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Inequality and Growth: Challenges to the Old Orthodoxy

by Erwan Quintin and Jason L. Saving

Inequality can have disruptive effects on resource allocation in economies where markets function poorly. Inequality, therefore, is more likely to be harmful in countries with weak institutions.

Discussions of how best to alleviate poverty often center on the relative merits of policies that boost growth and those that promote redistribution. If greater inequality allows economies to expand faster, or if it's an inevitable consequence of progrowth measures, the two principles seem incompatible. Under such a scenario, societies seeking rapid growth rates have to forgo redistribution from rich to poor. Conversely, choosing a high degree of redistribution implies the decision to accept lower growth rates.

If, on the other hand, inequality impedes growth, these principles aren't only compatible but may, in fact, reinforce one another. François Bourguignon, the former World Bank chief economist, wrote: "If one interprets literally the potentially negative relationship between inequality and growth, then redistribution [from rich to poor] would enhance growth. It would then be sufficient to have at one's disposal policy instru-

ments to guarantee that growth is pro-poor—i.e. that it reduces inequality—for a virtuous circle to start and lead progressively to faster growth, declining inequality, and accelerated poverty reduction."[1]

The question of whether inequality impedes or fosters economic growth once seemed largely settled, with traditional economic theory focusing on inequality's beneficial effects on saving, investment and incentives. In the past two decades, however, research has identified new channels between inequality and growth, suggesting a more subtle relationship than the one advanced by earlier theorists.

The new work doesn't refute many of the important insights of classical economics, but it points out that inequality can have disruptive effects on resource allocation in economies where markets function poorly. Inequality, therefore, is more likely to be harmful in countries with weak institutions for the exchange of goods, services and money. This confirms the idea that improved market institutions are a key condition for economic success.

Trade-offs between inequality and growth aren't merely theoretical matters. They're crucially important not only for policymakers who shape their countries' safety nets but also for monetary authorities seeking to understand potential growth rates and make more informed policy decisions.

Classical Views

Until recently, a broad set of ideas led much of the economic profession to opine that inequality was, if anything, favorable to—or at least a necessary by-product of—economic growth.[2]

In classical models, economic growth depends chiefly on the rate at which nations accumulate productive resources, a factor that traces to aggregate savings rates. In this context, distributional considerations matter for growth only if households' propensity to save varies systematically with wealth. If the rich save at a high rate, a view closely associated with prominent economist Nicholas Kaldor, unequal societies can actually build up their productive infrastructure faster than equal ones, achieving higher growth rates.

Inequality could also foster growth because new industries typically require large initial investments. If credit markets function poorly, a society's savings may not be efficiently transferred to investments. In this environment, a high concentration of wealth may allow some investors to overcome these impediments and stimulate growth by bringing capital-intensive industries into being.

In the early work, income or wealth redistribution policies are overwhelmingly viewed as detrimental to growth based on at least two arguments. First, redistribution via such instruments as progressive taxation distorts incentives to save, which reduces resource accumulation. Second, some variation in economic rewards helps provide incentives to invest and work.

The classical view long dominated economic thought and emphasized that policies designed to reduce inequality would entail adverse consequences for economic growth.

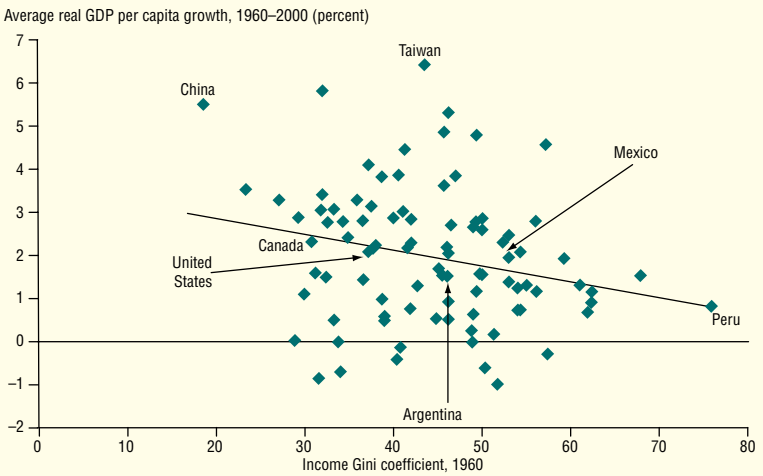
Recent Challenges

Over the past two decades, these conventional notions have been challenged both on empirical and theoretical grounds. In cross-country comparisons, for example, researchers have generally found a negative relationship between income inequality and subsequent economic growth. These empirical findings, taken at face value, suggest that more equality could, in fact, foster growth.[3]

We illustrate the empirical argument by plotting income inequality in 1960 against average growth rates over the next four decades for all countries with available data. The results suggest, albeit weakly, that nations with more initial income inequality have tended to fare worse in the long run than countries with greater equality (*Chart 1*). In this example, inequality alone accounts for a fairly small frac-

Chart 1

Income Inequality and Economic Growth by Nation



NOTES: The income Gini is an index that rises with income inequality. Some countries identified for illustration purposes.

SOURCES: World Bank; Penn World Table Version 6.2, by Alan Heston, Robert Summers and Bettina Aten, Center for International Comparisons of Production, Income and Prices, University of Pennsylvania, September 2006.

tion of the variance in growth across countries.

Even so, a growing body of empirical work finds that inequality remains significantly correlated with future growth even after controlling for other important factors, such as nations' initial level of development. Furthermore, the correlation between inequality and growth seems particularly strong among certain subgroups of nations—for example, those in which private credit is scarce.

Several caveats are in order. First, the empirical exercises don't imply that causation runs from inequality to growth. Second, most studies rely on measures of inequality of income rather than wealth. Because the theoretical work focuses on the distribution of productive resources, wealth inequality would be preferable, but little data exist on it. Finally, changing estimation techniques and time periods yields different results.[4]

Although cross-country studies have produced mixed results, they do suggest that inequality may not be conducive to growth. The statistical associations, however, reveal little about why. A historical example can shed some light on the mechanism through which inequality might impede economic growth.

If we look at the Western Hemisphere, we see that the United States and Canada have emerged as its strongest economies (*Chart 2*), with per capita GDP five to six times the South American average.[5]

It was not always this way. In the century before the U.S. was founded, Caribbean islands such as Barbados and Cuba produced 50 to 70 percent more output per person than did colonial America. Large swaths of South America, including Brazil, were also ahead of the U.S. and Canada. Contemporary observers routinely predicted that fortune could be found in these nations, rather than the U.S. or Canada, a belief borne out by migration patterns that show most Atlantic crossers headed to the Caribbean and South America.

What gave the United States and Canada their eventual edge over other apparently better-positioned nations? To answer this question, it's important to look at past structural differences between Western Hemisphere economies.

Caribbean and certain South American nations relied primarily on such high-value agricultural crops as sugar, which entail substantial economies of scale in production. These societies developed with large numbers of laborers working for relatively few landowners. The results were a vastly unequal distribution of income and little prospect that citizens could escape their station through upward mobility.

Much of Canada and the U.S., on the other hand, offered land in abundance but lacked the physical conditions conducive to large-scale farming in the colonial era. This led to societies in which newcomers with few assets could compete on relatively level playing fields with longer-term

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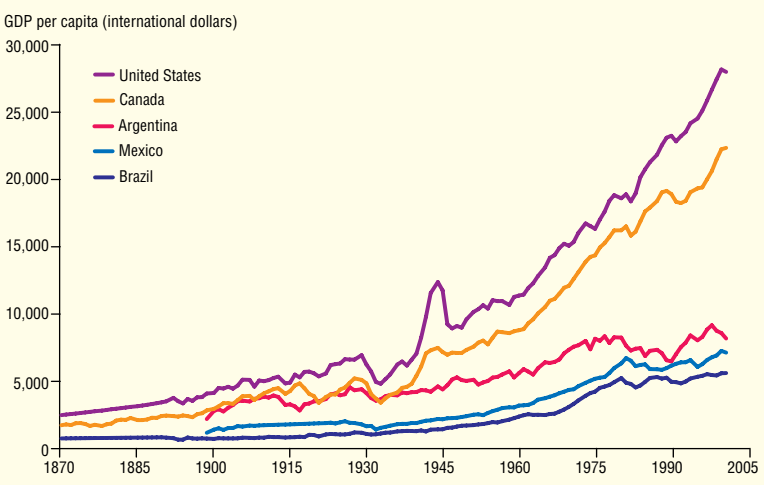
Chart 2

North and South: Economic Divergence in the Western Hemisphere



NOTES: Units expressed as 1990 International Geary-Khamis dollars.

SOURCE: *The World Economy: Historical Statistics*, by Angus Maddison, Organization for Economic Cooperation and Development, Development Centre Studies, 2003.

residents. The results were a relatively equal distribution of income and a relatively large amount of movement between income classes.

These fundamental economic realities led the rest of the hemisphere to develop institutions that were very different from the U.S. and Canada. When income and power are in the hands of a few, institutions tend to reinforce that concentration and perpetuate a high degree of income inequality. It was difficult for poor workers in many Caribbean and South American nations to acquire land, start corporations, secure patents or do any of the other things that generally go along with entrepreneurial success.

A more equal distribution of income and power makes it more difficult to create institutions that concentrate influence in the hands of a few. In the U.S and Canada, economically disadvantaged groups had a greater say in policy and more incentive to use their influence because they could hope to become prosperous themselves.

Comparing suffrage across countries provides some support for these notions. It's well known that the U.S. initially restricted voting to white males of privilege, which led to participation rates that would be regarded as pitiful by today's standards. In the 1850s, for example, 13 percent of American citizens voted in presidential elections, and participation rose to a still-low 18 percent in 1900. Yet, voting rates at the dawn of the 20th century were far lower in other Western Hemisphere nations—1.8 percent in Argentina, 2.4 percent in Brazil, 4.4 percent in Chile.

While the U.S. and Canada moved far more slowly toward universal suffrage than many would have liked, their polities were far more participatory than those of their Western Hemisphere counterparts. And empirical evidence supports the notion that expanded suffrage tends to produce governments whose programs are more likely to be directed toward the interests of the broad populace, not a small elite.[6]

The provision of public education in the Americas provides at least some evidence of a correlation between inequality and suffrage. If highly skewed income distributions produce highly skewed institutions that reinforce the status quo, we would expect relatively equal societies to provide universal schooling to their children, and relatively unequal societies to be less likely to do so.

This is indeed what we've seen in the Western Hemisphere over the past two centuries. The U.S. and Canada achieved literacy rates in excess of 80 percent by the 1870s, even if we include newly freed U.S. slaves (*Chart 3*). Institutions—usually state and local governments—understood and embraced the notion that education would help bring prosperity to the citizenry.

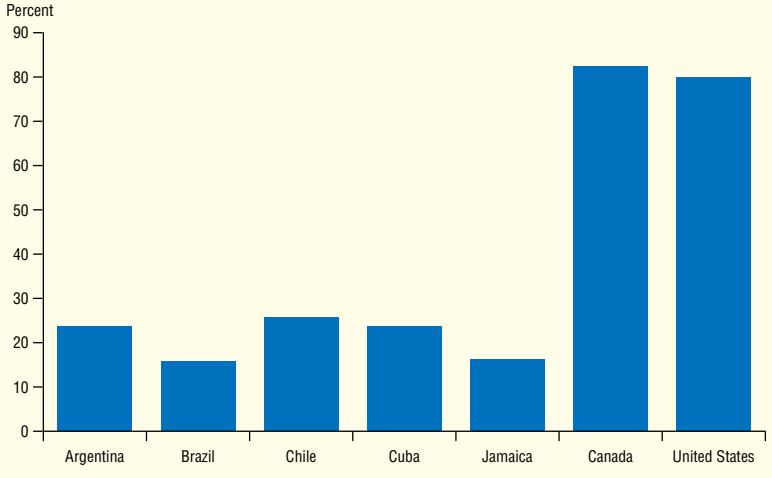
Other nations in the hemisphere with more unequal distributions of income and power were far below the U.S. and Canada in literacy in 1870. With the exception of tiny Barbados, no other Western Hemisphere nation had achieved 80 percent literacy rates half a century later. At least some have argued that this dearth of educational opportunity is due to suboptimal institutions' focus on protecting the few rather than enriching the many.[7]

New Theories

These empirical arguments have prompted the development of new theories that provide explanations for why inequality might hinder economic growth. A lot of this work focuses on situations in which market mechanisms falter, whereas the classical theorists often assumed properly functioning markets.

The new work points out, for instance, that dispersion in factor endowments implies different rates of return when resource owners are unable to trade with one another—at least under the standard assumption that returns to factors are diminishing. In other words, high-return uses of resources coexist with much lower-return ones. Redirecting resources toward the more productive enterprises should bolster growth and make income more equal.[8] However, market

Chart 3
Literacy Rates Circa 1870



SOURCE: "Inequality, Institutions, and Differential Paths of Growth Among New World Economies," by Stanley L. Engerman, Stephen Haver and Kenneth L. Sokoloff, in *Institutions, Contracts, and Organizations*, ed. Claude Menard, 2000.

impediments short-circuit this process, leading to more inequality and slower growth.

Another strand of recent work starts with the assumption that borrowers exert more effort when their stakes in projects are higher. Under that premise, it's possible to envision an environment where a more even distribution of resources gives more participants a significant interest, leading to a higher average level of effort and greater output.[9] We get similar results under the simple assumption that insufficient collateral leads some borrowers to forgo high-return projects.[10]

Another branch of inquiry focuses on political-economy questions and finds that greater inequality increases public support for redistribution, which leads to higher tax rates on capital accumulation and slower growth of the overall economy.[11]

These models show links between equality and growth, but they don't generally account for movements up and down the income distribution ladder. In some countries, it's difficult for people to leave the economic strata into which they were born. Other nations exhibit a great deal of upward mobility, often because of better education systems and well-functioning markets.

A fair amount of empirical work suggests that market-oriented economies such as the U.S. facilitate income mobility.[12] When citizens believe greater wealth may be in their future, they may vote as if they were "richer" than they actually are—a phenomenon that suggests a relatively equal distribution of opportunity may be a more important determinant of growth than a relatively equal distribution of income.[13]

These theoretical constructs provide a possible explanation for the observed negative relationship between inequality and growth and, in some cases, a potential rationale for redistribution. But it should be noted that these theories emphasize imperfections—be they barriers to trade or financial market access—that may be difficult to overcome through standard income-redistribution programs.

Moreover, the classical notion that redistribution distorts incentives to save and work can't be dismissed, creating trade-offs between redistribution's potential economic gains and its adverse consequences. Models typically find a hill-shaped relationship, where redistribution adds to growth for a while but eventually reaches a point where it becomes a drag on the economy.[14]

Institutional Links

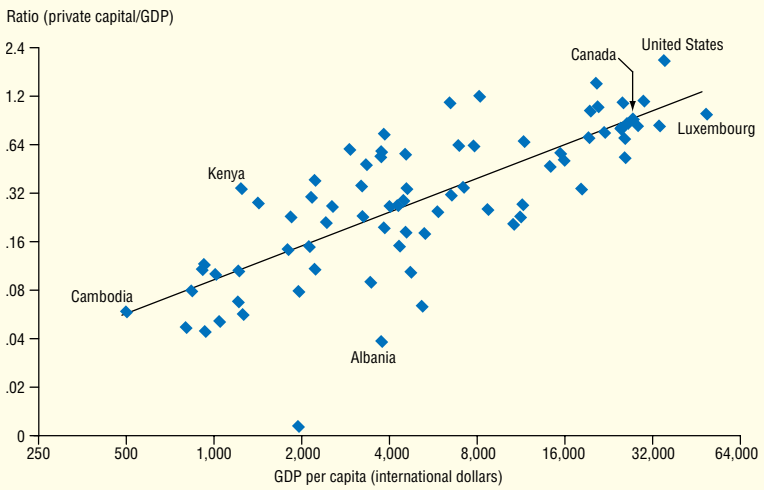
One of the distinguishing features of developing nations is the inefficiency of their basic economic institutions, such as property rights enforcement and the ability of ordinary people to undertake market transactions. Among many negative consequences, these imperfections limit access to financial markets throughout the developing world. Less credit stifles growth, leading to lower per capita incomes (*Chart 4*).

Understanding the links between inequality and institutional development requires that we explain how better institutions help markets operate more effectively and devise a method for distributing the burden of institution building across taxpayers.[15] Setting aside political constraints, this framework predicts that economies with more inequality should be more willing to develop institutions conducive to trade among their citizens because greater inequality means potentially higher returns from exchange between the relatively rich and relatively poor.

This prediction seems puzzling in light of the historical evidence for the Western Hemisphere. In that case, nations with the most unequal distributions of wealth and income developed the least market-friendly institutions, while nations with more equal distributions developed the strongest institutions.

This outcome becomes more

Chart 4
Economic and Financial Development by Nation



NOTES: Units expressed as standard purchasing power parity dollars. Data graphed on a log scale. Some countries identified for illustration purposes.

SOURCES: "A New Database on Financial Development and Structure," by Thorsen Beck, Asli Demirgüç-Kunt and Ross Levine, *World Bank Economic Review* 14, 2000, pp.597–605; Penn World Table Version 6.2, by Alan Heston, Robert Summers and Bettina Aten, Center for International Comparisons of Production, Income and Prices, University of Pennsylvania, September 2006.

The new theories are strongly consistent with the hypothesis that persistent inequality generally hinders institutional development and thereby slows growth.

reasonable once we take a broader perspective. The link from the distribution of investment returns to growth and institution building depends in sometimes counterintuitive ways on the distribution of resources across individuals.

In Latin America, for instance, the concentration of productive resources has historically been high not only with respect to physical capital and land but also education and other forms of human capital. To the extent that physical and human resources are complementary in production, inequality may in fact be associated with very little dispersion in marginal products. Institutions conducive to trading physical resources may not have much effect on growth rates unless resource-poor individuals acquire more human capital. Redistribution schemes that target physical resources may be ineffective for similar reasons.

This suggests that educational investments via, for instance, public education can play an important role in successful institutional development. And as our case study illustrates, Latin America has historically lagged far behind the U.S. and Canada in educational achievement.

If anything, the new theories are strongly consistent with the hypothesis that persistent inequality generally hinders institutional development and thereby slows growth, even before taking into account strategic political considerations. Just as important, they suggest that inequality should have limited impact on growth when effective institutions are in place.

The empirical literature has, indeed, found that the impact of inequality on growth is stronger in nations where markets function poorly.[16] We can illustrate this by taking a second look at the relationship between income inequality in 1960 and growth over the next four decades. This time, we divide the sample into three groups based on the effectiveness of their market institutions, reflected by each country's score on the Fraser Institute's rankings for regulation of credit, labor and business.[17] These scores include factors such as price controls, mandatory hiring costs and the availability of capital to the private sector.

Among the third of countries with the weakest market institutions, we see a negative relationship between inequality and growth, echoing our earlier results (*Chart 5A*). When we isolate the third of countries with the strongest institutions, however, inequality has a barely discernible impact on economic growth (*Chart 5B*).

We don't have data on whether countries *did* have effective market institutions in the past, which helps explain why our findings in these charts are fairly weak. Despite the data constraints, differences are present, suggesting that the quality of market-related institutions matters to the relationship between inequality and growth.

Obstacles to Development

While recent work has enhanced our understanding of the interplay between inequality and growth, much remains to be done before we can confidently describe the policy mix that will give nations the best chance to grow and reduce poverty.

To date, little effort has been made to carefully quantify the importance of the channels emphasized by the new theories on inequality. Once devised, these models should enable us to better weigh the consequences of redistribution.

On a more basic level, a wide gap remains between the variables these theories highlight and the available data. Most obviously, data on wealth inequality remain scarce, even for industrialized nations, let alone developing nations. We also need a deeper understanding of the link between available measures of inequality and the dispersion of returns to competing uses of resources.

Finally, we have chosen to concentrate on the impact of inequality

on growth, but it's clear that growth, in turn, affects inequality. A large literature studies this direction of causality. The famous Kuznets hypothesis—that growth initially increases inequality but eventually reduces it—has been challenged by the recent increase in earnings inequality in much of the industrialized world. Satisfactory theories of the relationship between growth and inequality will have to account for these recent patterns.

Even at this early stage, however, strong themes are emerging from studies of inequality. One seems particularly important: To the extent inequality is detrimental to growth, the impact rises with the severity of market imperfections. This suggests that dealing with these deficiencies—for example, by better protecting property rights and removing obstacles to financial development—is a key step toward economic development and poverty reduction.

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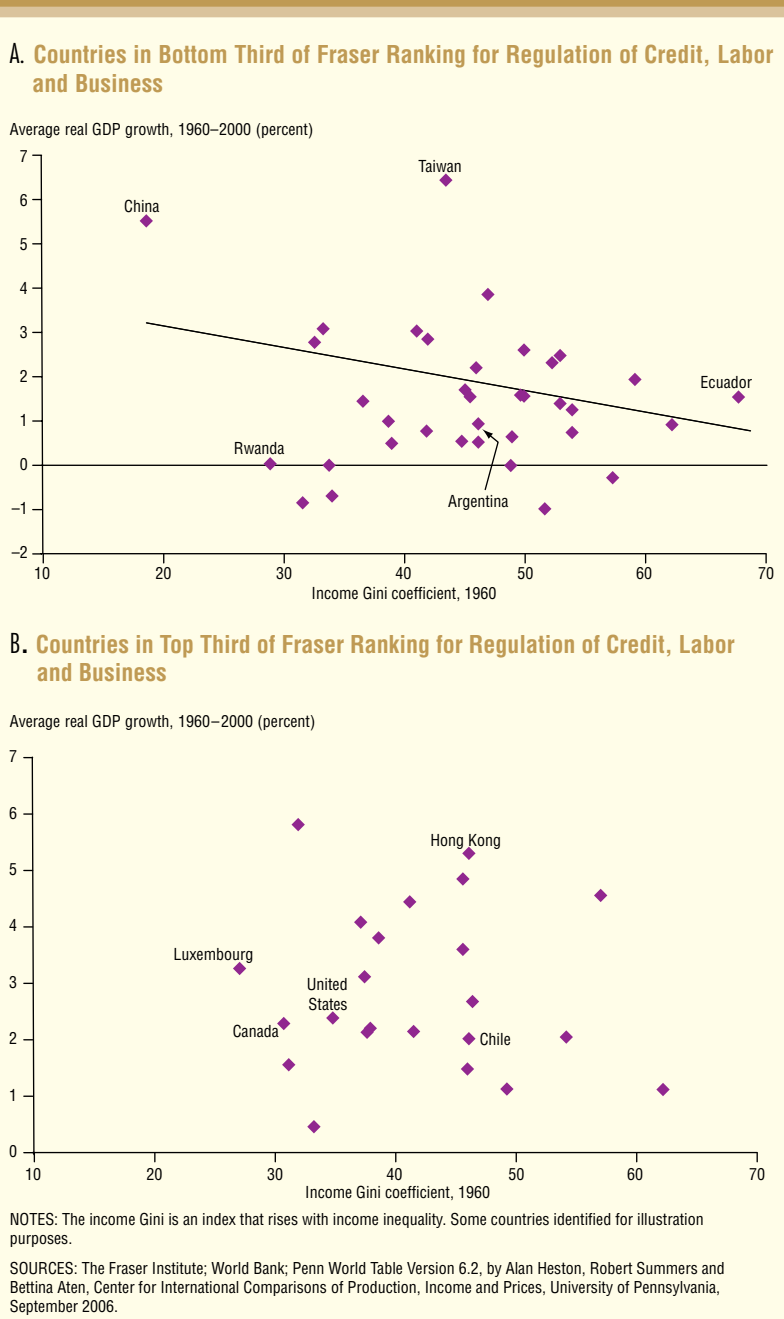
Chart 5

Inequality and Growth by Nation



NOTES: The income Gini is an index that rises with income inequality. Some countries identified for illustration purposes.

SOURCES: The Fraser Institute; World Bank; Penn World Table Version 6.2, by Alan Heston, Robert Summers and Bettina Aten, Center for International Comparisons of Production, Income and Prices, University of Pennsylvania, September 2006.

Notes

[1] See "The Poverty-Growth-Inequality Triangle," by François Bourguignon, unpublished paper, World Bank, March 2004.

[2] This article draws heavily from various survey papers, particularly "Inequality and Economic Growth: The Perspective from New Growth Theories," by Philippe Aghion, Eve Caroli and Cecilia García-Peñalos, *Journal of Economic Literature*, vol. 37, December 1999, pp. 1615–60, and "Inequality and Growth," by Roland Benabou, *NBER Macroeconomics Annual*, 1996.

[3] See, for example, "Political Equilibrium, Income Distribution, and Growth," by Roberto Perotti, *Review of Economic Studies*, vol. 60, October 1993, pp. 755–76; "Redistributive Policies and Economic Growth," by Alberto Alesina and Dani Rodrick, *Quarterly Journal of Economics*, vol. 109, May 1994, pp. 465–90; and "Is Inequality Harmful for Growth?" by Thorsten Persson and Guido Tabellini, *American Economic Review*, vol. 84, June 1994, pp. 600–21.

[4] For instance, using panel evidence rather than cross-sectional evidence leads to very different conclusions. See "A Reassessment of the Relationship Between Inequality and Growth," by Kristin Forbes, *American Economic Review,* vol. 90, September 2000, pp. 869–87. This is interpreted as evidence that the negative relationship between inequality and growth holds in the long run but may not hold over shorter horizons.

[5] This section draws heavily from "History Lessons: Institutions, Factor Endowments, and

Paths of Development in the New World," by Kenneth Sokoloff and Stanley Engerman, *Journal of Economic Perspectives*, vol. 14, Summer 2000, pp. 217–32.

[6] See "The Effect of the Expansion of the Voting Franchise on the Size of Government," by Thomas Husted and Lawrence Kenny, *Journal of Political Economy*, vol. 105, February 1997, pp. 54–82.

[7] For more on this subject, see "Why Isn't the Whole World Developed?" by Richard Easterlin, *Journal of Economic History*, vol. 41, March 1981, pp. 1–19.

[8] This argument is formalized in Aghion, Caroli and García-Peñalos and Benabou (note 2).

[9] See "A Theory of Trickle-Down Growth and Development," by Philippe Aghion and Patrick Bolton, *Review of Economic Studies*, vol. 64, April 1997, pp. 151–72.

[10] See, for instance, "Imperfect Capital Markets and the Persistence of Initial Wealth Inequalities," by Thomas Piketty, London School of Economics Working Paper no. TE/92/255, 1992.

[11] See Alesina and Rodrick and Persson and Tabellini (note 3).

[12] For further information on income mobility in the United States, see *Myths of Rich and Poor*, by W. Michael Cox and Richard Alm, New York: Basic Books, 1999.

[13] See "Preferences for Redistribution in the Land of Opportunities," by Alberto Alesina and Eliana La Ferrera, *Journal of Public Economics*, vol. 89, June 2005, pp. 897–931, and "Social Mobility and the Demand for Redistribution," by Roland Benabou and Efe Ok, *Quarterly Journal of Economics*, vol. 116, May 2001, pp. 447–87.

[14] See Benabou (note 2).

[15] For such a framework, see "Inequality and Growth: The Institutional Link," by Thorsen Koeppl, Cyril Monnet and Erwan Quintin, Federal Reserve Bank of Dallas, unpublished paper, 2007.

[16] See Benabou (note 2) for a detailed discussion.

[17] Data are from *Economic Freedom of the World: 2007 Annual Report*, by James D. Gwartney and Robert A. Lawson, Fraser Institute, 2007, www.fraserinstitute.org/Commerce.Web/product_files/EFW2007BOOK2.pdf.

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