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Part 2: Cost-of-Living Crisis

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Europe and Central Asia Economic Update
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Office of the Chief Economist ECA

Unprecedentedly-high inflation in Europe

- Annual median inflation in Europe reached 12 percent in October 2022.
- The increasing expenses to maintain the standard of living is the most pressing concern of 93% of Europeans.
- High inflation has eroded real incomes. Real wages declined by 2.4 percent in the EU and 3.3 percent in Eastern Europe. Wage growth slowed significantly in Central and Western Asia.
- About 60% of European workers now have lower real incomes than they did before the pandemic.

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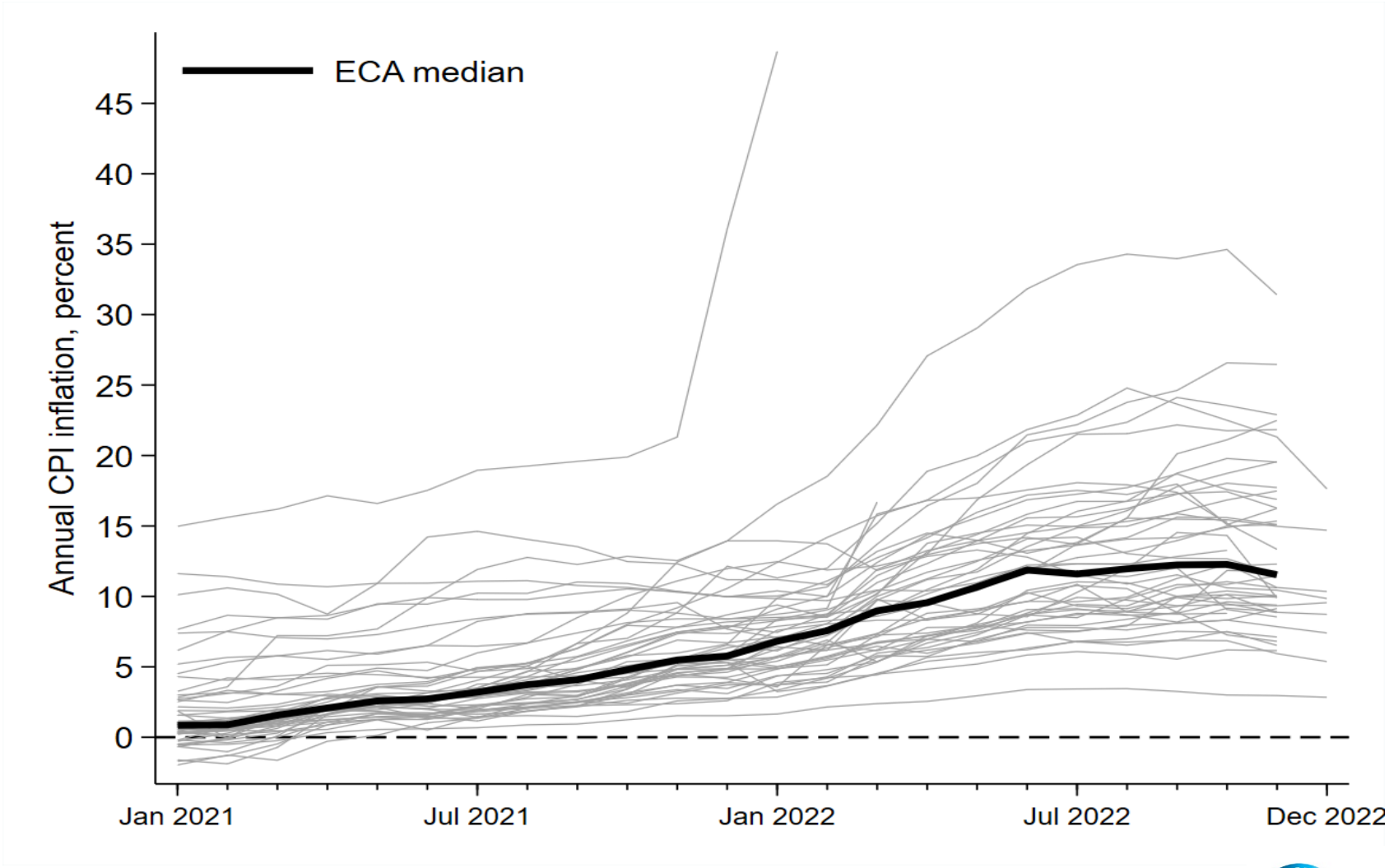
Annual CPI inflation by month across ECA, Jan 2021 – Dec 2022



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Policy questions:

- What is the impact of high inflation on ECA countries?
- Does high inflation affect all groups of the population equally?
- What characteristics make households vulnerable to inflation?
- What are the implications of using the Cost-of-living indexes for measuring poverty and inequality in ECA?

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Data

- Price data on 12 consumption components corresponding to the 2-digit COICOP specification for 47 countries in ECA (IMF 2022).
- Household consumption expenditure comes from HBS of 22 EMDE ECA.
- Aggregated household consumption data for 25 EU and EEA countries.

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Index Number Theory

- Difference between two indexes:
  - ***L*** – price index
  - s_j – share of a good or service in total consumption
  - p_j – price of that good or service
  - ***m*** – *number of goods (consumption categories)*

$$L - L' = \sum_{j=1}^{m} \left(s_j - s'_j\right) \left(\frac{p_j^t}{p_j^{t-1}} - L\right)$$

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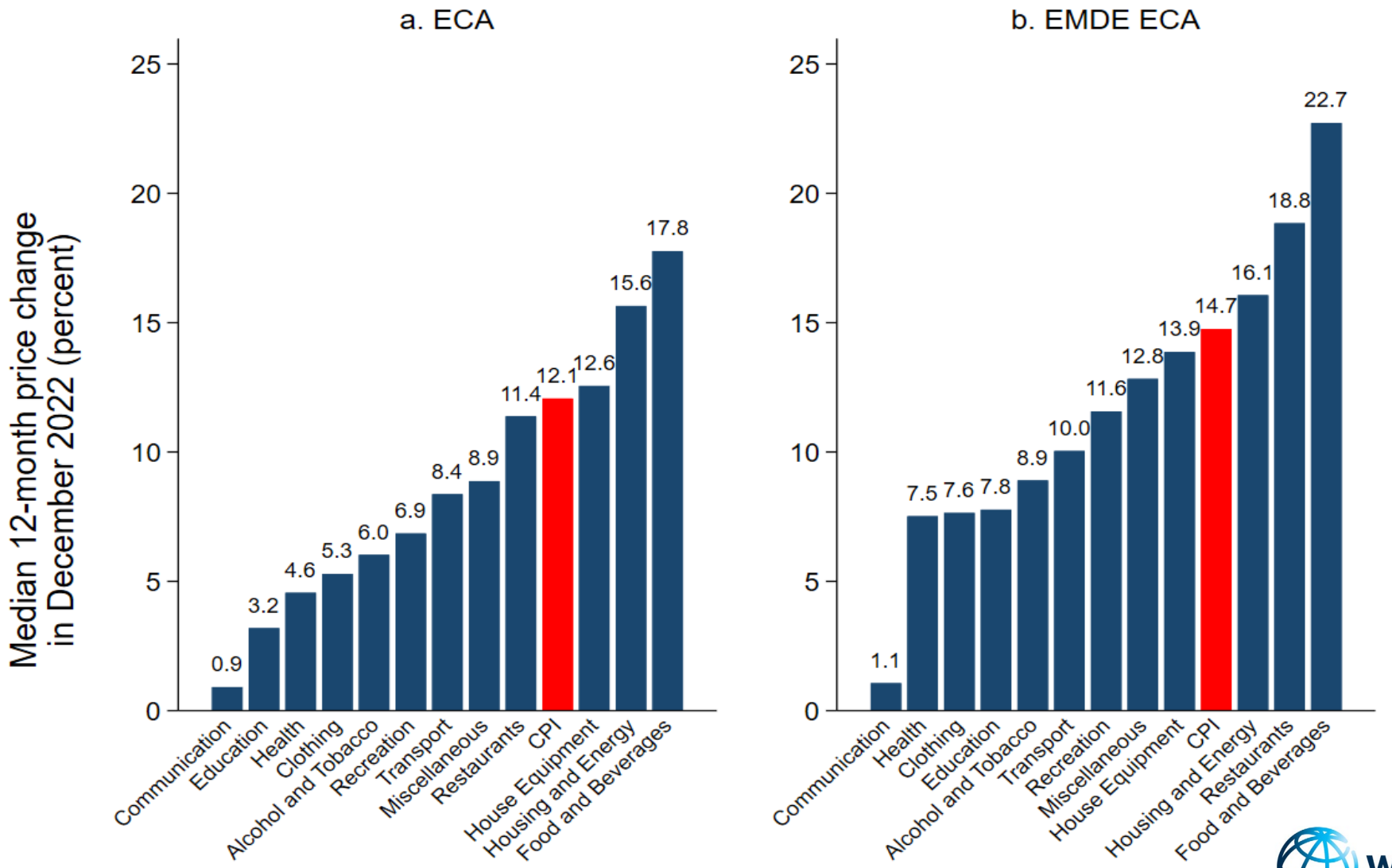
Median inflation by consumption group



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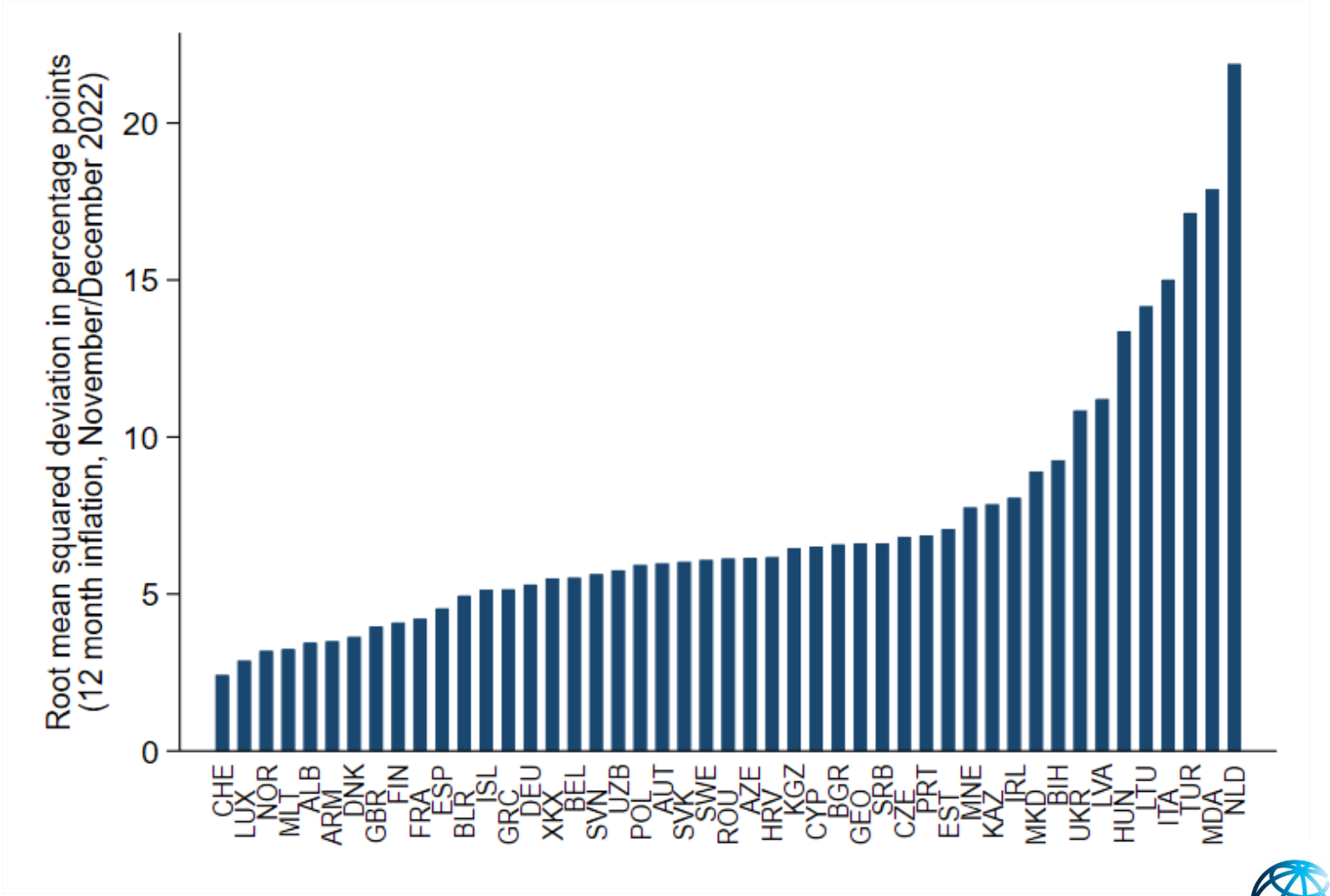
Dispersion in price changes across ECA countries



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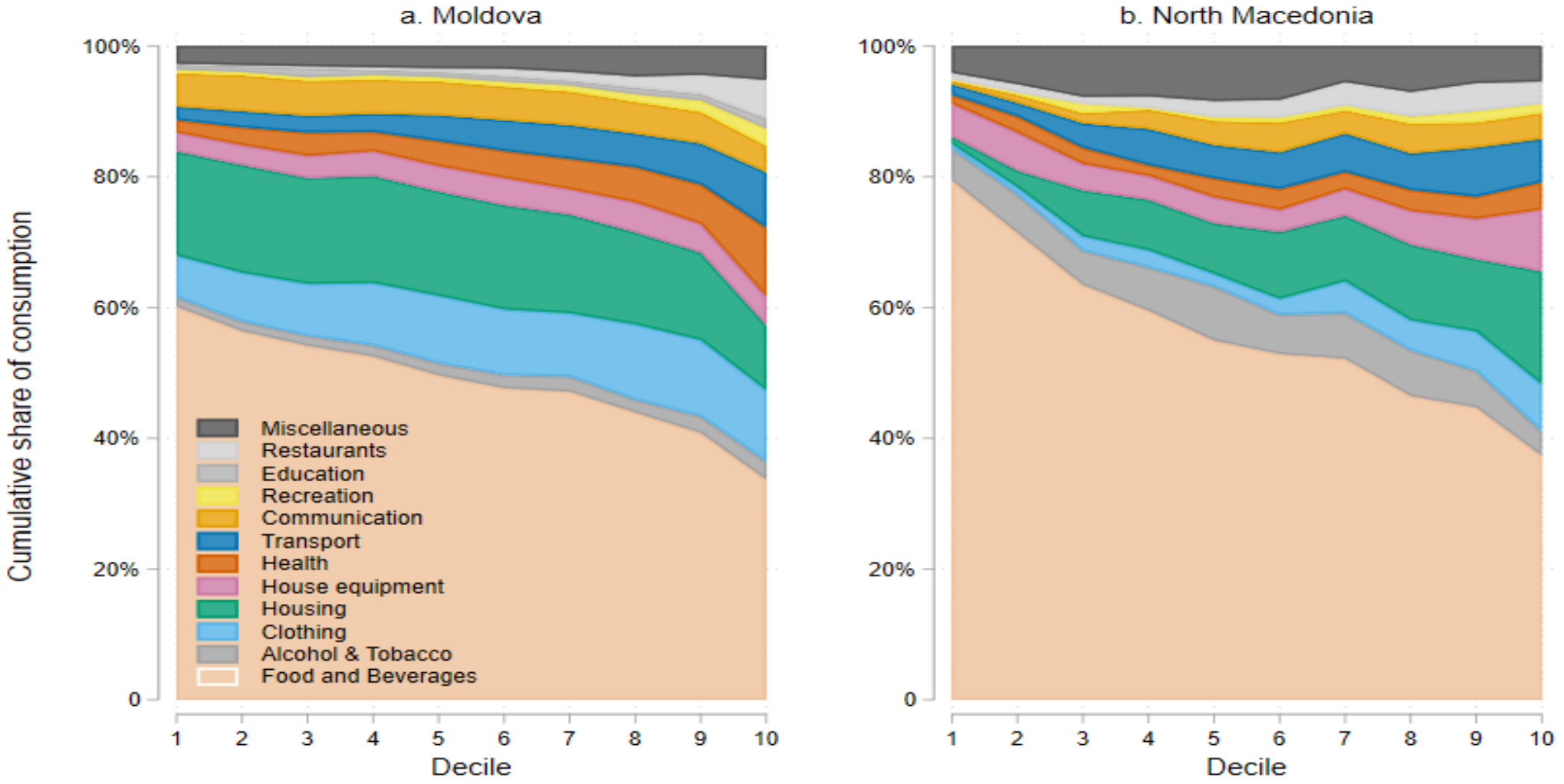
Differences in consumption shares by income deciles



Different consumption patterns for households with different characteristics

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Methodology: assumptions:

Our assumptions are driven by the data limitations and the cross-country nature of our analysis.

1. Households do not change their consumption patterns in response to changing prices.
2. Prices for goods and services do not vary by household characteristics.
3. We use 12 COICOP consumption categories that pull together a range of products that might exhibit different inflation rates, and the consumption shares of these finer product categories might vary by household characteristics.

Empirical framework

- CPI index:

$$L_0^t = \sum_{j=1}^{m} s_j^0 * \frac{p_j^t}{p_j^0}; \quad s_j^0 = \frac{p_j^0 * q_j^b}{\sum_{j=1}^{m} p_j^0 * q_j^b}$$

- Household level inflation index:

$$\boldsymbol{L_{i,t-1}^t = \sum_{j=1}^{m} s_{j,i} * \frac{p_j^t}{p_j^{t-1}}, \text{ where } s_{j,i} = \frac{C_{j,i}}{\sum_{j=i}^{m} C_{j,i}}}$$

- Group-level inflation indexes:

Democratic: $$L_{G,t-1}^{D,t} = \sum_{i \in G} w_i * L_{i,t-1}^t = \sum_{j=1}^{m} s_{j,G}^D * \frac{p_j^t}{p_j^{t-1}},$$

Plutocratic: $$L_{G,t-1}^{P,t} = \sum_{j=1}^{m} s_{j,G}^P * \frac{p_j^t}{p_j^{t-1}}, \quad s_{j,G}^P = \frac{\sum_{i \in G} w_i * C_{j,i}}{\sum_{j=1}^{m} \sum_{i \in G} w_i * C_{j,i}}$$

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Identifying groups most vulnerable to inflation

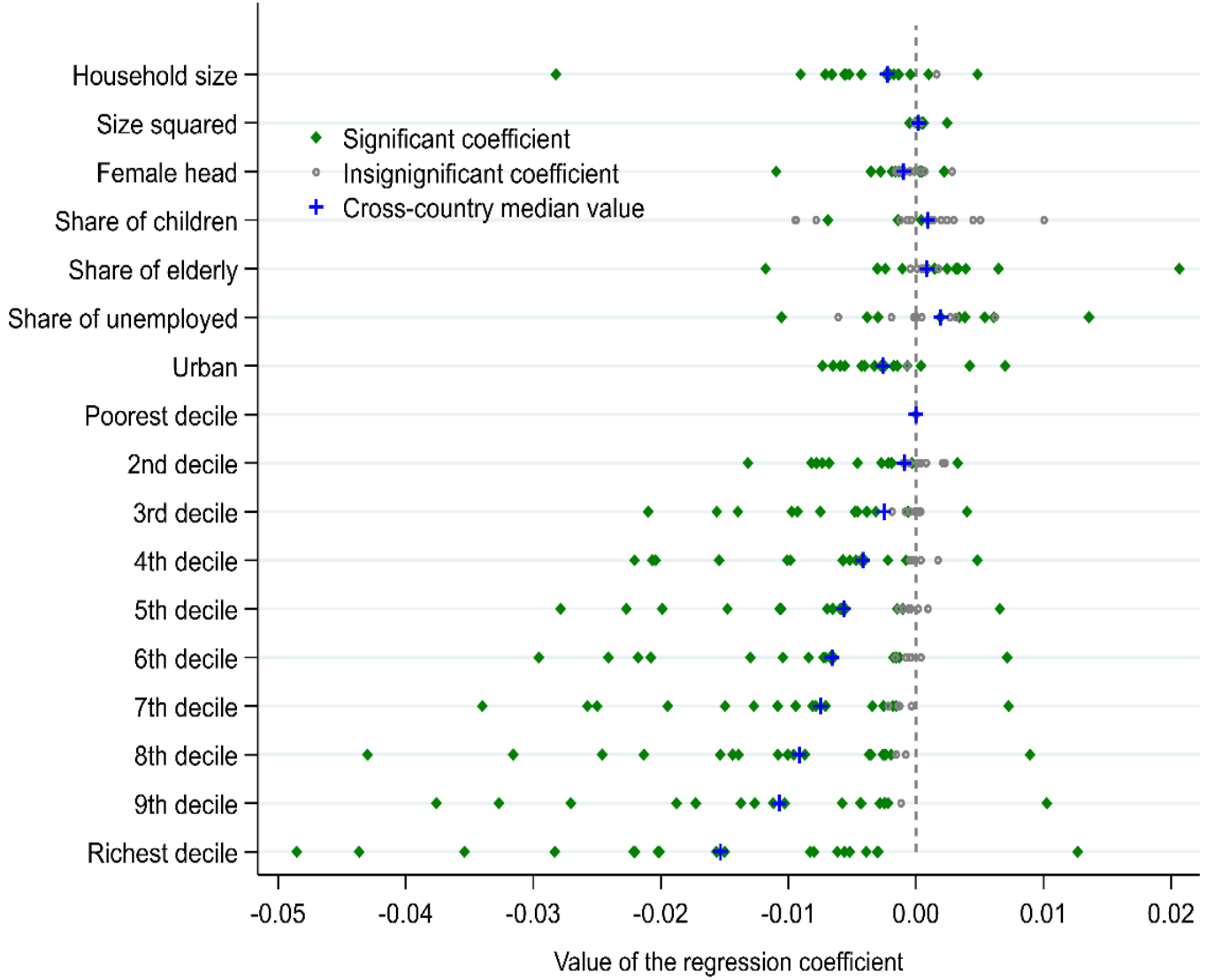
- Regress household-specific inflation rates on household characteristics:

$$L_i = \boldsymbol{\beta X_i} + \boldsymbol{\pi D_i} + \boldsymbol{\gamma R_i} + \varepsilon_i \ ,$$

$\boldsymbol{X_i}$ includes household size, household size squared, the share of children and elderly in the household, whether a female heads the household and if a household member is unemployed;

$\boldsymbol{D_i}$ is a set of dummy variables indicating to what decile of consumption expenditure distribution that household belongs to;

$\boldsymbol{R_i}$ are regional variables, that include urban/rural



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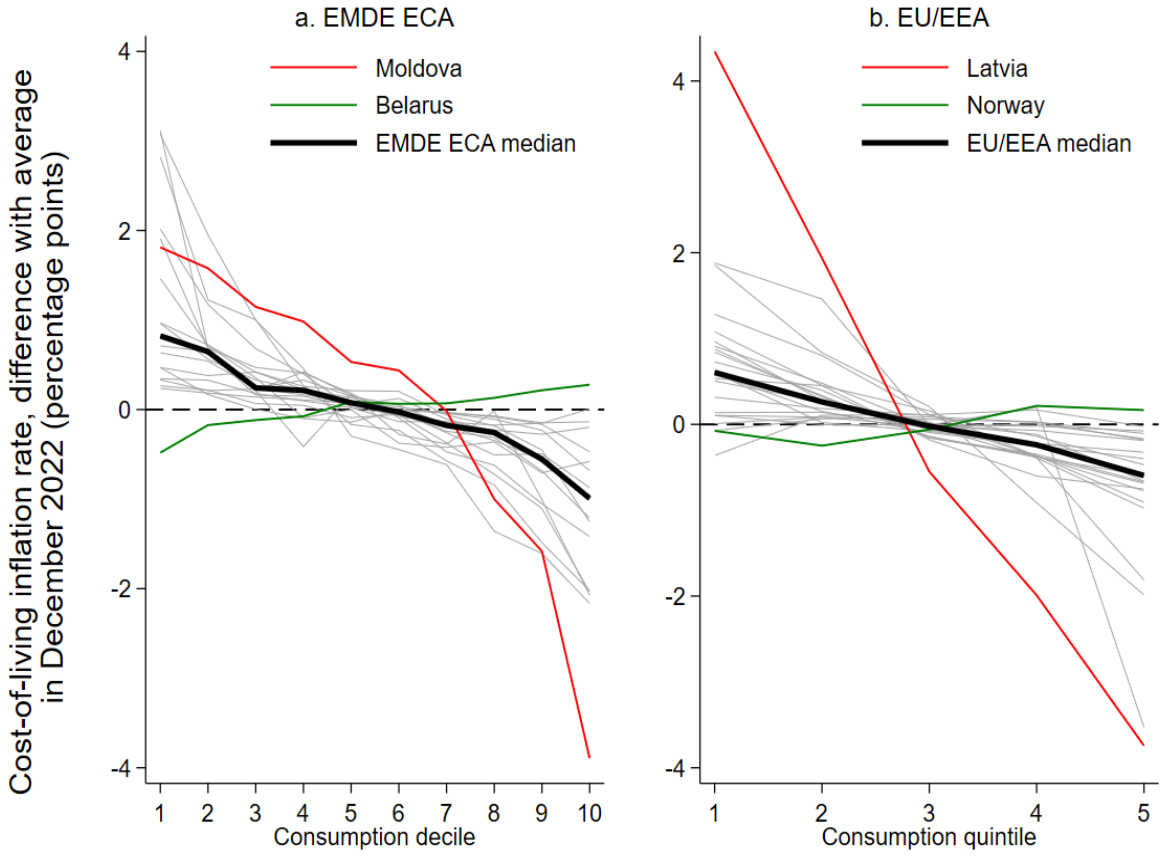
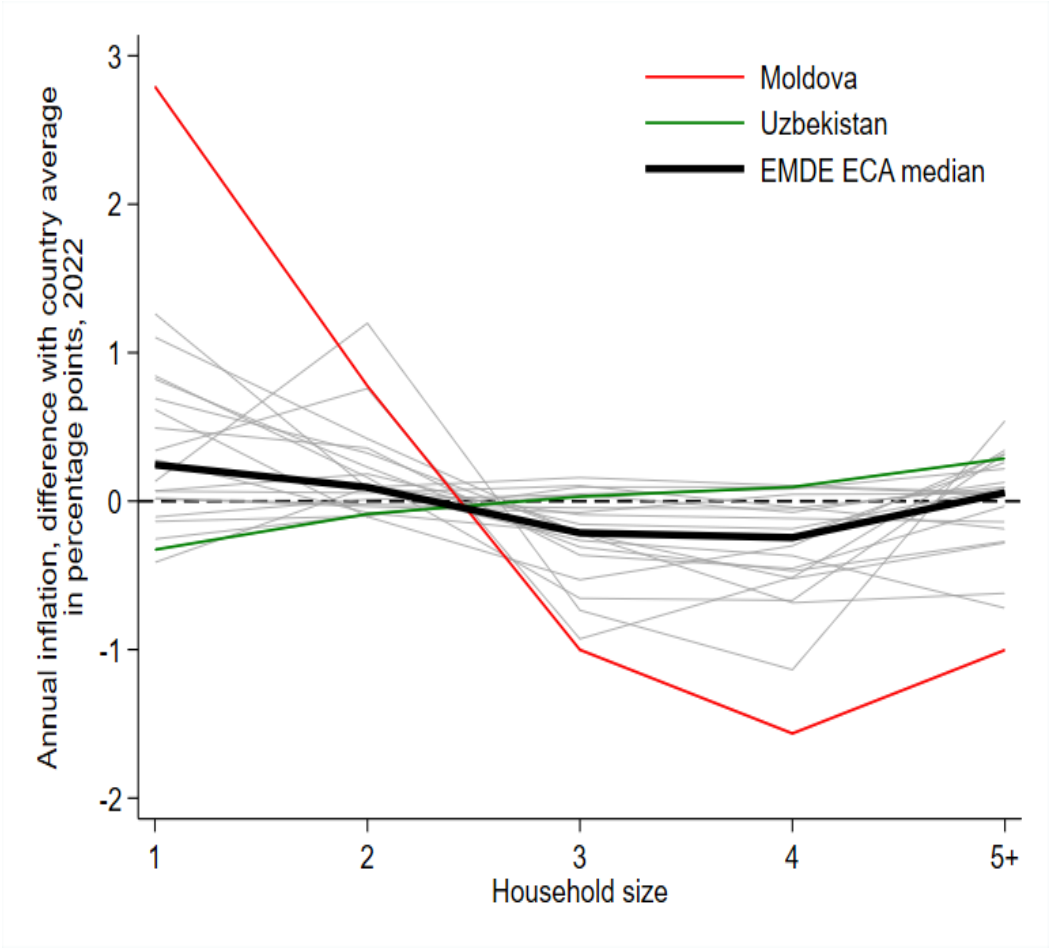
Higher inflation for the poor and, in some countries, smaller households



Median inflation of the poorest deciles in ECA EMDE is 2 percentage points higher than the inflation of the richest decile. EU/EEA countries have similar differences.



In many EMDE ECA countries, smaller households experienced higher inflation compared to larger households

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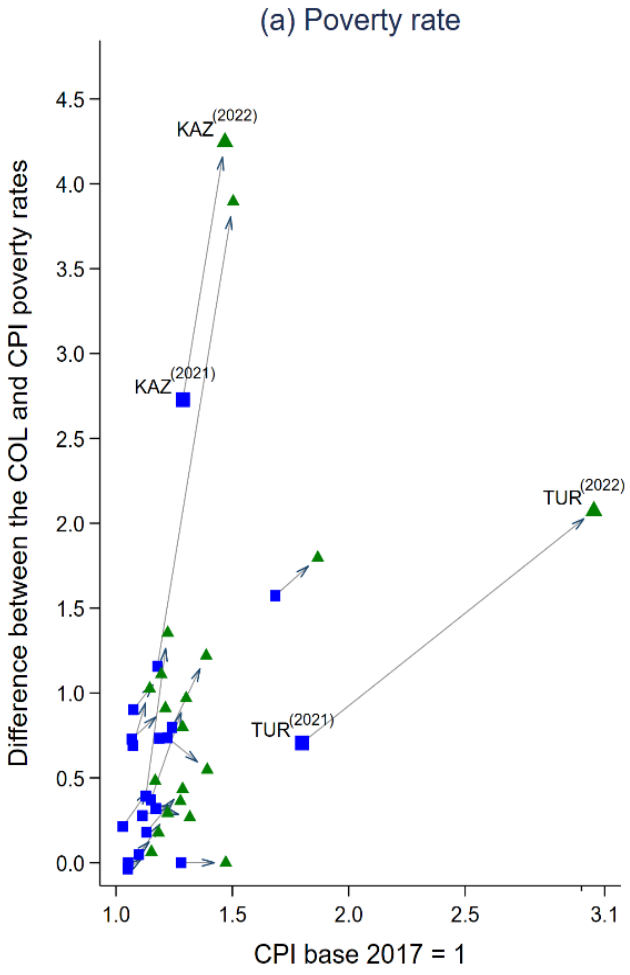
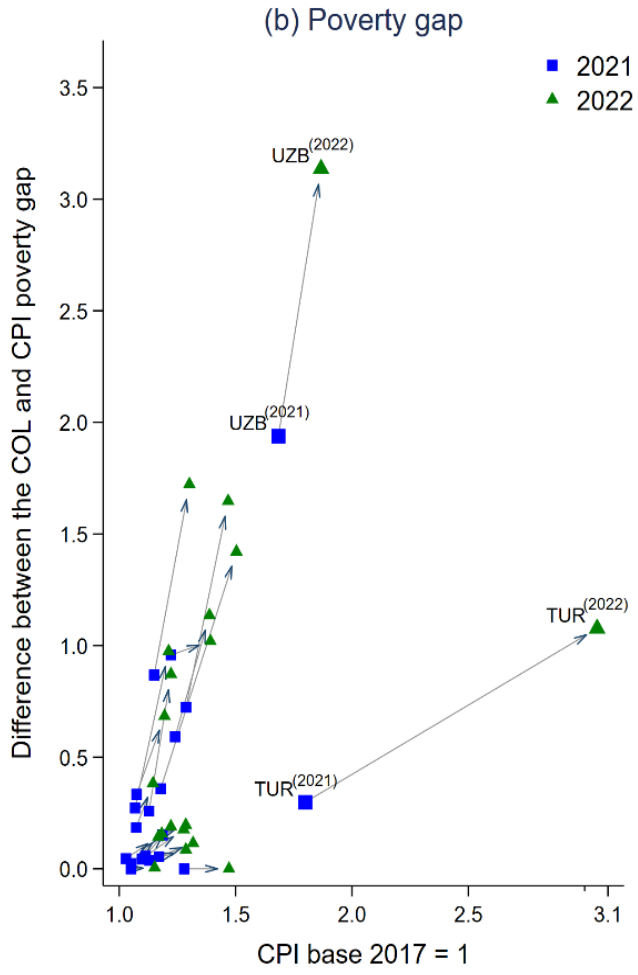
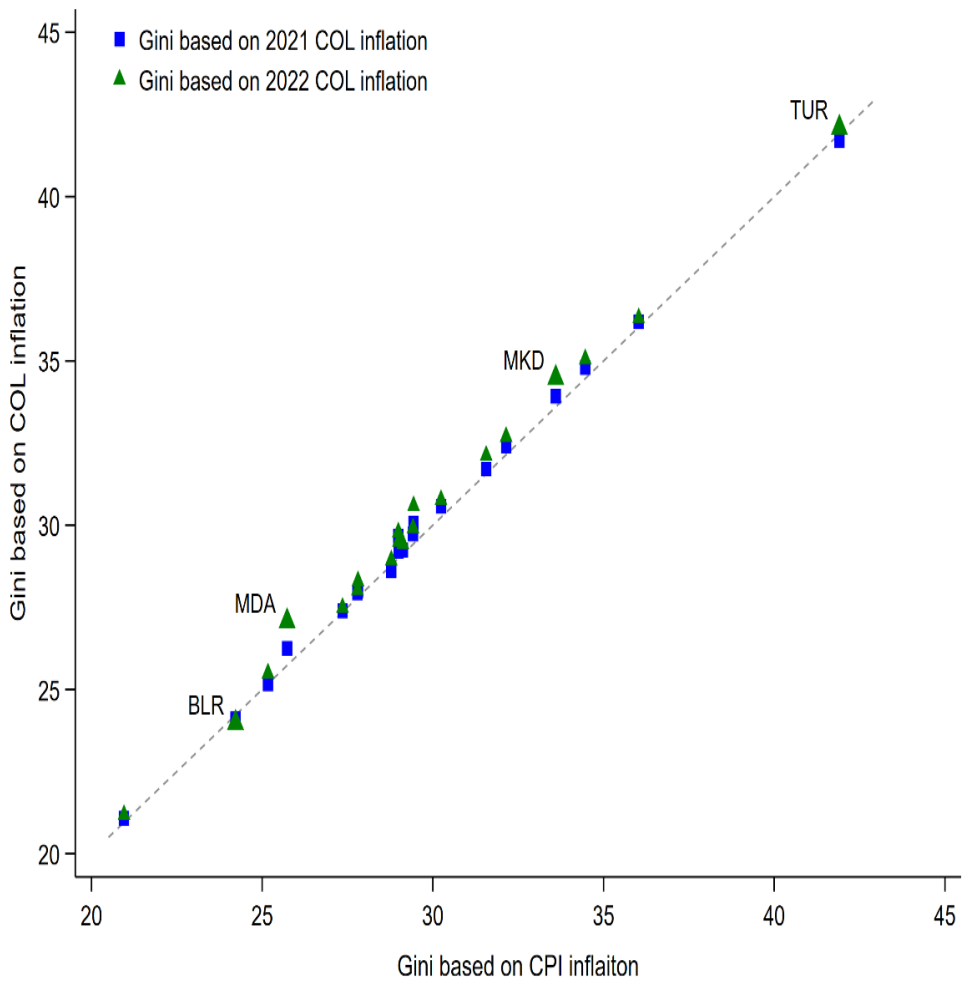
Impact on poverty and inequality in ECA.







Poverty and inequality measures calculated based on Cost-of-living indexes are higher than that calculated based on a standard CPI approach. 1 pp.

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Part 2: Conclusions and policy implications

- Inflation rate faced by the poorest households was significantly higher than that of the wealthiest households in almost every country of the region
- The average inflation estimated by the cost-of-living index was higher than the CPI inflation
- Taking into account the true cost-of-living of households, poverty and inequality may be higher than what is commonly estimated using a uniform CPI across households
- The CPI might not be a reliable instrument to assess the extent to which household living costs have increased during periods of high inflation, like the one of 2022. Using the CPI to measure inflation in such situations could also lead to policies with potentially unintended redistributional consequences.
- Governments should revisit the rationale and need for the uniform – and, thus, untargeted – caps or freezes of fuel and food price increases introduced during 2022 with the intention of protecting households.

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