OECD Centre for
Opportunity and Equality

Evidence-based, policy-oriented research on inequalities

THE CAUSES AND CONSEQUENCES OF INCREASING INEQUALITIES
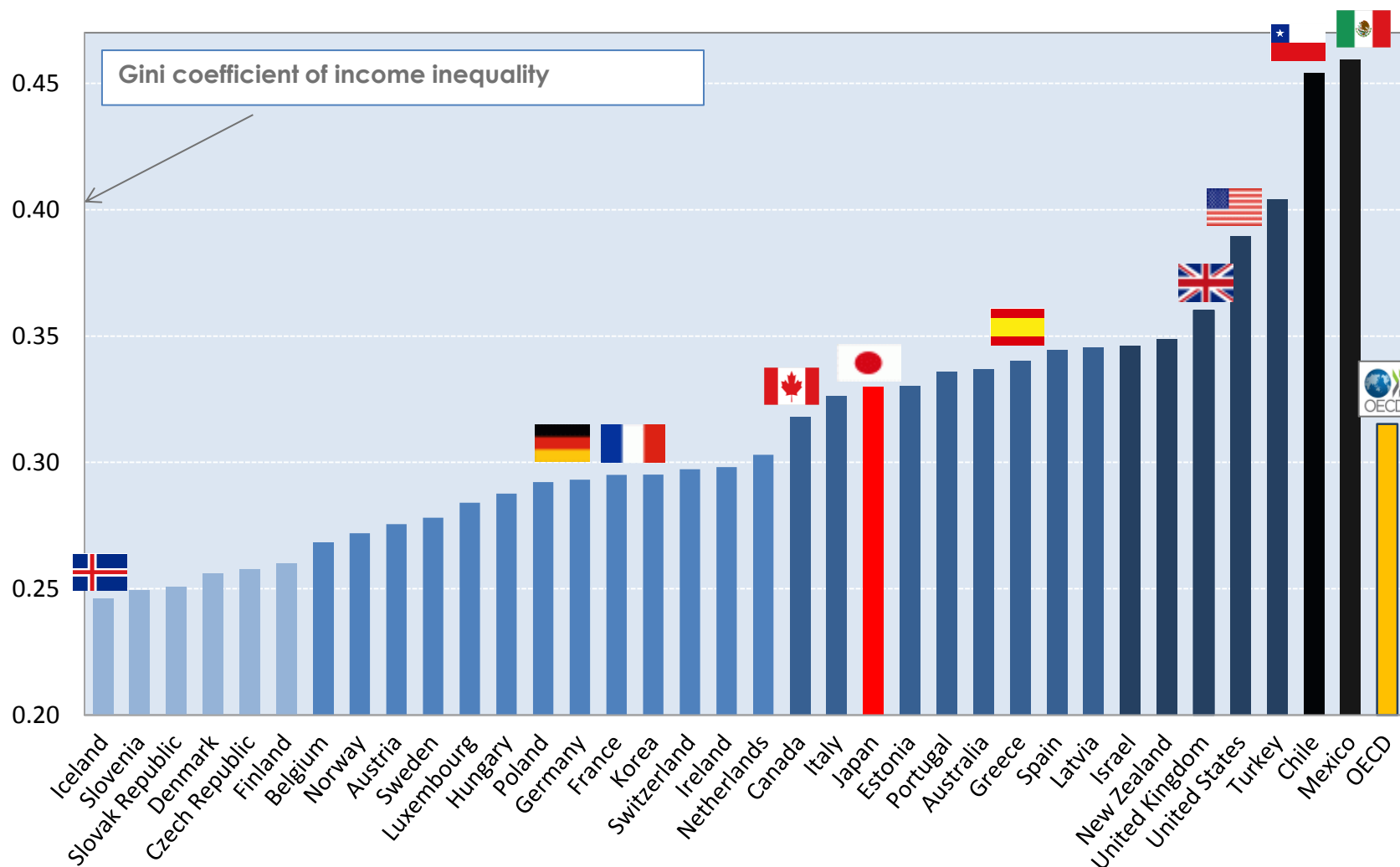## Part II. What are the economic and social consequences of inequality?

Michael Förster
OECD, Paris

KEIO University,
28 February – 2 March 2018

Large differences in levels of income inequality across OECD countries

OECD/COPE

Gini coefficient of income inequality

Countries (left to right): Iceland, Slovenia, Slovak Republic, Denmark, Czech Republic, Finland, Belgium, Norway, Austria, Sweden, Luxembourg, Hungary, Poland, Germany, France, Korea, Switzerland, Ireland, Netherlands, Canada, Italy, Japan, Estonia, Portugal, Australia, Greece, Spain, Latvia, Israel, New Zealand, United Kingdom, United States, Turkey, Chile, Mexico, OECD

Y-axis: 0.20, 0.25, 0.30, 0.35, 0.40, 0.45

http://oe.cd/cope

Why should we be concerned with high and rising income inequality: different "business cases"

- Individual concerns

- Social concerns

- Political concerns

- Ethical concerns

- Economic concerns

Long standing, controversial debate:

- Inequality might **increase** growth by providing **incentives** to work, invest and take risks; or by increasing aggregate savings
- Inequality might **decrease** growth by inducing missed **opportunities** of investment by the poor (in particular, if they can not borrow money); or by favoring distortionary, anti-business policies.

Recent OECD study uses standardised data to examine

1. the strength and sign of the inequality-growth nexus
2. the link between inequality, social mobility and human capital accumulation
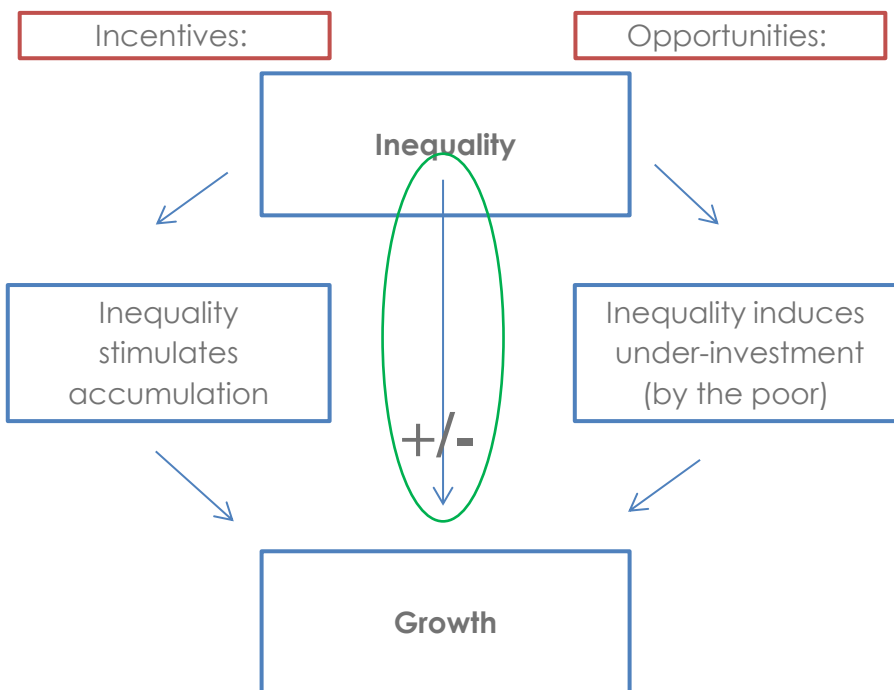
Huge literature started in 1990s.

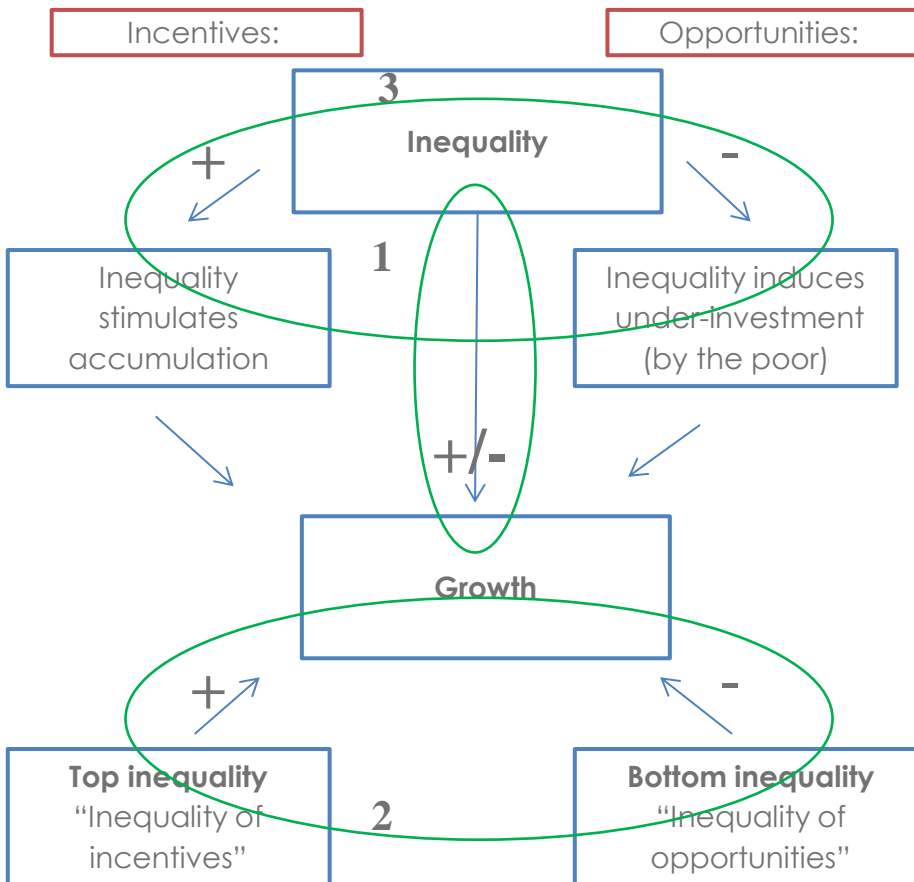Mostly focused on reduced-form growth regressions

Largely inconclusive:
- Early (cross-country) works: mostly *negative* estimates
- Later (panel) analyses:
often *positive* (or *non-significant*) estimates

Possible explanations:
- Data quality and their coverage
- Estimation approaches and inequality indicators

Focus on OECD countries, looking at whether:

1. inequality (& redistribution) affects growth

2. inequality at the top and at the bottom of the distribution play different roles

3. inequality impacts on (Human Capital) accumulation/ the effect depends on socio-economic background

- Standard growth equation, panel data:

$$g_{i,t} = \alpha y_{i,t-1} + \gamma Ineq_{i,t-1} + X_{i,t-1}\beta + \mu_i + \epsilon_{i,t}$$

  - Unbalanced panel of 5-year growth spells of per capita GDP (~1980-2010)
  - X: Controls for (human/physical) capital; μ country (and time) fixed-effect.

- OECD Income distribution data (+ LIS)
  - "Gross" and "Net" inequality (Gini) indexes
  - Allow to proxy for redistribution (=Gross Ineq.- Net Ineq.)
  - Income by decile → Measure top and bottom inequality

1. Looking across OECD countries (1970-2010): higher inequality *lowers* economic growth in the long-term

   - Increasing income inequality by 1 Gini pt. lowers the growth rate of GDP per capita by ~0.12 ppts per year, with a cumulative loss of ~3% after 25 years.

   - Actual increase of income inequality recorded between 1985 and 2005 in OECD area is estimated to have knocked 4.7 percentage points off cumulative growth between 1990 and 2000

2. Result is driven by disparities at the *bottom* of the distribution

    - The negative effect is not just for the poorest income decile but involves the lower middle classes (the bottom 40%). Top inequality is less, if any, relevant for growth

3. Redistribution (through taxes and benefits) has *not* led to bad growth outcomes

    - Data allow for imperfect/partial measurement, result does not imply all redistribution is equally good
   - Similar to IMF (Ostry *et al.* 2014) looking at a broader set of countries

4. Prominent mechanism: inequality narrows the set of investment opportunities of the poor. Hypothesis: inequality lowers social mobility and human capital stock

Does this imply that increasing inequality would lower mobility?

- Difficult to argue from cross country correlations
  - inequality might correlate with the quality of the educational system, or with other policies and institutions that affect outcomes

- OECD study used PIAAC survey to test this hypothesis
  - In each country, distinguish individuals with "low", "medium" and "high" Parental Education Background (PEB)
  - Relate average educational outcomes to the pattern of inequality in their country (over time)
  - Focus on both the quantity (e.g. years of schooling) and quantity (e.g. skills proficiency) of education

## Inequality decreases average years of schooling, but mostly among individuals with low parental education

Average years of schooling by parental educational background (PEB) and inequality

— Low PEB — Medium PEB — High PEB
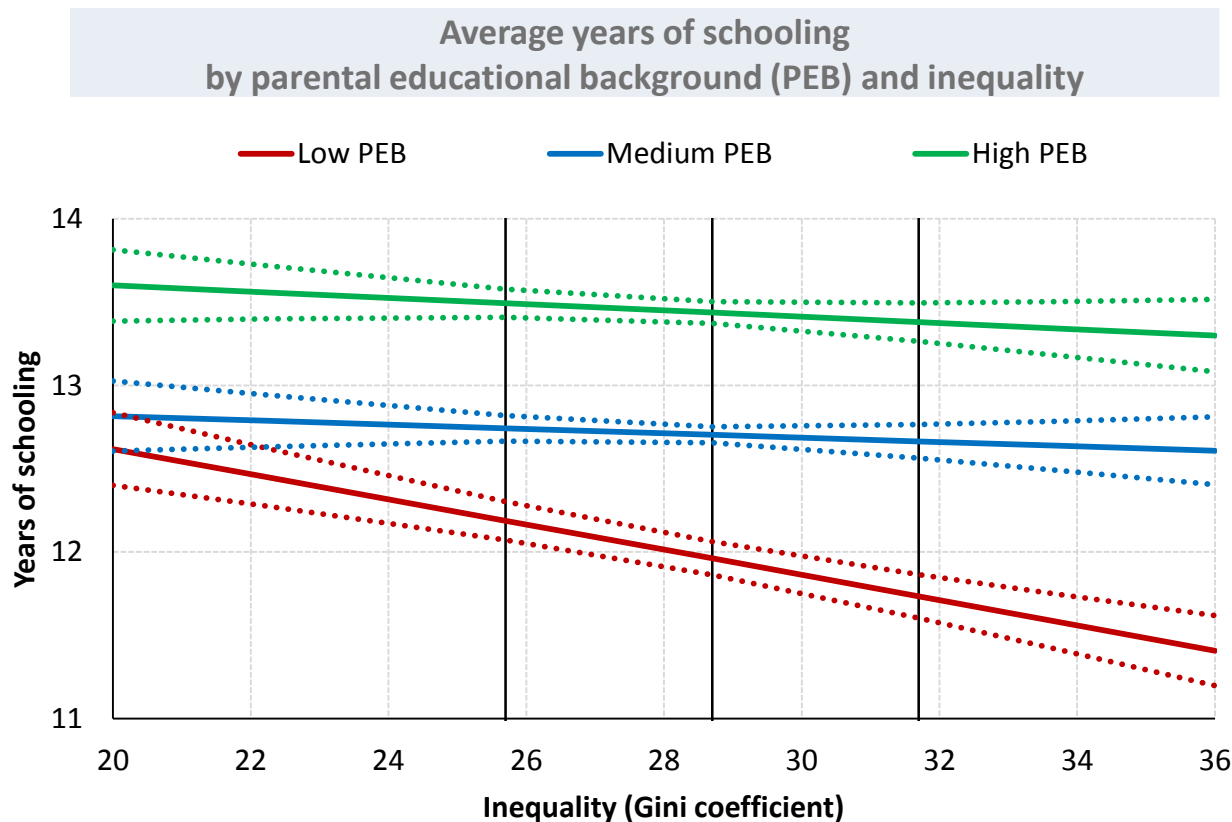
Source: OECD (2015), *"In It Together"*

Higher inequality by ~5 Gini pts. (the current differential between the US and Japan) is associated with less average schooling of low PEB individuals by ~half a year

Note: Low PEB: neither parent has attained upper secondary education; Medium PEB: at least one parent has attained secondary and post-secondary, non-tertiary education; High PEB: at least one parent has attained tertiary education. The bars indicate 95% confidence intervals.

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Inequality lowers the probability of tertiary education, but only among individuals with low parental education …

**Probability of tertiary education
by parental educational background (PEB) and inequality**
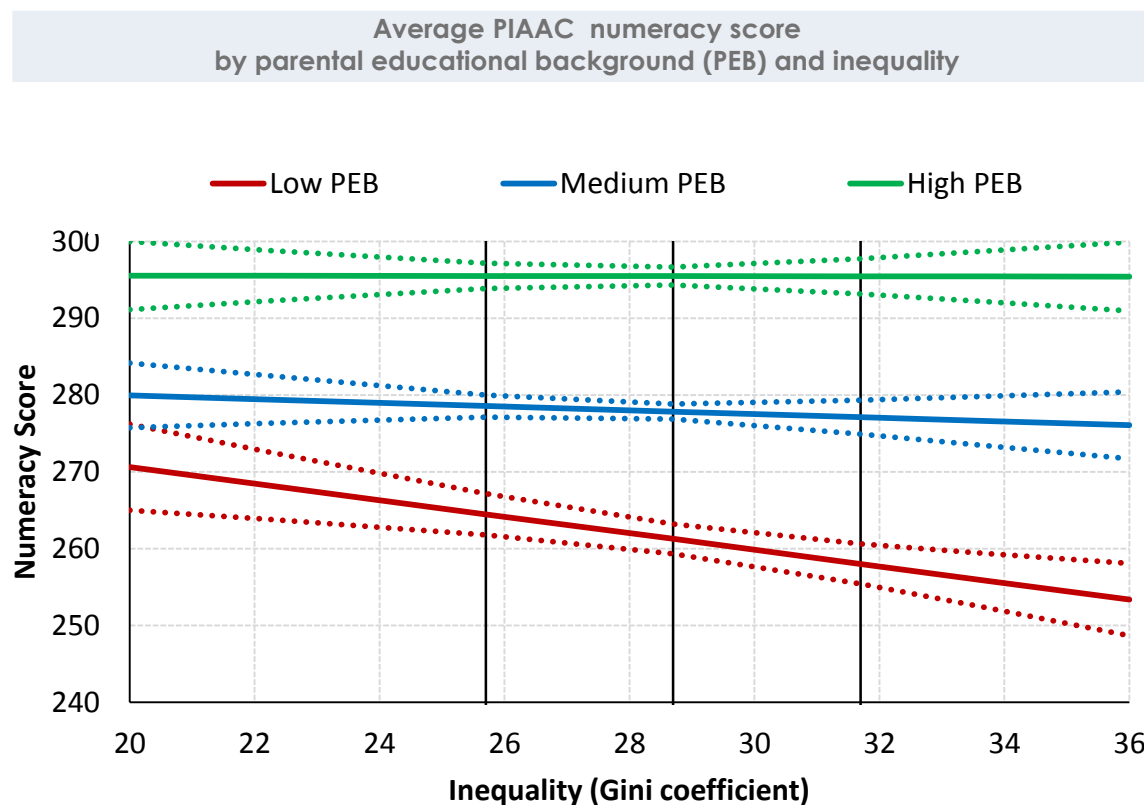
— Low PEB — Medium PEB — High PEB
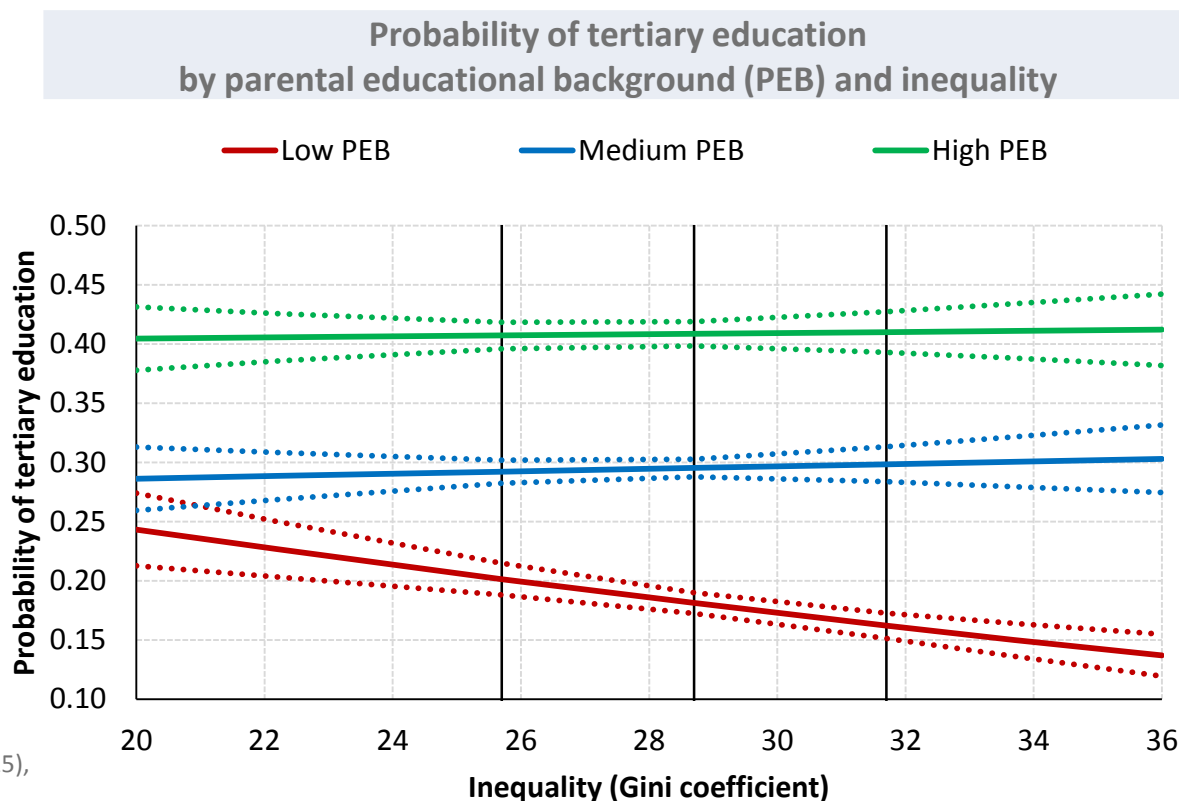
Source: OECD (2015), "*In It Together*"

Higher inequality by ~10 Gini pts. (US – Germany difference) is associated with lower probability of tertiary education of low PEB individuals by ~6 percentage points

Note: Low PEB: neither parent has attained upper secondary education; Medium PEB: at least one parent has attained secondary and post-secondary, non-tertiary education; High PEB: at least one parent has attained tertiary education. The bars indicate 95% confidence intervals.

Inequality lowers (literacy and numeracy) skills, but only among individuals with low parental education
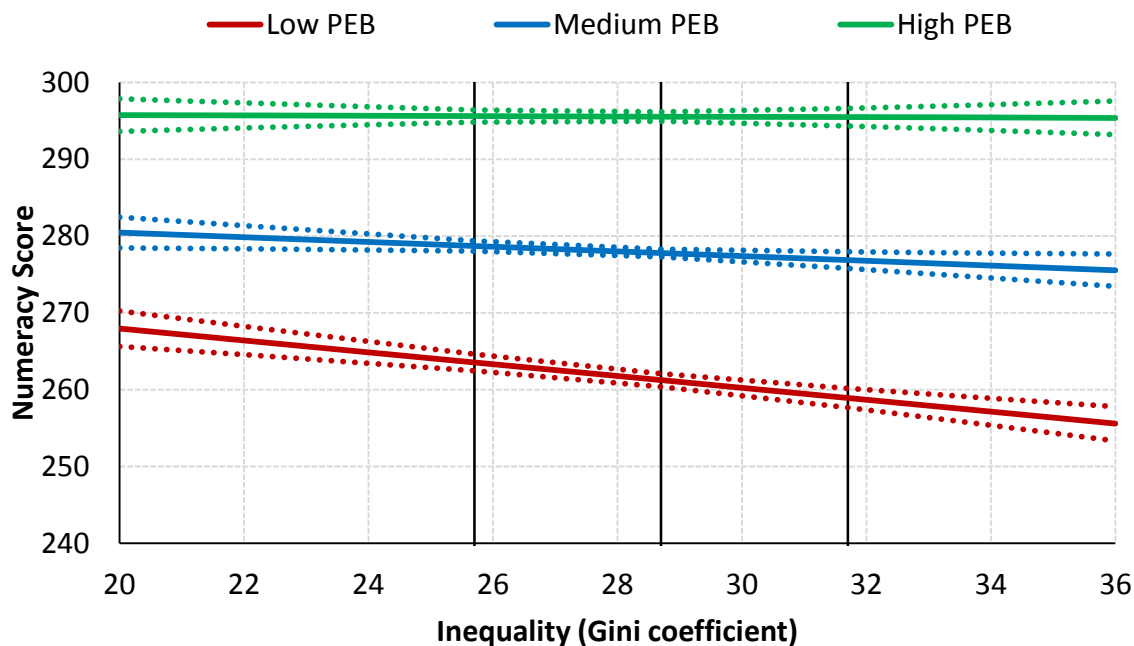

Average PIAAC numeracy score
by parental educational background (PEB) and inequality

Increasing inequality by ~6 Gini pts. Is associated with lower Numeracy score by ~6 pts

Source: OECD (2015), *"In It Together"*

Note: Low PEB: neither parent has attained upper secondary education; Medium PEB: at least one parent has attained secondary and post-secondary, non-tertiary education; High PEB: at least one parent has attained tertiary education. The bars indicate 95% confidence intervals.   http://oe.cd/cope

Inequality lowers skill proficiency of low PEB individuals, even conditioning on the level of formal education

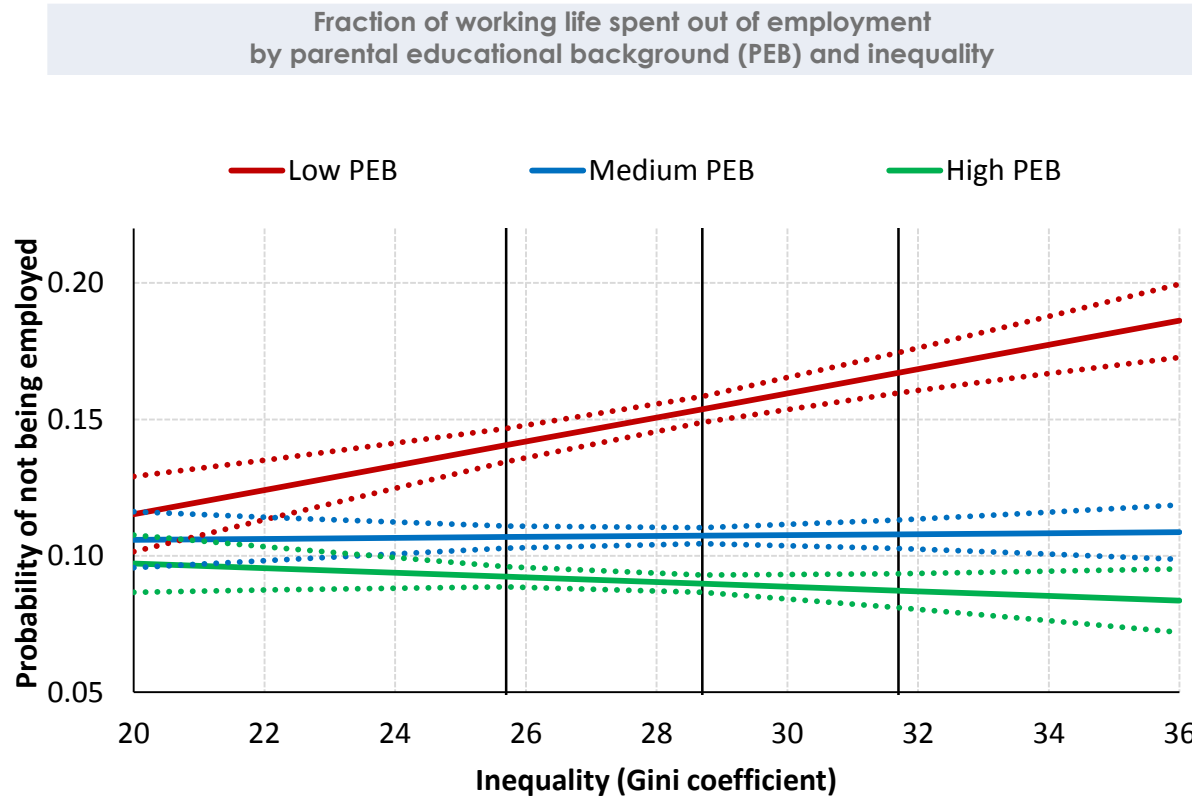Average PIAAC numeracy score conditional on education by parental educational background (PEB) and inequality

— Low PEB   — Medium PEB   — High PEB

Y-axis: Numeracy Score (240–300)
X-axis: Inequality (Gini coefficient) (20–36)

Source: OECD (2015), "*In It Together*"

Increasing inequality by ~6 Gini pts. Is associated with lower Numeracy score by ~6 pts

Note: Low PEB: neither parent has attained upper secondary education; Medium PEB: at least one parent has attained secondary and post-secondary, non-tertiary education; High PEB: at least one parent has attained tertiary education. The bars indicate 95% confidence intervals.   http://oe.cd/cope

Inequality increases the probability that low PEB individuals are *not* employed over their working life

**Fraction of working life spent out of employment
by parental educational background (PEB) and inequality**

Legend: Low PEB · Medium PEB · High PEB

y-axis: Probability of not being employed

x-axis: Inequality (Gini coefficient)

Source: OECD (2015),
"*In It Together*"

Increasing inequality by ~6 Gini pts. increases this probability by 3 pts

Note: Low PEB: neither parent has attained upper secondary education; Medium PEB: at least one parent has attained secondary and post-secondary, non-tertiary education; High PEB: at least one parent has attained tertiary education. The bars indicate 95% confidence intervals.   http://oe.cd/cope

- Analysing consequences of *changes* in inequality on educational attainments of individuals with different parental background
- Evidence: when income inequality rises disadvantaged individuals
  - are less likely to attain tertiary education
  - accumulate lower amounts of skills (numeracy and literacy scores), even conditioning on the level of formal education
  - Are more likely to be *not* in employment during their working life
- The outcomes of other individuals is unaffected by changes in inequality
- Hence increasing inequality seems to damage "the engine of growth" (and one important source of social mobility).

- Higher (net income) inequality tends to *lower* economic growth

- This is driven by disparities at the lower end of the distribution, involving lower middle classes, not just the poor. Top income inequality is less, if any, relevant;

- Redistribution through taxes and transfers has *not* led to bad growth outcomes

- High inequality hinders skills investment by the lower middle class and harms education outcomes, in terms of quantity and quality

Inequality, equal opportunities and social mobility : what do we know?

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A screen capture from earlier this week

Movin' on up

Actual and perceived social mobility of children, 2016

■ Actual   ■ Perceived*

Probability of remaining in the bottom quintile of earnings, %
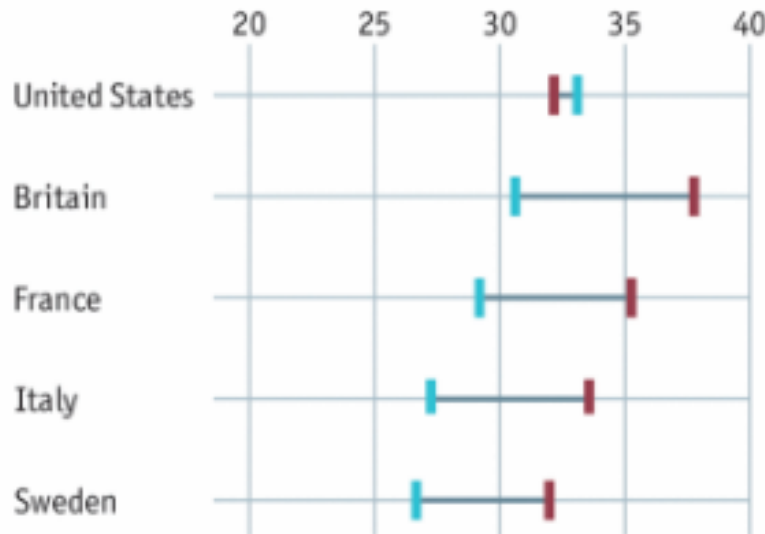
Probability of moving from bottom to top quintile of earnings, %
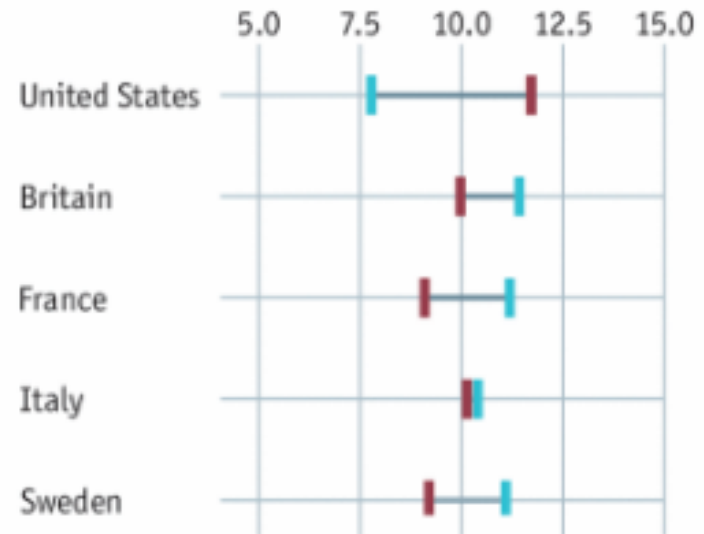
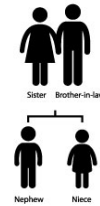Source: "Intergenerational Mobility and Preferences for Redistribution" by A. Alesina, St. Stantcheva and E. Teso

*Surveyed Feb-Oct 2016

Economist.com

Social mobility: What are we talking about?

*Intra-generational
(individual life course)*

*Inter-generational
(parents and children)*

Absolute mobility

(income levels)

*Kanako earned
300,000 ¥ five years
ago, now, she earns
350,000 ¥*

*Kanako's father
earned 250,000 ¥ a
month; she earns
350,000 ¥*

Relative mobility

*(position in the social
ladder)*

*Itsuki was in the bottom
quintile ten years ago.
Now he is in the fourth
richest income quintile.*

*Itsuki's father was in the
bottom income
quintile. Itsuki is in the
fourth income quintile.*

Forthcoming OECD report on Social Mobility - the bottom lines

There is **no trade-off between inequality and mobility** – unequal societies are often less mobile.

Societies lack of mobility because there is **more rigidity at the bottom and especially at the top.**
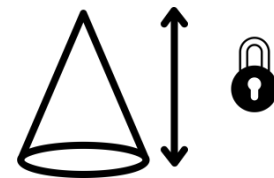
There is **no sign of greater income and social mobility today** than two decades ago.

Prospects of upward mobility matter for people's **well-being**, in particular **life satisfaction**, their **trust in societies** and future prospects.

A lack of social mobility – or its perception - can have **social**, **political** and **economic** consequences.
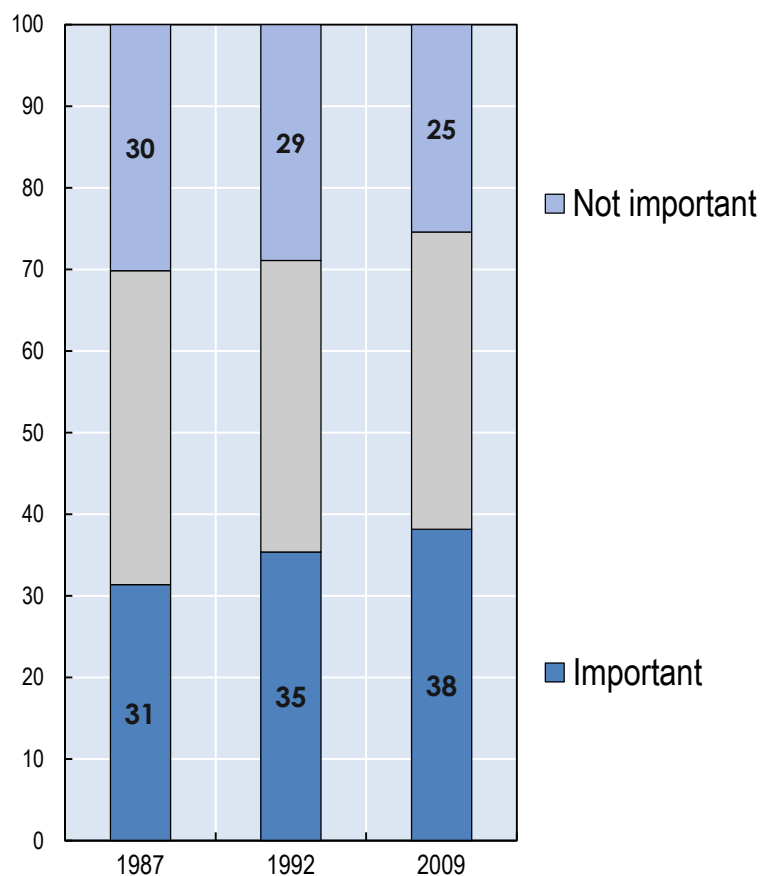
Policies should aim at ensuring fair and equal **opportunities** for all. Social mobility is about **incomes**, but also about the transmission of **health**, **education** and **social class** over generations
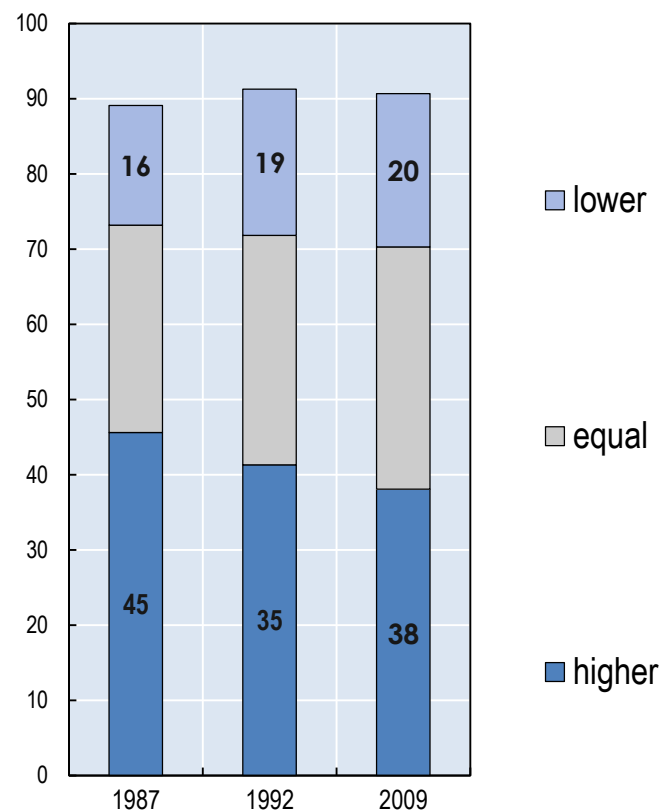
More and more people believe that equal opportunities and social mobility have declined over time

**"How important is having well-educated parents to get ahead?"**

Year	Not important	Important
1987	30	31
1992	29	35
2009	25	38

Level of status of respondent's job compared to the job of father

Year	lower	higher
1987	16	45
1992	19	35
2009	20	38

Source: OECD Secretariat estimates based on ISSP 1987 to 2009

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1. OECD countries are far from "perfect" social mobility: e.g. children earnings *do* depend on parents' earnings → intergenerational persistence
2. And mobility seems negatively correlated with inequality: intergenerational earnings mobility is lower in high-inequality countries:
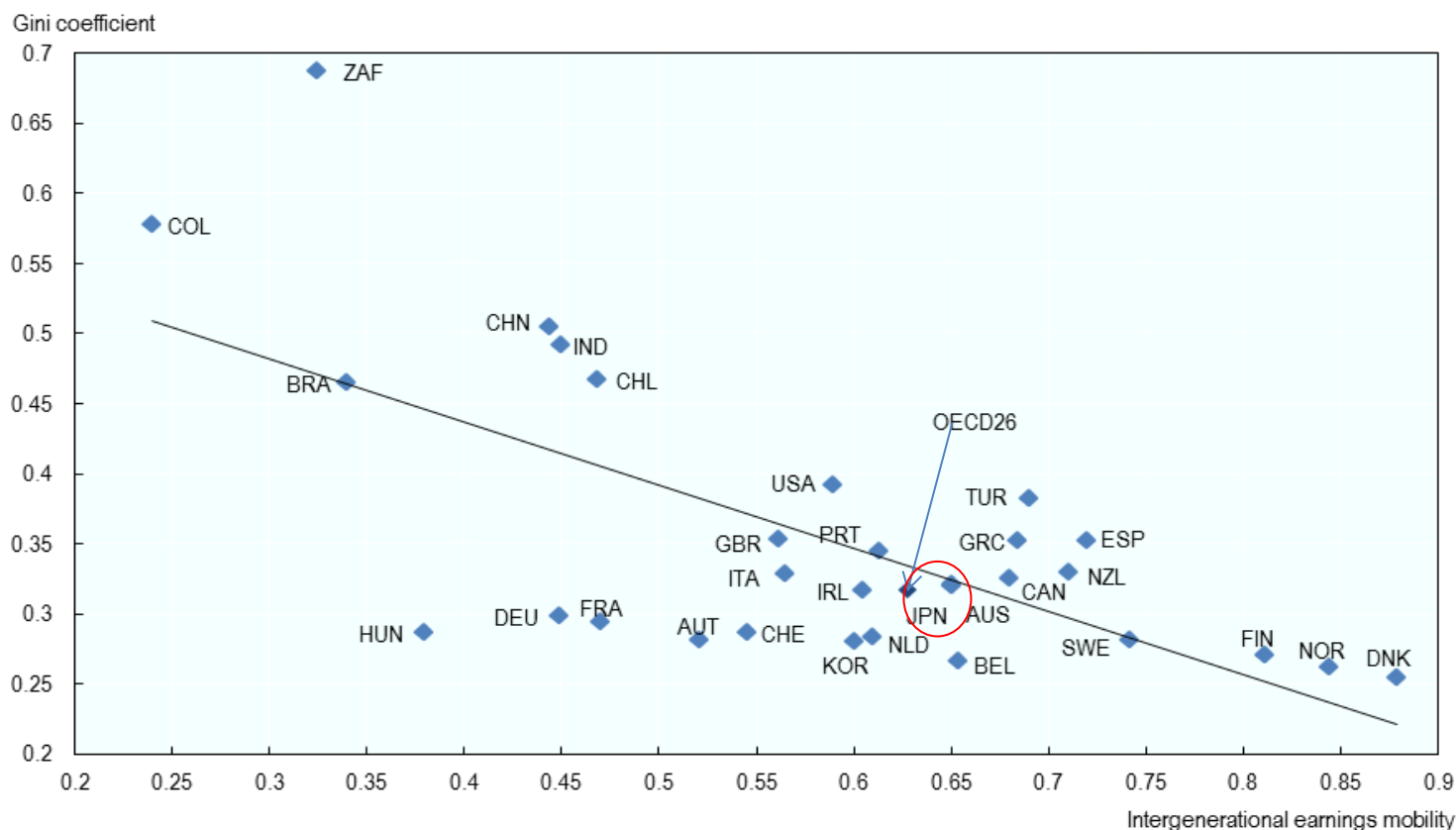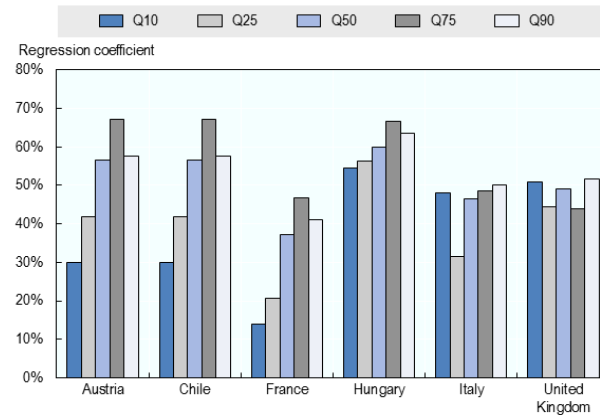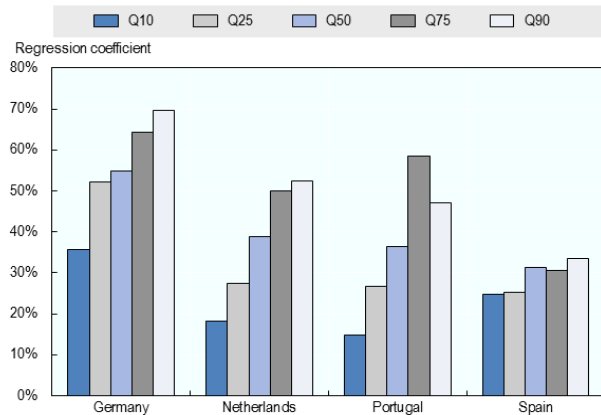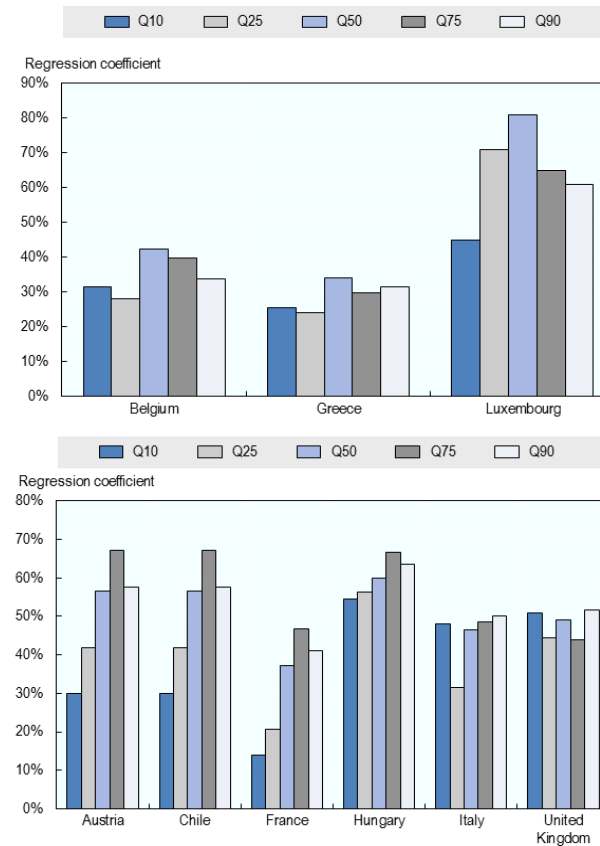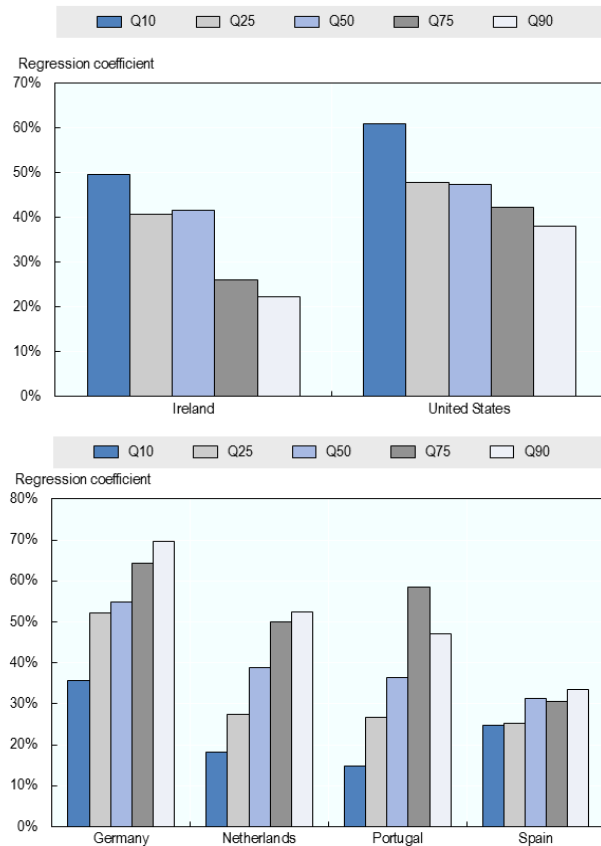

Source: OECD 2018 (forthcoming)
Note: Data refer to 2010s. Intergenerational earnings mobility is proxied by the degree to which sons' earnings are correlated with that of their fathers.

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Earnings elasticities (=persistence) for different quantiles of the distribution, early 2010's

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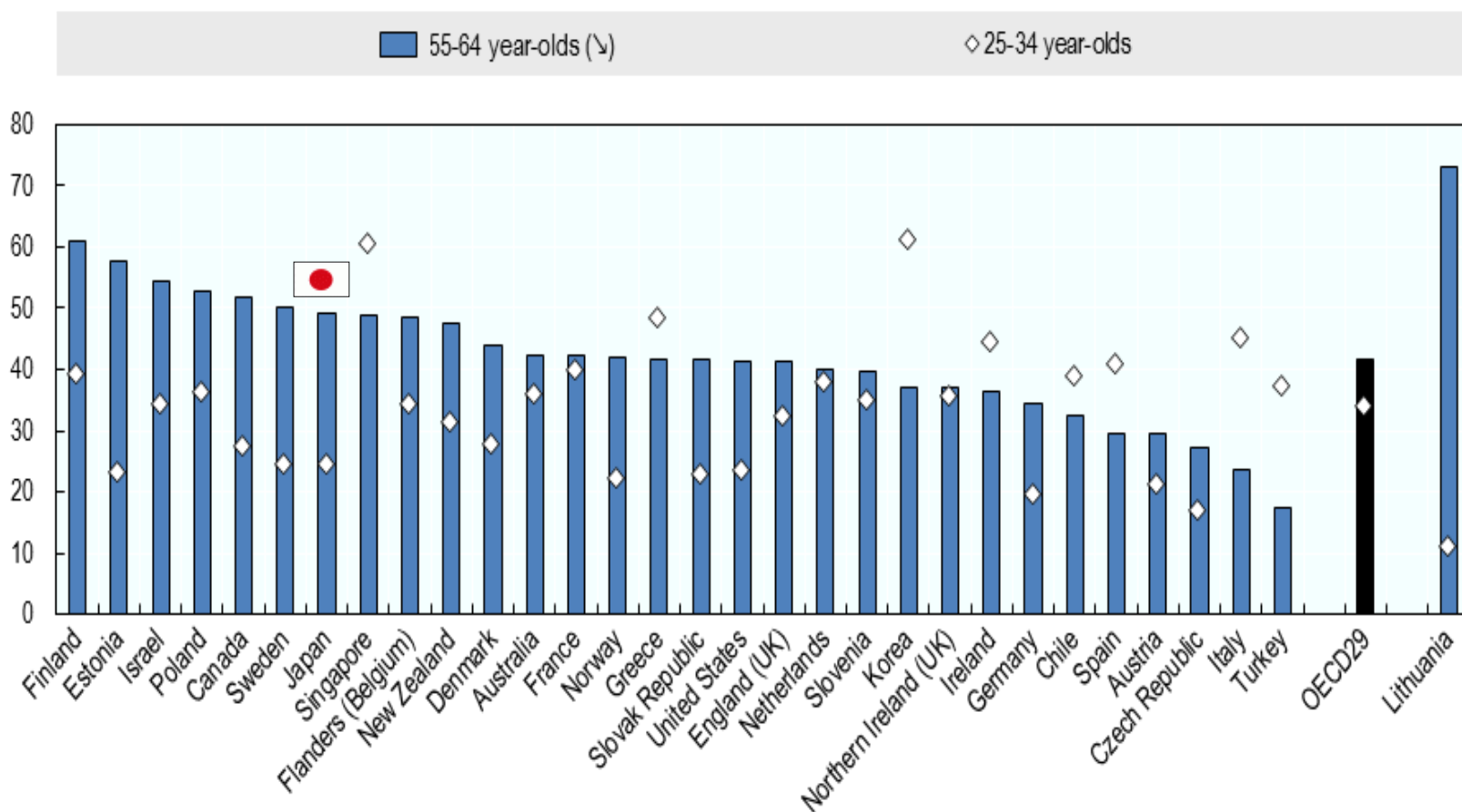## The case of transmission of <u>health</u> inequalities across generations:

- Parental socio-economic status, living arrangements and health behaviour of parents have an impact on the probability of their children experiencing health problems. The probability of having a chronic condition is 13% lower when parents were wealthy.

- Being in the lowest wealth quintile or having no education is a better predictor of one's poor health than parental poor health, but parental health matters more than family circumstances (being divorced or widowed).

- Childhood health, in turn, has a long-lasting impact on later health in adulthood. Chronic conditions during childhood increase the probability of poor health in adulthood by 5.5%.

- The intergenerational persistence in self-assessed health ranges from 0.13 in Denmark to 0.34 in Estonia.

Source: OECD (2018, forthcoming)

Absolute upward mobility in education has declined

Percentage of non-students whose educational attainment is higher than that of their parents

Likelihood of educational attainment if neither parents have upper secondary schooling
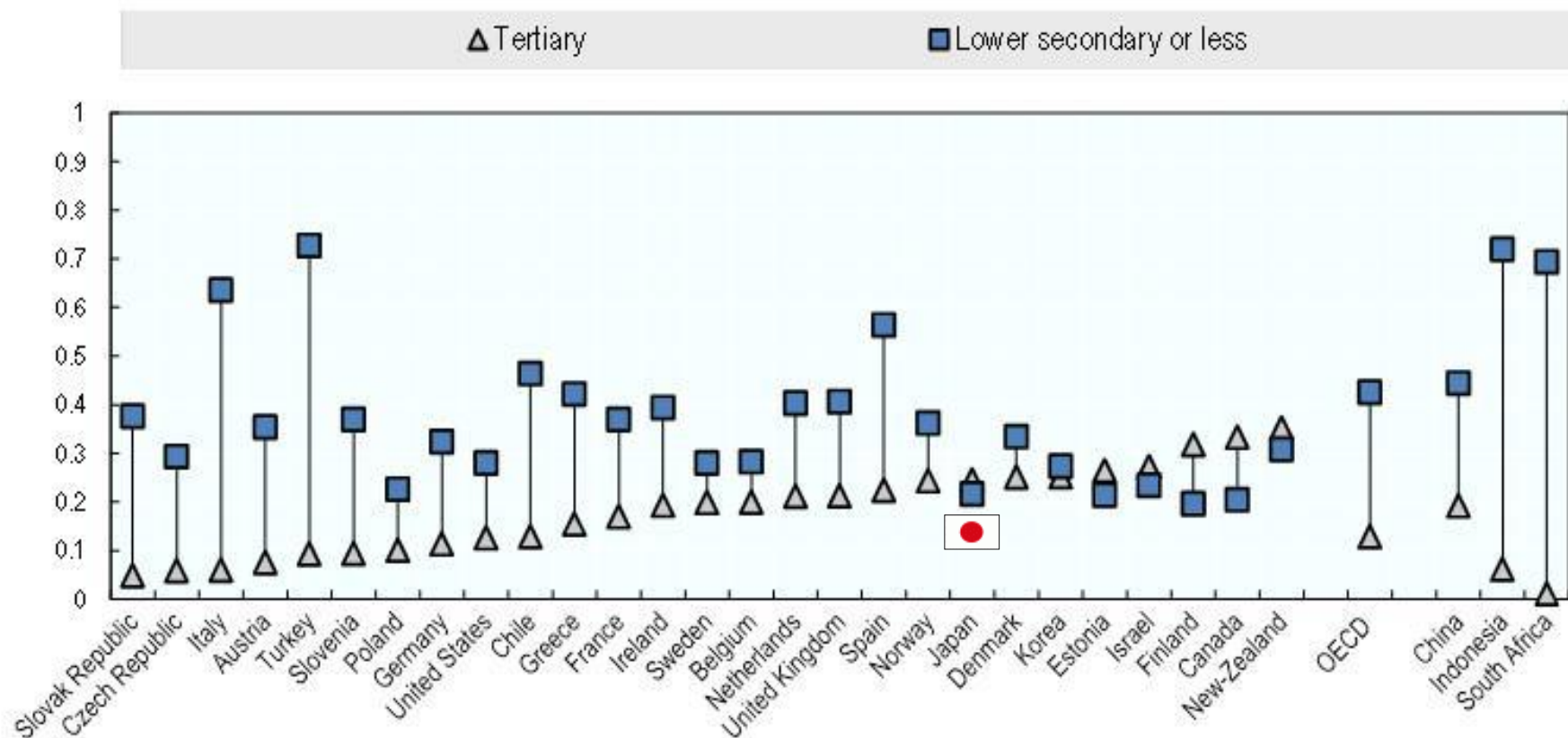
△ Tertiary   ■ Lower secondary or less

Likelihood of educational attainment by parental education and year of birth, OECD average

Legend: 1950, 1970, 1985

Categories (x-axis): Persistence in lower secondary; Upward mobility from lower to upper secondary; Upward mobility from lower secondary to tertiary; Persistence in upper secondary; Upward mobility from upper secondary to tertiary; Persistence in tertiary

Source: OECD (2018, forthcoming)

http://oe.cd/cope
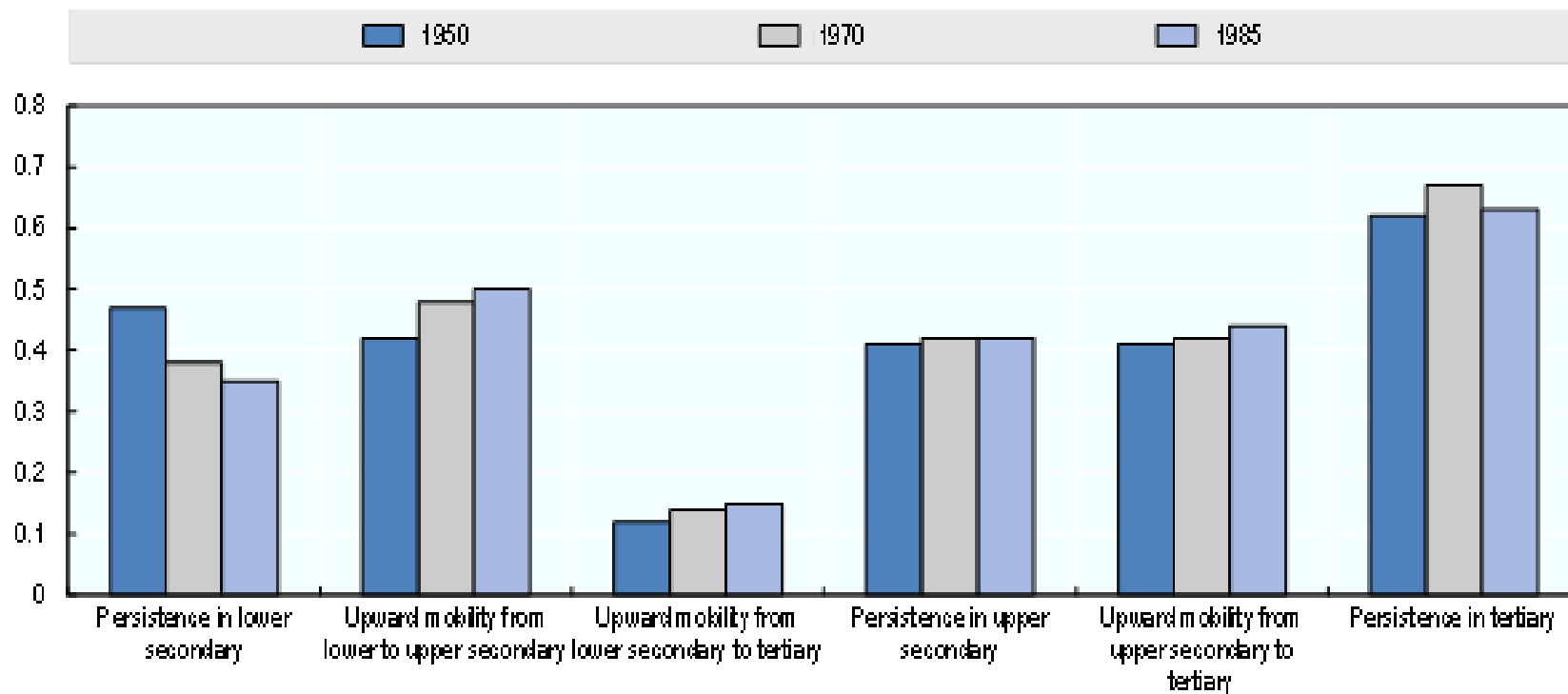
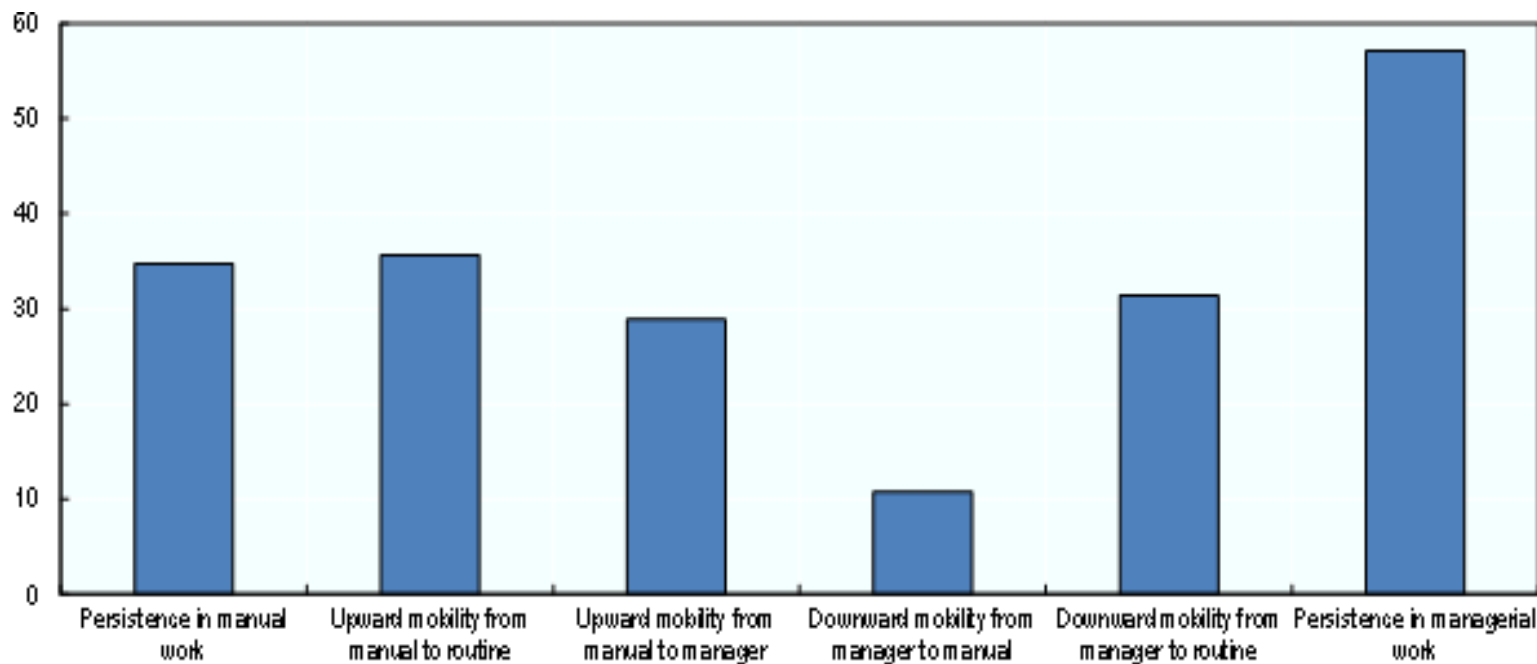# Absolute <u>class mobility</u> in terms of occupation was widespread but relative class mobility remains limited

- Absolute class mobility: two thirds of individuals have a different social class than their parents (OECD average)

- In terms of relative class mobility, very few children of managers end up doing manual work, while there is a higher degree of upward mobility for individuals whose parents were manual workers

Social mobility of individuals by parental social class

Source: OECD (2018, forthcoming)

Change in relative social class persistence across cohorts, by initial level

Difference between the relative persistence of the 1960-74 and 1945-59 cohort

Relative persistence of social class parents-children
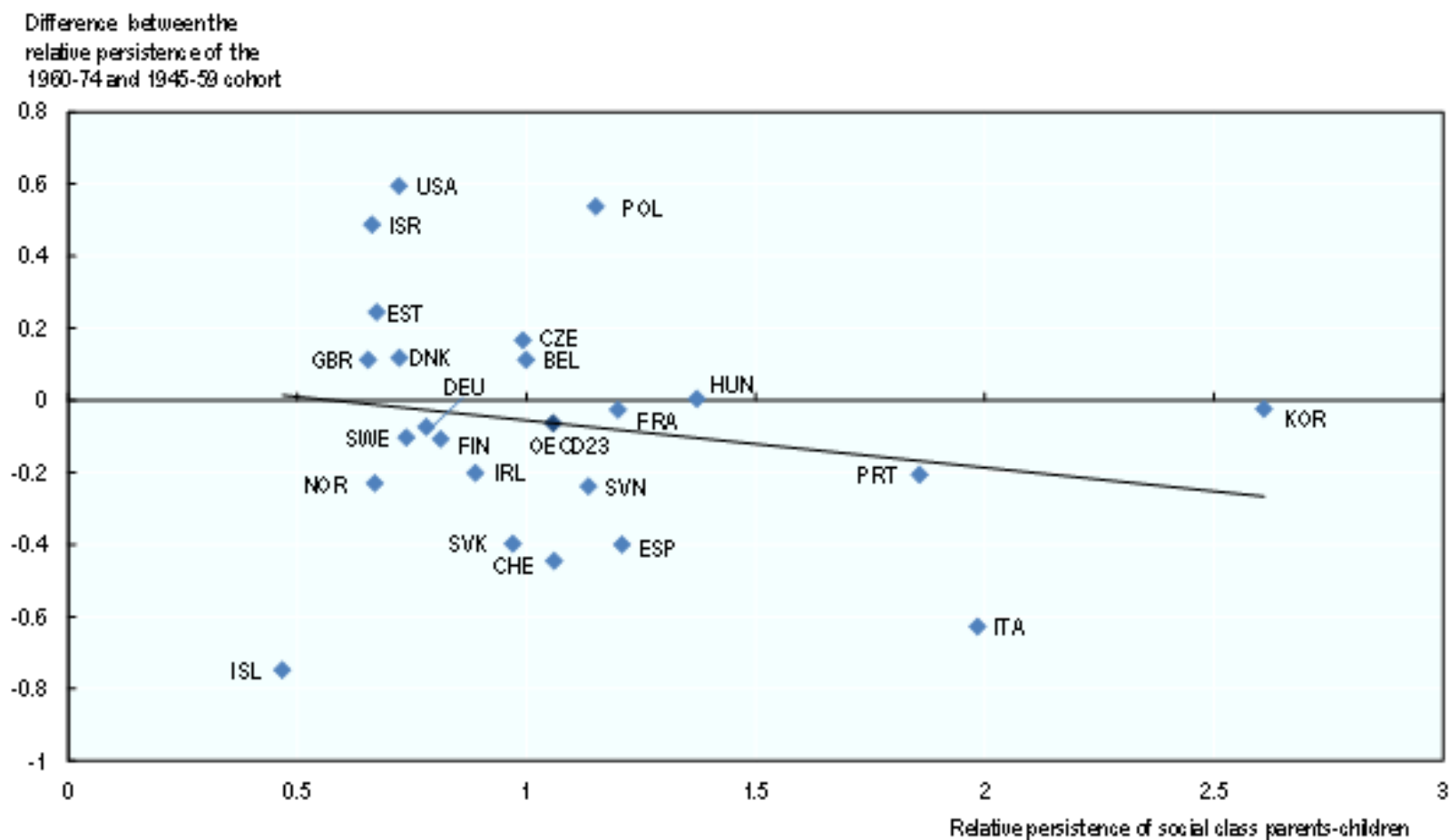
Classifying countries by the degree of relative mobility across different dimensions:

→ Some countries / country groups fare better with regard to social mobility in all dimensions while the ranking of others depends on the particular dimension
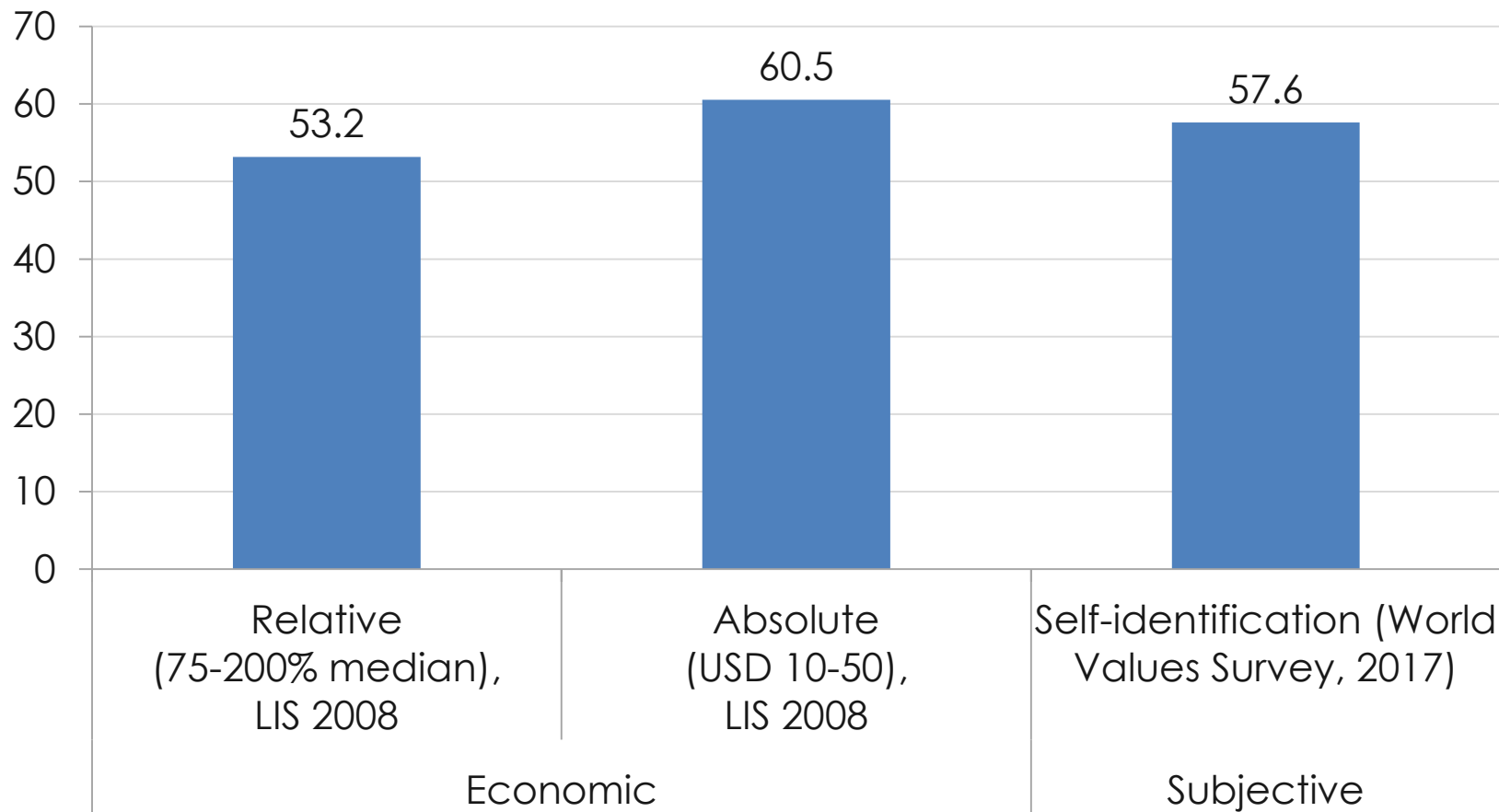
	Earnings	Occupation	Education	Health
Nordic countries	High	High	High	High
Canada	High to medium	High	High	High
United States	Medium	High	High	Low
United Kingdom	Medium	High	Low	Medium
Australia	Medium	Low	High	High
Korea	Medium	Low	High	Low
Southern European countries	High to medium (exc. Italy)	Low	Low	Average
France	Low	Low to medium	Medium	Medium
Central European Countries	Low	Low to medium	Low	It varies
Latin American countries / Emerging economies	Low	-	Low	-
JAPAN	Medium	-	High	-

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Has the middle class come under pressure?
But who is the middle class?
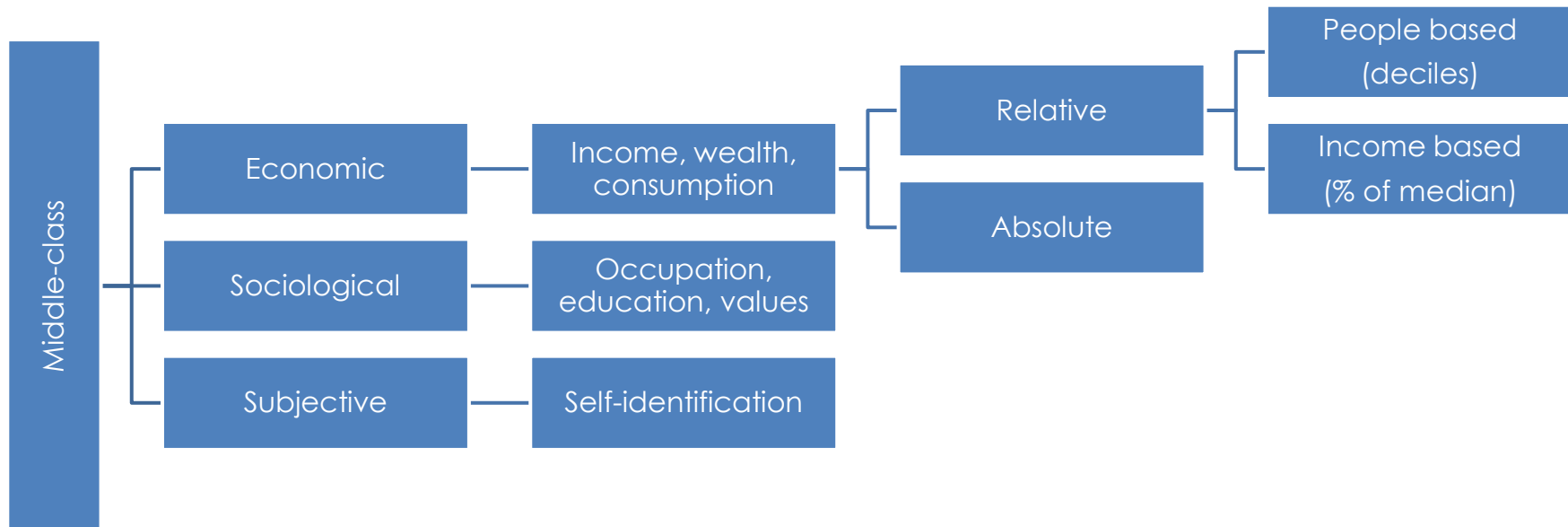
- Our definition: Relative income definition, i.e. 75%-200% median household disposable income

"Middle classes" in Japan, according to different definitions

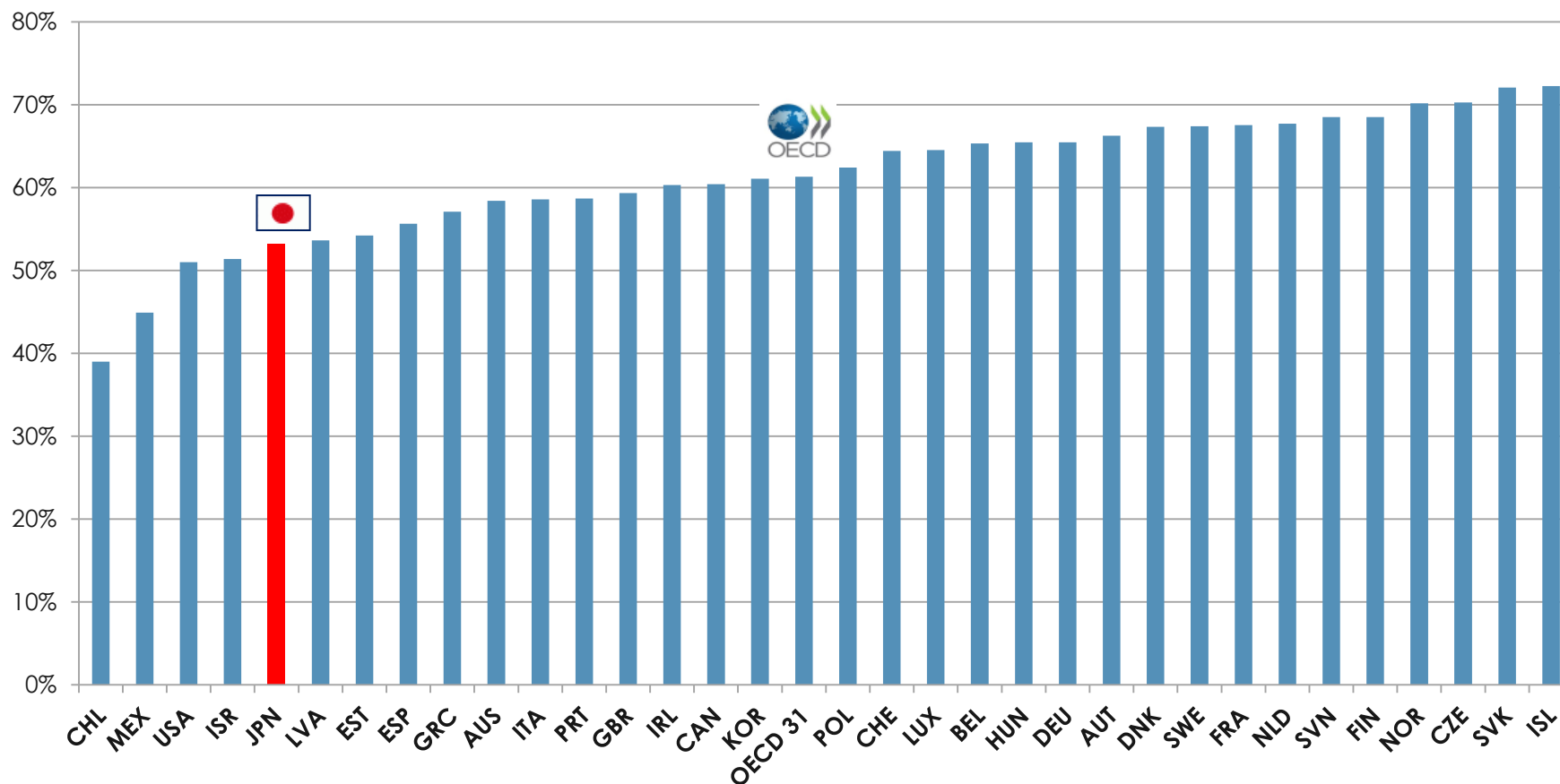|	Economic		Subjective
53.2	60.5	57.6	
Relative (75-200% median), LIS 2008	Absolute (USD 10-50), LIS 2008	Self-identification (World Values Survey, 2017)	

Share of middle-income households in Japan is smaller than OECD average

Share of population in middle income group (75-200% of median) in most recent year

Source: OECD Secretariat calculations based on data from EU-SILC (Europe), SLID and CIS (Canada), CPS March Supplement (United States) and LIS data center. **For Japan income data from LIS 2008**

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Share of population in middle income group and self-identified as middle class in most recent year

Middle income group

Middle class self-identification

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Share of population by income group

OECD average (1985-2015)

Year	Lower income (poor)	Lower income (non poor)	Middle income	Upper income
1995	10.3	18.8	63.0	8.0
2005	11.6	18.4	61.2	8.8
2015	11.3	18.6	61.3	8.7

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Japan (2008)

■ Lower income (poor) □ Lower income (non poor) ■ Middle income ■ Upper income

2008	Lower income (poor)	Lower income (non poor)	Middle income	Upper income
pop	25.2	10.9	53.2	10.7
Children (0-17)	21.9	13.7	59.5	4.8
Youth (18-29)	26.7	8.6	51.1	13.6
Adults (30-64)	24.2	10.1	53.9	11.8
Elderly (65+)	26.2	13.0	50.8	10.0

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

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Annual growth incidence curve

Legend:
- World (1988-2008, 2011 PPP) — average
- Japan (1985-2012) — average
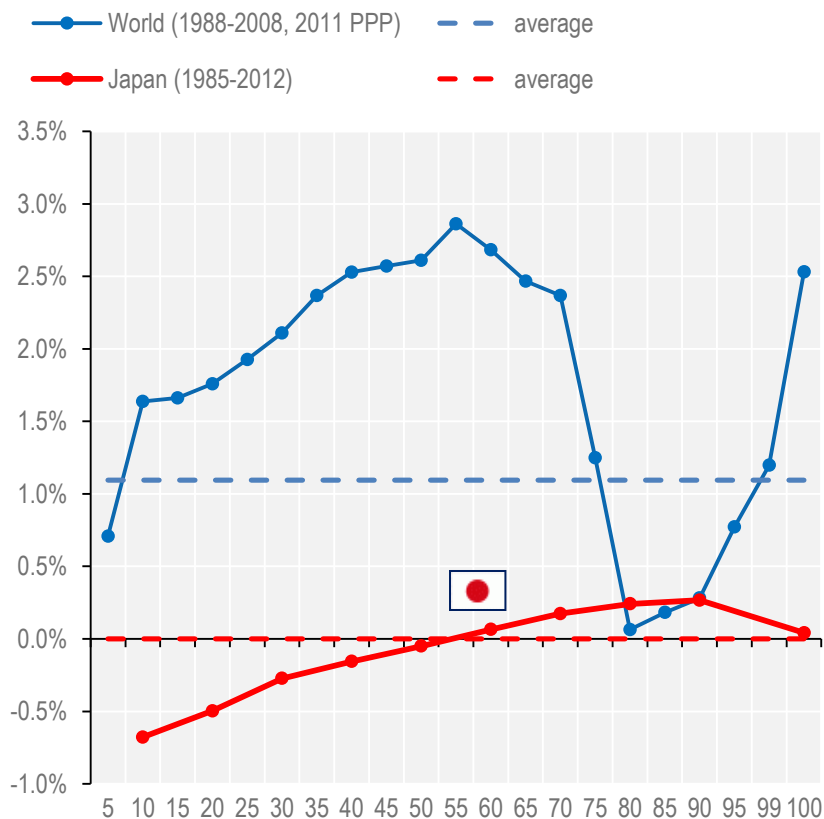
Percentage of population by income level, 2001 and 2011 (2011 PPPs).
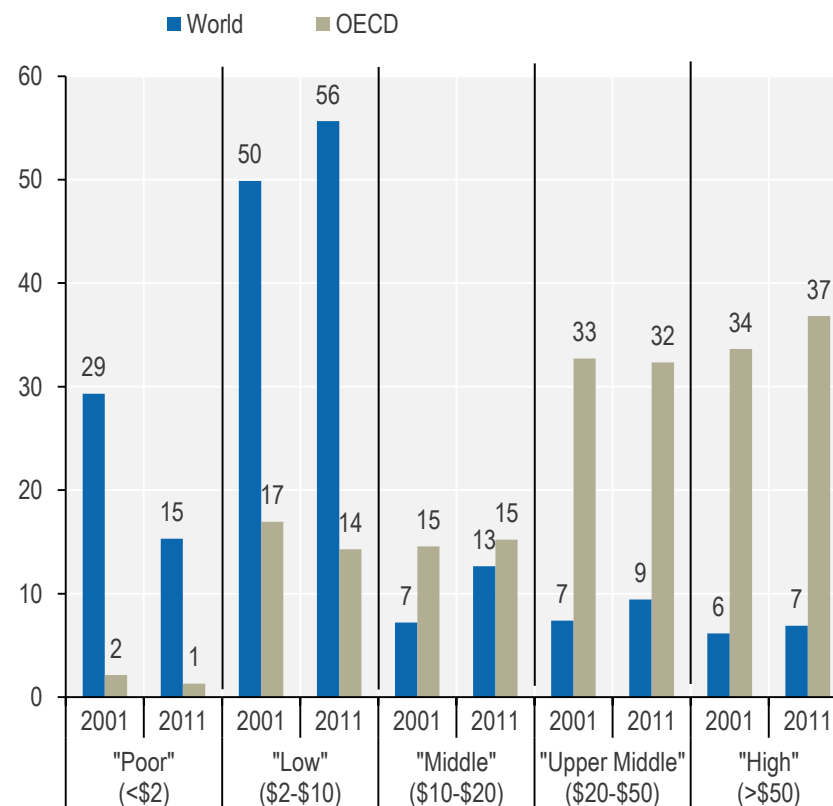
Legend: World, OECD

	"Poor" (<$2)		"Low" ($2-$10)		"Middle" ($10-$20)		"Upper Middle" ($20-$50)		"High" (>$50)	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
World	29	15	50	56	7	13	7	9	6	7
OECD	2	1	17	14	15	15	33	32	34	37

Source: Panel A. Lakner, C., and Milanovic, B. (2015) and OECD Income Distribution Database. Panel B. Pew Research Center (2015)

Which policies to address social mobility and to promote equal opportunities ?

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1. Improving **equity in education** at all ages

- Invest in early high-quality education and care and support to parenting skills

- Promote equal opportunities at school by supporting disadvantaged schools, addressing and reducing inequalities in extra-curricular activities

- Encourage more equal access to higher education, especially to top schools

Examples:
- ✓ **Estonia** : measures for disadvantaged students, and for equal access to education.
- ✓ **France :** "Cordées de la réussite"

2. Improving job quality and **career mobility**

- Grant young people the right start in the labour market by providing second chance learning, pre-apprenticeships and improving non-cognitive skills

- Address other occupational barriers for youth (networking, unpaid internships, access to some occupations)

- Ensure access to lifelong learning for the low-skilled

Examples:
- ✓ **Germany** : pre-vocational programmes
- ✓ **United Kingdom** : programmes for internships in top firms for low-income students

Which policies to address social mobility and to promote equal opportunities ?

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3. Improving equality of opportunity through taxation and social protection

- Review forms of wealth taxes such as inheritance taxes
- Design tax credits for low-income households
- Reform social protection to adapt to more job mobility

Examples:
- ✓ **United States :** EITC also encourages investment over consumption
- ✓ **France:** "compte personnel d'activité"

4. Improving urban planning

- Reduce residential segregation to reduce socio-economic segregation in schools
- Improve access to affordable housing through targeted housing allowances and inclusionary zoning in residential areas
- Deliver effective transport networks in different areas (infrastructure, public transport through targeted subsidies

Examples:
- ✓ **Netherlands :** system of double waiting lists
- ✓ **United States:** "Moving to opportunity" experiment housing vouchers

Thank you for your attention!

michael.forster@oecd.org

www.oecd.org/social/inequality-and-poverty.htm

Includes: "COMPARE YOUR INCOME" WEB TOOL →

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