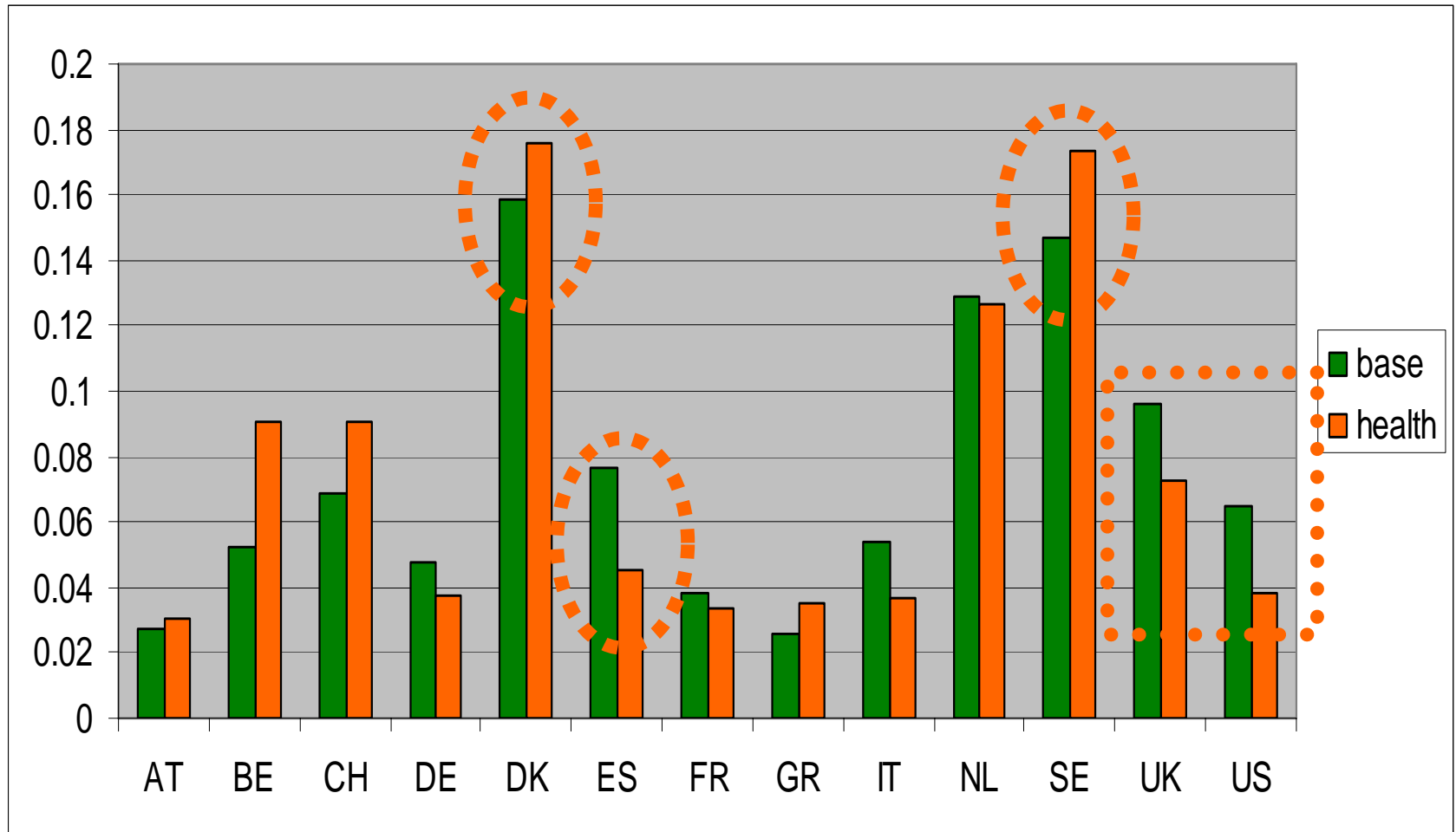
Note: Based on SHARE countries only, includes functional measures

*Figure 7: Actual and predicted disability insurance enrolment if age and gender were identical in all countries*



*Note:* Based on linear regression specification in Table 3.

*Figure 8: Predicted disability insurance enrolment if health status were identical*

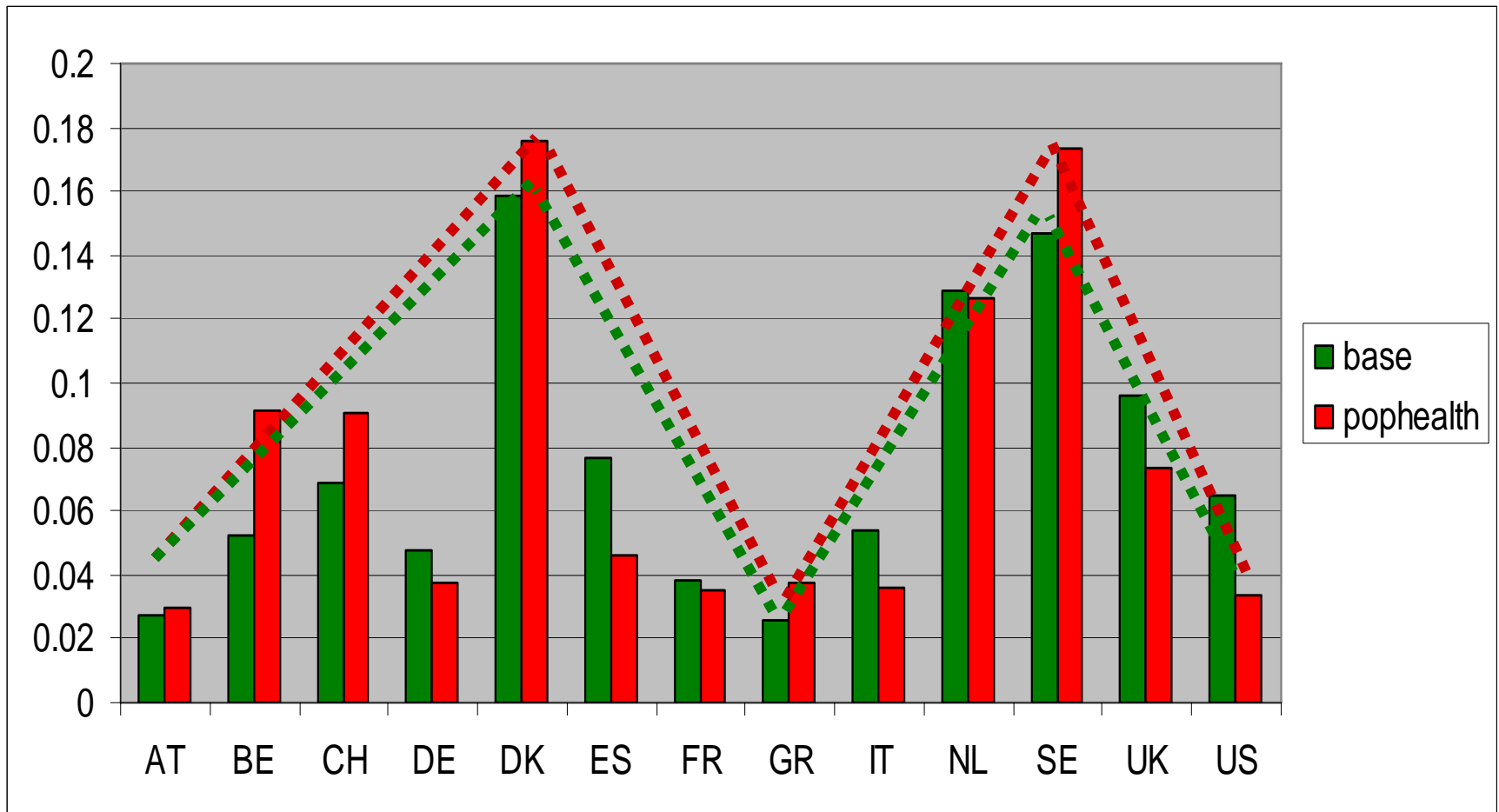


*Note:* Based on linear regression specification in Table 3.



## Steps 1&2 combined: Health & demographics constant

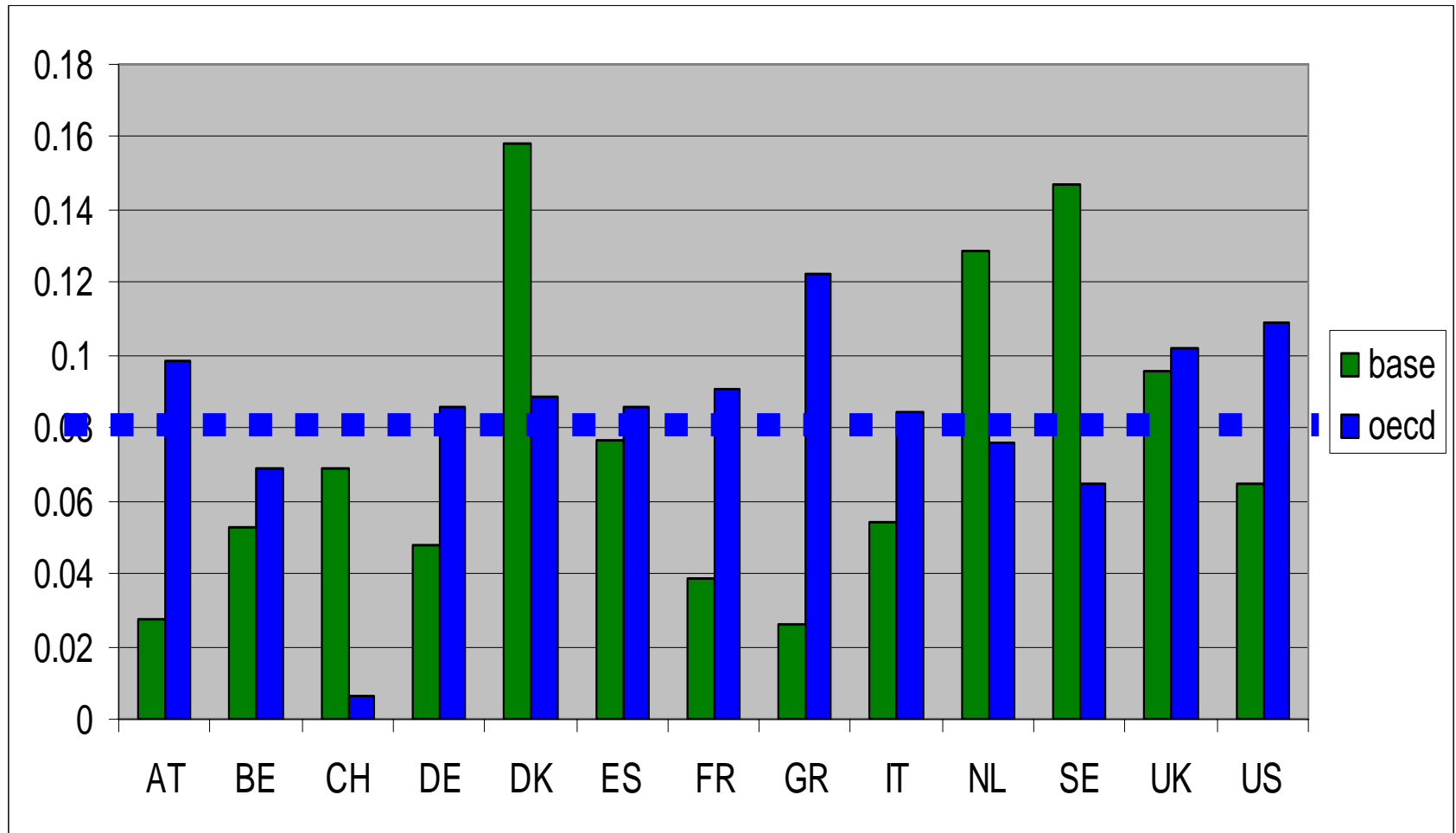
*Figure 9: Predicted disability insurance enrolment if age, gender and health status were identical in all countries*



*Note:* Based on linear regression specification in Table 3.

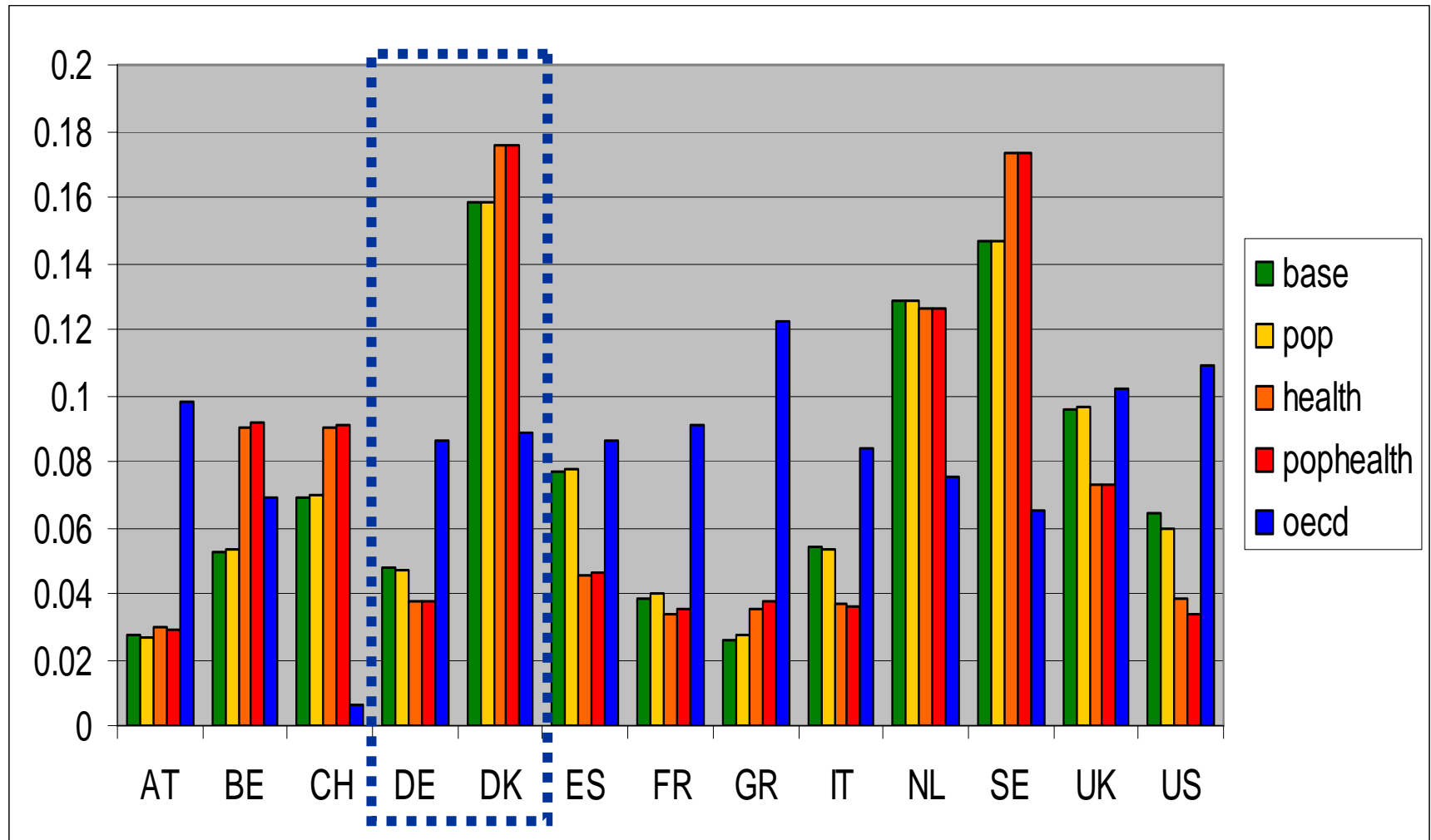
### Step 3: Hold eligibility/benefits constant

*Figure 10: Predicted disability insurance enrolment if eligibility and benefit rules were equally generous in all countries*



*Note:* Based on linear regression specification in Table 3.

*Figure 12: Baseline enrolment rates and counterfactual simulations*



*Note:* Based on linear regression specification in Table 3.



## Country definition of disability insurance

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- The variation in disability insurance take-up rates across European countries is striking. It reaches from some 15 percent of individuals aged between 50 and 65 in Denmark, Sweden and the Netherlands to less than 3 percent in Austria and Greece.
- Correcting for differences in the age, gender and health distribution across countries does not explain this striking variation. Especially the large enrolment rates in Sweden, Denmark and the Netherlands have different reasons than an older population or a worse health status than in the other European countries.
- Institutional factors – incentives created by enrolment and eligibility rules – are a more likely explanation. A counterfactual simulation holding eligibility and benefit generosity rules approximately constant produces much more similar disability uptake rates than holding demographics and health constant.
- The most influential variable is the strictness by which vocational considerations, if any, are applied. This variable alone explains more than 60% of the cross-national variation. It seems to be the most powerful policy variable when countries such as the Netherlands, Denmark and Sweden want to bring their disability insurance enrolment rates closer to the average European and US level.



## Country definition of disability insurance

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