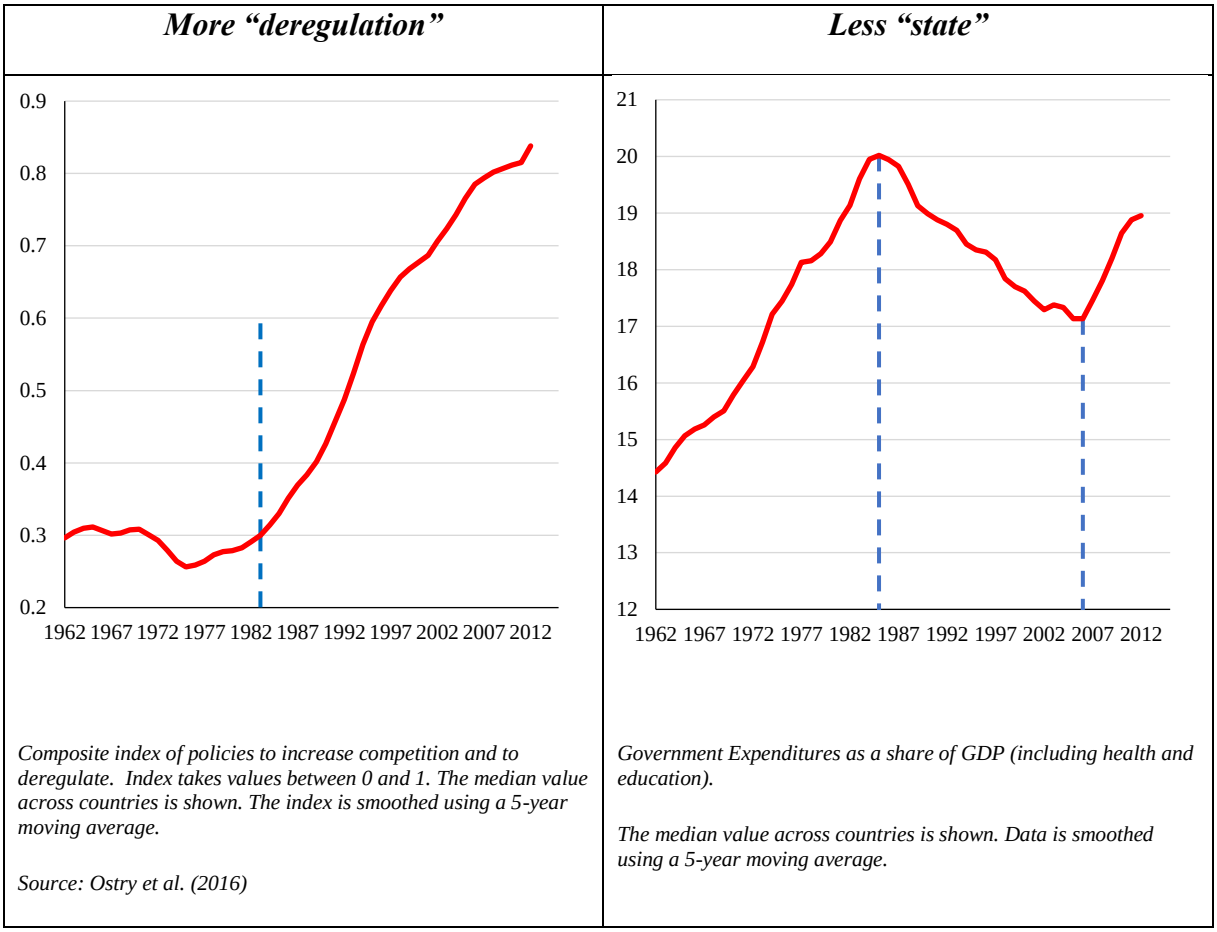
Are new economic policy rules desirable to mitigate rising national inequalities?[1]

By Jonathan D. Ostry, Prakash Loungani, Davide Furceri

1. Introduction

The pursuit of free markets has commanded a consensus among policymakers for over three decades now. Since the 1980s, countries have been increasingly introducing competition in various spheres of economic activity, as illustrated in figure 1.1. At the same time, globalization is also expanding, thanks to the ease of moving funds across borders and the declining role of the state—proxied by the share of government expenditure to GDP.

Figure 1.1. The evolution of free market polices



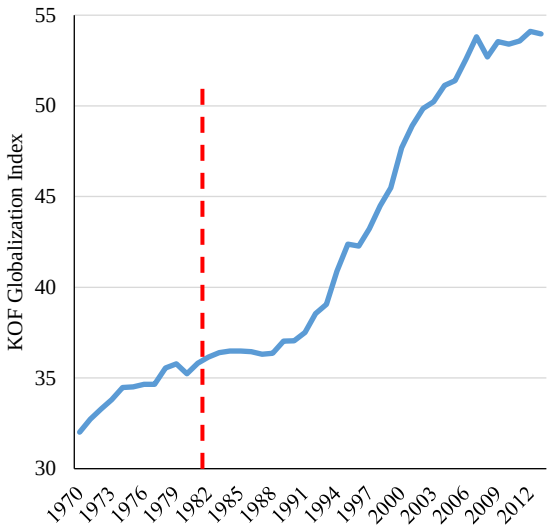
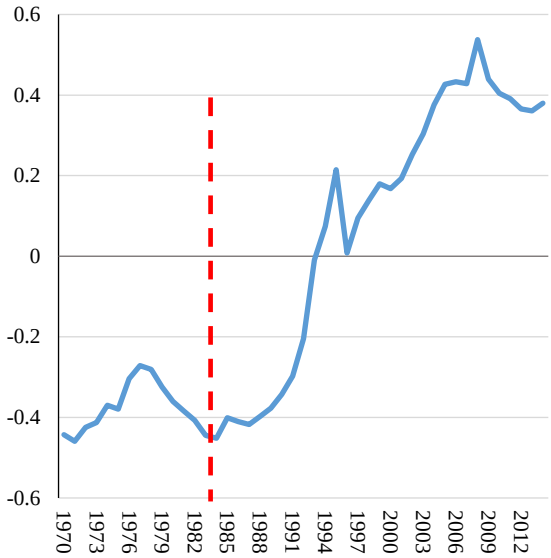
Composite index of policies to increase competition and to deregulate. Index takes values between 0 and 1. The median value across countries is shown. The index is smoothed using a 5-year moving average.

Source: Ostry et al. (2016)

Government Expenditures as a share of GDP (including health and education).

The median value across countries is shown. Data is smoothed using a 5-year moving average.

[1] This paper draws on a number of our recent papers including: Ostry et al (2017), Ostry et al (2016), Ghosh et al (2016), Furceri and Loungani (2015), Ostry et al (2015) and Ostry et al (2012). Views expressed are those of the authors and should not be ascribed to the IMF.

	Source: Feenstra et al. (2015)
Globalization	***Capital Account Liberalization***
	
Note: The KOF Globalization index measures the extent that a country is globalized in three dimensions; economic, social, and political. The index ranges from 0-100 where larger values indicate more globalization. *Source: Dreher (2006)*	*Chinn-Ito Index for period 1970-2014. The index takes values between -1.89 (most restrictive) and 2.39 (most open). The mean value across countries is shown.* *Source: Chinn and Ito (2006)*

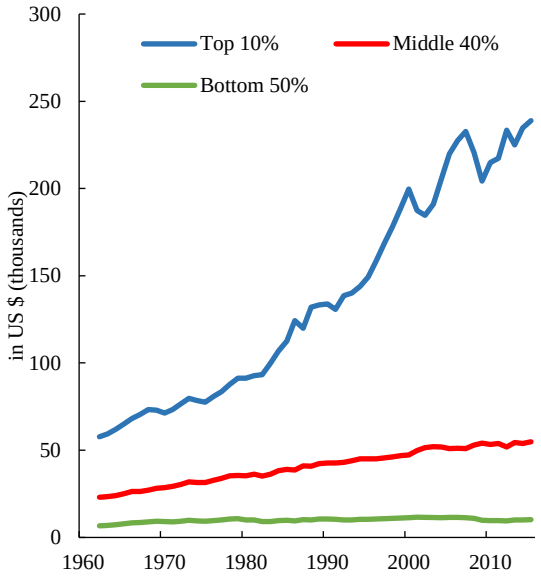
The motivation for these policies—many of which are key aspects of the Washington Consensus—has been to deliver strong growth and macroeconomic stability. Indeed, there is much to cheer about the substantial benefits generated by these policies. Global growth has increased in the 1990s and, before the onset of the Great Recession, was fairly robust, in particular in many populous countries such as China and India. As a result, between-country inequality has declined and millions have been rescued from abject poverty. The Millennium Development Goal of reduction in absolute poverty was met five years ahead of schedule. Output volatility has steadily declined and inflation has been tamed, not only in advanced economies but in many developing economies as well.

These substantial benefits, however, have not been equally shared (figure 1.2): median incomes have stagnated in the US and in many other advanced economies; the labor share of income has steadily declined in many countries; and within-country inequality has increased in almost all advanced economies and in several emerging markets. We argue in this paper that greater attention to these distributional consequences of many economic policies—and the global rules of the road underpinning them—is needed. The reasons are four-fold. First, excessive levels of inequality are bad not only for social and moral reasons but also for growth and efficiency: although the relation between inequality and growth can be complex and vary depending on

countries' initial positions and characteristics, higher levels of inequality are associated, on average, with lower and less durable growth. Hence, even from the perspective of the goal of fostering growth, attention to inequality is necessary.

Figure 1.2. Indicators of within-country inequality

Income Stagnation

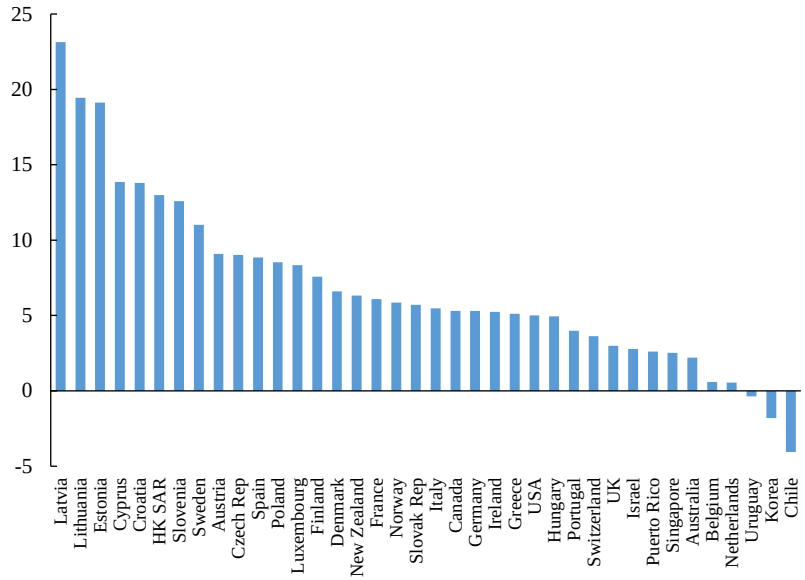


ce: Authors' calculation based on data from U.S. Bureau of Economic Analysis, The World Wealth ncome Database.

Declining Labor Share of Income

Source: authors' calculation based on Labor Share of Income in Sustainable Developme Goals Indicators from UN Statistics Division. The mean value across countries is shown

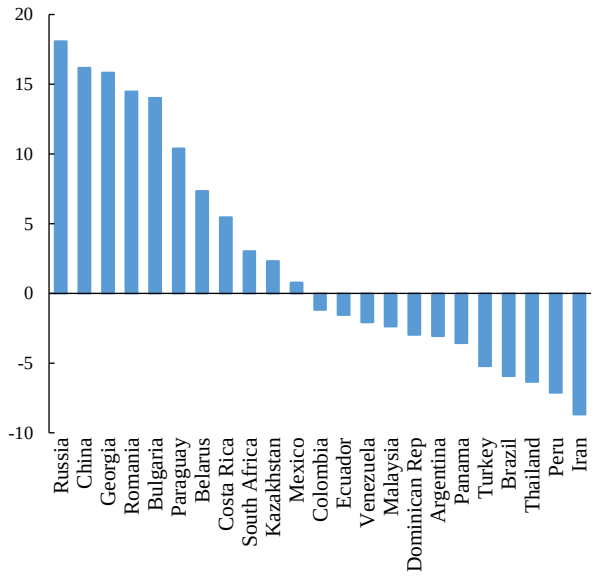
Changes in Inequality in Advanced Economies



ges in Gini Coefficient between the latest year and 1990, authors' calculation based on data from 2009)

ce: Solt (2009)

Changes in Inequality in Emerging Markets



Changes in Gini Coefficient between the latest year and 1990, authors' calculation base data from Solt (2009)

Source: Solt (2009)

Second, high levels of inequality may lead to latent social conflicts that ultimately translate into political backlash against the pursuit of free market polices, including globalization. Third, the fear that redistribution would have an adverse impact on growth turns out to find little support in the data—implementing policies to reduce excessive inequality tend on average to support growth (by reducing inequality) rather than retard growth. Fourth, many of the adverse distributional developments arise from policy choices made by governments. Hence they are not, as sometimes argued, exclusively due to technological developments and other global trends that are beyond the control of any one government.

For these reasons, we suggest a course correction in the rules of the road—actual or perceived—that have governed economic policy making across much of the world. While the pursuit of market-friendly policies is needed and desirable to ensure an increase in average living standards, the distributional consequences of these policies should be recognized and addressed ex-ante through better policy design—with aggregate and distributional effects in mind—and ex-post through redistribution.

To achieve this course correction, understanding the equity-efficiency tradeoffs posed by a number of economic policies is of paramount importance. In this paper, we focus on two such policies: capital account liberalization and fiscal consolidation. Beyond a desire to limit the

scope of the paper, the choice of these two policies is motivated by a number of reasons. First, they are both important determinants of inequality, even after controlling for the effects of a number other determinants. Second, previous literature has found that the growth benefits of these policies are often uncertain, and depend on policy design and initial country-specific characteristics.

The structure of the paper is as follows. Section 2, after quickly reviewing a number of economic policies at the center of the Washington Consensus, presents evidence on the links between growth, inequality and redistribution. Section 3 describes the efficiency and equity effects of capital account liberalization. Section 4 discusses efficiency-equity tradeoffs associated with excessive fiscal discipline. The last section concludes discussing the policy implications of improving the rules of the road.

2. Growth, inequality and redistribution

The rules of the road

The notion that economists should worry more about growth than about its distribution has a long tradition. Schumpeter (1942, page 67) noted that the benefits of growth could be expected to trickle down to even the poorest: "The capitalist achievement does not typically consist in providing more silk stockings for queens but in bringing them within reach of factory girls."

The importance of attention to growth is stated by Lucas (1988, page 5) in a famous quote:

> Is there some action a government of India could take that would lead the Indian economy to grow like Indonesia's? If so, what, exactly? The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them, it is hard to think about anything else.

Lucas's work launched an intensive inquiry into the determinants of growth. Though academic debates rage to this day, policymakers had by this time already converged on the broad policy ingredients they felt were needed to foster growth. The consensus was summarized by Williamson (1990) and rested on the triad of (1) macroeconomic discipline (particularly fiscal discipline); (2) structural reforms, particularly deregulation of markets and privatization; (3) globalization—liberalization of trade and inward foreign direct investment. Though broader capital account liberalization was not part of Williamson's list, it became an important pursuit of policymakers over the subsequent decades.

Along with the emphasis on growth, caution about worrying too much about redistribution is part of the consensus view in macroeconomics. Lucas (2004, page 20), for instance, states: "Of the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution."

There are two reasons for this disregard of distribution. First, the assumption is that markets for the most part work well in giving people their just rewards for their work. Overruling the judgment of markets is thus unfair and unnecessary. Second, efforts to redistribute may themselves undercut growth. Even if inequality is considered undesirable for some reason, using

taxes and transfers to lower it may be the wrong remedy. The negative effect of redistributive policies is the central theme of Arthur Okun's famous 1975 book on the tradeoffs between efficiency and equity and on the efficiency "leaks" that efforts to reduce inequality engender.

Course correction

We present results that advocate a course correction for two reasons: (i) inequality is shown to be an important determinant of growth, and hence important to address even if the ultimate goal is growth; and (ii) fear about the adverse growth effects of redistribution is shown to be misplaced.

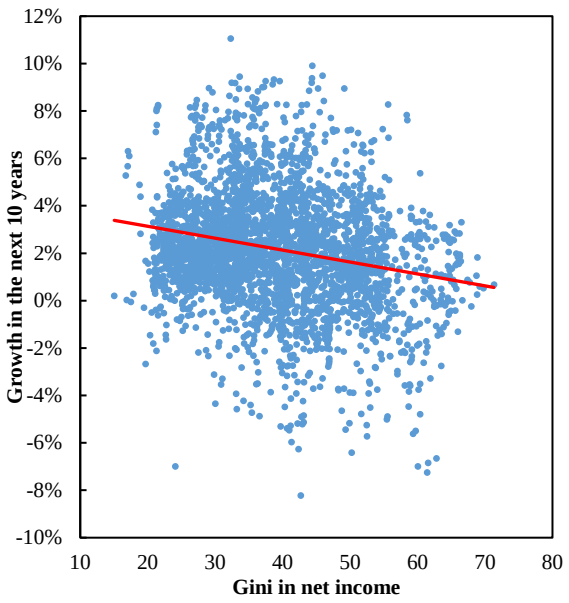
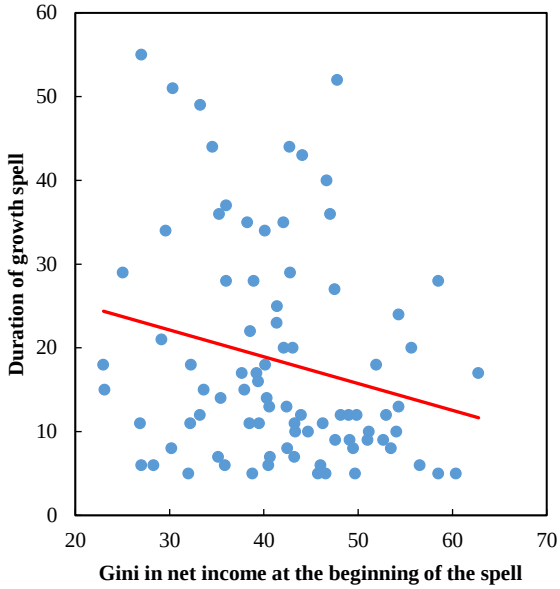
We do so by using two econometric approaches. In the first, we follow the literature and examine the determinants of medium-term growth using standard panel regressions. Specifically, we ask how average growth over a five-year period depends on a variety of lagged indicators, including the level of income, the quality of institutions, and especially important in our setting, the level of inequality and extent of redistributive transfers. In the second, we examine whether the duration of growth spells is related to the initial level of inequality and to redistribution. Looking at growth spells is important as in many economies—developing countries in particular—average incomes do not typically grow steadily for decades. Rather, periods of rapid growth are followed by collapses and sometimes stagnation. As emphasized by Pritchett (2000), an understanding of growth requires explaining why some countries are able to keep growing for long periods of time, while others see breaks after just a few years.

We measure the duration of "growth spells"—starting when growth takes off (the "upbreak") and ending when growth slacks (the "downbreak"). Since the goal is to examine trends, the minimum length of a growth spell is set at five years. Both upbreaks and downbreaks are quite common and fairly evenly spread out across regions and decades. Latin America and Africa, two regions where countries have the most difficulty sustaining growth, have plenty of spells. The real problem seems to be the inability to sustain growth over long periods. For example, almost all growth spells in industrial countries and emerging Asia last at least 10 years or more, but only about two-thirds of Latin American and African spells do.

The measure of inequality is the Gini coefficient from the Standardized World Income Inequality Database (Solt 2009). A constraint on previous studies on inequality and growth has been the lack of data on both net and market inequality measures on a comparable basis for a large number of countries. Solt (2009) represents the best effort so far to address these problems, combining information from available surveys to infer comparable series for net and market inequality for the largest possible countries and years as possible. Redistribution is defined as the difference between the market and net inequality series.

We start by investigating the relationship between inequality and growth. The first panel of figure 1.3 shows the scatter plots of net inequality against growth for the subsequent ten years.

Figure 1.3. Inequality and growth

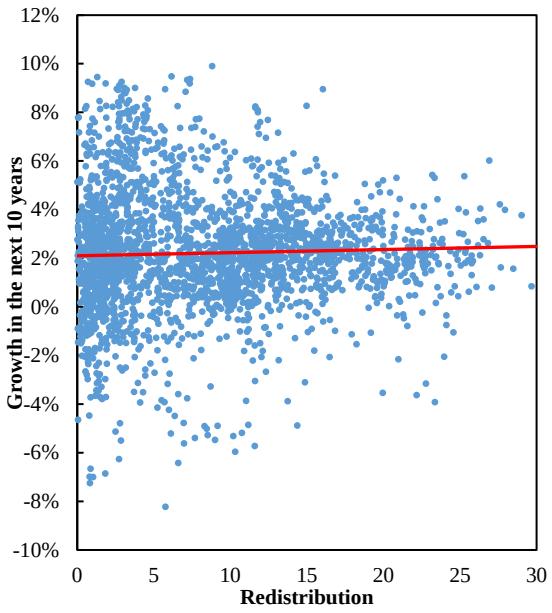
Growth and inequality	*Duration of growth spells and inequality*
	
Simple correlations between growth in the next 10 years, and the average net income inequality and transfers for a sample *Source: Ostry, Berg, and Tsangarides (2014)*	*Simple correlation between length of growth spells, and the average net income inequality and transfers during the spell. Spells that end in-sample are included; minimum spell length is 5 years.* *Source: Ostry, Berg, and Tsangarides (2014)*

The second panel shows the scatter plots of net inequality at the start of a growth spell against the duration of the spell. As we can observe in figure 1.3, there is a strong negative relation between the level of net inequality and growth in income per capita over the subsequent period. Similarly, higher levels of inequality are associated with shorter periods of sustained growth.

What does the data tell us about relation between redistribution and growth? Figure 1.4 presents scatter plots of growth (medium-term growth or growth spell duration) against the initial level of redistribution. It shows that there is no significant relation between redistribution and growth (left panel), while the relation between the duration of growth and redistribution is slightly negative (right panel).

Figure 1.4. Growth and redistribution

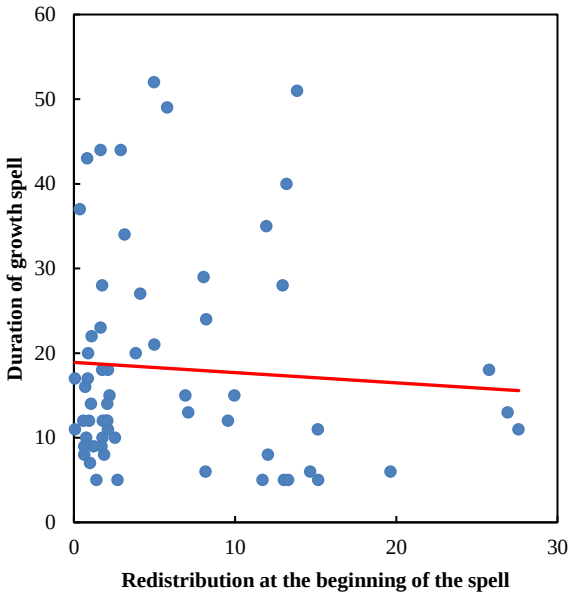
Growth and redistribution



Simple correlations between growth in the next 10 years, and the average net income inequality and transfers for a sample

Source: Ostry, Berg, and Tsangarides (2014)

Duration of growth spells and redistribution



Simple correlation between length of growth spells, and the average net income inequality and transfers during the spell. Spells that end in-sample are included; minimum spell length is 5 years.

Source: Ostry, Berg, and Tsangarides (2014)

While the evidence presented in the figures is suggestive that inequality and redistribution are not bad for growth, it is important to go beyond simple correlation. First, other factors driving growth—such as human capital, investment, population growth, and openness—may be related to inequality. Second, inequality and redistribution are interrelated. Third, growth may affect inequality.

To address these issues, we estimate a panel framework in which medium-term growth (growth spell duration) is regressed against the initial level of inequality and redistribution, and a standard set of growth covariates. Endogeneity is addressed using system-GMM, where potentially endogenous right-hand side variables are instrumented using appropriate lagged values and first differences.[2]

[2] The technique appropriately exploits both the cross-sectional and time-series variation in the data. For all results presented, standard tests for the validity of the instruments and first and second-order serial correlation are satisfied. See Ostry et al. (2014), for details.

Regression results bear out these preliminary indications from the data. Table 1.1 shows the results of regressions of average growth over a five-year period on the level of inequality, the extent of redistributive transfers, and the variables that are commonly included in growth regressions. The baseline specification is one in which growth depends on initial income, net inequality, and redistribution. We find that higher inequality lowers growth. Quantitatively, an increase in net Gini from 37 (such as in the United States in 2005) to 42 (such as in Gabon in 2005) decreases growth on average by 0.5 percentage point, that is, from 5 percent to 1.5 percent per year, holding redistribution and initial income constant. Redistribution, in contrast, has virtually no effect on growth. These results continue to hold when standard growth determinants are included, such as physical and human capital as well as additional determinants such as external shocks, the quality of institutions, and measures of openness to trade. As suggested in the literature, it is plausible that a given increase in inequality may be more harmful for growth if the level of inequality is already high. If we allow the data to speak, however, by allowing the effect of inequality to differ when the level of inequality is already high, we find little evidence of such nonlinearities. Similarly, we find no evidence of such nonlinear effects of redistribution on growth.[3]

Table 1.1: Baseline results: impact of net inequality and redistribution on growth

	Dependent Variable: growth rate of per capita GDP			
	Baseline	Baseline + controls		
	(1)	(2)	(3)	(4)
Log(initial income)	-0.0069**	-0.0081**	-0.0140***	-0.0135***
	(0.0034)	(0.0035)	(0.0037)	(0.0046)
Net inequality	**-0.1435***	**-0.0914***	**-0.0739***	**-0.1057***
	(0.0444)	**(0.0336)**	**(0.0266)**	**(0.0492)**
Redistribution	**0.0046**	**0.0258**	**0.0109**	**0.0530**
	(0.0492)	**(0.0516)**	**(0.0428)**	**(0.0494)**
Log(investment)		0.0241***	0.0250***	0.0076
		(0.0077)	(0.0084)	(0.0125)
Log(population growth)		-0.0159	-0.0215	-0.0084
		(0.0182)	(0.0174)	(0.0160)
Log(total education)			0.0206***	0.0164*
			(0.0073)	(0.0099)
Large negative terms of trade shock				-0.0424***
				(0.0158)
Political institutions				-0.0011
				(0.0008)

[3] The results are robust to different samples of countries. In particular, splitting the sample between OECD and non-OECD countries, we find that higher inequality is bad for growth for both groups of countries, with the effect higher in OECD than in non-OECD countries.

Openness				0.0001
				(0.0001)
Debt liabilities				-0.0002**
				(0.0001)
Constant	0.1262***	0.0718	0.0965**	0.1687***
	(0.0389)	(0.0456)	(0.0389)	(0.0573)
Number of observations	828	828	751	558

Source: *Ostry, Berg, and Tsangarides (2014)*

1/ System GMM estimation. Robust standard errors in brackets where *, **, and *** indicate statistical significance at the 10, 5 and 1 percent levels, respectively.

Table 1.2 presents results for the duration of growth. Again, the baseline specification relates the duration of growth spells—that is, the hazard of a growth spell ending—to initial income at the start of the spell, and inequality and redistribution during the spell. Inequality has a statistically significant negative relationship with the duration of growth spells. When redistribution is already high (above the 75th percentile), further redistribution is indeed harmful to growth, as Okun conjectured. When it is below that level, however, there is no evidence that further redistribution has any effect on growth. As in table 1.1, inequality retains its statistical significance despite the inclusion of many more possible determinants.

Table 1.2. Baseline results: impact of net inequality and redistribution on growth spells

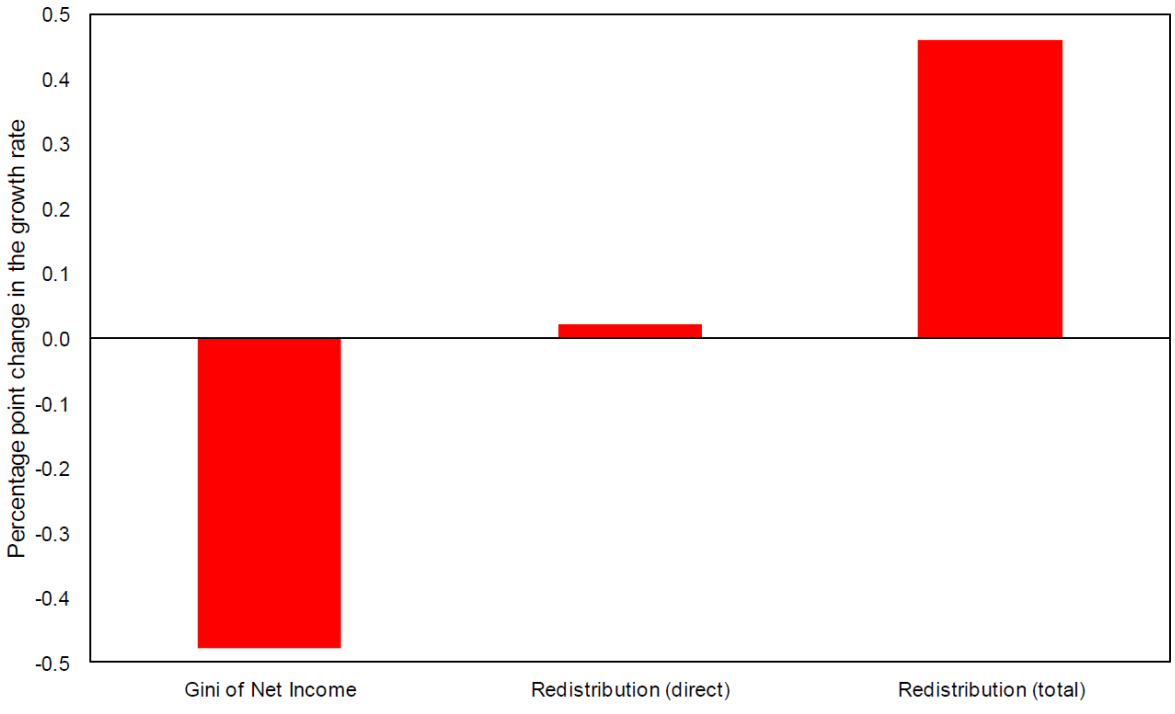
	Dependent Variable: Risk that the growth spell will end			
	Baseline	Baseline + controls		
	(1)	(2)	(3)	(4)
Net inequality	**1.060****	**1.050***	**1.060****	**1.074****
	(0.0266)	**(0.0266)**	**(0.0291)**	**(0.0314)**
Redistribution x Top 25th percentile	**1.098*****	**1.099*****	**1.055**	**0.990**
	(0.0322)	**(0.0329)**	**(0.0378)**	**(0.0567)**
Redistribution x Bottom 75th percentile	**0.987**	**0.961**	**0.971**	**0.938**
	(0.0690)	**(0.0735)**	**(0.0695)**	**(0.0734)**
Log(initial income)	1.024	1.026	1.077*	1.216***
	(0.0318)	(0.0318)	(0.0413)	(0.0844)
Log(investment)		3.050**		
		(1.7293)		
Log(population growth)		1.201		
		(1.7085)		
Log(total education)			0.694	0.845
			(0.2705)	(0.4260)
Large negative global interest rate shock			1.391	1.153
			(0.6620)	(0.5945)
Large negative terms of trade shock			2.719**	3.198**
			(1.1700)	(1.4887)
Political institutions				0.924*
				(0.0398)
Openness				0.990
				(0.0066)
Debt liabilities				1.001
				(0.0027)
Number of observations	640	640	609	549
Number of total spells/number of complete spells	62/28	62/28	55/23	49/20

Source: see note to Table 1.

/ The table reports results using the baseline sample and estimation of a proportional hazard model with time-varying covariates, which relates the probability that a growth spell will end to a variety of economic and political variables. A hazard ratio of 0.9 means that a unit change in the regressor decreases the expected time of duration by 10 percent; a hazard ratio of 1 means there is no effect; and a ratio of 1.1 means it increases expected duration by 10 percent. We test the probability that the true hazard ratio equals 1, and statistical significance at the 10, 5 and 1 percent level is indicated by *, **, ***, respectively

In summary, there is a direct economic cost to inequality in terms of lower and less durable growth. Hence, even if growth is the primary goal, inequality cannot be ignored. The results are also inconsistent with the view of a trade-off between redistribution and growth. If there *were* such a trade-off, redistribution should have a negative impact on growth and in fact an impact that is stronger than that of net inequality. Rather than a trade-off, the average result across the sample is a win-win situation (figure 1.5), in which redistribution has an overall pro-growth effect (third bar), counting both the negative direct effects of inequality (first bar) and positive direct effects of redistribution (second bar).

Figure 1.5. The effect of inequality and redistribution on growth



Source: Ostry, Berg, and Tsangarides (2014)

Note: For each variable, the height of the column shows the increase in the 5-year average real per capita income growth associated with an increase in that variable from the 50th to the 60th percentile, with other variables at the 50th percentile. The calculation of the total effect of redistribution assumes that redidstibvution has not effect on market inequality.

3. Efficiency-equity tradeoffs: capital account liberalization

Macroeconomic benefits

Economic theory strongly embeds the notion that capital account liberalization fosters economic efficiency. It can allow the international capital market to channel world savings to their most productive uses across the globe. Developing countries with little capital can borrow to finance investment, thereby promoting their economic growth without requiring sharp increases in their own saving. All this should contribute to higher growth. At the same time, there is a general consensus that greater openness to foreign financial flows is a driver of higher financial and economic volatility in many countries, raising crisis vulnerabilities.

From an empirical point of view, demonstrating the growth benefits of financial openness has proven difficult. Indeed, the empirical evidence has typically found that, on average, the growth benefits of capital account liberalization are small to negligible and rarely statistically significant (see Eichengreen 2001; Prasad et al. 2003; Rodrik and Subramanian 2009).

These average effects, however, mask important differences across countries, episodes, and type of financial flows. First, growth benefits tend to be larger for foreign direct investment (FDI) flows than for portfolio and debt flows (Dell'Ariccia et al. 2008; Kose et al. 2009; Ostry et al. 2009). Second, there appear to be "threshold" effects: positive growth effects for capital account liberalization episodes for countries with strong financial institutions (which presumably would have lowered the odds that capital flow surges ended up in crises).

We revisit this empirical evidence in this section by first documenting the frequency of crises following episodes of capital inflow surges—episodes of very large net inflows (in the top thirtieth percentile of both the country-specific and full sample distribution of net flows, in percent of GDP), and then showing how the occurrence of crises has had important consequences for the effect of capital account liberalization on growth.

Crises and Volatility

Capital inflow surges amplify financial and macroeconomic vulnerabilities during the surge phase. The former center around excess credit growth (including in foreign currencies), excessive leverage, and asset price growth. The latter centers on the exchange rate (currency overvaluation), inflation, and overheating. The extent of these vulnerabilities also depends on the composition (not just the level) of inflows during the surge phase: vulnerabilities are more problematic when the surge is dominated by shorter-term carry-trade type flows, rather than, say, foreign direct investment. Some surges will end in a return to normal times—a dignified end that does not involve a crisis. Other surges will end in a full-blown crisis—a banking crisis, a currency crisis, or what may be called a growth crisis—a period of exceptionally bad growth performance. It is important to understand why some surges end in a dignified manner while others end in crisis, given the cost of these crises in terms of foregone output, jobs, and welfare. To get a handle on these issues, we examine the end of surges in a sample of 53 emerging market countries over the period 1980-2014. We classify the episodes according to whether they end in a crash or a soft landing, and associate the outcome with shifts in global conditions, as well as with domestic factors and policy responses over the surge episode.

The methodology, discussed more fully in Ghosh, Ostry, and Qureshi (2016), produces 150 episodes of surges in capital inflows. Importantly, about 20 percent of the time, surges end in a financial crisis, of which one-half are also associated with large output declines (figure 5.6, first panel). While the drivers of surges and crashes are many, increased capital account openness consistently figures as a risk factor—it raises the probability of a surge and of a post-surge crash (figure 5.6, second panel). The nature of financial openness—in particular the role of structural measures designed to improve the benefit-risk composition of flows—is also a salient factor in our analysis, with a safer composition of flows associated with a lower risk of crash landings.

Growth benefits

To examine the growth benefits associated with capital account openness, we use data from the Chinn and Ito (2008) database. The Chinn-Ito index measures a country's degree of capital

account openness based on the tabulation of restrictions on cross-border financial transactions reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)* database. The index ranges from about -2 (more restricted capital account) to 2.5 (less restricted). The score of the capital account openness index varies greatly between income groups, with higher restrictions typically recorded in low income and lower-middle income countries. Capital account openness has increased in all income groups, with a more significant rise occurring at the beginning of the 1990s.

To make it more likely that we are capturing deliberate policy attempts at liberalization, we consider only cases where the annual change in the capital account liberalization index exceeds by two standard deviations the average annual change over all observations. This criterion identifies 224 episodes of liberalization, with the majority of them occurring during the last two decades. In particular, the largest number of episodes has occurred during the 1990s and among middle-income countries.

The impact of liberalization on growth and inequality is estimated by tracing out the response of GDP in the aftermath of these episodes. Two specifications are used. The first examines the average response of GDP to capital account liberalization.[4] The second assesses if the response varies across episodes depending on whether these ended up in crises.[5]

The left panel of figure 4.7 presents the impulse response functions from the estimated regressions along with the associated one-standard-error confidence bands (dotted lines). The estimates show that liberalization has little impact on output (confirming the results of previous studies). This average effect, however, masks important differences. While capital account liberalization has led to moderate output benefits when reform episodes have not been followed

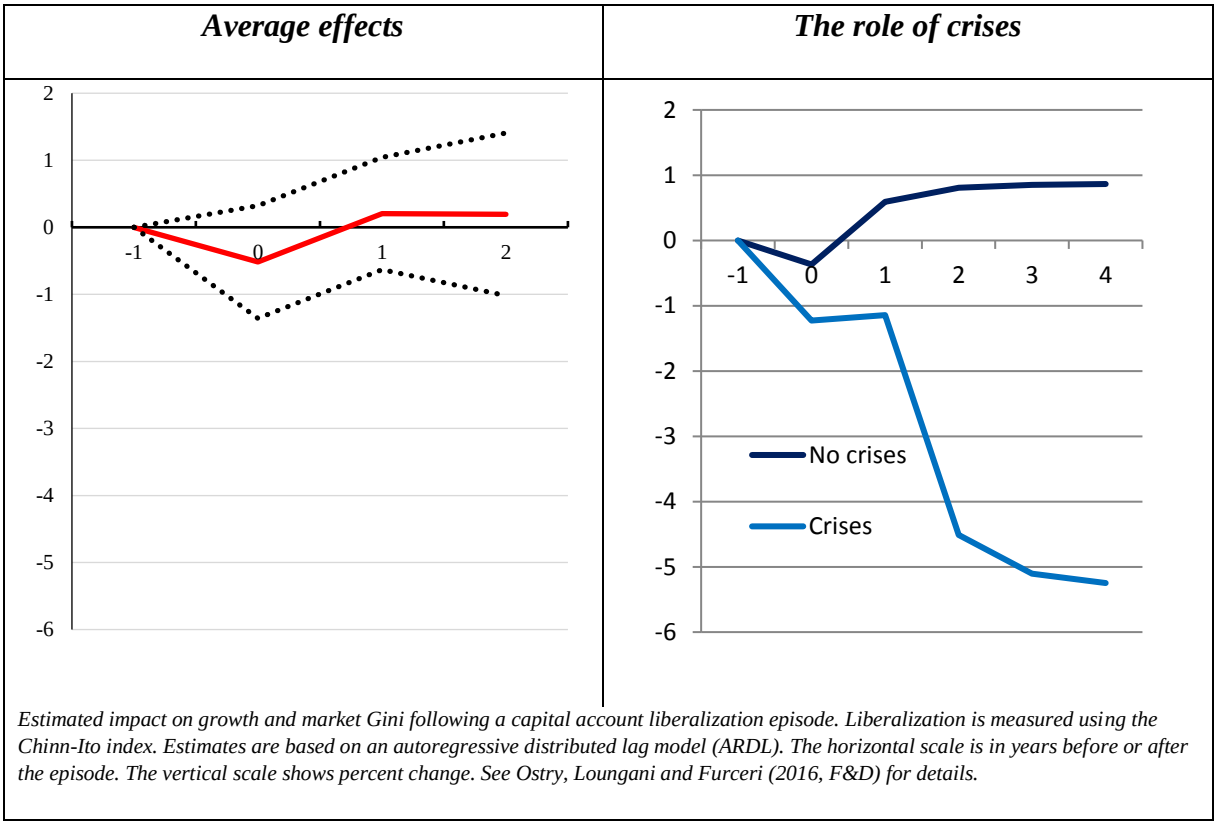
[4] In particular, we use an autoregressive distributed lag (ARDL) specification, as in Romer and Romer (2010) and several others: $g_{it} = a_i + \sum_{j=1}^{l} \beta_j g_{i,t-j} + \sum_{j=0}^{l} \delta_j \Delta Kaopen_{i,t-j} + \gamma T_t + \varepsilon_{it}$, where g is either the growth rate of real GDP or the growth in the Gini coefficient, $\Delta Kaopen$ is the change in the capital account liberalization index, a_i are country fixed effects and *T* is a time trend. The equation is estimated using OLS on an unbalanced panel of annual observations from 1970 to 2010 for 149 advanced and developing economies. The number of lags is 2, but the results are robust to the choice of alternate lag lengths. Our methodology consists of deriving the impulse response functions (IRFs) from an autoregressive distributed lag specification. The results are robust when controlling for liberalization in other areas and instrumental variables approaches.

[5] Specifically, we augment the baseline specification with an interaction term of the change in capital account liberalization and a dummy variable that indicates whether the change in the index has been followed by the occurrence of a financial crisis (as identified in Laeven and Valencia 2010) over a time horizon of 5 years:

$$g_{it} = a_i + \sum_{j=1}^{l} \beta_j g_{i,t-j} + \sum_{j=0}^{l} \delta_j \Delta Kaopen_{i,t-j} + \sum_{j=0}^{l} \theta_j \Delta Kaopen_{i,t-j}{}^{no-crisis} + \gamma T_t + \varepsilon_{it}$$

by crises, liberalization followed by crises have led to significant output contractions (figure 4.7, right panel).

Figure 4.7. Capital account liberalization and growth



Estimated impact on growth and market Gini following a capital account liberalization episode. Liberalization is measured using the Chinn-Ito index. Estimates are based on an autoregressive distributed lag model (ARDL). The horizontal scale is in years before or after the episode. The vertical scale shows percent change. See Ostry, Loungani and Furceri (2016, F&D) for details.

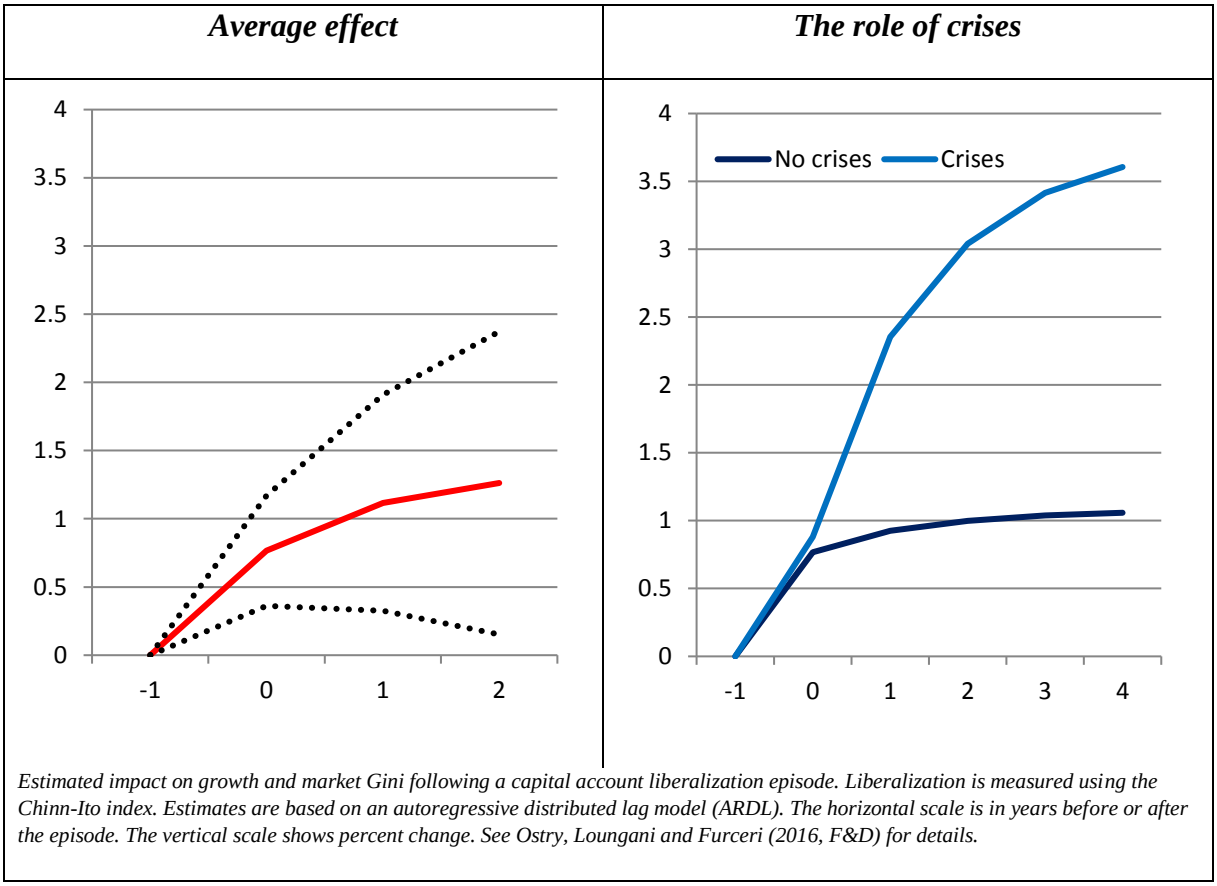
Distributional consequences

While the impact of technology and trade on inequality has been studied extensively, much less attention has been paid on possible impacts from the opening up of capital markets to foreign entry and competition. As discussed by Furceri and Loungani (2015), there are several channels through which capital account liberalization may lead to higher inequality.

First, where financial institutions are weak and access to credit is not inclusive, liberalization may bias financial access in favor of those who are well off and therefore increase inequality. Second, capital account openness may affect the distribution of income through its effect on the bargaining power of labor. If capital account liberalization represents a credible threat to reallocate production abroad, it may lead to an increase in the profit-wage ratio and to a decrease in the labor share of income (Harrison 2002). Third, as discussed above, capital account liberalization may lead to higher volatility and crises, which tend to increase inequality (de Haan and Sturm 2016).

To estimate the distributional consequences of capital account liberalization, we run a similar regression to the one before using the Gini coefficient as dependent variable. The left panel of figure 4.8 shows the response of the Gini coefficient to capital account liberalization episodes, and the associated 90 percent confidence bands. The results suggest that capital account liberalization have typically led to an increase in the Gini coefficient of about 0.5 percent in the short term (1 year after the change in liberalization), with slightly larger effects over the subsequent couple of years.

Figure 4.8. Capital account liberalization and inequality.



Estimated impact on growth and market Gini following a capital account liberalization episode. Liberalization is measured using the Chinn-Ito index. Estimates are based on an autoregressive distributed lag model (ARDL). The horizontal scale is in years before or after the episode. The vertical scale shows percent change. See Ostry, Loungani and Furceri (2016, F&D) for details.

In addition, the results show that the effect of financial globalization on inequality varies markedly depending on whether or not a crisis follows. As illustrated in the right panel of figure 4.8, the impact of financial openness on inequality is much larger when followed by a crisis.

In summary, the results of this section show that capital account liberalization in the past has been associated with limited growth benefits but significant distributional consequences. They also suggest that designing liberalization in a way that does not compromise macroeconomic stability and limits the risk of crises is key to enhancing its macroeconomic benefits while mitigating its distributional consequences.

4. Efficiency-equity effects of fiscal consolidation

Along with increased competition through various means—such as opening up to foreign capital—an important part of the consensus has been curbs on the size of the state. Privatization of some government functions has been one way to achieve this. Another is to curb government spending through limits on the size on fiscal deficits and on the ability of governments to accumulate debt. The economic history of recent decades offers many examples of such limits, such as the limit of 60 percent on GDP set for countries to join the euro area (the so-called Maastricht criteria).

Fiscal prudence is an important pre-requisite to achieve macroeconomic stability and to create fiscal space when it is needed—that is, in periods of recessions. A key question is how much fiscal prudence governments should try to pursue. Governments facing market pressure may not have options but to consolidate to avoid or mitigate the effects of a crisis, but for countries that face little or no risk of a crisis, the answer is far from obvious. It requires examining whether the benefits of lower debt—in terms of reduced recourse to distortionary taxation and the greater insurance value of low debt in terms of being able to respond to future adverse shocks and avoid sovereign crises—outweigh the transitional costs associated with fiscal consolidation—in terms of either higher taxes or reduced spending during the consolidation phase. It is tempting to conclude that, because the benefits from low public debt are reaped in perpetuity, it must surely be the case that incurring some short-term pain in terms of consolidation today is always a price worth paying. But is it?

One issue is what an appropriate medium-run public debt target would be from a normative standpoint. Economic theory gives many answers—from ever-rising public debt levels (emphasized when governments find it difficult to commit, as in models where time-consistency problems loom large) to aiming for a large stock of net assets (negative debt) out of a precautionary saving motive (saving for the inevitable rainy day). Of course, optimal public debt targets are often associated with some institutionally-enshrined levels (such as the 60 percent of GDP under the Maastricht treaty or the 90 percent of GDP threshold discussed in Reinhart and Rogoff 2010), but it is difficult to know on what basis these ratios are normatively justified.

In our work on this topic, we have considered the situation of countries with ample fiscal space—that is, countries where the risk of an imminent sovereign crisis is remote. Such countries may have significant amounts of public debt, but their track record of paying down those debts—of acting responsibly as discussed in Mendoza and Ostry (2007)—gives them wide latitude not to be overly concerned when an adverse debt shock (say the need to bail out the financial system after a major financial crisis) occurs. How should such "green-zone" countries respond to an unfavorable public debt shock?[6] Should they pay down the debt—acquiring insurance against future sovereign crises and laying a stronger foundation for more robust medium-run growth? Should they instead use the opportunity of very low borrowing costs to ramp up debt further? Or should they simply live with their additional debts, allowing future growth to organically reduce the increase in the debt ratio?

[6] Moody's identifies a group of countries as green-zone on the basis of the methodology in Ostry et al. (2010).

We develop a theoretical framework that is biased in favor of consolidation, but actually find that—from a welfare-standpoint—the right thing to do is to simply live with the debt, allowing debt ratios to decline organically as a result of growth. The optimal, welfare-maximizing, debt path following a debt shock is essentially parallel to the original (pre-shock) path. While debt is bad for growth owing to the distortive taxes needed to service the debt, the burden of the debt is a sunk cost. Temporarily distorting the economy by raising taxes today in order to permanently lower them tomorrow only adds to this burden.

This might nevertheless be worth doing if the crisis-insurance benefit were substantial. But our finding is that the probability of a crisis is actually relatively flat in the level of debt for green-zone countries—the insurance value of consolidation for such countries is rather small (but the additional distortive cost from consolidation is substantial and increases sharply in the extent and speed of consolidation). For example, moving from a debt ratio of 120 percent of GDP to 100 percent of GDP over a few years buys you very little in terms of reduced crisis risk (Baldacci et al. 2011),but incurs a much larger distortionary welfare cost (Ostry et al. 2010; 2015). Faced with a choice between living with the higher debt, allowing the debt ratio to decline organically through economic growth, and deliberately running budgetary surpluses to reduce the debt, governments with ample fiscal space will do better by living with the debt.

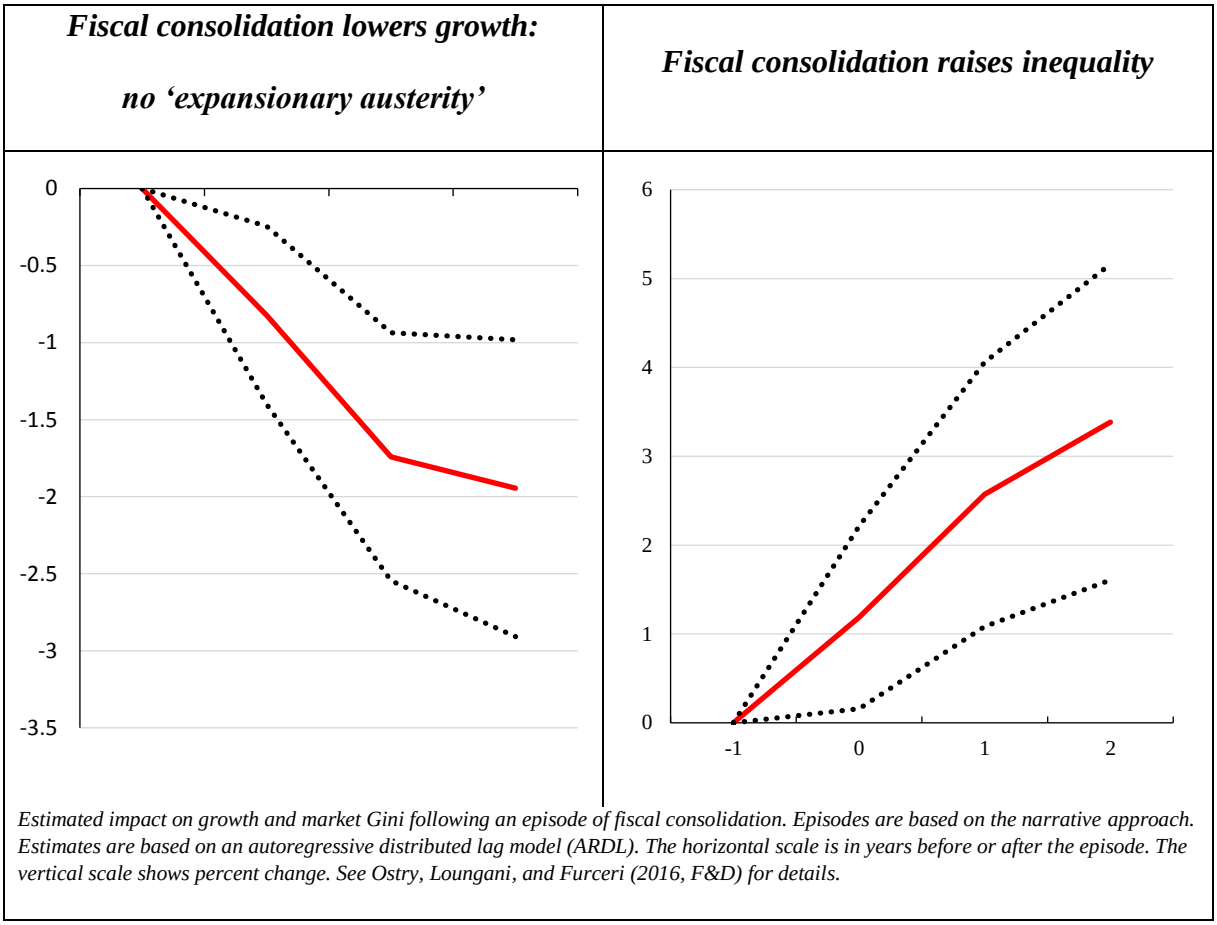
Short-run tradeoff

Beyond these medium-run considerations, fiscal consolidation also has short-run macroeconomic and distributional effects. To document these, we rely on the fiscal consolidation episodes identified by Guajardo, Leigh, and Pescatori (2014) for a sample of 17 OECD countries over the period 1978–2009.[7] There are a total of 173 episodes; the magnitude of consolidation ranges between 0.1 percent and about 5 percent of GDP, with an average of about 1 percent of GDP. The measure of consolidation is based on a narrative approach and focuses on *policy* actions taken by governments with the intent of reducing the budget deficit. In previous studies, fiscal consolidation is measured by successful budget *outcomes* (e.g. Alesina and Ardagna 2010). As discussed in IMF (2010), budget outcomes are an imperfect measure of policy intent. The measure of distributional outcomes is the net Gini coefficient.

We adopt the same specification used in the previous section to trace out the impacts of fiscal consolidation on output and inequality. Figure 4.9 shows the estimated impulse response function and the associated one-standard-error bands. The horizontal axis measures years after the start of the episode of fiscal consolidation.

[7] The economies are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Sweden, the United Kingdom, and the United States.

Figure 4.9. The effect of fiscal consolidation on output and inequality



Estimated impact on growth and market Gini following an episode of fiscal consolidation. Episodes are based on the narrative approach. Estimates are based on an autoregressive distributed lag model (ARDL). The horizontal scale is in years before or after the episode. The vertical scale shows percent change. See Ostry, Loungani, and Furceri (2016, F&D) for details.

The results reported in the first panel of the figure suggest that fiscal consolidation episodes have been followed by a significant drop in output—about two percent two years after the consolidation episode. This suggests that the notion that fiscal consolidations can be expansionary (i.e., raise output and employment), championed, among others, by Alesina (2010), finds little support in the data. Moreover, the results suggest that not only income falls, but it falls more for those that are worse-off before the consolidation episode. In particular, the results suggest that inequality—proxied by the Gini coefficient—raises by about 1.5 percent in the same year of the consolidation episode and by more than 3 percent two years after.

To summarize, the results of this section suggest that embarking on fiscal consolidation to reduce debt is painful but needed in countries with a weak track record and where markets attach a high probability of a debt crisis. However, in countries with strong fiscal track record and low probability of crisis, reducing the level of debt sharply may actually be worse than to let the debt decline organically through higher economic growth.

5. Conclusions

The field of macroeconomics was born in the aftermath of the Great Depression of the 1930s, when aggregate incomes fell by 25 percent in some countries. Avoiding such a decline through the use of monetary and fiscal policies became the central policy concern of macroeconomists. In the 1980s, the study of cross-country differences in average incomes became a second important topic of investigation. Over the past three decades, a consensus has emerged that a triad of policies—consisting of (1) macroeconomic discipline, (2) structural reforms to free up markets, and (3) the global spread of markets through free trade and movement of capital and labor—can deliver growth in average incomes and help cross-country convergence in average incomes. Other than a concern with reducing poverty, distributional concerns have largely been ignored in this consensus.

Macroeconomics is now in the midst of a third wave where—as distributional outcomes are being studied side-by-side with aggregate outcomes (Stiglitz, Sen, and Fitoussi 2009; Jones and Klenow 2016)—this consensus is being challenged. Our paper contributes to this endeavor with several important results. First, inequality is detrimental to growth, and hence of importance even if one's interest is solely in aggregate outcomes. Second, redistribution has not been harmful to growth, obviating worries that redressing inequality would itself hurt aggregate outcomes. Third, most economic policies pose efficiency-equity tradeoffs, as documented by Ostry et al. (2017) for structural policies, Ball et al. (2013) for fiscal policies, and Furceri et al. (2016) for monetary policies.

The focus of this paper has been on understanding the equity-efficiency tradeoffs posed by policies to liberalize international capital flows and fiscal consolidation. Beyond a desire to limit the scope of the paper, the choice of these two policies is motivated by a number of reasons. First, they are both important determinants of inequality, even after controlling for the effects of a number other determinants. While the fact that trade generates winners and losers has been long recognized, the equity impacts of financial globalization have attracted much less scrutiny.

Second, the efficiency benefits claimed for these policies have often been overstated. In the case of financial openness, some capital flows such as foreign direct investment do appear to confer the benefits claimed for them. But others, particularly short-term capital flows, the benefits to growth are difficult to reap whereas the risks in terms of greater volatility and increased risk of crisis loom large. In the case of fiscal consolidation, the short-run costs in terms of lower output and higher unemployment have been underplayed, and the desirability of many countries to simply live with high debt-to-GDP ratios is only now beginning to be acknowledged. These findings pose a dilemma for proponents of the consensus: why support them if there are scarce efficiency benefits for them but palpable equity costs?[8]

Third, both capital account liberalization and fiscal policies are also important areas of IMF policy advice, which has been changing in light of the evidence. Among policymakers today, there is increased acceptance of capital controls to mitigate financial-stability and

[8] In ongoing work, we also document an important interaction between the two policies: capital account liberalization disciplines the conduct of domestic fiscal policy and leads to greater fiscal consolidation.

macroeconomic risks associated with capital flows (especially short-term carry trade flows). While not the only tools available, capital controls may be the best option when it is borrowing from abroad that is the source of an unsustainable credit boom (Ostry et al. 2012). The IMF also recognizes capital flow liberalization is generally more beneficial and less risky if countries have reached certain levels or thresholds of financial and institutional development, and that full liberalization may not be the appropriate end goal for many countries.

On fiscal policy, the IMF's policy advice has been to support "a case-by-case assessment of what is an appropriate pace of consolidation" and to emphasize the need "to make fiscal policy more growth-friendly" (Lipton 2013). In 2010, the institution's then-chief economist Olivier Blanchard said that, "What is needed in many advanced economies is a credible medium-term fiscal consolidation, not a fiscal noose today" (IMF 2010). In October 2013, the IMF's Managing Director Christine Lagarde applauded the decision by the U.S. Congress to raise the country's debt ceiling. On the pace of U.S. fiscal consolidation, Lagarde advised: "We say slow down because the point is not to contract the economy by slashing spending brutally now as recovery is picking up" (Howell 2013). For the euro area, the IMF has advocated that, "those with fiscal space should use it to support investment" (IMF 2015).

Recent events have prompted concerns about a reversal of globalization. Such a reversal would only serve to negate the great benefits that freer trade has engendered, as we noted at the very outset. At the same time, not acknowledging some of the shortcomings of globalization is wrong. The problems with questionable efficiency benefits and sizable equity costs from some policies will not go away if we do not acknowledge them. In particular, the evidence on the economic damage from inequality implies that policymakers should design policies in a way that their benefits are enhanced and their distributional costs mitigated. For example, fostering financial inclusion safely and enhancing the resilience of the financial system are important pre-conditions to garner the benefits of financial globalization in terms of growth and equality. Likewise, the design of fiscal consolidation could be done in a way that minimizes the impact on low-income groups and preserves productive spending.

Nevertheless, there are likely to be some distributional consequences of policies that would have to be remedied *ex post*. Equality-enhancing interventions could actually help growth. Several studies (such as Benabou 2000, 2002; and Bleaney, Gemmell, and Kneller 1999) point out that some categories of government spending—for example, public investments in infrastructure, spending on health and education, and social insurance provision—may be both pro-growth and pro-equality. Hence we should not jump to the conclusion that the treatment for inequality may be worse for growth than the disease itself: there could be win-win policies that have the potential to promote efficiency *and* equality. Examples could include taxes on activities with negative externalities paid mostly by the better-off but harmful to the poor (such as, perhaps, excessive risk-taking in the financial sector), cash transfers aimed at encouraging better attendance at primary schools in developing countries, or spending on public capital or education that benefits the poor.

Since the Great Recession, much attention has been given to *macro-financial linkages* and, more recently, to fears of *secular stagnation* in growth. Broadly speaking, our paper makes the point that just as much attention needs to be devoted to *macro-distributional linkages* and to the *secular exclusion* of large parts of the population from the benefits of increased growth.

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