# Can Redistribution Keep Up with Inequality? Evidence from South Africa, 1993-2019

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# Introduction

- Major topic of economics research: link between economic growth and global poverty.
- To what extent does economic growth reduce poverty?
- How does government redistribution affect this relation?
- Despite a broad consensus that growth reduces poverty in the long run, major methodological and conceptual differences remain.
  - **Growth (macro)** = GDP or national income per capita
  - **Poverty (micro)** = consumption expenditure / disposable income

# The problem: existing poverty measures are imbalanced

Standard measures of monetary poverty do not account for the bulk of government redistribution.

- **Household final consumption expenditure** = sum of purchases made by households over a given time period.
- **Household net disposable income** = income remaining after payment of direct taxes and reception of cash transfers.

→ Ignores **indirect taxes** (VAT, trade duties, corporate taxes) and **in-kind/collective transfers** (education, health, infrastructure, police...).

# The problem: existing poverty measures are imbalanced

This omission has major consequences for the evaluation of public policies. Four examples:

- The government finances an income tax cut on rich households by increasing VAT $\rightarrow$ no change in recorded poverty.
- The government recruits new public school teachers by implementing a progressive income tax $\rightarrow$ no change in recorded poverty.
- The government implements a flat income tax to finance the construction of new roads $\rightarrow$ increase in recorded poverty.
- The government substitutes a medical aid program with free health consultations $\rightarrow$ increase in recorded poverty.

# This paper: a new micro-macro reconciliation

We combine numerous sources to build a **new database on the distribution of growth, taxes, and transfers in South Africa 1993-2019**:

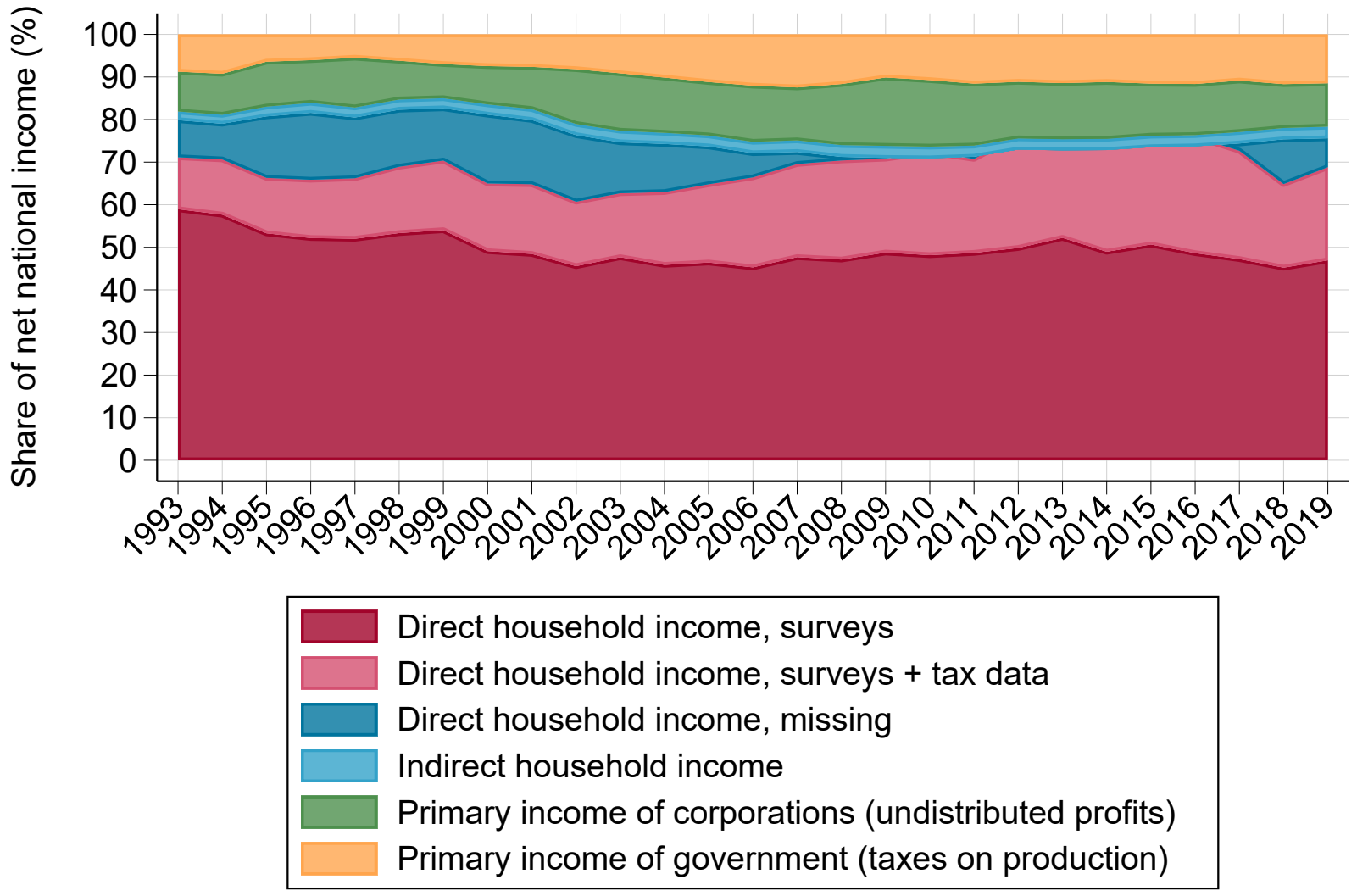
- Household surveys
- Income tax data
- National accounts data
- Historical government budget reports

We follow the Distributional National Accounts (DINA) methodology to **distribute the entire net national income** to individuals:

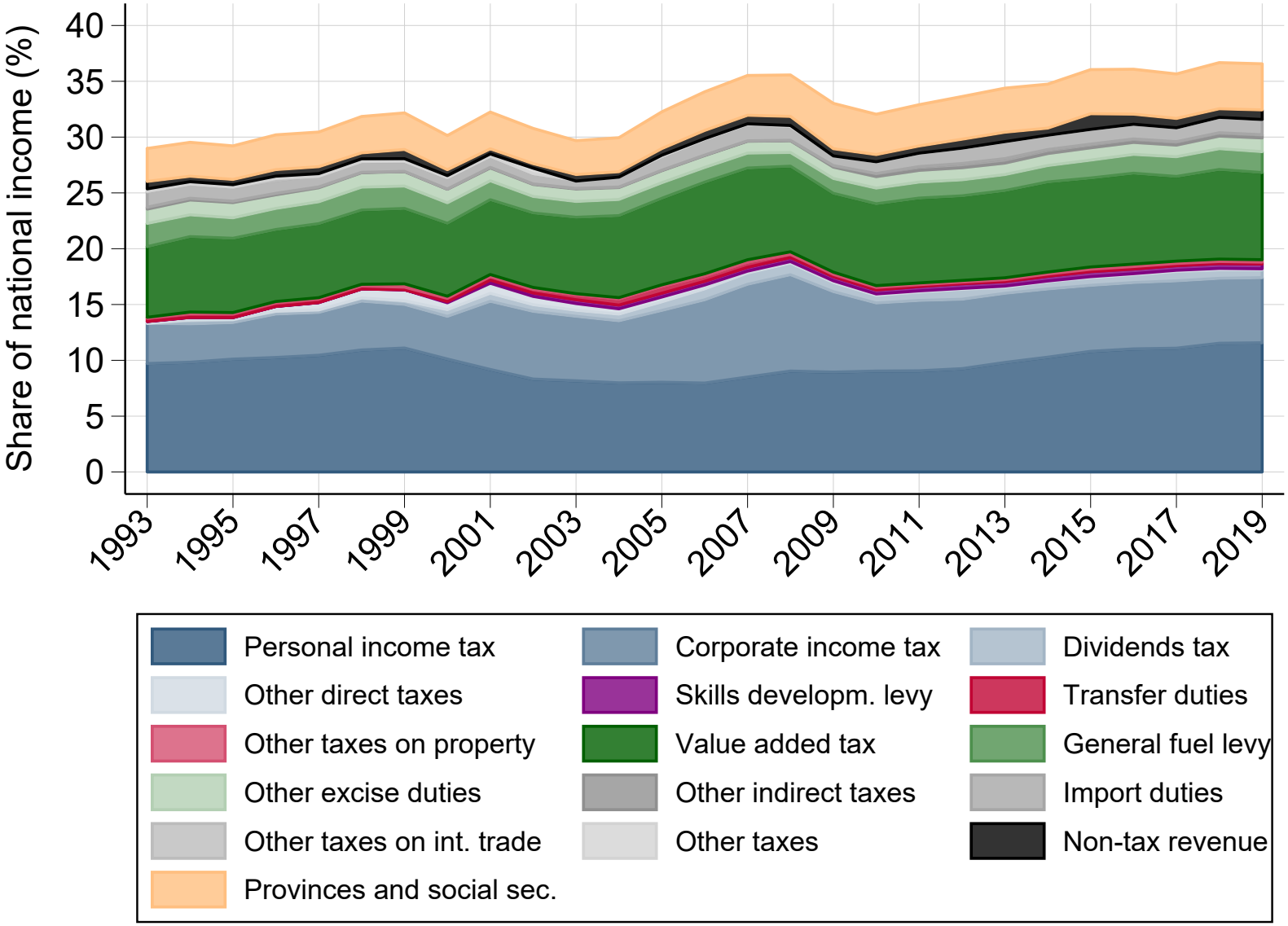
- Directly and indirectly received income (imputed rents, income indirectly received through pension funds, etc.)
- Direct and indirect taxes
- Cash, in-kind, and collective government transfers

# Methodology

# From surveys and tax data to factor national income



# Government revenue in South Africa, 1993-2019



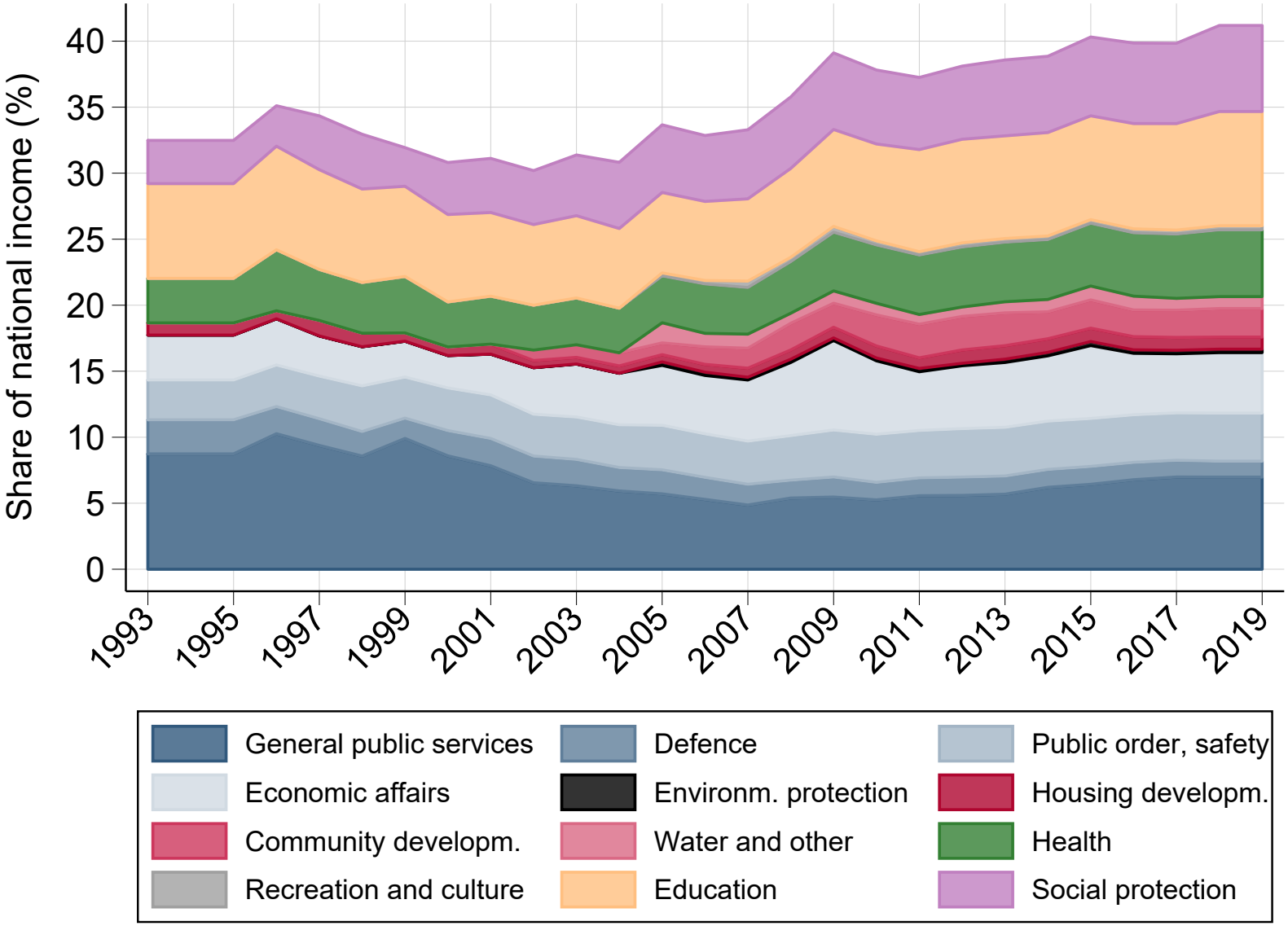
# From pretax to posttax national income: taxes

## **Table 1:** The distribution of taxes

| Item | Distribution method | % of NNI (2019) |
|---|---|---|
| **Direct taxes** | | 19.0% |
| Personal income tax | Rule-based imputation | 11.2% |
| Corporate income tax | Proportionally to equity | 6.1% |
| Dividends tax | Proportionally to dividends | 0.8% |
| Skills development levy | Rule-based imputation | 0.4% |
| Transfer duties | Proportionally to housing wealth | 0.2% |
| Securities transfer tax | Proportionally to equity | 0.1% |
| Estate duty | Proportionally to net wealth | 0.1% |
| Donations tax | Proportionally to net wealth | 0.0% |
| Other taxes on income | Proportionally to pretax income | 0.1% |
| **Indirect taxes** | | 12.6% |
| Value added tax | Proportionally to expenditure (excl. zero-rated / informal market) | 8.0% |
| General Fuel Levy | Proportionally to fuel and transport expenditure | 1.8% |
| Other excise duties | Proportionally to tobacco and alcohol expenditure | 1.1% |
| Other taxes on goods and services | Proportionally to total expenditure | 0.3% |
| Taxes on international trade | Proportionally to import-density-corrected expenditure | 1.4% |
| Other government revenue | Proportionally to pretax income | 2.0% |
| **Total consolidated revenue** | | 33.6% |

*Notes.* The table reports the methodology used to distribute all taxes in South Africa at the individual level, along with the size of each component, expressed as a share of net national income (NNI), in 2019.

# Government expenditure in South Africa, 1993-2019



# From pretax to posttax national income: transfers

**Cash transfers** (5% of NNI): rule based-imputation. These include:

- Old age grant (1.8%)
- Child support grant (1.5%)
- Disability grant (0.5%)

**Education** (9%):

- We digitize data on total spending on education by province and function (ECD / primary / secondary / university / adult education)
- Lump sum allocation to individuals following these programs
- Excludes individuals going to private schools

**Health** (5%):

- We digitize data on total spending on healthcare by province and type of public institution (clinic vs. hospital).
- Lump sum allocation to individuals using these 2 types of institutions
- Excludes individuals relying on private healthcare

# From pretax to posttax national income: transfers

- **Housing** (1%): corresponds mainly to state-subsidized housing or land $\rightarrow$ proportionally to house value of individuals declaring they benefited from a state-subsidized dwelling or a land grant.
- **Free Basic Services** (0.5%): free water, electricity, and other services provided by municipalities to "indigent" households $\rightarrow$ lump sum to households declaring benefiting from FBS.
- **Community expenditure** (6%) = spending by local government (municipalities), mainly water, electricity, and administration $\rightarrow$ currently collecting data on spending by municipality and access to municipal services, to be matched with census microdata.

# From pretax to posttax national income: transfers

**Transport (3.5%)**: transport expenditure can be decomposed into:

- **Public transport**: proportionally to public transport expenditure
- **Infrastructure** (e.g., building roads): can be decomposed into 3:
  - Government: proportionally to public transport use.
  - Households: proportionally to fuel consumption.
  - Firms (e.g., transport of goods): proportionally to expenditure corrected for the "transport intensity" of goods, estimated from input-output tables.

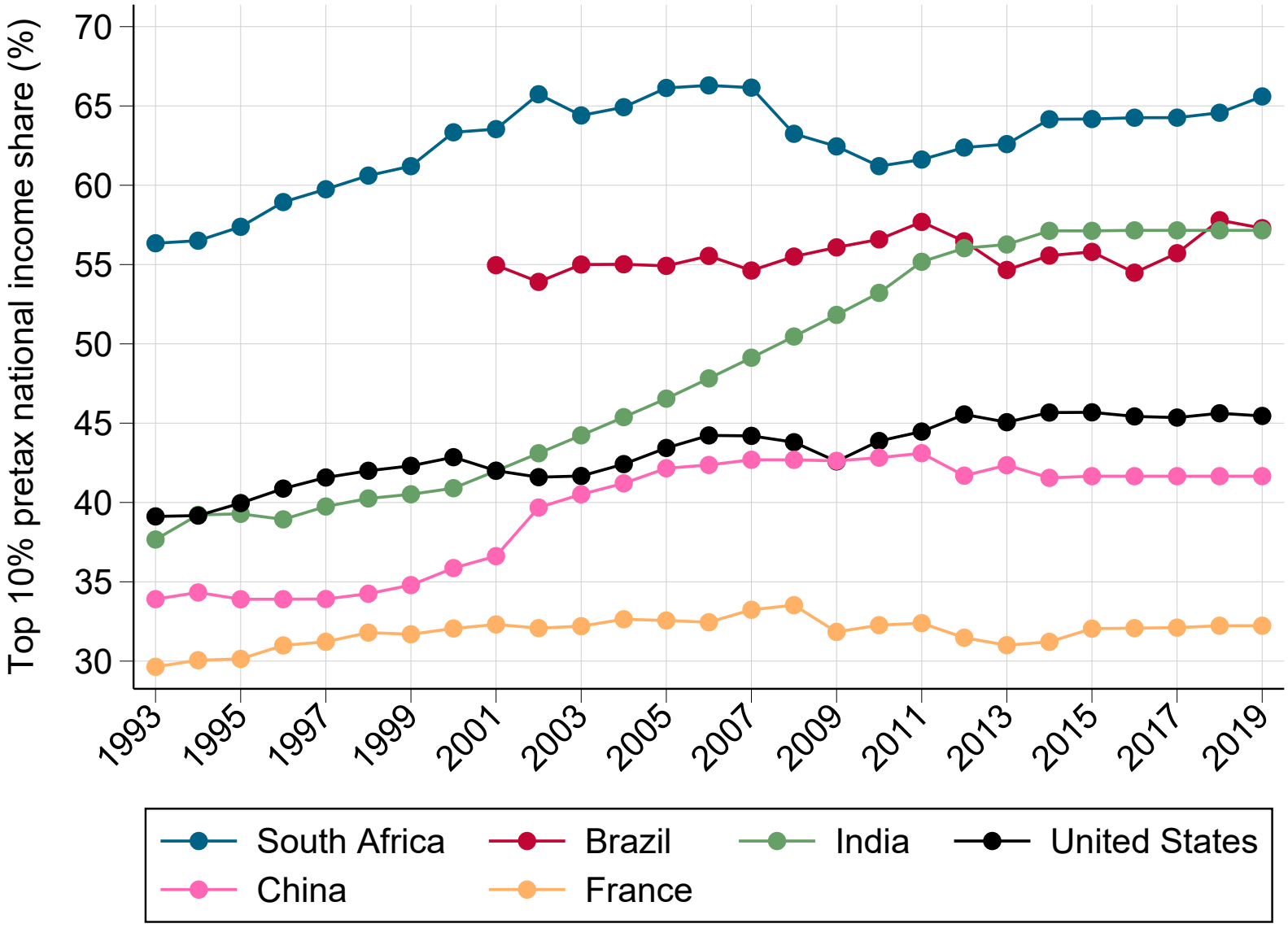
# From pretax to posttax national income: transfers

**Other collective expenditure** (ongoing):

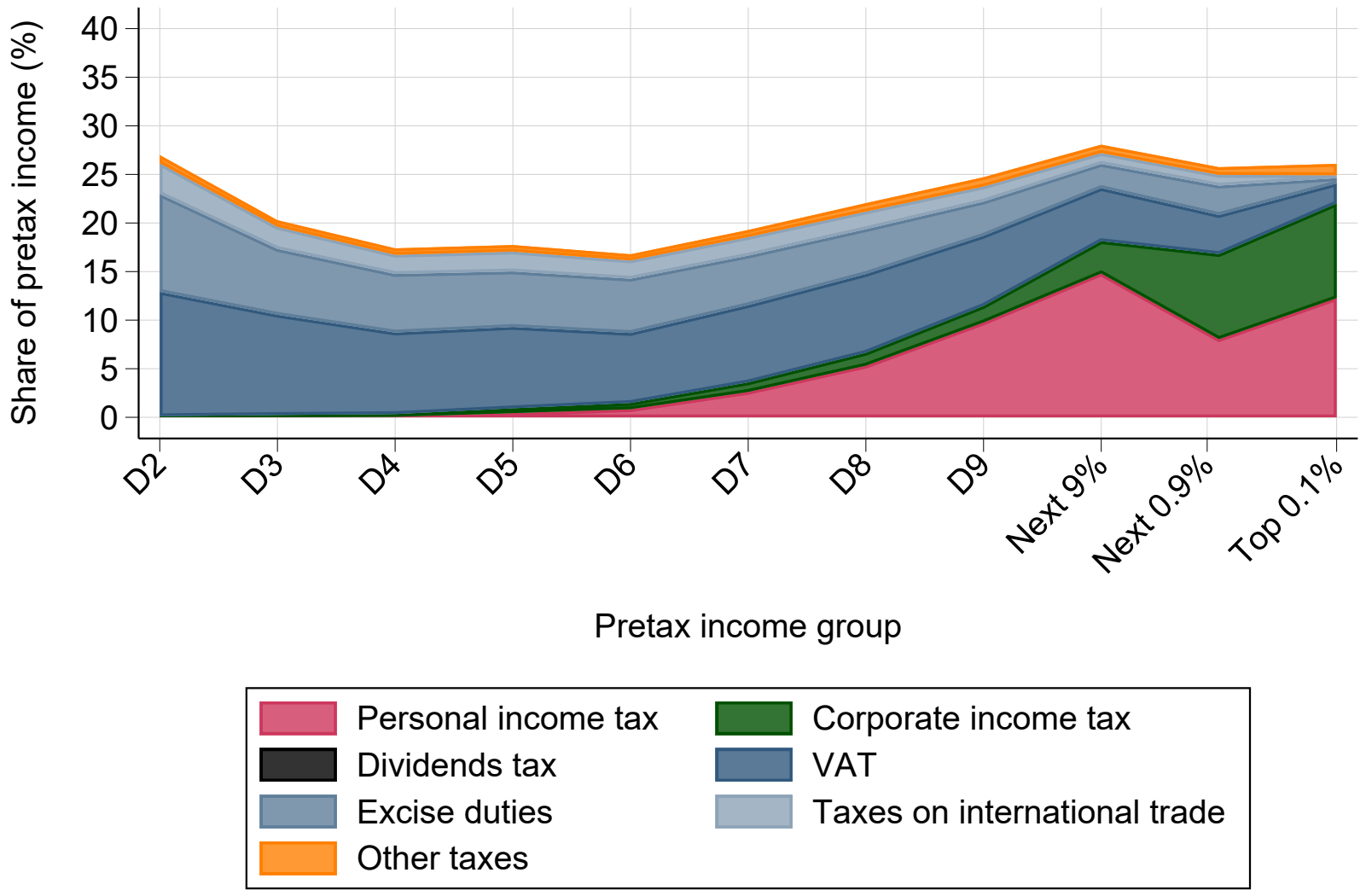
- Economic affairs (industrial subsidies): proportionally to consumption of goods benefiting from these subsidies using input-output tables.
- All others (police, justice, defense, environment, culture): to be determined!

# Preliminary findings

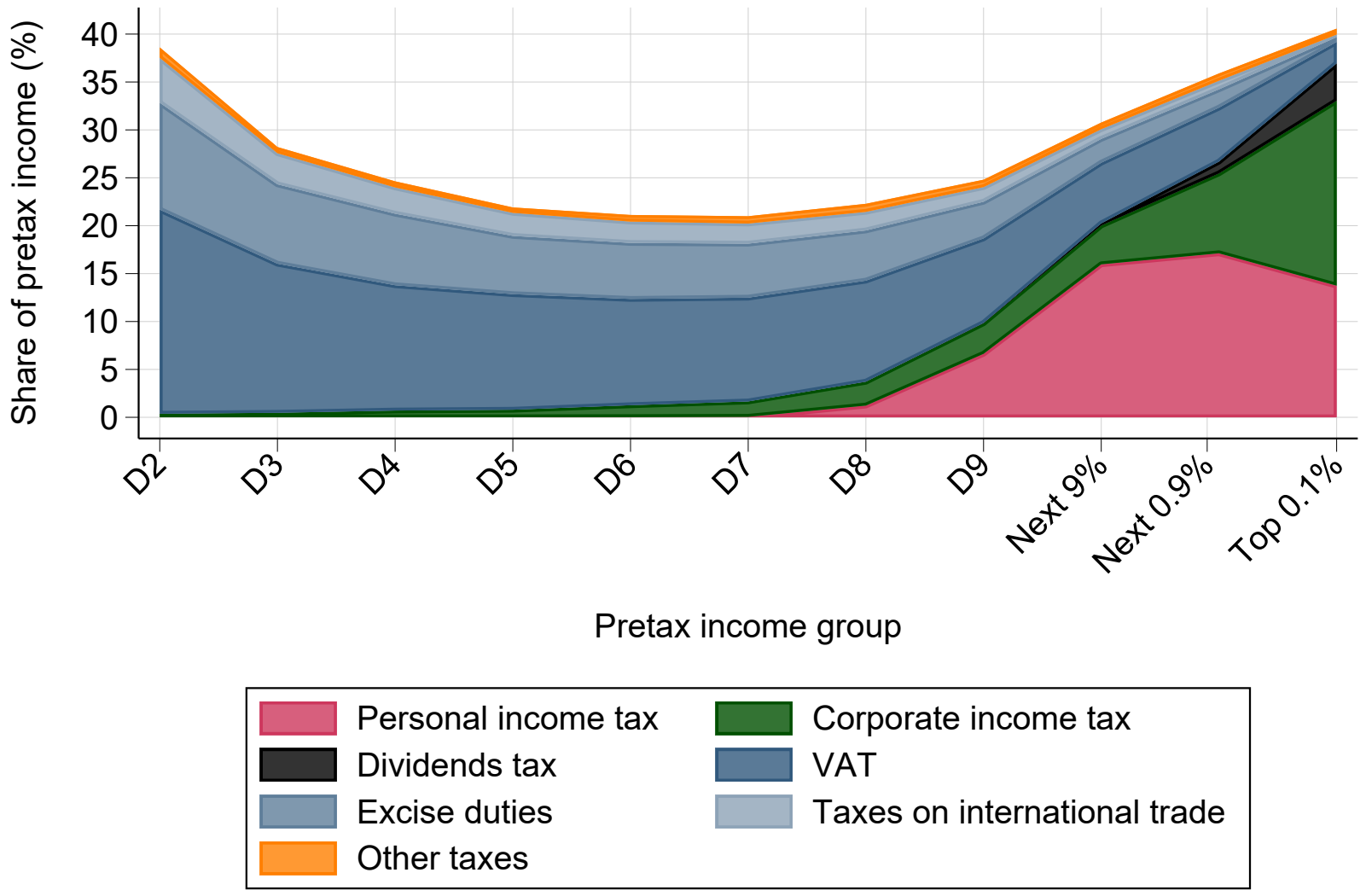
# South African inequality in comparative perspective: top 10% pretax national income share



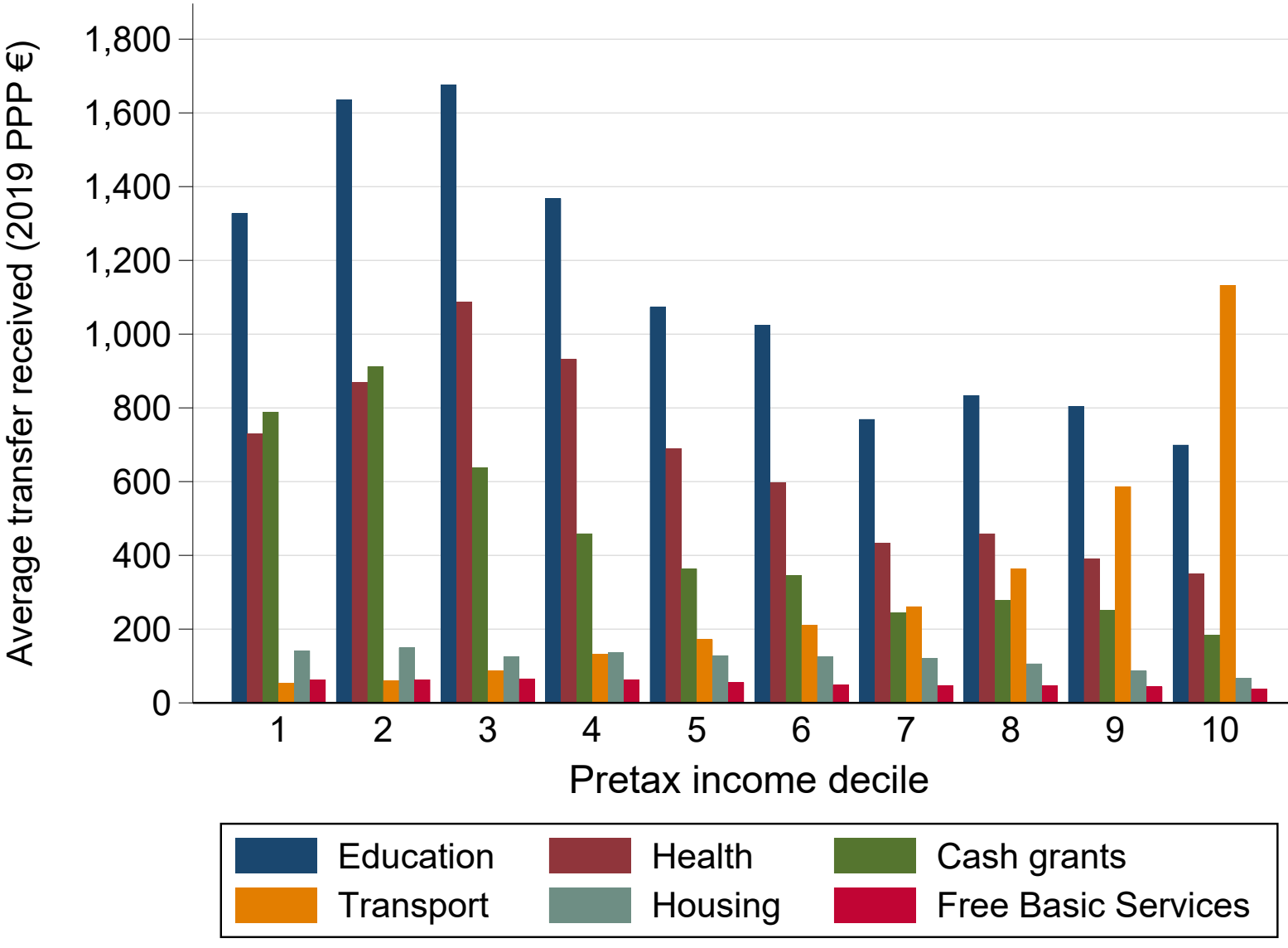
# Taxes paid by pretax, post-transfer income group, 1993



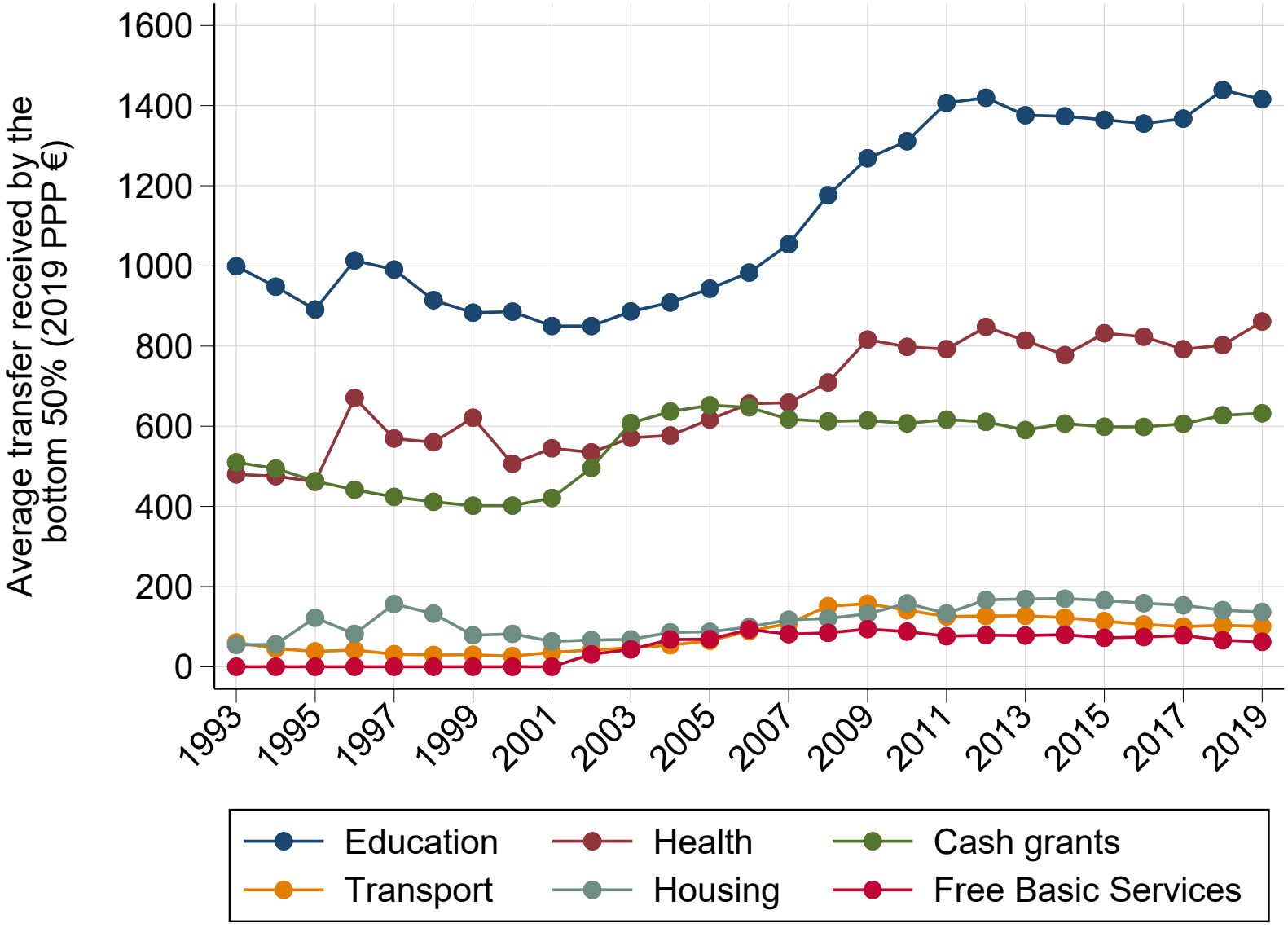
# Taxes paid by pretax, post-transfer income group, 2019



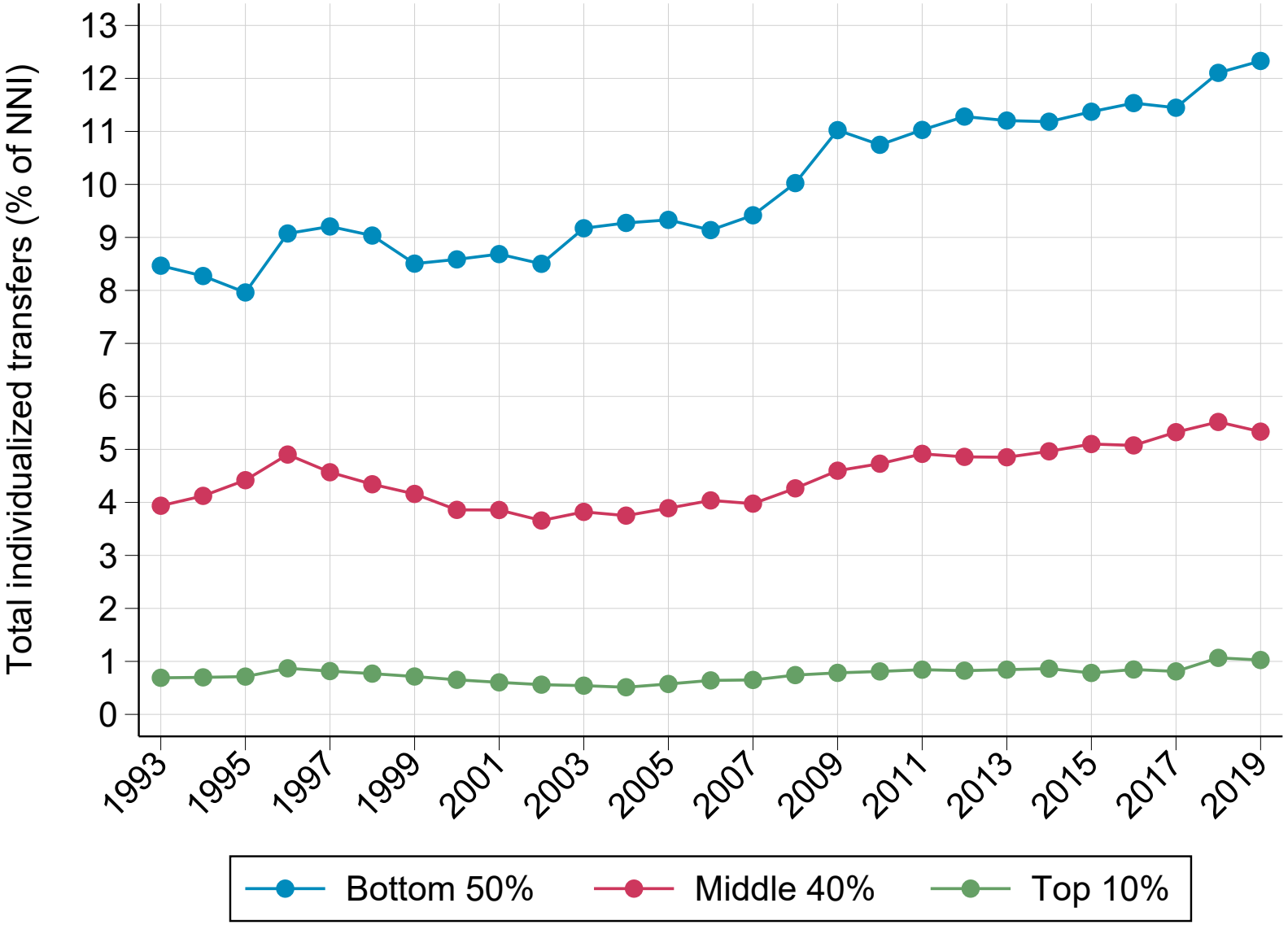
# The distribution of transfers in 2019



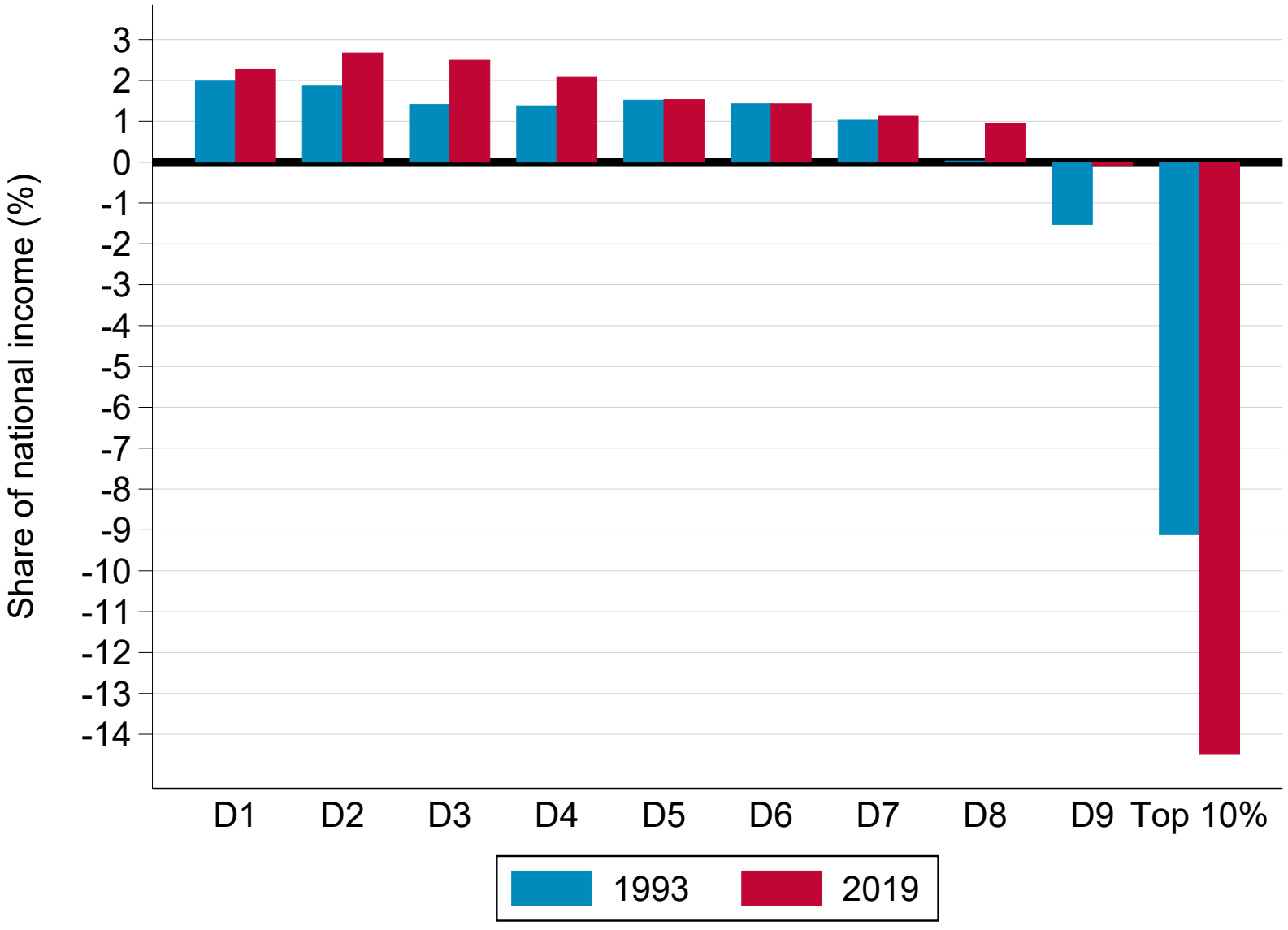
# Transfers received by the bottom 50%, 1993-2019



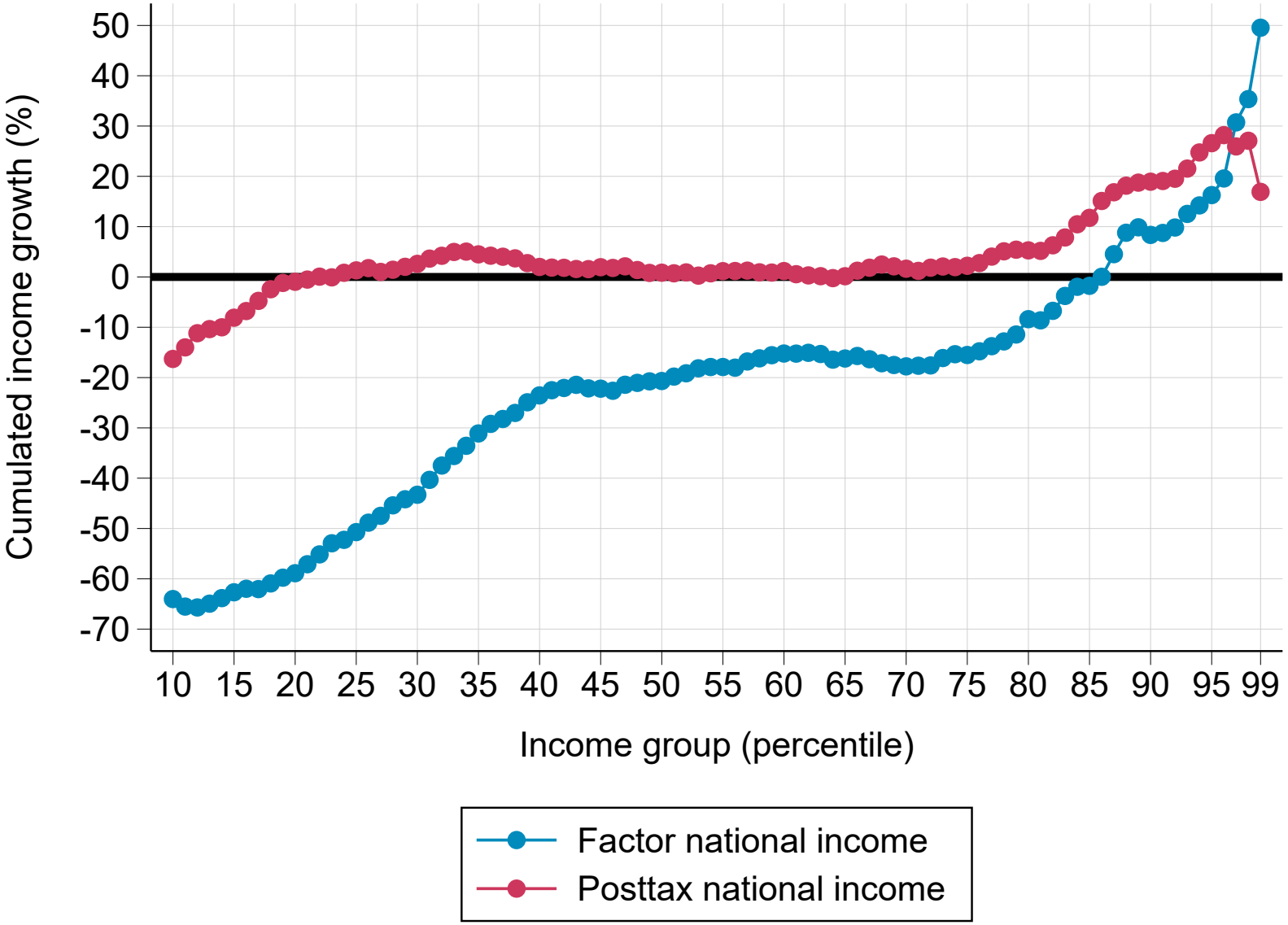
# Total individualized transfers received by pretax income group



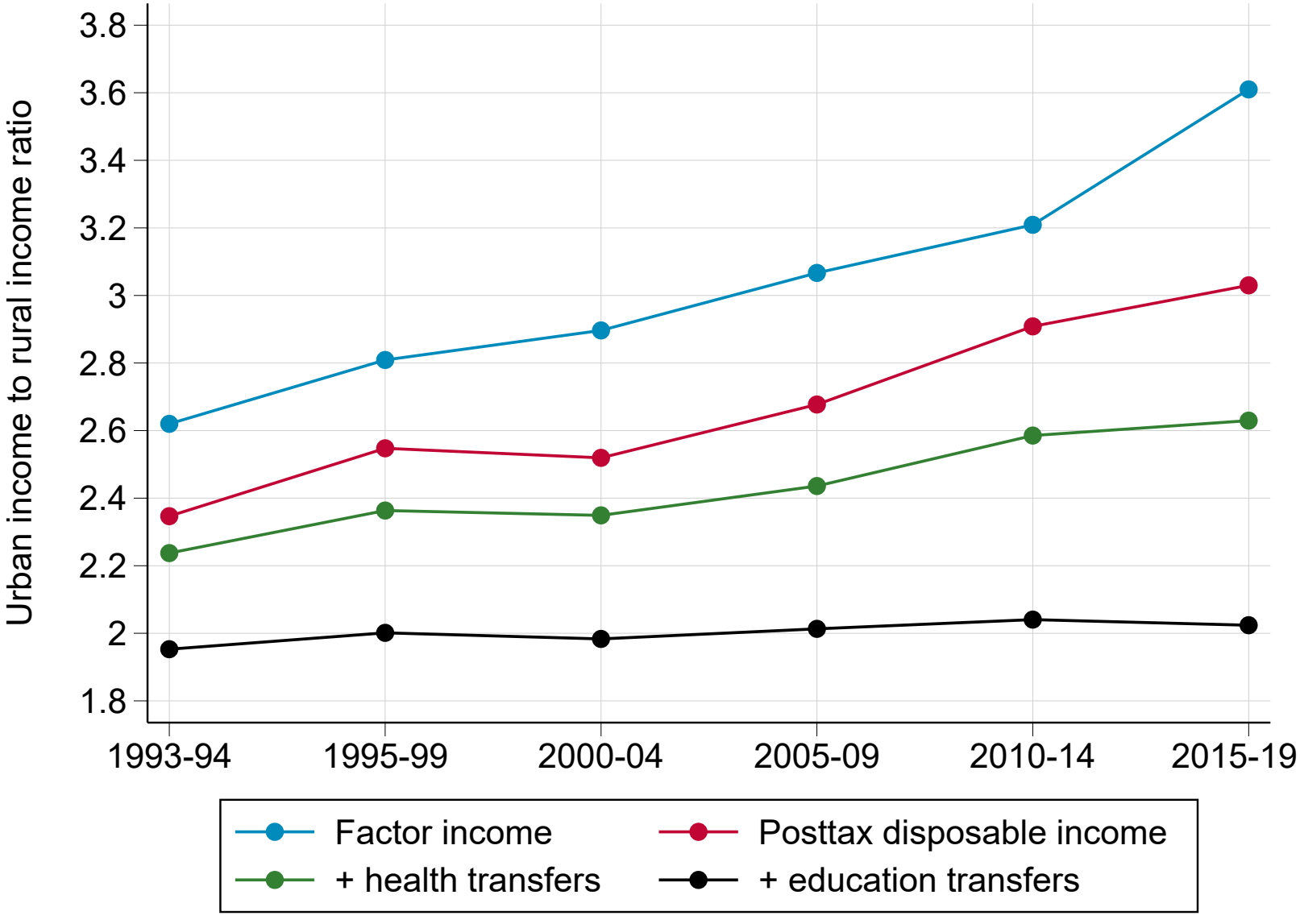
# Net transfers operated by the tax-and-transfer system between factor income deciles: 1993 versus 2019



# Cumulated income growth by percentile, 1993-2019



# In-kind transfers and the rural-urban income gap



# Next steps

- Finalize and refine allocation of taxes and transfers
- Sensitivity of results to alternative allocation strategies
- Decomposition between size and progressivity of taxes and transfers over time
- Comparisons with traditional poverty and inequality estimates

# Thank you!