

# Top Income Shares in Israel

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IEA 2023

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# Motivation

Income inequality research often doesn't focus on top incomes

- ▶ Gini index, P90/P10 index

Interesting discussion on the need of focusing on top earners

- ▶ By top, we mean the **very top** (e.g. top 1/10000)
- ▶ Interesting findings on concentration, mobility, labor vs. capital, etc.

Such (descriptive) research depends on data availability

- ▶ Specifically, administrative data, not top coded, includes all income types.

*This study:* bring the top-income research to Israel using tax data (ITA).

# Top Income Shares

## Fractiles.

- ▶ In each year, calculate for each individual their total annual income
- ▶ Rank individuals from lowest to highest
- ▶ Group individuals into 10,000 groups according to rank.

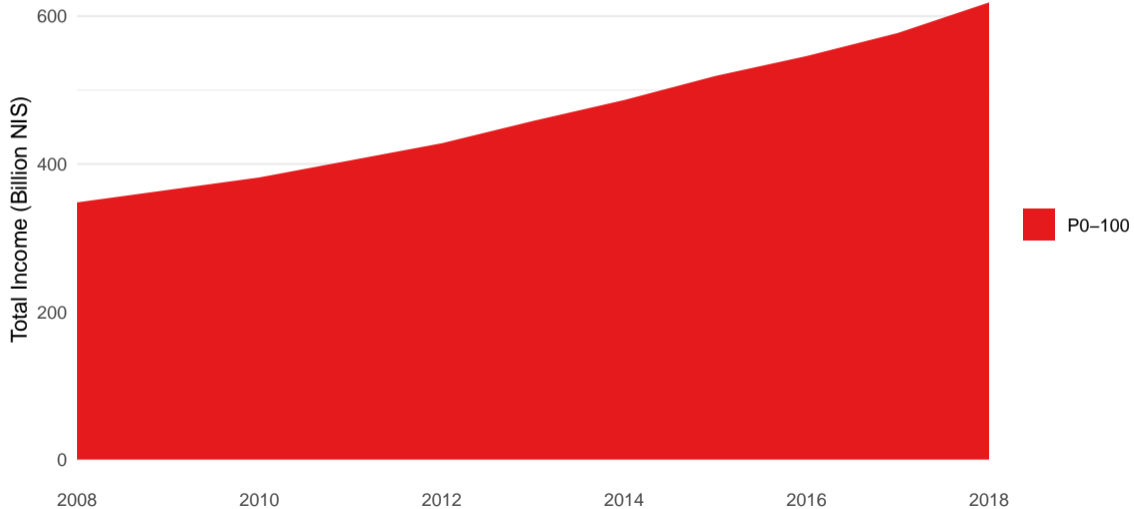
## Income Shares.

- ▶ For each year calculate the income share for fractile  $f$  in year  $t$  as

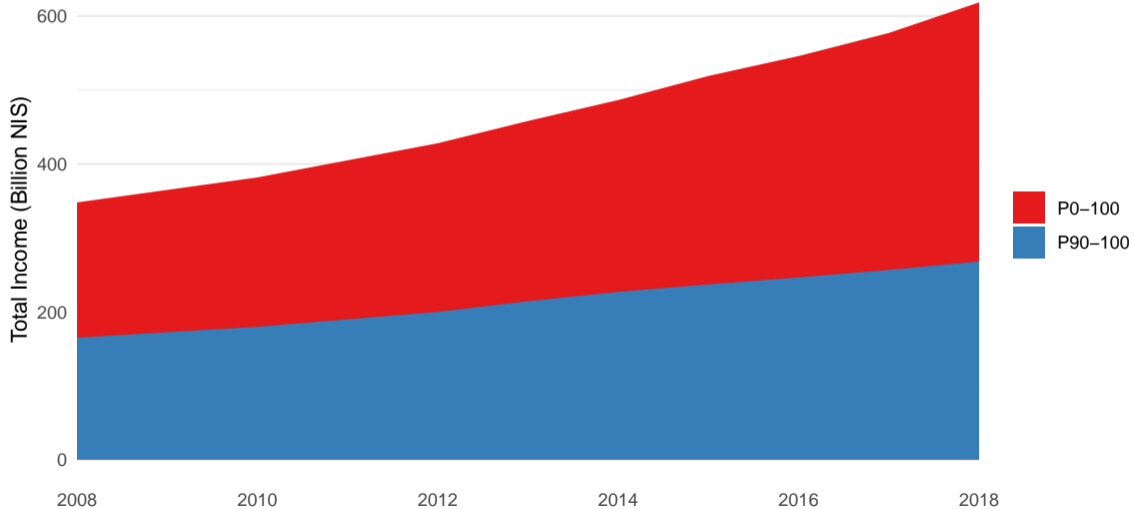
$$\text{Income Share}(f, t) = \frac{\sum_i \mathbf{1}(f_{it} = f) \times Y_{it}}{\sum_i Y_{it}} \quad (1)$$

- ▶ Where  $f_{it}$  is the fractile of individual  $i$  at time  $t$  (e.g. P90-100)
- ▶  $\mathbf{1}(\cdot)$  is indicator function
- ▶ And  $Y_{it}$  is income of  $i$  at  $t$

# Top Income Shares



# Top Income Shares



# Talk Outline

## Data

Top Income Shares in Israel

Income Composition

Robustness

Conclusion

# Data

## Sources.

- ▶ We use employee (EMP) and self-employed (SE) ITA records
- ▶ Years 2008, 2010, and 2012-2018

Other sources: World Inequality Database, CBS, Bank of Israel

## Population.

- ▶ Restrict to individuals aged 20 and older
- ▶ And add observations with **zero income** so # obs. equals CBS aggregate

## Income.

- ▶ Use sum of all income (labor, business, capital) reported to ITA before taxes
- ▶ Following the literature, omit capital gains from income and ranking



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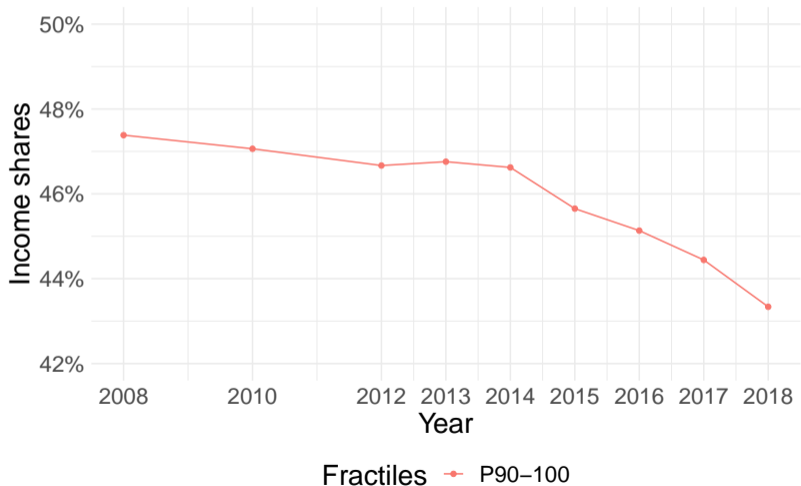
Conclusion

## Top Income Groups in 2018

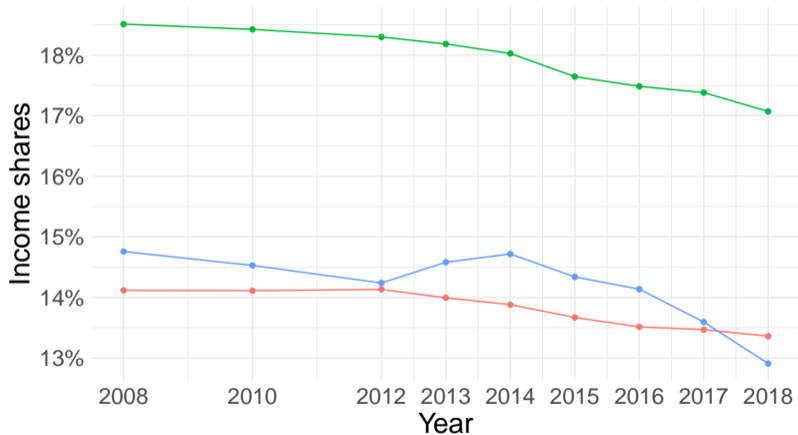
Fractile	<i>N</i>	Bottom income threshold	Avg. income
Full population	5,676,000		108,989
P90-95	283,800	250,000	291,230
P95-99	227,040	350,000	465,092
P99-99.5	28,380	700,000	791,829
P99.5-99.9	22,704	930,000	1,222,831
P99.9-99.95	2,838	1,900,000	2,267,015
P99.95-99.99	2,270	2,800,000	4,276,235
P99.99-100	568	8,000,000	23,725,345

*Notes:* Income averages and thresholds are in NIS, current prices of 2018 . Fractiles ranked by total income, excl. capital gains. Income thresholds are rounded.

# Top Income Shares Over Time

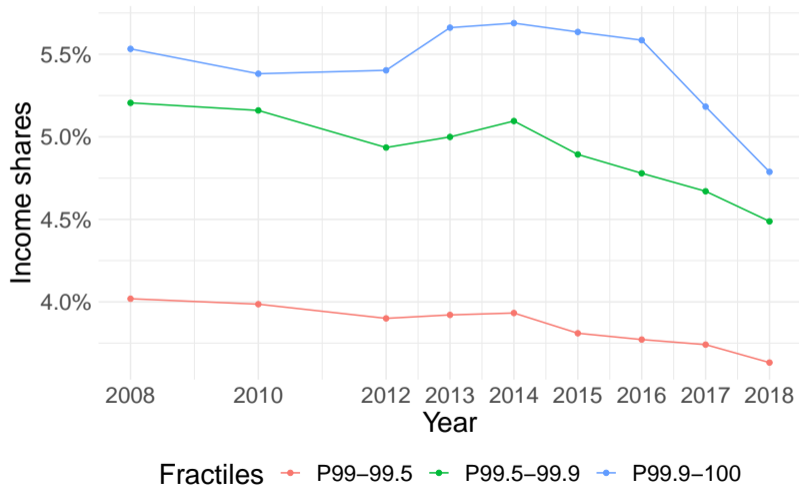


# Top Income Shares Over Time

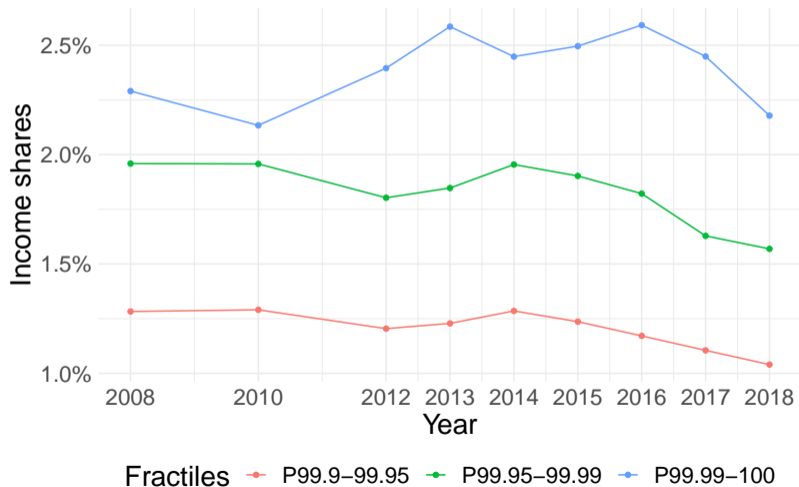


Fractiles — P90-95 — P95-99 — P99-100

# Top Income Shares Over Time

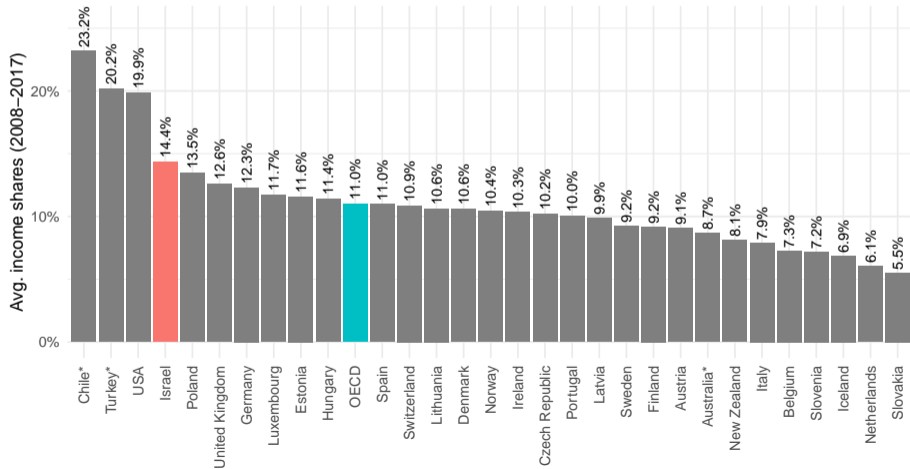


# Top Income Shares Over Time



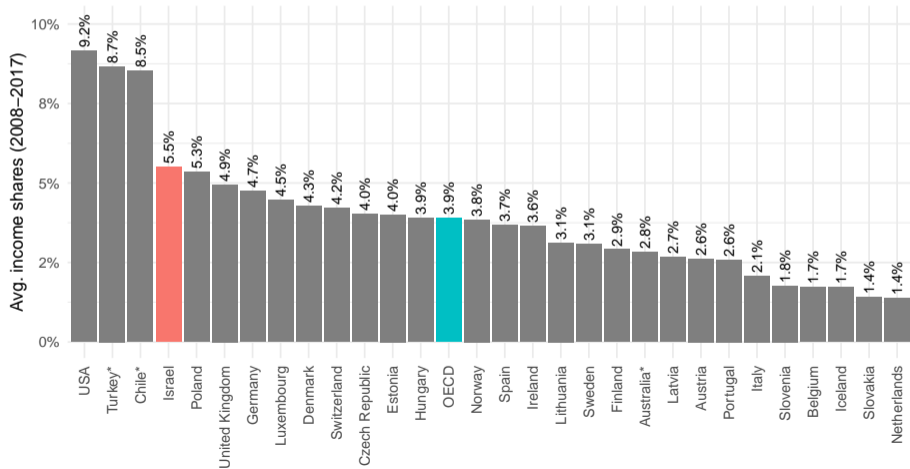
# Top Income Shares in OECD

Figure: TIS 1% (P99-100)



# Top Income Shares in OECD

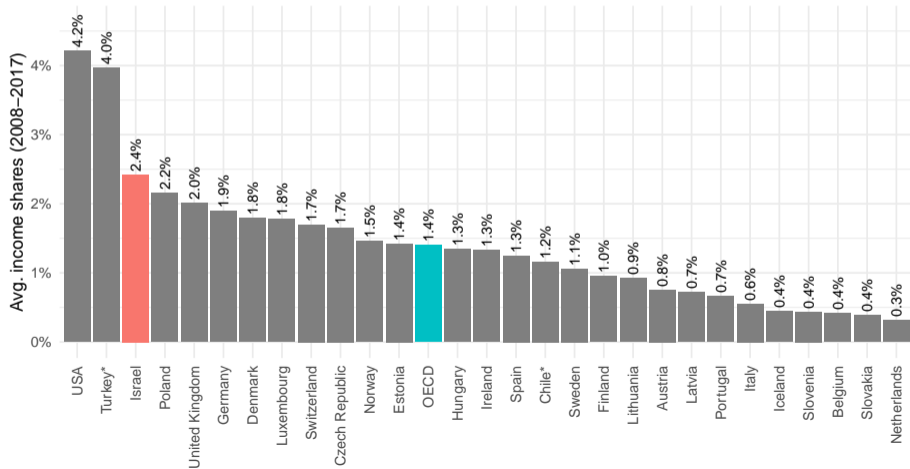
Figure: TIS 0.1% (P99.9-100)





# Top Income Shares in OECD

Figure: TIS 0.01% (P99.99-100)



# Talk Outline

Data

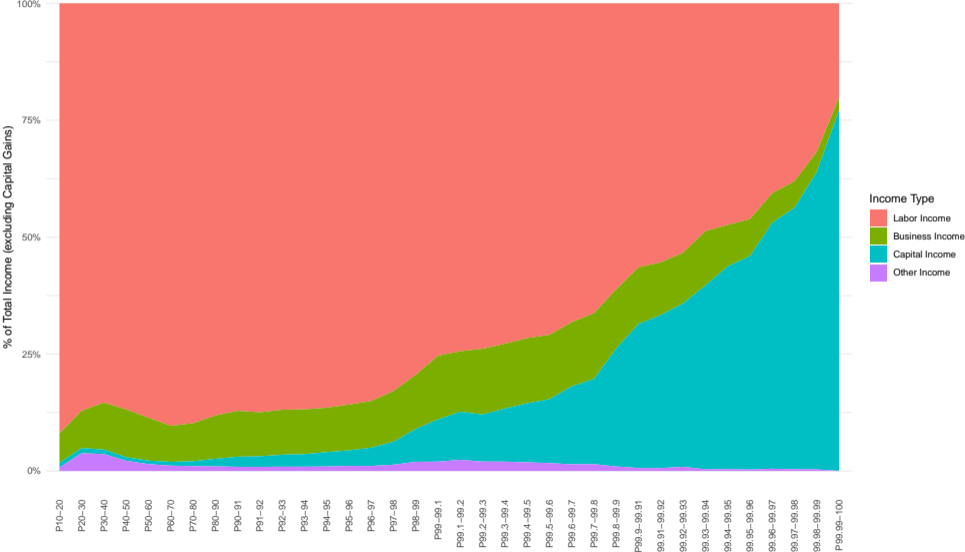
Top Income Shares in Israel

**Income Composition**

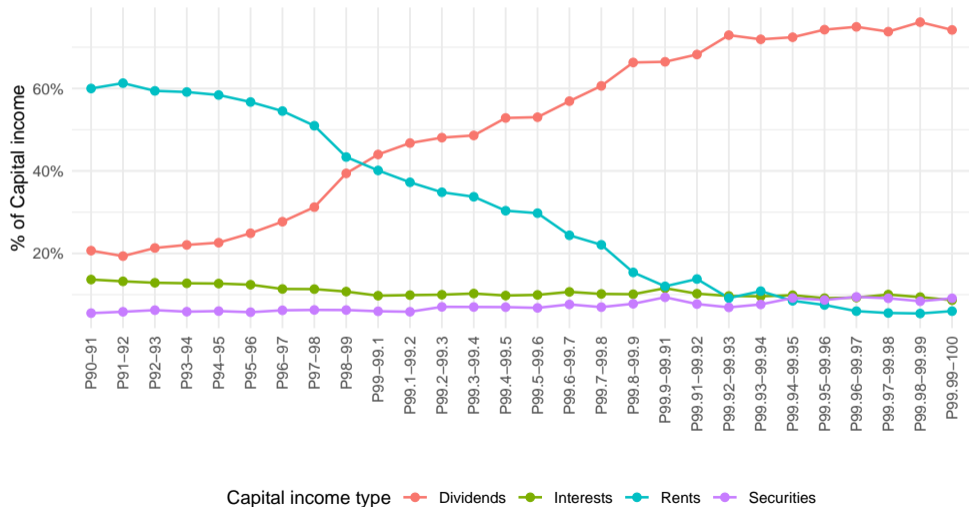
Robustness

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# Income Composition Across Fractiles (2018)



# Capital income composition across top fractiles (2018)



# Connecting Income Composition and Time Trends

Recorded two descriptive phenomenon

1. Time trends: TIS of high income groups declined
2. Income composition: share of capital increases with income

Can we connect the two?

## **Decomposition / Accounting Exercise.**

- ▶ Calculate pp change of income share between 2008 and 2018
- ▶ Decompose as sum of two types of changes - *between* and *within*
- ▶ Decompose by income types

Start with example for intuition, and then results (algebra in paper)

# Connecting Income Composition and Time Trends

Figure: Between-income changes (aggregate)

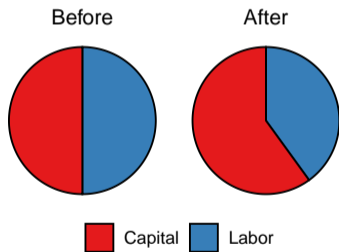
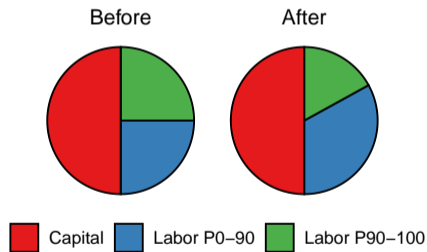
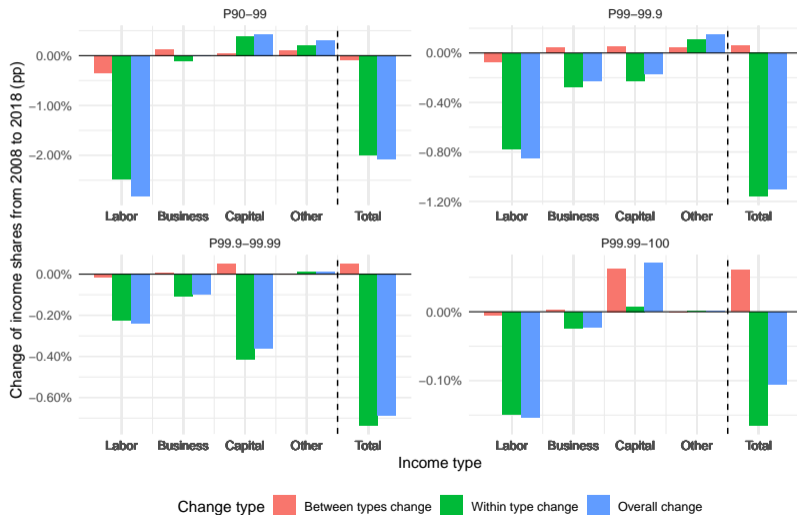


Figure: Within-income type changes (only labor)



# Connecting Income Composition and Time Trends



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## Robustness: Missing Incomes

### **Exercise.**

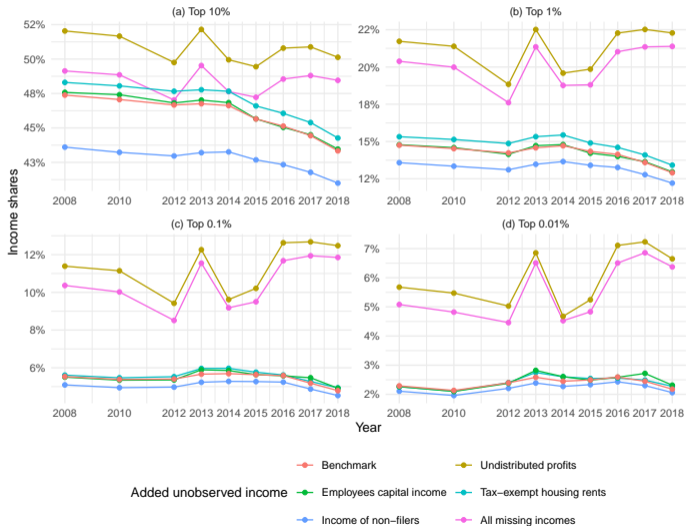
- ▶ For some missing income type (discussed in next slide)
- ▶ Find annual aggregate (auxiliary data sources)
- ▶ Distribute it via some distribution rule (in ITA data)
- ▶ Re-calculate income shares (using income groups pre-distribution)

# Robustness: Missing Incomes

We discuss 4 missing incomes

- ▶ Capital Income of Employees
  - Source: National Accounts. Distributed by: capital income of self-employed.
- ▶ Tax-exempt housing rents
  - Source: CBS household surveys. Distributed by: taxed housing rents.
- ▶ Income of non-filers.
  - Distributed by: inflated population, assign 30% average income.
- ▶ **Undistributed profits.** (Motivation: DINA)
  - Source: ITA firm data. Distributed by: dividends of self-employed.

# Robustness: Missing Incomes



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# Take-aways from this talk

## **Main Results.**

- ▶ Israel has high top income share (TIS) compared to OECD (top 3/4)
- ▶ TIS ↓ over time, except very top

## **Income Composition.**

- ▶ Right tail is mainly composed of capital income (of that, mainly dividends)
- ▶ Show evidence that ↑ labor income equality is main driver of TIS ↓
- ▶ But ↑ capital income in whole economy mitigates TIS ↓

## **Undistributed Profits.**

- ▶ Show evidence TIS ↑ substantially if include firm undistributed profits

## Thanks for listening

There is much more in the paper

- ▶ Demographics
- ▶ Industry classification of top income groups
- ▶ Short-term mobility and international mobility comparisons
- ▶ ...

QR of working paper (Hebrew)

