



WHAT DO HOUSEHOLD SURVEYS SUGGEST ABOUT THE TOP 1% INCOMES AND INEQUALITY IN OECD COUNTRIES?

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Motivation: the Inclusive growth puzzle

- “the top percentile managed to “capture” a very large fraction of the growth in pre-tax incomes, especially in English-speaking countries: around 47% of total growth went to the top 1% in the United States, 37% in Canada and above 20% in Australia and the United Kingdom.”, OECD (2014)
- “Ninety-one percent of all increases in income from 2009 to 2012 went to the wealthiest 1 percent of Americans – the epitome of unequal growth”, Stiglitz (2015)

In this context, how to talk about inclusive growth without top incomes?

How to identify evidence-based policy recommendations when using information either on the 99% or the 1%, but not on both?



The proposal

- A. How Piketty did it: data sources for measuring income inequality**
- B. How to do it differently: inferring top incomes from OECD data and comparison with the World Top Incomes Database**
- C. The full picture**



A. How Piketty did it ? (1)

- First, how it was done before (and still being done)?
- In OECD countries, the bulk of official income distribution statistics is derived from **household surveys**
- Surveys measure income dispersion on most of the population **but not all**: the **very top** is not captured
- Generally, surveys capture **the 99%**
- Why?
 - higher than average **non-response rates**
 - higher than average **under-reporting**
 - constraints on **survey collection**
 - **top coding** (income received by households above a certain threshold is replaced by the threshold value to keep disclosure risk low)



A. How Piketty did it ? (2)

- Are these issues important? Yes, undoubtedly:
 - Consider a country with a **stable** Gini coefficient of **0.40 across the 99%** between two periods
 - Assume that the share of income held by the missing top 1% increases by **14 percentage points** between the two periods (as happened in the US between 1976 and 2006)
 - Then the Gini coefficient **on the 100%** has increased by **8.4 percentage points**
- Using surveys to measure inequality leads to **large underestimation of the true levels** of inequality and **biased trends** in unknown directions
- Evidence suggest that top incomes under-coverage has been on the rise (Deaton, ReStat 2005)



A. How Piketty did it ? (3)

- Based on these shortcomings, alternative data sources have to be used
- The seminal paper from Piketty & Saez (QJE, 2003) use **tax-based tabulations** to infer top incomes shares for the US
- This follows Pareto (1896), Tinbergen (1956) and others who used the same type of data
- These computations have been extended to 20 OECD countries during the last 10 years
- All series are gathered in the **[World Top Incomes Databases](#)**, which is the reference used in a very large number of contributions (including OECD) and the public debate



A. How Piketty did it ? (4)

- Example of tabulations based on income tax data (US, 2007):

Tax rate	Number of returns '000	Total income \$m	Total tax paid \$m
5 percent	13,218	76,924	3,846
10 percent	108,976	1,101,418	110,142
15 percent	81,501	1,955,871	293,381
25 percent	30,354	844,825	211,206
28 percent	5,904	293,691	82,217
33 percent	2,730	260,213	85,870
35 percent	1,061	586,067	240,123

Source: IRS data, 2007



B. How to do it differently? (1)

- Let's assume only Pareto is sufficient (and **using the stability evidence**)
 - In a nutshell (cf. paper for details):
 - Use of a **conditional likelihood estimator** to estimate the Pareto parameter Two levels of information combined in the likelihood function:
 1. **Part of the income distribution in household survey is close to (but is not) Pareto**
 2. **Top incomes are missing but we know that their income is at least equal to a lower bound**
 - IDD (stringent) context: **data by deciles**
- **Assumption: the last decile is fully Pareto**



B. How to do it differently? (2)

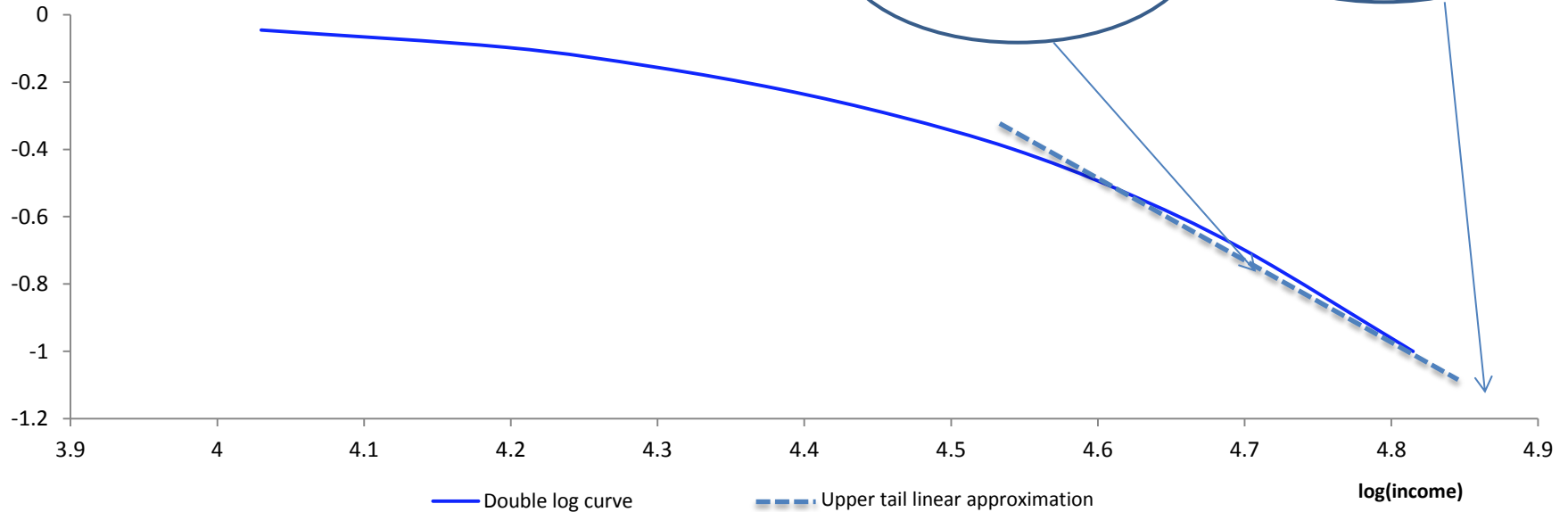
- Example for the US:

USA

Almost
Pareto

Missing top
incomes

log(survival function of income)



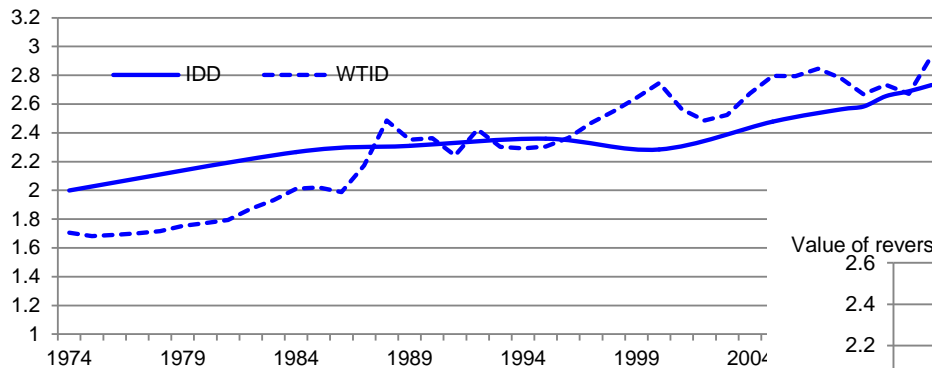


B. How to do it differently? (3)

- Comparison of Pareto coefficients between estimation from the OECD Income Distribution Database (**IDD**) and the World Top Incomes Database (**WTID**) (post-transfer, pre-tax income)

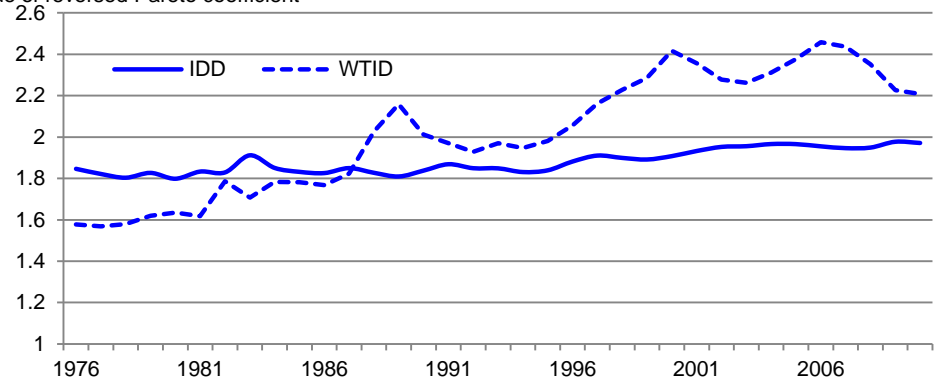
A. USA

Value of reversed Pareto coefficient



B. CANADA

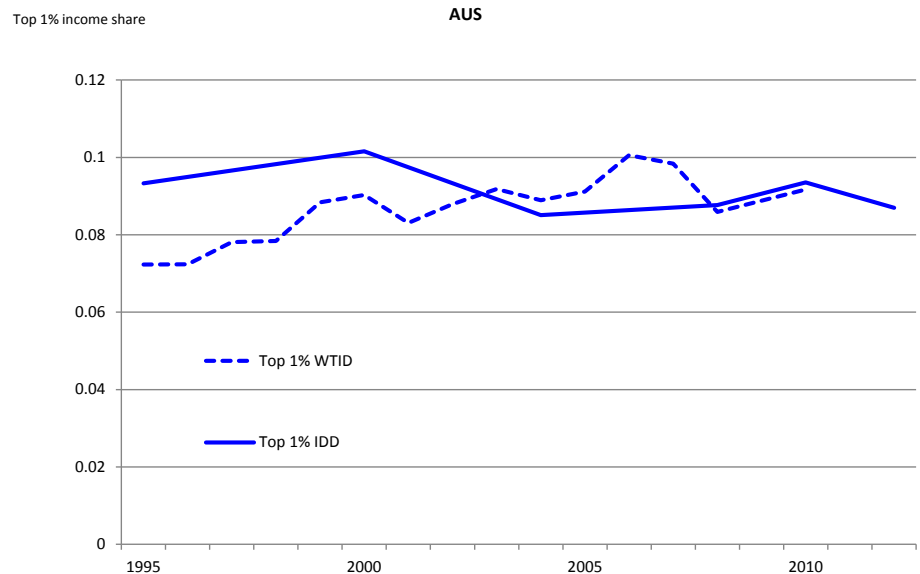
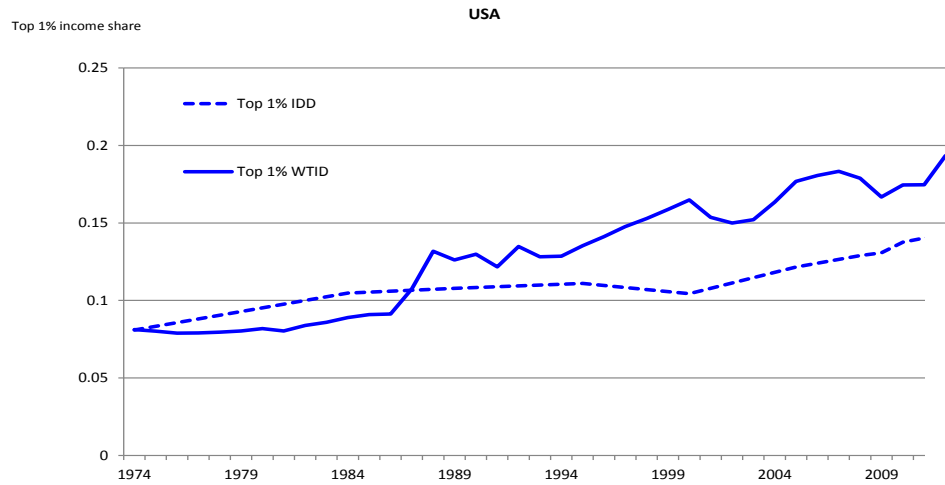
Value of reversed Pareto coefficient





B. How to do it differently? (4)

- Comparison of top 1% shares between estimation from **IDD** and **WTID**

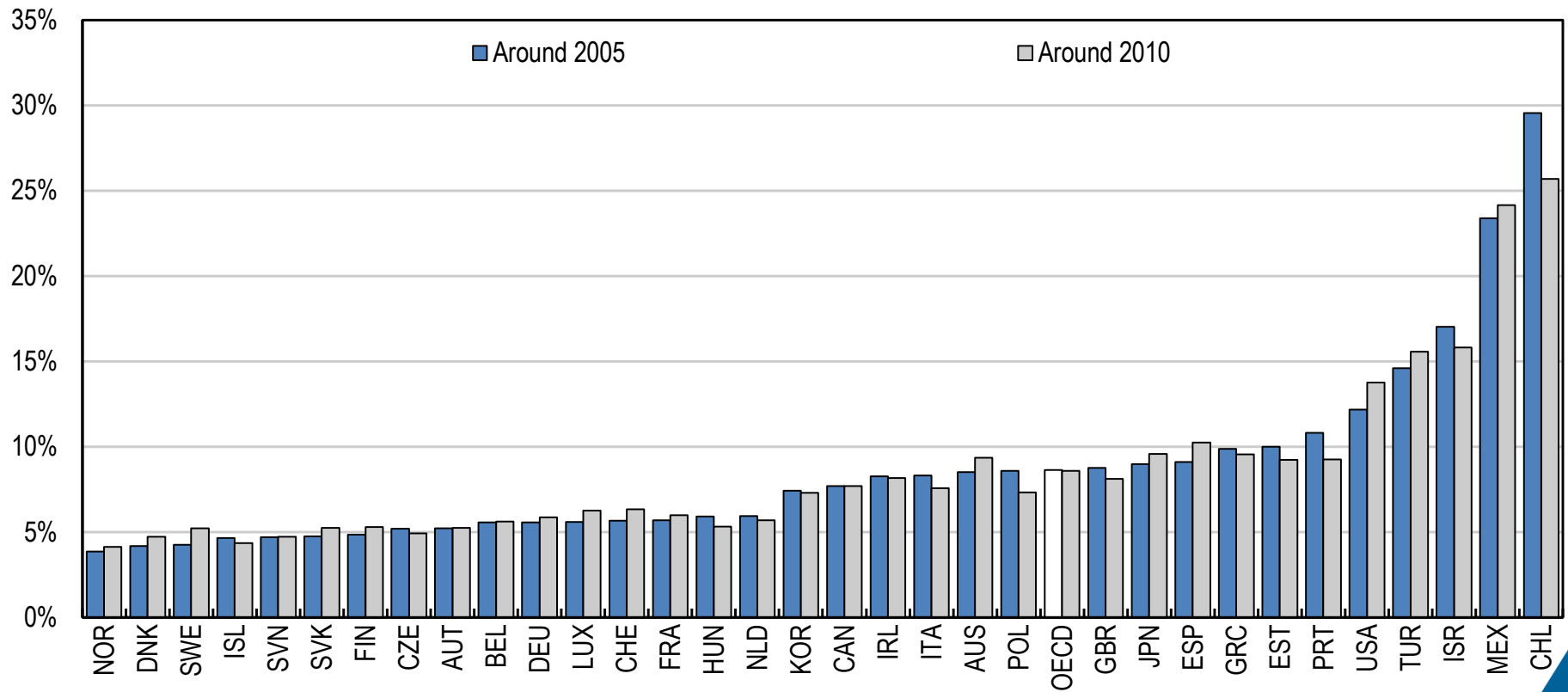




B. How to do it differently? (5)

- Extending the coverage to **all OECD countries**:

Top 1% income share





C. The full picture (1)

- Now, IDD inequality measures can be **adjusted for the “missing” top incomes**
- This will give a **quantification of inequality on 100%** of the population in each OECD countries
- The rather arbitrary is that the **10% richest of the population** are inferred using a Pareto law (income concept is now post tax and transfer)
- New income distributions are delivered

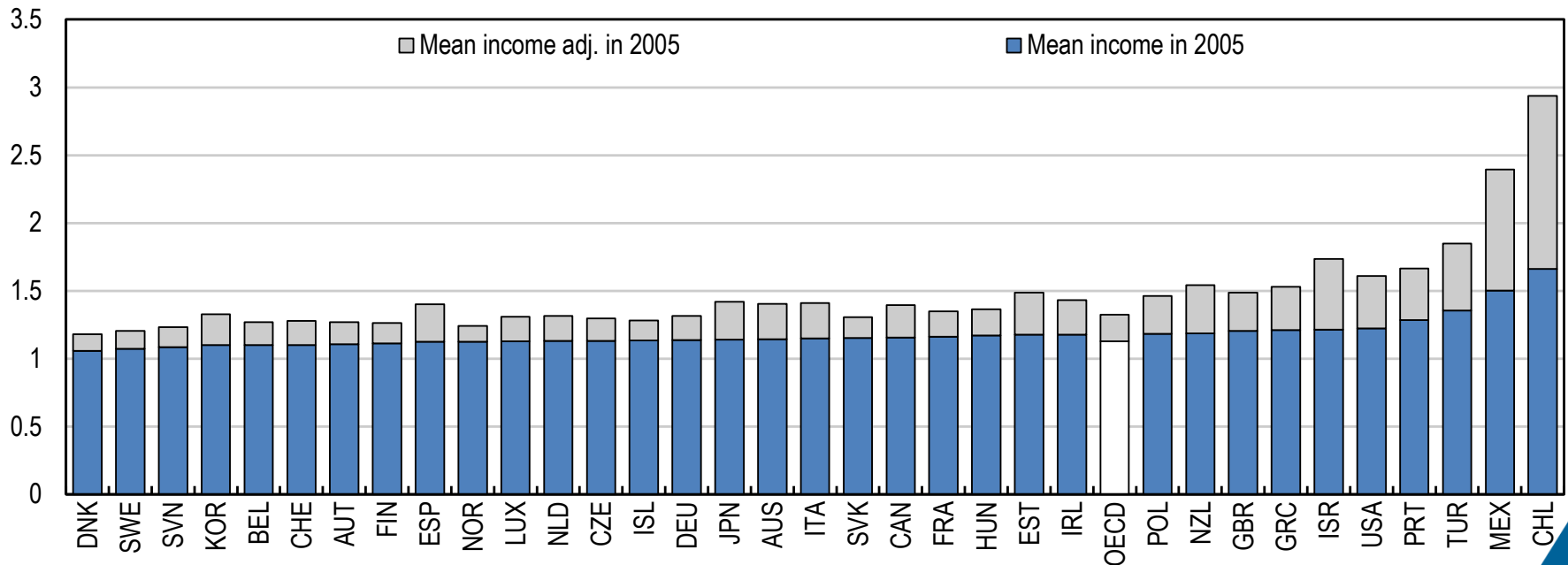


C. The full picture (2)

- **First result: mean income is scaled up** significantly
- A (mechanical) by-product of the adjustment is a **better alignment** of surveys aggregate amounts with **SNA** (cf. Deaton, ReStat 2005)

A. Adjusted vs. non-adjusted mean income in 2005

Mean income (as a multiple of median income)

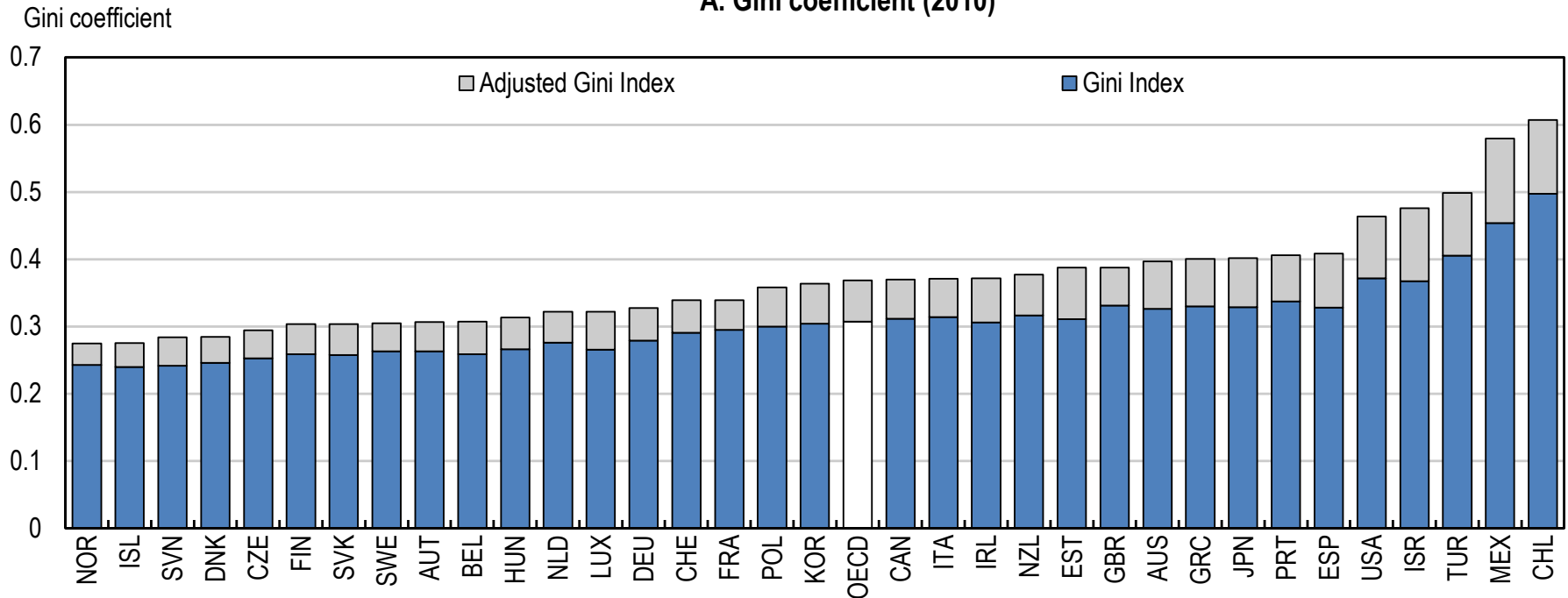




C. The full picture (3)

- **Second result:** current official Gini coefficients are **underestimated**. The average Gini moves from **0.31 to 0.37...**

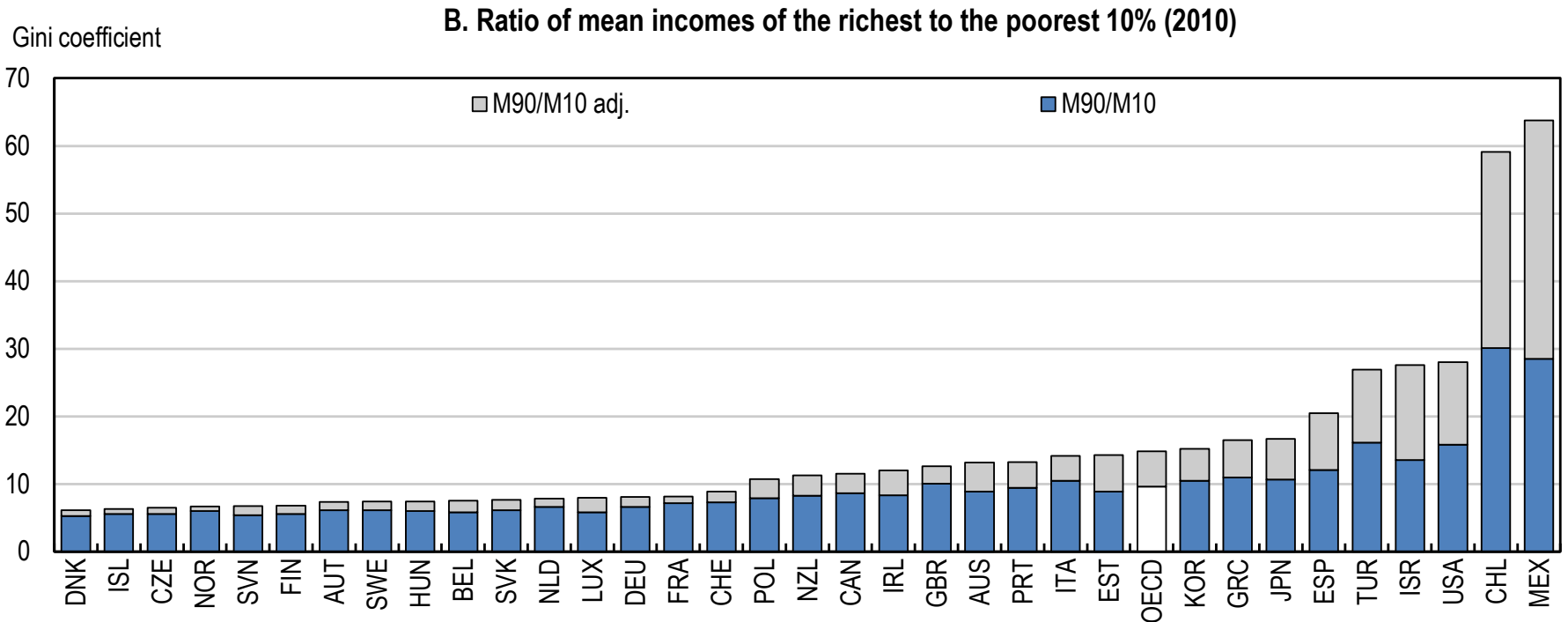
A. Gini coefficient (2010)





C. The full picture (4)

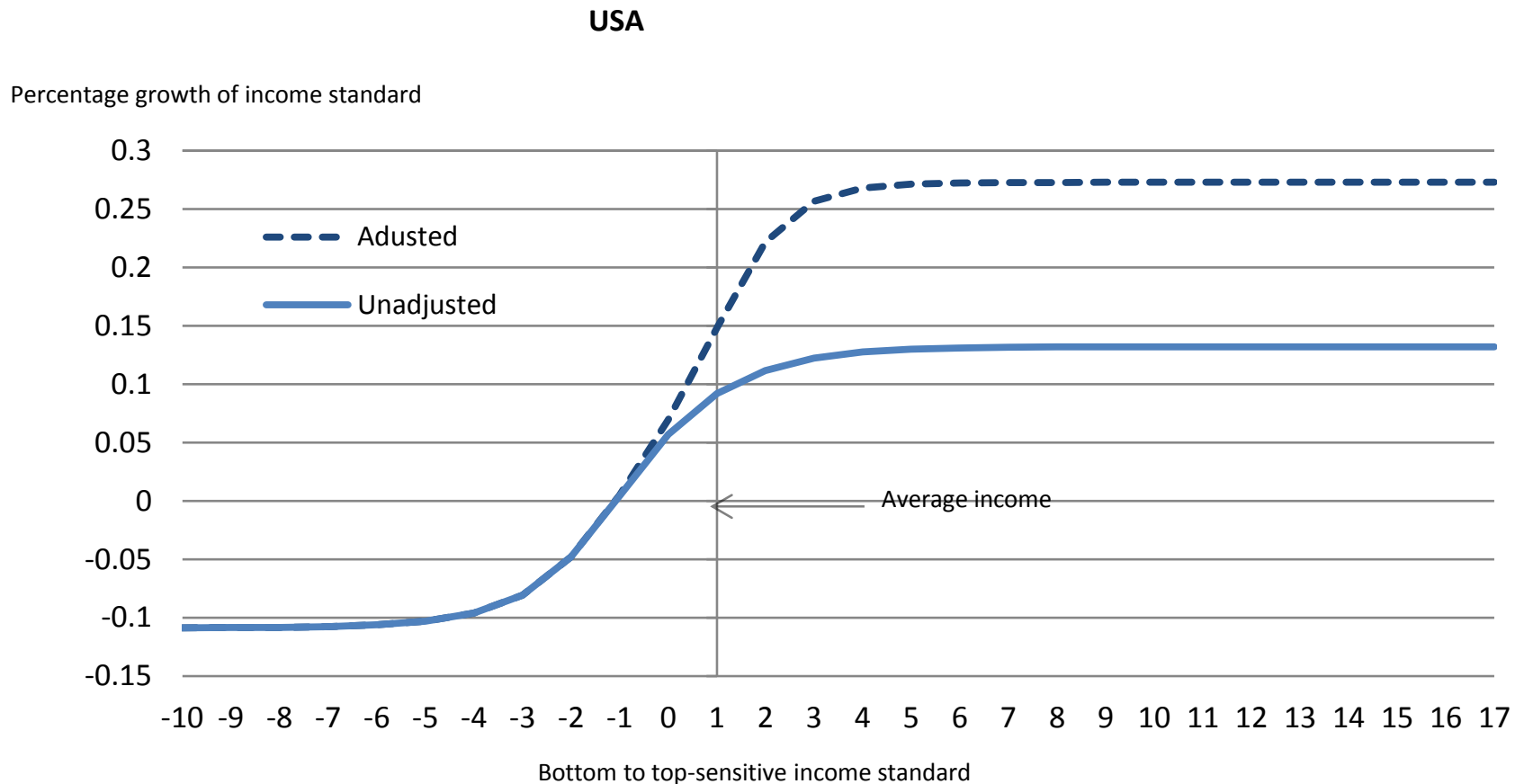
...and the mean income ratio of the richest over the poorest 10%
from 10 to 15





C. The full picture (5)

- **Third result:** trends are modified (cf. paper for all countries)

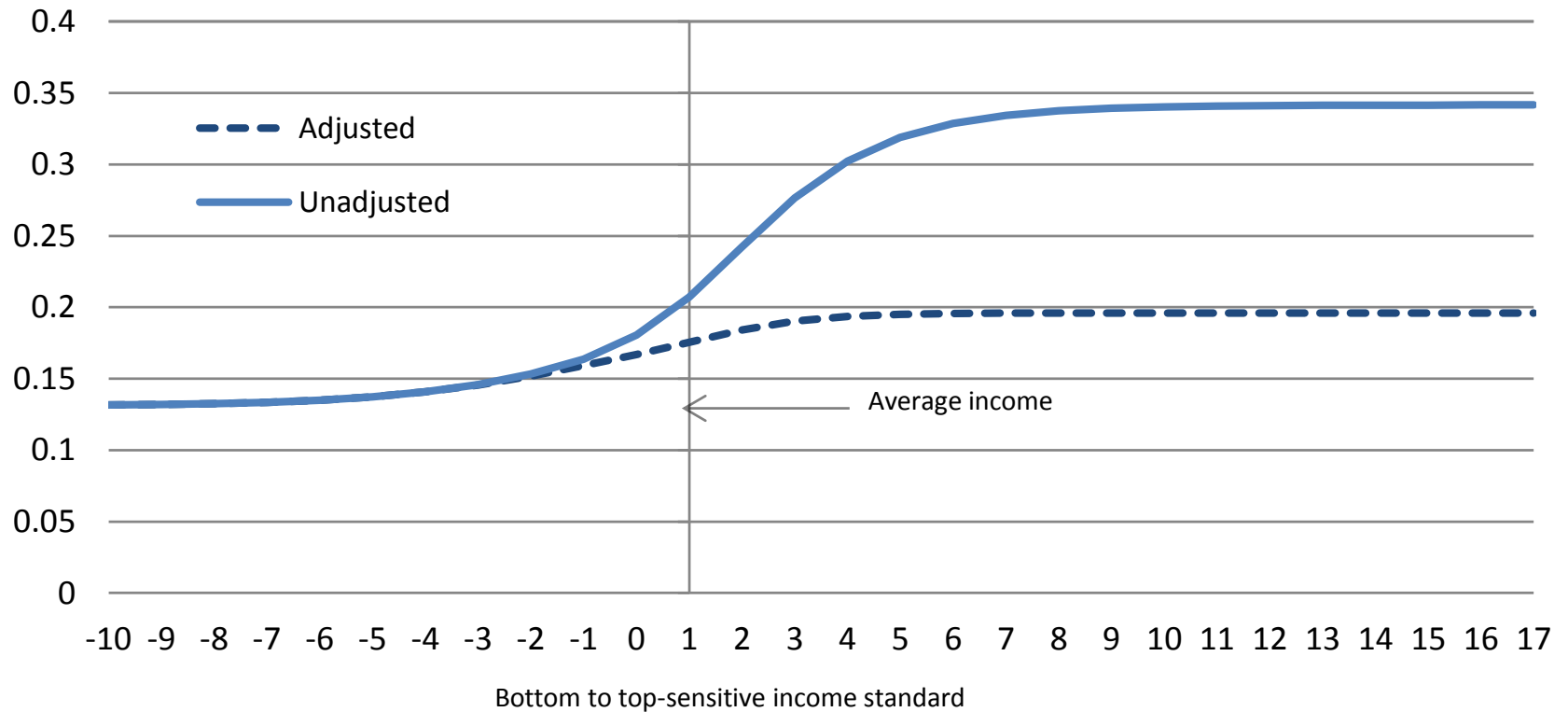




C. The full picture (6)

FRA

Percentage growth of income standard





Conclusion

- This paper was about having a **more comprehensive view** on inequality in the OECD context...
- ...and extending the capacity to **tackle policy issues on inequality and inclusive growth**
- Top income shares have been:
 - estimated from the IDD and compared for the common countries with the WTID: a reasonable degree of similarity is achieved
 - extended to all OECD countries
 - brought together with the 99% for a comprehensive view of inequality: levels and trends are significantly modified
- Keeping in mind the various limitations, it can potentially deliver a new analytical material to base policy discussions on inclusive growth