ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Intergenerational Social Mobility in European OECD countries

OECD Economics Department

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Intergenerational Social Mobility

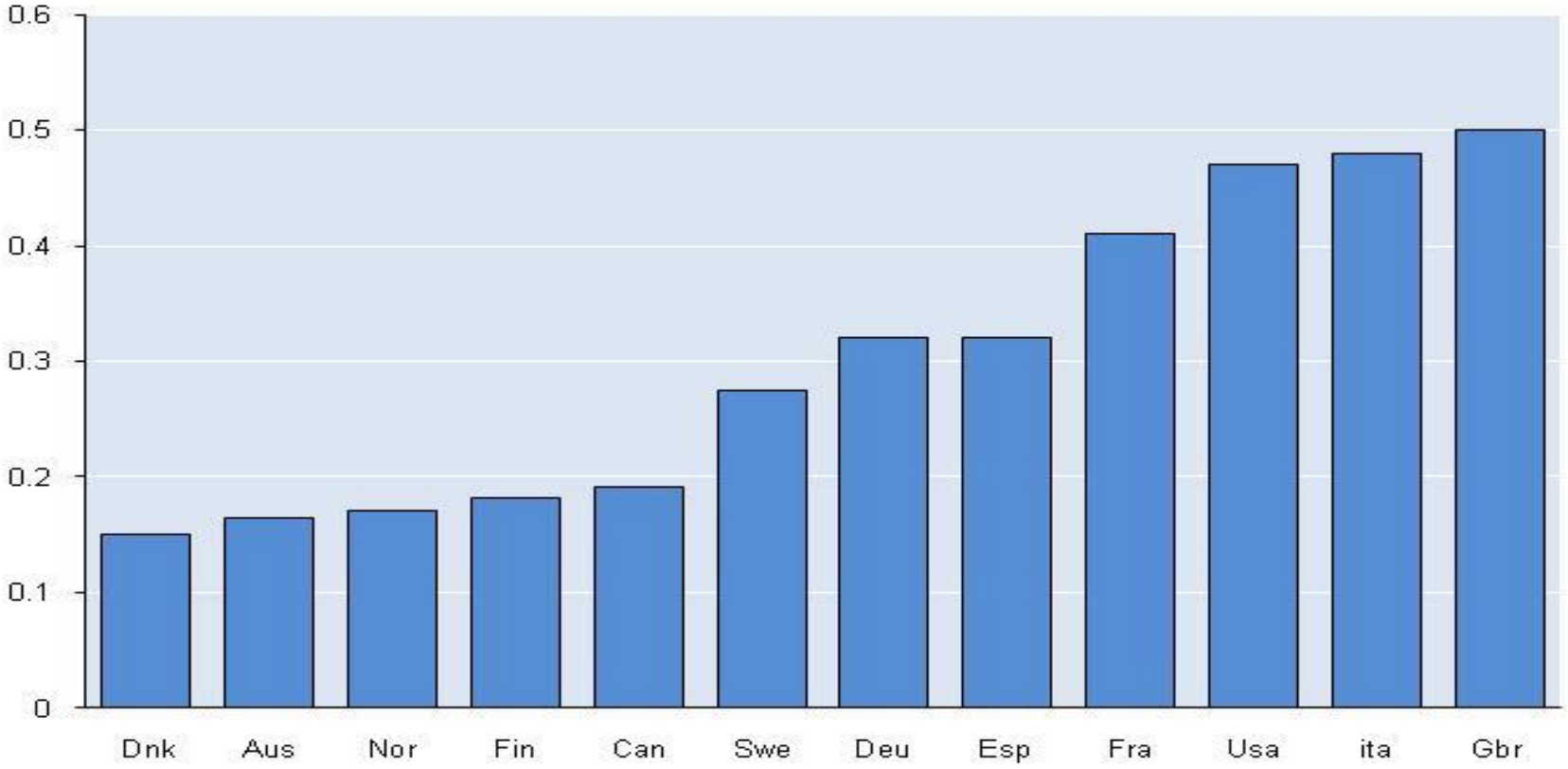
- Paper part of a project aiming at analyzing patterns of intergenerational social mobility across OECD countries.
- More broadly the project aimed at analysing the role of public policies in enhancing mobility with a particular focus on education.
- Today focus on cross-country patterns in mobility.

Intergenerational Social Mobility

- Challenge to measuring social mobility ➔ many different measures ➔hampered by the lack of comparable data, especially from a cross-country comparative perspective.
- Economists usually focus on earnings/income while sociologists on occupation/social class.
- Study focused on wage and educational mobility.
- Review of existing findings: Empirical studies tend to find that persistence –usually measured by the intergenerational income elasticity-- is relatively high in the Usa, UK and lower in the Nordics and Canada (e.g. Corak, 2006; d'Addio, 2007).

Persistence in income in selected OECD countries

Intergenerational Income Elasticity, selected studies



Source: D'Addio 2007

Caveat: different studies, methods, time periods…

Intergenerational Social Mobility

- This project used 2 sources of data: PISA and EU-Silc to assess social mobility. Today focus on the findings from EU-Silc.
- Provide comparable estimates of intergenerational wage and education persistence across 14 European OECD countries based on harmonized micro data.
- Assess the role of education in intergenerational wage mobility.

Data and estimation approach

Data: EU-SILC and its special 2005 poverty module ➔ contains retrospective information on family background when the respondent was a teenager.

Retrospective information: parental education level, occupation, labour market status but not earnings ➔ father's level of education is used as a proxy for parental background

Advantage ➔ difficult to measure permanent income of parents ➔ education is a more permanent feature and correlated with earnings.

Disadvantage ➔ education may not fully reflect earnings in some countries (e.g. those with flat wage schedules)

Coverage: European OECD countries, 3 cohorts of men and women (25-34, 35-44, 45-54). Focus on the middle cohort to limit life-cycle measurement problems.

Estimation approach

1. In a first step estimate "persistence" in wages by:

$$\ln W_i = a + b \cdot E_i \ \cdot + c \cdot X_i + \varepsilon_{i1}$$

where lnWi is log gross hourly wage, Ei is the highest level of education attainment of the child's father (3 categories), Xi is a set of individual characteristics affecting wages (urban/rural area, migrant, married/cohabitant, family-structure, number of siblings).

2. In the second step the child's own educational attainment ECi is introduced to capture the influence of education on the wage persistence.

$$\ln W_i = \alpha + d \cdot E_i \ + e \cdot EC_i + f \cdot X_i + \varepsilon_{i2}$$

- Estimate separate equations for men and women by cohort and by country
- Heckman's sample selection bias correction procedure is used for women, while OLS is used for men.
- Endogeneity problem with respect to own education: there is no easy solution to this identification issue because of the difficulty of finding appropriate instruments (e.g. Card, 2001).

Estimation approach: interpretation

- Interpretation of *b* : change in hourly wages associated with moving across categories of fathers' education where upper-secondary (medium) education is the reference
  - Tertiary (high) relative to upper-secondary (medium) = **wage premium**
  - Below upper-secondary (low) relative to upper-secondary (medium) = **wage penalty**

- The impact of parental background on individual outcomes combines the joint impact of "nature" and "nurture"
  - But there is no reason to believe that genetic inheritability varies systematically across countries: this paper adopts a comparative approach by analyzing to what extent estimates of equations differ across countries.

Estimation approach

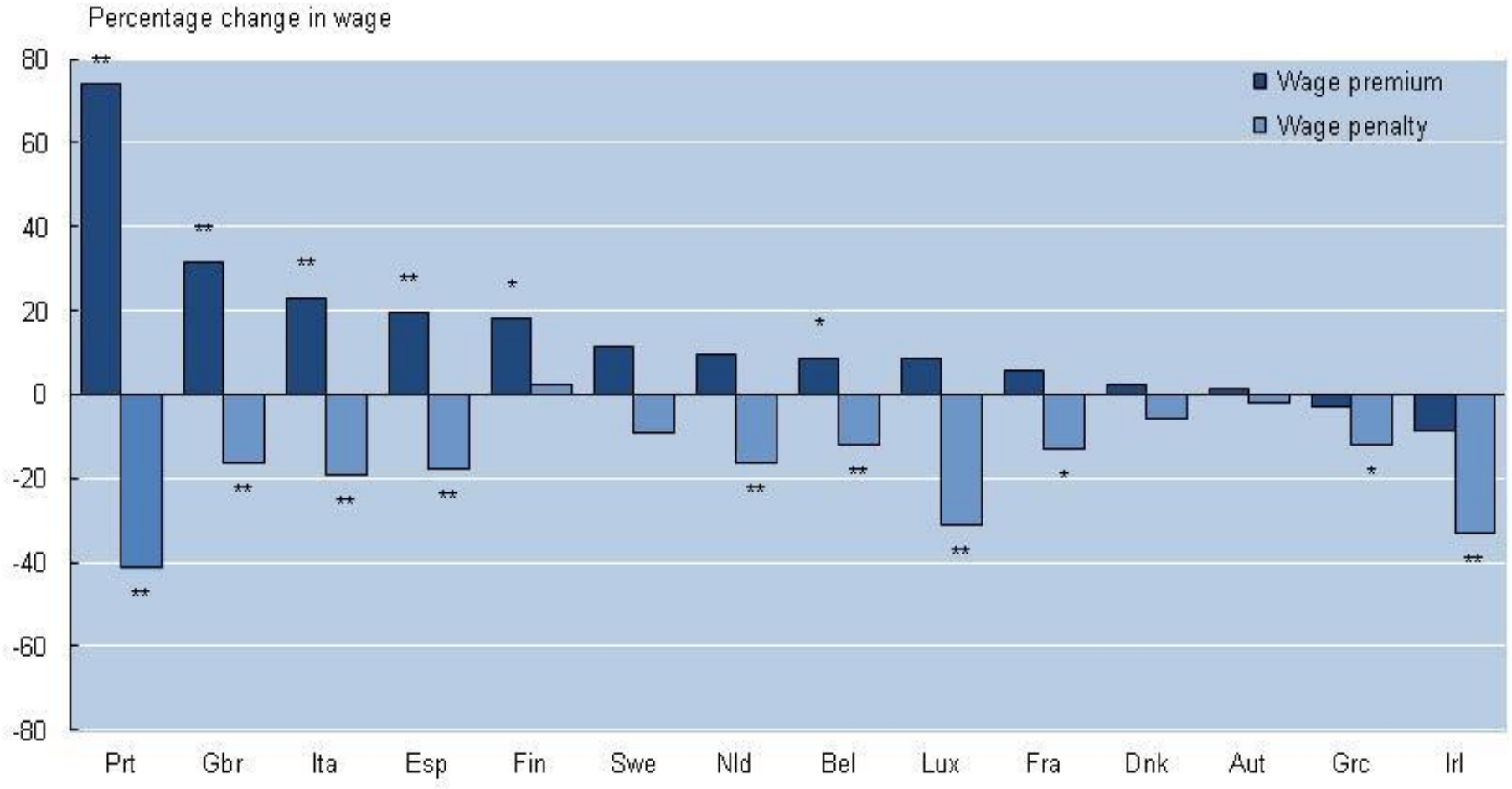
3. In the third step the child's educational attainment ECi is related to that of her/his father's Ei:

$$EC_i = g + h \cdot E_i + j \cdot X_i + \varepsilon_{i3}$$

- Estimate an ordered probit of educational attainment of the child (3 categories of education), by cohort and country.
- Explanatory variables: parental educational, individual characteristics Xi, i.e. those in the wage regressions plus factors influencing educational choice at the time when the individual was a teenager (e.g. number of siblings and dual or single parent family status).
- Interpretation: the change in the probability to achieve a certain level of education depending on father's education attainment.

1. Parental education influences individuals' wages

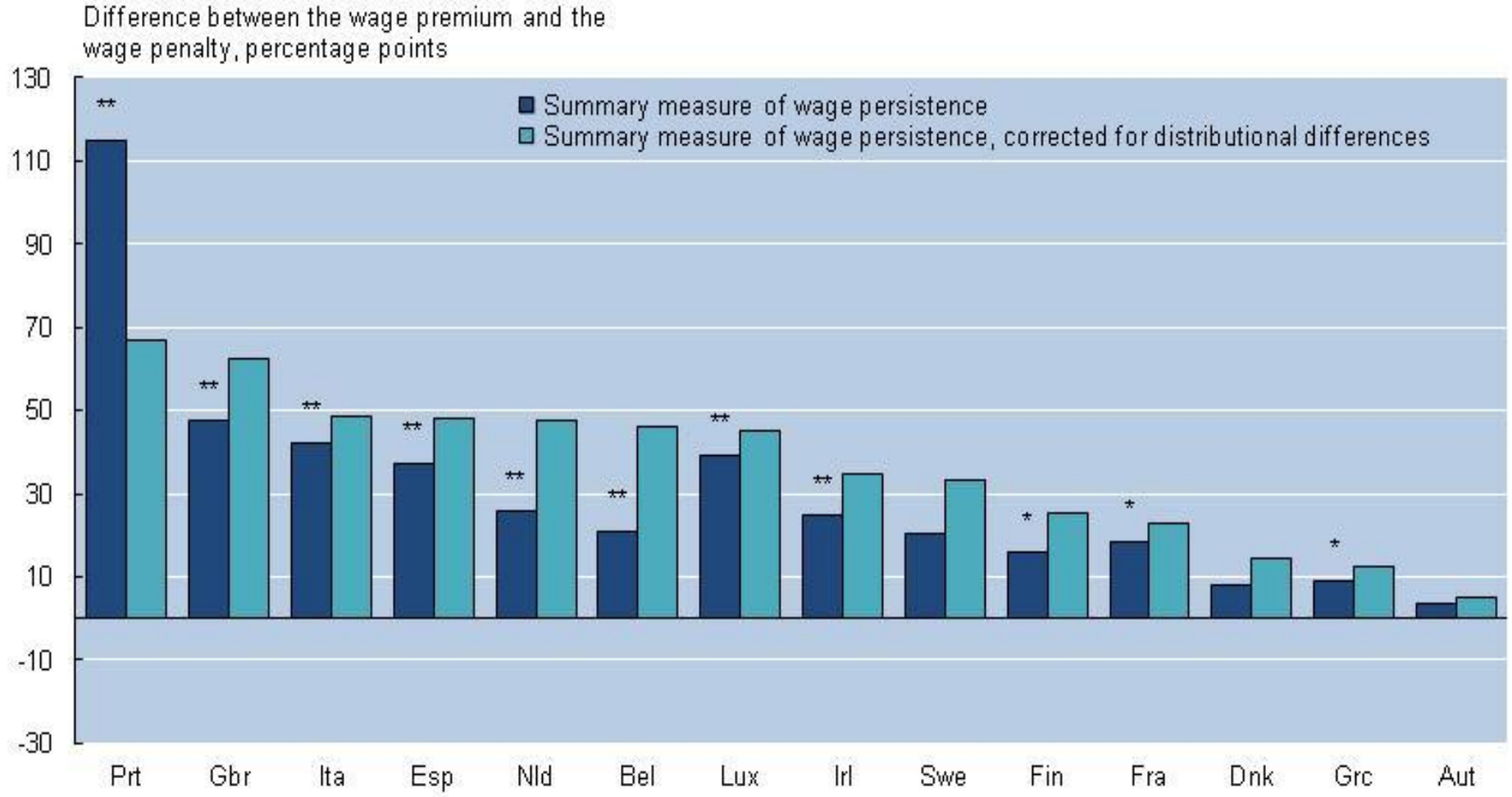
The wage premium and penalty of having a father with high or low education relative to having a father with medium education. Men 35-44



* Significant at least at 10%

Summary measure of wage persistence

Mobility measured by the gap between the wage premium and penalty: Men 35-44 years old.



2. The role of education for wage persistence

- Next step is to control for own education in the earnings equation (equation 2).
- Parental background (education) is in most cases not significant anymore ➔education is a strong driver of wages/wage persistence. The finding is even stronger for women.
- But, in some countries, the direct impact of parental education, controlling for own education, remains significant: Portugal, UK, Spain, Italy.. ➔ social networks or norms.
- Systematic pattern: Insignificans stem from a reduced coefficient on parental background rather than an increase in standard errors.

2. Controlling for own education: Parental education and wages

The wage premium and penalty of having a father with high or low education relative to having a father with medium education. Men 35-44 years old.



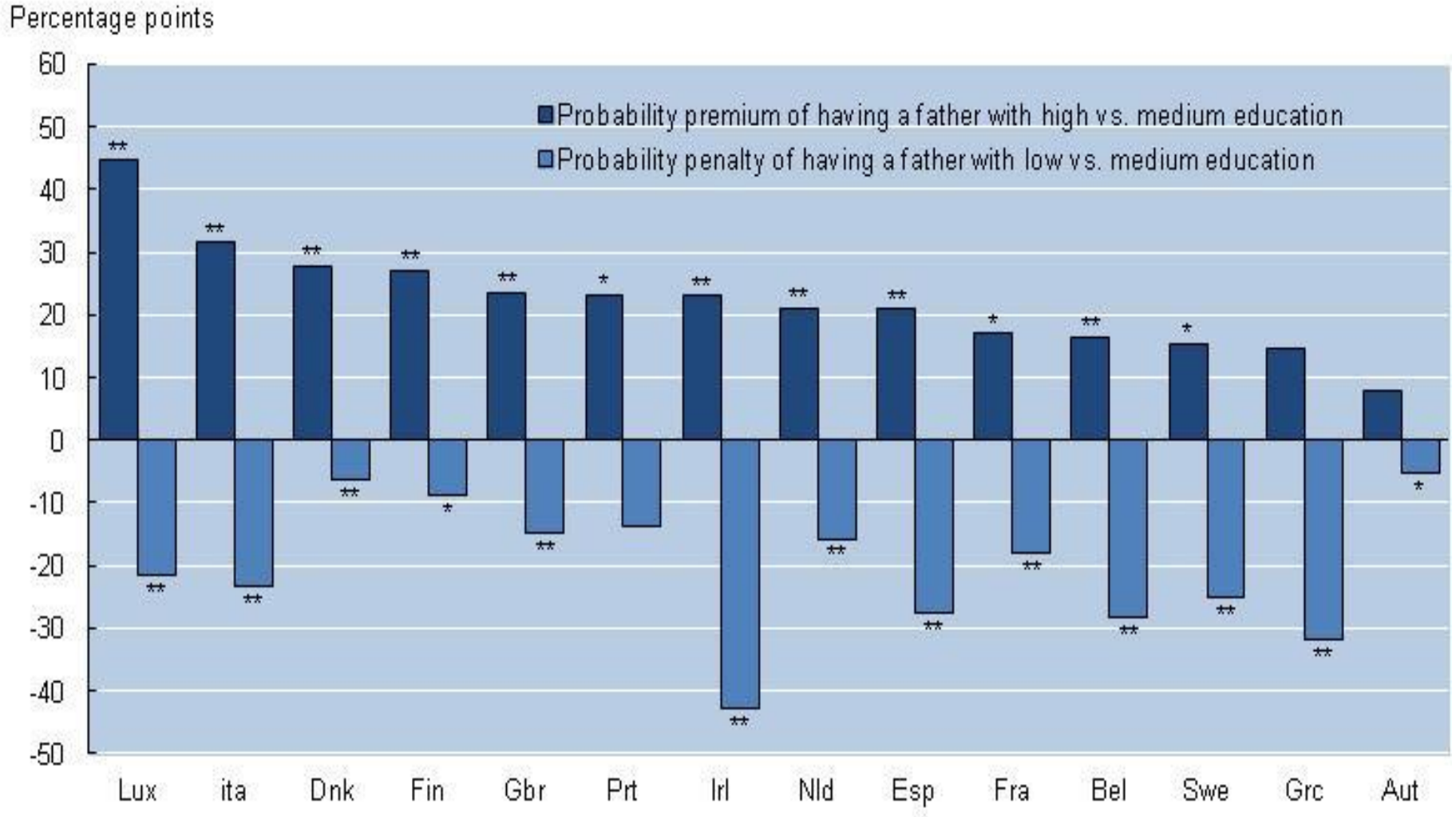
* Significant at least at 10%

3. Intergenerational education persistence

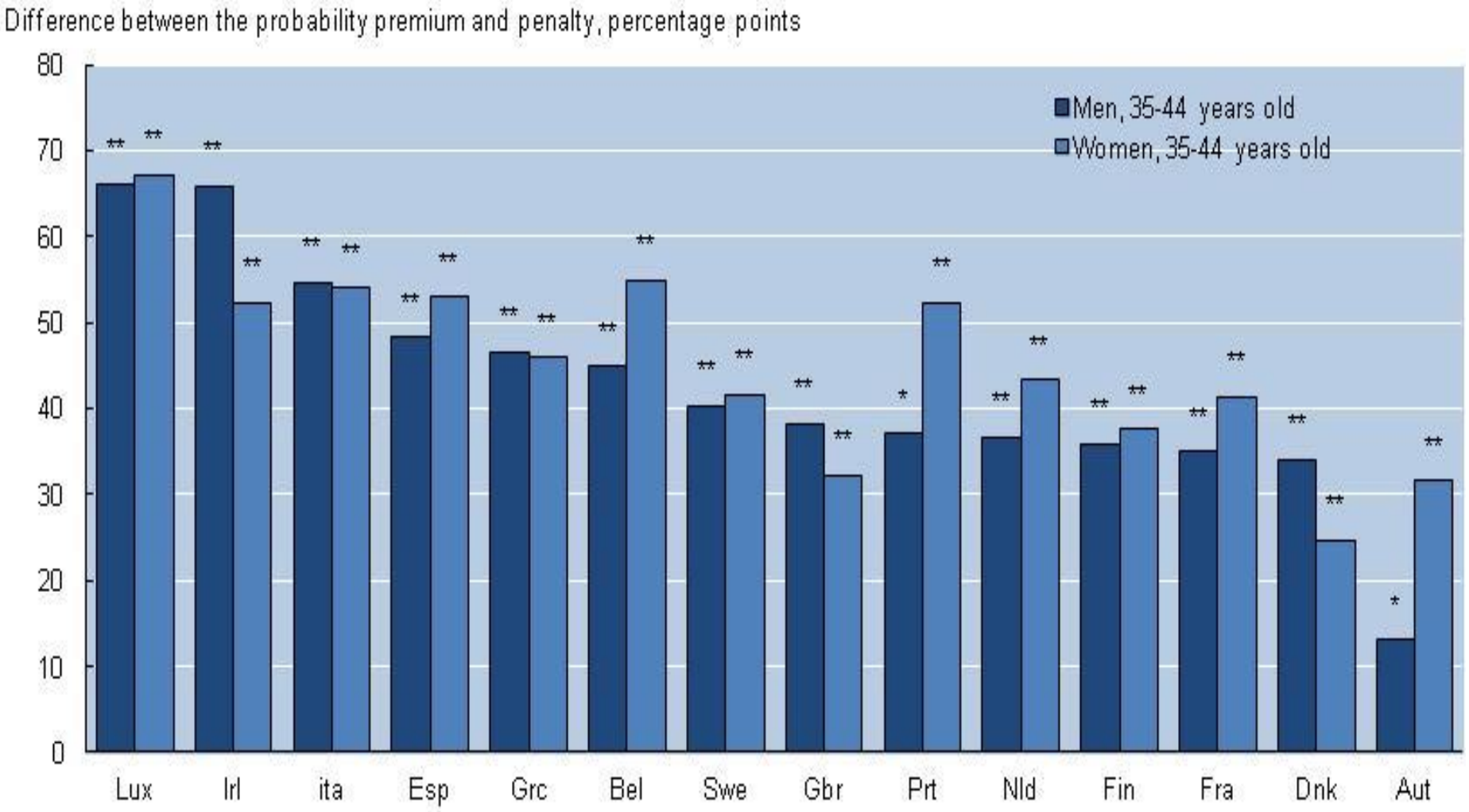
- Third step: Education appears to be one important determinant of wages/wage persistence.
- Estimate the probability to achieve a certain level of education depending on father's educational attainment
- Estimates shows that there is persistence in education across generations➔ **tertiary** and **below-secondary** education

Parental education influences individuals' tertiary educational achievement

Change in the probability of achieving tertiary education of having a high or low educated father relative to a medium educated father; 35-44 years old

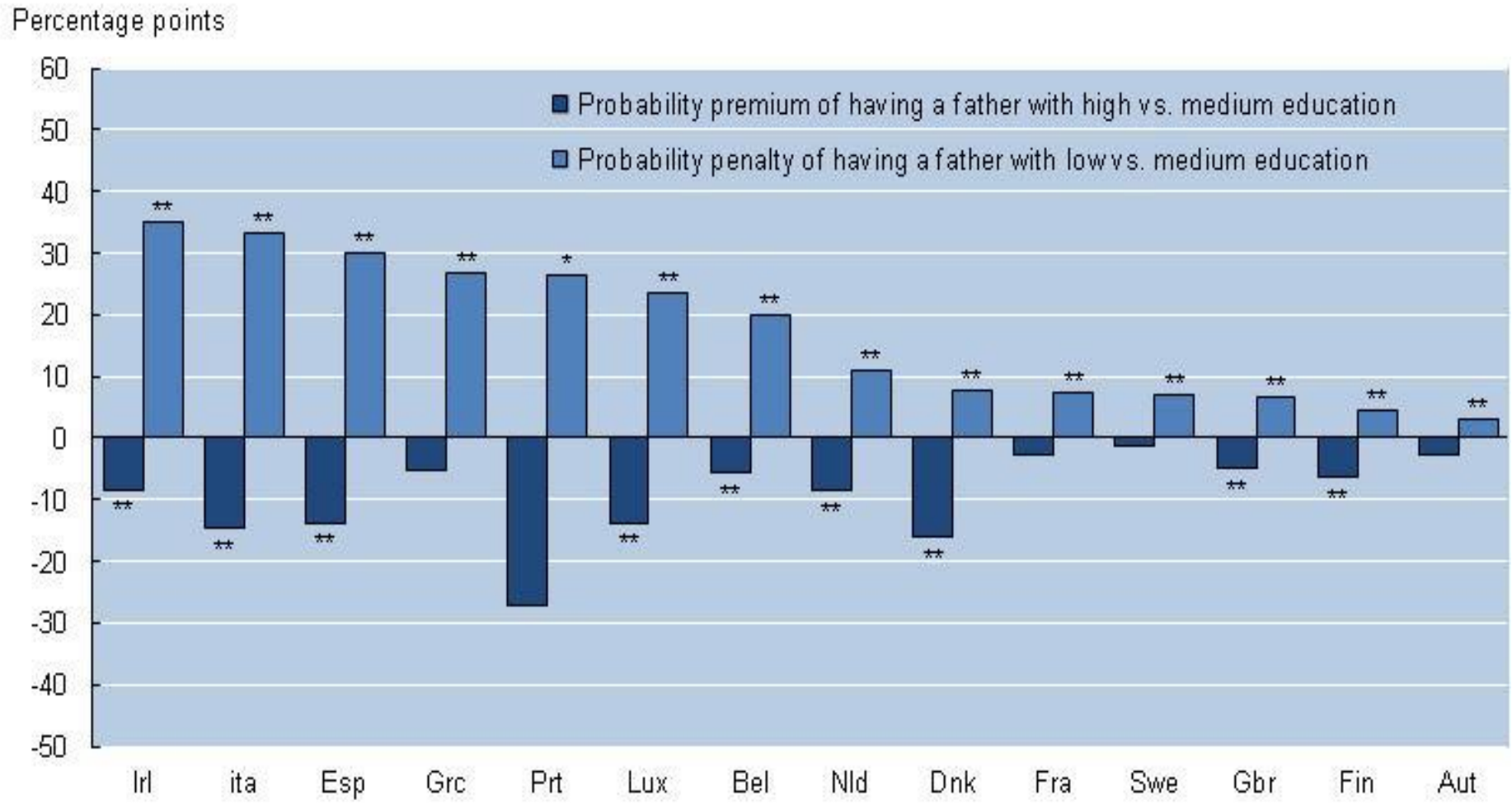


Summary measure of persistence in tertiary education

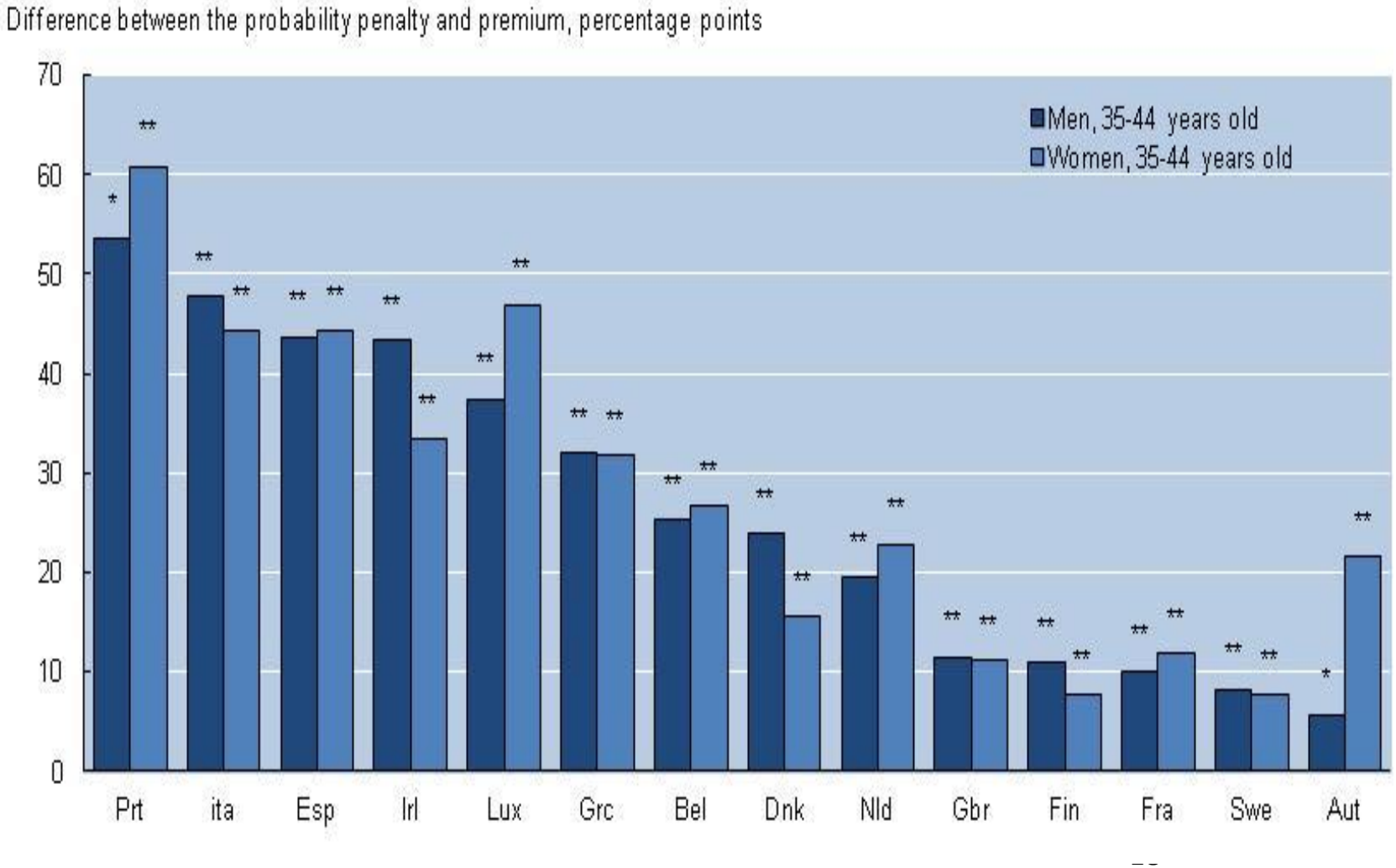


Parental education also influences below-upper secondary educational achievement

Change in the probability of achieving below-upper secondary education of having a high or low educated father relative to a medium educated father; 35-44 years old.



Summary measure of persistence in below secondary education



Summary of findings

- There appears to be persistence in wages and in education across generations, although to varying extent, across European OECD countries.
- One pattern: one group of countries that appear to be relatively immobile on most indicators (southern Europeans and Luxembourg) and another group which tend to be more mobile (*e.g* Nordics).
- But not necessarily same picture: UK seems to be less mobile in terms of wage persistence than in terms of education persistence, while the reverse is the case in Ireland.

Summary of findings

- Also appears to be a relatively large premium in achieving tertiary education associated with having a highly educated parent while the penalty of having a low educated parent is fairly low (*e.g.* Denmark and Finland), and the reverse is true in some other countries (*e.g.* Sweden and Greece).
- Nature of intergenerational social mobility is complex➔ challenge to measure ➔ Several different measures of mobility as no single indicator gives the full picture, and they may not necessarily give the same picture.

Report available:

Going for Growth 2010:

http://www.oecd.org/document/24/0,3343,en_2649_34117_41665624_1_1_1_1,00.html

Working papers:

http://www.oecd.org/document/39/0,3343,en_2649_33733_38306343_1_1_1_1,00.html