

WILL COVID-19 RAISE INEQUALITY?

EVIDENCE FROM PAST PANDEMICS AND CRISES

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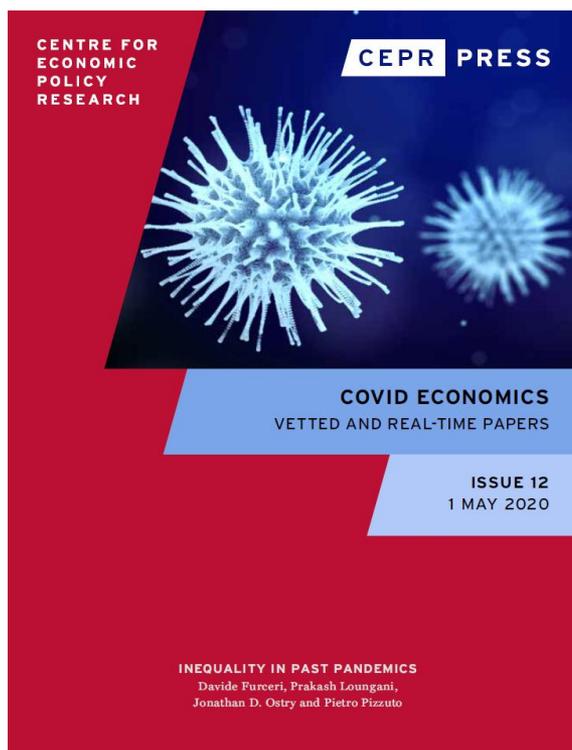
Mapungubwe Annual Lecture, 2021

Johannesburg, August 31, 2021

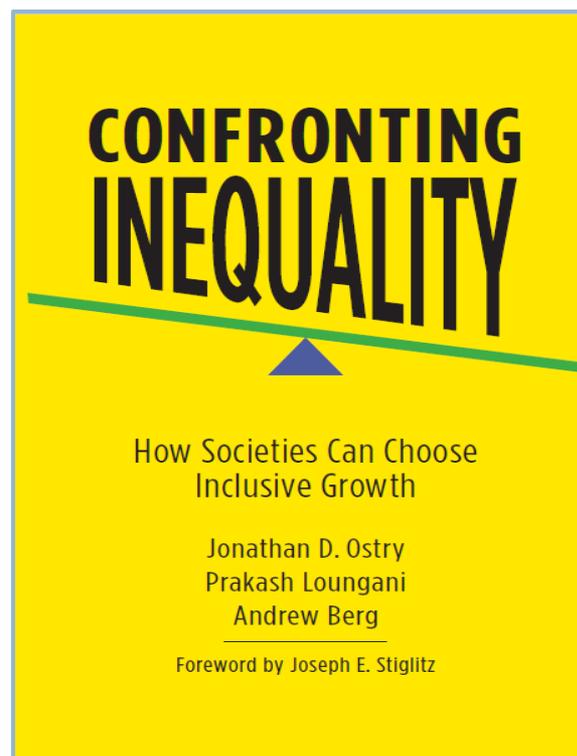
Views expressed are the presenter's and should not be ascribed to the IMF. Presentation draws on joint work with Davide Furceri, Prakash Loungani, and Pietro Pizzuto.

Sources for presentation

2 CEPR papers on pandemics & inequality (2020, 21)



Book on Confronting Inequality (CUP, 2019)



Outline of presentation

I. Pandemics and inequality

- Major epidemics in this century have raised inequality
- Anecdotal evidence on distributional impacts of Covid-19

II. Evolution of inequality in post-Covid world? Will past be prologue?

- Obviously, answer depends on numerous factors
 - Will virus keep resurfacing/uneven vaccine rollout? (Not today, see Deb, Furceri, Ostry & Tawk, 2020)
 - Other factors (listed on next slide)

Evolution of inequality: will past be prologue?

A) Increased appetite to confront inequality?

- We hope so. Our work finds that inequality hurts sustained growth; redistribution, unless extreme or unaffordable, doesn't hurt growth; but historical evidence doesn't portend optimism

B) A more inclusive globalization?

- In countries with shallow financial markets and unhedged FX exposures, financial globalization needs to be better managed to deliver a more 'inclusive globalization'

C) Will governments scale back public debt rapidly?

- All governments need to better target fiscal policy to protect the most vulnerable, and anchor fiscal decisions in medium-run frameworks
- For countries with fiscal space, premature consolidation would be costly for inequality; debt ratios should instead decline organically with growth

D) Will pandemic speed up automation?

- could lead to persistent declines in income shares of unskilled workers

Summary

- Major epidemics this century raised inequality
- Different from impact centuries ago (e.g., Black Death)—labor supply channel (deaths)
- Question: Will this time be different?
- Answer: “No, unless ...”
 - A) attitudes and policies really change
 - B) globalization restored with inclusiveness in mind
 - C) public debt pared back slowly in ‘green-zone’ countries
 - D) gains from automation widely shared in society

I. Pandemics and Inequality

Some Recent, Related, and Growing, Literature

- Alfani (JEL, 2020): Pandemics in pre-industrial times
- Galetta (REStat, 2021)—Italian towns during 1918 flu
- Atkeson: Economic impact of Covid-19 in USA
- Barro, Ursua and Weng: Lessons from 1918 for now
- Deb, Furceri, Ostry, Tawk (2020, 2021): Effects of containment measures and vaccination rollouts
- Eichenbaum et al. (2020): Macro of epidemics
- Jorda, Singh and Taylor: Long-run effects of pandemics
- Ma et al. (2020): Growth impacts of 21st century pandemics (spirit of this paper, but not distribution)

Our paper studies distributional impacts of major 21st century epidemics

- We study five “pandemics”, as in Ma et al. (2020)
 - SARS (2003), H1N1(2009), MERS (2012), Zika (2014), Ebola (2016)
- WHO announcement to identify pandemic event
 - Event (0,1) variable: WHO declaration for country
 - But as robustness check, can consider continuous variable based on cases/population (endogeneity issues)
- We then trace impact of pandemic events on income distribution and employment

Data on income distribution and employment

- Gini coefficients (SWIID): 175 countries from 1960s
 - Note however our results are robust to alternative data sources for inequality—e.g., WIID rather than SWIID, WB data, etc.
- Income shares by decile (World Bank WDI)
 - 64 countries from 1981 onwards
- Employment/population ratio by education level (ILO)
 - 76 countries from 1990; best measure of labor force skill level
- All our data are annual

Econometric method

Impulse responses based on local projections (Jorda, 2005)—though ADL works as well, with similar results.

$$y_{i,t+k} - y_{i,t-1} = \alpha_i^k + \gamma_t^k + \beta^k D_{i,t} + \theta^k X_{i,t} + \varepsilon_{i,t+k} \quad (1)$$

Dependent variable: change in distributional variable of interest (e.g. Gini)

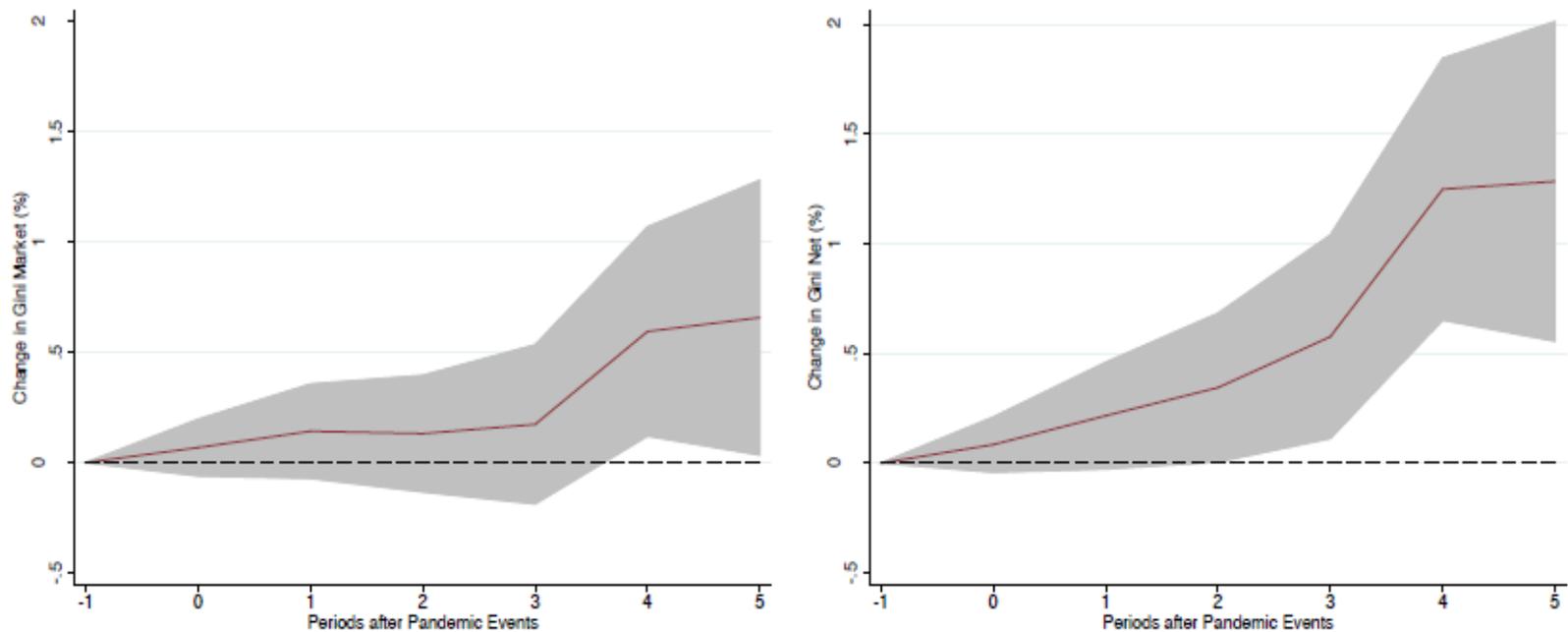
Independent variables: D is (0,1) pandemic event; X are controls; country fixed effects and time fixed effects.

Specification to allow different impacts across low/high GDP growth (cases; fiscal response) regimes:

$$y_{i,t+k} - y_{i,t-1} = \alpha_i^k + \gamma_t^k + F(z_{it})[\beta_L^k D_{i,t} + \theta_L^k X_{i,t}] + (1 - F(z_{it}))[\beta_H^k D_{i,t} + \theta_H^k X_{i,t}] + \varepsilon_{i,t+k}$$

Gini increases in the years following a pandemic

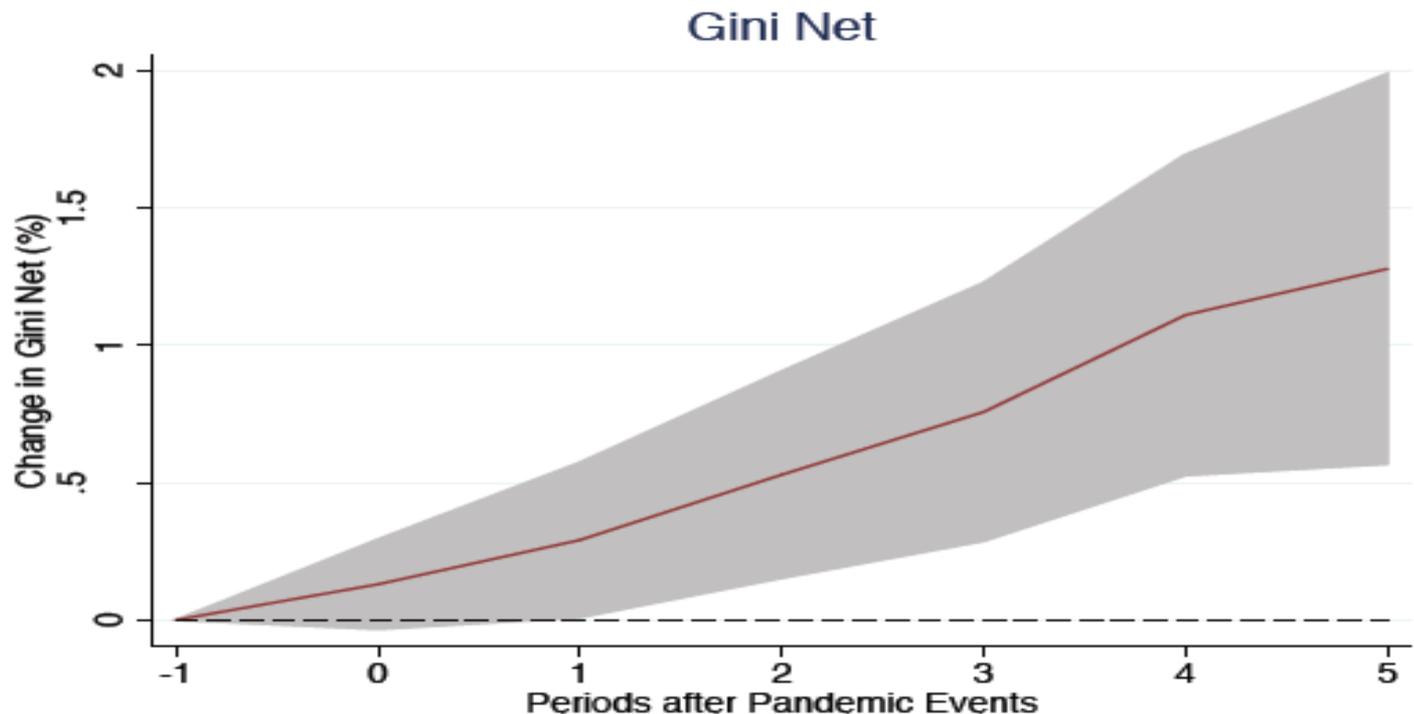
Figure 1. Impact of pandemics on market Gini and net Gini coefficients (%)



Estimated using LP method. Charts show impulse response and 90 percent confidence bands. X-axis shows years after pandemic events; $t = 0$ is the year of the event. The y-axis shows the percent change in the Gini.

Impact on net Gini: ADL—Romer & Romer, AER)

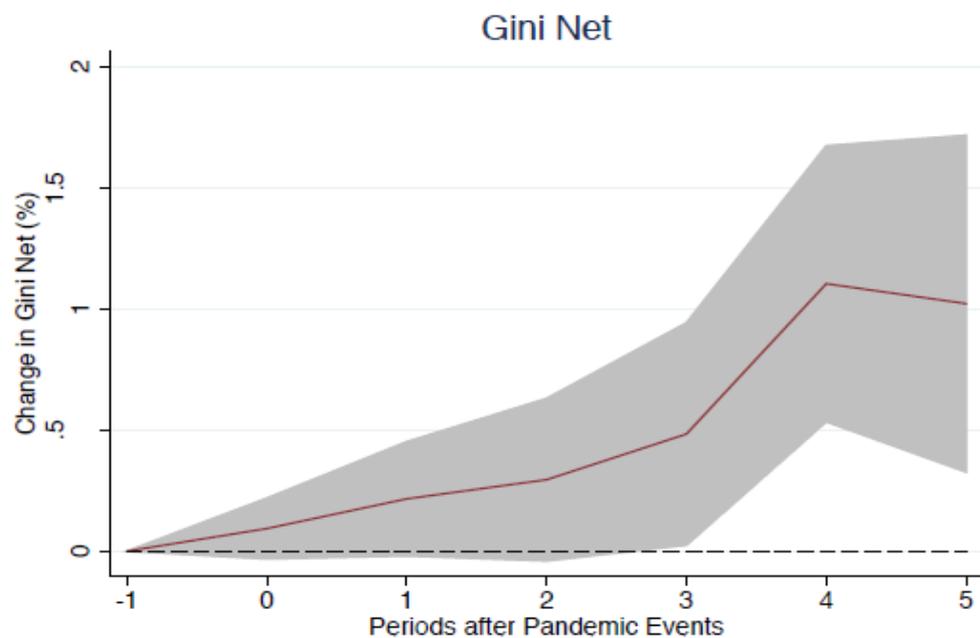
Figure 2. Impact of pandemics on net Gini coefficients (%)—ADL



Impulse response functions are estimated using a sample of 175 countries over the period 1961-2017. The graph shows the response and 90 percent confidence bands.. The independent variables include two lags of the dependent variable and the pandemic event dummy. Standard errors are clustered at the country level..

Impact on net Gini: additional controls

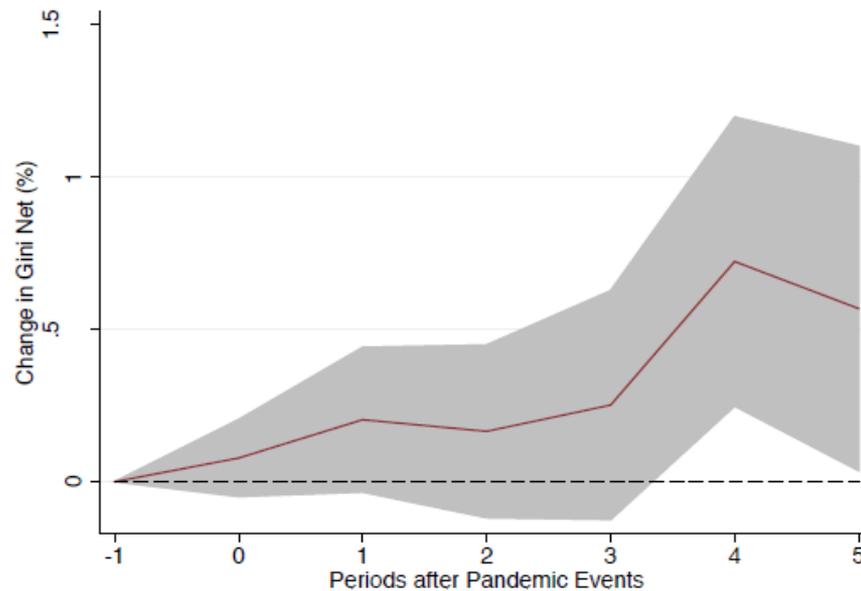
Figure 3. Impact of pandemics on net Gini coefficients (%)—Additional controls



The controls include two lags of the dependent variable and the pandemic event dummy (as in the baseline specification) plus: the level of GDP per capital the level of GDP per capital square, population density, the share of population in urban area, the KOF index of trade globalization and the KOF index of financial globalization.

Impact on net Gini: post-2000 subsample

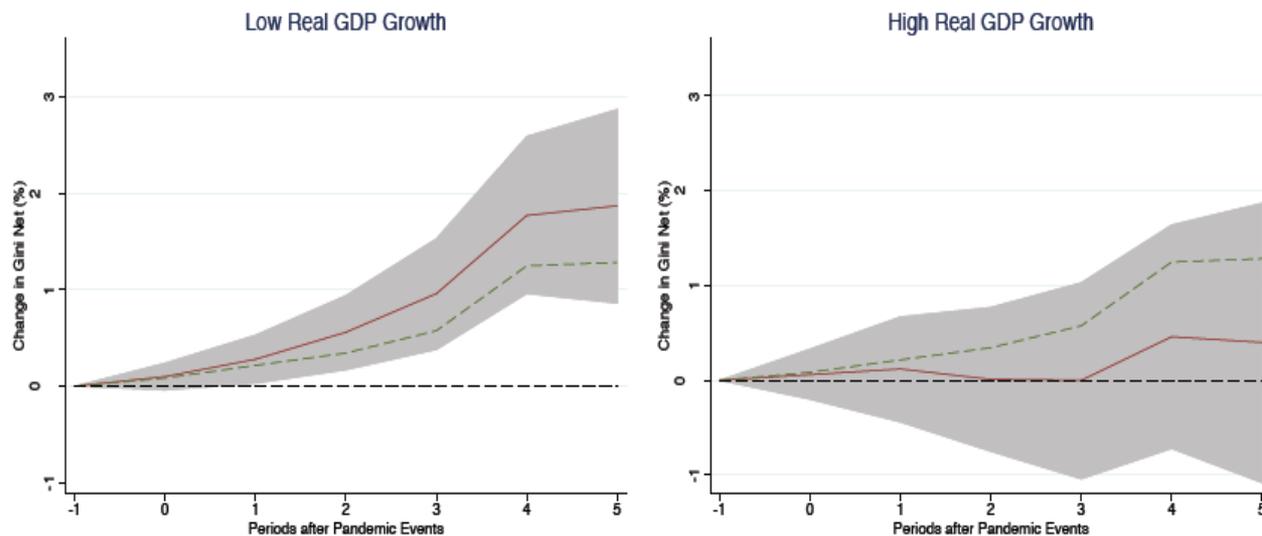
Figure 4. Impact of pandemics on net Gini coefficients (%)—Restricted sample (2000-17)



Baseline specification (as in Figure 1) estimated over sub-sample.

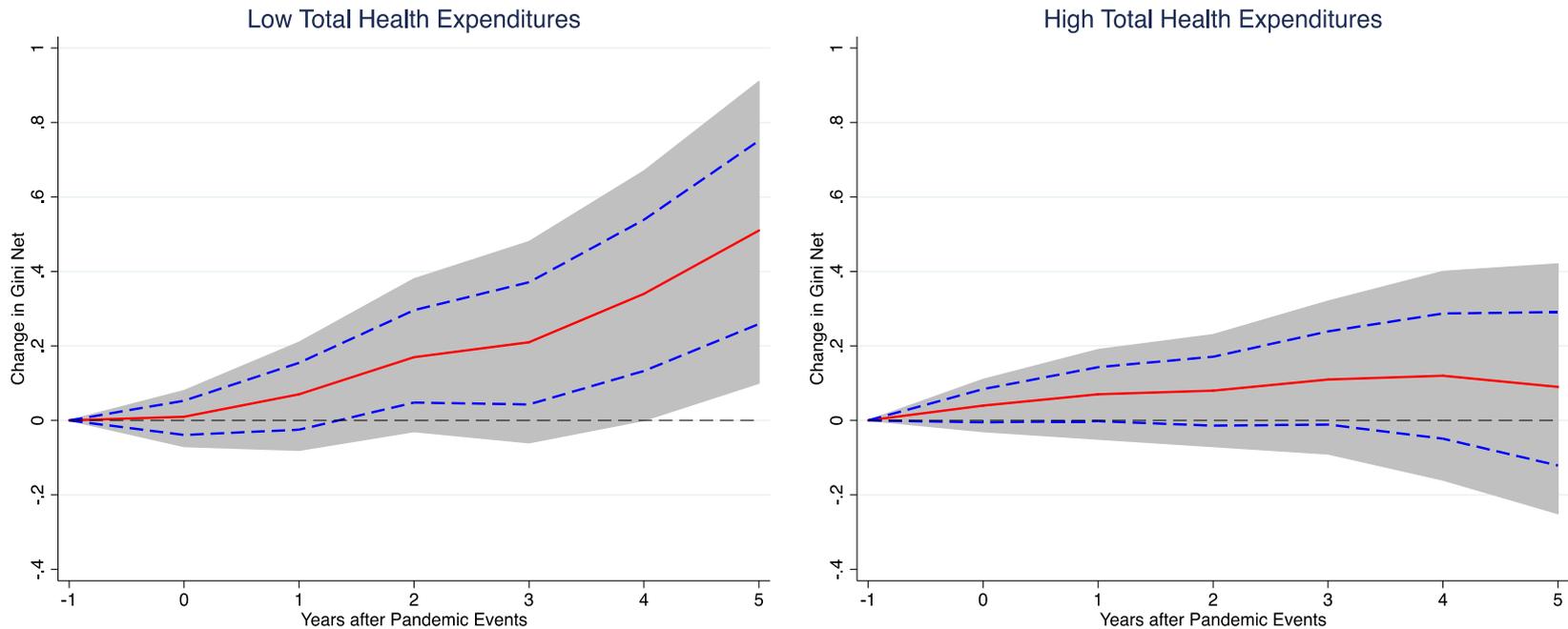
Recession Severity Increases Inequality Impact (as do High Case Loads or Weak Fiscal Support)

Figure 5. Impact of pandemics on net Gini coefficients (%)—The role of economic conditions associated with pandemic events



The dotted green line denotes the average (unconditional) effect reported in Figure 1. The redlines denote estimates for pandemic events associated with very low GDP growth (left panel) and very high growth (right panel).

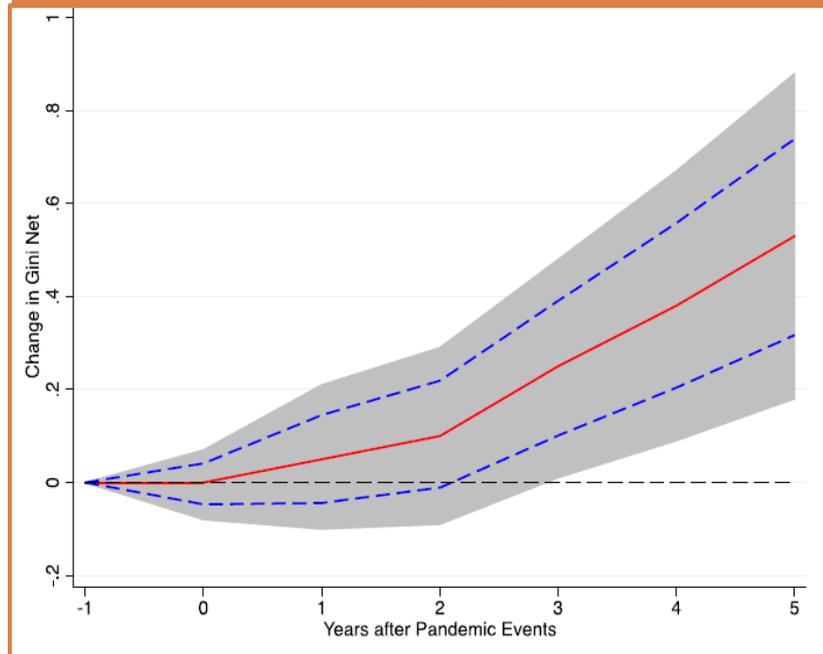
Gini increases more in low health expenditure regimes than in high health expenditure regimes



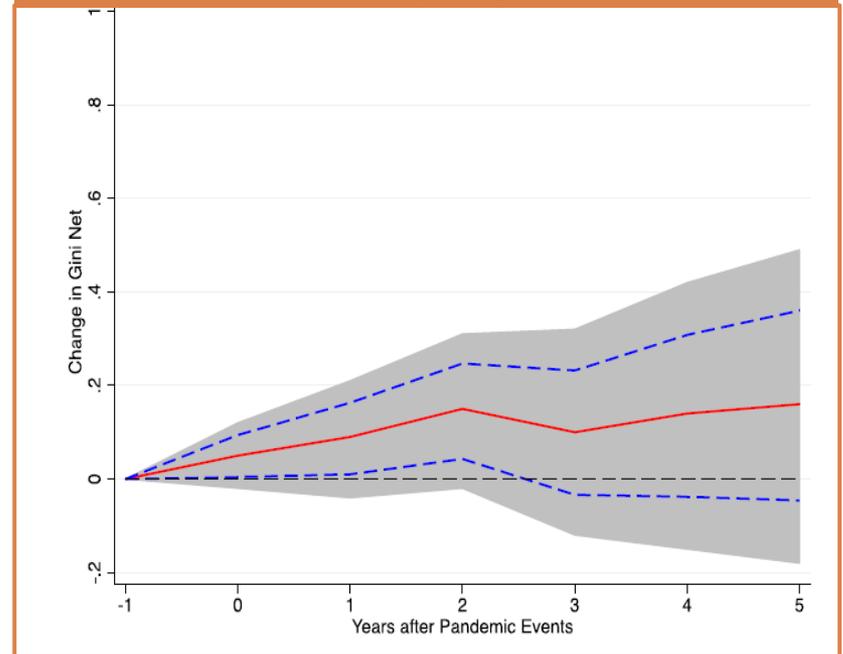
The red line shows the effect on the Gini (with grey bands and blue dotted lines 90% and 68% confidence bands, respectively) for regimes of low health expenditures (left panel) and high spending (right panel) as a percent of GDP.

Gini increases more in high austerity regimes

High austerity (low government deficits) regime



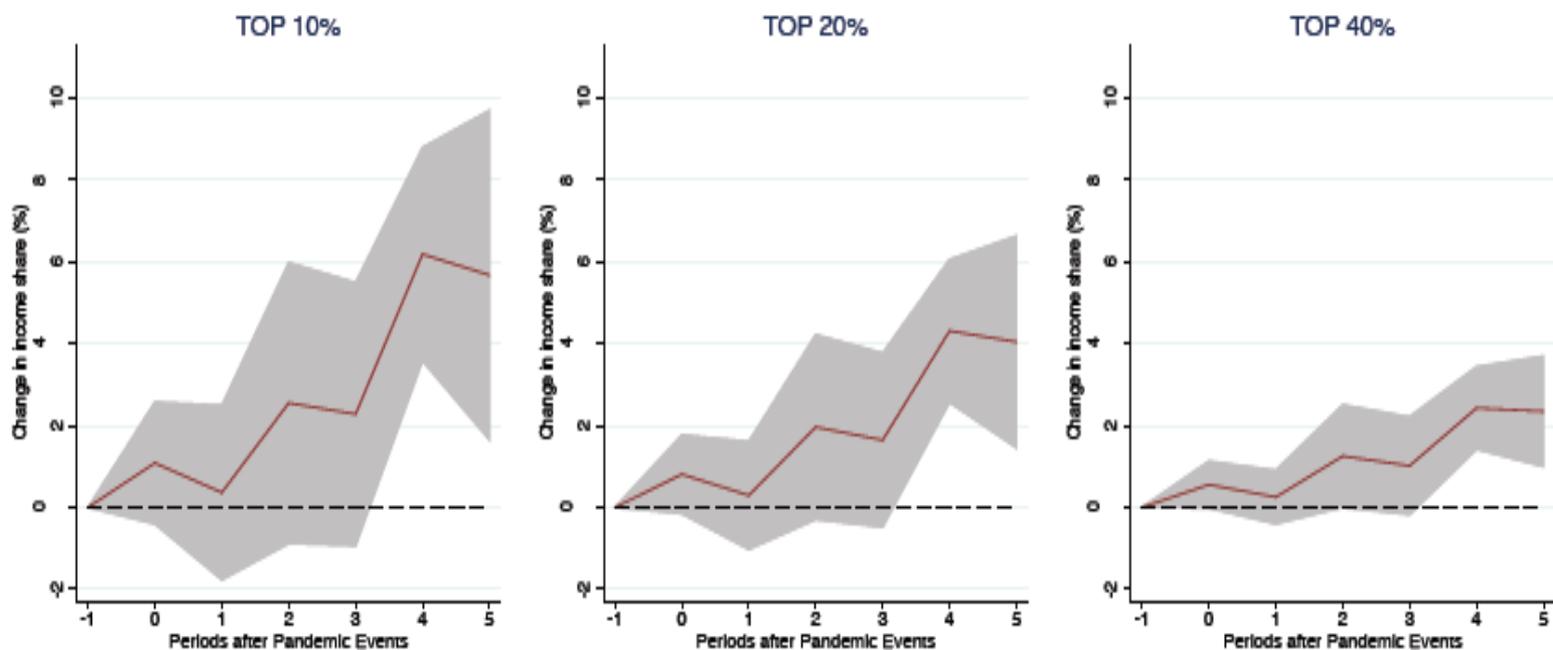
Low austerity (high government deficits) regime



The red line shows the effect on the Gini (with grey bands and blue dotted lines showing 90% and 68% confidence bands, respectively) for regimes of high austerity (left panel) and low austerity (right panel).

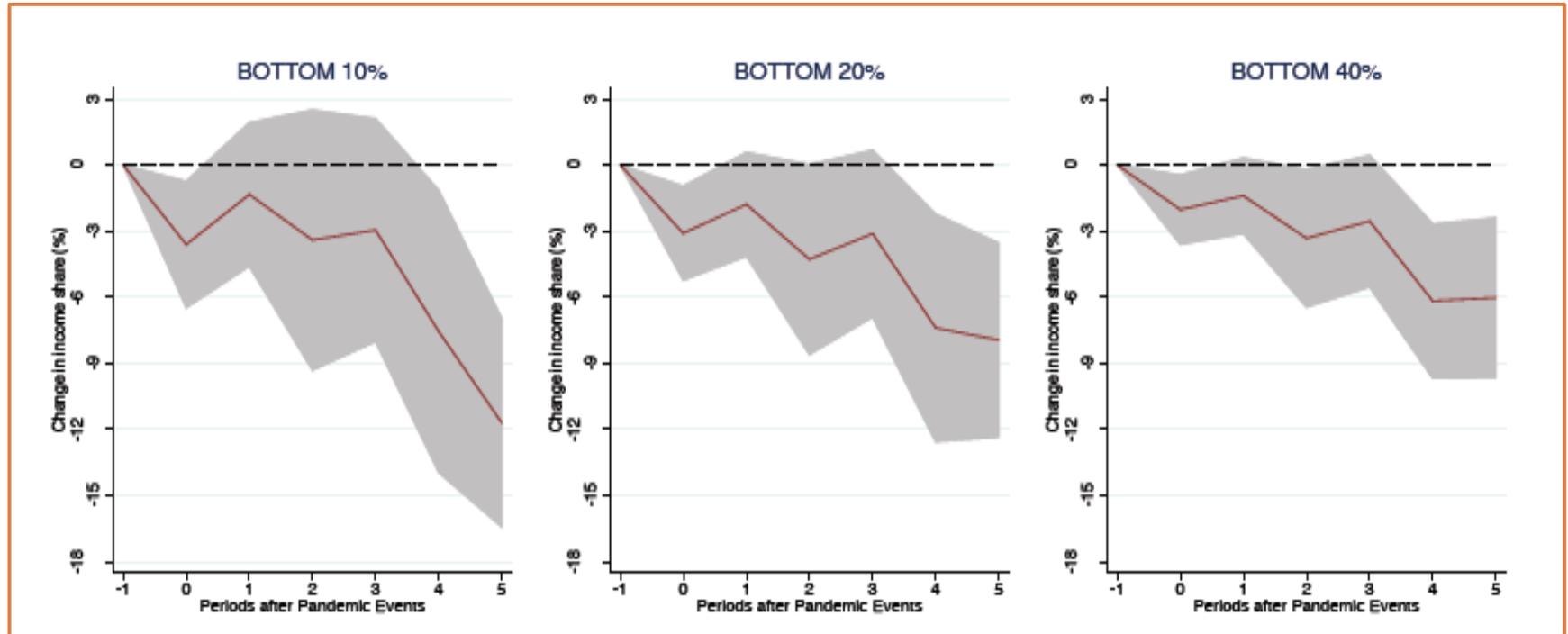
Pandemics raise income shares of top deciles

Figure 6. Impact of pandemics on shares of income, by deciles

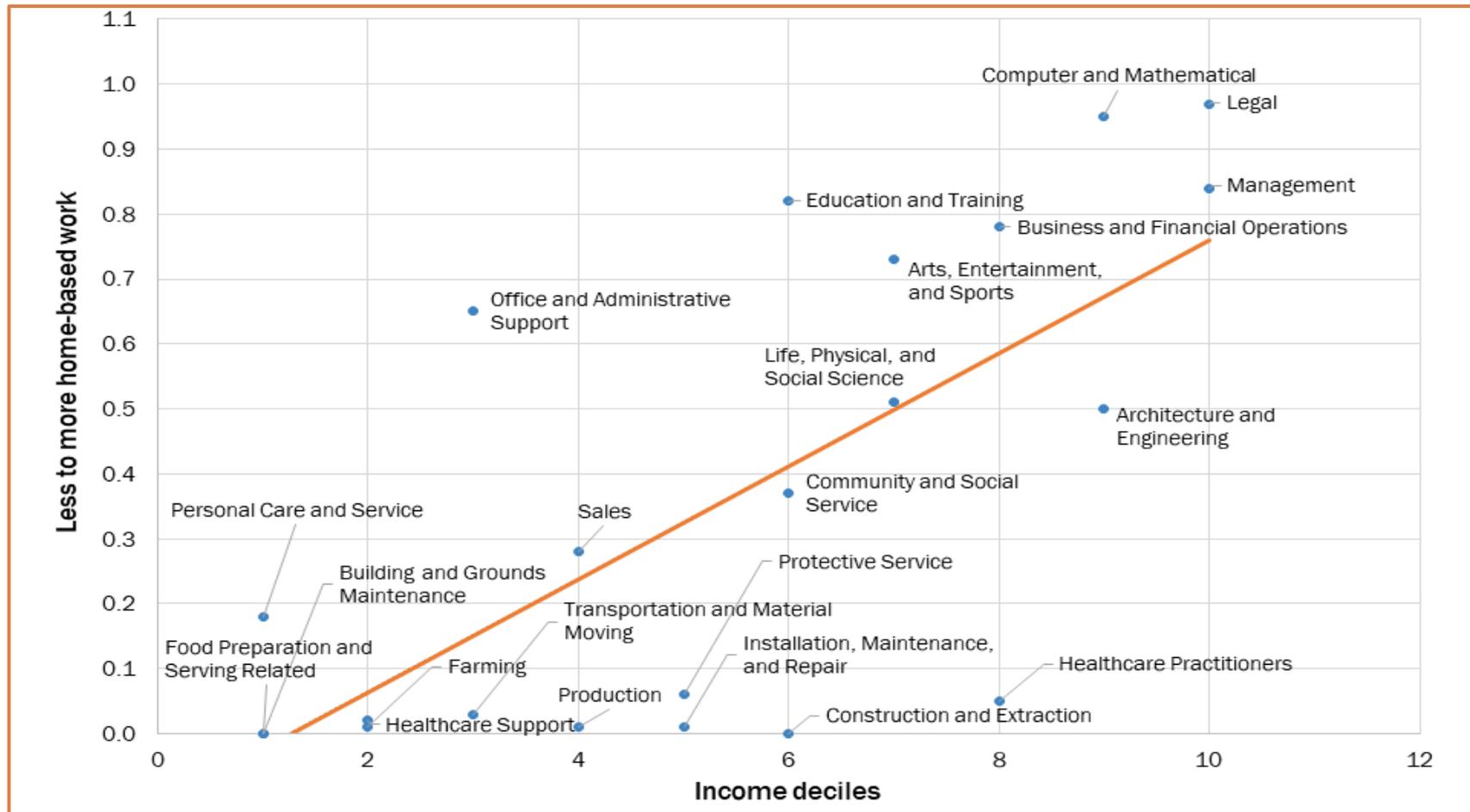


Impulse response functions are estimated using a sample of 64 countries over the period 1981-2017. The graph shows the response and 90 percent confidence bands. The dependent variable is the log of the income share held by the top deciles. Independent variables are country and time fixed effects and two lags of the dependent variable and the pandemic event dummy. Standard errors in parentheses are clustered at the country level.

Pandemics lower shares of bottom deciles

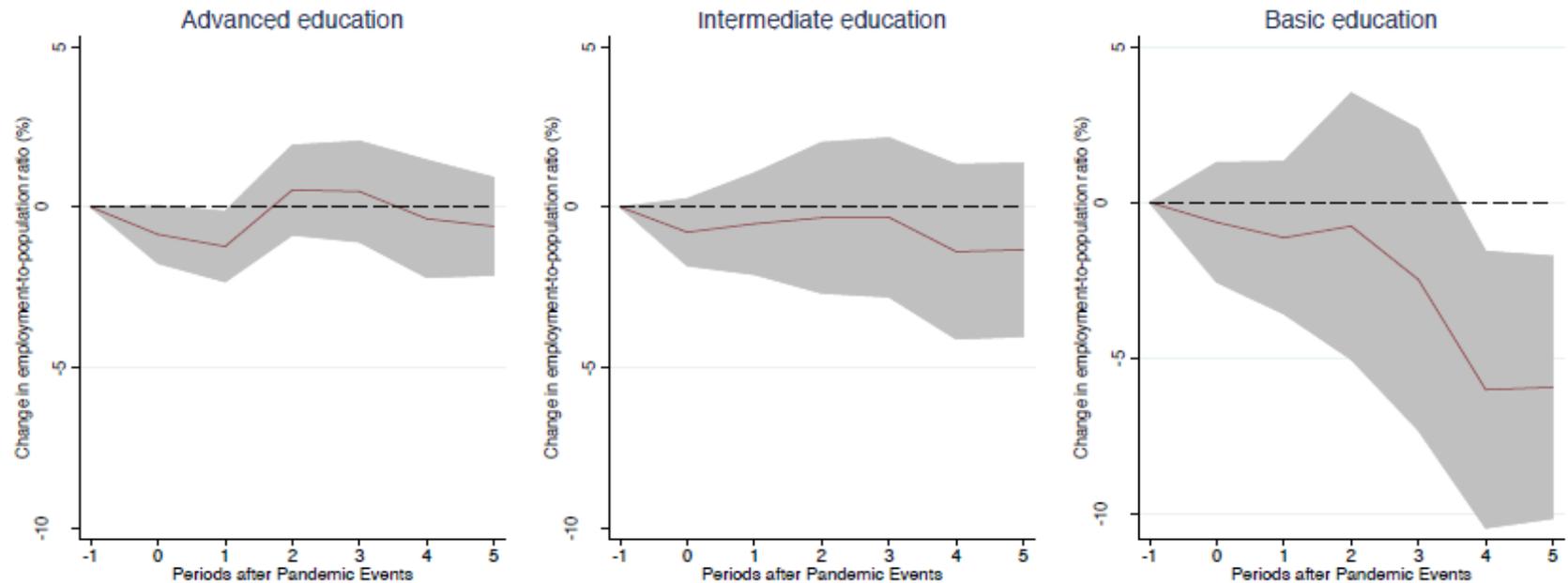


Workers in low-income deciles are less likely to be able to work from home (Avdiu et al., Brookings Review, 2020)



Pandemics lower employment ratio for those with basic education but not others

Figure 7. Impact of pandemics on employment-to-population ratio, by education level



Impulse response functions are estimated using a sample of 76 countries over the period 1990-2017. The graph shows the response and 90 percent confidence bands. The dependent variable is the log of employment-to-population ratio by education level. Independent variables are country and time fixed effects and two lags of the dependent variable and the pandemic event dummy. Standard errors are clustered at the industry level.

Anecdotal evidence of Covid's distributional impact

In the United States, people in low-income declines are more infection prone

- In NYC, poor people less likely to test negative

More prone to die if infected

- Mortality rates higher among low-income people and minorities
- African-Americans: 13 percent of population, 25 percent of deaths

More prone to job loss or in essential but risky jobs

- Poor people in jobs where working from home impossible
- African-Americans: $\frac{1}{4}$ NYC population, $\frac{1}{2}$ transit system workforce

Pandemic might leave scarring effects similar to those of recessions and other economic crises

Dao and Loungani, “The Human Cost of Recessions: Assessing It, Reducing It” and “The Tragedy of Unemployment”

Cost of unemployment:

- ❑ Loss in earnings not just today but persisting 15-20 years into the future;
- ❑ Reduced life expectancy of 1 to 1.5 years;
- ❑ Lower academic achievement and earnings for their children.
- ❑ Reduction in social cohesion, a cost that all will bear.

De Haan and Sturm, “Finance and Income Inequality: A Review and New Evidence”

- ❑ crises and recessions exacerbate inequality by depressing employment for those most vulnerable, such as less skilled and youth

Summary of Part I of the presentation

- Pandemics over the past few decades have raised inequality and diminished job prospects for low-skilled labor.
- Result is robust to different datasets, sample periods, econometric methods, and controls for endogeneity (reverse causality), see the CEPR DP referred to earlier
- Evidence differs from experience of historical pandemics
 - ▣ Walter Scheidel called plagues “the great leveler”
- What impact will Covid-19 have on inequality?
 - ▣ Poll of top economists shows they expect increased inequality (Initiative on Global Markets, 2020)
 - ▣ Anecdotal evidence thus far not reassuring
 - ▣ Impact similar to past? Or will this time be different?

II. Evolution of Inequality

Evolution of inequality: will past be prologue?

- A) Will there be appetite to confront inequality?
- B) Will countries achieve more inclusive globalization?
- C) Will governments scale back public debt rapidly?
- D) Will experience of pandemic speed automation?

A) More drive to confront inequality?

A remarkable editorial in the *Financial Times*

“Virus lays bare frailty of social contract” (April 3, 2020)

- Recent developments “shine a glaring light on existing inequalities”
- “Radical reforms — **reversing the prevailing policy direction of the last four decades** — will need to be put on the table.”
- “**Redistribution will again be on the agenda**; the privileges of the elderly and wealthy in question.”
- Policies until recently considered eccentric, such as **basic income and wealth taxes**, will have to be in the mix.”

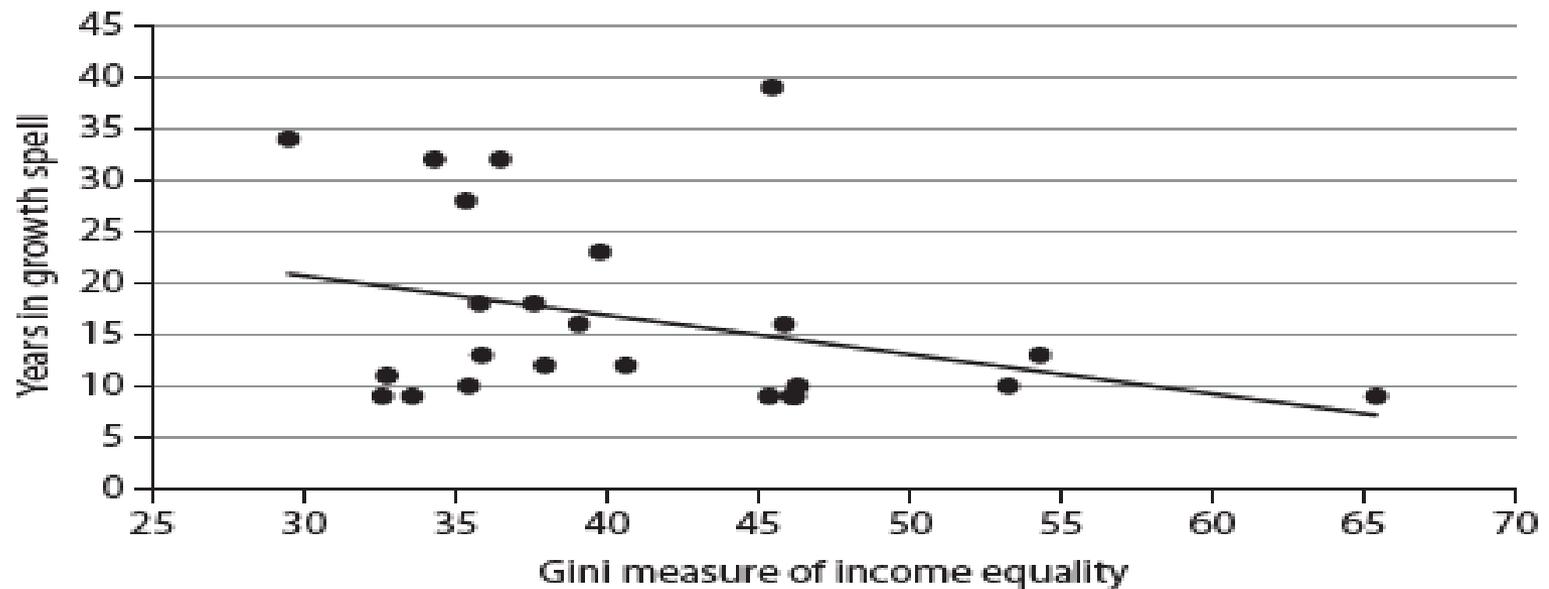
Some other (unexpected) views ...

- “This is our chance to **do the right thing**,” by reducing income disparities,
Mark Cuban, billionaire, sports & entertainment
- Inequality is “a national emergency.” “If you don’t have **a situation where people have opportunity** ... you’re threatening the existence of the system,”
Ray Dalio, hedge-fund billionaire
- The pandemic is “a wake-up call ... for business and government to think, act and invest for **the common good**”.
Jamie Dimon, CEO, J.P. Morgan

Inequality leads to fragile growth

FIGURE 3.3: Duration of Growth Spells and Inequality

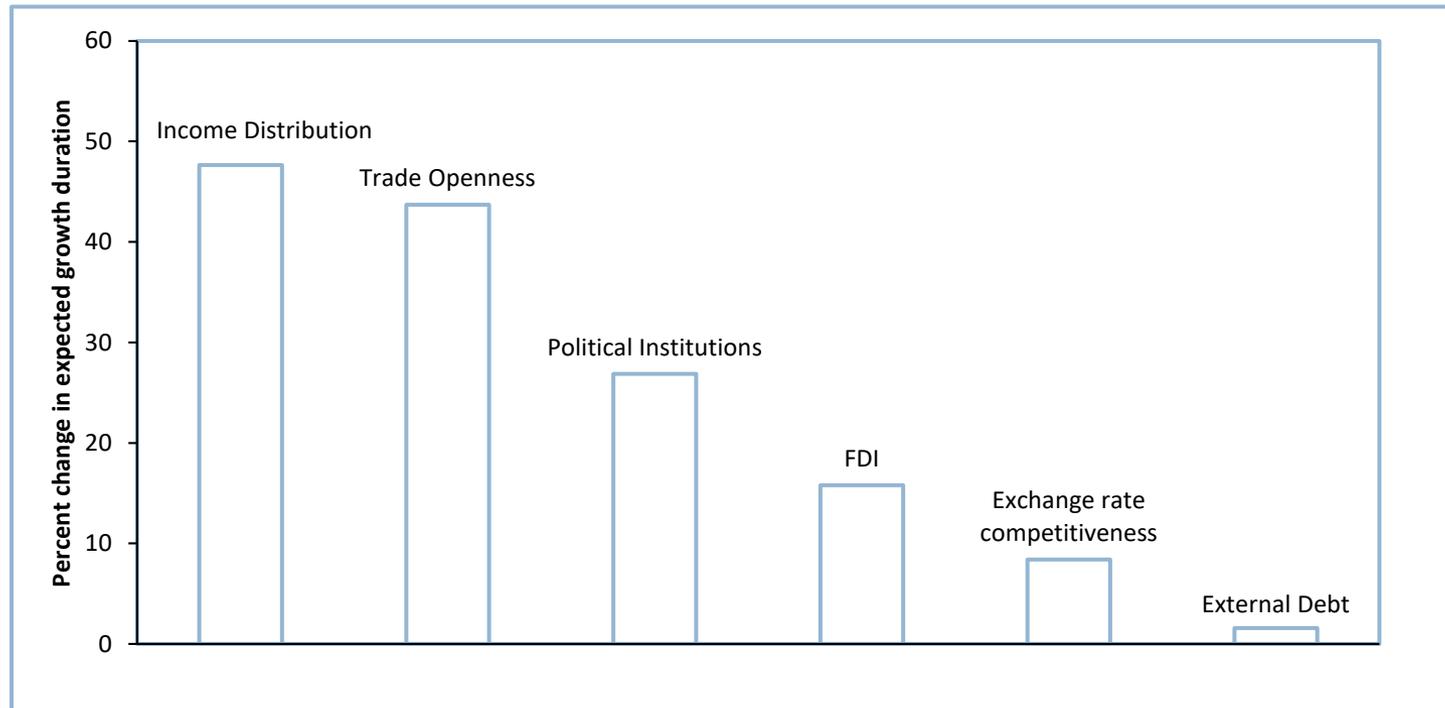
More inequality is associated with less sustained growth.



Relationship across countries between income inequality and duration of growth spell. Ostry and Berg (*IMF Economic Review* 2011); updated in Ostry, Loungani and Berg (2019, chapter 3)

A more equal income distribution sustains growth

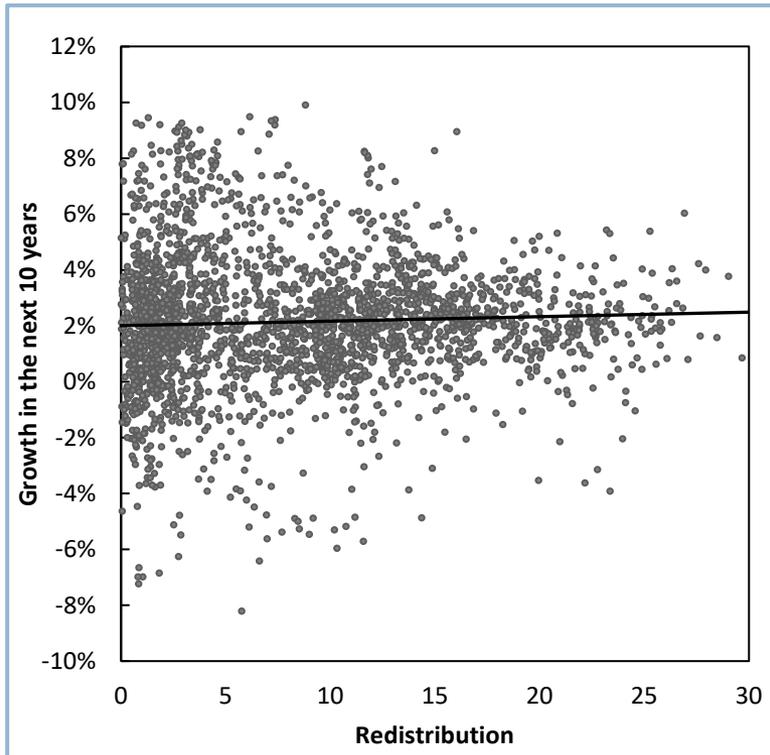
The impact of different factors on growth spell duration



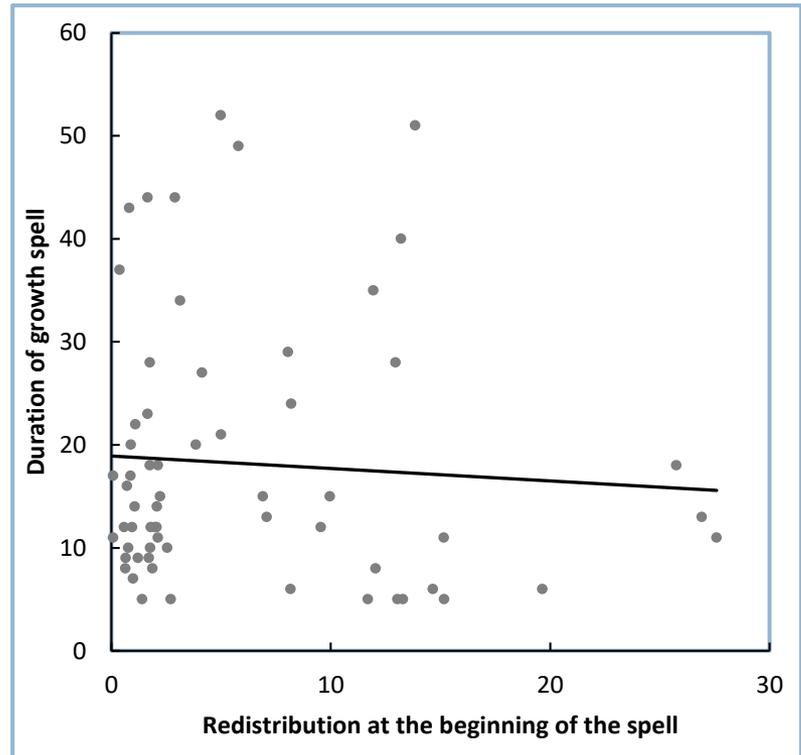
A more equal distribution increases the duration of growth spells even after controlling for other factors. Berg, Ostry, Zettelmeyer (*Journal of Development Economics*, 2012); and Ostry, Loungani and Berg (2019, ch. 3)

Weak relation between redistribution and growth

Growth and redistribution



Redistribution & duration of growth



Berg, Ostry, Tsangarides and Yakshilikov (*Journal of Economic Growth*, 2018);
see also Ostry, Loungani and Berg (2019, chapter 9)

B) A more inclusive globalization?

Pandemic has disrupted globalization

- Flows of goods and services
 - Disruption of global supply chains
 - Decline in tourism

- Flows of capital
 - Collapse in flows to EMs greater than during Great Recession

- Flows of labor
 - Decline in immigration

DIFFERENT ECONOMIC GLOBALIZATIONS IN HISTORY

	aspiration				
	Capital mobility	Free trade in goods	Labor mobility	Rules that reach behind borders	Multilateral governance institutions
Gold Standard	✓	✓	✓	✓	
Bretton Woods		✓			✓
Post-1990s hyper-globalization	✓	✓		✓	✓

Source: Dani Rodrik, Bendheim Center for Finance, Princeton, May 4, 2020

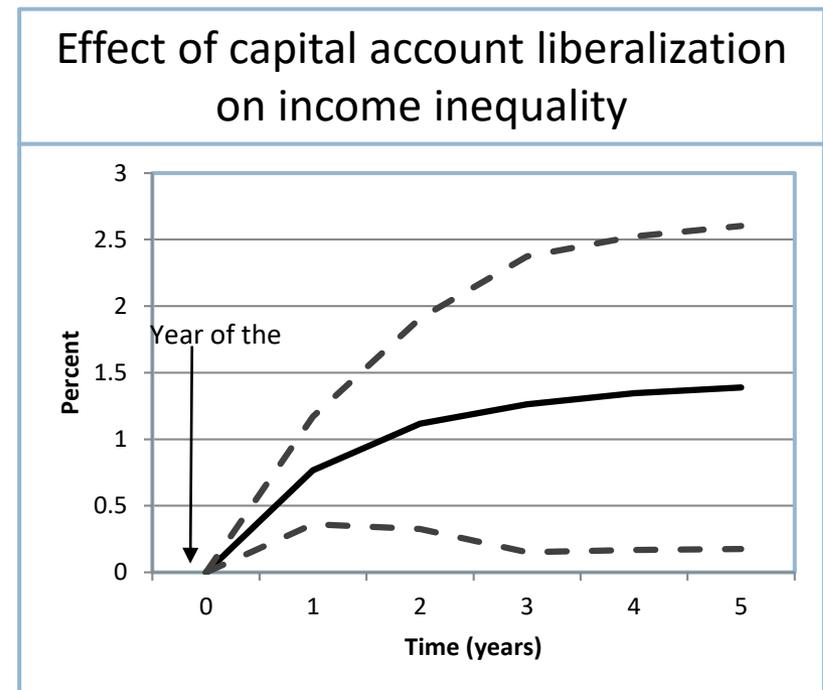
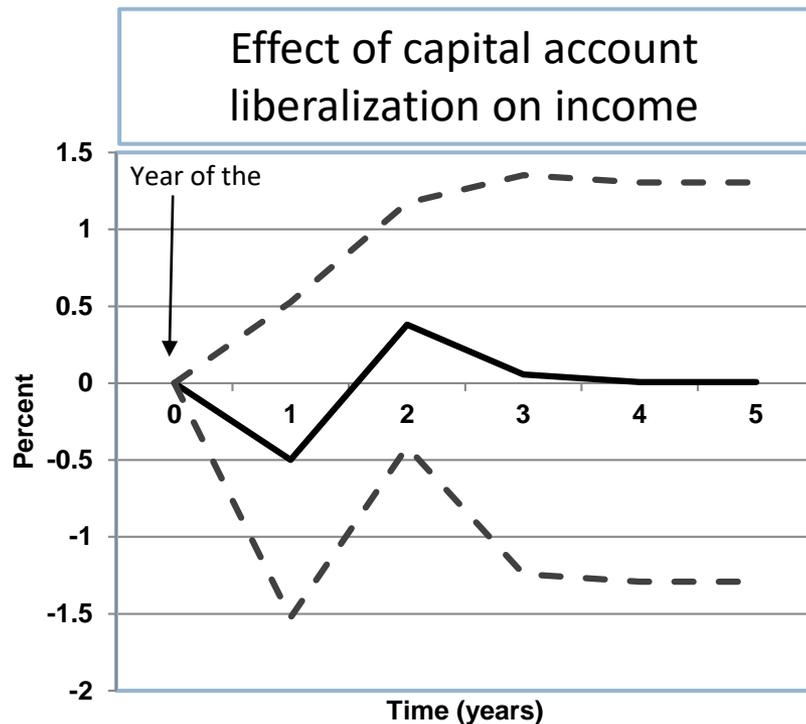
Dani Rodrik on restoring globalization

- **“A retreat from hyper-globalization is not necessarily bad** if we are able to construct a more sensible globalization”
- We could have “alternative globalizations” with more prominence for other multilaterals
 - social & labor rights (ILO)
 - LDC priorities (UNCTAD)
 - climate change (environmental agreements)
 - global health (WHO)
- Less emphasis on financial globalization in EMEs with shallow financial markets and unhedged balance sheets

Views on Financial Globalization

- Gopinath (October 2017): “There is now a new consensus that capital account liberalizations are a mixed blessing”
- Krugman (May 2017): “financial globalization hasn’t been the force for good that trade has been”
- Martin Wolf (2004): “the gains [of financial globalization] have been questionable and the costs of crises enormous.”
- Eichengreen and Wyplosz (2001): evidence that capital account liberalization is associated with growth is “decidedly fragile.”
- Rodrik (1998): it makes economies “hostage to the whims and fancies of two dozen thirty-somethings in London, Frankfurt and New York.”

Financial globalization has little impact on average incomes but increases income inequality

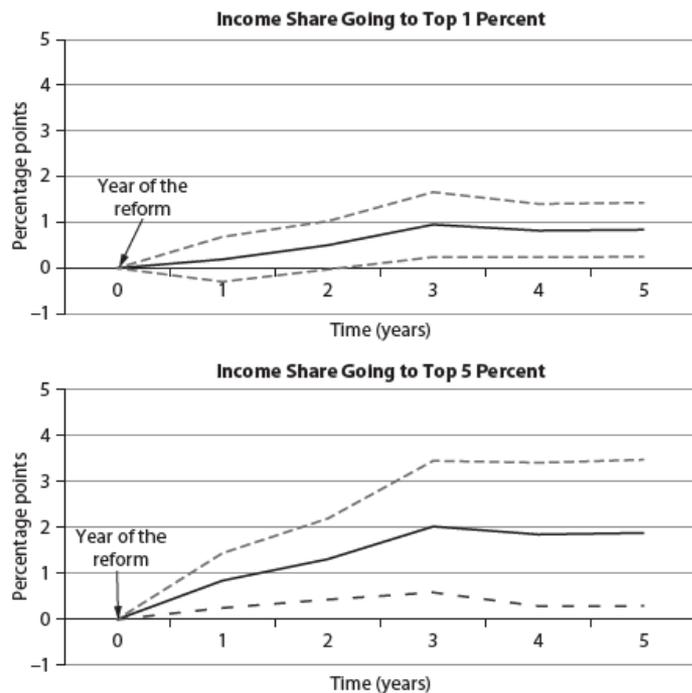


Furceri, Loungani and Ostry (*Journal of Money, Credit and Banking*, 2019);
Ostry, Loungani and Berg (2019, Chapter 5)

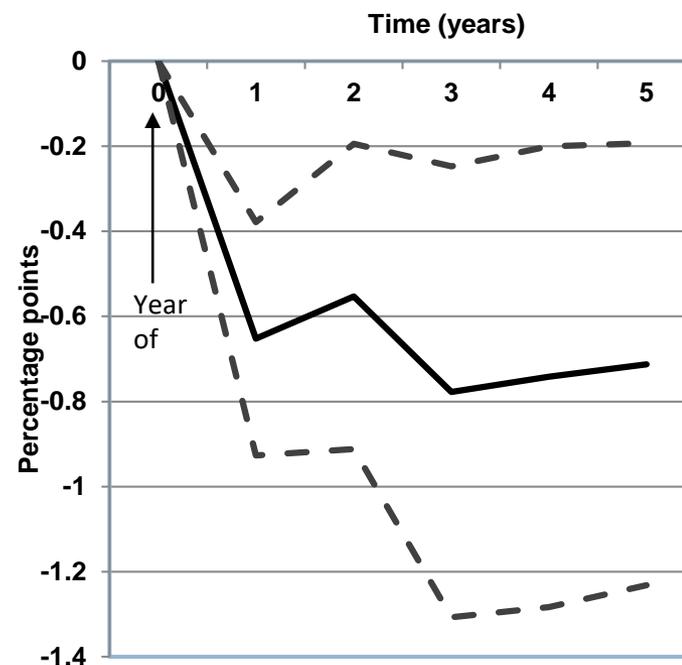
Financial globalization raises top income shares and lowers labor's share of income

FIGURE 5.4: The Effect of Capital Account Liberalization on the Top Income Shares

Capital account liberalization increases the shares of income owned by the top 1 percent, top 5 percent, and top 10 percent.



The Effect of Capital Account Liberalization on Labor Share of Income



Furceri, Loungani, Ostry and Pizzuto (*Comparative Economic Studies*, forthcoming); Ostry, Loungani and Berg (2019, Chapter 5)

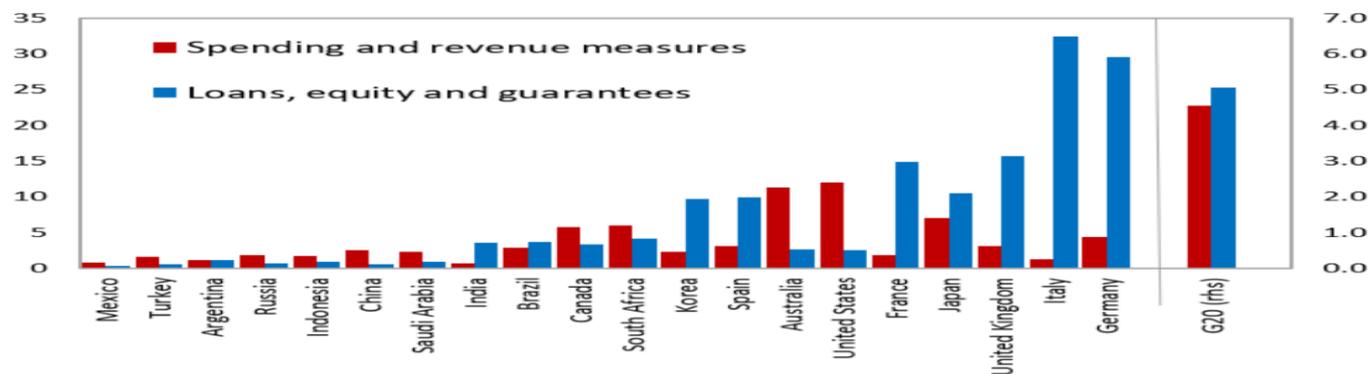
c) A rapid scaling back of public debt?

Global fiscal support totals \$14 trillion and counting

Fiscal firepower

As the pandemic and Great Lockdown continue, countries have now deployed \$9 trillion to help people and firms get through the crisis, which is \$1 trillion more than in April 2020.

(Announced fiscal measures in G20 economies, % of GDP)



Sources: National authorities; and IMF staff estimates as of May 13, 2020.

Note: G20 = Group of twenty. G20 aggregates are calculated using PPP-adjusted GDP weights. Estimates focus on government discretionary measures that supplement existing automatic stabilizers, which differ across countries in their breadth and scope.

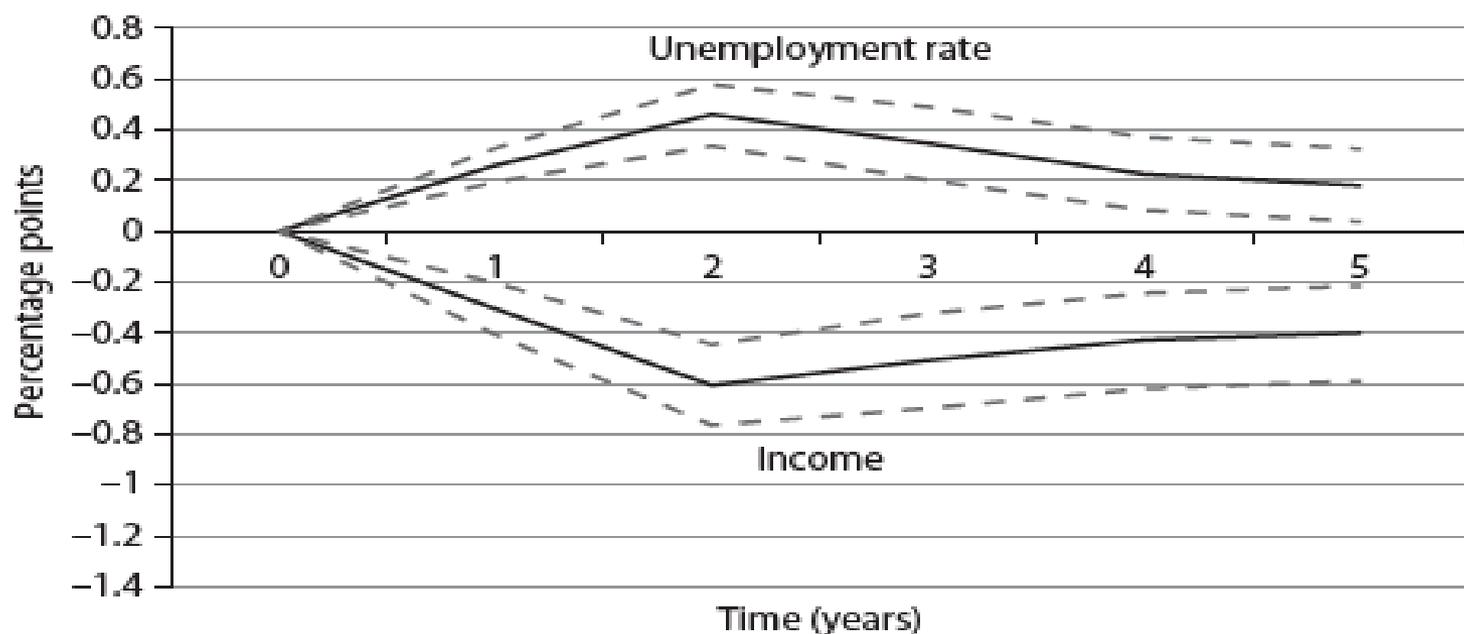
INTERNATIONAL MONETARY FUND

- Fiscal targeted to most vulnerable—greater bang for the buck
- Rapid pivot to austerity will hurt; medium-term anchor needed

Austerity: incomes down & unemployment up

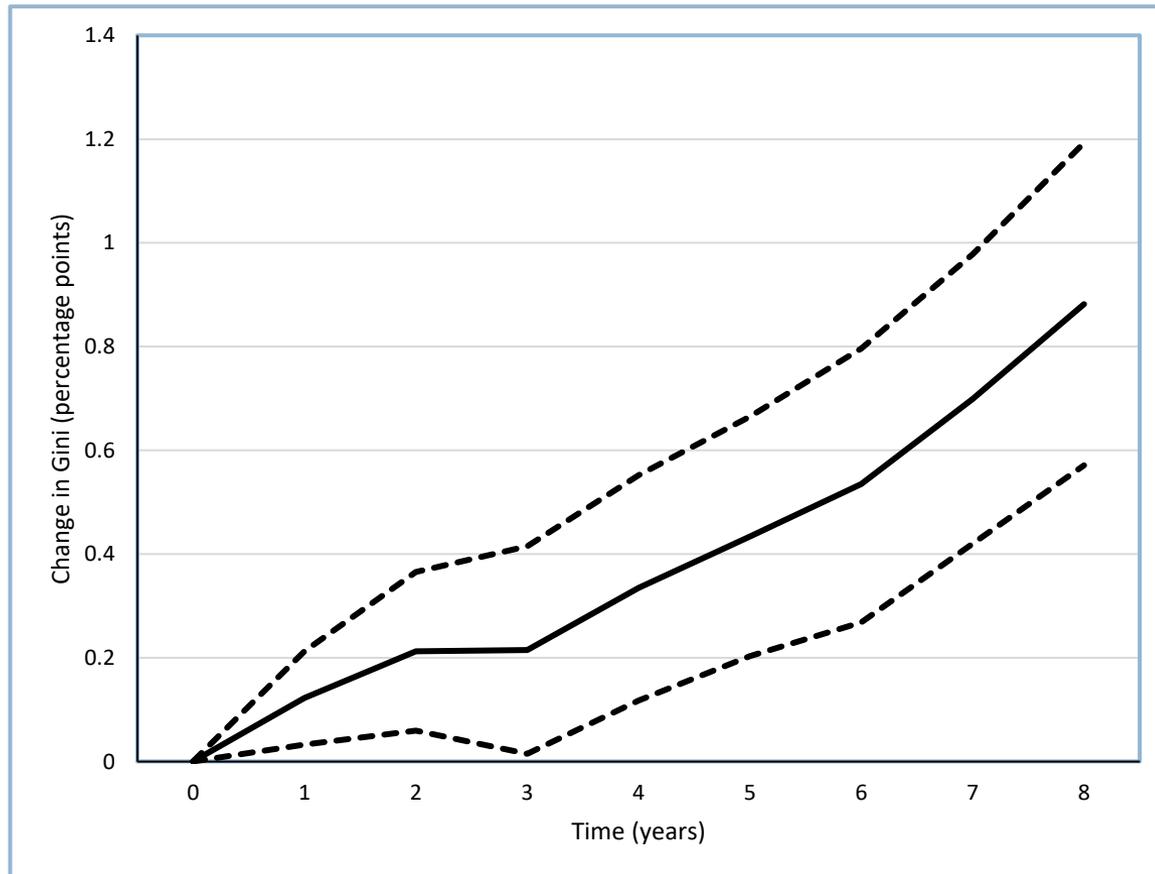
FIGURE 6.1: Effect of Fiscal Consolidation on Income and Unemployment

Fiscal consolidation reduces incomes and raises unemployment in the short run.



See Ostry, Loungani and Berg (2019, Chapter 6)

Austerity is followed by an increase in income inequality



See Ostry, Loungani and Berg (2019, Chapter 6)

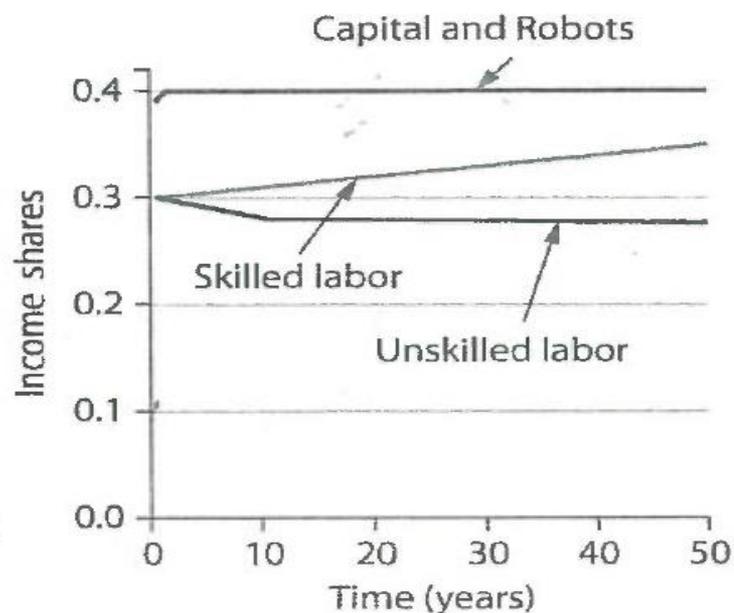
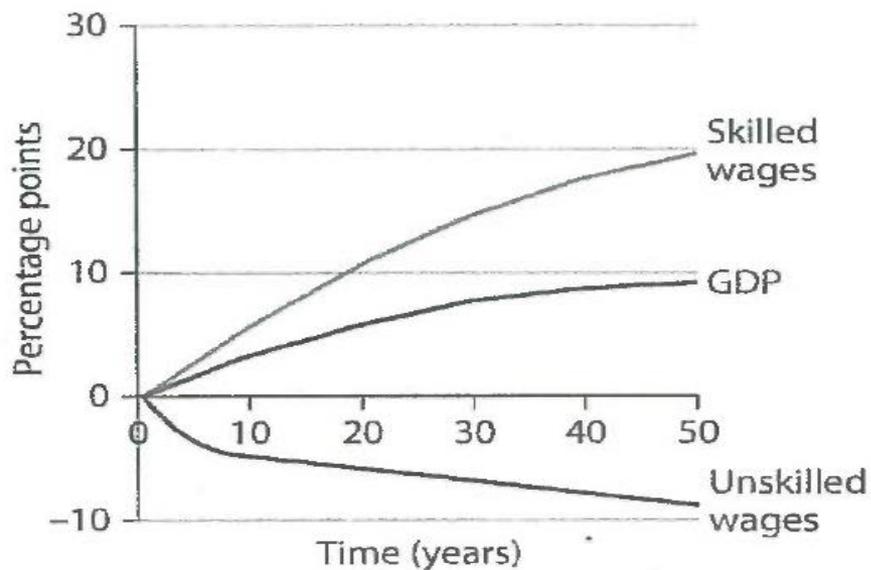
D) Will pandemic speed automation?

Robots are ready as Covid recession spreads

- As noted in recent Brookings study: “Any downturn is likely to bring a new bout of structural change in the labor market and its demand for skills.”
- “If it extends for a while, the downturn could induce firms in food service, retail, and administrative work to restructure their operations toward greater use of technology and higher-skilled workers.”
- “For beleaguered lower-skill workers, these changes will complicate the return to normalcy.”

In calibrated model, increase in robot efficiency leads to persistent gap between skilled and unskilled workers

Increased robot efficiency lowers wages of unskilled workers and their share of income



Ostry, Loungani and Berg (Chapter 8)

Conclusion

- Past major epidemics have raised inequality
- Question: Will this time be different?

Answer: “No, unless ...”

- A) Attitudes and policies really change; talk is cheap
- B) globalization is restored with inclusiveness in mind
- C) public debt pared back slowly in ‘green-zone’ countries
- D) gains from automation widely shared in society