

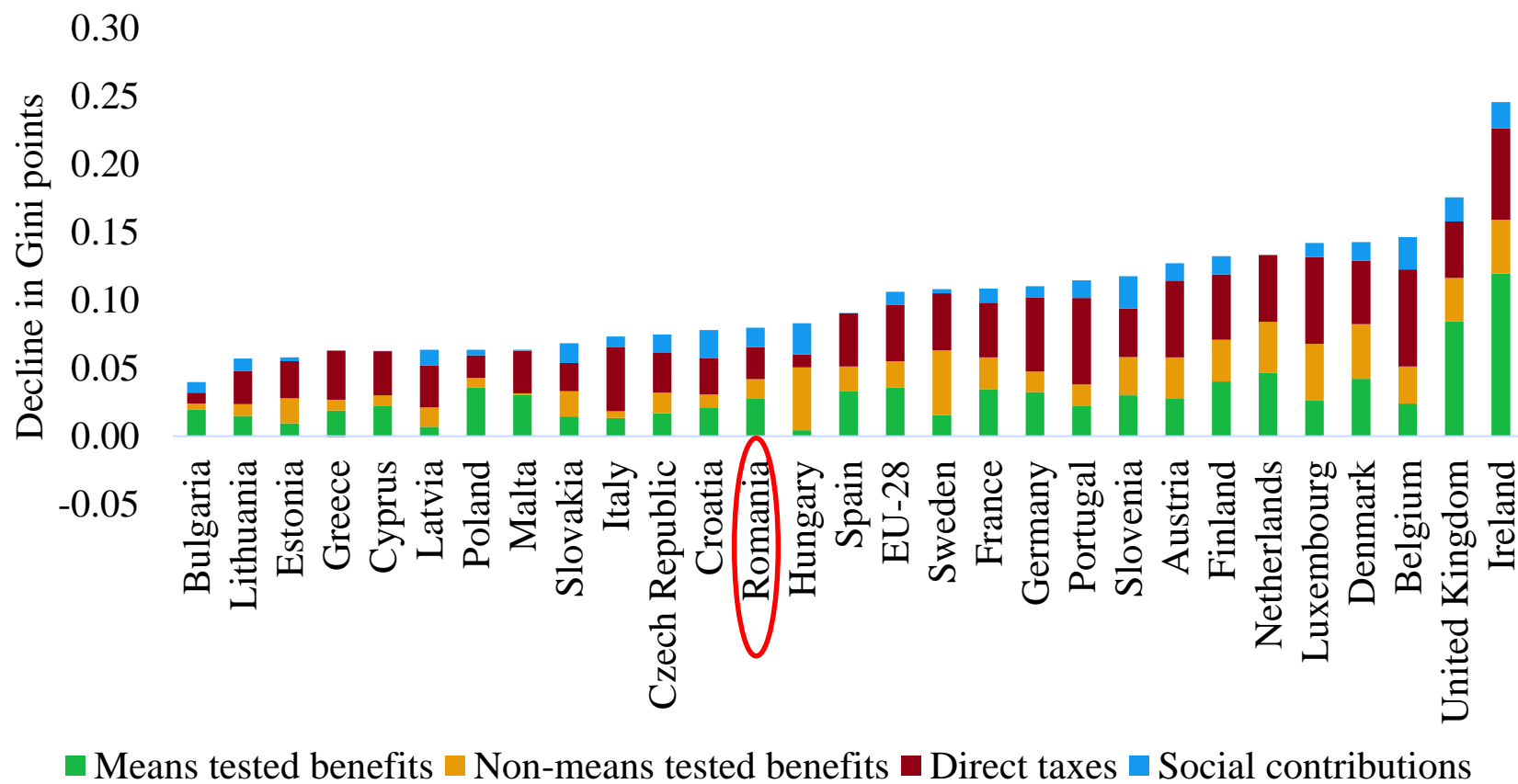
The Distributional Impact of Taxes and Transfers in Romania



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June 12, 2018

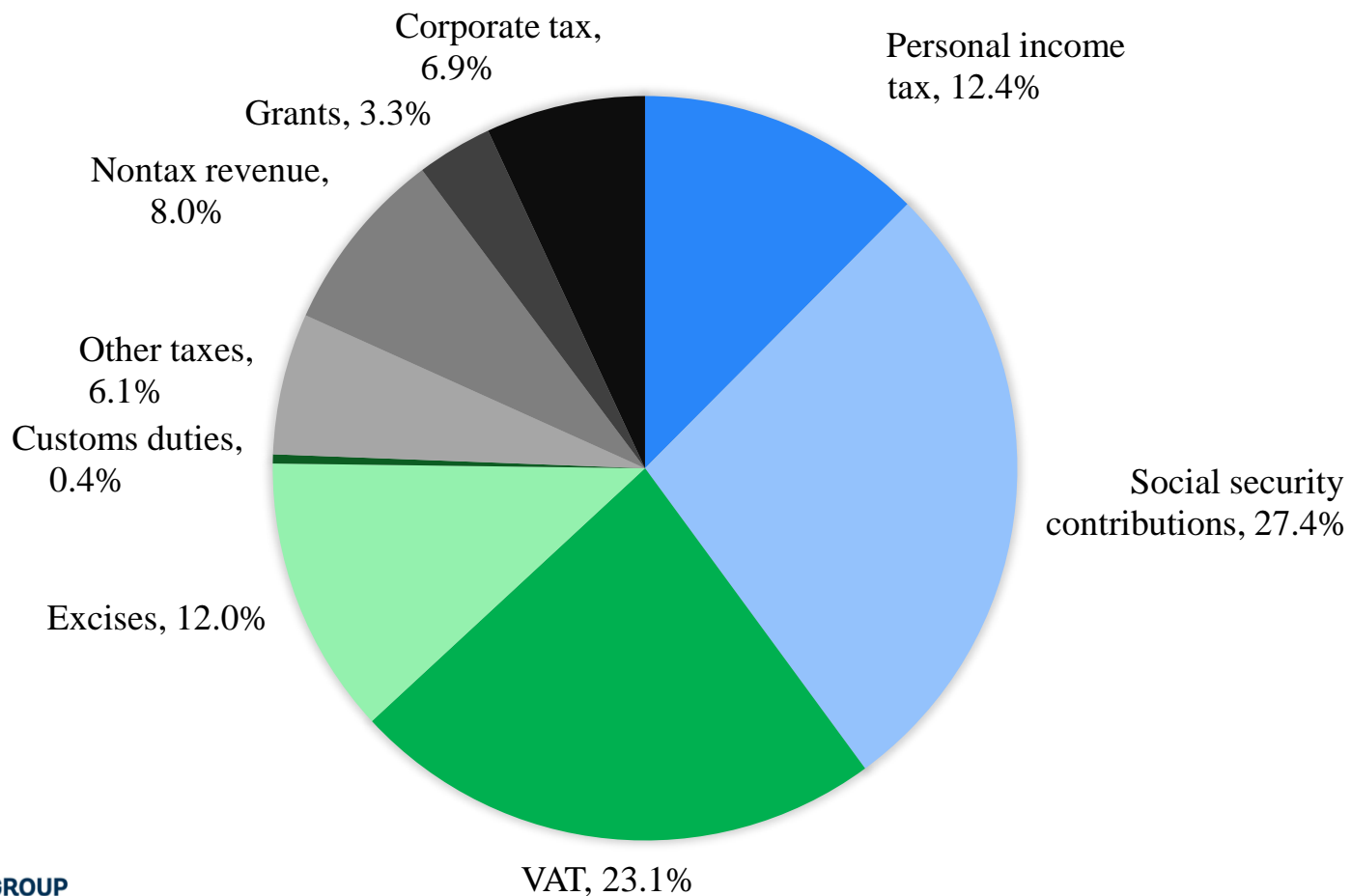
Studies find that direct taxes and benefits do less to reduce inequality in Romania than in other EU countries:

Redistributive impact of direct taxes, transfers and pensions, 2016



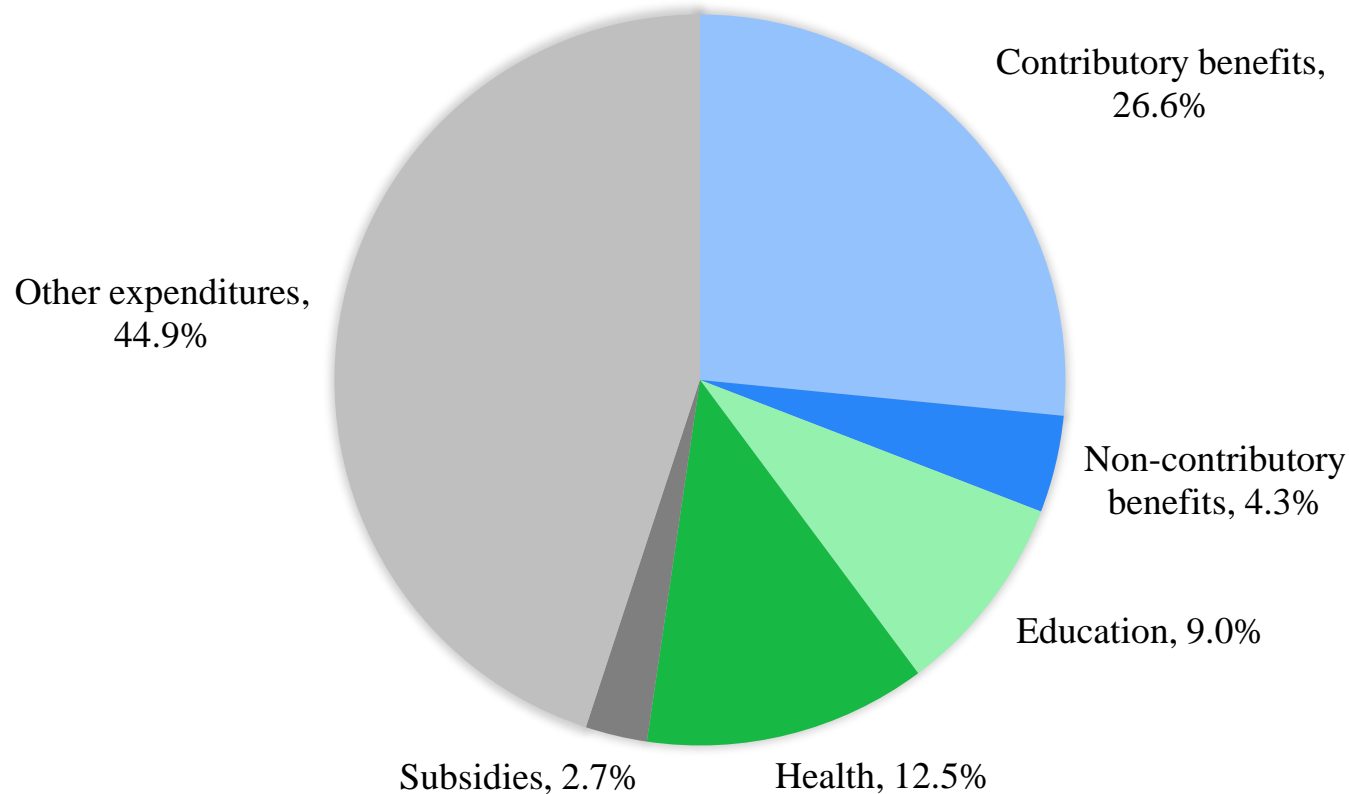
However, existing analysis has not yet included the impact of indirect taxes.

Romania. Composition of General Government Revenue, 2016
(percent of total revenue)



Similarly, spending on in-kind benefits have not been included.

Romania. Composition of General Government Spending, 2016
(percent of total expenditure)



A proposed approach:

The Commitment to Equity Approach (CEQ)

- What is the impact of taxes/transfers on poverty and inequality?
 - How effective are taxes/transfers in reducing poverty/inequality?
 - Who benefits from spending and who bears the burden of taxes?
- identify potential areas for reform.

This approach is based on the methodology and findings of the Commitment to Equity project (CEQ) led by Nora Lustig, Professor of Economics at Tulane University. www.commitmenttoequity.org

Key assumptions on revenue components

- The HBS provides information on income from employment, self-employment, income from capital, private transfers, imputed rent for owner occupied housing, etc.
- Most direct taxes, individual social security contributions and personal income tax can be directly identified in the survey
 - Those that are missing have been imputed based on tax and social security contribution legislation
- Net wages and net pensions are recorded in the survey database, while gross wages and gross pensions had to be imputed based on personal income tax and social contributions rules.

Key assumptions on revenue components

- Employer social security contributions are imputed by applying statutory rates on the estimated gross wages.
 - The minimum contribution rates have been considered – in practice contribution rates are differentiated by economic activity and working conditions.
- Indirect taxes are estimated based on statutory rates applied on detailed consumption data from the HBS:
 - for VAT – the standard rate and reduced rates,
 - for excises – the statutory rates for tobacco, alcohol, fuel and energy.

We analyze 75% of total revenue, including 85% of tax revenue and nearly 100% of social contributions

	Fiscal Accounts		Portion of Fiscal Accounts to be analyzed	
	(in millions of lei)	% of GDP	(in millions of lei)	% of GDP
Revenue	223,722	29.3%	167,663	22.0%
Taxes	197,681	25.9%	167,663	22.0%
Corporate tax	15,442	2.0%		
Personal income tax	27,756	3.6%	27,756	3.6%
VAT	51,675	6.8%	51,675	6.8%
Excises	26,957	3.5%	26,957	3.5%
Customs duties	883	0.1%		
Social security contributions	61,274	8.0%	61,274	8.0%
Other taxes	13,693	1.8%		
Nontax revenue	17,938	2.4%		
Capital revenue	769	0.1%		
Grants 1/	7,332	1.0%		

Source: National Institute of Statistics, Ministry of Public Finance, MFMod, World Bank staff estimates
1/ Includes -financed capital projects

Key assumptions on spending components

- Detailed data on social benefits received by households is provided in the HBS - this was used for direct identification of beneficiaries and net amounts received.
- For public spending on education we used the government cost approach:
 - based on government spending and number of pupils by level of education we estimated the public spending per pupil by educational level and assigned the values to those enrolled in education.
- As for the public spending on health we used the cost of insurance approach:
 - we estimated the individual benefit (minimum and basic) based on administrative data on spending for health services taken from the health insurance budget and number of beneficiaries of basic and minimum packages, and assigned the corresponding value to each individual
 - Identification of individuals as beneficiaries of basic or minimum package takes into account their relationship with the health insurance system (insured with contribution paid, other categories insured without contribution due, not insured) and the health insurance legislation

We analyze
52% of total
expenditures,
including
91% of social
spending.

	Fiscal Accounts		Portion of Fiscal Accounts to be analyzed	
	(in millions of lei)	% of GDP	(in millions of lei)	% of GDP
Expenditure	242,016	31.7%	126,594	16.6%
Social Protection	86,719	11.4%	74,651	9.8%
Contributory benefits	64,293	8.4%	64,287	8.4%
Pensions	59,817	7.8%	59,817	7.8%
Unemployment benefit	498	0.1%	498	0.1%
Indemnity for temporary work incapacity	953	0.1%	953	0.1%
Contributory family benefits	3,019	0.4%	3,019	0.4%
Maternity allowance	695	0.1%	695	0.1%
Child raising allowance	2,060	0.3%	2,060	0.3%
Child raising incentives	264	0.0%	264	0.0%
Other contributory programs	6	0.0%		
Non-contributory benefits	10,399	1.4%	10,364	1.4%
Noncontributory family allowances	5,111	0.7%	5,111	0.7%
State allowance for children	4,416	0.6%	4,416	0.6%
Support allowance: families w/children	526	0.07%	526	0.1%
Placement allowance for children	169	0.0%	169	0.0%
Minimum social pension	917	0.1%	917	0.1%
Guaranteed minimum income	812	0.11%	812	0.1%
Heating aid	149	0.0%	149	0.0%
Disability benefits	2,297	0.3%	2,297	0.3%
Scholarships	971	0.1%	971	0.1%
Other indemnities	109	0.0%	109	0.0%
Other social benefits	34	0.0%		
Other Social Protection spending	12,027	1.6%		
Education	21,678	2.8%	21,678	2.8%
Health	30,265	4.0%	30,265	4.0%
Subsidies	6,605	0.9%		
Other expenditures	96,750	12.7%		

ROMANIA 2016.

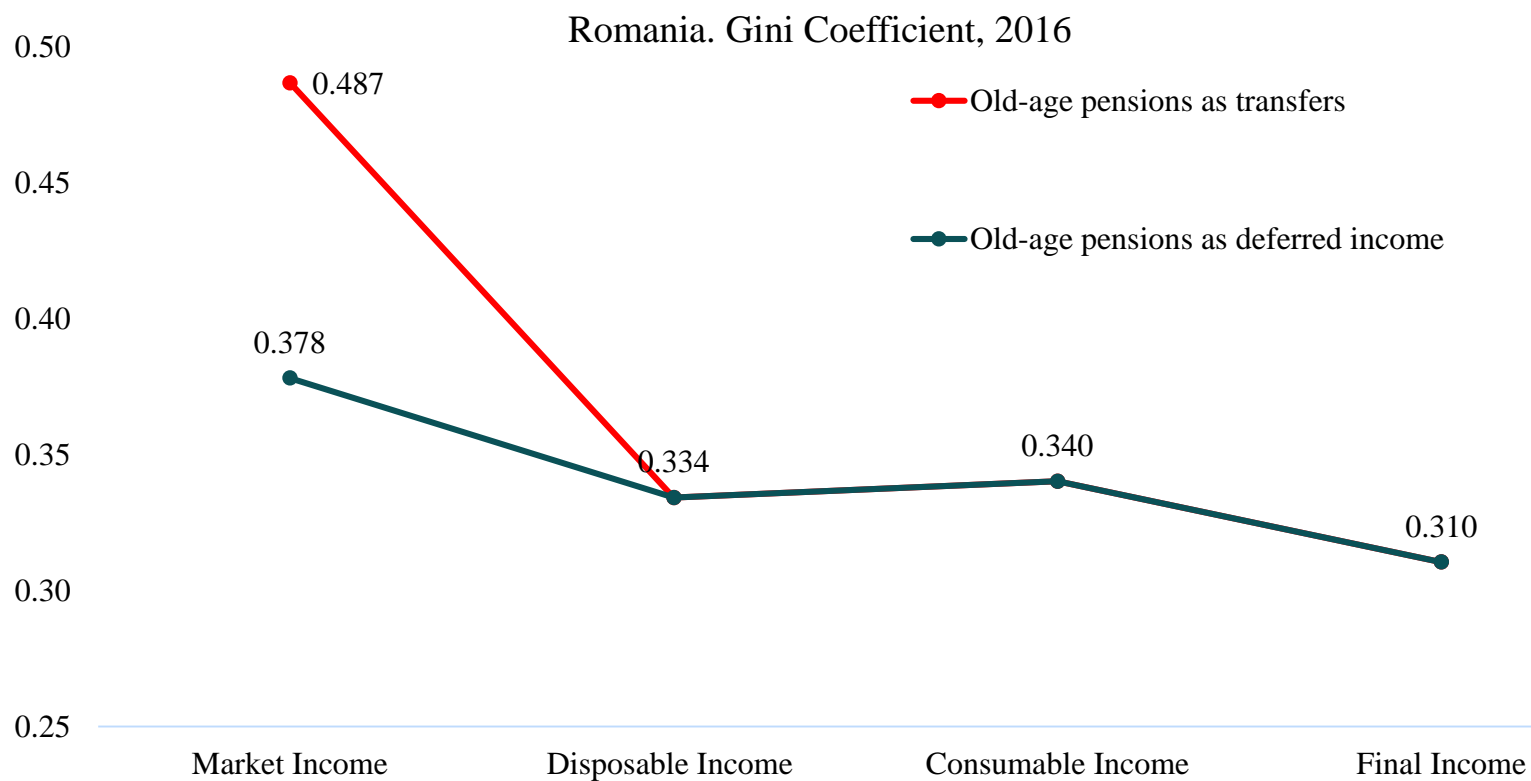
Impact of taxes and transfers on inequality and poverty

Includes 75% of all revenues and 52% of total spending

Overview

- The aim is to include main tax items → 75% of revenue (85% of taxes and contributions) in 2016
 - Social security and health insurance contributions, personal income tax, value-added tax, and specific excise duties.
- The aim is to include most social spending → 52% of total spending (nearly all social spending) in 2016
 - Contributory benefits (old-age, unemployment and family benefits), non-contributory direct cash and near-cash transfers (child allowances, guaranteed minimum income, heating allowance, minimum social pension, disability benefits, scholarships) as well as health and education spending
- Impact of taxes and social spending on inequality and poverty in 2016
- Analysis of each fiscal intervention (progressivity and marginal contributions)
- Simulations of recent and proposed changes

The social protection system reduces inequality, as do in-kind transfers...



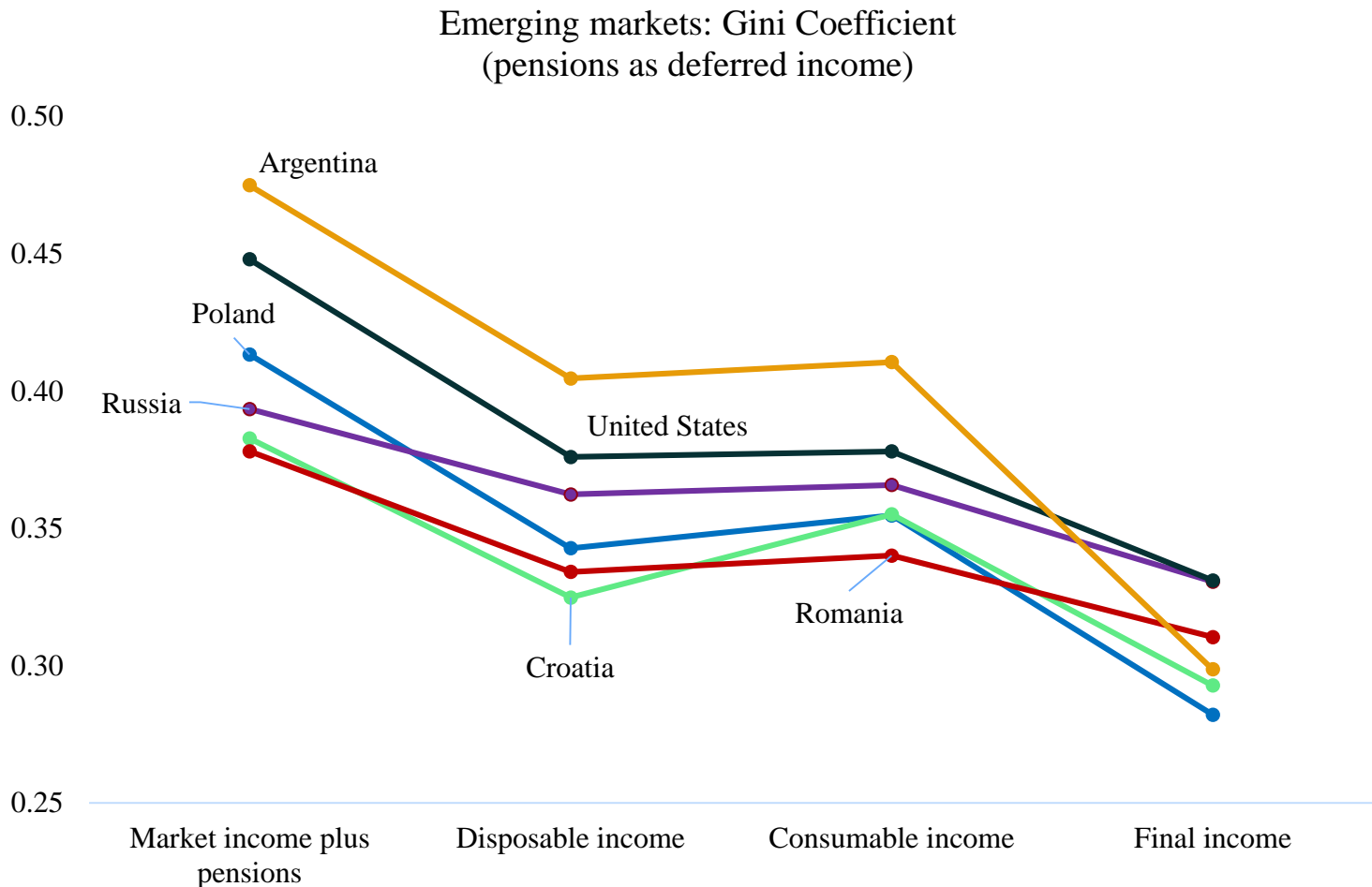
Source: World Bank estimates based on Romania HBS (2016).

- Direct taxes + direct transfers

- indirect taxes + indirect subsidies

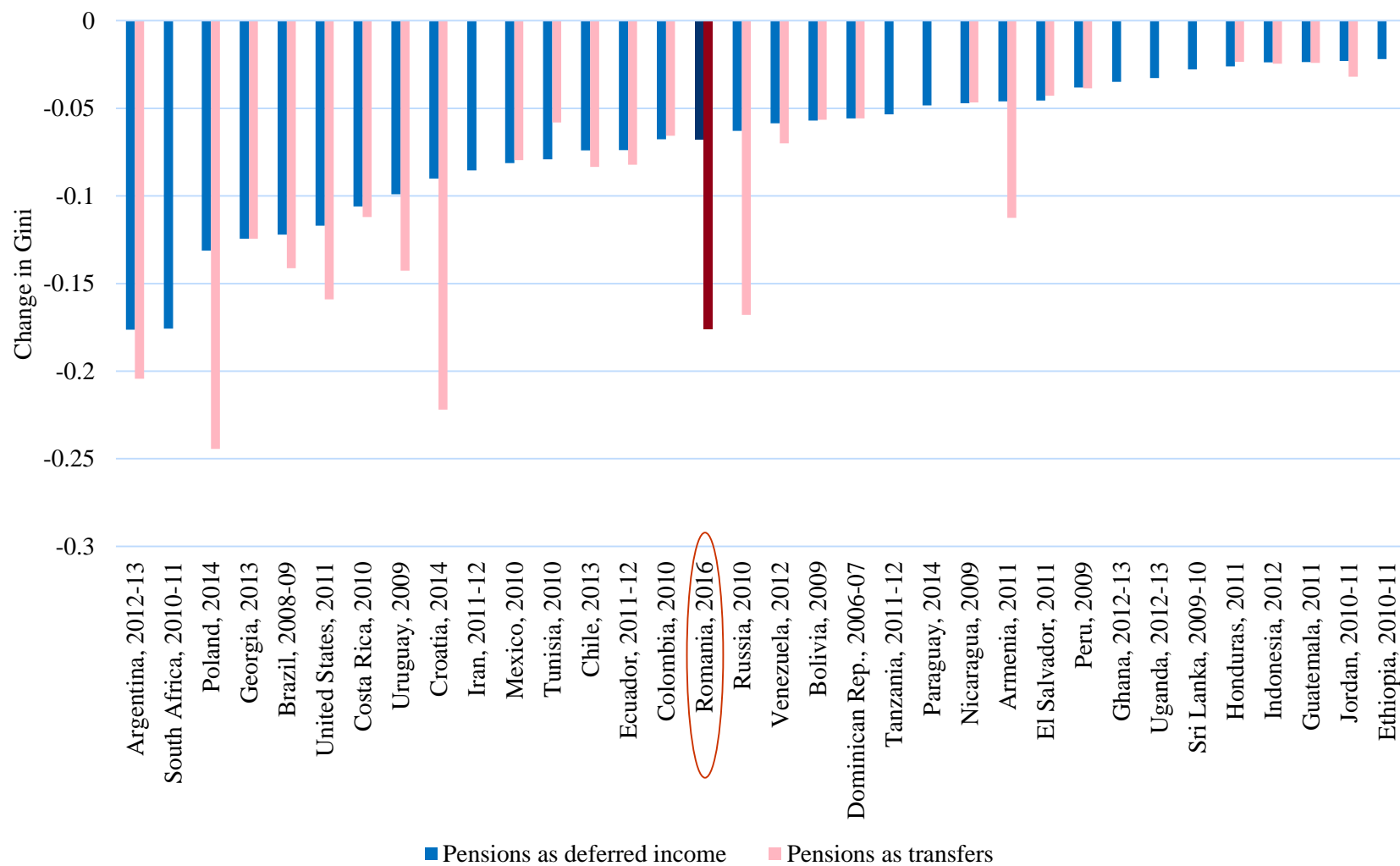
+ education + health

...more so than in other countries.



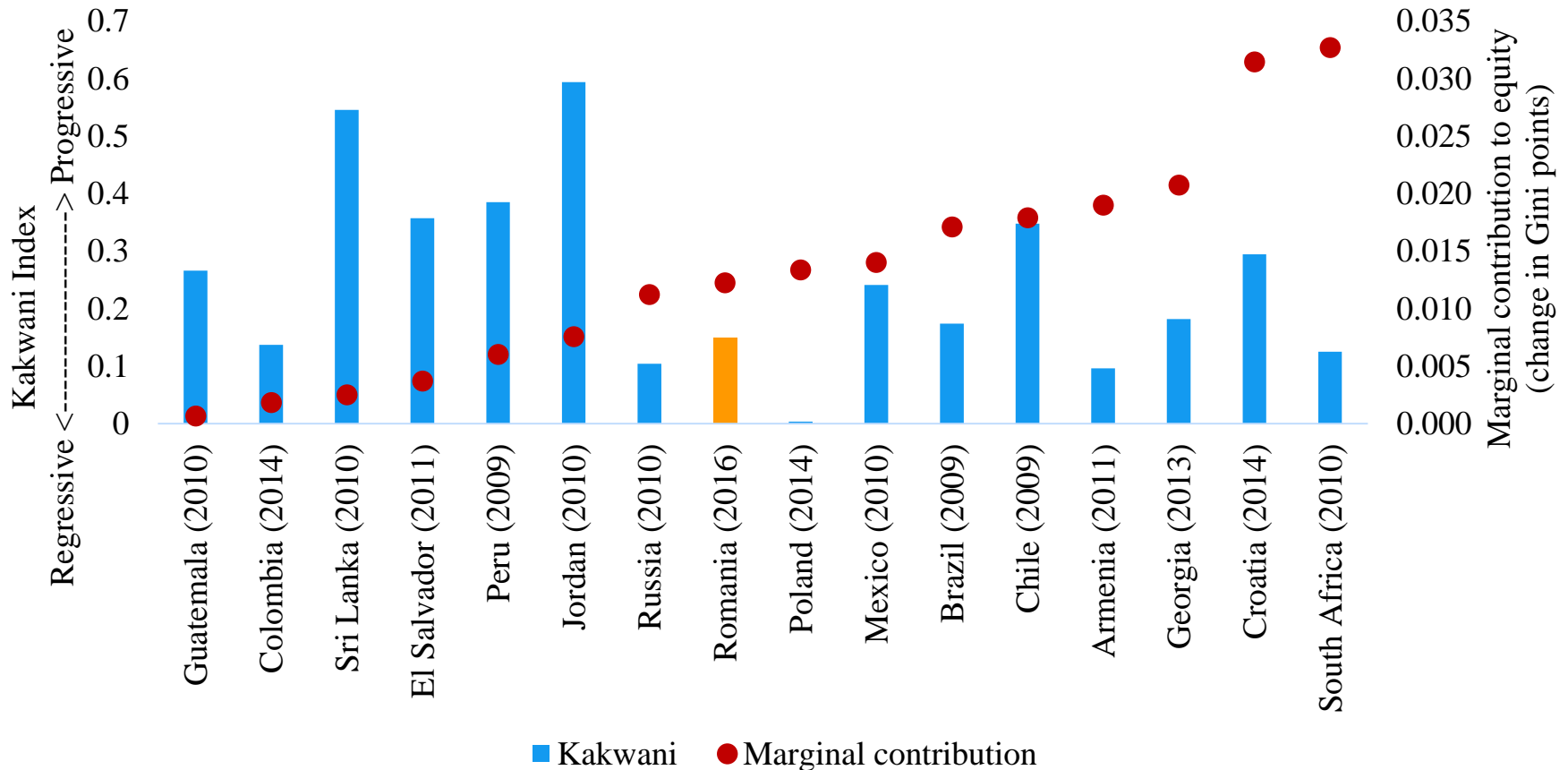
Source: World Bank estimates based on Romania HBS (2016), Poland (Inchauste & Goraus 2017), Croatia (Inchauste & Rubil), Russia (2010). Estimates for United States (Higgins et al., 2016), Argentina (Rossignolo, 2018) are available at Commitment to Equity Institute Data Center on Fiscal Redistribution.

The overall redistributive effect is relatively large, and in line with other countries in the EU.



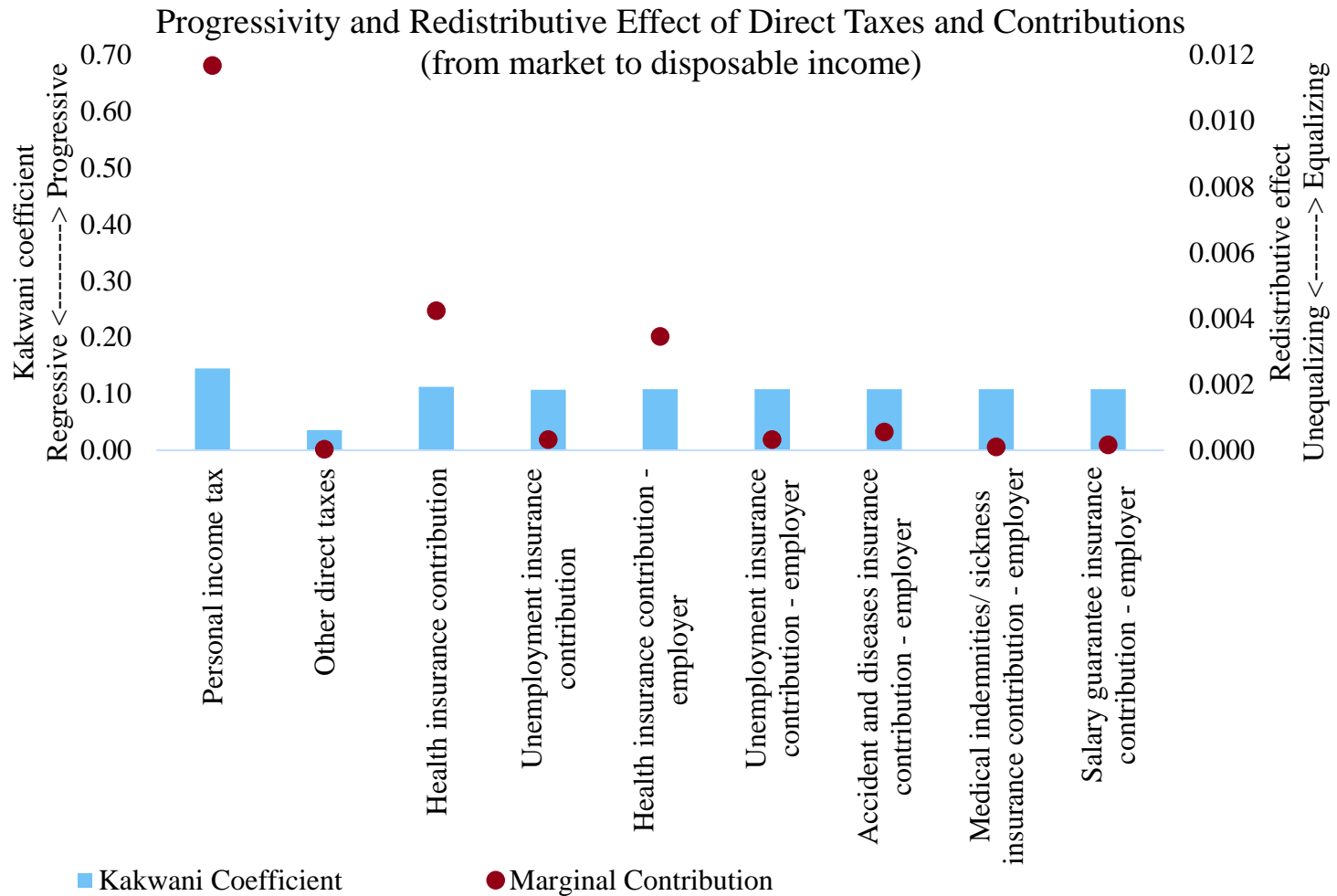
Direct taxes were slightly progressive and equalizing in Romania in 2016, ...

Redistributive impact of Direct taxes



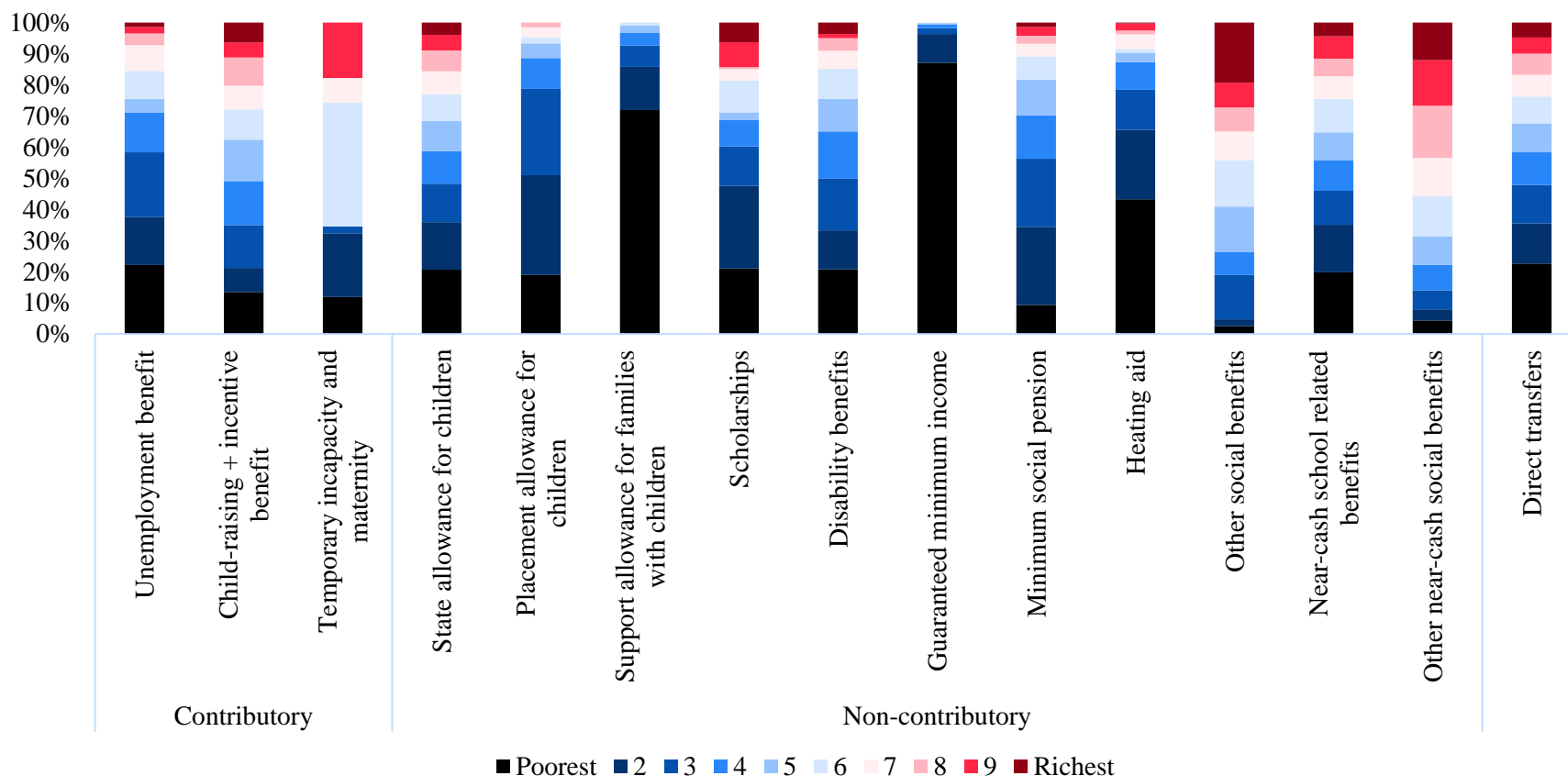
Source: Armenia: Younger et al (2016); Bolivia: Paz Arauco et al (2014); Brazil: Higgins & Pereira (2014); Chile: Martinez et al (2017); Colombia: Melendez (2014); El Salvador: Beneke et al., (2014); Georgia: Cancho & Bondarenko (2016); Mexico: Scott (2014); Peru: Jaramillo (2013); Poland: Goraus & Inchauste (2016); Russia: Lopez-Calvo et al (2016); Sri Lanka: Arunatilake et al (2016); South Africa: Inchauste et al (2016); Uruguay: Bucheli et al (2014); Croatia: Inchauste & Rubil (2017); Romania: own estimates using HBS 2016.

...with PIT being the most progressive and redistributive.

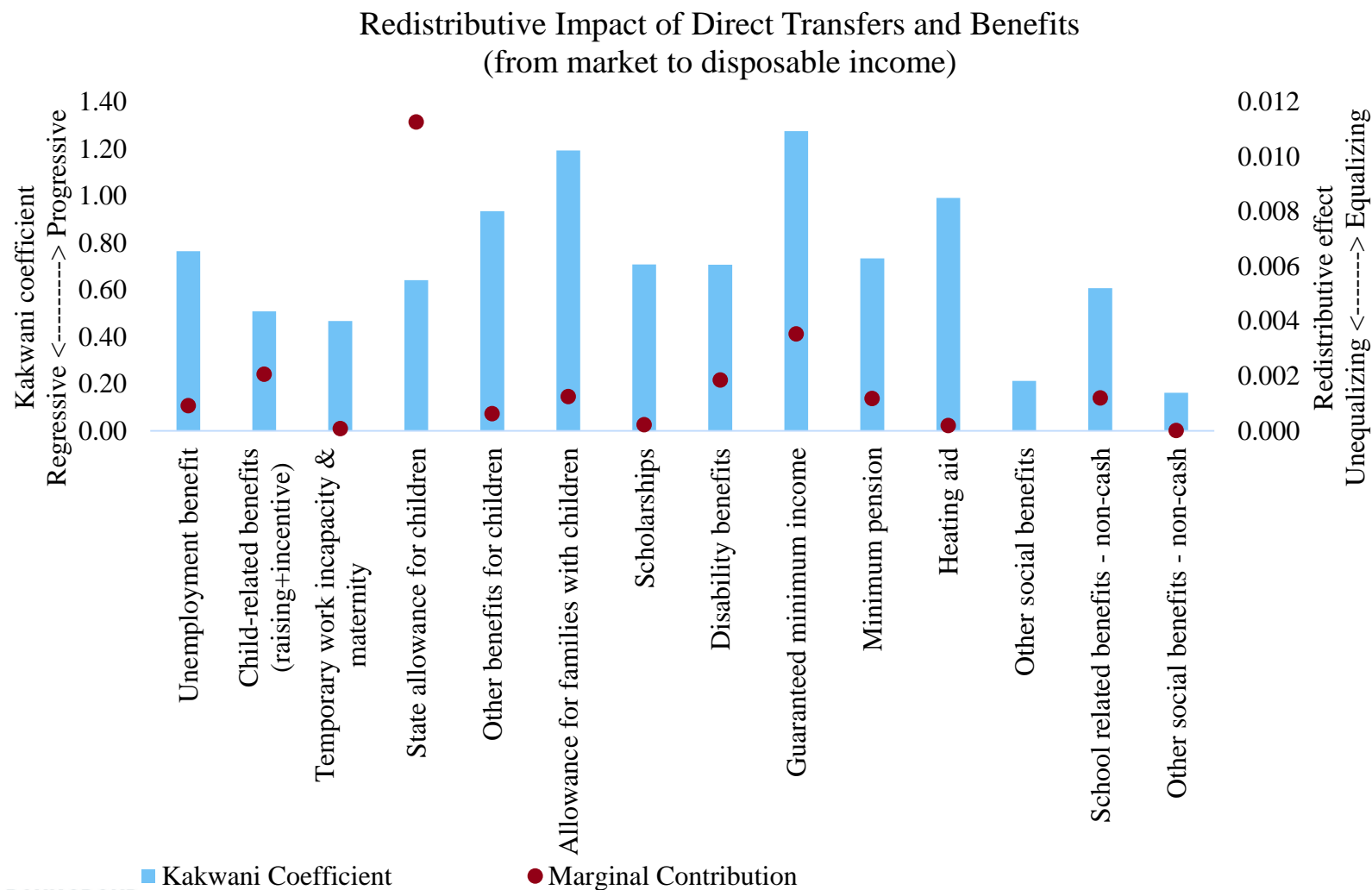


Means-tested benefits are concentrated at the bottom of the distribution.

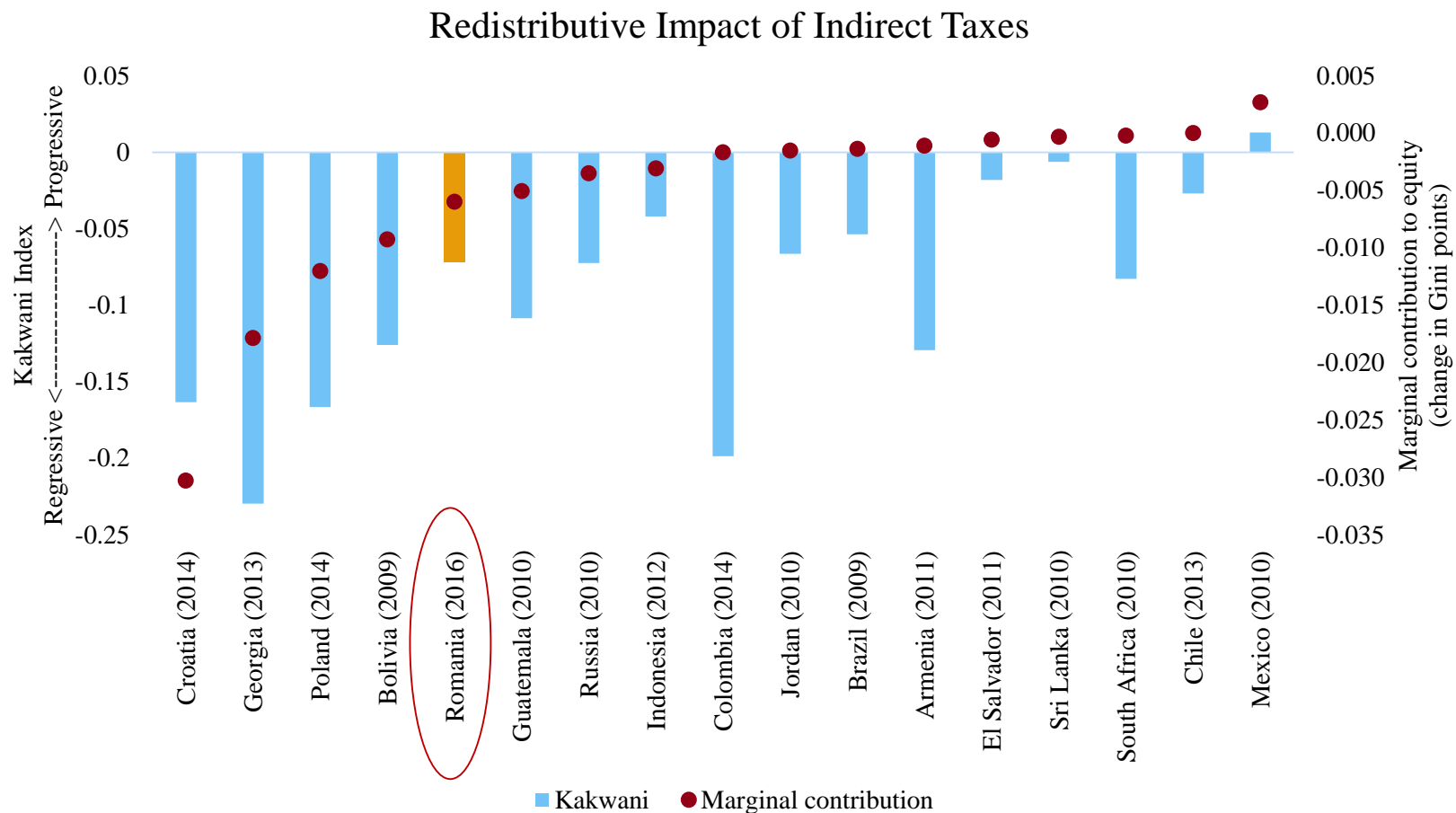
Romania. Concentration of Social Protection Programs
(by market income plus pensions quintiles)



Direct transfers and benefits were progressive and redistributive, although some programs were better than others.

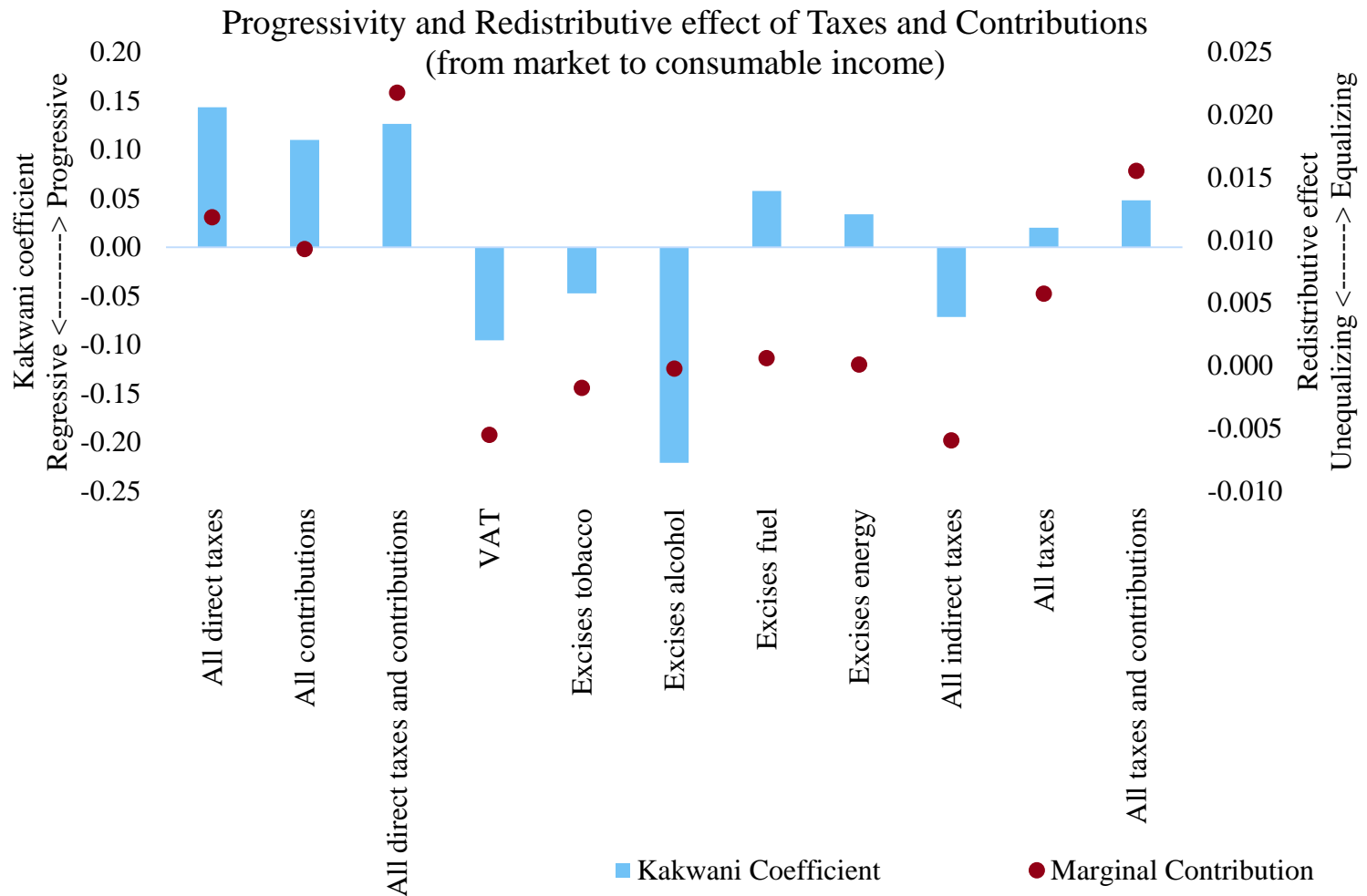


In contrast, indirect taxes were regressive and un-equalizing, ...

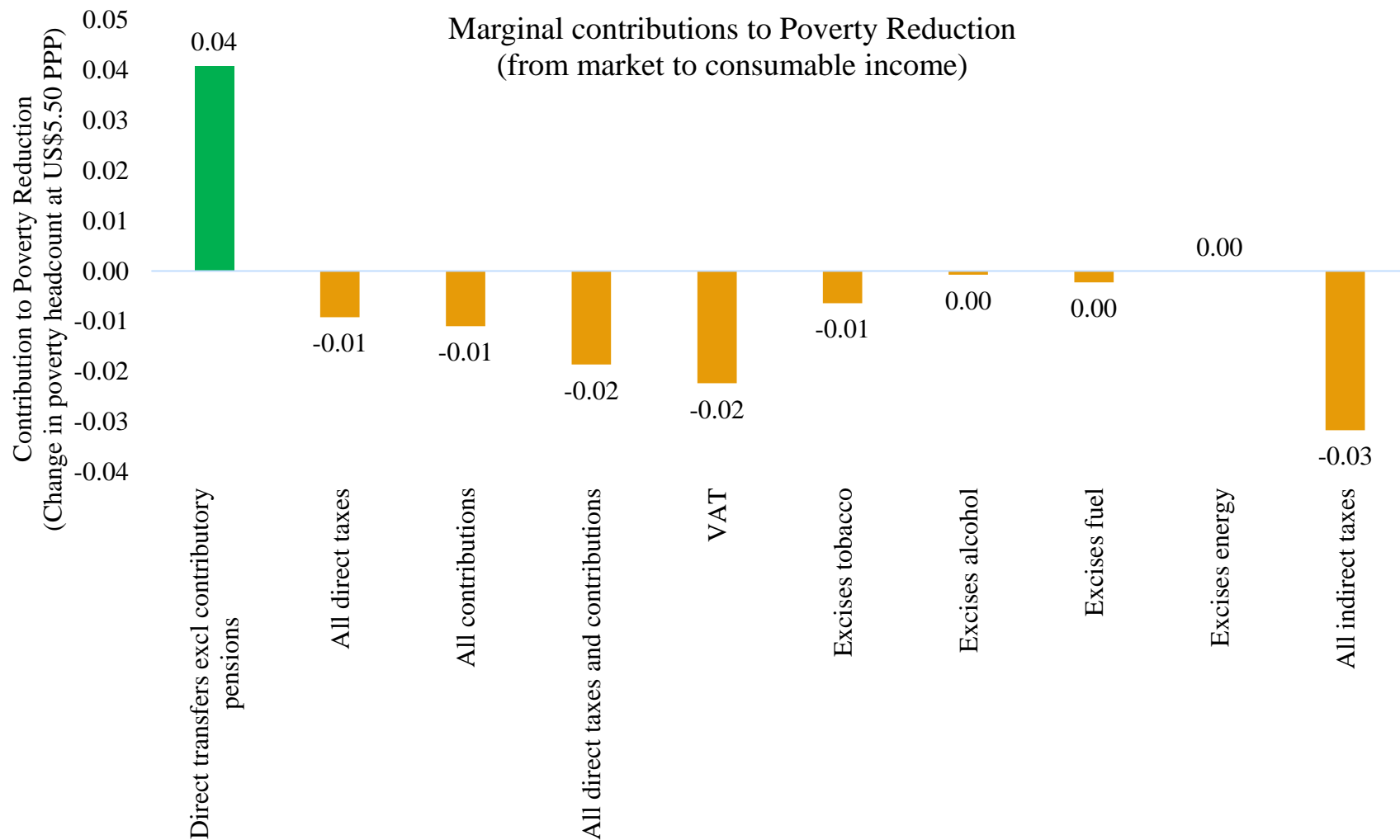


Source: Armenia: Younger et al (2016); Bolivia: Paz Arauco et al (2014); Brazil: Higgins & Pereira (2014); Chile: Martinez et al (2017); Colombia: Melendez (2014); El Salvador: Beneke et al., (2014); Georgia: Cancho & Bondarenko (2016); Mexico: Scott (2014); Peru: Jaramillo (2013); Poland: Goraus & Inchauste (2016); Russia: Lopez-Calvo et al (2016); Sri Lanka: Arunatilake et al (2016); South Africa: Inchauste et al (2016); Uruguay: Bucheli et al (2014); Croatia: Inchauste & Rubil (2017); Romania: own estimates using HBS 2016.

...particularly the VAT, which was regressive and contributed to an increase in inequality.

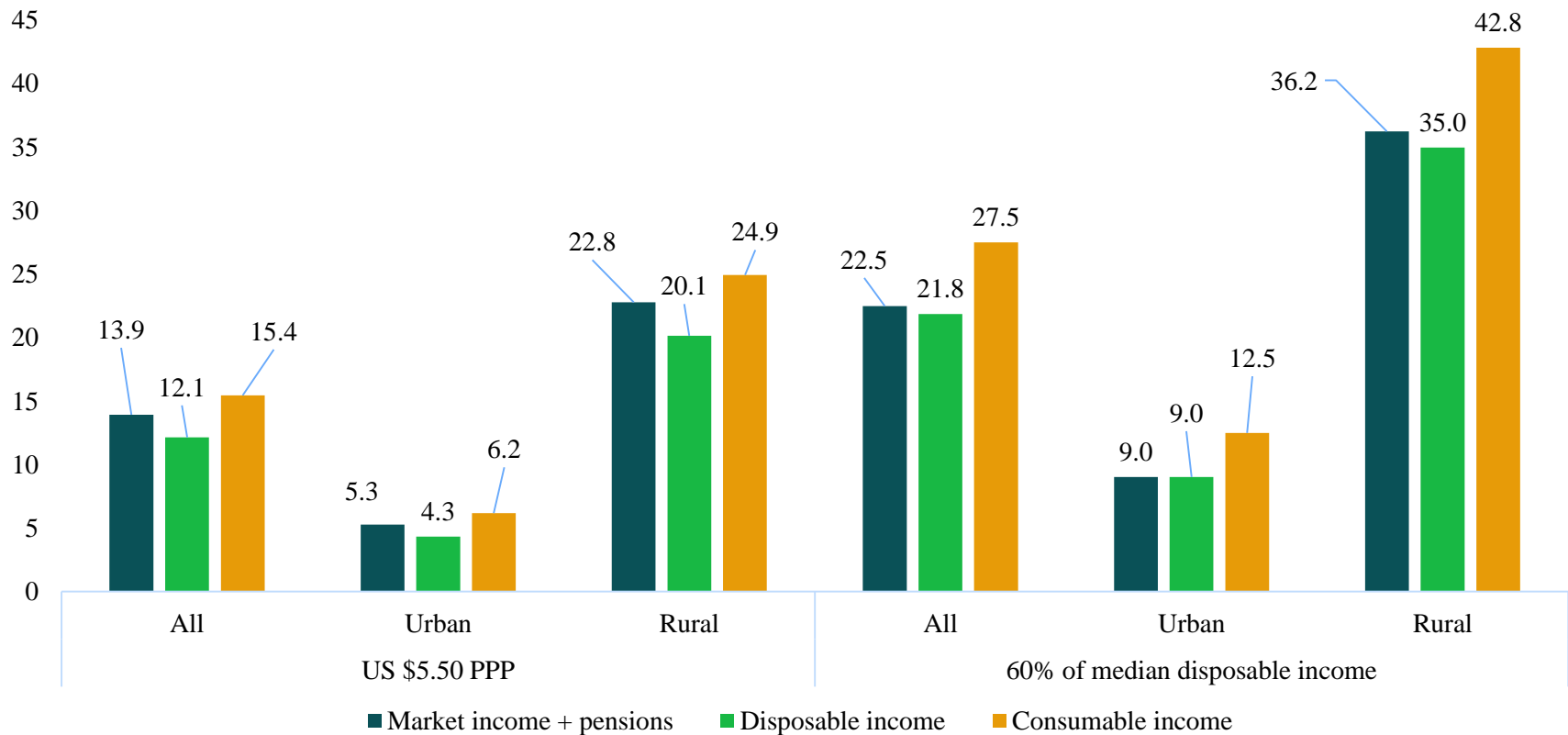


Moreover, indirect taxes were also poverty increasing in 2016...



..such that while direct taxes and transfers reduced poverty, indirect taxes led to an **increase in the poverty headcount rate**,...

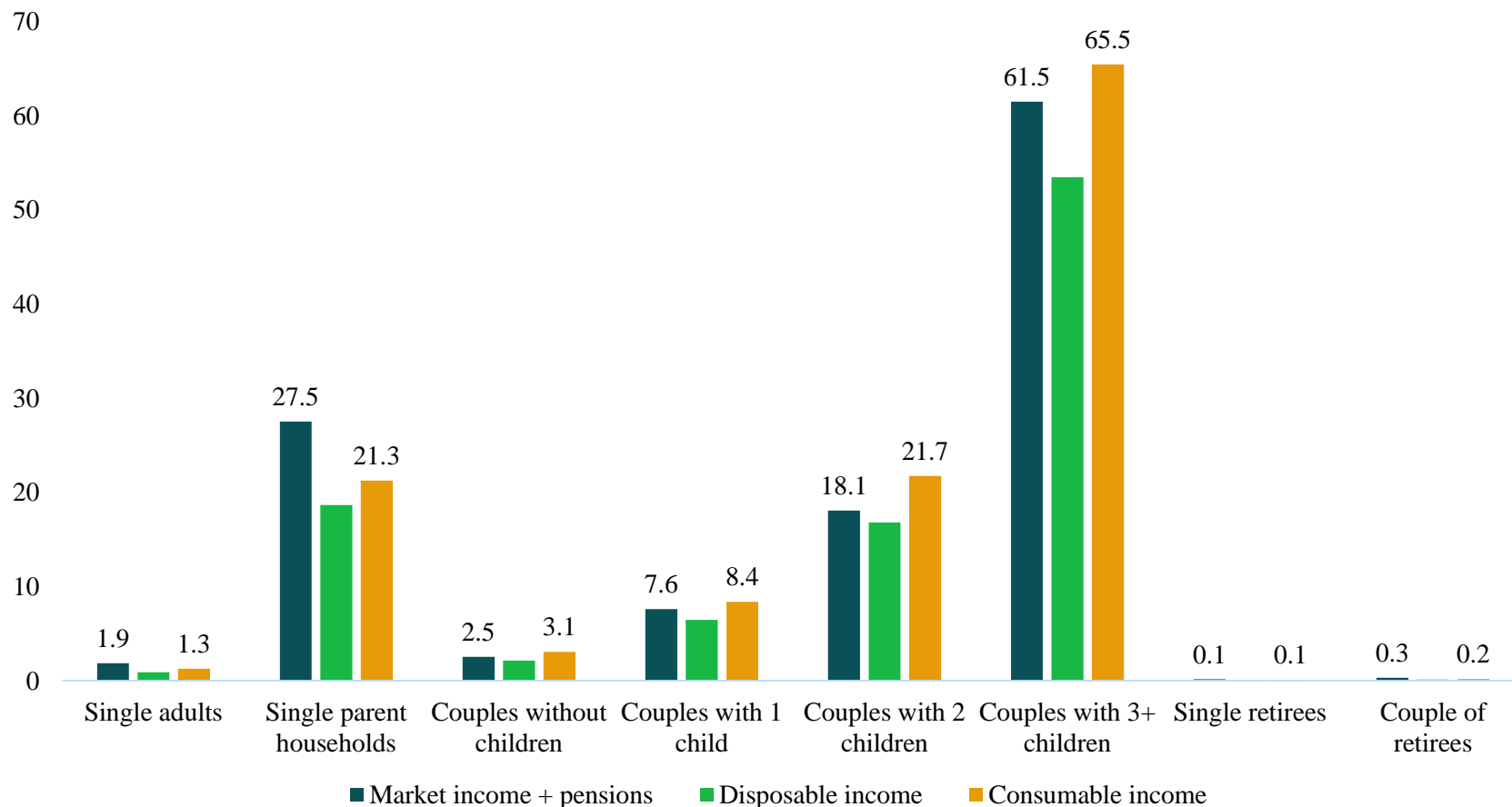
Romania. Poverty Headcount Rate, 2016



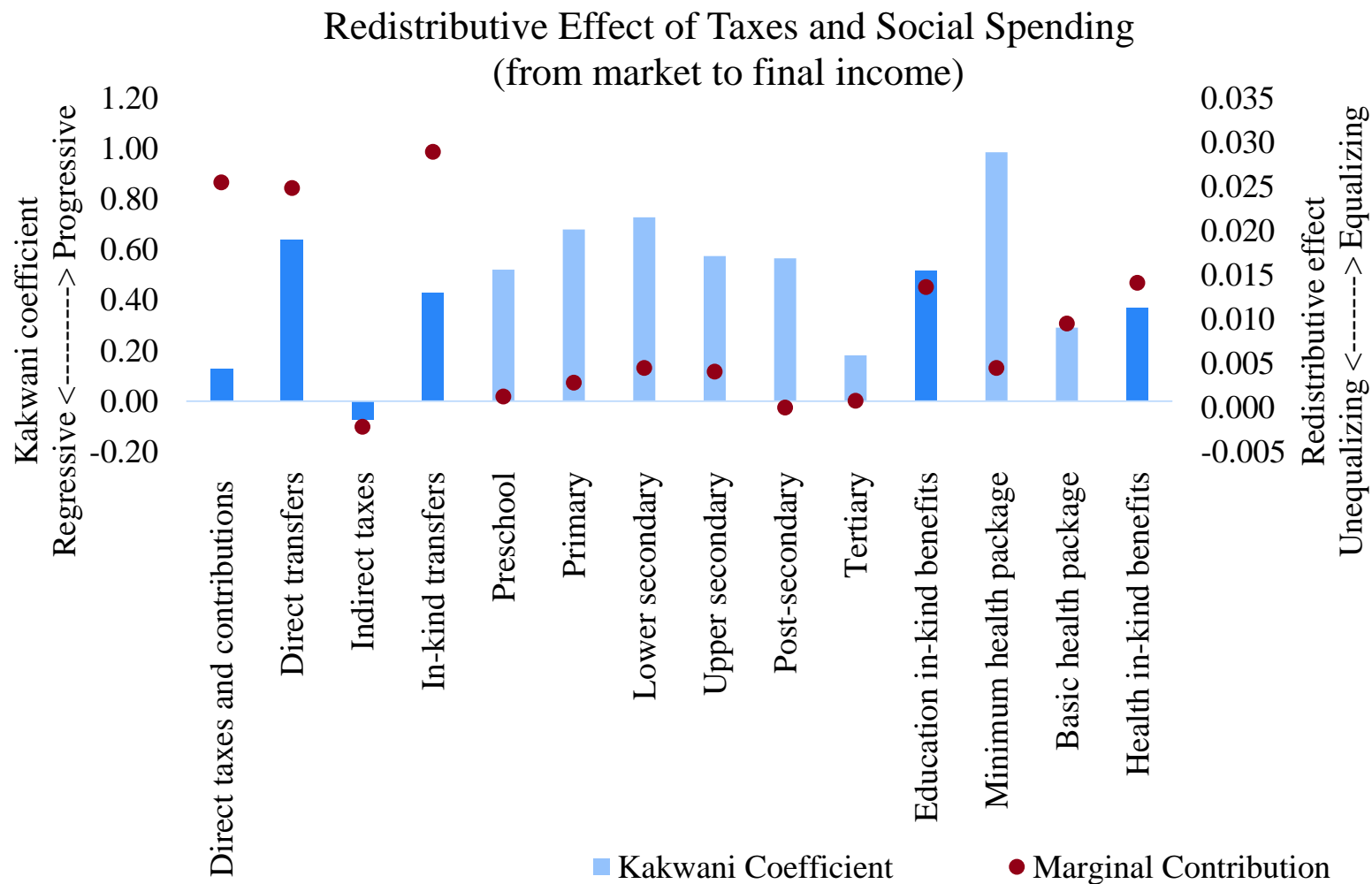
Source: World Bank estimates based on Romania HBS (2016).

The impact of indirect taxes on poverty was particularly large among households with children.

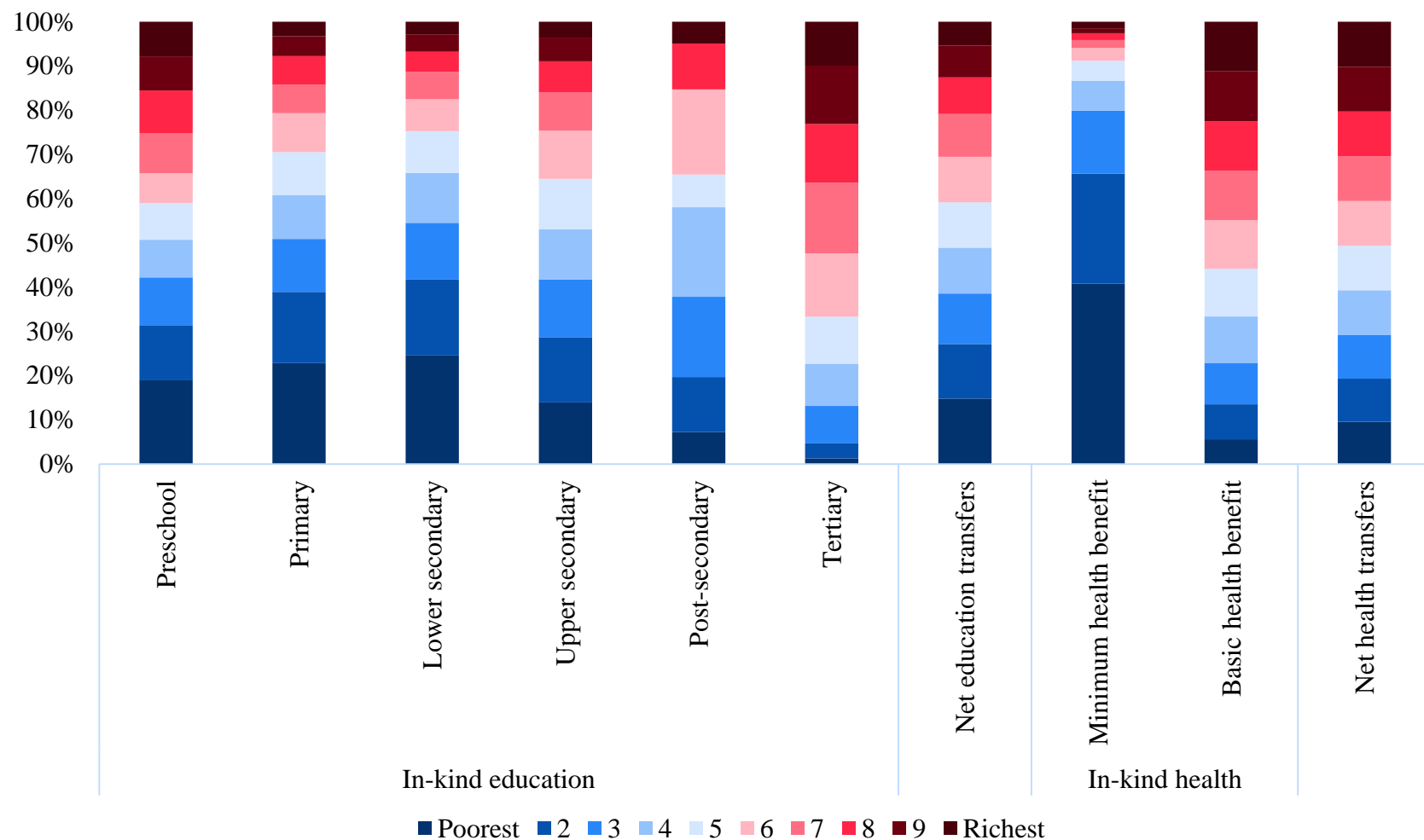
Romania. Poverty Headcount Rate by Type of Household, 2016



Health and education spending are progressive and redistributive; particularly secondary education and the basic health package...

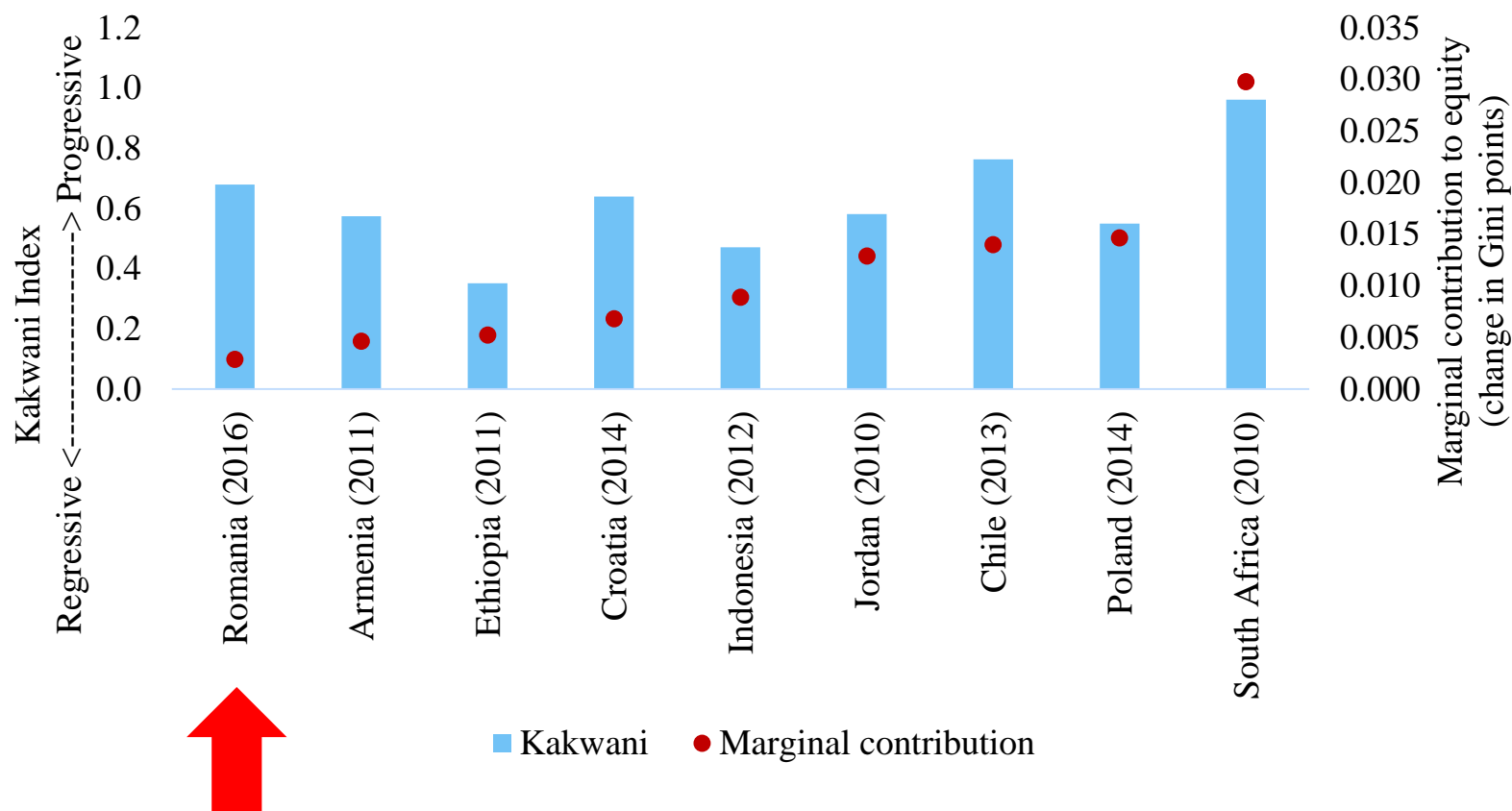


...although not all education and health spending is pro-poor...

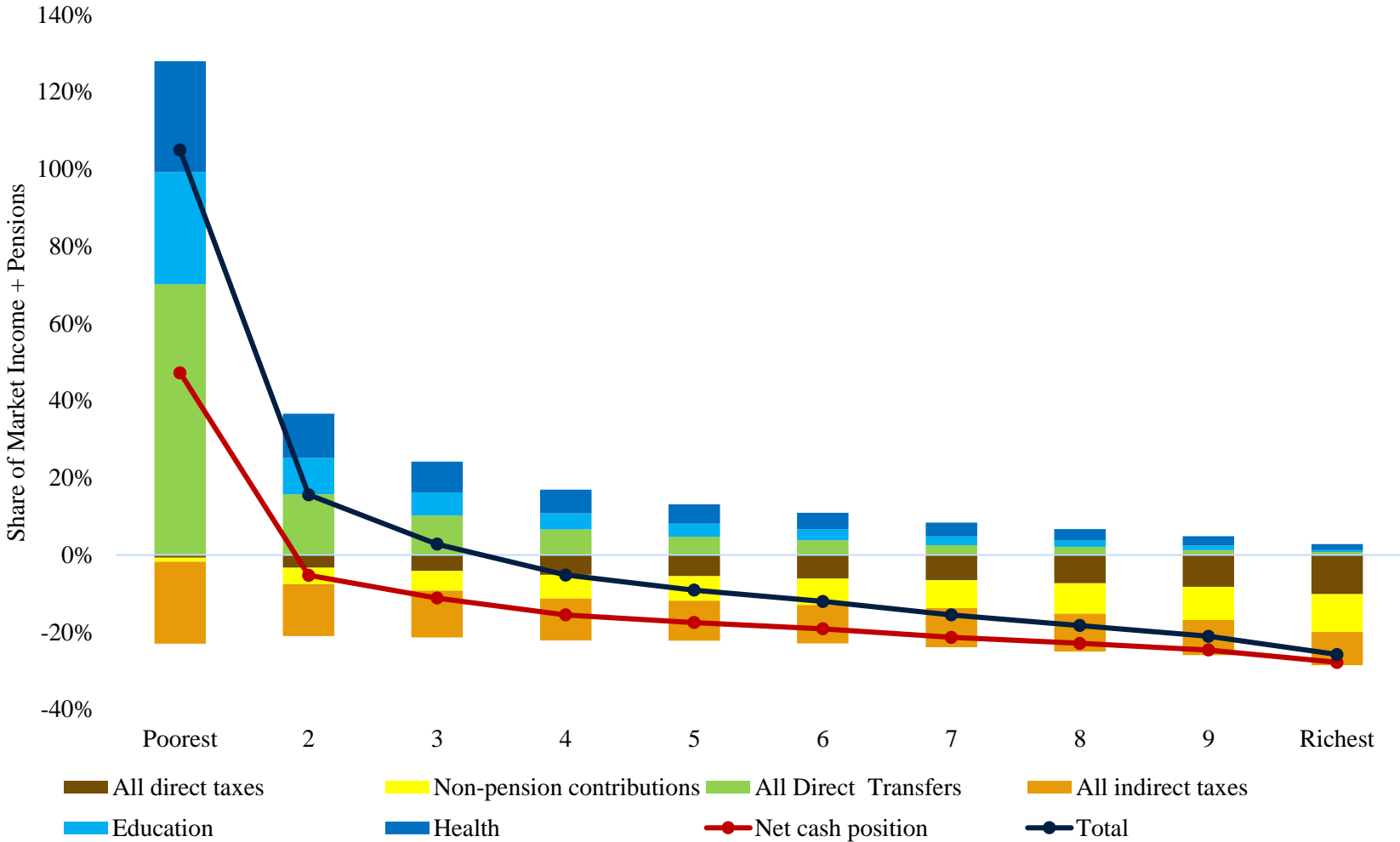


... and the redistributive power of primary education is relatively low.

Progressivity and Redistributive Effect of Primary School
(from market to final income)



In cash terms, households beginning in the second decile were net payers to the treasury in 2016.

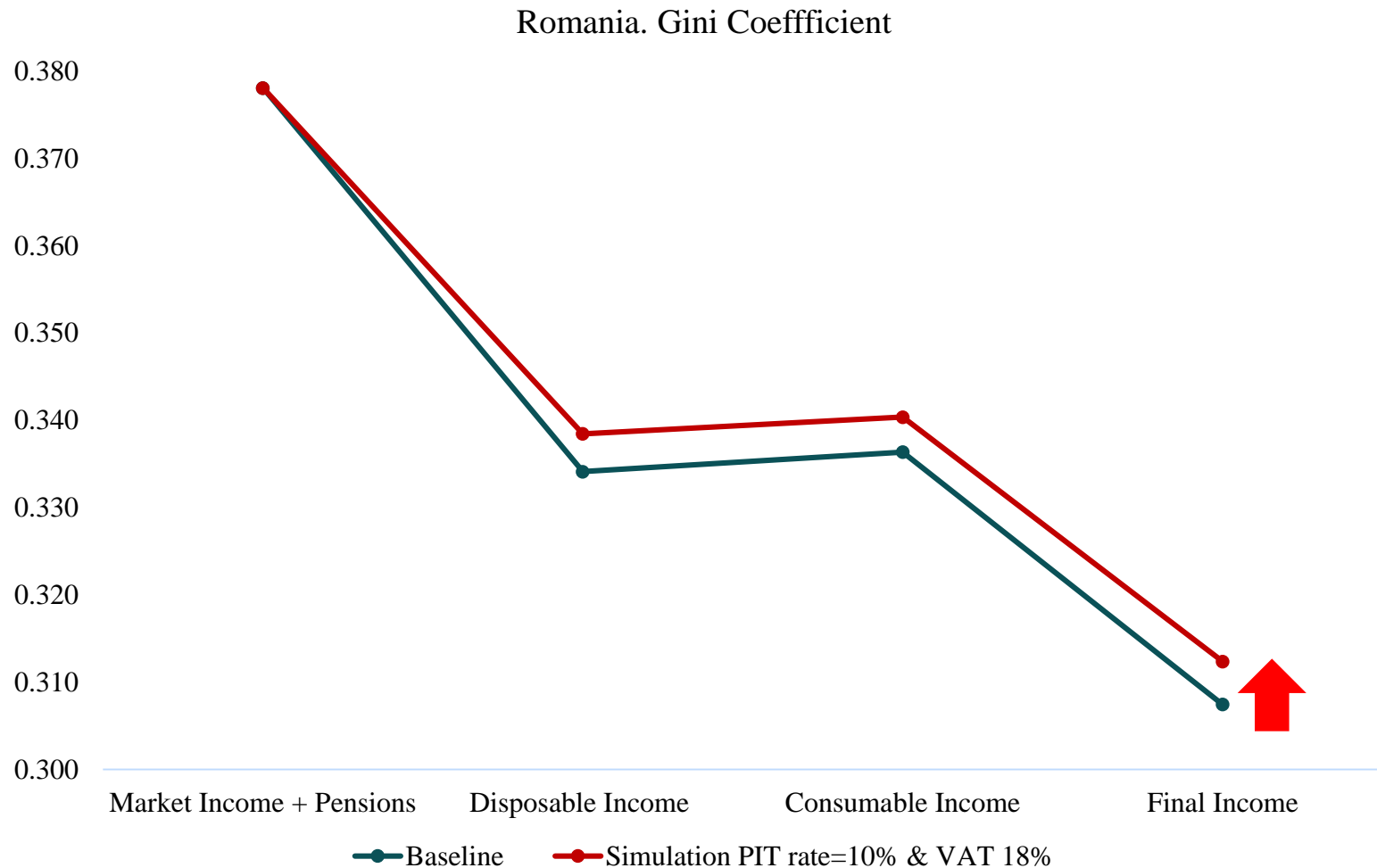


ROMANIA 2016-2018

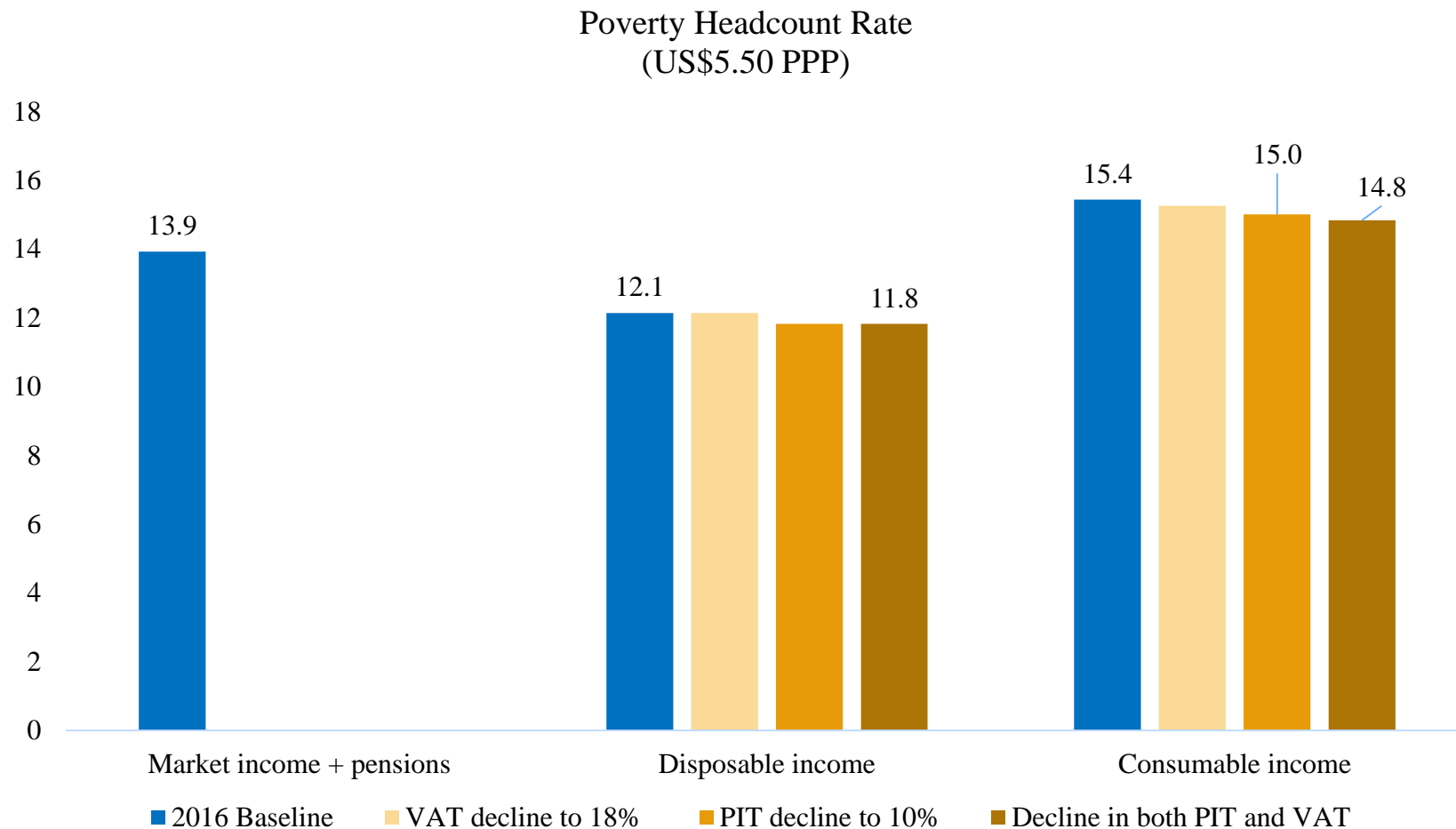
Impact of recent changes in taxes on inequality and poverty

- Health contributions for pensioners were eliminated in 2017
- PIT was eliminated for pensions below RON 2 000 in 2017
- Social and health contributions are due on all sources of income beginning in 2017
- Adopted Unified Wage Law in 2017 → Public wages increased by 25%
- Increase in the Minimum Social Pension in 2017
- Reduced VAT rate from 20 to 19 in 2017, from 19 to 18 in 2018
- Reduced the flat PIT rate from 16 to 10 percent in 2018 and raised the tax-free allowance
- Introduction of a minimum contributory base for part-time worker social contributions in 2018.

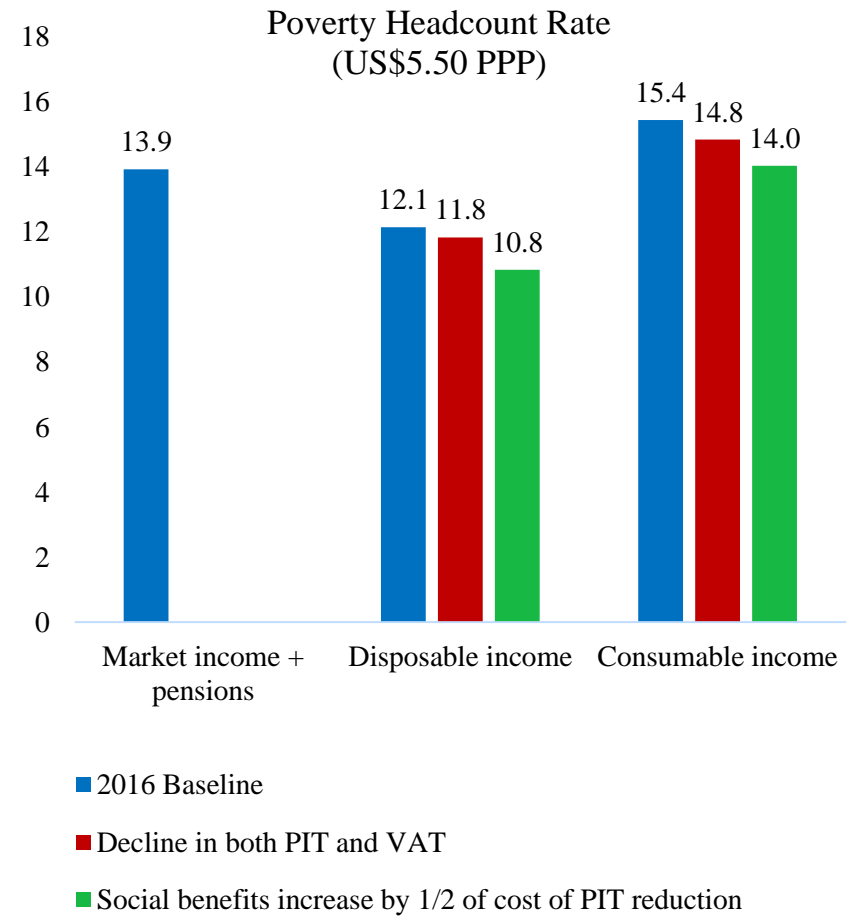
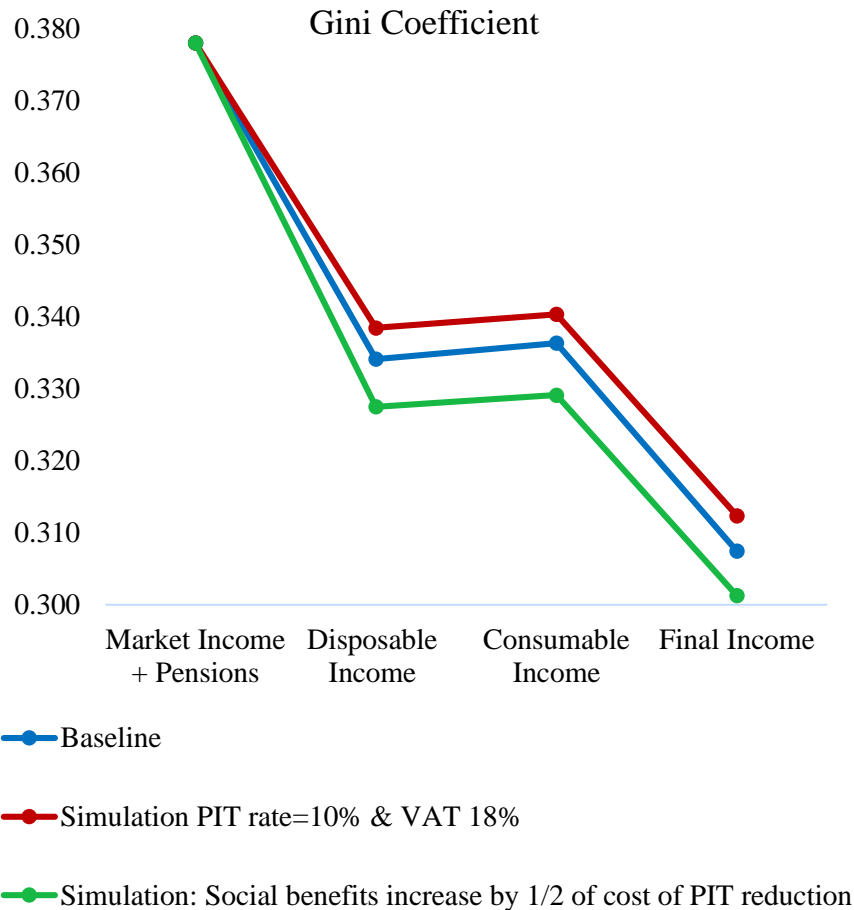
The reduction in the PIT flat tax **increased** inequality, while VAT reduction had no big impact...



...however, both changes slightly reduced the overall poverty headcount rate...



A more cost-effective and an redistributive alternative would have been to increase targeted social transfers



Summary (1/3)

- The combined effect of taxes and social spending helps to substantially reduce poverty and inequality, with most of the reduction in inequality largely being achieved by pensions.
- Households beginning in the second decile were net payers to the treasury in 2016, as the share of taxes paid exceeded the cash benefits received for all but the poorest 10 percent of the population.
- Direct taxes and transfers are progressive and redistributive, more so than other developing countries, but less than other European countries such as Poland and Croatia.
- In contrast, indirect taxes are regressive and unequalizing.

Summary (2/3)

- Health and education spending is progressive and equalizing, particularly spending on primary and lower secondary education, and spending on the minimum health benefit.
- However, spending on primary education is much less equalizing than in other developing countries, while health spending is not necessarily pro-poor.

Summary (3/3)

Simulations

- Recent reduction in the PIT rate likely led to an *increase* in inequality,
 - Reduction in the VAT rate is expected to have had no impact on inequality.
 - This is because most of the tax relief accrued to the top of the income distribution.
 - The adopted policies were a very expensive way to achieve what is actually a very small decline in poverty.
 - A larger and more targeted social assistance system could have achieved better distributional results at a much lower fiscal cost.
- The results call for the use of simulation tools that could better inform the fiscal and redistributive impacts of proposed reforms.

Simulation tool

- The team is developing a tool that would allow the government to play with alternative scenarios.
 - The tool is meant to be used by anyone, including people who do not have programming skills.
 - The objective is to make the tool as intuitive as possible for anyone to be able to run alternative reform scenarios
 - The tool includes a set of predefined variables that can be changed
 - The team can train counterparts to use, update and improve the model

Thank you.

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Methodology

- Standard incidence analysis without behavioral, lifecycle or general equilibrium effects.
- The focus is on average incidence rather than incidence at the margin.
- Does not take into account the quality of services delivered by the government.
- Does not include some important taxes and spending.
 - Corporate profit taxes, property taxes, VAT paid by institutions
 - Spending on infrastructure investments, ...

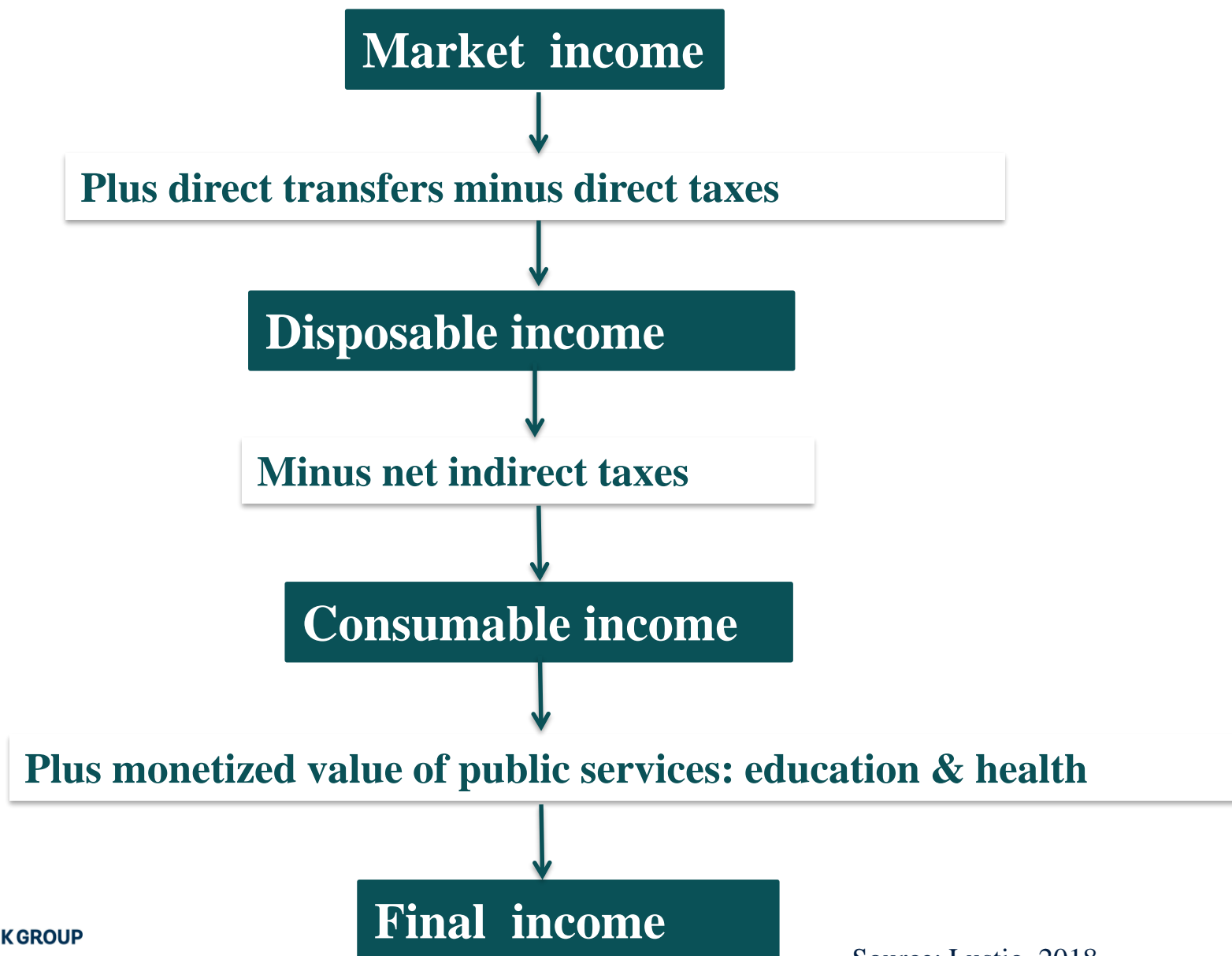
What is new?

- Comprehensiveness: assess both tax and expenditure policies
 - Including indirect taxes and subsidies and in-kind benefits in the form of free education and health care;
- Comparability: standard methodology across countries & over time.
- Harmonization of concepts and methods
- Analytics of fiscal redistribution

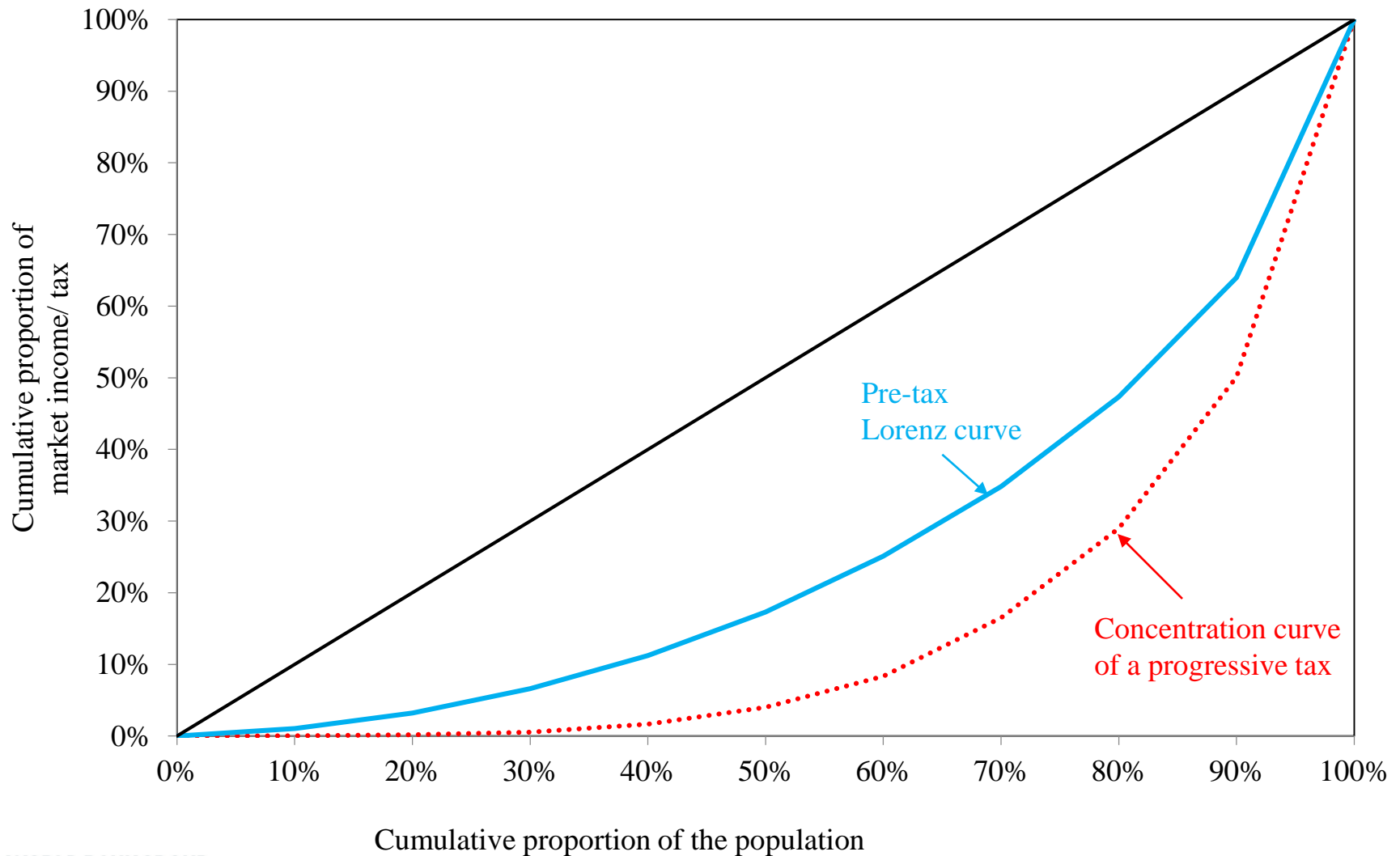
Comparison: EUROMOD vs CEQ

	EUROMOD	CEQ
Direct taxes and transfers	Included and modeled in detail.	Included. Modeling benefits from EUROMOD experience.
Indirect Taxation	Not included (some preliminary examples developed)	Included
Consumption subsidies	Not included	Included (direct and indirect effects)
Transfers in kind: Health Education	Not included	Included
Simulation of reforms?	Tax-benefit micro-simulation model programmed by EUROMOD team in C++ . Users interact with Excel interface.	Framework defines income aggregates, for incidence. Can be used with any data set/software. Ado files available in STATA. User programs/customizes simulations.
Macrovalidation	Each team decides strategy to validate the results with National Accounts.	Teams "scale down" National Accounts figures to size found in the microdata

Construction of Income Concepts



MEASURING TAX PROGRESSIVITY



KAKWANI INDEX: TAXES

The Kakwani index of progressivity of a tax t is defined as:

$$K_t = CC_t - G_x$$

where:

G_x is the Gini coefficient of pre-tax income

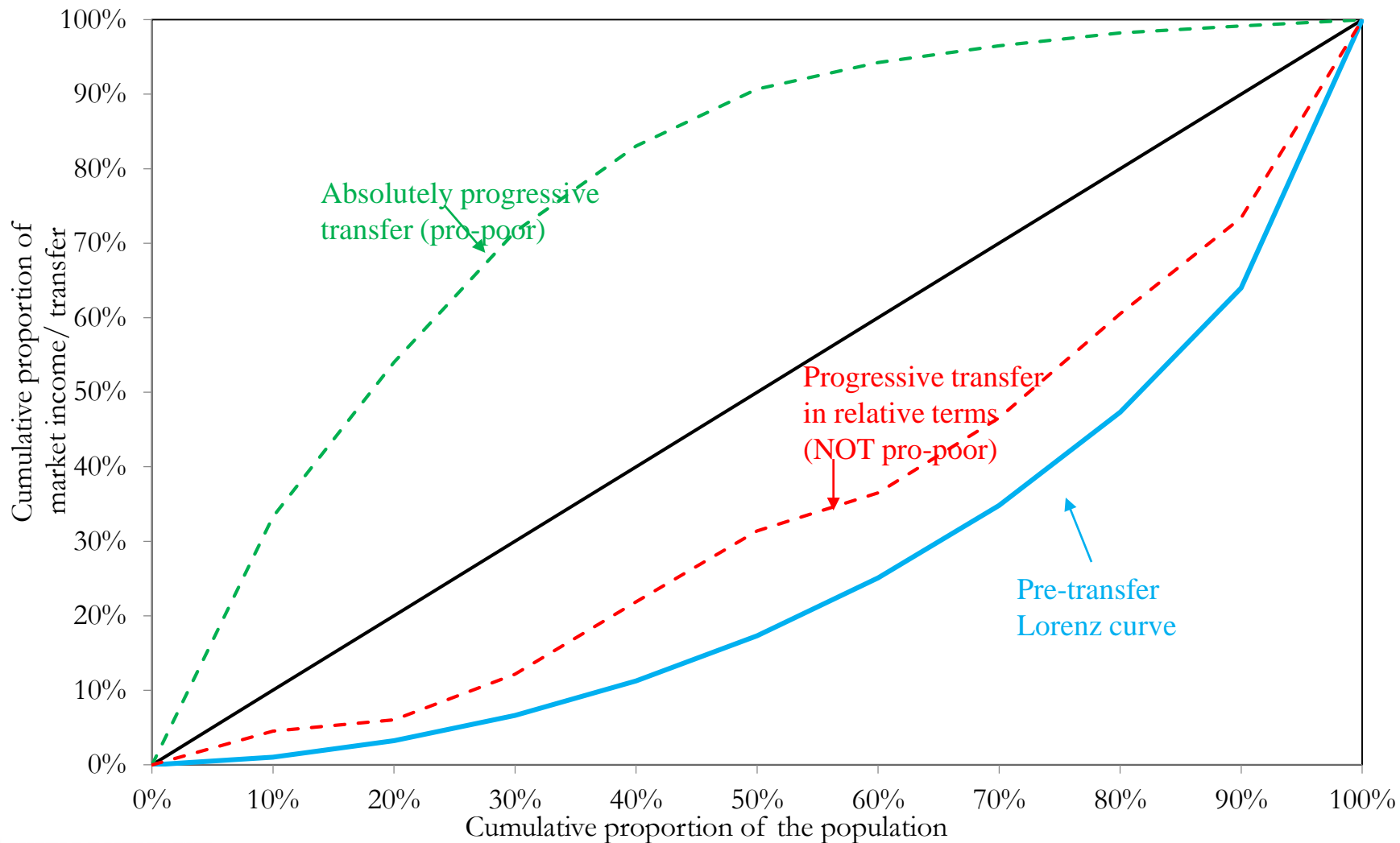
CC_t is the concentration coefficient of the tax t

➤ **Progressive Tax:** $K_t = CC_t - G_x > 0$

➤ **Proportional Tax:** $K_t = CC_t - G_x = 0$

➤ **Regressive Tax:** $K_t = CC_t - G_x < 0$

MEASURING PROGRESSIVITY OF EXPENDITURES



KAKWANI INDEX: TRANSFER

The Kakwani index of progressivity of a transfer **B** is defined as:

$$K_B = G_x - CC_B$$

Where:

G_x is the Gini coefficient of pre-transfer income

CC_B is the concentration coefficient of the transfer **B**

- Note that the Gini coefficient and the concentration coefficient are in reversed order from the Kakwani index for a tax

Is a particular tax or transfer progressive and equalizing?

- The Kakwani Index measures progressivity of taxes/spending.
 - If positive → progressive
 - If negative → regressive
 - If there is a single intervention in the system, the Kakwani index will give an unambiguous answer as to whether an intervention is equalizing
 - However, if there is a tax **and** a transfer, then this is no longer the case
 - Lambert (2001)
 - A **regressive** tax can be **equalizing** (if the resources are used for progressive transfers). In fact, the reduction in inequality can be larger with the tax than without it.
- importance of comprehensive analysis.

What is the contribution of a particular tax or transfer to the change in inequality?

The marginal contribution of a tax is

$$MC_t = G_{x+B} - G_{x+B-t}$$

Where G_{x+B-t} and G_{x+B} are the Gini coefficient of incomes after the tax and transfers and after transfer only, respectively.

If $MC_t > 0$, the tax is equalizing.