
International Studies & AAE 374
Growth and Development of Nations

Lecture 23
1 December 2009

I. *The Impact of Inequality on Growth*

A. *Changing Directions*

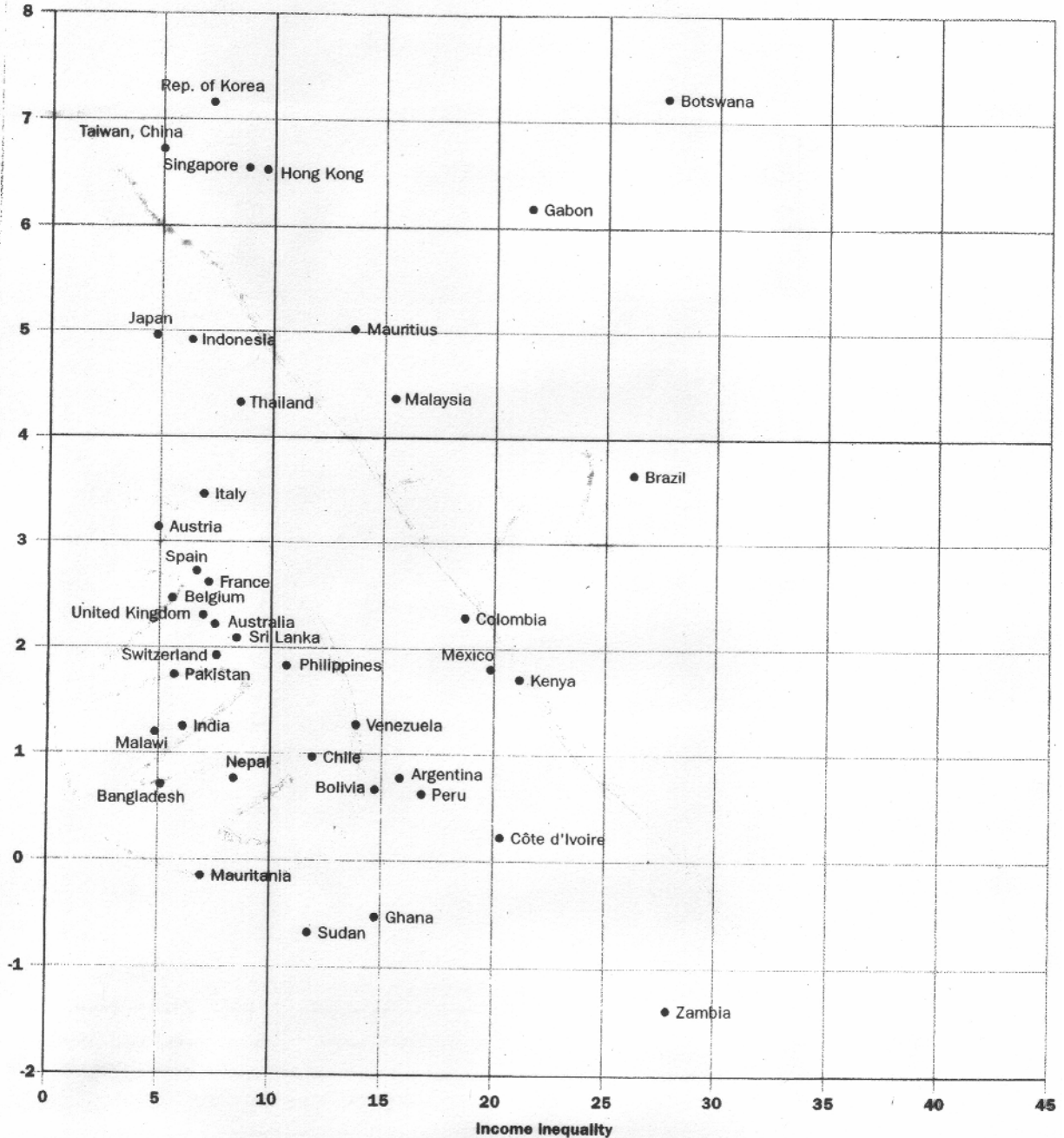
1. Been looking at the impact of growth on inequality
 - a. Can care about inequality for its own, as it speaks in part to who benefits most from growth, reform policies, etc.
 - b. Might also care about inequality instrumentally—does inequality itself have other economic effects
2. Today, we will turn the causality around and think about some of these effects of economic inequality. Two key points
 - a. Inequality can itself slow down economic growth
 - b. May also form a vicious circle, in which high inequality means slower growth, and slower growth may sustain high inequality
3. Intrinsically complex issues-see how conceptual and regression analysis can help

B. *A First Empirical Look*

1. Let's first look at simple scatter plot of the inequality growth-relationship
2. Will later look more carefully at regression relationship

Figure 1.3 Income Inequality and Growth of GDP, 1965-89

GDP growth per capita (percent)



Note: Income inequality is measured by the ratio of the income shares of the richest 20 percent and the poorest 20 percent of the population.
Source: World Bank data

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C. Possible causal pathways linking inequality to growth

1. Economics of accumulation and innovation – More inequality good for growth
 - a. Inequality, savings rates and accumulation of physical capital
 - b. Inequality, innovation, and technology
2. More Inequality – Bad for Growth Arguments
 - a. High rent-seeking – less secure property rights or less entrepreneurial behavior.
 - b. Politics and policies in unequal (polarized) societies
 - c. Limits to human capital investment

GLOBALIZATION-INEQUALITY-POVERTY NEXUS

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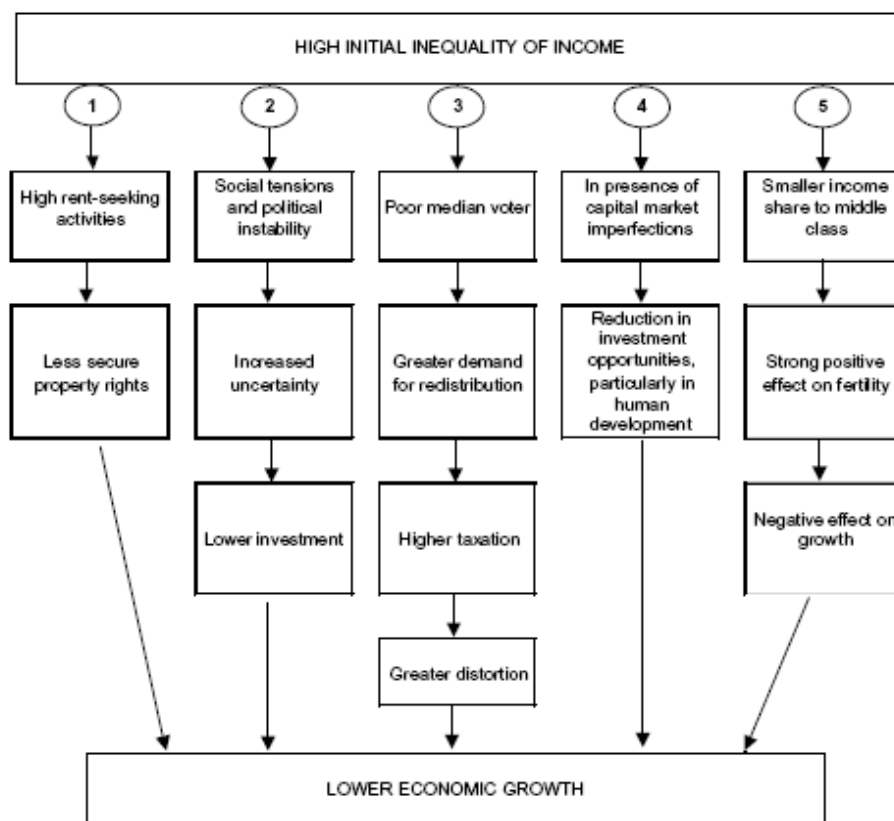


Figure 1. Channels through which inequality effects growth. Sources: (1) Benhabib and Rustichini (1991), Keefer and Knack (2000); (2) Alesina and Perotti (1994); (3) Alesina and Rodrik (1994), Bertola (1993), Persson and Tabellini (1994); (4) Banerjee and Newman (1993), Aghion and Bolton (1997); (5) Perotti (1996).

III. Inequality, Human Capital Accumulation and Growth

A. Conceptual Discussion of Inequality, Human Capital Accumulation, and Growth

1. Why is inequality important to human capital accumulation?
 - a. If inequality is reflected in high poverty rates, then poor families will find it hard to afford direct and opportunity costs of children's schooling.
Direct costs = Fees, books, uniforms, supplies, and events.
Opportunity costs = Value of child's time in alternative activities (home work, market work, child care, animal husbandry, etc.)

Story of Common Hope sponsorship

- b. If inequality is reflected in low levels of public investment in education, then more of burden falls on poor families to pay the direct costs.

Many poor countries have skewed public investments in tertiary education relative to primary and secondary, as well as low overall public expenditures on schooling. Richer families bail to private schools.

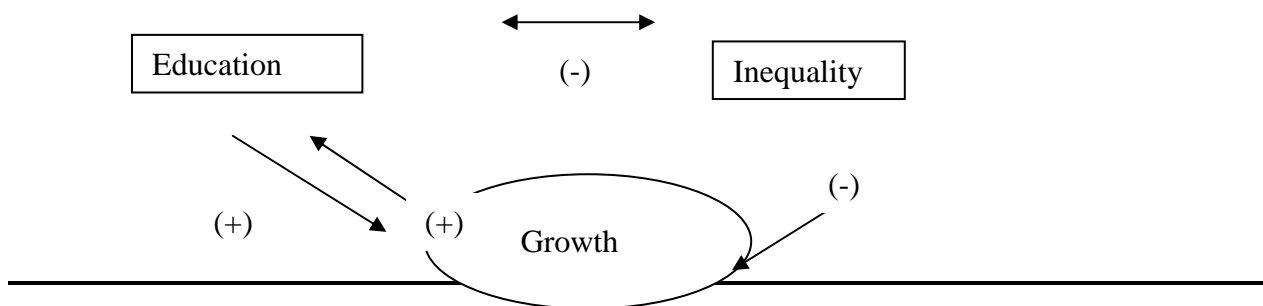
- c. If inequality is reflected in limited access to capital or financing for investments, then poor families will find it hard to leverage their assets to invest in children's education. This is especially problematic at the secondary school level, when costs for education tend to rise, and opportunity cost of children's time also rises.

2. Intergenerational and economy-wide issues

- a. Low levels of education for children transfer to next generation because:
 - i.) low earnings capacity
 - ii.) less capacity to help children with learning
 - iii.) lower preferences for education in children?
 - iv.) limited bequest possibilities

- b. Family poverty traps develop which limit human capital accumulation which can in turn limit economic growth in broader society

3. Virtuous or vicious circles?



B. *Statistical Evidence (Birdsall et al article) – 1960-1985*

1. Education → growth (table 2, col 1)
 - a. Positive and significant regression coefficients on primary school enrollment rates in 1960 and Secondary school enrollment rates, controlling for per capita GDP and some other stuff. (NOTICE convergence result, too, in terms of GDP measures).
 - b. Notice that this result holds up in column 2 where manufactured exports/GDP is included, but that this term and its interaction with secondary school enrollment are not statistically significant individually but pass a joint test for significance. This result supports the notion that human capital accumulation particularly valuable in an economy in which manufactured exports are a higher proportion of GDP. More skill demanding.
 - c. Magnitude of the impacts of education on growth is large. Move half a standard deviation up and down from the average makes for 40% higher per capita growth over 25 years. Full standard deviation equates with nearly 1.5% annual difference in growth rates. Holds up across men and women. Why?
 - d. Why over time might an increase in human capital accumulation also raise the rate of return on investment in human capital? See Figure 4 of Birdsall et al paper. Basic logic would be if D for human capital outpaces S. This could occur for a variety of reasons related to the external economy arguments we explored recently (matching, spillovers).
 - e. Note that Birdsall et al point out the virtuous impacts of more growth on education outcomes using Korea's high investment rates in education during this time period as an example. Their per student expenditures grew rapidly because the GDP share of education held steady but GDP rose rapidly AND population grew less rapidly. This is evident in Table 3.
2. Inequality → education (figures 2 & 3)
 - a. How did inequality influence education outcomes during this time period?
 - (i) Figures show that countries performing above the predicted association of per capita income and enrollment rates were generally more egalitarian and visa versa. East Asian countries low inequality. Brazil and Pakistan high inequality. East Asian above predicted line, Brazil and Pakistan below.
 - (ii) Similar results could be had from a careful look at other Latin American countries with high levels of inequality.
 - b. Return to Figure 4 and contrast their view of a typical East Asian economy with a typical developing economy to see higher rates of return on human capital in typical economy (b.c. less elastic supply – poor less able to finance investment).

- c. Wage gaps between more and less skilled workers fell, too, in Korea compared with Brazil (Table 4) because of the far more rapid growth in secondary and higher education enrollment there.
 - d. Falling inequality is probably good for education investments in two ways – privately via relaxing financing constraints and publicly via pushing more state money to primary and secondary education expenditures. These outcomes are also developed in the paper first by comparing Malaysia and Brazil to show that if Brazil had Malaysia’s income distribution that school enrollment rates among Brazilian children would be 40% higher, and second by comparing Korea and Venezuela in terms of public education budgets in 1985. Korea, low inequality country, spent 10% of its public education budget on higher education, whereas Venezuela, high inequality country spent 43%.
3. Direct and Indirect Effects of Inequality on Growth (table 2, col 3, 4)
- a. Direct effects – first they are evident in column 3 via the income share ratio measure which is negative and significant in its sign – more income inequality means lower growth, or less inequality means more growth.
 - b. If we remove the educational attainment variables from the regression, the impact of the inequality measure is 50% greater. This version of the regression model supports the notion that inequality has both direct and indirect effects on growth, with the latter being through the limits that inequality puts on the educational attainment of poor households.
 - c. As in the other sensitivity analyses discussed above, the authors again do the exercise of seeing how Korea a more egalitarian country would have fared with an income distribution of a highly inegalitarian country like Brazil and find big effects (p.496).
 - d. Their speculation on causes of direct effects?
 - (i) Higher savings and investment by the poor (esp. on nutrition and health)
 - (ii) Political and macroeconomic stability
 - (iii) More shirking, less effort by poor without mobility
 - (iv) Positive impacts of higher rural incomes on overall economy via economies of scale in manufacturing and less demands from polity for redistribution or make-work jobs.

IV. Inequality, Polarization and Politics

A. Easterly (chapter 13) has a very nice discussion. Proposes several sorts of destructive politics that can happen when factionalism drives politics

1. Oppressive public taxation policies
2. Impatience (oil example)

B. So where does such factionalism come from

1. Simple median voter model of Weil: increased inequality leads to more oppressive taxation
2. Easterly suggests that the interaction is a bit more subtle
 - a. Uses term ‘polarization’
 - b. Unlike Weil’s ‘crude materialism,’ notes that polarization has more than economic class basis. That is, there are other dimensions of identity around which factions and destructive activity can occur
 - c. Indeed, may be that when class and social identity are correlated that gets strongest effects
 - d. Could say more here, but ...

C. Empirical Evidence

1. Alesina, A. and D. Rodrik (1994). “Distributive Policies and Economic Growth,” *Quarterly J of Econ* (109)2: 465-490.
 - a. Motivation for Study
 - b. Basic regression model:

$$g_i = \beta_0 + \beta_0 GDP60_i + \beta_1 PRIM60_i + \beta_2 GINI60_i + \beta_3 LandGini60_i + error_i$$

c. Results

- (i) Note convergence term (interpret)
- (ii) Significance of coefficients
- (iii) Democracy insignificance matches Easterly’s skepticism

	Effect on per capita growth, 1960–85		
	Version 1	Version 2	Version 3
Constant	6.22 (4.69)	6.24 (4.63)	6.21 (4.61)
GDP60	-0.38 (3.25)	-0.39 (3.06)	-0.38 (2.95)
Prim60	2.66 (2.66)	2.62 (2.53)	2.65 (2.56)
Gini60	-3.47 (1.82)	-3.45 (1.79)	-3.47 (1.80)
LandGini	-5.23 (4.38)	-5.24 (4.32)	-5.21 (4.19)
Dem*LGini		0.12 (0.12)	
Dem			0.02 (0.05)

Source: Alesina and Rodrik [1994].

Note: Figures in parentheses denote *t* values.

2. Social Instability and Inequality (see Weil, pages 393 & 393)
 - a. Data (scatter plot, figure 13.14)
 - b. Regression result (footnote 17 on page 392):

$$E[SPI] = -17.8 + 33.2GINI$$
 - (i) both coefficients significant
 - (ii) Scaled such that a move from northern European to South American inequality results in a 10 point shift in SPI a scale that ranges a total of ~30 points, so move from low to medium or medium to high.

V. Institutions Overview

Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which the people do not feel themselves secure in the possession of their property, in which the faith of contracts is not supported by law, and in which the authority of the state is not supposed to be regularly employed in enforcing the payments of debts from all those who are able to pay. Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of government.

Adam Smith, Wealth of Nations

A. Opening Discussion Questions

1. When did Adam Smith write the Wealth of Nations?
2. What was happening in England at the time?
3. What does this quote have to do with “institutions”?

B. What do we mean by “institutions”?

1. Definition from Wikipedia:

Institutions are [structures](#) and [mechanisms](#) of [social order](#) and [cooperation](#) governing the [behavior](#) of two or more [individuals](#). Institutions are identified with a [social purpose](#) and permanence, transcending individual [human](#) lives and intentions, and with the making and enforcing of rules governing cooperative human behavior. The term, institution, is commonly applied to customs and behavior patterns important to a [society](#), as well as to particular formal organizations of [government](#) and [public service](#). As structures and mechanisms of social order among humans, institutions are one of the principal objects of study in the [social sciences](#), including [sociology](#), [political science](#) and [economics](#). Institutions are a central concern for [law](#), the formal regime for political rule-making and enforcement. The creation and evolution of institutions is a primary topic for [history](#).

2. Sokoloff and Engerman discuss:
 - Security of property rights
 - Prevalence of corruption
 - Structures of the financial sector
 - Investment in public infrastructure (roads, schools) and social capital

- Inclination toward working hard or to be entrepreneurial
 - Democratic decision-making (broad or narrow franchise)
3. Rodrik et al discuss:
 - Role of property rights, rule of law
 - As an instrument “European Settler mortality” (more on that Thursday) or Fraction of developing country (former colonies) speaking European language, fraction speaking English.
 4. Other dimensions of institutions?
 - Freedom of association (unions, cooperatives, religion)
 - Freedom of speech (including media)?
 - Guaranteed human rights
- C. Why do you think institutions matter to growth?
1. Savings and investment of physical capital?
 2. Investment in human capital?
 3. Technological innovation?
 4. Technological change
- D. Are Institutions the deeper driver of growth?
1. Douglas North (Nobel Prize Winner) argued so but with narrow vision of institutions.
 2. WI school of institutional economics (John R. Commons, Kenneth Parsons ([http://www.secfac.wisc.edu/senate/1999/1101/1460\(mem_res\).pdf](http://www.secfac.wisc.edu/senate/1999/1101/1460(mem_res).pdf)), Dan Bromley, Michael Carter)
 3. Lots of attention now in economics