

The top of the slide features a horizontal collage of grayscale images showing people in various settings, such as walking, sitting at tables, and interacting. Overlaid on the left side of this collage is the lowercase text 'meia' in a bold, italicized, sans-serif font. The background of the entire slide is a dark blue grid pattern.

meia

Myths and Misconceptions about Aging in Old Europe

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1+ Aging will affect future economic performance as little as it did in the past

1– Aging economies are doomed to zero growth and there is nothing one can do about

Macro CGE model of aging and controversial labor market reforms: simulation of demographic effects + policies

(Axel Börsch-Supan und Alexander Ludwig, 2008)

2. Old workers take jobs away from the young

Economists fail to address this because its too trivial

(Axel Börsch-Supan und Reinhold Schnabel, 2008)

3. Older workers are less productive (less innovative; more often sick)

New evidence based on a very large firm data set

(Axel Börsch-Supan und Matthias Weiss, 2008)

4. Old workers need to retire early due to ill health

International evidence from SHARE

(Axel Börsch-Supan, Agar Brugiavini and Enrica Croda, 2008)

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International evidence from SHARE

- *Four countries: Old Europe (=Italy, Germany, France) and ROW (=USA)*
- *Background: population aging process, global goods and capital markets*
- *Simulate exogenous pension and labor market reforms
(=lift current labor supply restrictions)*
- *Model endogenous saving and labor supply reactions
(=response to new policy environment, +, -)*

Multi-Country OLG-Model:

- **Production:**

$$Y_{t,i} = F(\Omega_{t,i}, K_{t,i}, L_{t,i}) = \Omega_{t,i} K_{t,i}^{\alpha} L_{t,i}^{1-\alpha}$$

$$w_{t,i} = \Omega_{t,i} (1 - \alpha) k_t^{\alpha}$$

$$r_t = \alpha k_t^{\alpha} - \delta$$

- **Government:**

$$\tau_{t,i} w_{t,i} L_{t,i} = \sum_{j=jr+1}^J p_{t,j,i} N_{t,j,i} = \rho_{t,i} w_{t,i} (1 - \tau_{t,i}) \sum_{j=jr+1}^J N_{t,j,i}$$

- **Household optimization:**

Exogenous l and endogenous h

$$\max \sum_{j=0}^J \beta^j \pi_{t,j,i} u(c_{t+j,j,i}, 1 - l_{t+j,j,i} h_{t+j,j,i})$$

s.t.

$$a_{t+1,j+1,i} = a_{t,j} (1 + r_t) + y_{t,j,i} - c_{t,j,i}$$

$$y_{t,j,i} = \lambda l_{t,j,i} h_{t,j,i} w_{t,j,i} (1 - \tau_{t,i}) + (1 - \lambda) p_{t,j,i}$$

and

$$0 \leq h_{t,j,i} \leq 1$$

- **Incentive effects**
- **Reactance effects**

- **Equilibrium:**

$$L_{t,i} = \sum_{j=0}^J \varepsilon_j l_{t,j,i} h_{t,j,i} N_{t,j,i} \quad \text{for all } t, i$$

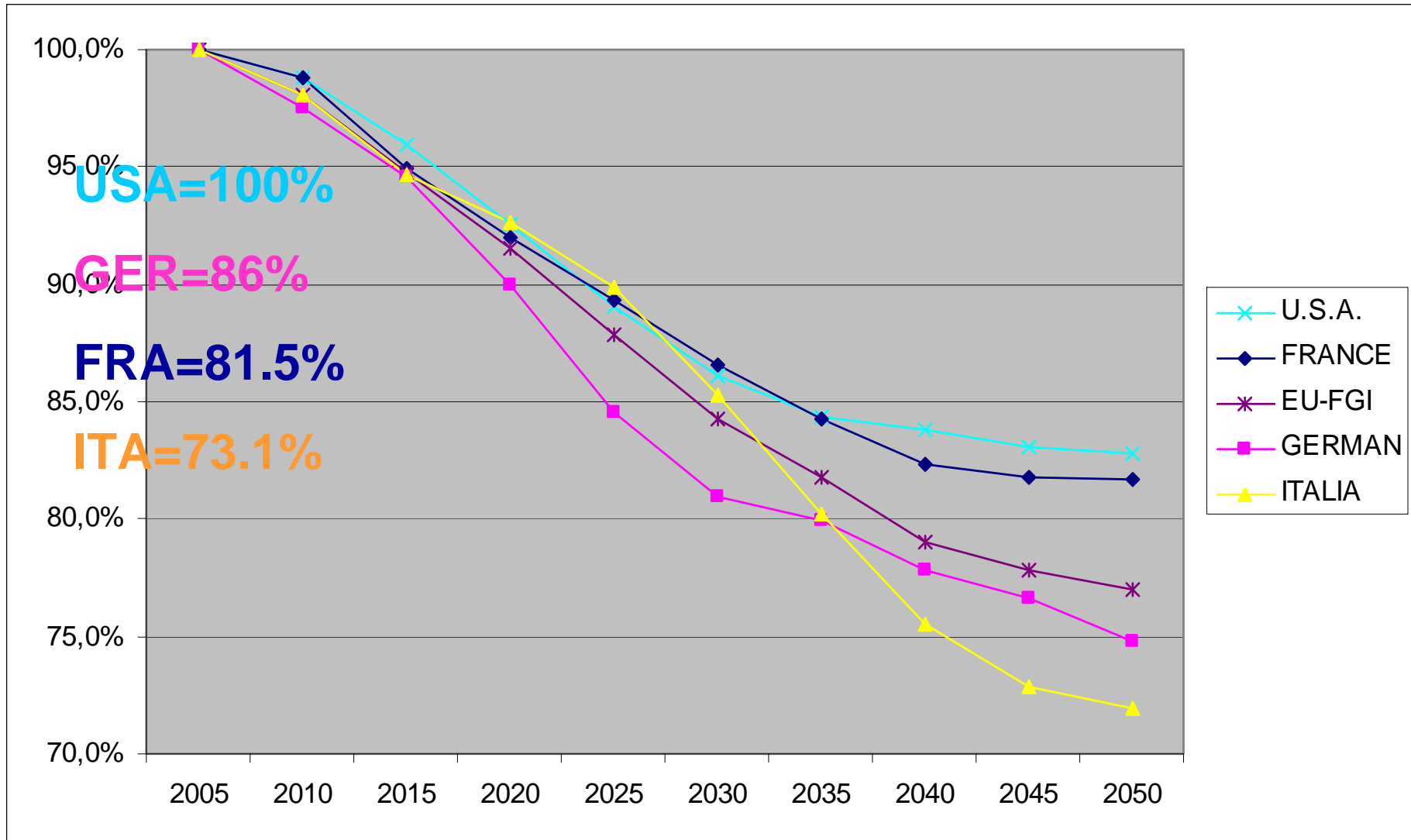
$$\sum_{i=1}^I K_{t+1,i} = \sum_{i=1}^I \sum_{j=0}^J a_{t+1,j+1,i} N_{t,j,i}$$

$$\sum_{i=1}^I \sum_{j=0}^J c_{t,j,i} N_{t,j,i} + \sum_{i=1}^I K_{t+1,i} = \sum_{i=1}^I \Omega_{t,i} K_{t,i}^\alpha L_{t,i}^{1-\alpha} - (1-\delta) \sum_{i=1}^I K_{t,i} .$$

- **Calibrate:**

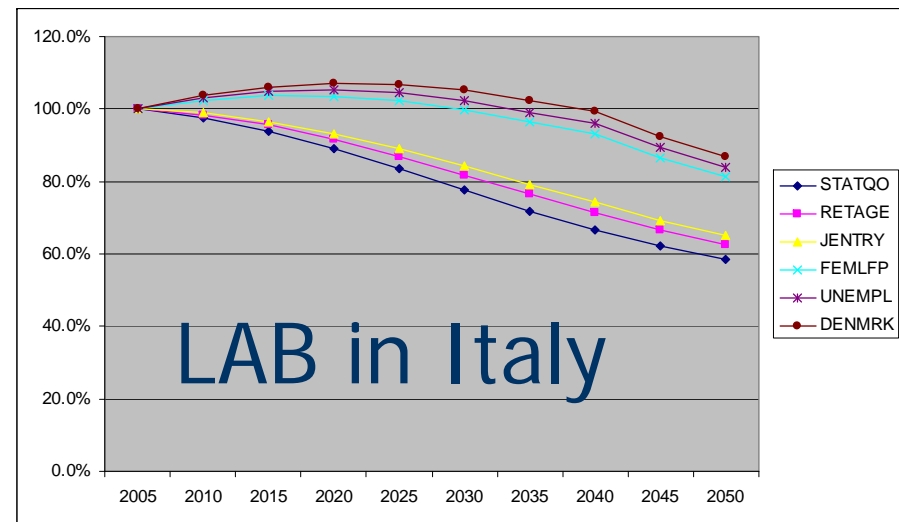
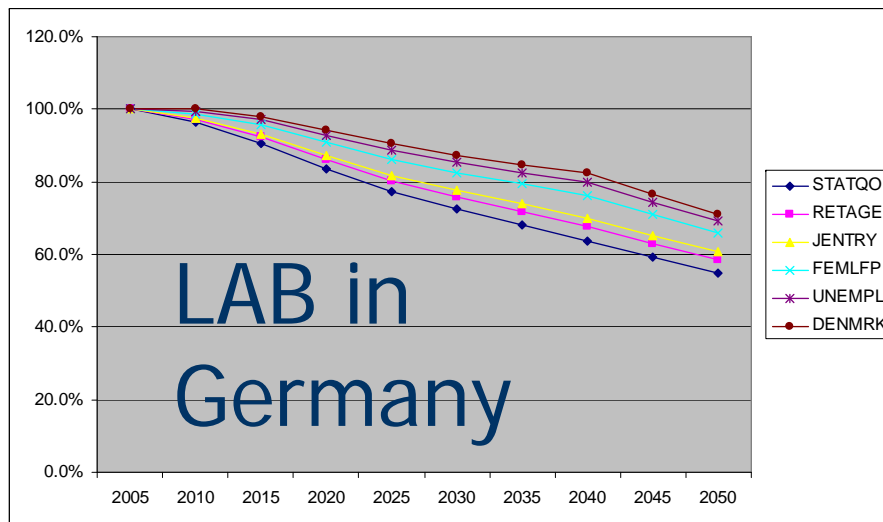
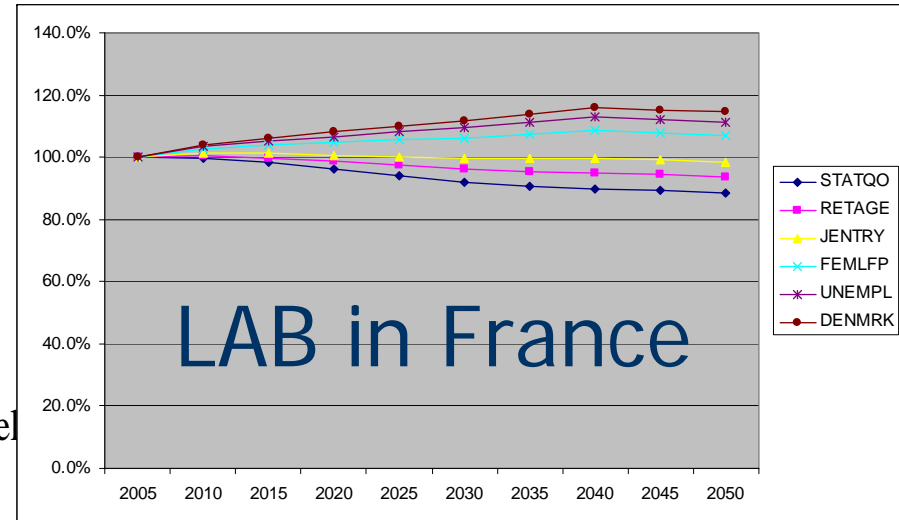
for FGI-Country („Old Europe“): France+Germany+Italy

WAP per capita (2005=100%)



Extensive margin: unrestricting the Old European labor markets

- STATQUO: constant age and gender specific labor force participation rates;
- RETAGE: increase in the retirement age by 2 years;
- JOBENTRY: decrease in the job entry age by 2 years;
- FEMLFP: adaptation of female labor force participation rates to those of men;
- UNEMP: reduction of unemployment to 40% of its current level
- DENMARK: combination of the four preceding changes.



3 forces = 2^3 trajectories:

▲ Remove labor supply restrictions

◆ Status quo

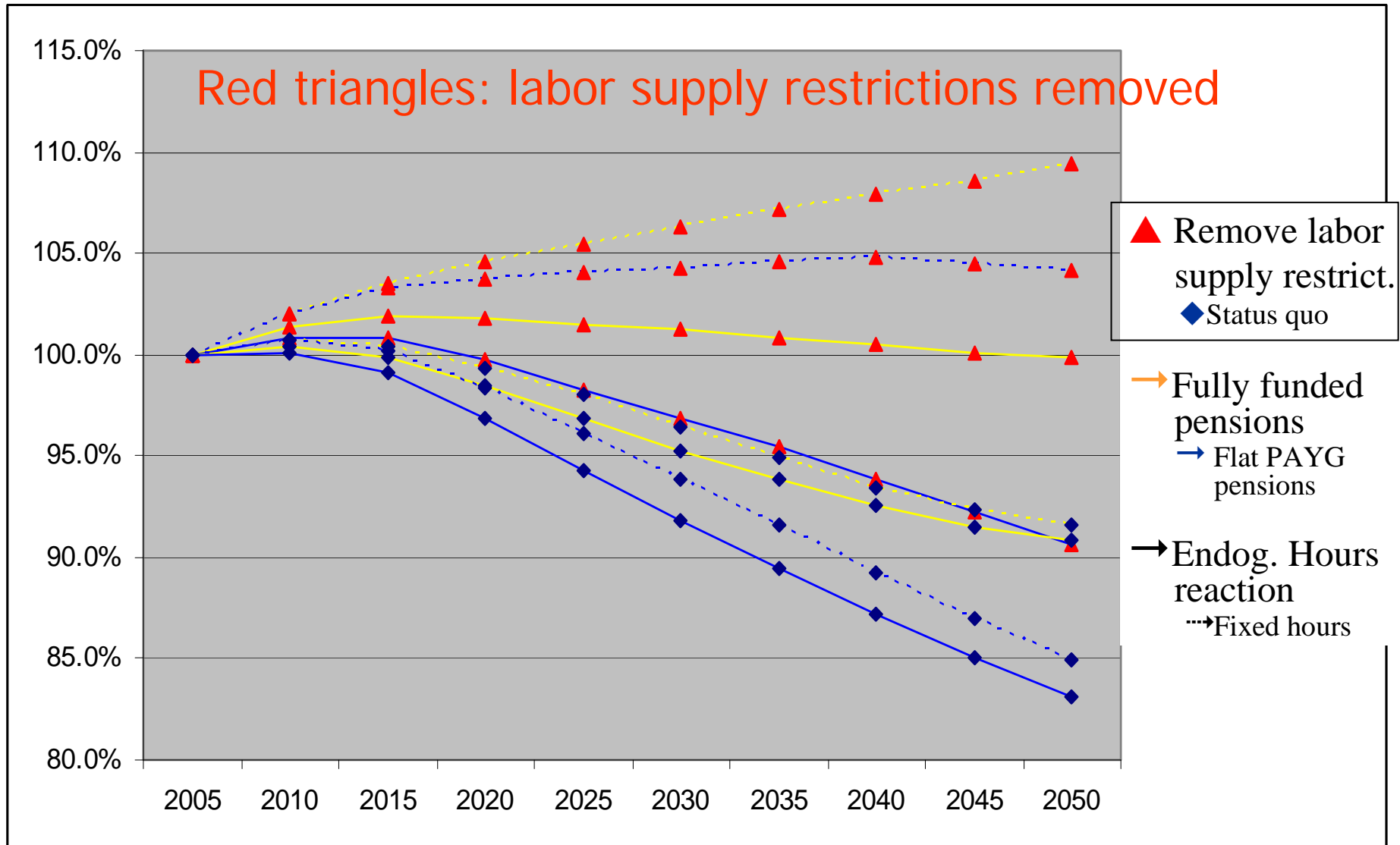
→ Fully funded pensions

→ Flat PAYG pensions

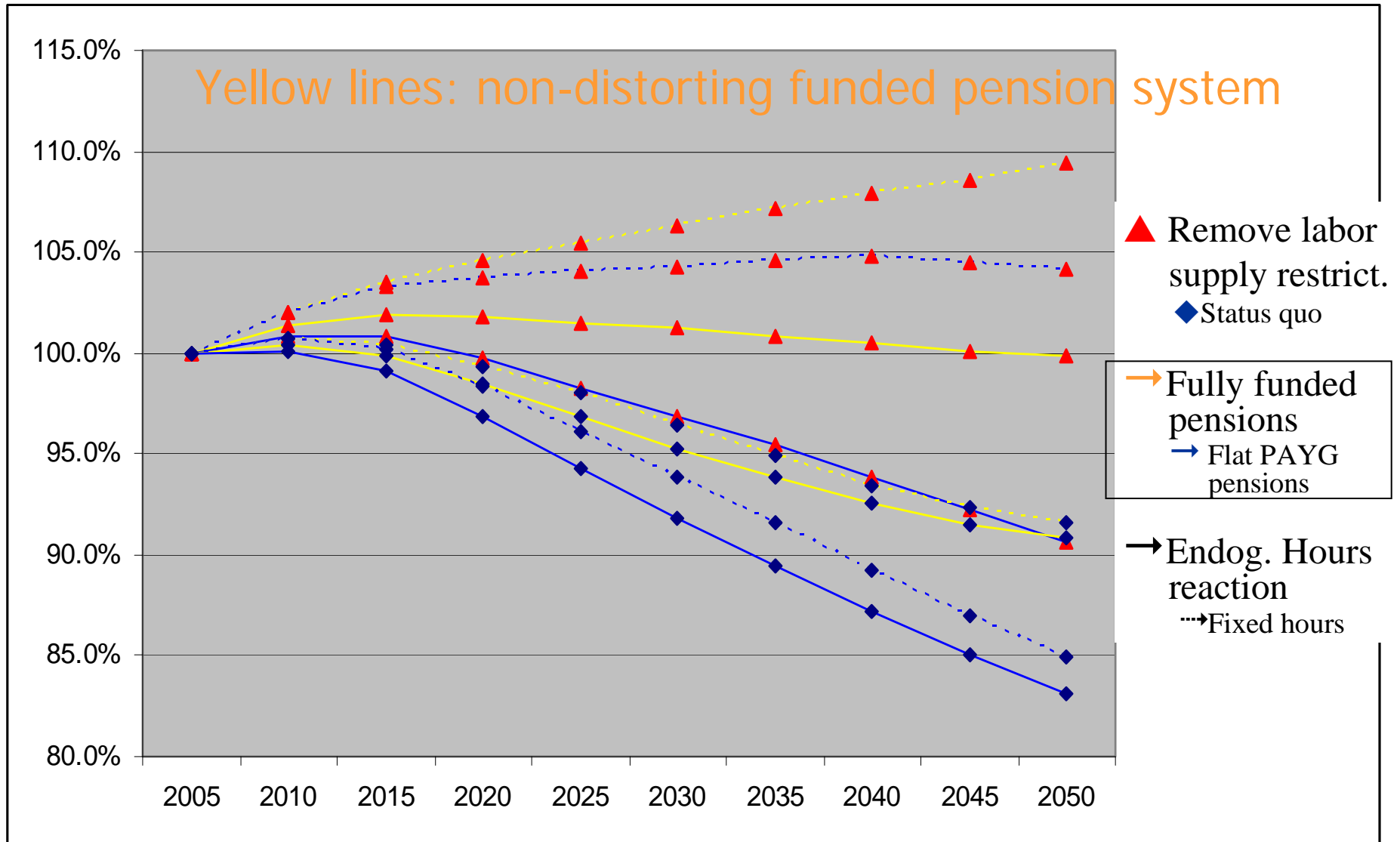
→ Endogenous hours' reaction

→ Fixed hours

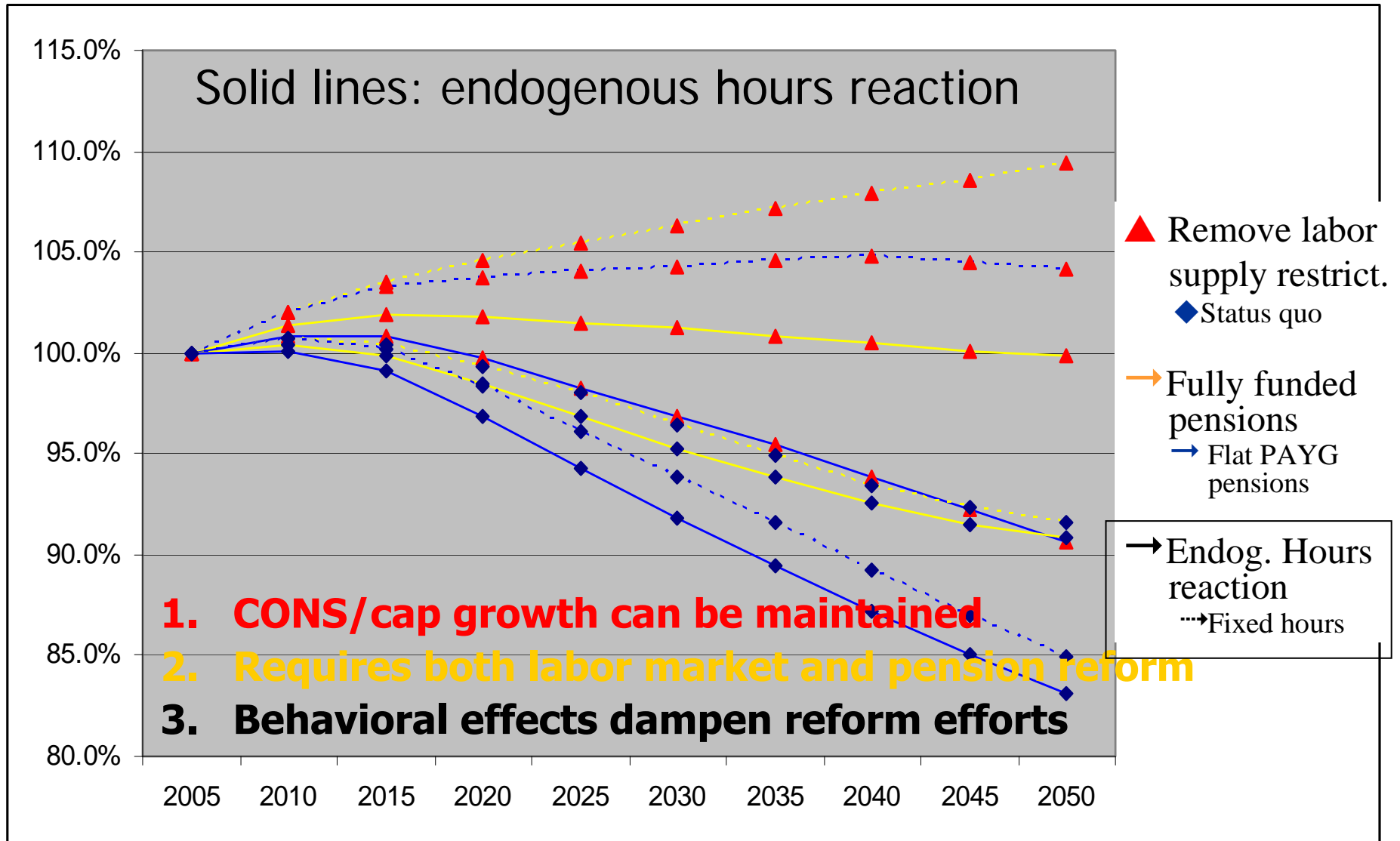
Result: Consumption per capita



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Result: Consumption per capita



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- 3. Older workers are less productive (less innovative; more often sick)

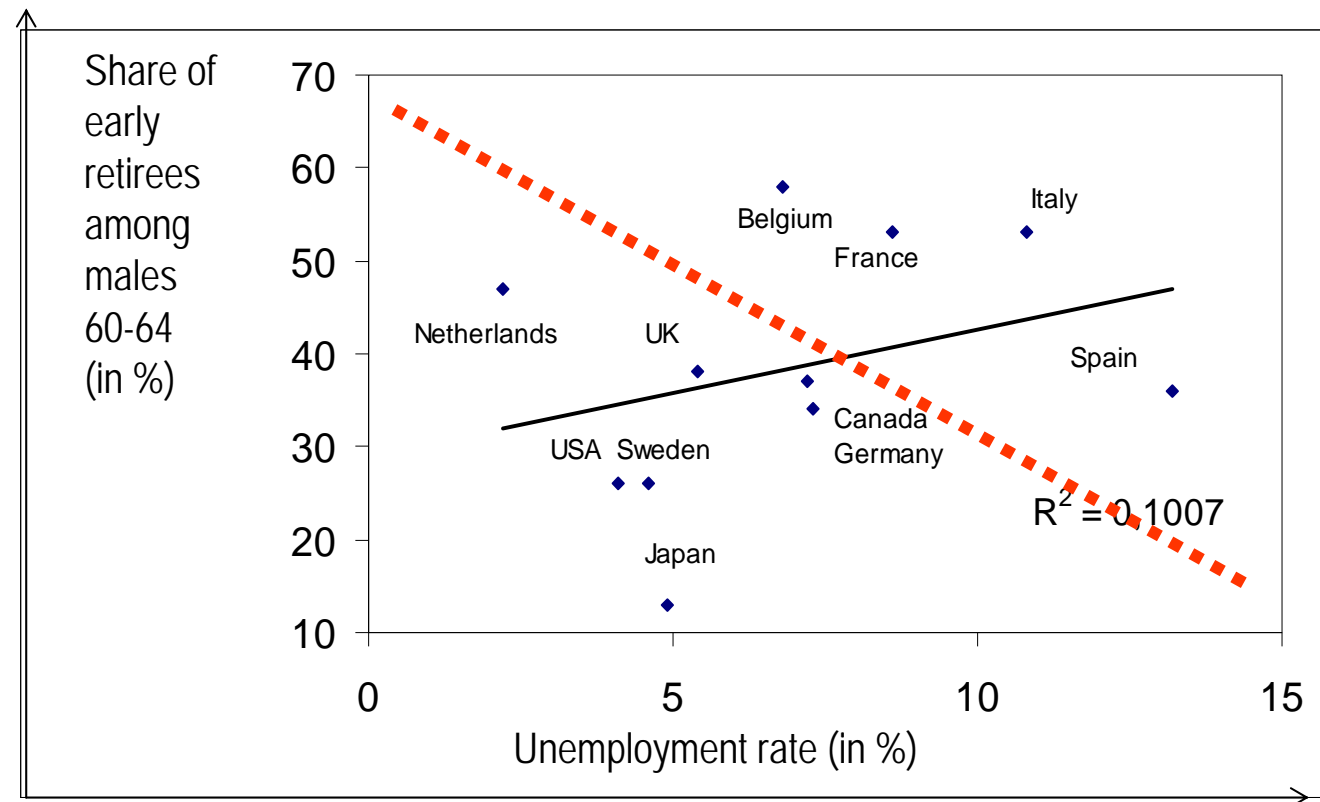
New evidence based on a very large firm data set

- 4. Old workers need to retire early due to ill health

International evidence from SHARE

Myth 2: Old workers take jobs away from the young

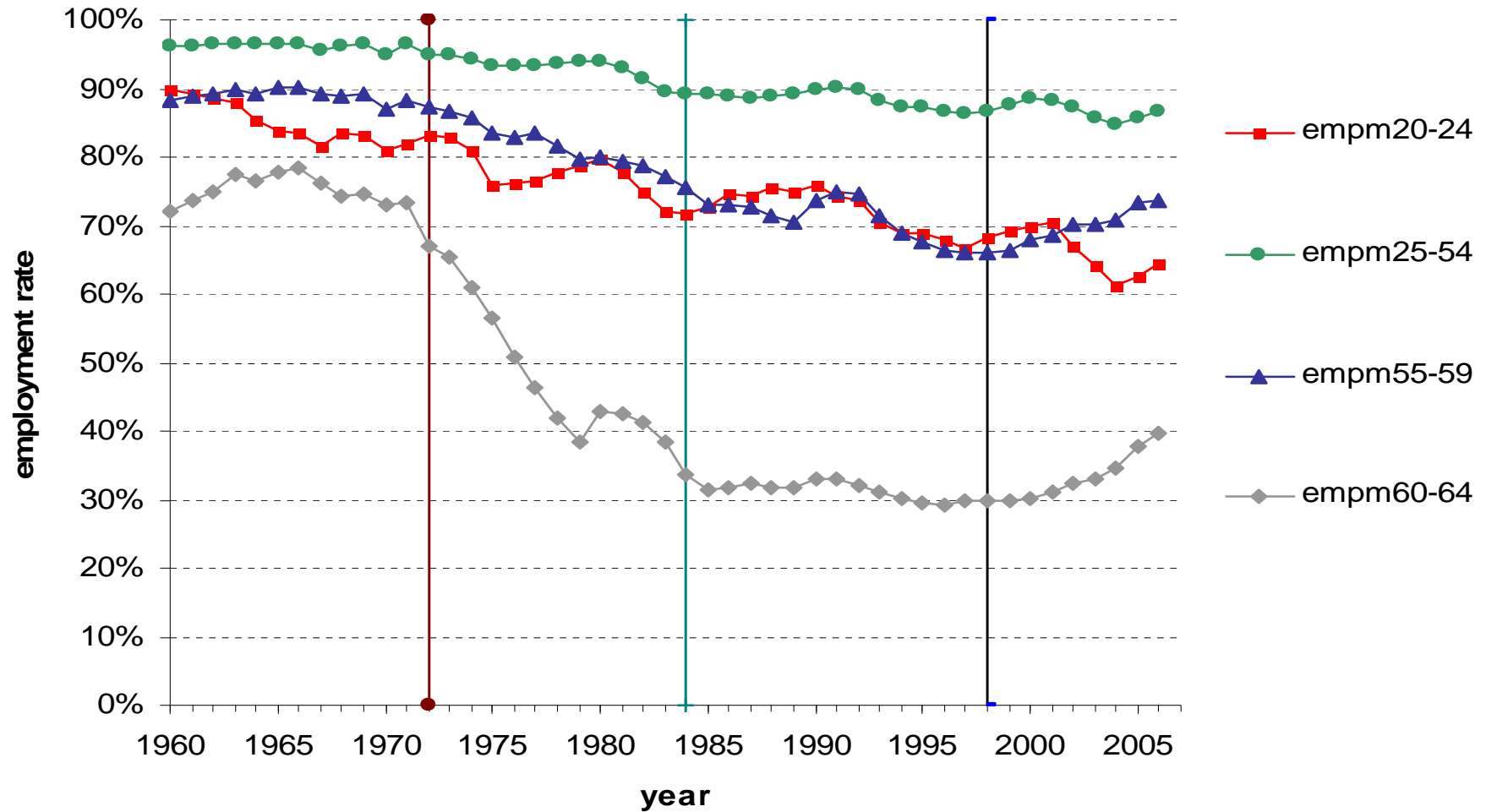
Biggest obstacle to increasing 55+ employment!



Source: Own calculations based on OECD Employment Outlook 2007.

NBER Project: David Wise et al. 2009

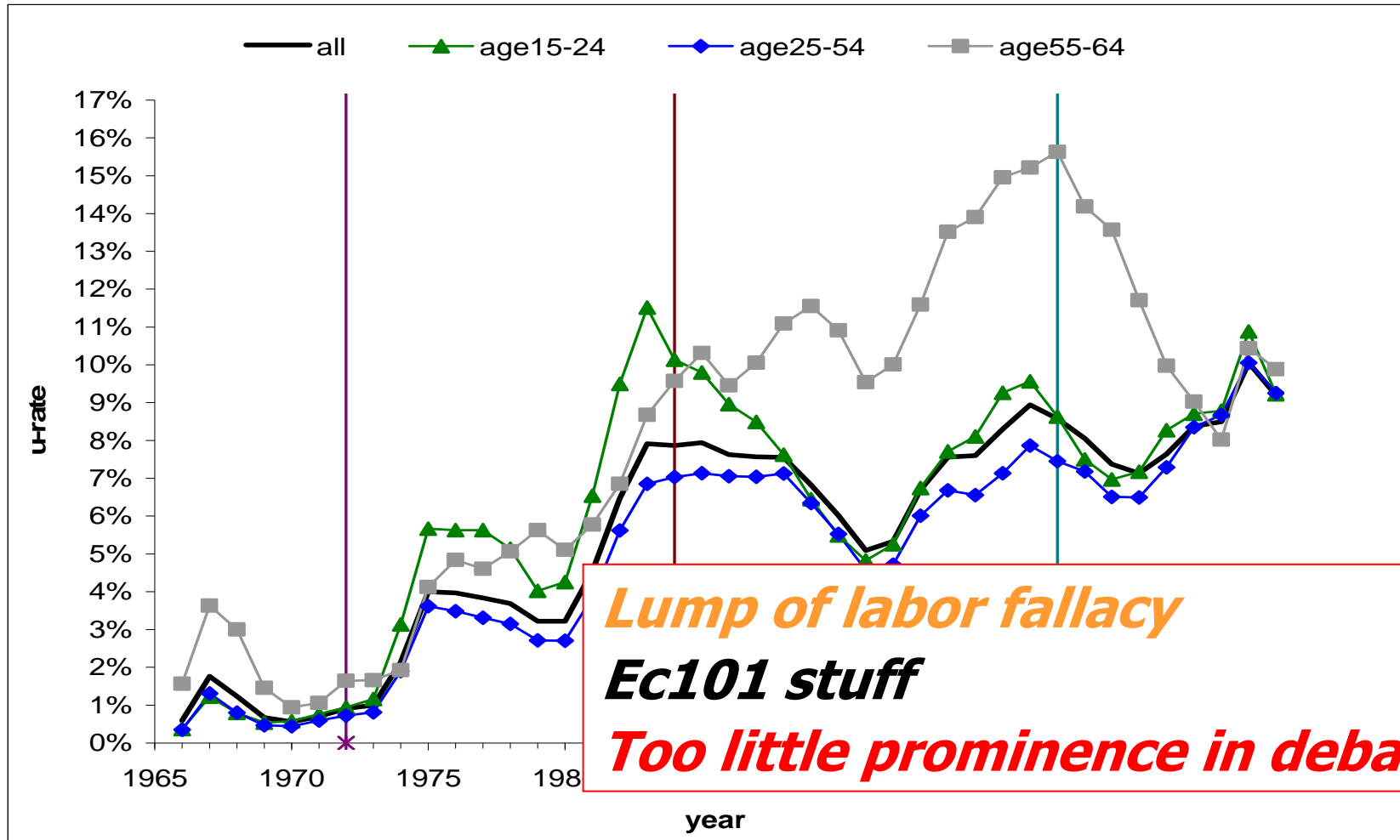
Myth 2: Old workers take jobs away from the young



Source: Börsch-Supan and Schnabel, 2008, based on German Microcensus.

Myth 2: Old workers take jobs away from the young

Unemployment rates 1966-2006 by age groups (West Germany)



Lump of labor fallacy
Ec101 stuff
Too little prominence in debate

Source: Bundesagentur für Arbeit

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Myth 3: Older workers are less productive

Axel Börsch-Supan und Matthias Weiss (2008)



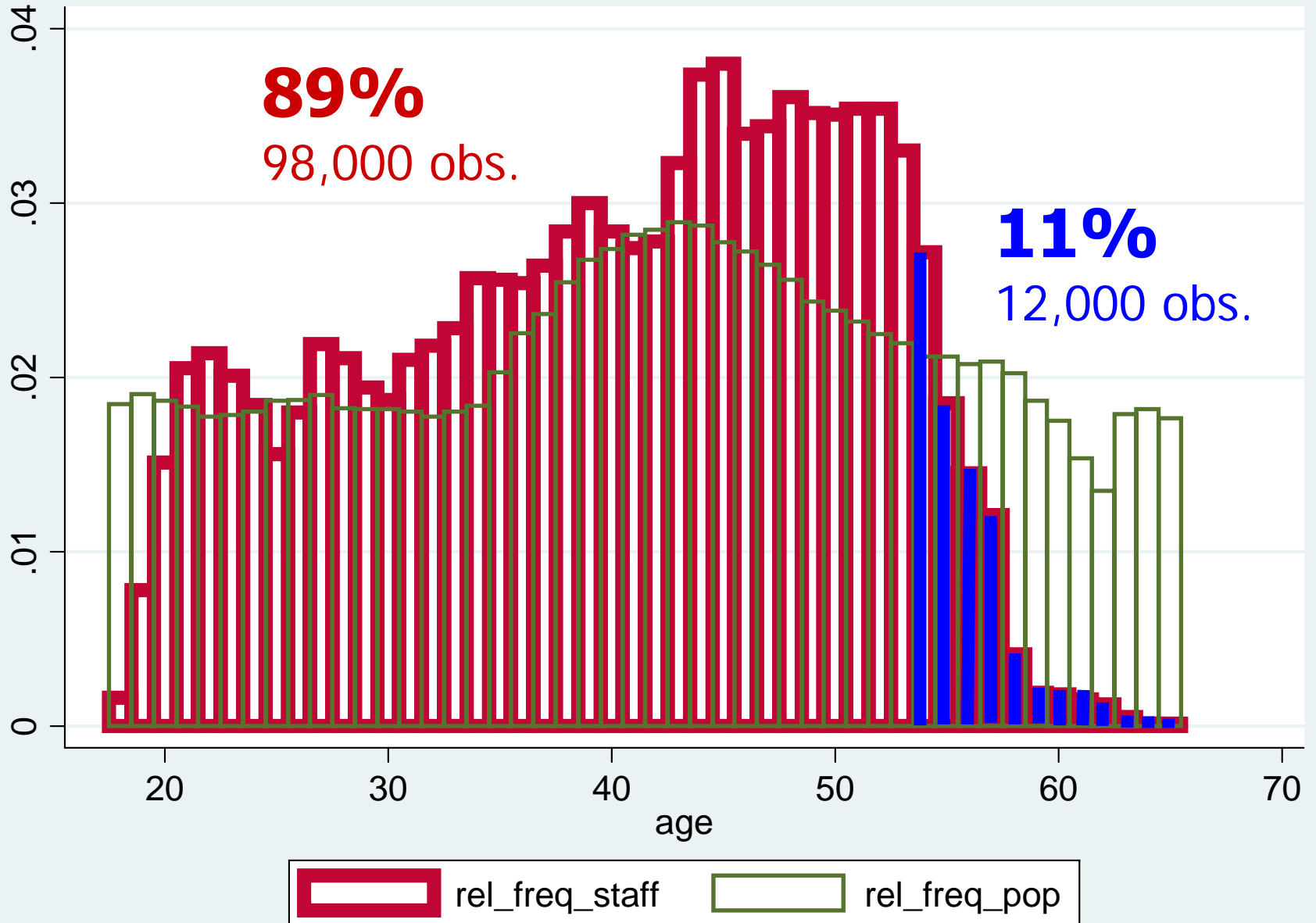
Age-mixed
work teams

Product and time
standardized

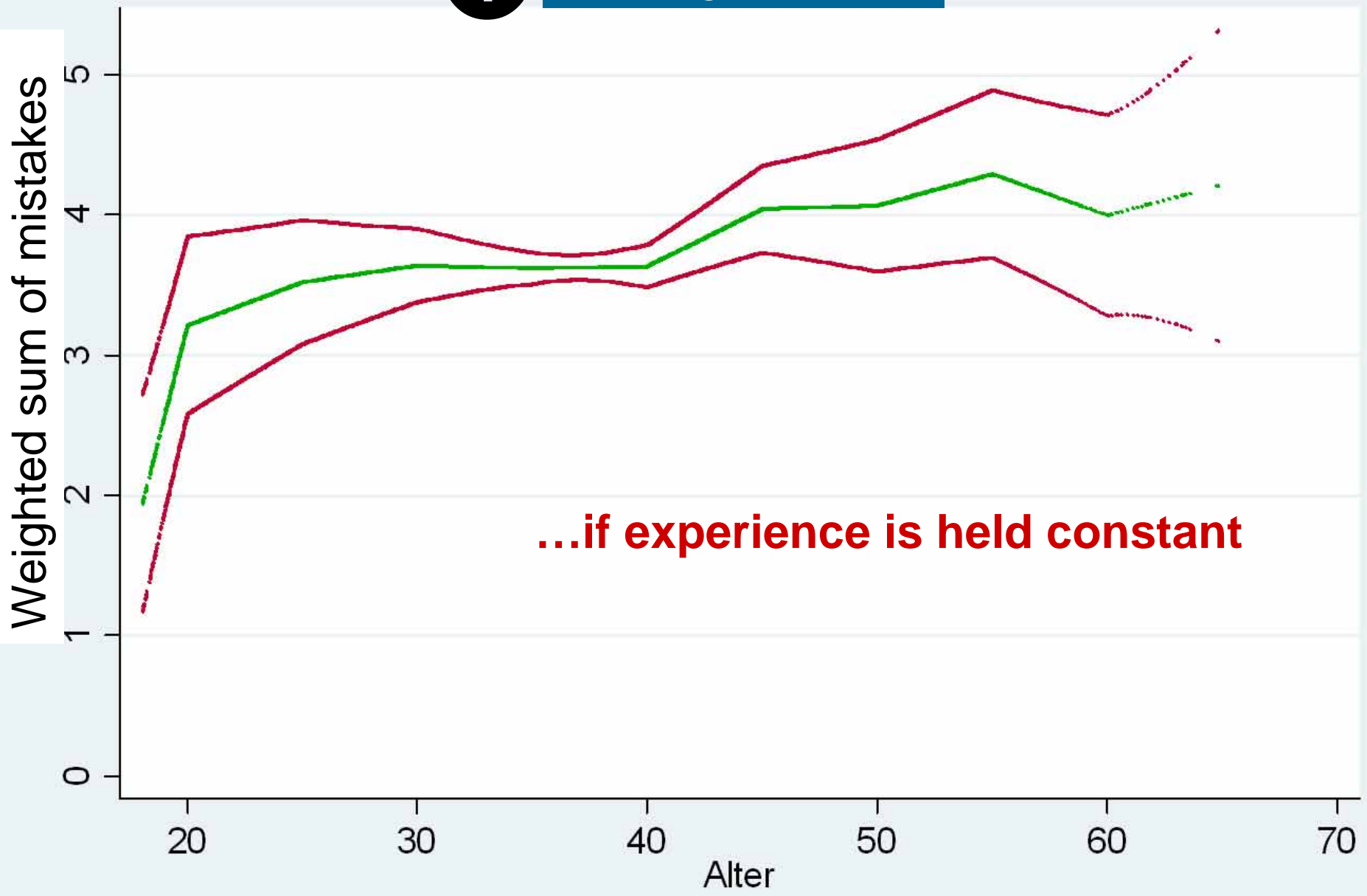
Productivity:
No errors

Some 100.000
observations





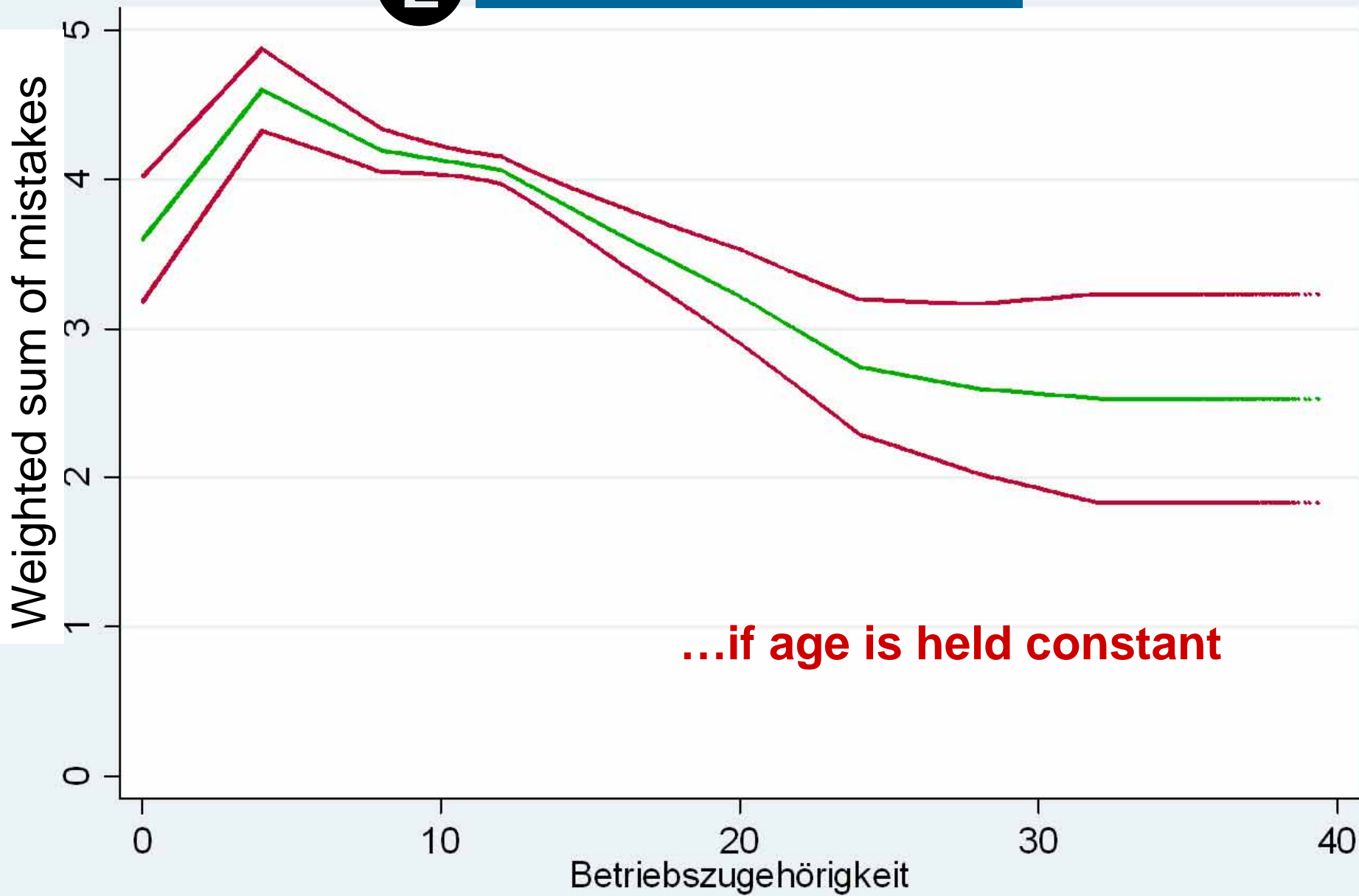
1 Pure age effect



...if experience is held constant

2

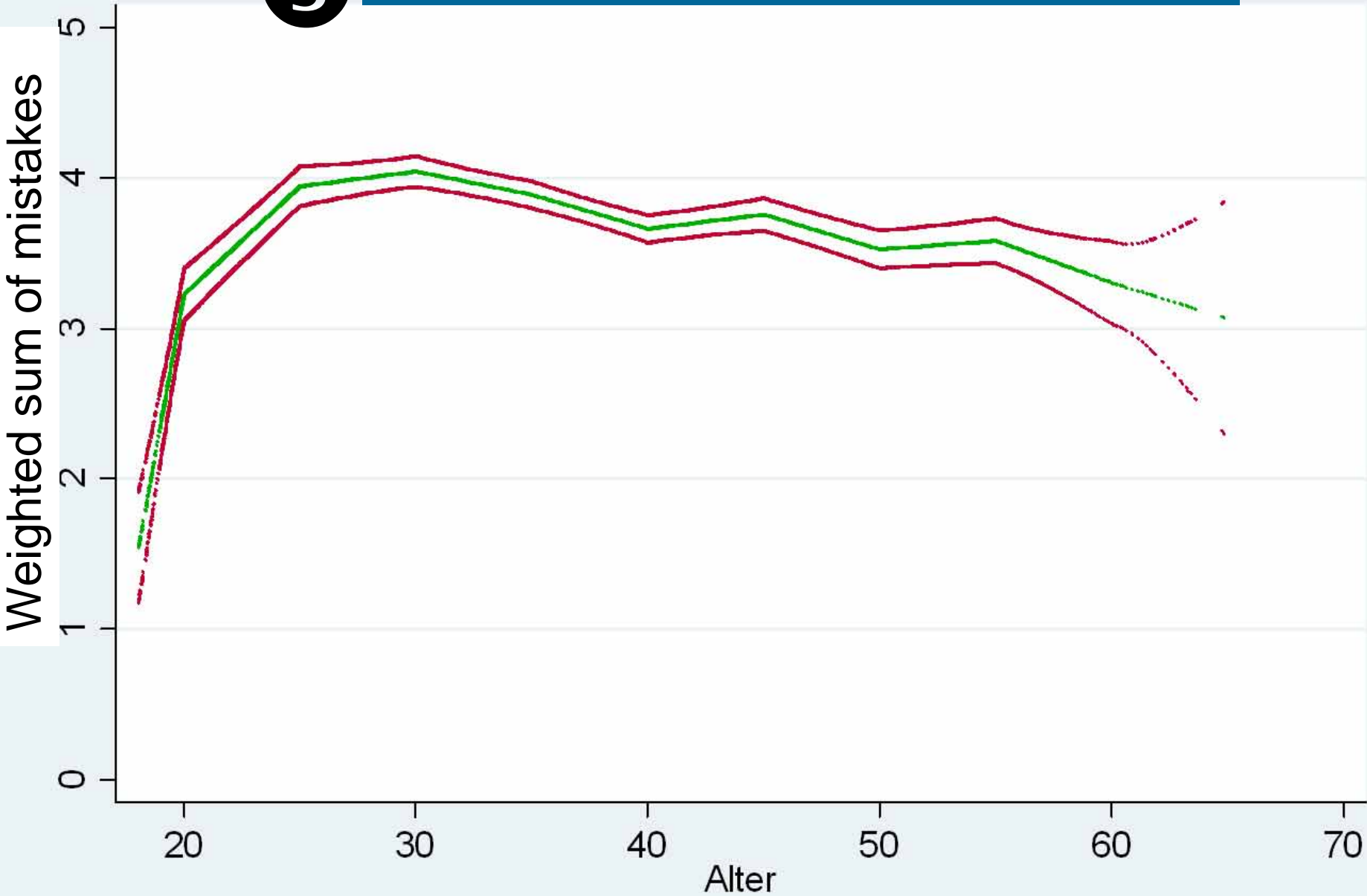
Pure experience effect



...if age is held constant

3

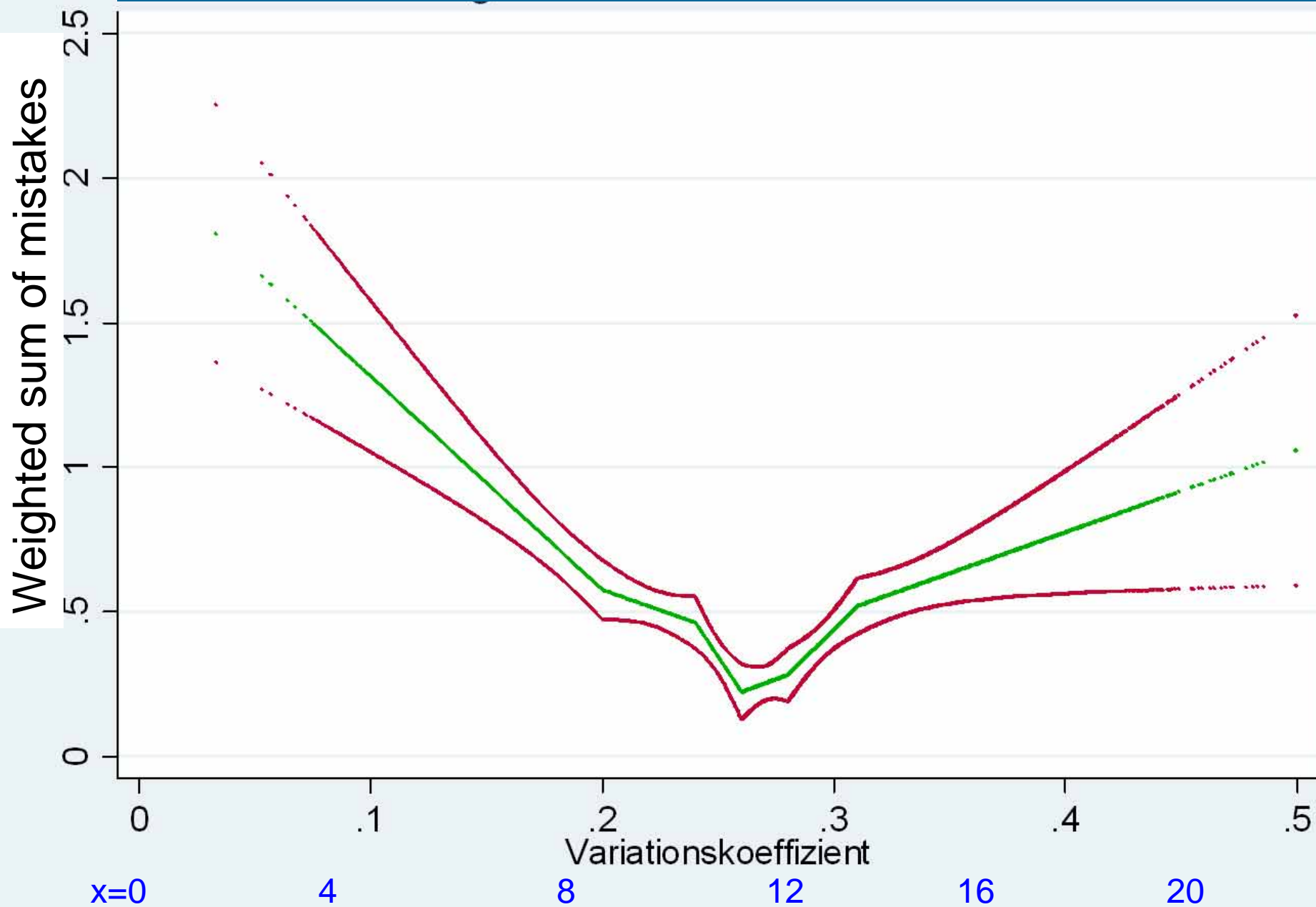
Combined effect: age plus experience



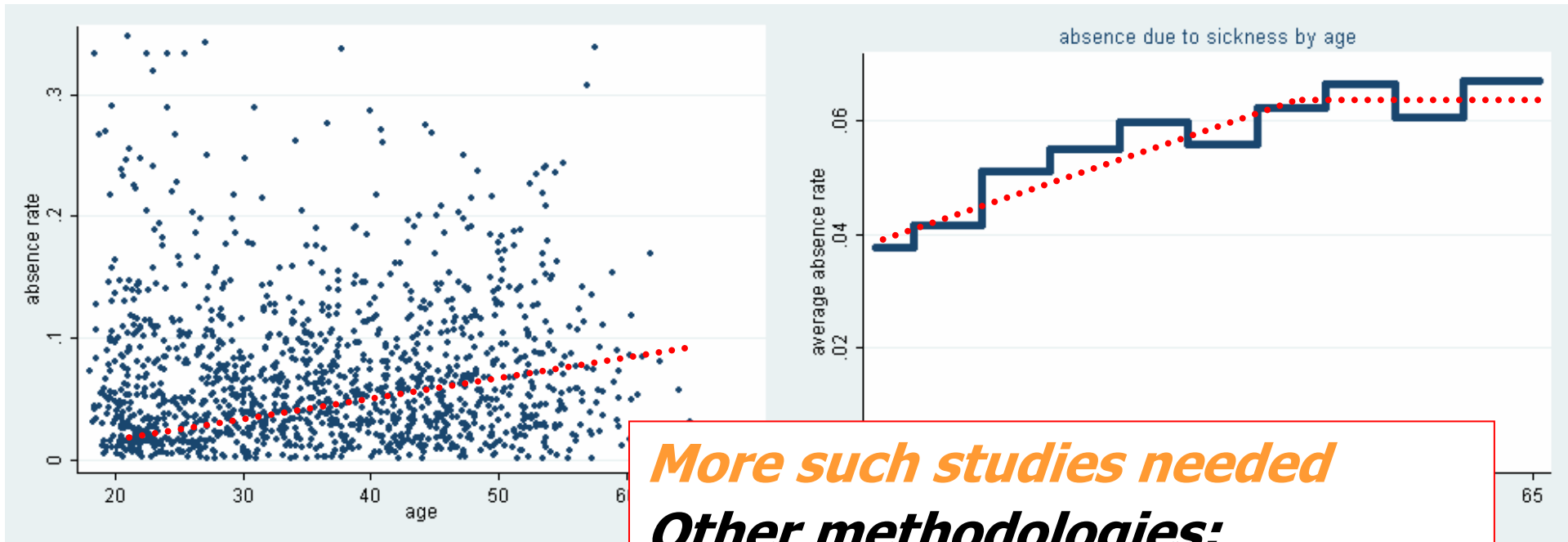
- ▶ Korrektur von **Selectivity Bias**:
 - Heckman: → Use information about workers, who leave the sample (positive & negative selection).
 - Person-Fixed-Effects: → Compare one and the same person over time.
- ▶ Unit of observation **working team vs. individual**: qualitatively similar results
- ▶ With vs. without **control variables** (weekday, substitute, temperature, etc.): almost identical results
- ▶ With vs. without **interactions with age**: very similar results
- ▶ **Various subsamples**: PFI/PFA, early/late shift, A-/B-Schicht, 2003/2004/2005/2006: similar results

Results very robust: all variants produce similar results

Age heterogeneity („young and old help each other“)



*Myth 3:
Workers are sicker the older they get*



More such studies needed

Other methodologies:

***No solid evidence for normal
productivity decline in 50-64
age range***



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New evidence based on a very large firm data set

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International evidence from SHARE



USA



UK

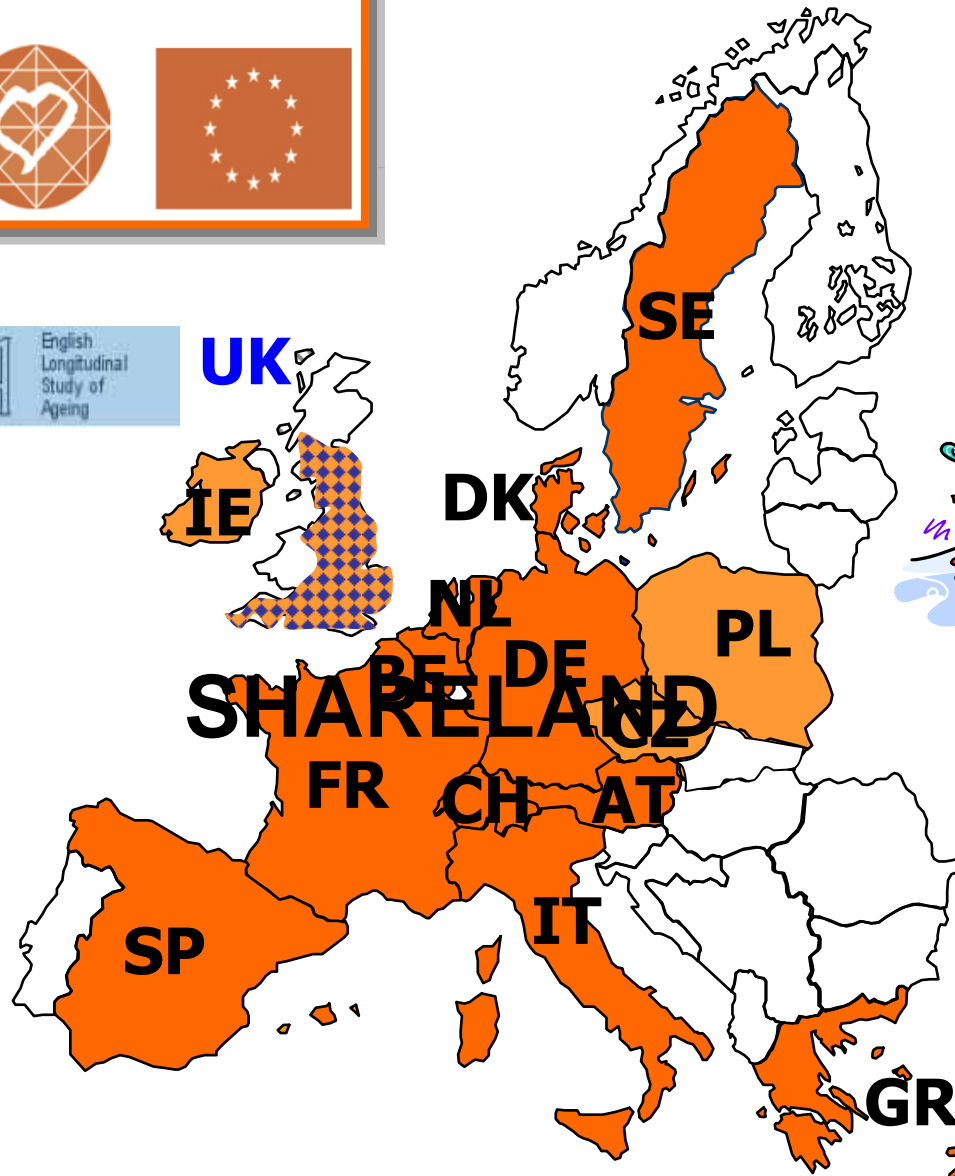


**Korea
Japan**



Wave 1: 2004/05
11 countries,
 32,000 resp. 50+

Wave 2: 2006/07
15 countries,
 38,000 responds.



„Laboratory“: Ex ante harmonized cross-national data



Interdisciplinary breadth

- **1. Health variables:** Self-reported health, self-reported conditions, physical functioning (ADLs, IADLs, walking speed/*chair stand*, grip strength, *peak flow*), mental health and cognition, health behaviors and health service utilization, insurance coverage; *vignettes*.
- **2. Economic variables:** Current work activity and job characteristics (job demands, flexibility, hours worked, opportunities to work post-retirement age), employment history, pension rights, sources and composition of current income, wealth and consumption.



Interdisciplinary breadth

- **3. Family and Social Network:** Family structure, assistance within families, intergenerational transfers of assets, money and time, social networks, proximity to relatives and activities (shopping, amusement), time use after retirement, volunteer activities.
- **4. Psychological data:** Expectations, preferences, risk aversion, time horizon
- **5. Demographic data:** Basics (age, gender, marital status...), housing, education, links to administrative data

< Back (alt B)

	1 Early childhood						2 Childhood						3 Adolescence						4 Early Adulthood										
	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48	'49	'50	'51	'52	'53	'54	'55	'56	'57	'58
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1 Children																													
2 Partners																													
3 Accommodation																													
4 Job																													
5 Health																													

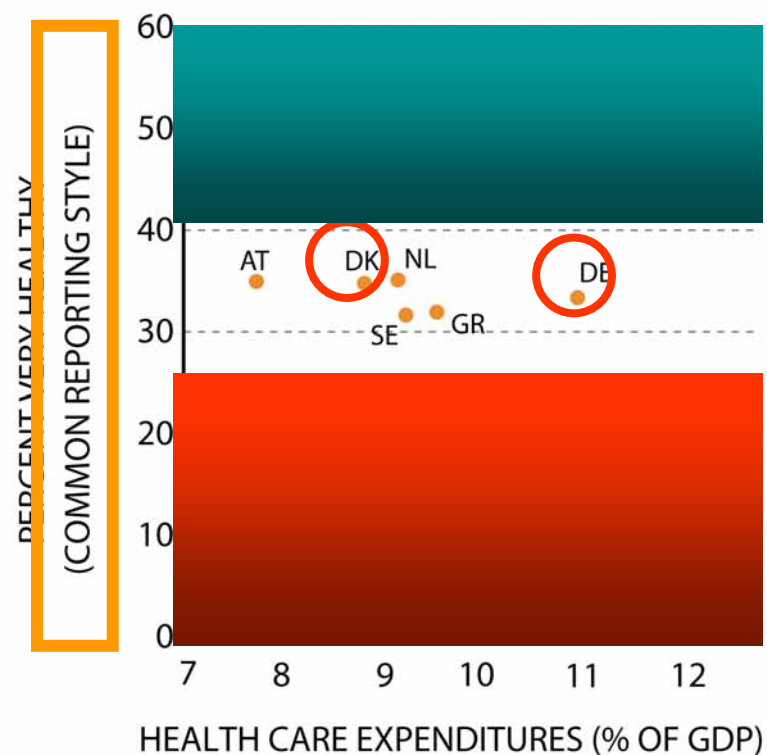
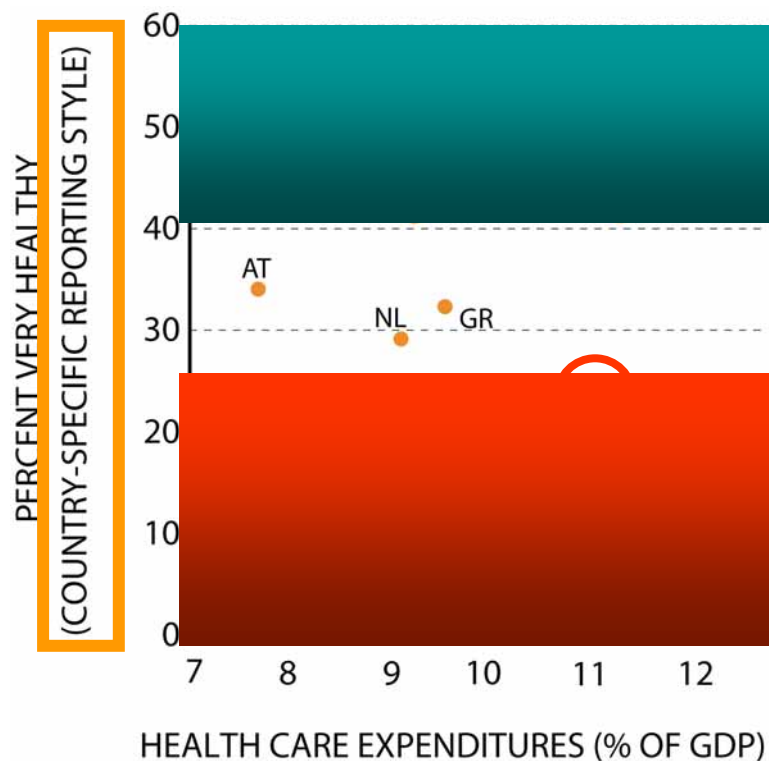
Events (alt E)

Important events around this year

- 1953: Stalin died
- 1953: Maureen Connolly was first woman to win Grand Slam in tennis
- 1953: Explosion of the first Hydrogen bomb in the pacific
- 1953: From here to eternity film by Fred Zinnemann
- 1953: Elizabeth II coronation



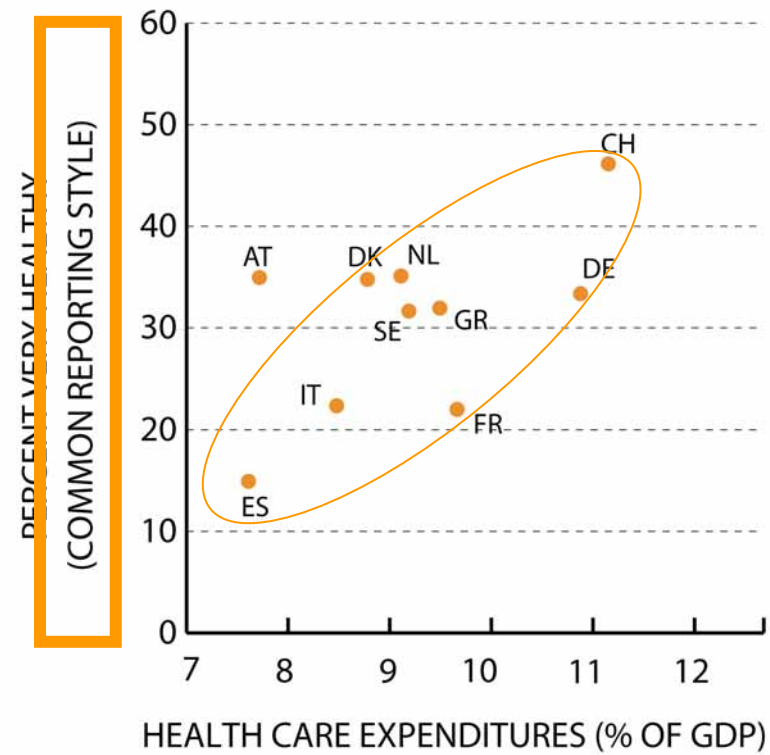
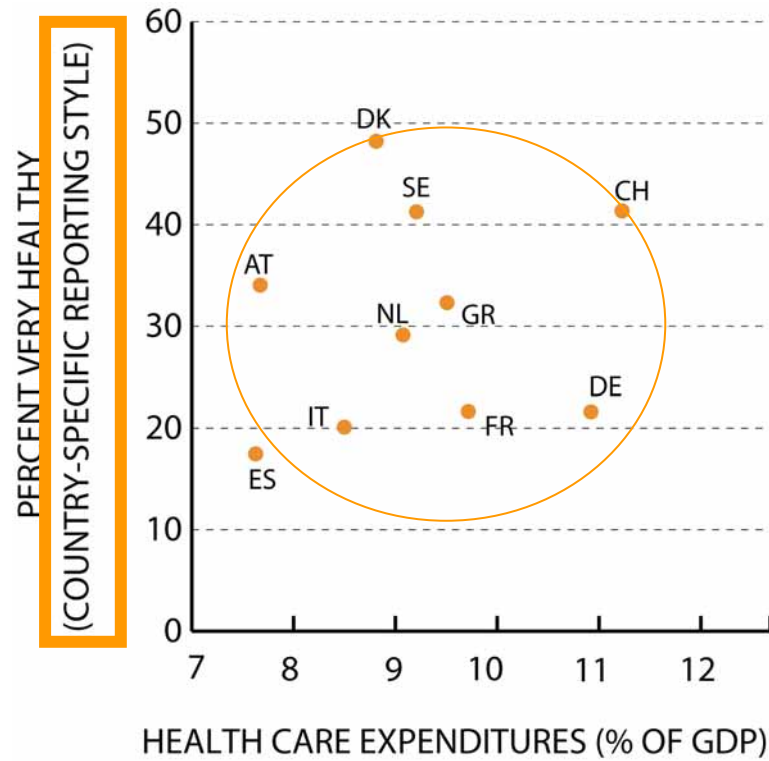
Reporting styles of common health status indicators



Similar for well-being, social inclusion, financial distress...

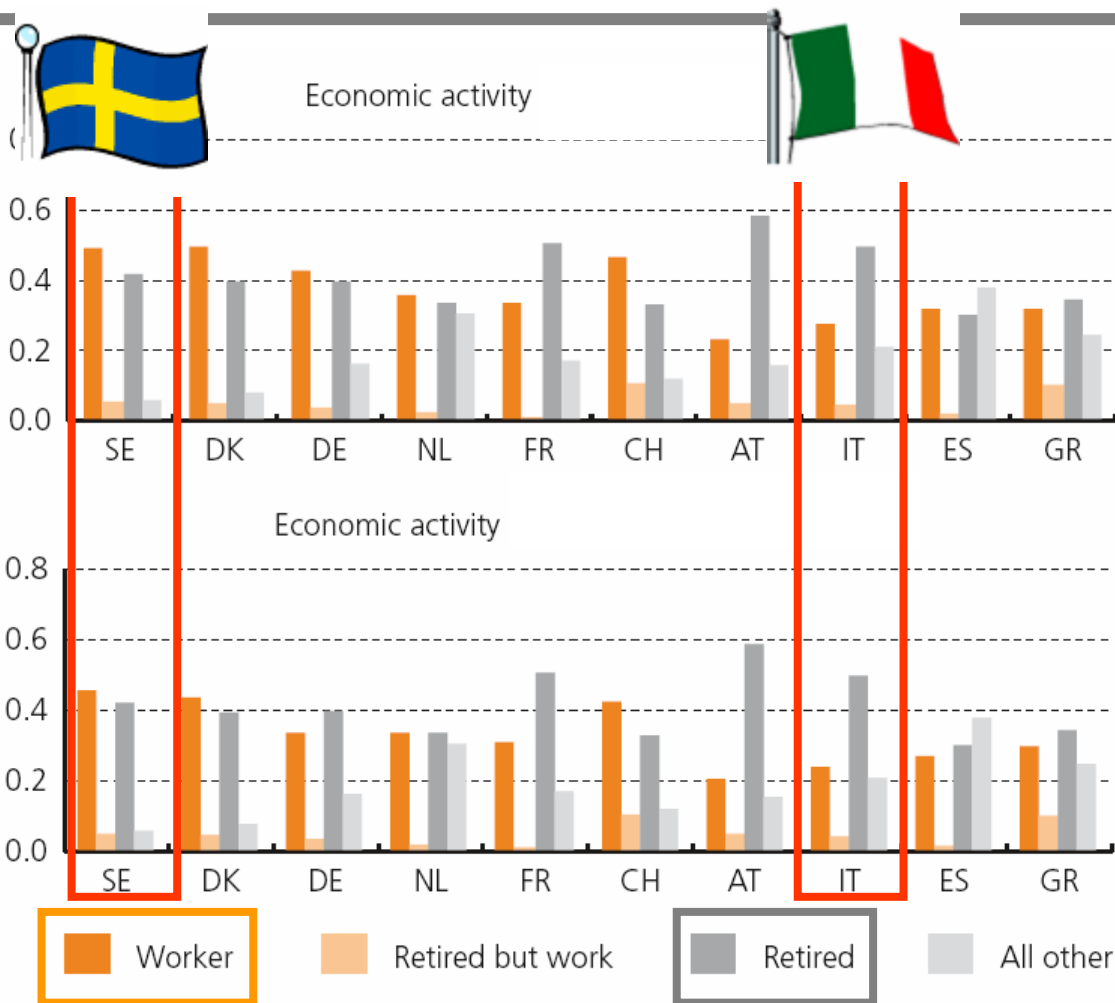


„Health“ and health expenditures





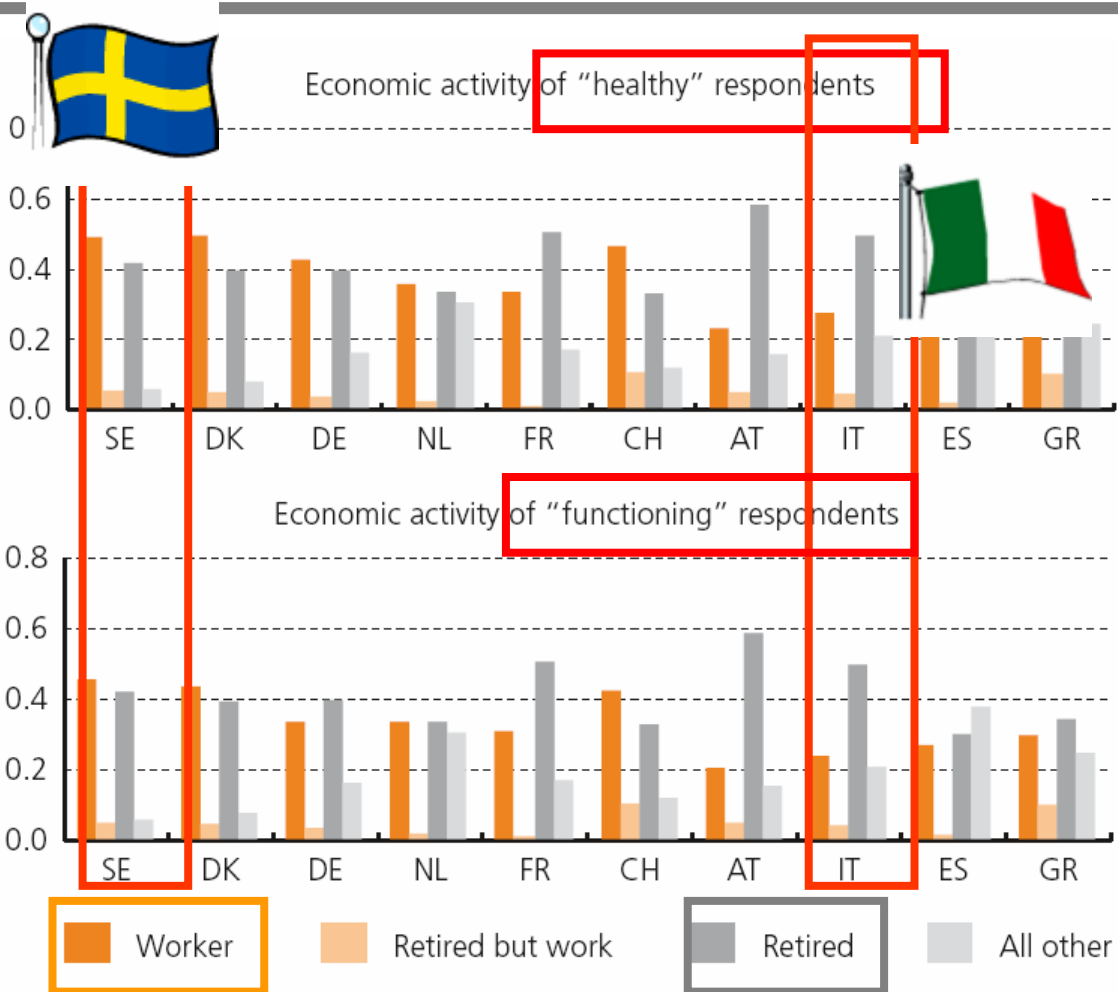
Myth 4: Old workers retire earlier due to ill health



Source: Agar Brugiavini, Enrica Croda, and Franco Mariuzzo



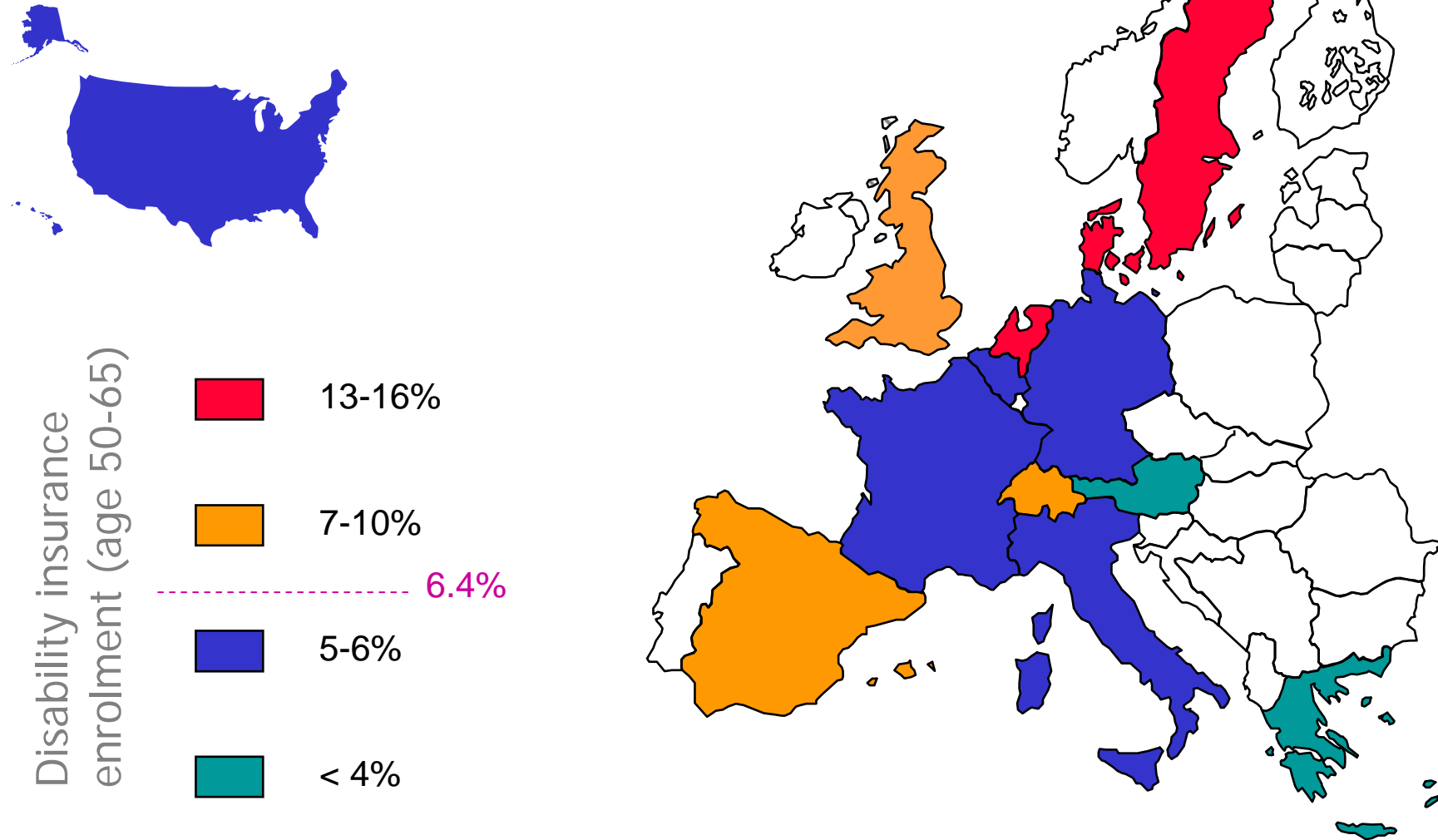
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Cross-national differences in disability insurance enrolment





Probit Regression: Prob(enrolled in DI)

Demographics: Age splines and gender

Health: Self-report, functions (I/ADL), physical measures, cognition, EURO-D

OECD indicators: Benefit generosity, medical exam, alternatives (vary only across countries)

Interactions: OECD with health, age and gender

9388 observations

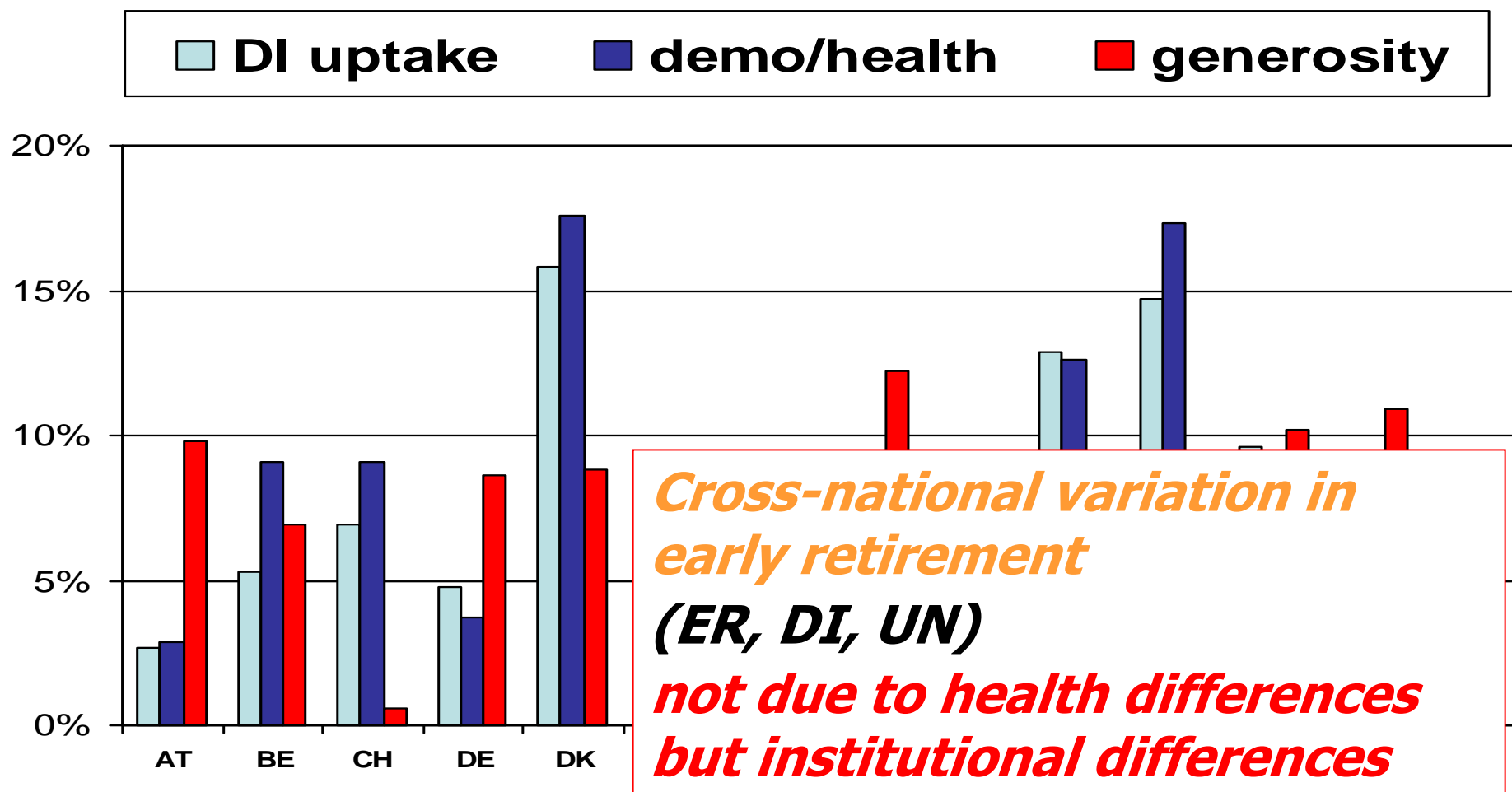


Regression results

DI	Probit	z	Weibull	z	Linear	t
female	-0.661	-1.91	0.430	-1.71	-0.078	-1.39
age155	-1.068	-0.58	2.602	0.19	-0.094	-0.31
age60	0.385	0.1	12.949	0.49	0.123	0.25
age1in1	0.027	2.05	0.940	-1.84	0.003	2.29
age1in2	0.006	0.15	0.955	-0.56	0.001	0.12
age1in3	-0.006	-0.09	0.960	-0.45	-0.002	-0.22
hexcl	-0.896	-6.86	0.141	-8.14	-0.063	-2.62
hvery	-0.534	-4.28	0.324	-7.5	-0.041	-2.15
hfair	-0.007	-0.06	1.417	0.68	-0.192	-4.73
hpoor	0.361	2.49	2.206	1.55	-0.078	-1.53
cessum	0.058	4.88	1.087	4.33	0.008	2.84
adl	0.054	1.33	1.052	1.04	0.022	1.9
iadl	0.221	4.6	1.257	4.42	0.061	3.7
covg	0.039	0.68	1.320	1.96	-0.023	-2.19
minl	0.361	4.39	1.992	3.09	0.036	2.39
full	-0.184	-2.18	0.616	-2.87	0.003	0.26
geno	-0.329	-5.03	0.546	-2.71	-0.028	-3.12
perm	0.049	1.87	1.175	2.59	-0.006	-0.81
medi	0.069	2.71	1.106	1.46	0.006	1.4
voca	-0.121	-1.79	0.943	-0.31	-0.040	-3.29
UEben	0.106	4.02	1.120	1.3	0.022	3.02
covg_fem	0.205	4.87	1.447	4.46	0.027	3.18
minl_fem	0.015	0.15	1.025	0.14	0.000	-0.03
full_fem	-0.086	-1.17	0.810	-1.71	-0.005	-0.52
geno_fem	-0.018	-0.23	0.908	-0.53	-0.002	-0.2
covg_old	-0.032	-0.92	0.922	-0.99	0.000	0
minl_old	-0.118	-1.65	0.819	-1.08	-0.003	-0.37
full_old	-0.048	-1.12	0.882	-1.25	-0.010	-1.94
geno_old	0.173	2.72	1.353	1.6	0.011	1.32
covg_hfpoor	0.110	5.27	1.008	0.09	0.078	14.63
minl_hfpoor	0.091	2.12	0.918	-0.45	0.072	7.95
full_hfpoor	0.063	1.32	1.430	2.67	-0.024	-2.88
geno_hfpoor	-0.036	-0.95	1.111	0.53	-0.030	-7.68
_cons	-1.827	-0.71	1.256	35.76	0.182	0.49
	9388	0.2588		0.1957		0.2667



*Myth 4:
Old workers retire earlier due to ill health*



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Macro CGE models and market reforms: need to increase employment rates in Old Europe

Well-known message

2. Old workers take jobs away from the young

Economists fail to address this because it's too trivial

3. Older workers are less productive (and more often sick)

New evidence based on a very large sample

Deeply rooted myths and misconceptions

4. Old workers need to retire early due to ill health

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