

Summer School – Higher School of Economics - June 2016

Higher Education from an Economic Perspective – With special emphasis on the Role of Human Capital

Pedro Teixeira
CIPES and U. Porto

4 Key Stages in the Development of Economic Thought

Adam Smith (1723-1790) – Classical Political Economy



- **The emergence of Political Economy;**
- **Emancipation from other forms of thinking and analysis;**
- **A more theoretical strand (Natural Philosophy) and a more practical one (Commerce, Business activity, Government administration);**
- **Market as a central concept – System of Natural Liberty (Freedom, Competition, Private Initiative);**
- **Strong Policy orientation;**

Alfred Marshall (1842-1924) - From Political Economy to Economic Science



- Rise of marginal analysis;
- Neoclassical economics – renewal of Classics;
- The development of microeconomics;
- Graphical analysis and mathematics;
- Economics as a practical and realistic science;
- Coexistence of different schools of thought;

Paul Samuelson (1915-2009) - the Neoclassical Synthesis



- Neoclassical economics + Keynesian ideas;
- Development of macroeconomics (J. M. Keynes);
- Economics as mathematical science (models, formalization);
- Less emphasis on realism and more on predictive power (M. Friedman);
- Professionalization and technical sophistication;
- Social market – market + government intervention;

Gary Becker (1930-2014) – Expansion of Economics' Domain



- **The dominance of neoclassical economics;**
- **The development of applied fields (1960s-1970s);**
- **Economics as a science about choices;**
- **Emphasis in rationality, consistency, foresight;**
- **Analysis of non-market individual and social choices;**

Higher Education from an Economic Perspective – some basic issues

Economic Relevance of Higher Education:

- Economic effects
- Economic motivations
- Use of resources

Economics is about:

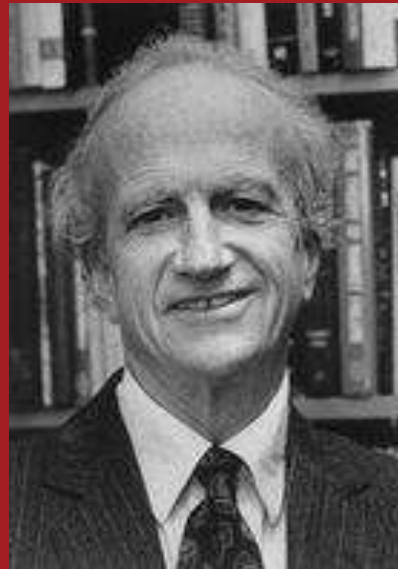
- **Human needs and material possibilities**
- **The problem of scarcity**
- **What, how much, how and to whom produce?**
- **Need to make choices – also in Higher Education**

Basic Concepts in Economics:

- **Market mechanism:**
 - Allocation of resources based on prices and Supply-Demand
 - Role of self-interest and incentives
- **Opportunity cost:**
 - Limited resources - Choosing between alternatives
 - Value of next best alternative that the decision forces us to give up
- **Efficiency:**
 - Absence of waste - Use of all available input to produce maximum output that current technology allows
 - Technical and Allocation efficiency

Seeing Education as Human Capital

Human Capital Theory



Jacob Mincer (1922-2006) – Gary Becker (1930-2014) – T. W. Schultz (1902-98)

Human capital - stock of skills, knowledge, and expertise accumulated by a worker

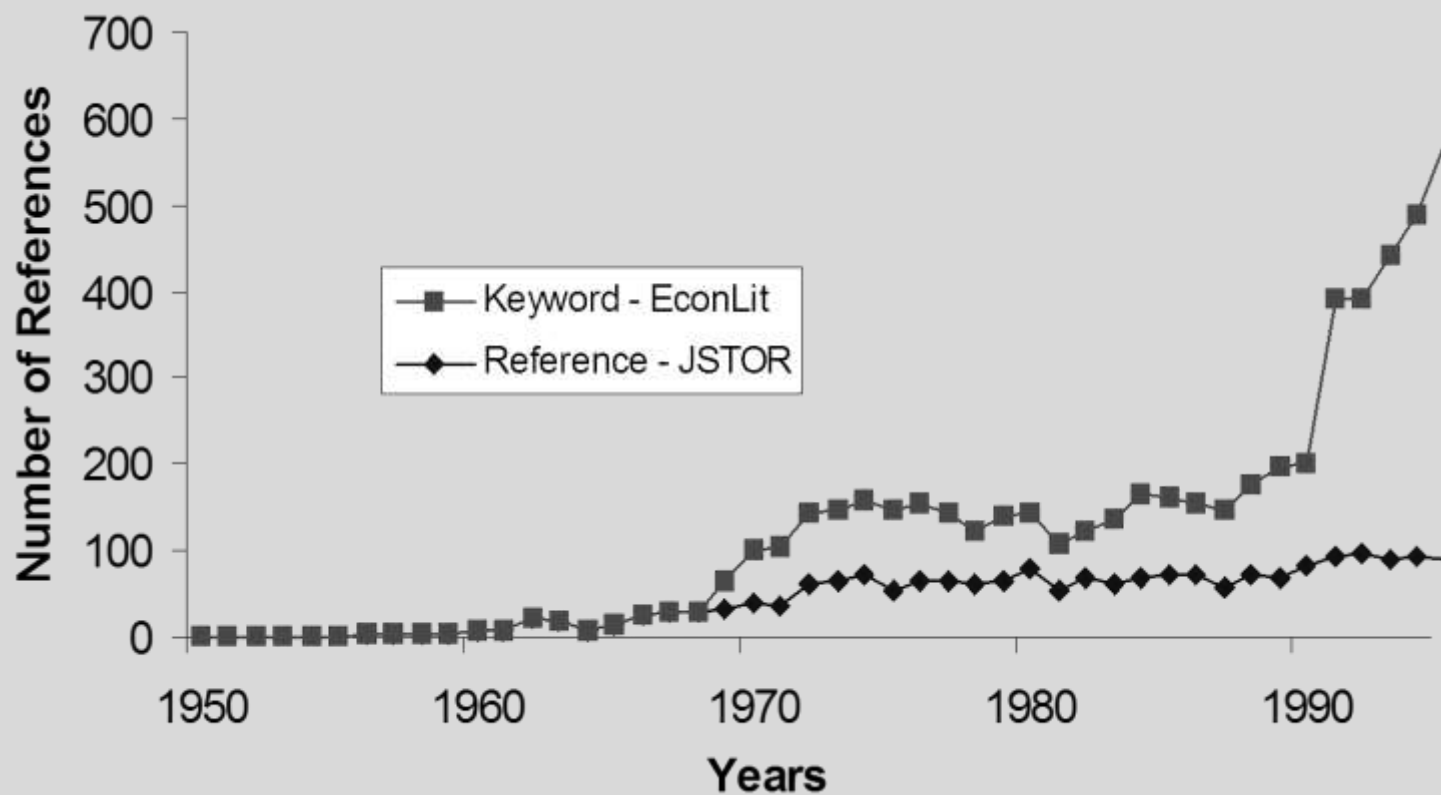
Activities that increase Human Capital:

- **Schooling**
- **On-the-job training**
- **Healthcare**
- **Migration**
- **Home activities**

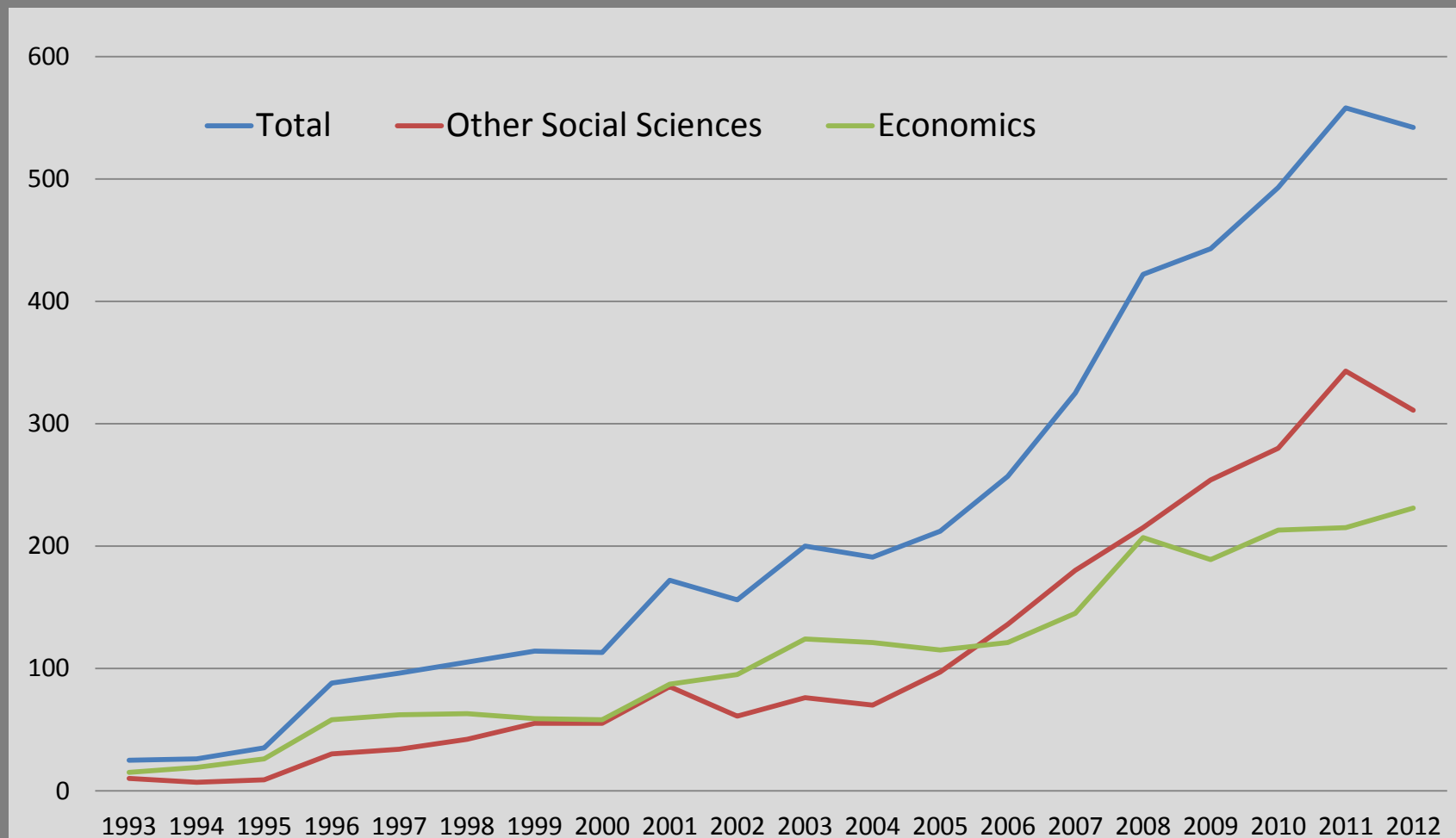
Human Capital:

- **Develops skills;**
- **Raises productivity in market & non-market activities;**
- **Increases potential earnings and economic growth**
- **Individuals and societies spend resources in HC due to consumption and investment motivations**
- **Education becomes an individual and social Investment**

Number of Articles analysing Human Capital issues in Economic Journals



Number of Publications in the Human Capital – (title or keywords)



Benefits of Education: A Broader Approach

HC Individual Benefits

Monetary:

- Higher earnings (wage rates/hours of work)
- Lower unemployment
- Longer professional activity

Non- Monetary:

- Non-market productivity
- Health
- Family welfare

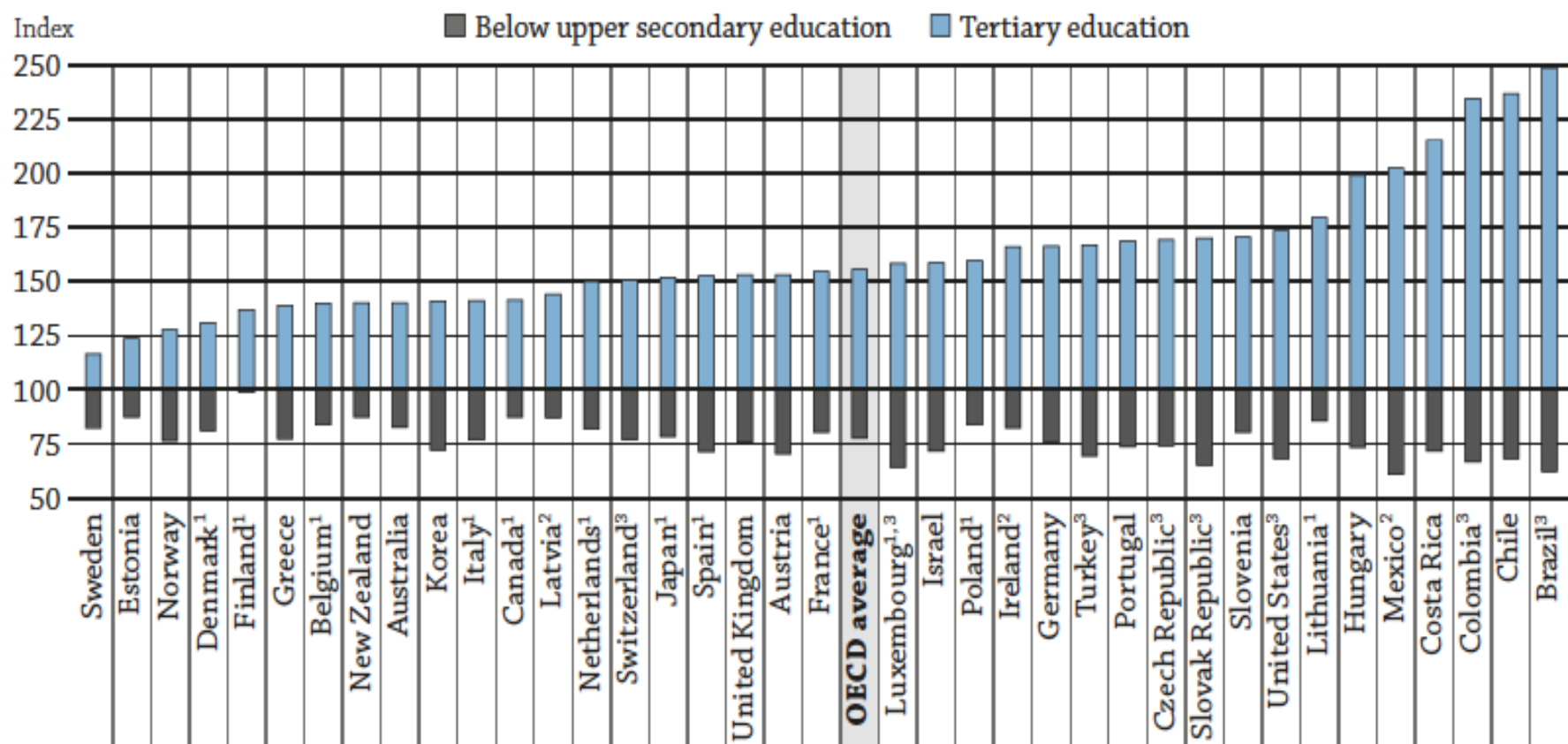
HC Social Benefits

Monetary:

- More productive labour force
- Technological progress
- Income inequality
- Labour market efficiency

Non-Monetary:

- Crime reduction
- Social mobility
- Social cohesion
- Health

Figure A6.1. Relative earnings of adults, by educational attainment (2015)*25-64 year-olds with income from employment; upper secondary education = 100*

Note: Tertiary education includes short-cycle tertiary, bachelor's, master's, doctoral or equivalent degrees.

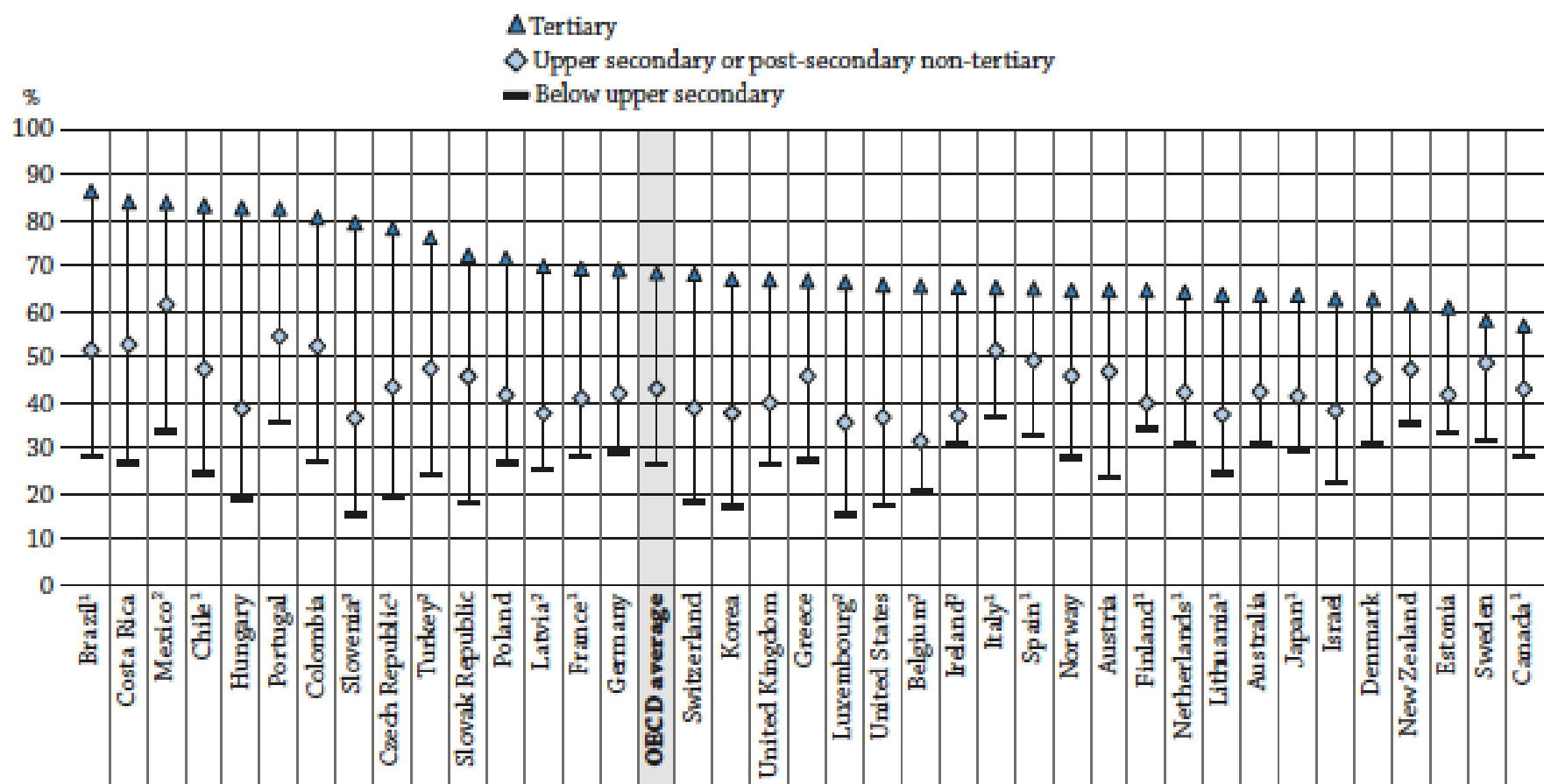
**Figure A4.2. Percentage of adults earning more than the median,
by educational attainment (2016)***25-64 year-old workers (full- and part-time workers)*

Figure A5.3. Employment rates of 25-34 year-olds, by educational attainment and programme orientation (2016)

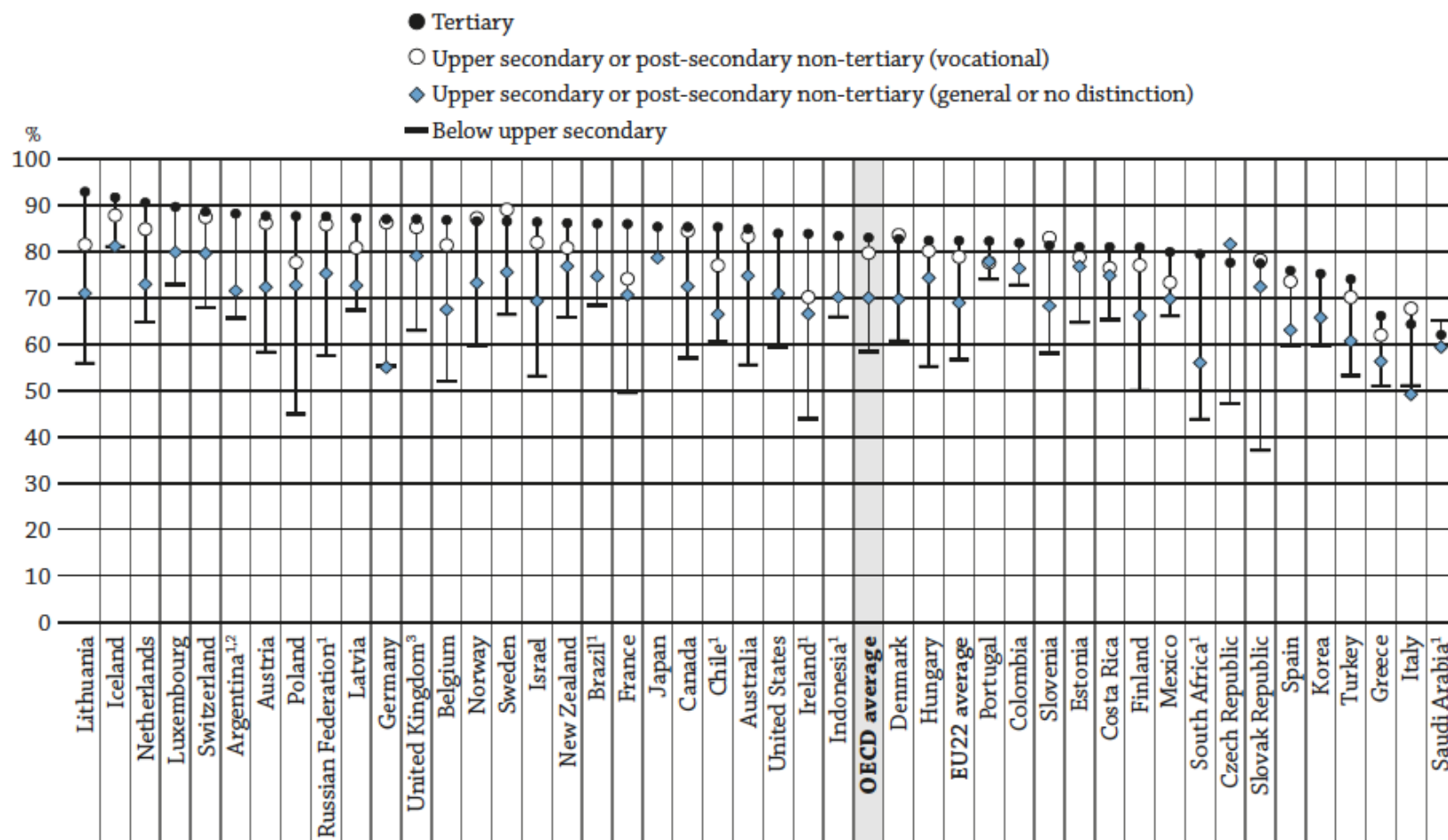
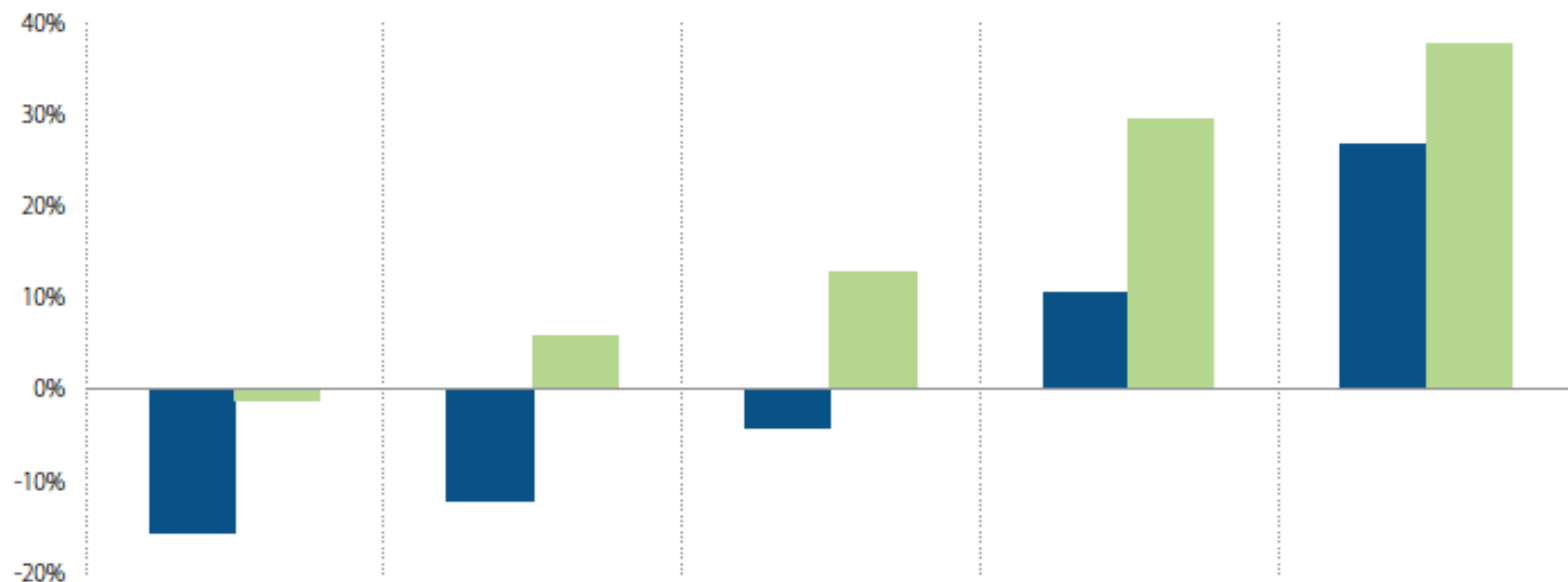


FIGURE 13

Percent changes in real hourly earnings by education, 1979–2007

Percentage change in real hourly earnings

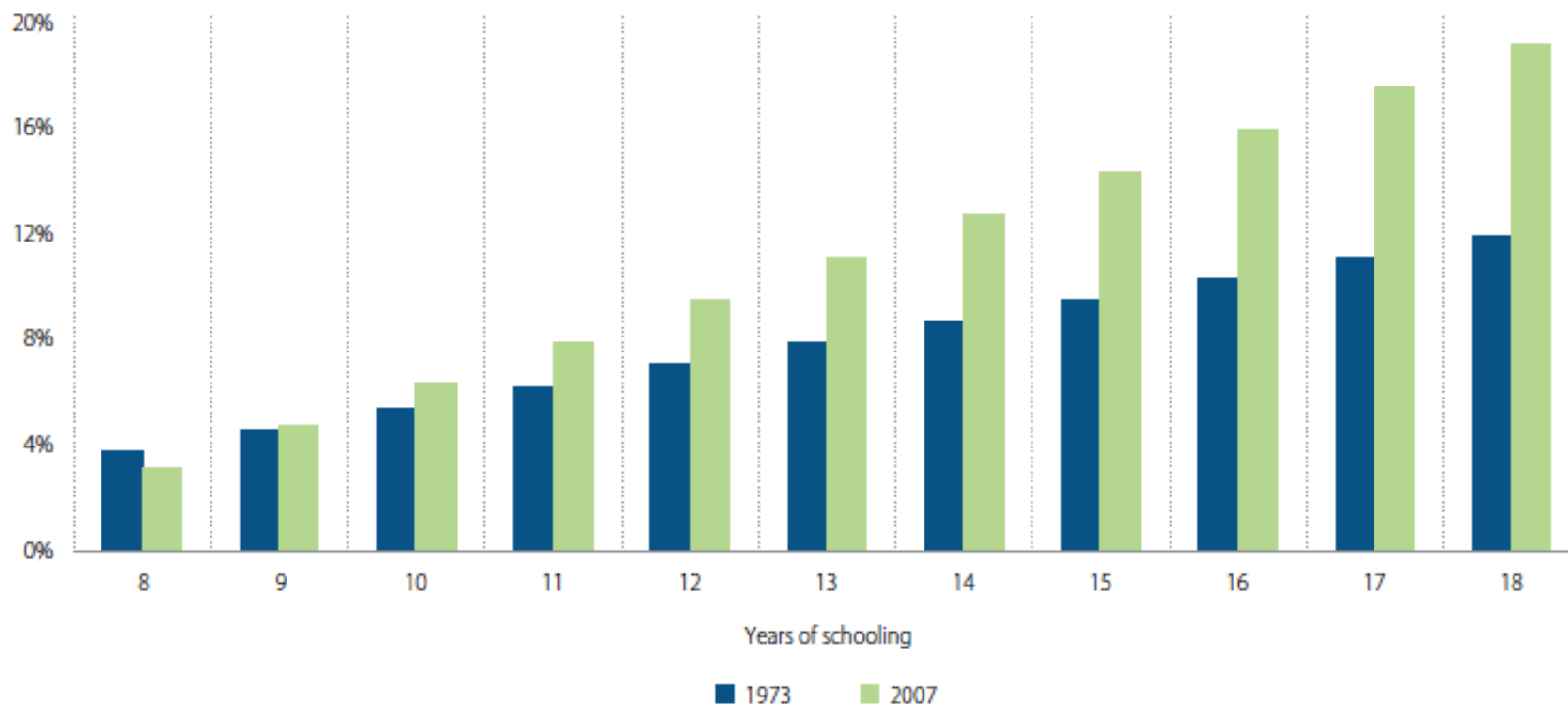


	High school dropout	High school graduate	Some college	College graduate	Postcollege education
■ Males	-0.16	-0.12	-0.04	0.10	0.26
■ Females	-0.01	-0.06	-0.12	0.29	0.37

FIGURE 14

Median hourly wage gain by years of schooling, 1973 and 2007

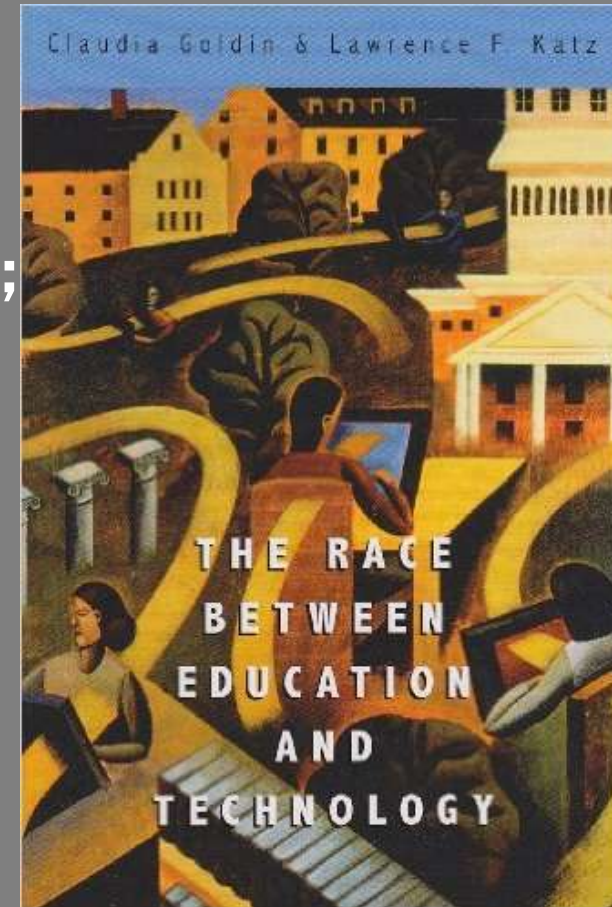
Percentage wage gain



Source: Autor (2010)

HC and Income Inequality:

- Expansion of Education & Wage Premium;
- S vs. Demand – Scarcity and Abundance;
- S/D curves shift over time;
- Temporary disequilibria - Overeducation;
- Skill-Biased Technological Progress;
- Quality & Skills vs. Diploma & Credentials;



Private Non-Monetary Benefits - Beyond Earnings (McMahon, 2018)

		Associate Degree	Bachelor Degree	
	1 Yr	2 Yrs*	4 Yrs*	
Own Health	0.187	3.7%	7.5%	Units of health, 1-10
Better Child Health	0.195	3.9%	7.8%	Units of child health, 1-10
Better Spousal Health	0.180	3.6%	7.2%	Units, spousal health, 1-10
Greater Longevity	0.117	-0.234	-0.468	Lower Mortality Rate; BA increases lifespan 4.8 yrs
Child Educ., Cog. Dev.	0.180	0.354	0.708	Reading and Math Scores
Less Poverty; Smaller Families	-	-0.360	-0.720	Fewer live births/woman
Increased Happiness	-	+	+	Up to \$80,000 HH income
More Efficient Household Consumption	-	+	+	BA worth \$4,016, Michael
More Saving and Better Asset Mgt.	-	+	+	BA worth \$3,939, Solomon
Lifelong Learning	-	-	+	No Coefficients Available

Growing Interest on Social Benefits of Education

Table A8.a. Thematic framework for the indicator on education and social outcomes in *Education at a Glance*

Dimension	Topic
1. Health status	Self-reported health, disability, depression
2. Work-life balance	Balance between work and family
3. Social connections	Trust in others, volunteering, cultural participation
4. Civic engagement and governance	Trust in authorities, voting
5. Environment	Air and water quality, attitude and behaviour towards environmental matters
6. Personal safety	Safe walking alone, victim of crime
7. Subjective well-being	Life satisfaction, happiness

The framework foresees that the seven dimensions will be covered over a four-year publication cycle, starting with *Education at a Glance* 2018, with one or two dimensions covered each year (Table A8.b).

Table A8.b. Summary of the dimensions foreseen in future editions of *Education at a Glance*

Dimension	2018	2019	2020	2021	2022	2023	2024	2025
Environment	✓				✓			
Work-life balance		✓				✓		
Social connections		✓				✓		
Civic engagement and governance			✓				✓	
Personal safety			✓				✓	
Health status				✓				✓
Subjective well-being				✓				✓

Figure A8.1. Percentage of adults who report having depression, by educational attainment (2014)

European Health Interview Survey and national surveys, 25-64 year-olds

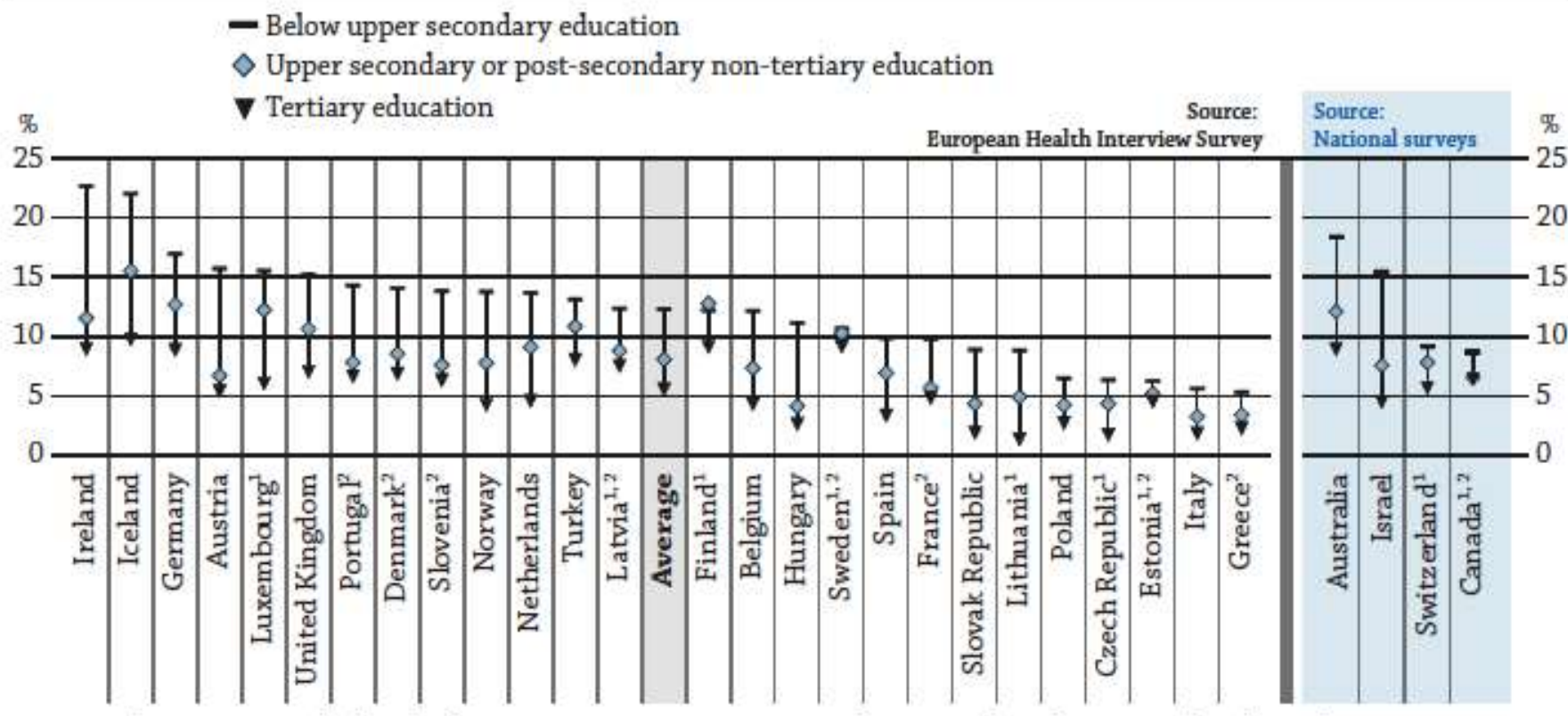


Figure A6.3. Percentage of adults who report taking personal action to reduce energy use, by educational attainment (2016 or 2010)*European Social Survey and International Social Survey Programme, 25-64 year-olds*

▲ Tertiary ◆ Upper secondary or post-secondary non-tertiary ■ Below upper secondary

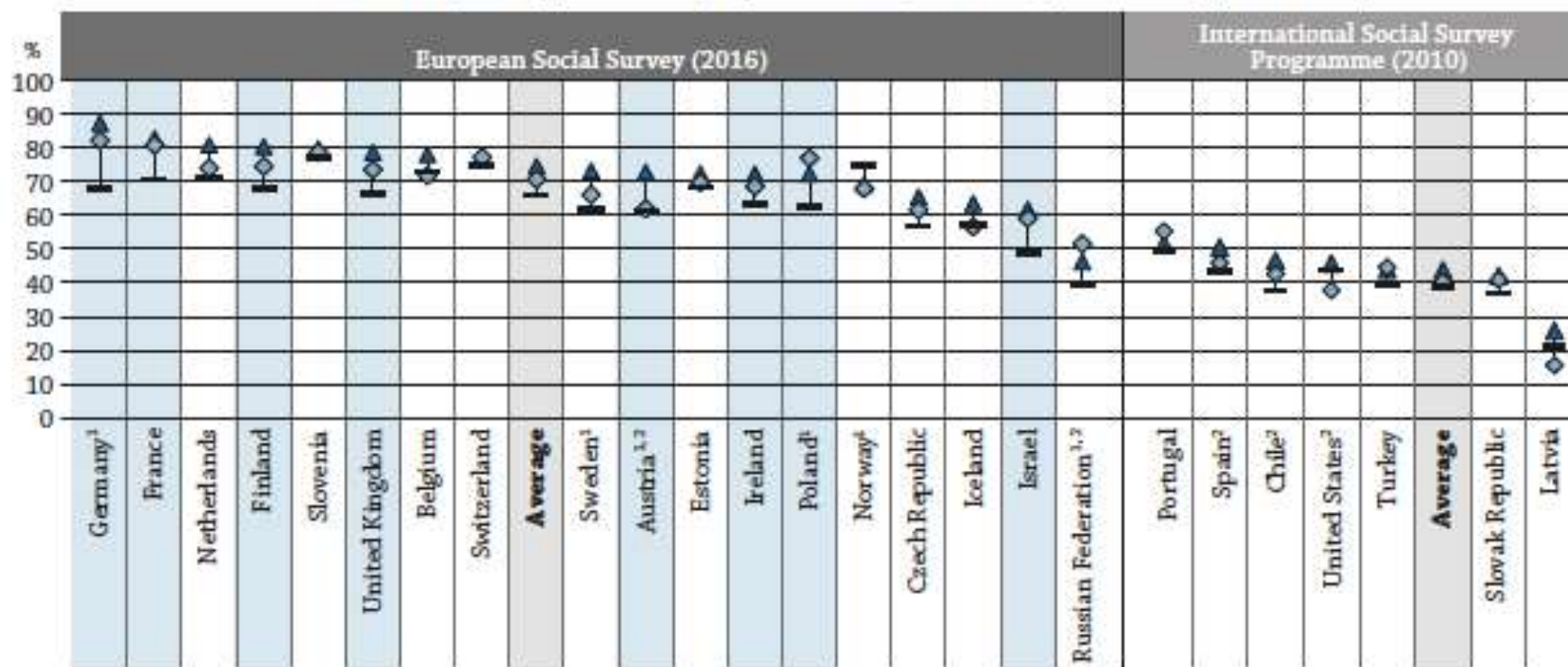
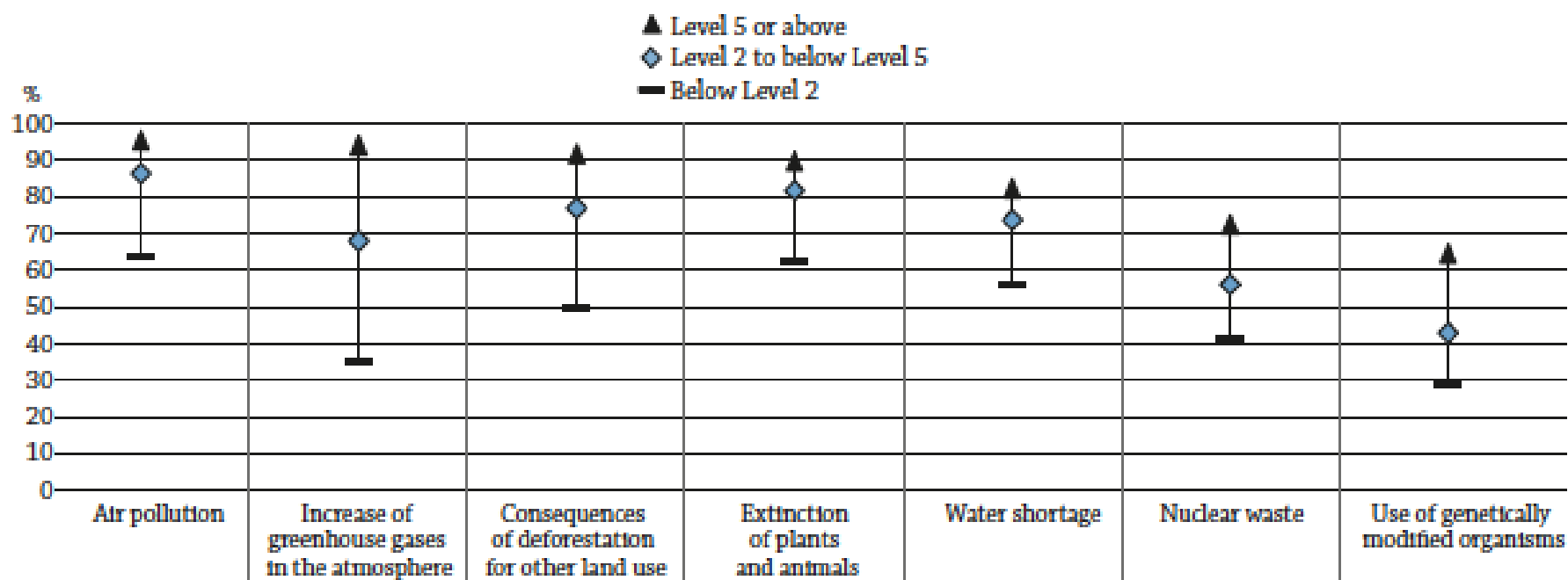


Figure A6.2. Percentage of 15-year-old students who report being aware or well aware of environmental issues, by science proficiency level (2015)

Programme for International Student Assessment (PISA), OECD average

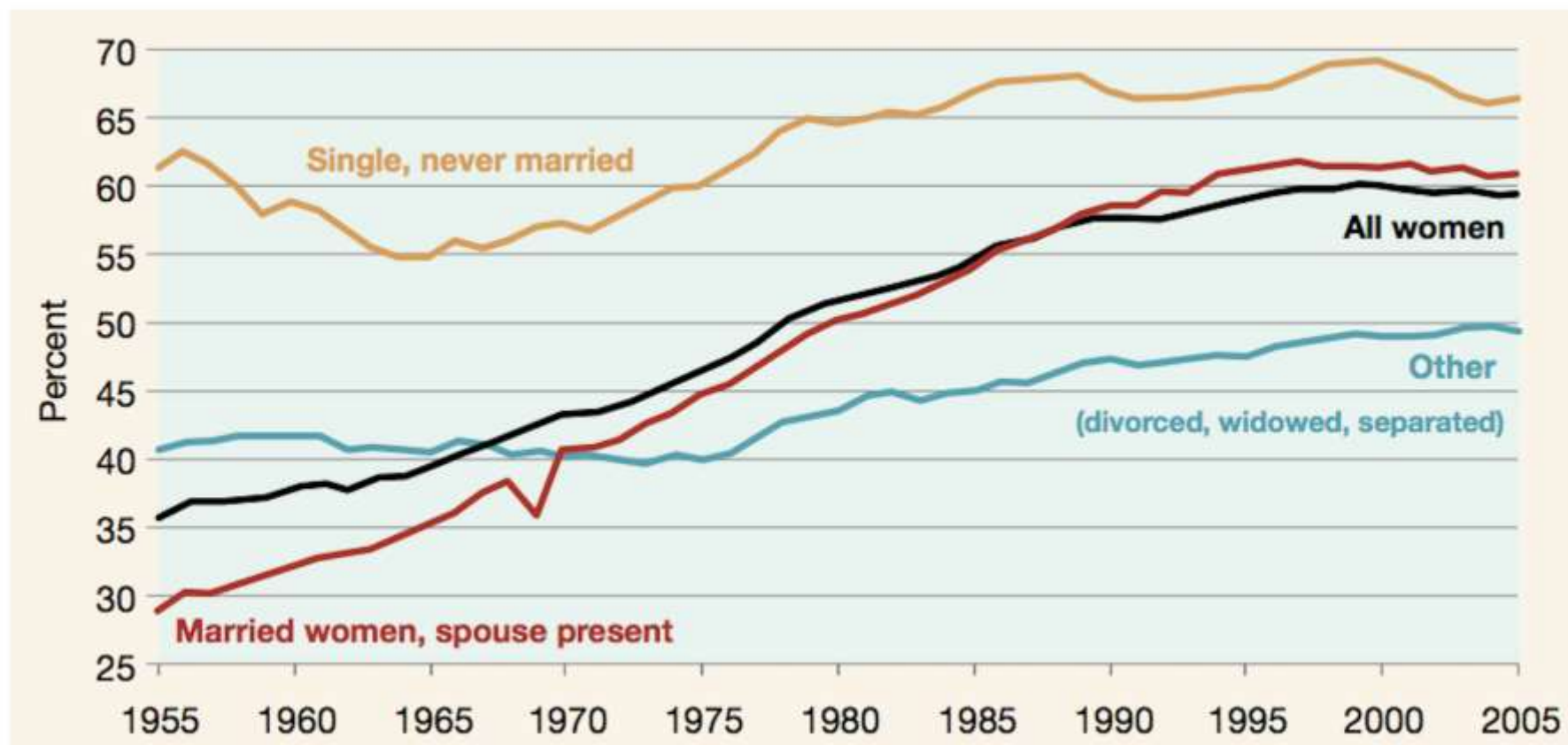


Note: "Aware or well aware" is measured by the categories "I know something about this and could explain the general issue" and "I am familiar with this and I would be able to explain this well".

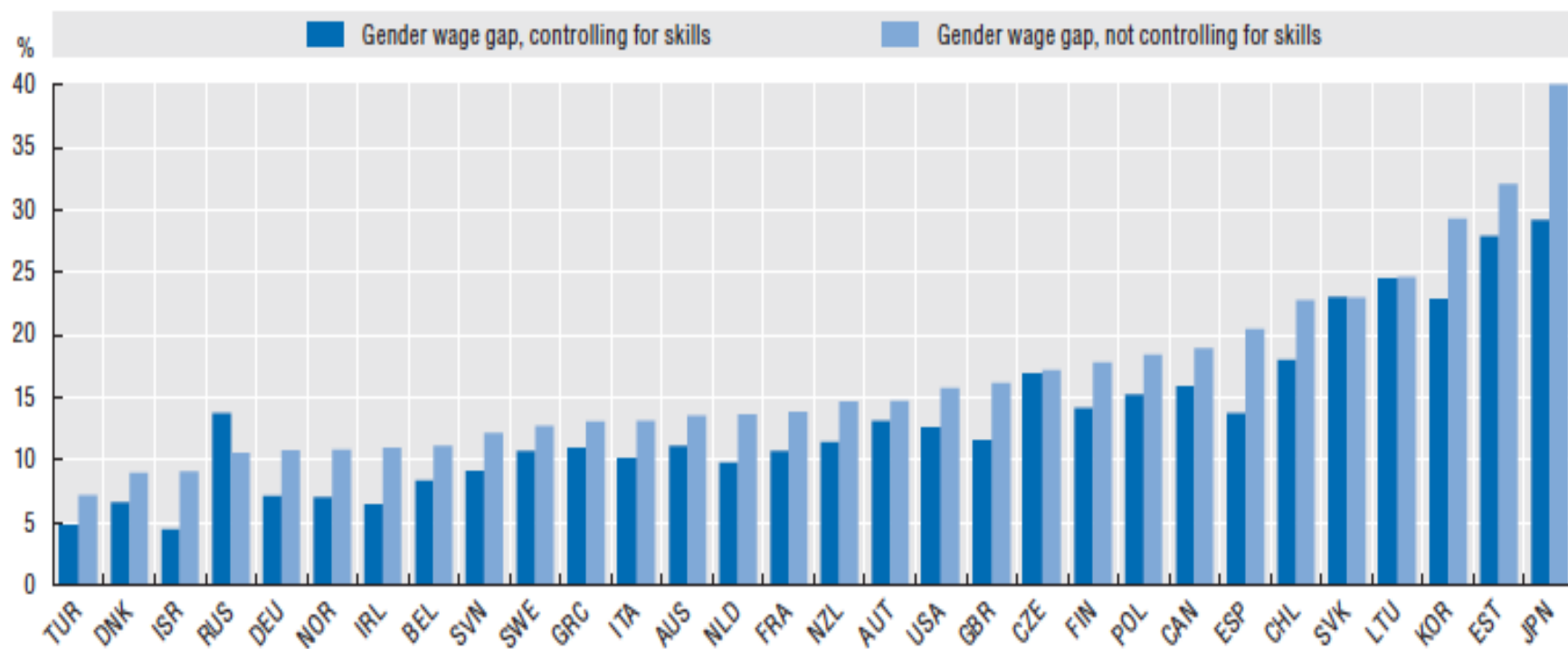
Environmental issues are ranked in descending order of the percentage of 15-year-old students with a science proficiency of Level 5 or above who report being "aware or well aware" of the issue.

Mass HE and the Diversity of Individual Benefits - Gender

Labor Force Participation of Women in the USA, 1955-2005



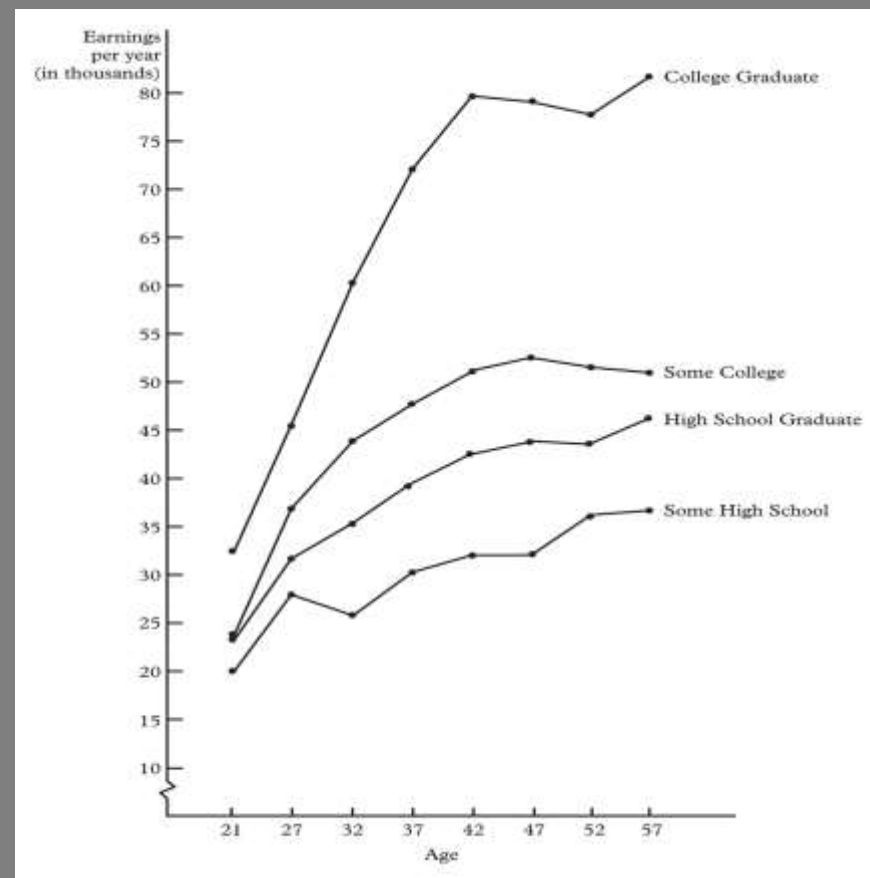
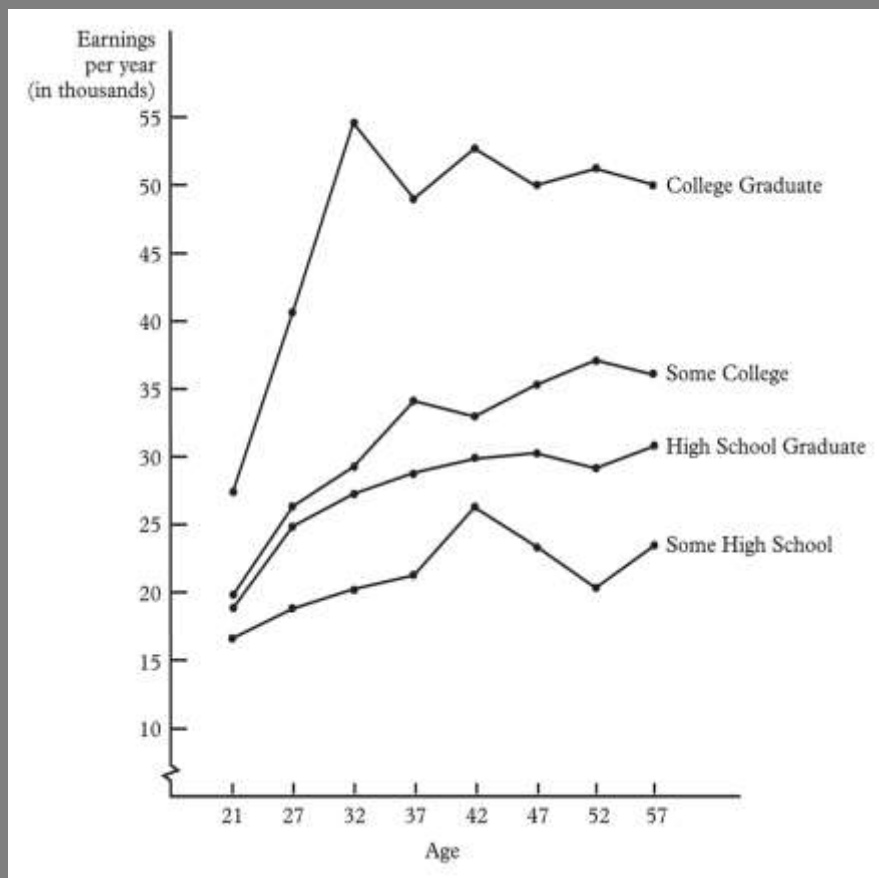
41. Gender wage gap by country, 2012 or 2015

Differences in hourly wages, in percentages (controlling vs. not controlling for various types of skills)

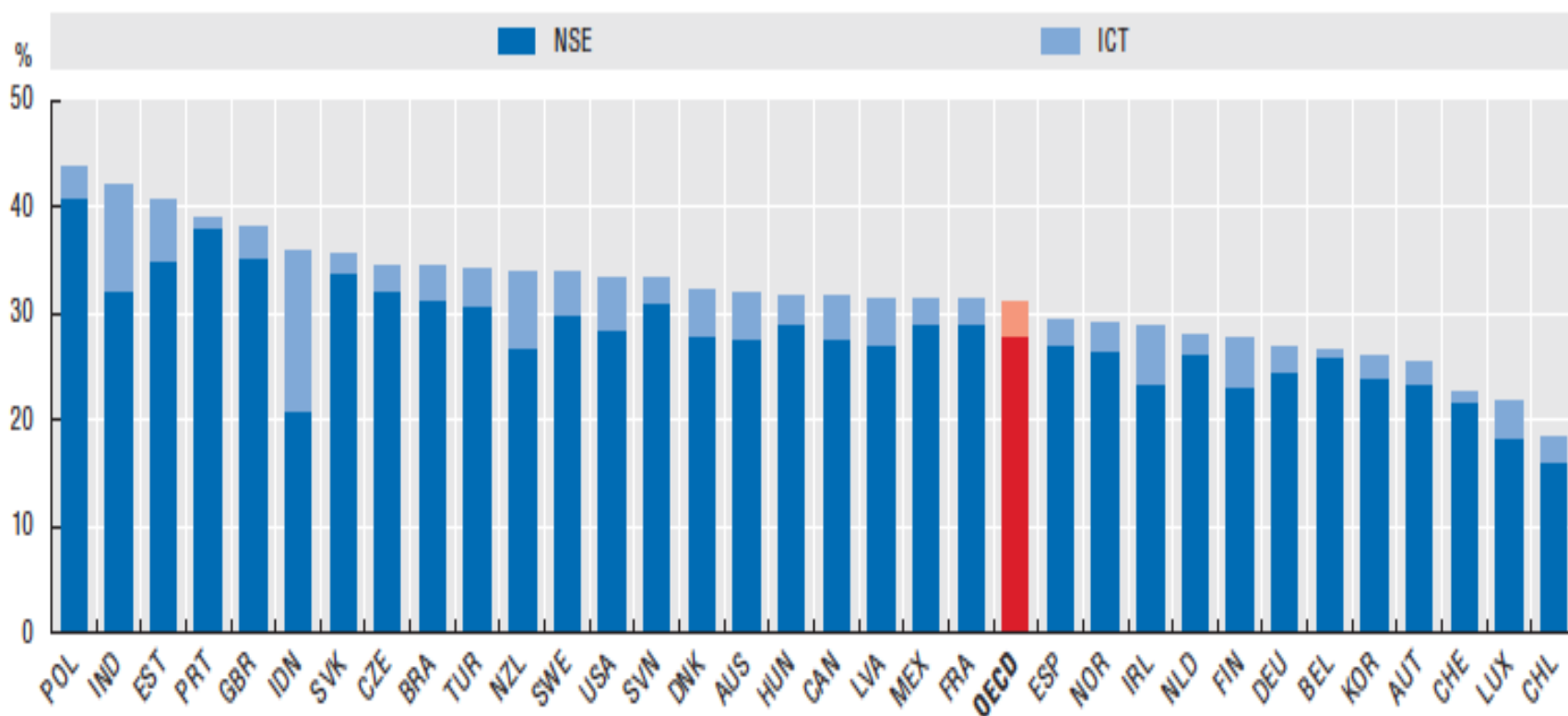
Source: OECD calculations based on the OECD Programme for International Assessment of Adult Competencies (PIAAC) Database, September 2017. See chapter notes.

Monetary Earnings (Mean) for Full-Time Workers

F and M



59. Women tertiary graduates in natural sciences, engineering and ICTs (NSE & ICT), 2015

As a percentage of all tertiary graduates in NSE & ICT

Source: OECD calculations based on OECD, Education Database, September 2017. StatLink contains more data. See chapter notes.

Returns to HE and Gender:

- **Amount and Profile of Investments in HC (Field, Generic vs. Specific HC);**
- **Labour market issues – Participation and continuity, Sector of Employment, Type/Size of firm, skill match/mismatch;**
- **Investments in additional HC by Employers/Individuals;**
- **Family and Social Norms (segregation & gendered choices);**
- **Discrimination in the Labour market;**

Final Remarks

Higher Education from an Economic Perspective:

- HE becomes an individual and social Investment;
- Rational Economic Decisions - Individual and Social Decisions based on Cost-benefit analysis;
- Funding - Who benefits and who should pay?
- Reconceptualization of HEIs – system policies, regulation, internal organization;
- Changing views about students, academics, external stakeholders;

Educational Economics - Criticisms:

- **Preeminence given to economic motives, rationality, optimizing behavior;**
- **Debasing the purposes of Education - Weakening or Strengthening the political and social support for education?**
- **Mass Education (especially Higher Education) – inequality of benefits;**
- **The social and political roles of Education – pecuniary vs. non-pecuniary effects;**

Thank you!

Questions? Comments? Complaints?...

pedrotx@fep.up.pt