Should Policymakers Care Whether Inequality Is Helpful or Harmful For Growth?

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Outline

1. Cross-Country Evidence of the Effect of Inequality on Growth

2. Shortcomings of the Empirical Evidence

3. All-Good-Things-Go-Together Policies

4. Evaluating Tradeoffs: A Public Finance Example

5. Concluding Speculations

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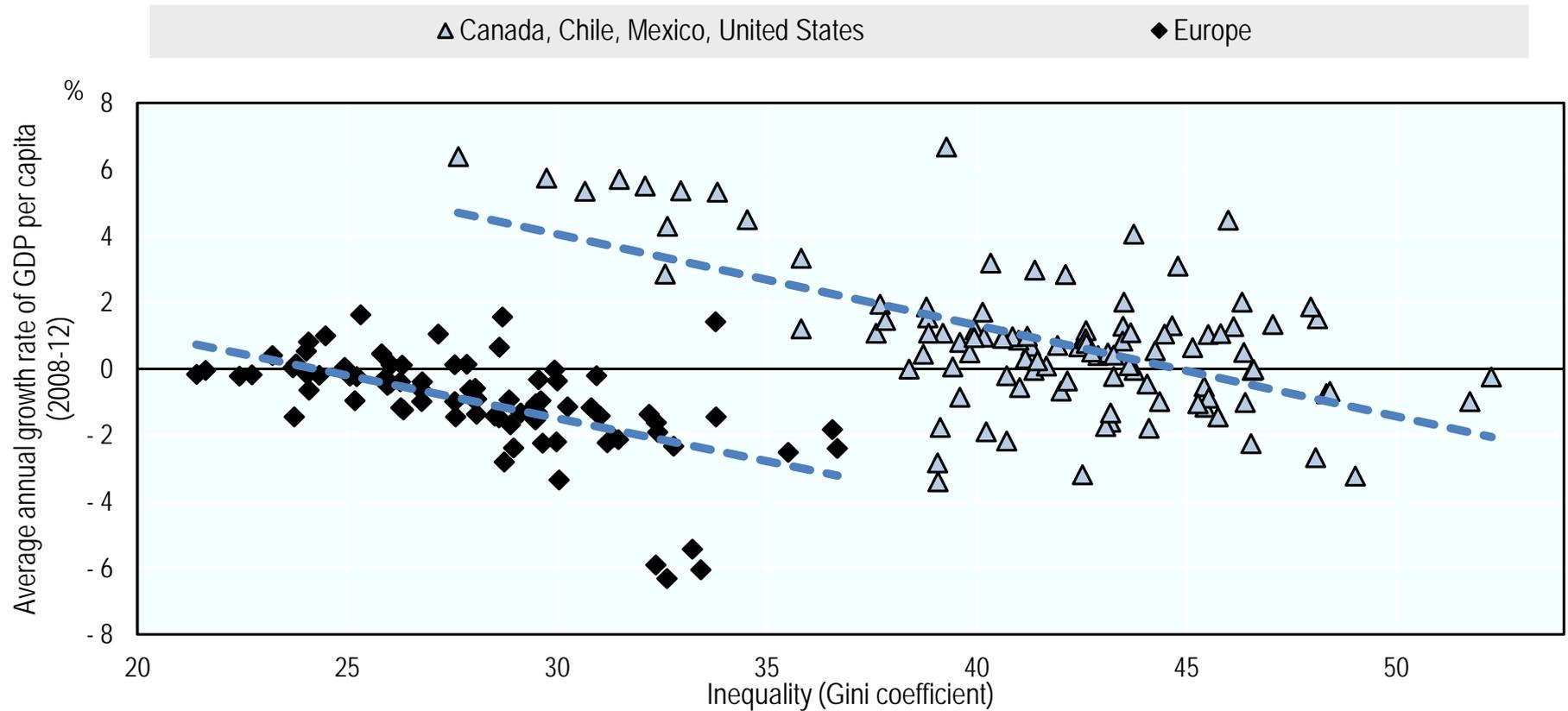
5. Concluding Speculations

Much cross-country research has found a negative relationship of inequality for growth, although results are not uniform

- Some of the early contributions were Alesina and Rodrik (1994) and Persson and Tabellini (1994). Many more surveyed in Cingano (2014) and Boushey and Price (2014).

- Widely cited recent contributions by researchers at the IMF and OECD including Berg, Ostry and Zettelmeyer (2012) on growth spells, Ostry, Berg and Tsangarides (2014) on growth and OECD (2015) for OECD economies.

- Barro (2000) finds inequality is bad for growth in low-income countries and good for growth in high-income countries. Brückner and Lederman (2015) find the reverse.

- A number of papers have found no clear relationship (Furman and Stiglitz 1998), a negative relationship (Forbes 2000), different relationships at different time horizons (Halter, Oechslin, and Zweimüller 2014), or different relationships at different parts of the income distribution (Voitchovsky 2005).

The negative relationship in Ostry et al. (2014)

Source: Ostry, et al. (2014).
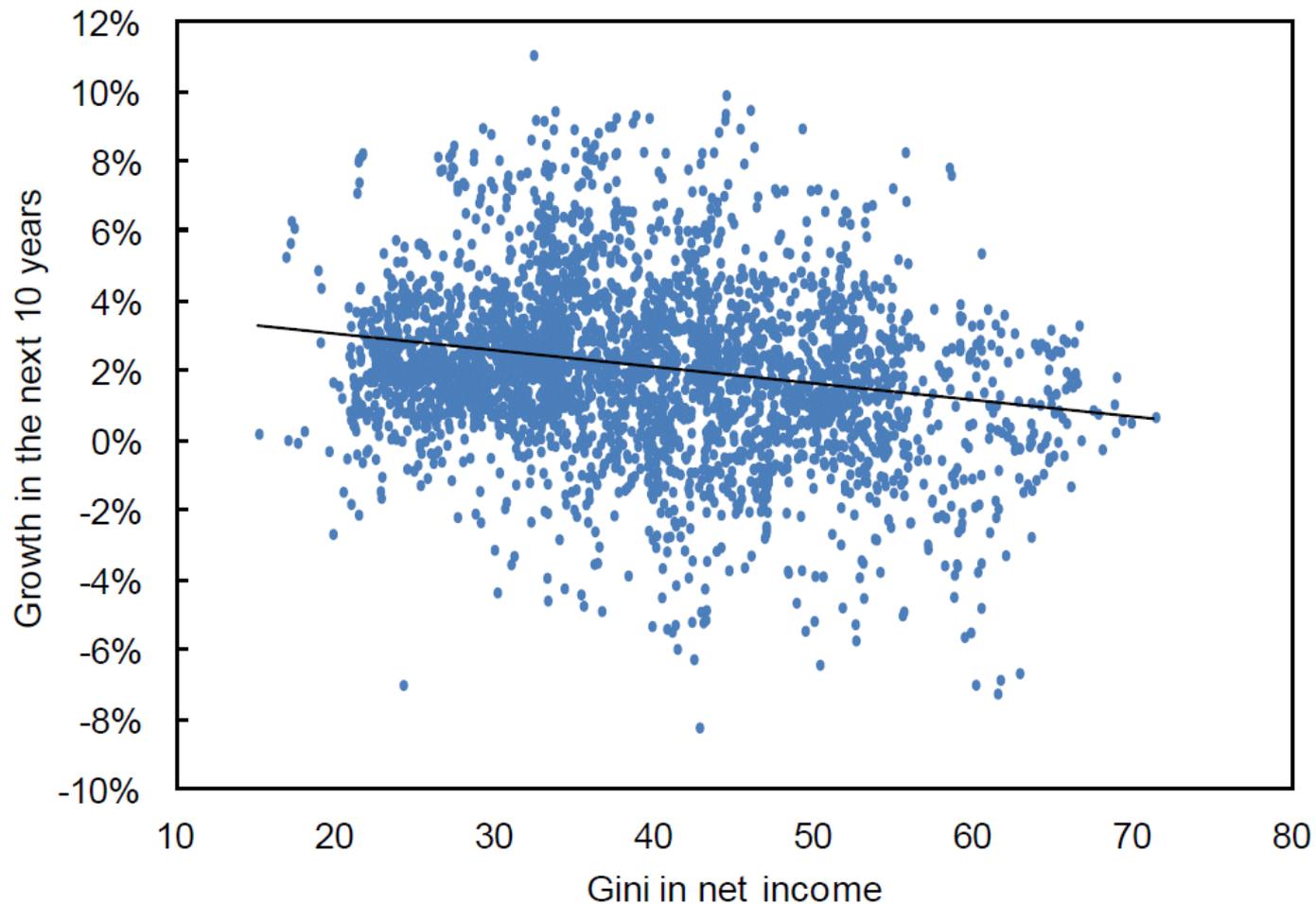
The negative relationship in the OECD study using regions as the unit of analysis

△ Canada, Chile, Mexico, United States   ◆ Europe

Source: OECD (2015).

Outline

Shortcoming #1: Some empirical questions on the cross-country evidence

- Even if results are correct, does not support strong statements about needing equality for strong growth—or that it is a quantitatively large instrument for increasing growth.

- Suffers from all the problems of cross-country growth regressions: endogeneity, more variables than degrees of freedom, etc. Questions about the strength of instruments (Kraay 2015).

- Results can be fragile, different research reaches different portions of inequality that matter on different time horizons and interactions.

To be clear, refutes claims that inequality good for growth. And best guess—without high confidence—is that, on average, inequality may lead to lower growth.

Shortcoming #2: The right-hand side variable is "inequality" not "policies to reduce inequality"

Hypothetical to motivate the point:

- What is better for growth, to have public debt of 70 percent of GDP or to have a public asset of 70 percent of GDP?

Shortcoming #2: The right-hand side variable is "inequality" not "policies to reduce inequality"

Hypothetical to motivate the point:

- What is better for growth, to have public debt of 70 percent of GDP or to have a public asset of 70 percent of GDP?

- Will a country with public debt of 70 percent of GDP improve its growth by running huge surpluses to turn it into a public asset of 70 percent of GDP?

One model of why inequality might harm growth

- Higher inequality leads the median voter to demand higher capital taxes (Alesina and Rodrik 1994) or larger transfers (Halter, Oechslin, and Zweimüller (2014).

- Higher capital taxes or larger transfers lead to lower growth.

An alternative model of why inequality might harm growth

- Higher inequality strengthens the power of the elite, leading them to underfund education for the poor.

- Less education for the poor leads to lower growth.

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- Higher inequality strengthens the power of the elite, leading them to underfund education for the poor.

- Less education for the poor leads to lower growth.

This is observationally equivalent to the first model. Which is why a positive or negative aggregate relationship has little bearing on policy choices.

Shortcoming #3: The left-hand side variable of growth is not normatively relevant for policymakers

Annualized Growth Rates of Alternative Measures of Economic Growth in G-7 Countries, 1995-2015

	GDP per Capita
Canada	1.4
France	1.0
Germany	1.3
Italy	0.2
Japan	0.8
United Kingdom	1.5
United States	1.5

Source: Organisation for Economic Co-operation and Development; author's calculations.

Shortcoming #3: The left-hand side variable of growth is not normatively relevant for policymakers

Annualized Growth Rates of Alternative Measures of Economic Growth in G-7 Countries, 1995-2015

	GDP per Capita	Bottom Quintile Average Household Income	Median Household Income	OECD Multi-dimensional Living Standards		Mean Log GDP per Capita
				Poorest 10 % of Households	Median Household	
Canada	1.4	0.4	0.7	3.0	3.4	1.3
France	1.0	0.7	0.6	2.4	2.7	0.9
Germany	1.3	-0.2	-0.2	2.4	2.6	0.6
Italy	0.2	1.1	0.3	0.9	1.3	-0.1
Japan	0.8			1.1	1.4	0.5
United Kingdom	1.5	2.0	1.8	2.8	3.4	1.7
United States	1.5	0.0	0.3	1.5	2.4	1.2

Note: Bottom quintile and median household income are from 1994-2010 for Canada, France, and Germany; from 1995-2010 for Italy; and from 1994-2014 for the United Kingdom and United States. Mean log GDP per capita is from 1995-2014.
Source: Organisation for Economic Co-operation and Development; Gornick, et al. (2016); Solt (2016); author's calculations.

Outline

Recent micro research suggest tax and transfer programs focused on children may reduce inequality while increasing long-run output

- **Head Start / Preschool** increases school completion, eventual earnings, crime and mortality (e.g., Heckman et al. 2010, Ludwig and Miller 2007)

- **Medicaid** received as a child leads to higher earnings in adulthood for women (Brown, Kowalski, and Lurrie 2015)

- **Nutrition assistance** leads to reduced chronic disease in adulthood and higher earnings for women (Hoynes, Schanzenbach, and Almond 2016)

- **Housing vouchers** lead to higher college attendance and earnings in adulthood (Chetty, Hendren, and Katz 2016)

Plausible that policies to increase competition and reduce rents would also help

- Micro and macro evidence of increased concentration.

- Could be reducing business investment and, through inter-industry wage differentials, increasing inequality.

- Increased antitrust, competition, reduced barriers to entry and mobility, and less restrictive intellectual property have the prospect of raising output and reducing inequality.

Outline

The policy in a stylized setting

- Cut the labor tax rate from 25 percent to 22.5 percent.

- Pay for it with a $900 lump sum tax (the cost net of the dynamic effects).

Representative agent analysis

- Incomes are 1 percent higher

- Taxes are unchanged

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- 100 percent of the representative agents are better off!

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- Incomes are 1 percent higher

- Taxes are unchanged

- 100 percent of the representative agents are better off

Source: Mankiw and Weinzierl 2006

The non-representative agent analysis (using actual U.S. income distribution)

Economic Effects of Shifting from a Hypothetical 25% Proportional Income Tax to a 22.5% Labor Income Tax, 25% Capital Income Tax, and $900 Lump-Sum Tax

	Percent of Households
Before-Tax Income Increase	96

Note: Aggregate economic impacts are computed using the macroeconomic model of Mankiw and Weinzierl (2004, 2006). Values for individual families are assumed to change by the same percentage as the aggregate values. The distribution of income is derived from the 2010 IRS Statistics of Income Public Use File. See Furman (2016) for additional details. Utility is computed as log(after-tax income) - $n^{(1+1/\sigma)}$, where n is the value of labor supply generated by the Mankiw-Weinzierl model (assuming an isoelastic specification of labor disutility).
Source: Furman (2016).

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	Percent of Households
Before-Tax Income Increase	96
Tax Increase	67

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	Percent of Households
Before-Tax Income Increase	96
Tax Increase	67
After-Tax Income Increase	46

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The non-representative agent analysis (using actual U.S. income distribution)

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	Percent of Households
Before-Tax Income Increase	96
Tax Increase	67
After-Tax Income Increase	46
Welfare Increase	41

Note: Aggregate economic impacts are computed using the macroeconomic model of Mankiw and Weinzierl (2004, 2006). Values for individual families are assumed to change by the same percentage as the aggregate values. The distribution of income is derived from the 2010 IRS Statistics of Income Public Use File. See Furman (2016) for additional details. Utility is computed as log(after-tax income) - $n^{(1+1/\sigma)}$, where n is the value of labor supply generated by the Mankiw-Weinzierl model (assuming an isoelastic specification of labor disutility).
Source: Furman (2016).

How general is this example? Growth benefits of tax reform are small (print)

Select Estimates of the Effect of Tax Reform on the Level of Output

Source	Policy Change	Short-Run	Long-Run
Gravelle (2014)	Stylized Reform: 20% Reduction in Income Tax Rates	n. r.	0.7 - 4.0
JCT (2014)	Camp Plan	0.1 - 1.6	n. r.
Treasury (2006b)	President's Advisory Panel on Tax Reform		
	Simplified Income Tax	0.0 - 0.4	0.2 - 0.9
	Growth and Investment Tax	0.1 - 1.9	1.4 - 4.8
	Progressive Consumption Tax	0.2 - 2.3	1.9 - 6.0
Treasury (2006a)	Permanent Extension of the 2001/2003 Tax Cuts		
	Financed with Future Spending Cuts	0.5	0.7
	Financed with Future Tax Increases	0.8	(0.9)
JCT (2005)	Cut in Federal Individual Income Tax Rates		
	(4.0% in first decade, 2.9% thereafter)	0.0 - 0.5	(0.2) - (0.6)
	Not Financed	0.1 - 0.3	0.3 - 0.4
	Financed with Future Spending Cuts		
	20% Cut in Federal Corporate Tax Rate		
	Not Financed	0.2 - 0.4	0.0 - 0.3
	Financed with Future Spending Cuts	0.2 - 0.4	0.5 - 0.9
Dennis et al. (2004)	10% Cut in Federal Individual Income Tax Rates		
	Financed with Future Spending Cuts	0.2	(0.4)
	Financed with Future Tax Increases	0.3	(2.1)
Altig et al. (2001)	Stylized Revenue-Neutral Tax Reforms		
	Flat Tax with Transition Relief	0.5	1.9

n. r. = Not reported. Red indicates negative values.
Note: Output measure is (in order of preference if multiple measures are reported) national income, real gross national product, and real gross domestic product. Time period for short-run effects varies across studies, but (in most cases) is an average over several years in the first decade. Long-run effects typically reflect estimates of the change in the steady state level of output.
Source: Furman (2016).

Distributional impacts of tax changes can be an order of magnitude larger

Change in After-Tax Income due to Changes in Average Tax Rates by Income Percentile, 1986 to 2013

Income Percentile	Percent Change
0-20	6.6
20-40	7.1
40-60	6.5
60-80	4.5
80-90	2.7
90-95	0.7
95-99	-3.4
99-100	-12.4

Note: Net of tax rate is 100 minus the average tax rate. Change in after-tax income due to changes in average tax rate is the percent change in the net of tax rate.
Source: Furman (2016).

Many other policies have only a small impact on growth rates

Table 3 Estimates of growth effects of best/worst case Trump Administration policies *Note* Growth rates are author's calculations based on source(s) listed in table, in some cases adjusted to match the scenario shown

Policy	Average annual change in real GDP growth rate (p.p.)
Best version of policies that could have a positive impact	
Business tax reform (U.S. Dept. of Treasury 2006)	0.3
Regulatory reform (Holtz-Eakin 2015; Barro 2017)	0.1
$1 trillion of public investment (Gaspar et al. 2016; CEA 2016)	0.1
Subtotal	*0.5*
Worst version of policies that could have a negative impact	
Major tariffs leading to a trade war (Noland et al. 2016)	−0.15
Immigration restrictions (CBO 2013a)	−0.2
$3 trillion increase in primary Federal deficit (CBO 2013b)	−0.1
Subtotal	*0.5*

Source: Furman (2017).

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Growth has been much more variable for developing countries

Variation in Real GDP per Capita Annual Growth Rates by Initial Country Income Level, 1980-2014

Country Income Level, 1980	Annual Growth Rate, Interquartile Range (p.p.)	Unexplained Annual Growth Rate, Interquartile Range (p.p.)
Low and Middle	2.1	2.1
High	0.5	0.5

Note: Excludes oil-economies.
Source: Penn World Table version 9.0; author's calculations.

A rule of thumb for policymakers in advanced economies: take a lexicographic approach to balancing distribution and growth

1. If policies have different distributions, just use the distribution.

2. Where there is little reason to believe a policy affects distribution or you are uncertain about the effects on distribution, focus on maximizing growth (or actually welfare).

This is only approximately correct and more applicable for policies that are not too far away from optimal.

The implications for policymakers in developing countries may be more nuanced

- Do a full welfare analysis balancing the impacts on growth and distribution.

- Different policies will be evaluated differently.

- In general, potentially a bias towards growth.

As we rethink the macroeconomics of inequality and growth

- Less macro, more micro.

- Less on **inequality** good/bad for growth. More on **policies on inequality** good/bad for growth.

- To the degree macro, more focus on indicators that reflect welfare and social welfare function and less on the arithmetic average of incomes.

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