Level of Development, Rate of Economic Growth, and Income Inequality*

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I. Introduction

Using some variant of the Kuznets-type quadratics, numerous studies have tried to assess the pattern of evolution of income inequality during the course of modern economic growth. The main objective of that research has been to determine whether the data are consistent with the inverted-U pattern suggested by S. Kuznets.[1] Almost all research on the topic is based on multicountry cross-sectional data, and the overall empirical evidence does not show a clear picture. Several researchers, including S. Anand and S. Kanbur, and K. Deininger and L. Squire, have concluded that multicountry data do not support Kuznets's hypothesis.[2] Some other studies, including those by S. Randolph and W. Lott, R. Ram, and S. Jha, have reported evidence that is supportive of the inverted-U pattern.[3] A. Fishlow has also suggested that a complete dismissal of the Kuznets proposition might be in error.[4]

Most of the research mentioned above focused on estimating the relation between the level of economic development, usually proxied by real gross domestic product (GDP) per capita, and income inequality, so as to judge whether an inverted-U pattern is observed. However, notwithstanding the potential significance of the Kuznets paradigm, it should be evident that level of development (or income) is just one determinant of income inequality and that rate of economic growth is another important and related factor. Nevertheless, very few studies have investigated how the rate of growth is related with inequality at various levels of development (or income), except perhaps incidentally and through an additive growth term in Kuznets-type models of inequality. Even the studies that did consider the growth-inequality nexus have reported somewhat contradictory results. For example, an additive GDP-growth term in M. Ahluwalia's regression estimates indicated a statistically insignificant equalizing effect of growth, and in a later work he noted that

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"the cross section results do not support the view that a faster rate of growth is systematically associated with higher inequality."[5] Similarly, G. Fields stated that "none of the existing studies finds a statistically significant relationship between the level of inequality and the rate of short-run economic growth."[6] However, C. Winegarden and R. Ram, both of whom also worked with an additive growth term in the inequality models, found growth to be a significant equalizer in sizable cross-country samples.[7]

Although the use of an additive income-growth term in inequality models has some usefulness in indicating the partial effect of the growth rate on inequality, it cannot shed any light on the basic structural differences between the high-growth and the low-growth cases, which might be more informative than the partial effect indicated by the additive growth term. The main purpose of the current study is to extend the earlier research in order to estimate the income parameters for the high-growth and the low-growth countries and to compare the evolution of inequality in the two groups at various income levels. Such an analysis appears important, even in the traditional models, in indicating more completely the role of growth rate in the determination of inequality. Its significance is perhaps enhanced in the context of the recent interest in the relationship between inequality and growth, which has been studied by A. Alesina and D. Rodrik; T. Persson and G. Tabellini; R. Benabou; J. Furman and J. Stiglitz; and H. Li and H. Zou, among others.[8]

II. A Few Conceptual Reflections, the Model, the Data, and the Main Results

A few reflections on the nature of the relationship between income growth and inequality are appropriate before we describe our model and present our main results. Although opinions on this matter differ, one traditional view is that of a trade-off between equity and growth. This view suggests that a higher rate of growth is likely to be associated with more unequal distribution because (*a*) higher-income persons save at a higher rate and accumulate more assets and, thus, receive a larger proportion of increased income, and this disparity is accentuated with a higher growth rate; (*b*) conversely, more inequality implies greater saving and investment and, thus, a higher growth rate; (*c*) higher growth is associated with greater entrepreneurial activity and, thus, with a larger share of the incremental income going to a small group; and (*d*) introduction of new technology, which typically accelerates growth, may benefit relatively limited segments of the populace. In terms of the Kuznets paradigm and the associated dualistic-economy framework, a higher growth rate implies a faster movement along the income trajectory. We may, thus, predict that it will accentuate inequality in the rising part of the inverted-U. However, it may help equality at high income levels after the turning point. In more recent thinking that focuses on the direction

of causation from inequality to growth, greater inequality may lower growth because (*a*) political pressures are built for "populist" redistributional policies that are likely to detract from growth; (*b*) greater mass dissatisfaction may cause unrest and instability and, thus, lower factor accumulation; and (*c*) greater equality in the ownership of certain productive resources (e.g., land) and access to means of accumulating basic human capital (e.g., elementary and secondary schooling) can be growth enhancing. In addition to others, Alesina and Rodrik; Persson and Tabellini; N. Birdsall, D. Ross, and R. Sabot; and Furman and Stiglitz have articulated these and some other mechanisms that can generate a positive association between equality and growth.[9] Therefore, the nature of the relationship between growth rate and income inequality remains somewhat uncertain, especially at the lower income levels, and a further empirical investigation of the position should be useful.

While several types of models can be used to study the relation between growth and inequality, our starting point is the usual Kuznets quadratic. One reason for this choice is that several studies have already considered the growth-inequality nexus in this framework with an additive income-growth term. It seems natural to extend the methodology to let the parametric structure of the Kuznets quadratic vary across the high-growth and the low-growth cases and then to undertake a comparison of the evolution of income inequality in the two groups at various levels of development. Thus, we start with the usual Kuznets quadratic

$$\text{INEQ}_i = a_1 + b_1(\text{LY}_i) + c_1(\text{LY}_i)^2 + u_{1i}, \tag{1}$$

where INEQ_i is a measure of income inequality in unit (country) i, LY is the natural logarithm of real income (GDP) per capita, LY^2 is the squared-income term, and u is the standard stochastic disturbance that justifies the use of the ordinary least squares (OLS) procedure for estimation. Although several different specifications have been used in the literature, equation (1) represents a fairly common format to study the empirical validity of Kuznets's hypothesis, which suggests b_1 to be positive and c_1 to be negative. If an income-growth term (GY) is added to equation (1), we get

$$\text{INEQ}_i = a_2 + b_2(\text{LY}_i) + c_2(\text{LY}_i)^2 + d(\text{GY}_i) + u_{2i}, \tag{2}$$

where GY is the rate of growth of (per capita) real income. This is the format that has been used (along with some other variables) in several previous studies to judge, through the sign and the magnitude of d, the relationship between growth and inequality.

If we wish to let the entire parametric structure of equation (1) dif-

fer between the high-growth and the low-growth regimes, one way to do so is to estimate a model of the form:

$$\begin{aligned} \text{INEQ}_i = a_3 + b_3(\text{LY}_i) + c_3(\text{LY}_i)^2 + a_{33}D \\ + b_{33}(D \times \text{LY}_i) + c_{33}[D \times (\text{LY}_i)^2] + u_{3i}, \end{aligned} \tag{3}$$

where D is a dummy variable that takes the value of one for observations that are identified as belonging to the high-growth category and the value of zero for the low-growth cases, and its coefficient indicates the difference in the constant term between the two groups, with the low-growth group being the base. Similarly, $D \times \text{LY}$ and $D \times (\text{LY})^2$ are the interaction terms, and their coefficients express the difference between the two groups with regard to the parameters of the income and income-squared terms. The estimates for equation (3) can be used to generate simulated values of inequality for different income levels in each group.[10]

Two points may be noted about equation (3). First, it does not necessarily presume that there is an inverted-U pattern. Presence or absence of the inverted-U in either group is determined by the data and is secondary to the main purpose of our study. Second, unlike equation (2), it is largely neutral in regard to the direction of causation between inequality and growth, and it is consistent with the causal flow being from growth to inequality, inequality to growth, or in both directions.

Data on inequality are taken from the "high quality" component of a recent compilation by Deininger and Squire.[11] This is probably the most careful and comprehensive compilation of data on income distribution. The data set contains information on the Gini coefficient, which has been used in most studies on the subject and which we have treated as the main indicator of income inequality.[12] The data set contains multiple observations for most countries. However, since we work with the growth rate for one period, it is appropriate that we take, as far as possible, an inequality variable for one common year. Therefore, we use the Gini coefficient for or around the year 1985. For the growth variable (GY), we use the annual rate of increase of real GNP per capita for the period 1980–90, which appears appropriate since the inequality measure is centered on the year 1985. Information on the growth rate is taken from the *Human Development Report, 1993* of the United Nations Development Programme.[13] Data on real GDP per capita, in international dollars at 1985 prices, are taken from a recent update (Penn World Table, Mark 5.6a) of Summers and Heston.[14] The resulting number of usable observations is 65.[15]

For estimating equation (3), it is necessary to classify the countries into high-growth and low-growth groups. While such a categorization is somewhat subjective, we ranked the countries by the rate of growth of real GNP per capita and divided the sample into three roughly equal parts. The top one-third was treated as the high-growth group, and

TABLE 1

ESTIMATED PARAMETERS OF TWO KUZNETS-TYPE QUADRATICS

	CONSTANT	COEFFICIENT OF LY	COEFFICIENT OF LY^2	COEFFICIENT OF GY	R^2 (SEE)	N
Equation (1)	−287.515*	83.646*	−5.249*	. . .	.30	65
	(−3.63)	(4.29)	(−4.43)		(7.603)	
Equation (2)	−301.332*	86.664*	−5.397*	−.736*	.35	65
	(−3.90)	(4.56)	(−4.67)	(−2.14)	(7.393)	

NOTE.—Relevant t-statistics are shown in parentheses below the parameter estimates. The SEE, below R^2 in parentheses, is the standard error of the regression. The Gini coefficient, which is the dependent variable, is measured in percentage points; it thus ranges between 0 and 100.

* $P \leq .05$.

the bottom one-third was taken as the low-growth category. The criterion implied by the classification is that countries with an annual growth rate of 2% or more are in the high-growth group, and those with no growth or negative growth are the low-growth cases. There are a total of 25 observations in the high-growth group and 23 in the low-growth group. The remaining 17 are cases of "intermediate" growth. These are excluded from equation (3) in order to sharpen the comparison.

Table 1 contains the OLS estimates for equations (1) and (2), and it is a preliminary part of our exercise. The table suggests three points. First, the fit of the models is fairly good. Second, there is evidence in favor of Kuznets's hypothesis in both equations, which, however, is not the main point of our work. Third, the income-growth term has a statistically significant negative coefficient indicating that growth is an equalizer, which is consistent with the pattern reported by Winegarden and by Ram.[16] However, even overlooking the point about the exogeneity of the growth variable, the equalizing effect of growth is quantitatively small. For example, a one percentage point increase in the annual rate of growth of GNP per capita, which is large relative to the (unweighted) sample mean of 1.17%, lowers the Gini coefficient by about three-fourths of a percentage point, which seems like a minor effect relative to the sample mean of 40.4%.[17] It is, of course, obvious that equation (2) postulates a uniform effect of GY at all income levels.

Table 2 reports estimates of equation (3) and is of primary interest. Several points may be noted from the table. First, the fit of the model is quite good. Second, the regression structure continues to support the Kuznets paradigm in both groups, and the parameter estimates for the income terms (for the base group) are statistically significant at least at the 10% level. Third, probably due to collinearity, t-statistics for the income terms are lower here than in table 1. Fourth, while the individual parameter estimates for the high-growth dummy and the interaction

TABLE 2

COMPARING THE PARAMETRIC STRUCTURE OF THE BASIC KUZNETS QUADRATIC FOR HIGH-GROWTH AND LOW-GROWTH REGIMES (Eq. [3] of the Text)

		COEFFICIENT OF						
	CONSTANT	LY	LY^2	D	$D \times LY$	$D \times LY^2$	R^2	N
Parameter	−212.774	65.366*	−4.106*	−193.792	43.875	−2.529	.40	48
t-statistic	−1.62	1.92	−1.87	−.89	.82	−.77	[a]	...

NOTE.—The high-growth countries are those that had an annual growth rate of at least 2% in real GNP per capita during 1980–90. Low-growth cases are those where the growth rate over the period was zero or negative. The countries with an intermediate growth rate are excluded, and the sample size is thus smaller than in table 1. The low-growth group is the base, and D takes the value of one for high-growth countries and zero for low-growth countries. The $D \times LY$ and the $D \times LY^2$ are the products of D and LY and LY^2, respectively.

[a] The standard error of the regression is 7.086. The F-statistic (3, 42) for the null hypothesis that the coefficients of D, $D \times LY$, and $D \times LY^2$ are all zero is 2.66. It has a P value of .06.

* $P \leq .10$.

TABLE 3

SIMULATED (Predicted) VALUES OF GINI COEFFICIENT IN HIGH-GROWTH AND LOW-GROWTH REGIMES AT SELECTED LEVELS OF REAL GDP PER CAPITA

REAL GDP PER CAPITA	PREDICTED GINI COEFFICIENT IN CASES OF	
	High Growth	Low Growth
750	25.84	40.00
1,000	31.45	42.83
1,500	37.48	45.66
2,000	40.44	46.85
3,000	42.75	47.36
4,000	43.06	46.92
5,000	42.55	46.10
7,000	40.53	44.09
9,000	38.04	41.99
11,000	35.44	39.94
13,000	32.88	37.98
15,000	30.39	36.11
17,000	27.99	34.35

NOTE.—These predicted values are based on somewhat more precise versions of the parameter estimates reported in table 2. As explained in the text, real GDP per capita is in international dollars at 1985 prices.

terms have low statistical significance due to collinearity, the three terms are jointly significant at least at the 10% level.[18]

To reveal more clearly the implications of the parametric structure for the growth-inequality nexus in the two groups, it is useful to generate from the estimates in table 2 the simulated (predicted) values of the Gini coefficient for various income levels in each group and to compare the simulated inequality profiles. Table 3 reports the simulated values for each group at selected income levels between $750 and $17,000, which roughly correspond to the sample range. The main point to note is that the simulated (predicted) values of inequality are substantially lower in the high-growth scenario than in the low-growth group, at all income levels, and the difference is particularly large at lower income levels. For example, when GDP per capita is between $750 and $1,500, the predicted Gini coefficient for the high-growth scenario is lower than the Gini coefficient for the low-growth scenario by nearly 8–15 percentage points.[19]

To depict the comparison in a more vivid form, figure 1 shows plots of the simulated values for the Gini coefficient in each group. It shows clearly that the high-growth cases are marked by considerably smaller inequality at all income levels and that the difference is particularly large at low income levels.

The most significant point that emerges from the foregoing discussion is that the data not only indicate the absence of a trade-off between equality and growth, but growth and equality seem to reinforce each

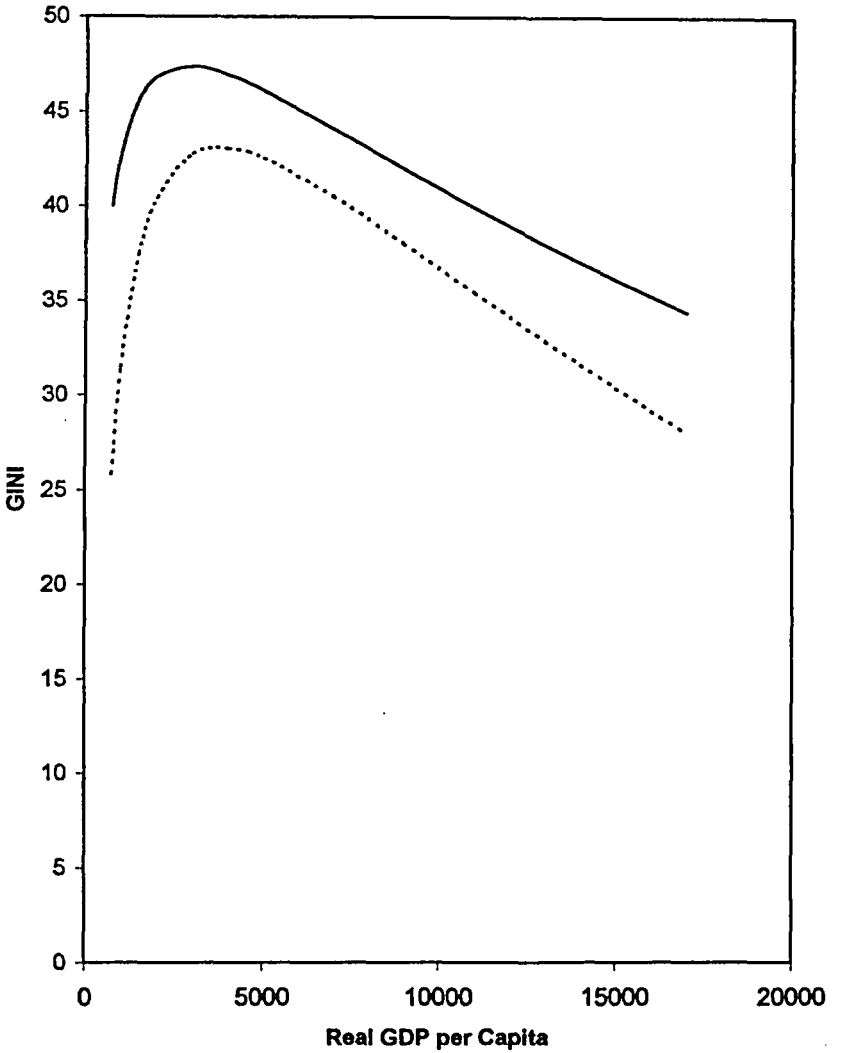

FIG. 1.—Plots of the simulated values of Gini coefficient (GINI) in high-growth and low-growth countries, based on the estimates in table 2.

other. This appears to be true not merely in the context of the East Asian "miracle," as Birdsall, Ross, and Sabot suggest, or in another small group of countries, but in a wide cross-country setting.[20] Moreover, since the simulations in table 3 and figure 1 are based on equation (3), which is largely neutral in regard to the direction of causation, one can say that not only appropriate equity-oriented policies (e.g., redistribution of some productive assets and increased access to elementary and secondary schooling) might enhance the rate of growth, but higher growth rate

could also be equity enhancing and should not be underemphasized even when the primary focus is on equity.

It is worth noting that several scholars following H. Chenery et al. have pointed out the conceptual possibility and even the policy feasibility of there being no trade-off between equity and growth.[21] Also, some scholars have provided empirical examples, notably from East Asia, of such lack of trade-off and the existence of a possible complementarity between the two.[22] The main merit of our study lies not merely in suggesting a simple methodology for examining the difference between the high-growth and low-growth cases regarding the patterns of evolution of inequality but also in providing a scenario that reflects a wide international perspective. The 25 high-growth cases include countries from Africa, Asia, Latin America, and Europe at different levels of economic development. The 23 low-growth cases also cover diverse countries from the continents of Africa, Asia, and Latin America. While these high-growth and low-growth contexts may also contain some other variables (e.g., qualitative characteristics of growth or the nature of the equity-oriented policies) that affect the inequality-growth nexus differently in the two groups, the wide coverage of the study appears instructive.

III. Conclusion

Using fairly recent and good data on income distribution for a sizable cross-country sample and a Kuznets-type quadratic specification, this article models possible parametric differences between high-growth and low-growth economic contexts. The objective is to determine how the evolution of inequality along the income trajectory compares in the two cases. The estimated parameters of a Kuznets quadratic for each group are used to simulate the values of the Gini coefficient at several income levels between $750 and $17,000. Subject to the caveats appropriate for studies such as this one, which work with simple models and cross-sectional data from samples of a modest size, the estimates and the simulations show a statistically significant and quantitatively substantial structural difference between the two groups, and the high-growth scenario is characterized by lower inequality at all income levels.[23] Moreover, the high-growth advantage seems particularly large at low income levels. The results are consistent with the view that there need not be a trade-off between equity and growth and that the two could be mutually reinforcing. Although such a possibility has been noted by Chenery et al. as well as other scholars, the results reported in our study offer a more dramatic illustration of its wide empirical observance. The results are also consistent with the recent view that greater equality can contribute positively to growth and suggest that this might actually be the case in a large part of the world. Thus, while one might pursue appropriate equity-oriented measures and expect a favorable impact on growth, the importance of growth is of considerable relevance even in the context of concern for equity.

Appendix

TABLE A1

LIST OF SAMPLE COUNTRIES ($N = 65$)

Country Name	High Growth	Low Growth	Country Name	High Growth	Low Growth
Algeria		×	Lesotho		×
Australia			Luxembourg	×	
Bahamas			Malaysia	×	
Bangladesh			Mauritania		×
Belgium			Mauritius	×	
Bolivia		×	Mexico		×
Botswana	×		Morocco		
Brazil			Nepal		
Cameroon		×	Netherlands		
Canada	×		New Zealand		
Chile			Nigeria		×
China	×		Norway	×	
Colombia			Pakistan	×	
Costa Rica			Panama		×
Côte d'Ivoire		×	Peru		×
Denmark	×		Philippines		×
Dominican Rep.		×	Rwanda		×
Finland	×		Seychelles	×	
France			Singapore	×	
Germany (FRG)	×		Spain	×	
Ghana		×	Sri Lanka	×	
Greece			Sweden		
Guatemala		×	Switzerland		
Honduras		×	Thailand	×	
Hong Kong	×		Trinidad and Tobago		×
India	×		Tunisia		
Indonesia	×		Turkey	×	
Iran		×	Uganda		×
Italy	×		United Kingdom	×	
Jamaica		×	United States	×	
Japan	×		Venezuela		×
Jordan		×	Zimbabwe		×
Korea (South)	×				

NOTE.—Those countries not marked above as high-growth or low-growth cases are medium-growth cases.

Notes

* A perceptive referee gave useful suggestions on an earlier version of this article. The usual caveat, however, applies.

1. Simon Kuznets, "Economic Growth and Income Inequality," *American Economic Review* 45 (March 1955): 1–28.

2. Sudhir Anand and S. M. R. Kanbur, "Inequality and Development: A Critique," *Journal of Development Economics* 41 (1993): 19–43; and Klaus Deininger and Lyn Squire, "New Ways of Looking at Old Issues: Inequality and Growth," *Journal of Development Economics* 57 (1998): 259–87.

3. Susan M. Randolph and William F. Lott, "Can the Kuznets Effect Be Relied on to Induce Equalizing Growth?" *World Development* 21 (1993): 829–40; Rati Ram, "Economic Development and Income Inequality: An Overlooked Regression Constraint," *Economic Development and Cultural Change* 43 (January 1995): 425–34; and Shailesh K. Jha, "The Kuznets Curve: A Reassessment," *World Development* 24 (1996): 773–80.

4. Albert Fishlow, "Inequality, Poverty, and Growth: Where Do We Stand?" in *Annual World Bank Conference on Development Economics, 1995,* ed. Michael Bruno and Boris Pleskovic (Washington, D.C.: World Bank, 1996), pp. 25–39.

5. Montek S. Ahluwalia, "Income Distribution and Development: Some Stylized Facts," *American Economic Review Papers and Proceedings* 66 (1976): 128–35, and "Inequality, Poverty, and Development," *Journal of Development Economics* 3 (1976): 307–42, esp. 338.

6. Gary S. Fields, *Poverty, Inequality, and Development* (New York: Cambridge University Press, 1980), p. 122.

7. C. R. Winegarden, "Schooling and Income Distribution: Evidence from International Data," *Economica* 46 (1979): 83–87; and Rati Ram, "Population Increase, Economic Growth, Educational Inequality, and Income Distribution: Some Recent Evidence," *Journal of Development Economics* 14 (1984): 419–28.

8. Alberto Alesina and Dani Rodrik, "Distributive Politics and Economic Growth," *Quarterly Journal of Economics* 109 (1994): 465–90; Torsten Persson and Guido Tabellini, "Is Inequality Harmful for Growth?" *American Economic Review* 84 (June 1994): 600–621; Roland Benabou, "Inequality and Growth," in *NBER Macroeconomics Annual, 1996,* ed. Ben S. Bernanke and Julio J. Rotemberg (Cambridge, Mass.: MIT Press, 1996), pp. 11–74; Jason Furman and Joseph E. Stiglitz, "Economic Consequences of Income Inequality," in *Income Inequality: Issues and Policy Options,* Proceedings of a Symposium Sponsored by the Federal Reserve Bank of Kansas City (Kansas City, Mo.: Federal Reserve Bank of Kansas City, 1998), pp. 221–63; and Hongyi Li and Heng-fu Zou, "Income Inequality Is Not Harmful for Growth: Theory and Evidence," *Review of Development Economics* 2 (1998): 318–34.

9. Alesina and Rodrik; Persson and Tabellini; Nancy Birdsall, David Ross, and Richard Sabot, "Inequality and Growth Reconsidered: Lessons from East Asia," *World Bank Economic Review* 9 (1995): 477–508; and Furman and Stiglitz.

10. Of course, it is also possible to estimate eq. (1) separately for each group. In that case, the parameter estimates would be the same as in eq. (3), but their precision would be lower due to fewer degrees of freedom. Also, formal comparison of the corresponding estimates in the two groups is more difficult with separate estimations.

11. Klaus Deininger and Lyn Squire, "A New Data Set Measuring Income Inequality," *World Bank Economic Review* 10 (September 1996): 565–91.

12. As described in n. 23 below, estimates for Theil's entropy index indicate a similar picture (Henri Theil, *Economics and Information Theory* [Amsterdam: North-Holland, 1967]). From a different data set on income distribution, Jih Y. Chang ("Level of Economic Development, Growth Rate, and Income Inequality" [M.S. thesis, Illinois State University, 1996]) reports similar results for several different measures of inequality.

13. United Nations Development Programme, *Human Development Report, 1993* (New York: Oxford University Press, 1993), pp. 188–89, 212.

14. Robert Summers and Alan Heston, "The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950–1988," *Quarterly Journal of Economics* 106 (1991): 327–68.

15. Table A1 in the appendix lists the sample countries and identifies the high-growth and the low-growth cases.

16. Winegarden; and Ram, "Population Increase, Economic Growth, Educational Inequality, and Income Distribution."

17. The unweighted means for the main variables are given below:

	N	Gini (%)	Real GDP per Capita ($)	Growth Rate (%)
Full sample	65	40.40	5,752	1.17
High growth	25	36.78	7,690	3.82
Low growth	23	44.46	2,612	−1.75

18. Note that the samples in table 1 and table 2 differ. However, the diagnostic procedure suggested by David A. Belsley, Edwin Kuh, and Roy E. Welsch, *Regression Diagnostics* (New York: John Wiley, 1980), pp. 112–13, indicates that collinearity is likely to be significant. Two condition indexes have huge values of 500 and 1,090, and the latter is associated with high variance decomposition proportions for every variable. Additional details of the collinearity diagnostics are available from us on request.

19. These numbers contrast rather sharply with the difference implied by the estimates in table 1 with an additive GY term. Since unweighted mean values of GY in the high-growth and the low-growth groups are 3.82 and −1.75, respectively, the estimated coefficient of GY in table 1 implies a difference of about 4.10 percentage points in the Gini coefficient between the two groups at all income levels. However, such quantitative comparisons should be treated cautiously owing to the low precision of the individual parameter estimates for some of the variables in eq. (3).

20. See Birdsall, Ross, and Sabot (n. 9 above). As the appendix shows, the eight East Asian countries included in the high-growth group are China, Hong Kong, Indonesia, Japan, Korea (South), Malaysia, Singapore, and Thailand. The high-growth cases, however, also include such countries as Botswana, India, Mauritius, Pakistan, Seychelles, Sri Lanka, and Turkey. Similarly, the low-growth cases also are quite diverse.

21. Hollis Chenery, Montek S. Ahluwalia, C. L. G. Bell, John H. Duloy, and Richard Jolly, *Redistribution with Growth* (London: Oxford University Press, 1974). More recently, among others, Furman and Stiglitz (n. 8 above, p. 234) noted, "At the very least, the data do not support the view that there is a strong tradeoff between growth and equality." Perhaps table 3 and fig. 1 of our article enable one to make a somewhat more optimistic statement. Also, Li and Zou (n. 8 above) have recently stated that inequality is not harmful for

growth. Even that can be consistent with our estimates if growth has a sizable positive effect on equality.

22. See, e.g., Birdsall, Ross, and Sabot (n. 9 above).

23. We focus on the Gini coefficient because it has been extensively used and also because Deininger and Squire's data ("A New Data Set Measuring Income Inequality" [n. 11 above]) yield more observations for this measure than for income shares. However, although the regression fit varies, the pattern is the same as in table 3 and fig. 1 if the estimates are based on the entropy index suggested by Theil (n. 12 above). Also, classifying the countries on the basis of the growth rate over the periods 1965–80 or 1965–96 yields very similar results. Additional details are available from us on request.