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Frameworks for Distributional Analyses

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Frameworks for Distributional Analyses

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The information in this presentation is preliminary and is being circulated to stimulate discussion and critical comment as developmental work for analysis for the Congress.

Distributional Analyses Have Historically Been Tax-Centric

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Why?

- Everyone pays taxes (either directly or indirectly).
- There are explicit progressive/redistributive properties in the tax system.
- There are high-quality tax data.
- There is a lot of theoretical work on tax incidence in the economics literature.

Distributional Analyses Have Historically Been Tax-Centric

Who Has Been Performing These Analyses?

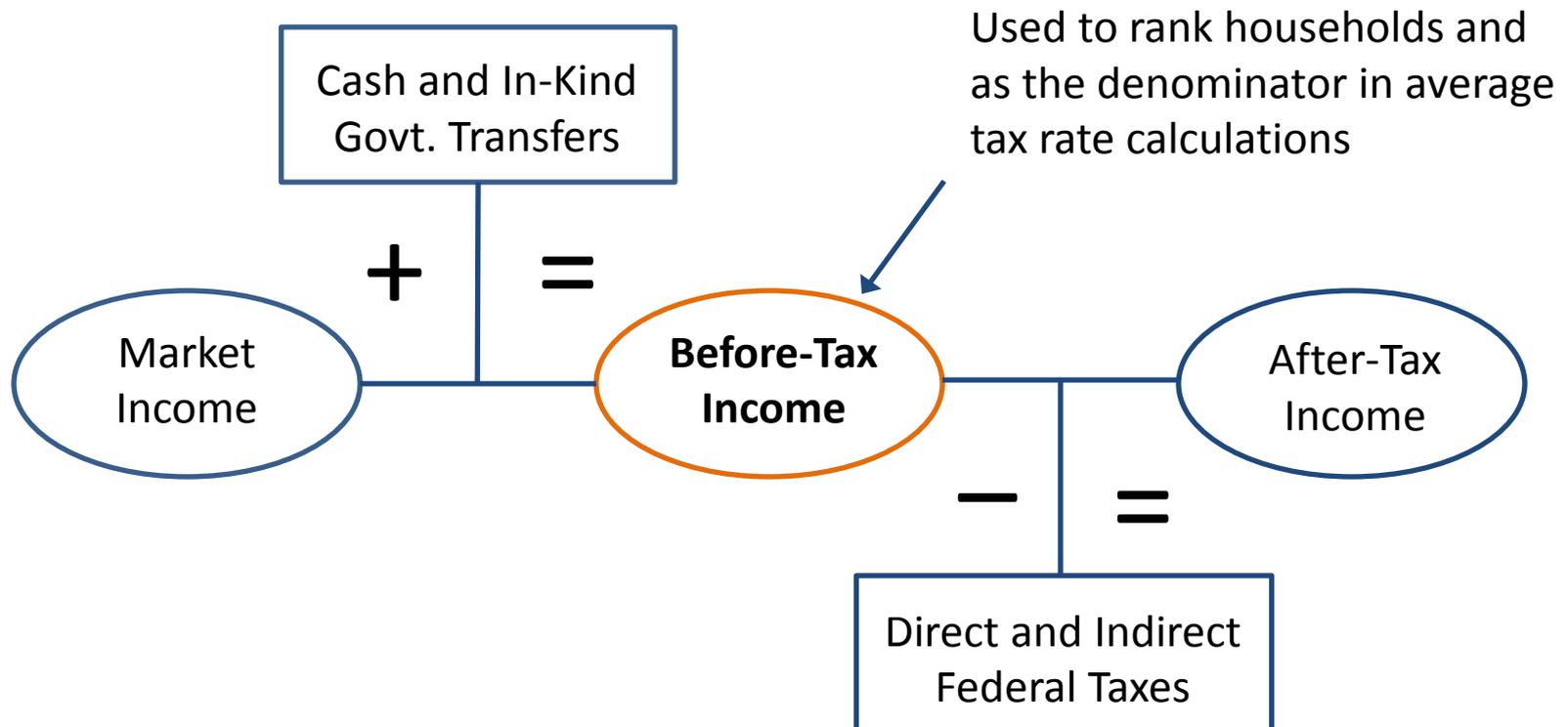
- Joint Committee on Taxation
- Congressional Budget Office, Tax Analysis Division
- Treasury Department, Office of Tax Analysis
- Tax Policy Center (Urban Institute/Brookings Institution)

But there's more to government than just **taxes**.

Our goal is to use a framework that allows for the analysis of the distributional effects of **government transfers** while dealing with the effects of large intergenerational transfer programs in cross-sectional analyses of **household income**.

CBO's Current Distributional Framework (Based on Before-Tax Income)

CBO's Current Distributional Framework



Distribution of Household Income, Government Transfers, and Federal Taxes, 2006 (CBO's Current Distributional Framework)

Dollars

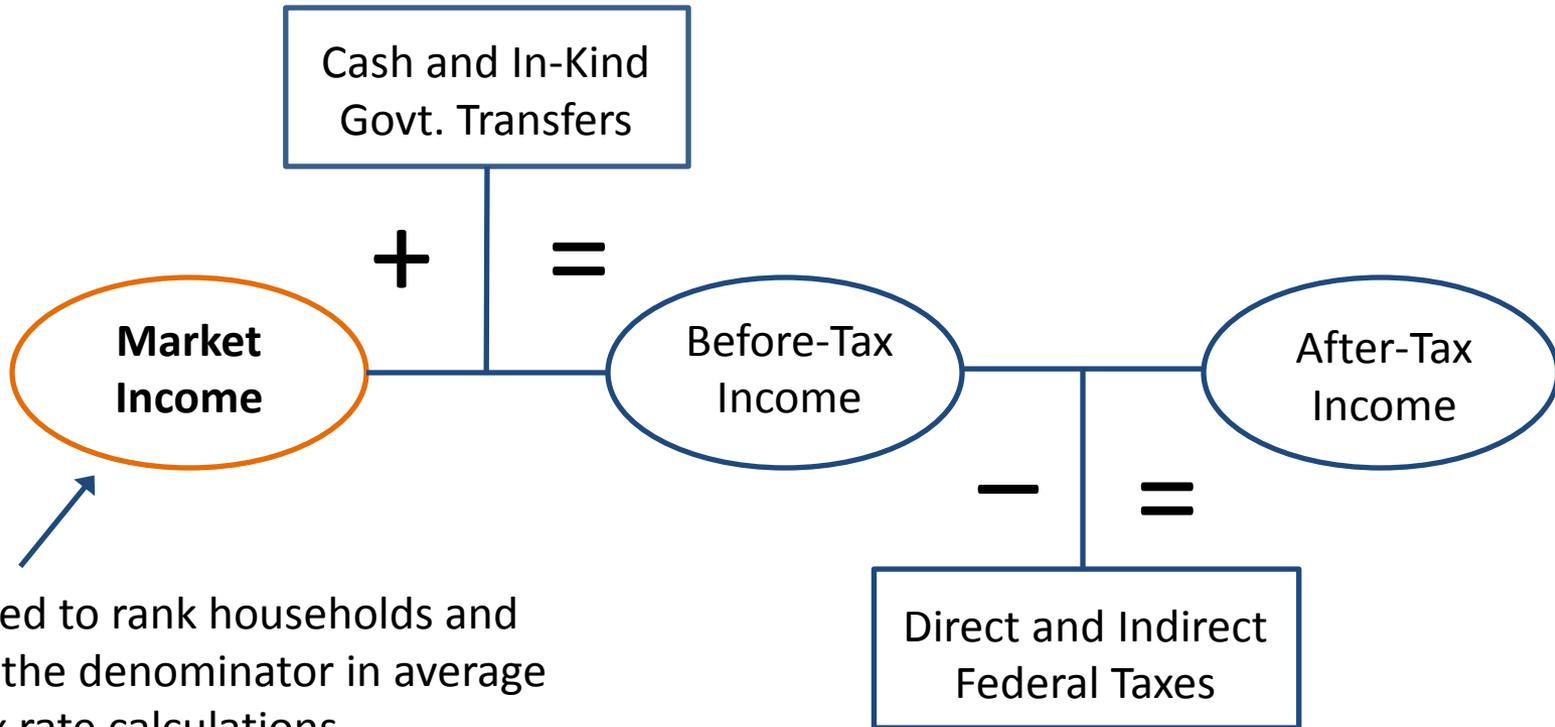
	Quintiles					All Households
	Lowest	Second	Middle	Fourth	Highest	
Market Income	14,700	28,800	49,400	79,700	234,100	81,400
+ Government Transfers	7,100	12,300	12,100	10,400	8,900	10,200
= Before-Tax Income	21,800	41,100	61,500	90,000	243,000	91,600
- Federal Taxes	1,300	4,000	8,600	16,100	62,500	18,700
= After-Tax Income	20,600	37,100	52,900	73,900	180,400	72,800
Average Federal Tax Rate (Percentage of Before-Tax Income)	5.7	9.8	14.1	17.9	25.7	20.5

CBO's Current Distributional Framework

Strengths	Shortcomings
<ul style="list-style-type: none">• Before-tax income, a broad income measure, is a proxy for both overall economic well-being and ability to pay tax liabilities.• Before-tax income is therefore an appropriate denominator for calculating average tax rates.• Because before-tax income includes government transfers, retired households are relatively evenly spread among before-tax income groups.	<ul style="list-style-type: none">• The framework is tax-centric, so it doesn't allow for analysis of government transfers—that is, analysts cannot calculate meaningful transfer rates or net tax and transfer rates.• Therefore, the redistributive properties of transfers and taxes are not treated equally.

Market Income Distributional Framework

Market Income Distributional Framework



Used to rank households and as the denominator in average tax rate calculations

Market Income Distributional Framework

Strengths

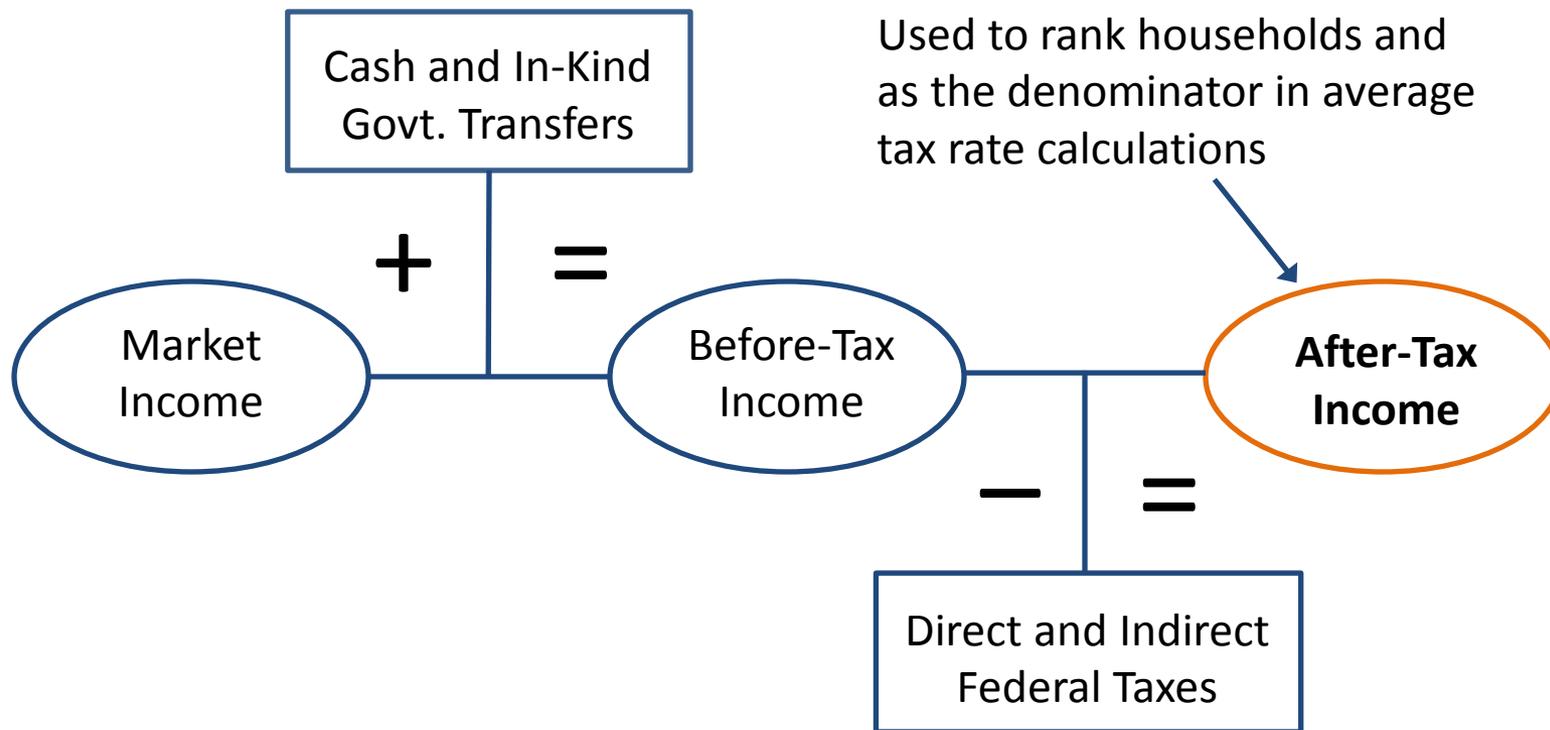
- Market income is an intuitive measure of pre-government income.
- The framework lets analysts calculate transfer rates, tax rates, and net tax and transfer rates.

Shortcomings

- “Market income” suggests no government intervention, but the measure includes the effects of other, less direct governmental policies.
- Market income is not a good proxy for overall economic well-being and ability to pay tax liabilities.
- Life-cycle patterns in market income make retired people appear poor in cross-sectional analyses.

After-Tax Income Distributional Framework

After-Tax Income Distributional Framework



After-Tax Income Distributional Framework

Strengths

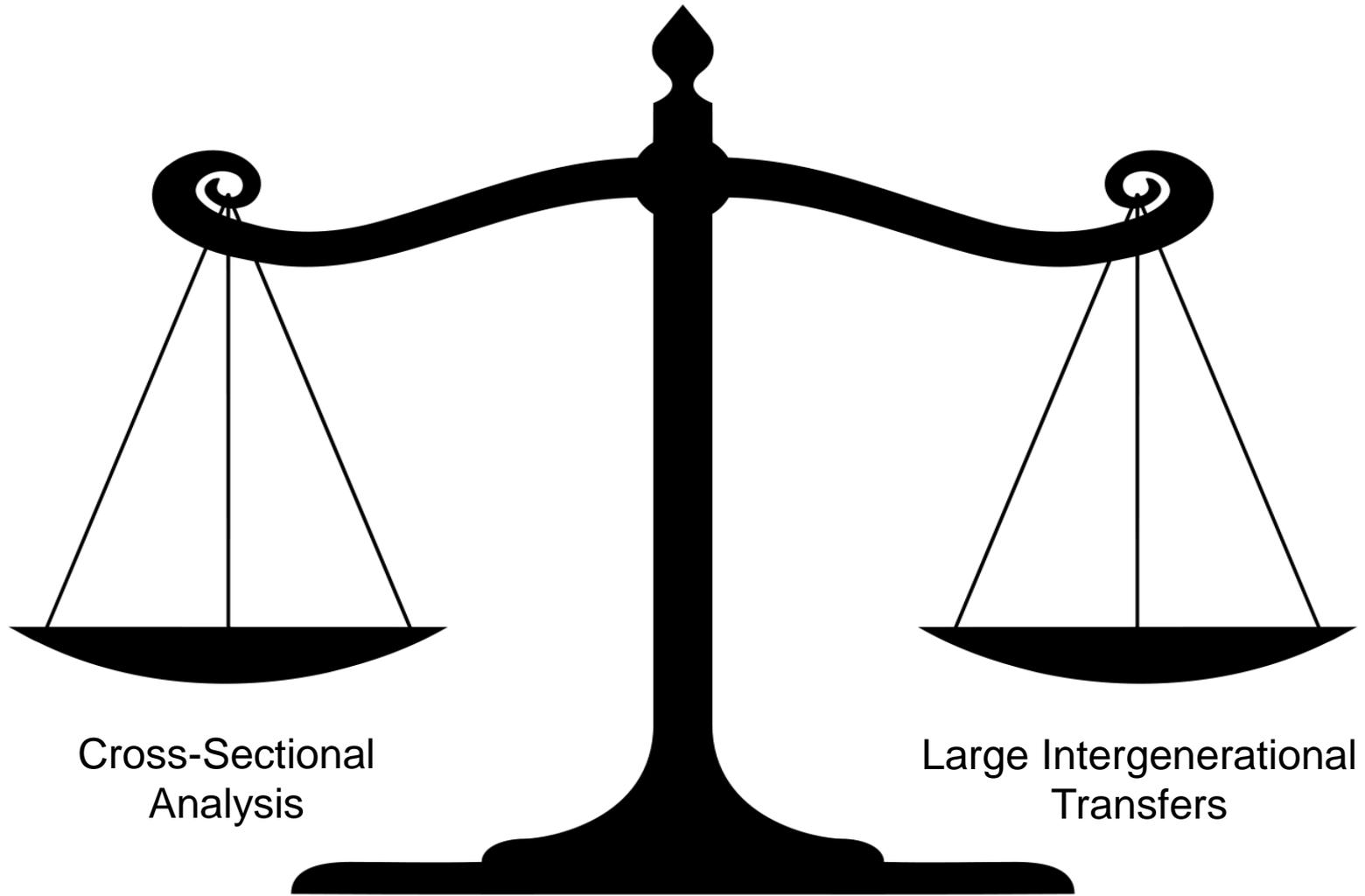
- After-tax income is a proxy for overall economic well-being.
- It can be used as a benchmark for how income inequality is changing over time regardless of source (market income, transfers, or taxes).

Shortcomings

- After-tax income is not an appropriate denominator for calculating tax or transfer rates because taxes and transfers are included in it.

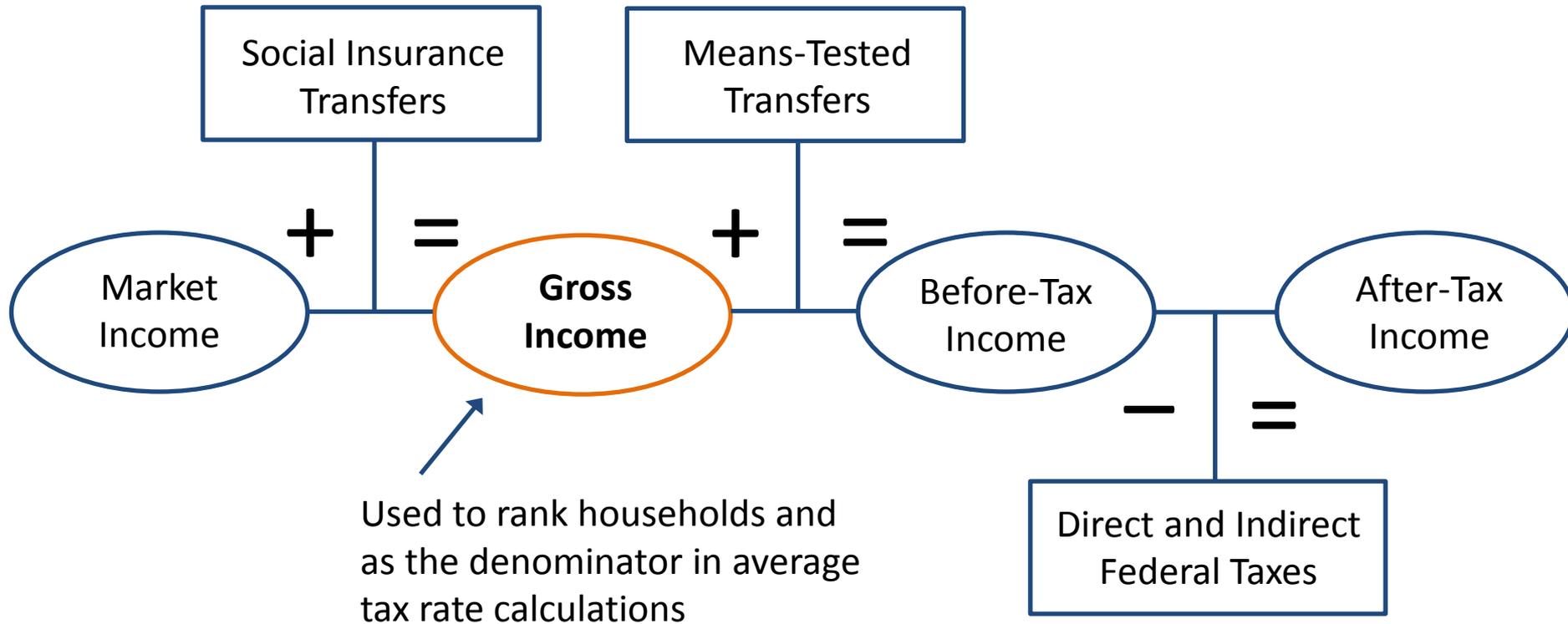
Trying to Strike a Balance

Trying to Strike a Balance



Gross Income Distributional Framework

Gross Income Distributional Framework



Gross Income Distributional Framework

Strengths	Shortcomings
<ul style="list-style-type: none">• The framework allows analysts to calculate means-tested transfer rates, tax rates, and net tax and transfer rates.• It accounts for life-cycle income patterns caused by the receipt of social insurance benefits.	<ul style="list-style-type: none">• Gross income does not fully represent people's ability to pay their tax liabilities.• There is some redistribution in social insurance programs that the framework does not capture.• Social insurance benefits and the taxes that finance them are not treated equally.• Not including public goods results in an incomplete fiscal picture when calculating net tax and transfer rates.

Going From
Before-Tax Income Quintiles
to Gross Income Quintiles
Shuffles the Households.

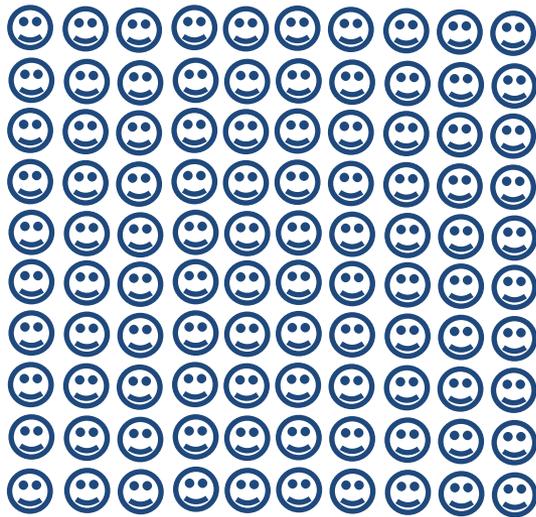
Overlap Between Gross Income Quintiles and Before-Tax Income Quintiles, 2006

Percentage Points

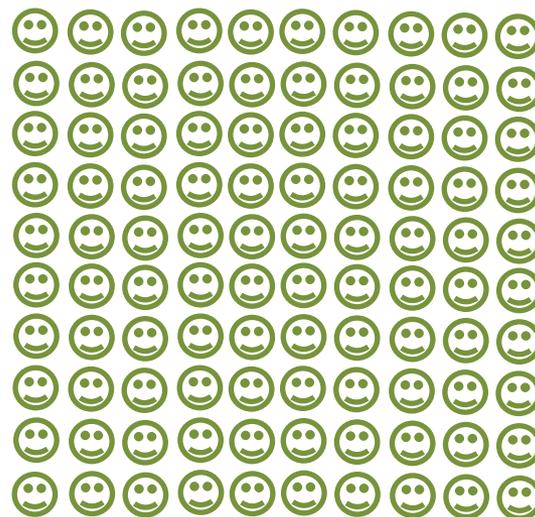
		Before-Tax Income Quintiles					Total
		Lowest	Second	Middle	Fourth	Highest	
Gross Income Quintiles	Lowest	81.2	14.5	3.9	0.5	0.0	100
	Second	18.6	73.8	6.5	1.0	0.1	100
	Middle	0.0	11.2	84.7	3.9	0.2	100
	Fourth	0.0	0.0	5.5	92.8	1.7	100
	Highest	0.0	0.0	0.0	2.0	98.0	100

Before-Tax Income

Lowest Quintile



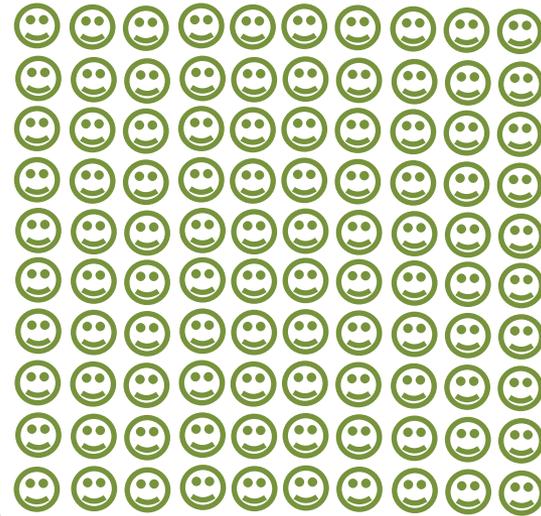
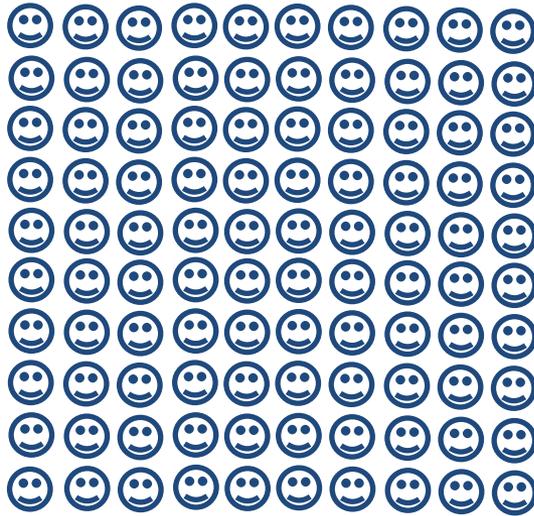
Second Quintile



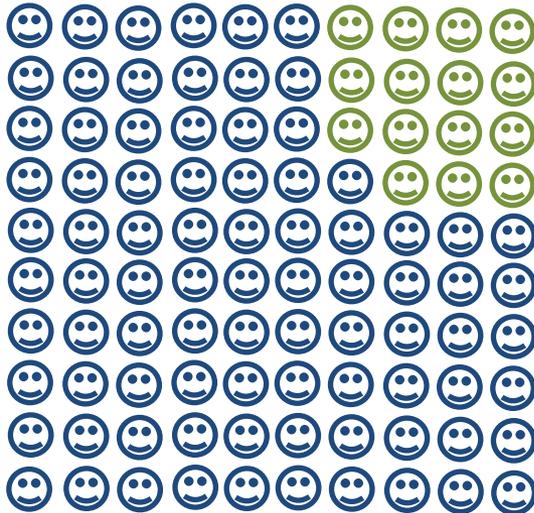
Lowest Quintile

Second Quintile

Before-Tax Income



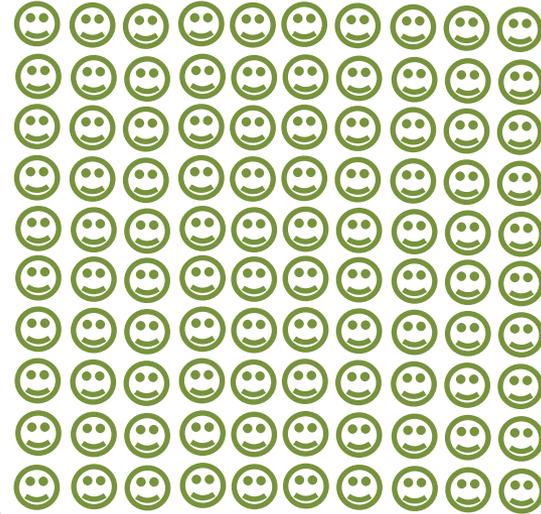
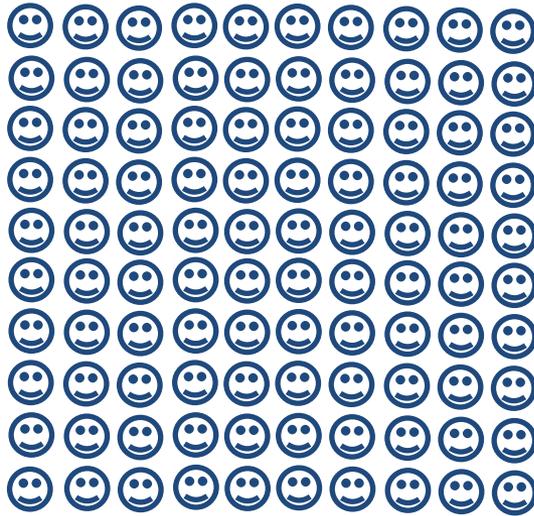
Gross Income



Lowest Quintile

Second Quintile

Before-Tax Income



Gross Income

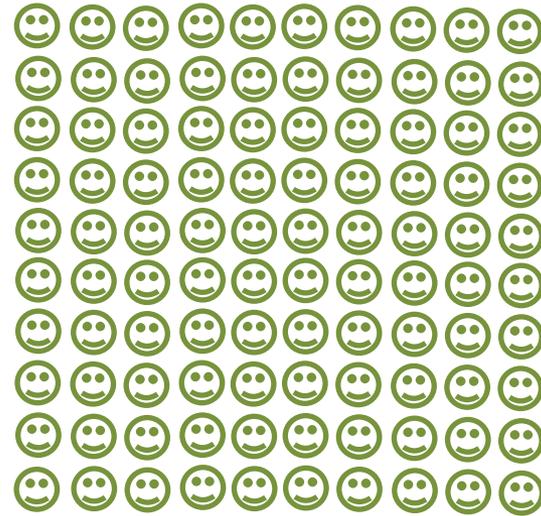
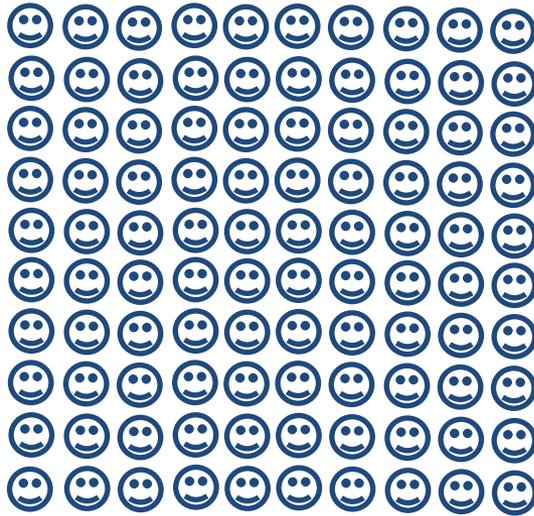


From Middle, Fourth,
and Highest Quintiles

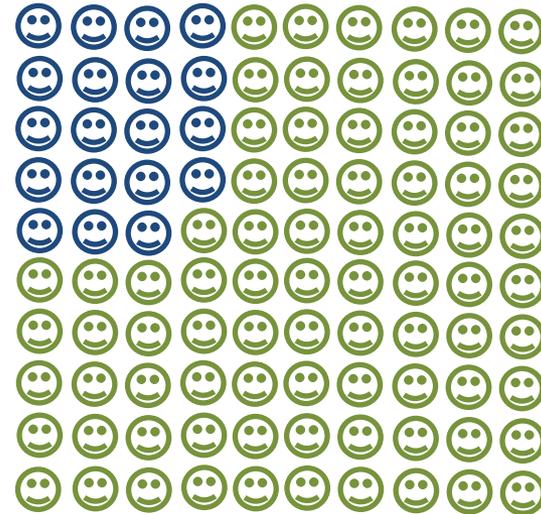
Lowest Quintile

Second Quintile

Before-Tax Income



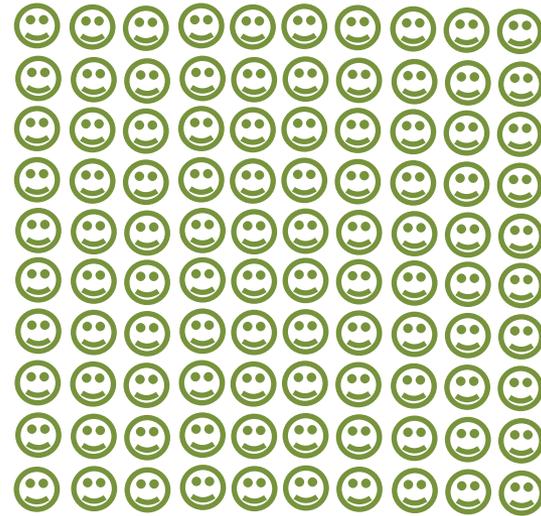
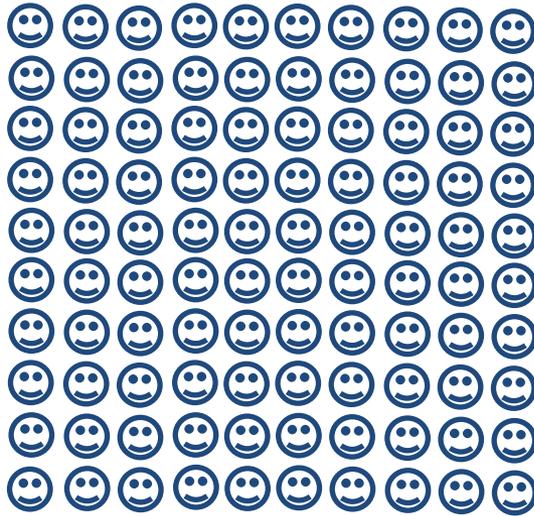
Gross Income



Lowest Quintile

Second Quintile

Before-Tax Income



Gross Income

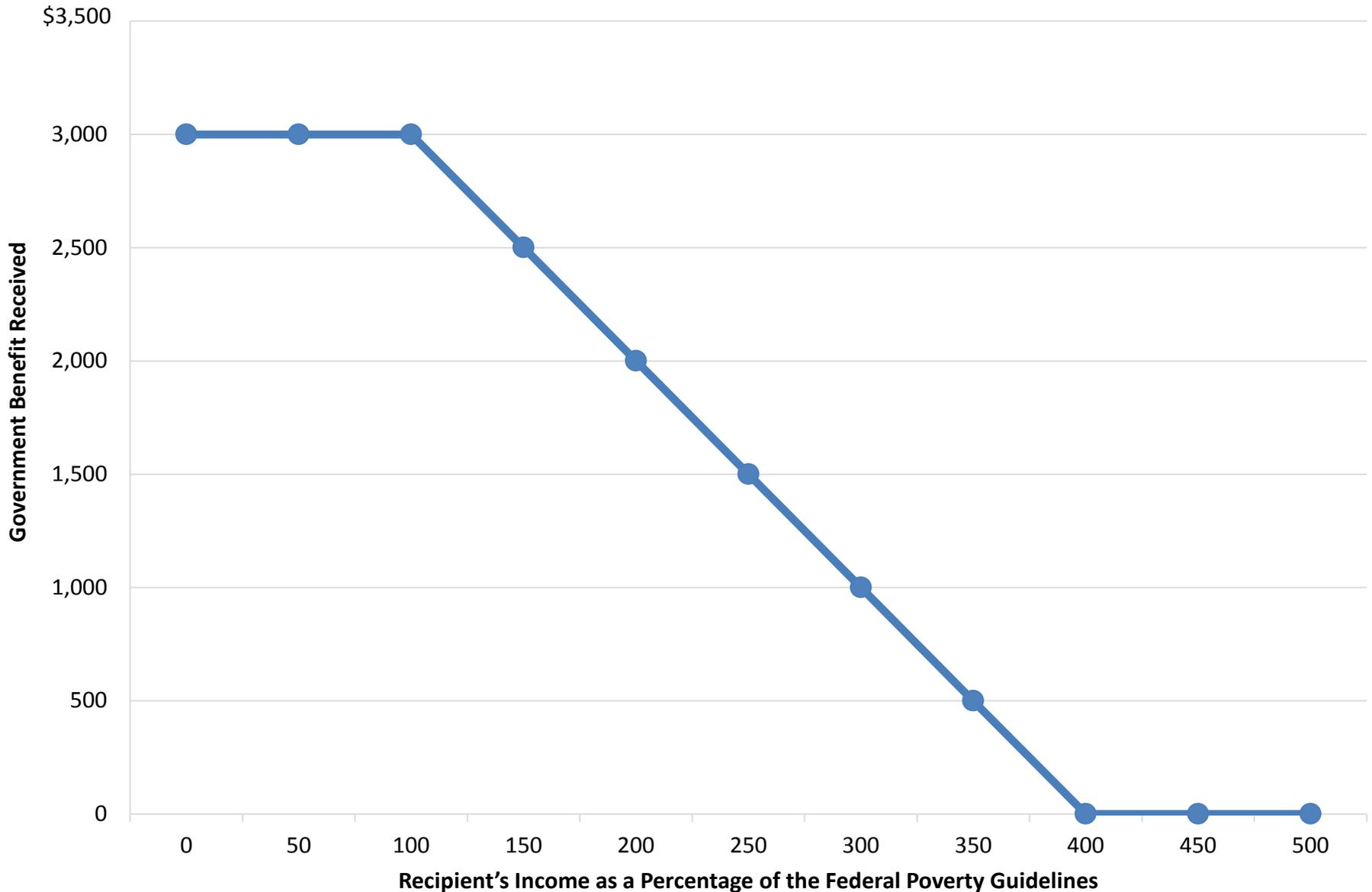


From Middle, Fourth, and Highest Quintiles

A Hypothetical Policy Change

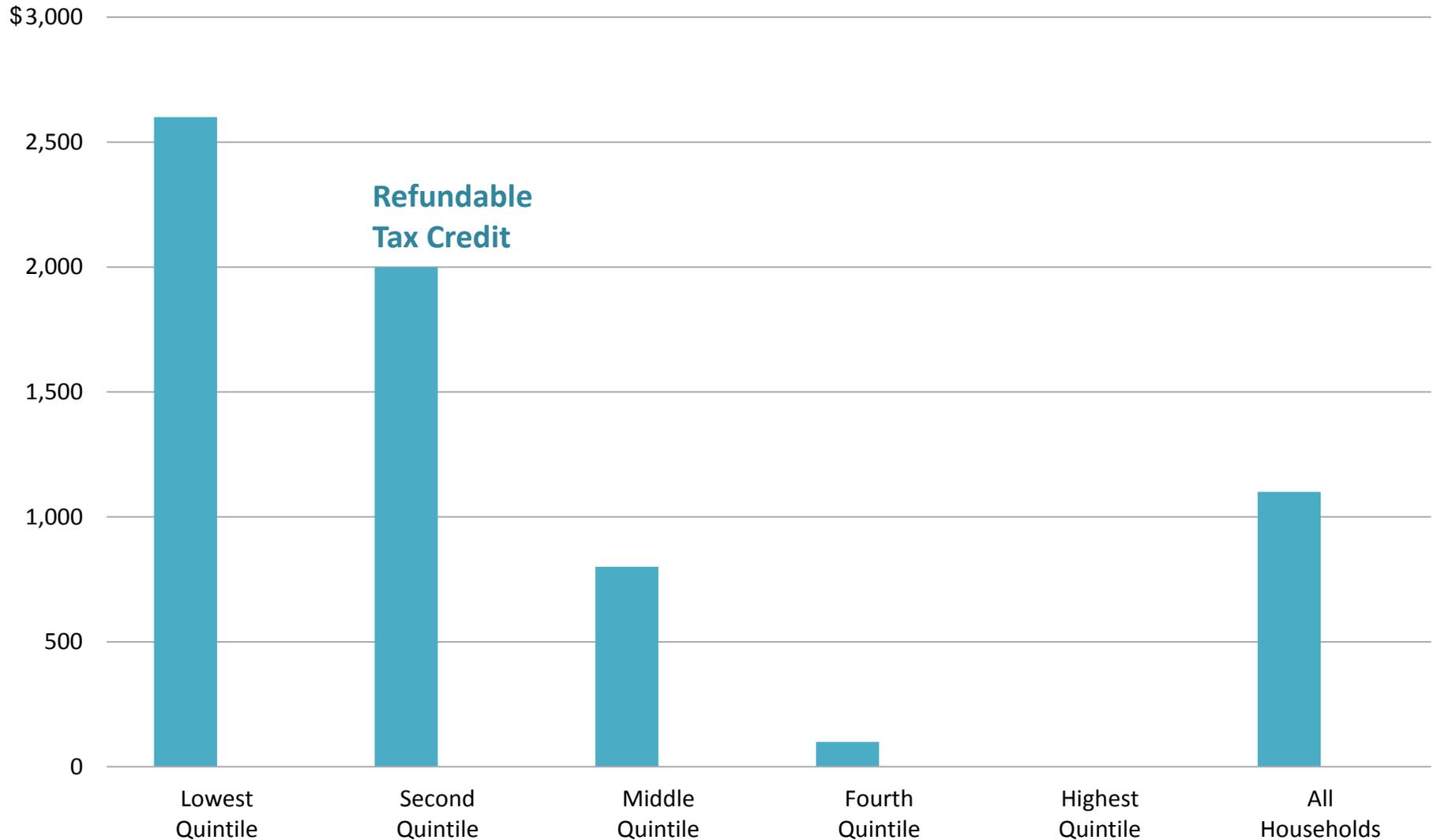
A targeted payment of \$3,000 to households below 100 percent of the federal poverty guidelines that phases out linearly between 100 percent and 400 percent of the federal poverty guidelines

A Hypothetical Policy Change

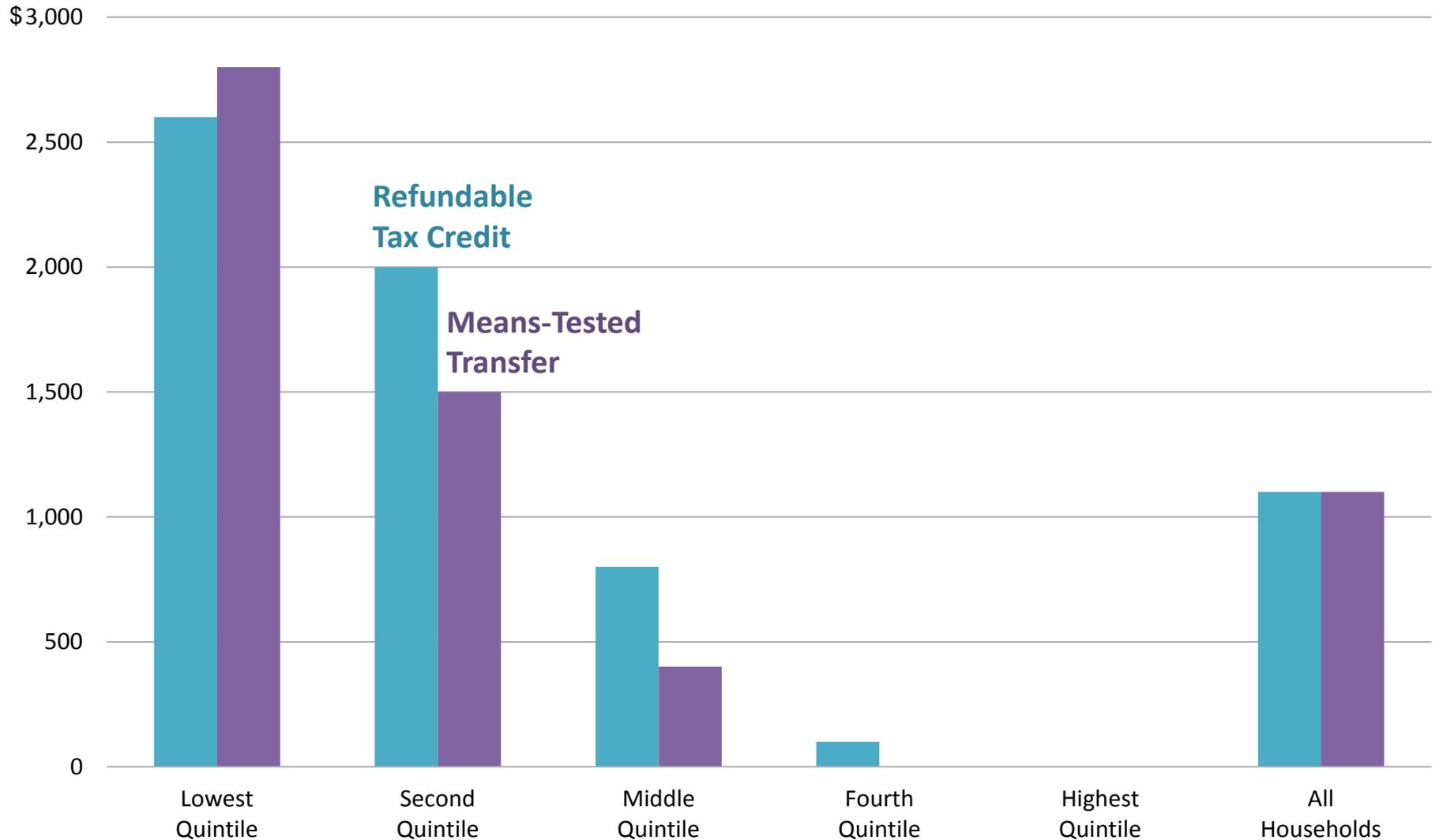


What are the distributional effects of such a policy (implemented as a **means-tested transfer program** or as a **refundable tax credit**) using a **before-tax income framework** and a **gross income framework**?

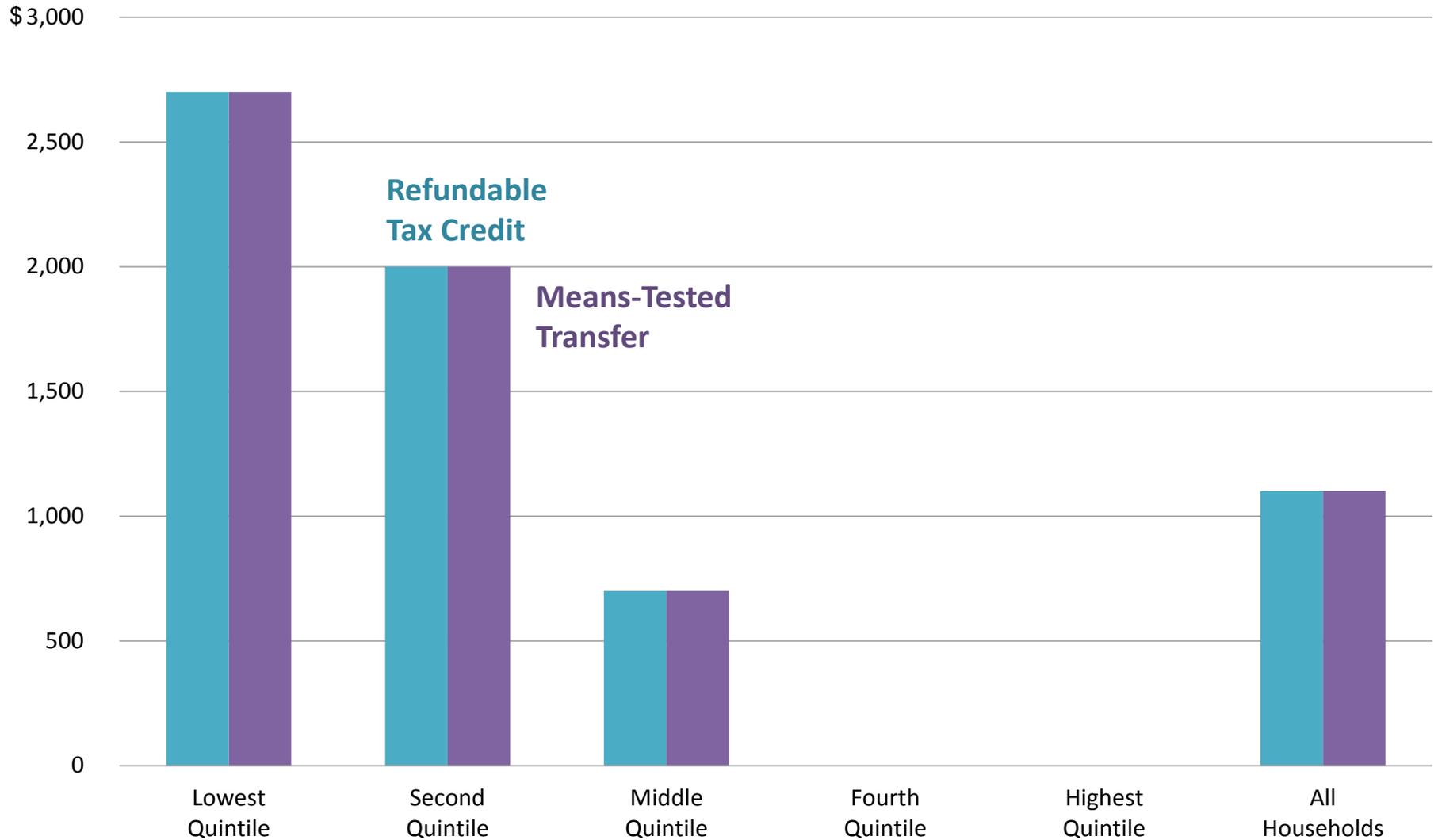
Change in After-Tax Income Resulting From the Hypothetical Policy Change, Before-Tax Income Distributional Framework



Change in After-Tax Income Resulting From the Hypothetical Policy Change, Before-Tax Income Distributional Framework



Change in After-Tax Income Resulting From the Hypothetical Policy Change, Gross Income Distributional Framework



Using a **before-tax income framework** produces **different distributional results** depending on whether the policy is implemented as a refundable tax credit or a means-tested transfer, even though they are **economically identical policies**.

Using a **gross income framework**, however, produces **identical distributional results**.

Notes

Market income consists of labor income, business income, capital gains (profits realized from the sale of assets), capital income excluding capital gains, income received in retirement for past services, and other sources of income.

Government transfers are cash payments and in-kind benefits from social insurance and other government assistance programs. Those transfers include payments and benefits from federal, state, and local governments.

Before-tax income is market income plus government transfers.

Social insurance transfers are Social Security benefits for workers, spouses, survivors, and the disabled; Medicare payments; and unemployment insurance benefits.

Gross income is market income plus social insurance transfers.

Means-tested transfers include payments and benefits from Medicaid; the Supplemental Nutrition Assistance Program, or SNAP (formerly Food Stamps); housing assistance programs; and several smaller programs.

Federal taxes include individual income taxes, payroll taxes, corporate income taxes, and excise taxes.

After-tax income is before-tax income minus federal taxes.

Income groups are created by ranking households by various income measures, adjusted for household size.

Quintiles (fifths) contain equal numbers of people.