

Published as:

"A Reassessment of the Relationship Between Inequality and Growth." Forbes, Kristin J. *American Economic Review* Vol. 90, No. 4 (2000): 869-887. DOI: 10.1257/aer.90.4.869

Copyright & Permissions

Copyright © 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 by the American Economic Association.

Permission to make digital or hard copies of part or all of American Economic Association publications for personal or classroom use is granted without fee provided that copies are not distributed for profit or direct commercial advantage and that copies show this notice on the first page or initial screen of a display along with the full citation, including the name of the author. Copyrights for components of this work owned by others than AEA must be honored. Abstracting with credit is permitted.

The author has the right to republish, post on servers, redistribute to lists and use any component of this work in other works. For others to do so requires prior specific permission and/or a fee. Permissions may be requested from the American Economic Association Administrative Office by going to the Contact Us form and choosing "Copyright/Permissions Request" from the menu.

Copyright © 2018 AEA

A Reassessment of the Relationship Between Inequality and Growth

By KRISTIN J. FORBES*

This paper challenges the current belief that income inequality has a negative relationship with economic growth. It uses an improved data set on income inequality which not only reduces measurement error, but also allows estimation via a panel technique. Panel estimation makes it possible to control for time-invariant country-specific effects, therefore eliminating a potential source of omitted-variable bias. Results suggest that in the short and medium term, an increase in a country's level of income inequality has a significant positive relationship with subsequent economic growth. This relationship is highly robust across samples, variable definitions, and model specifications. (JEL O40, O15, E25)

In the 1950's and 1960's, economists such as Nicholas Kaldor and Simon Kuznets argued that there is a trade-off between reducing inequality and promoting growth. In the post-World War period, however, many East Asian economies had relatively low levels of inequality (for countries of comparable income levels) and grew at unprecedented rates. In sharp contrast to this experience, many Latin American countries had significantly higher levels of inequality and grew at a fraction of the average East Asian rate. These trends prompted a surge of interest in the relationship between inequality and growth, and in particular, a reassessment of how a country's level of income inequality predicts its subsequent rate of economic growth.

Over the past five years, many economists have attempted to measure this relationship by adding inequality as an independent variable to some variant of Robert J. Barro's cross-country growth regression.¹ These studies generally find a nega-

tive and just-significant coefficient on inequality, leading most economists to conclude that inequality has a negative impact on growth. This line of research has received such widespread support that a recent survey of this work concludes: "These regressions, run over a variety of data sets and periods with many different measures of income distribution, deliver a consistent message: initial inequality is detrimental to long-run growth" (Roland Benabou, 1996b p. 13). This message has been so widely accepted that it has recently motivated a series of papers explaining the specific channels through which inequality might affect economic growth.²

Although most of these papers focus on theories establishing a negative effect of inequality on growth, a careful reading of this literature suggests that this negative relationship is far less definitive than generally believed. In many models, the negative relationship depends on exogenous factors, such as aggregate wealth, political institutions, or the level of development. Many of these papers predict multiple equilibria, so that under certain initial conditions, inequality could have a positive relationship with economic growth. Moreover, several recent papers have developed models that predict a positive relationship between inequality

* Sloan School of Management, Room E52-446, Massachusetts Institute of Technology, 50 Memorial Drive, Cambridge, MA 02142. Thanks to Daron Acemoglu, Abhijit Banerjee, Andrew Bernard, Rudiger Dornbusch, Oded Galor, Robert Solow, Jaume Ventura, and the anonymous referees at the AER for extremely helpful comments and criticism. Special thanks to Norman Loayza for an insightful discussion on panel estimation.

¹ For examples of this regression, see Barro and Xavier Sala-i-Martin (1995). For examples of inequality added to this framework, see Alberto Alesina and Roberto Perotti (1994), Alesina and Dani Rodrik (1994), Torsten Persson and Guido Tabellini (1994), Nancy Birdsall et al. (1995),

George R. Clarke (1995), and Klaus Deininger and Lyn Squire (1998).

² See Benabou (1996b) and Perotti (1996) for excellent surveys of this empirical and theoretical work.

and growth. For example, Gilles Saint-Paul and Thierry Verdier (1993) argue that in more unequal societies, the median voter will elect a higher rate of taxation to finance public education, which will increase aggregate human capital and economic growth. Benabou (1996a) develops a model based on heterogeneous individuals and shows that if the degree of complementarity between individuals' human capital is stronger in local than global interactions, then segregated and more unequal societies can experience higher rates of growth (at least in the short run). Oded Galor and Daniel Tsiddon (1997a, b) develop two theories of why inequality and growth could be positively related. In one model, a home environment externality helps determine an individual's level of human capital, and if this externality is strong enough, a high level of inequality may be necessary for growth to "take off" in a less-developed economy. In a second model, Galor and Tsiddon argue that inequality increases during periods of major technological inventions, which, by enhancing mobility and the concentration of high-ability workers in technologically advanced sectors, will generate higher rates of technological progress and growth.

These theoretical papers predicting a positive relationship between inequality and growth have received less attention in this branch of literature because all recent empirical work has reported a negative relationship between these variables. There are, however, a number of potential problems with this empirical work. First, many of the estimates of a significant negative effect of inequality on growth are not robust. When any sort of sensitivity analysis is performed, such as when additional explanatory variables or regional dummy variables are included, the coefficient on inequality often becomes insignificant (although it usually remains negative). Deininger and Squire (1998 p. 269) emphasize this point, which leads them "to question the robustness and validity of the negative association between inequality and growth."

Second, all of these studies have two potential econometric problems: measurement error in inequality and omitted-variable bias.³ Ran-

dom measurement error could generate an attenuation bias and reduce the significance of results. Potentially more problematic, however, systematic measurement error could lead to either a positive or negative bias, depending on the correlation between the measurement error and the other variables in the regression. For example, if more unequal countries tend to underreport their inequality statistics and also tend to grow more slowly than comparable countries with lower levels of inequality, this could generate a negative bias in cross-country estimates of the impact of inequality on growth.

Omitted-variable bias could be equally problematic, although it is impossible to predict the direction of this bias in a multivariate context. If there are strong univariate correlations between an omitted variable, inequality, and growth, however, these relationships could outweigh any multivariate effects and generate a significant, predictable bias. For example, if a country's degree of capitalism, support for entrepreneurship, and/or amount of labor-market flexibility is omitted from the growth equation (and each of these variables tends to be positively correlated with both inequality and growth), this could generate a positive bias on estimated inequality coefficients. On the other hand, if the level of corruption (which tends to be positively correlated with inequality and negatively correlated with growth) is omitted from the growth equation, this could generate a negative bias on the estimated inequality coefficient. Given the numerous variables that are difficult to measure and include in a growth regression, it is difficult to predict a priori how omitted variables could affect estimates of the relationship between inequality and growth.

A third issue with this cross-country work on inequality and growth is that it does not directly address the important policy question of how a change in a country's level of inequality will affect growth within that country. The cross-country regression results show the long-term pattern that countries with lower levels of inequality have tended to grow more quickly. This has been interpreted to imply that governments which

³ Deininger and Squire (1998) is the one study that addresses the problem of measurement error by using the new data set described below. Deininger and Squire, how-

ever, do not address the potential problem of omitted-variable bias.

undertake policies to reduce inequality could simultaneously improve long-term growth performance. Although the cross-country results support this interpretation, they do not directly address this issue of how a change in inequality within a given country is related to growth within that country. The direct method for estimating this relationship is to utilize panel estimation. Panel techniques can specifically estimate how a change in a country's level of inequality predicts a change in that country's growth rate.

This paper addresses each of these three issues and reassesses the relationship between inequality and growth. Section I discusses previous empirical work on this topic and suggests using more consistent data to control for any measurement error and panel estimation to control for any time-invariant omitted variables. Section II describes the data set and model to be utilized and Section III estimates this model, using a generalized method of moments technique developed by Manuel Arellano and Stephen R. Bond (1991). Results suggest that in the short and medium term, an increase in a country's level of income inequality has a strong positive correlation with subsequent economic growth.

Since this significant positive relationship is in sharp contrast to the negative relationship reported in the cross-country literature, Section IV investigates why results differ. It finds that data quality, period length, and estimation technique all influence the sign and significance of the coefficient on inequality. Section V conducts a detailed sensitivity analysis of this paper's central results, confirming that this positive relationship is highly robust to many permutations of the original sample and model. The one caveat is that these results may not apply to very poor countries, since inequality data for these nations are still limited. Section VI concludes with a number of caveats to these results and emphasizes that these estimates of a short-run positive relationship between inequality and growth within a given country do not directly contradict the previously reported long-run negative relationship across countries. Instead, these results should be taken as a complement to existing studies, not only raising doubts about their "consistent message," but also suggesting that further careful reassessment of the numerous linkages between inequality, growth, and their determinants is necessary.

I. Improved Inequality Statistics and Panel Estimation

Previous work measuring how inequality is related to economic growth was limited by the availability of cross-country statistics measuring inequality. Data availability created the potential not only for measurement error, but also for omitted-variable bias (since the data did not have a large enough time-series dimension to use panel estimation). This section explains how an improved set of inequality statistics should not only reduce measurement error, but also allow panel estimation of the relationship between inequality and growth.

Measurement error is always a concern in cross-country studies. Countries have different definitions of key variables and varying degrees of accuracy in data collection. One of the variables subject to the most severe measurement error is inequality.⁴ Few countries have compiled data on income distribution on a regular basis and much of the data which has been collected is unreliable. Coverage is generally uneven, and there is a lack of consistency in the definition of income and the unit of account. As a whole, whereas most studies acknowledge that inequality statistics are plagued with measurement error, they also admit that since no good instrument for inequality exists, it is difficult to correct for this problem.

In the past few years, however, Deininger and Squire (1996) have painstakingly compiled a far more consistent and comprehensive data set on inequality. They began by assembling as many income distribution variables as possible. Then they filtered out those observations that satisfied three minimum standards of quality. Their standards were: the data must be based on household surveys; the population covered must be representative of the entire country; and the measure of income (or expenditure) must be comprehensive, including income from self-employment, nonwage earnings, and nonmonetary income.

Although these criteria do not appear extremely stringent, much of the data used in previous stud-

⁴ For further discussion of problems with measures of income inequality, see Donald McGranahan (1979), Jong-goo Park and Wouter Van Ginneken (1984), Sudhir Anand and S. M. Ravi Kanbur (1993), Gary S. Fields (1994), and Deininger and Squire (1996, 1998).

ies does not satisfy them. Deininger and Squire began with about 2,600 observations, but only 682 met the requirements to be included in their “high-quality” data set. A majority of the statistics used in some of the most well-known analyses of inequality and growth did not qualify. Moreover, this new data set also has a significantly greater number of observations and covers a broader range of countries than in any previous data compilation. As a result, Deininger and Squire’s new data set not only can minimize measurement error in inequality and any resulting coefficient bias, but also can increase the efficiency of estimates. In one of the first applications of this data set, Deininger and Squire (1998) use a simple cross-country model to estimate the long-term effect of inequality on growth. They find that using the improved measures of income inequality does not change the previous result: the coefficient on inequality is negative and significant in the base regression and becomes highly insignificant when regional dummy variables are included.⁵

This impact of including regional dummy variables suggests a potentially even more serious limitation of previous work examining the relationship between inequality and growth: omitted-variable bias. Since the dummy variables are significant, this indicates that region-specific factors affecting growth are not captured by the explanatory variables. Moreover, since the regional variables render the coefficient on inequality insignificant, this suggests that the coefficient on inequality may actually capture the effect of these omitted variables on growth, instead of the direct influence of inequality. Any sort of omitted-variable bias can be a significant problem in a cross-country growth regression. If a variable that helps explain growth is correlated with any of the regressors and is not included in the regression, then coefficient estimates and standard errors will be biased. As discussed in the introduction, the direction of the bias is determined by the relationship between the omitted variable and the regressors and is difficult to sign a priori.

One method of reducing omitted-variable bias is to use a panel instead of the standard cross-country data. Panel estimation controls for differ-

ences in time-invariant, unobservable country characteristics, thereby removing any bias resulting from the correlation of these characteristics with the explanatory variables. This technique does not adjust for all omitted-variable bias since it does not control for omitted variables whose values change over time, but papers estimating the neoclassical growth model show that using panel estimation can significantly change coefficient estimates.⁶ Many studies examining the relationship between inequality and growth admit that this sort of adjustment would be useful, but since panel estimation requires observations across time for each country, as well as across countries, the paucity of inequality data available has made meaningful panel estimation impossible. The new data set compiled by Deininger and Squire, however, has a time-series dimension for enough countries that panel estimation is finally viable.

To summarize, this paper uses a new data set compiled by Deininger and Squire to analyze the relationship between inequality and growth. These improved inequality statistics should not only reduce measurement error, but also allow the use of panel estimation techniques. Before performing this estimation, however, it is necessary to develop the specific model and data set to be utilized.

II. The Model and the Data

This paper estimates growth as a function of initial inequality, income, male and female human capital, market distortions, and country and period dummy variables—a model similar to that used in most empirical work on inequality and growth. More specifically, I chose this model since it is almost identical to that used by Perotti (1996) in his definitive study finding a negative effect of inequality on growth. The only change from Perotti’s model is the addition of the dummy variables. The country dummies are included to control for time-invariant omitted-variable bias, and the period dummies are included to control for global shocks, which might affect aggregate growth in any period but are not otherwise captured by the explanatory variables.

⁵ Other studies that find the same result are: Alesina and Perotti (1993), Persson and Tabellini (1994), and Birdsall et al. (1995).

⁶ Some of the first papers to make this point are Malcolm D. Knight et al. (1993), Nazrul Islam (1995), and Francesco Caselli et al. (1996).

It is obviously possible to include a number of additional variables; however, this paper focuses on this simplified specification for three reasons (reasons similar to why it was originally chosen by Perotti). First, this model is typical of that used to estimate the effect of inequality on growth, so any discrepancy between this paper and previous work cannot be explained by model specification. Second, since sample size is already limited by the availability of inequality statistics, and especially since panel estimation requires a large number of observations, this simple specification helps maximize the degrees of freedom. Third, and finally, by focusing on stock variables measured at the start of the periods, rather than flow variables measured throughout the periods, any endogeneity should be reduced (although it could still be a potential problem). To summarize, the growth model central to this paper is

$$\begin{aligned}
 (1) \quad Growth_{it} = & \beta_1 Inequality_{i,t-1} \\
 & + \beta_2 Income_{i,t-1} \\
 & + \beta_3 MaleEducation_{i,t-1} \\
 & + \beta_4 FemaleEducation_{i,t-1} \\
 & + \beta_5 PPPI_{i,t-1} + \alpha_i \\
 & + \eta_t + u_{it},
 \end{aligned}$$

where i represents each country and t represents each time period (with $t = 1, 2 \dots T$); $Growth_{it}$ is average annual growth for country i during period t ; $Inequality_{i,t-1}$, $Income_{i,t-1}$, $MaleEducation_{i,t-1}$, $FemaleEducation_{i,t-1}$, and $PPPI_{i,t-1}$ are, respectively, inequality, income, male and female education, and market distortions for country i during period $t - 1$; α_i are country dummies; η_t are period dummies; and u_{it} is the error term.

The data used to estimate this model come from four sources. Inequality is drawn from Deininger and Squire (1996) and $Inequality$ is measured by the gini coefficient. Income and the resultant growth rates are taken from the World Bank STARS data set, with income measured by the log of real GNP per capita. Human capital statistics come from Barro and Jong W. Lee (1996) and are represented by average years

of secondary schooling. Market distortions are drawn from the Penn World Tables and are proxied by the price level of investment.⁷ Detailed sources and definitions for each of these variables are listed in Table 1.

Because of data availability, this paper focuses on growth from 1966–1995. Moreover, since yearly growth rates incorporate short-run disturbances, growth is averaged over five-year periods.⁸ This reduces yearly serial correlation from business cycles. It is therefore possible to estimate six periods of growth for each country, and I only include countries with observations for at least two consecutive periods. Applying these criteria to the preceding data sets generates a sample of 45 countries and 180 observations. This final data set, with means, standard deviations, and ranges for each of the variables is reported in Table 1. Table 2 lists countries and their corresponding gini coefficients.

This final data set, although clearly a vast improvement over that used in past work on the effect of inequality on growth, still has several problems. First, Table 2 shows the limited number of observations available for many countries and earlier time periods. Second, regional coverage is far from representative, with no countries from sub-Saharan Africa and nearly half the sample from the OECD. Third, all of the gini coefficients are not based on identical units of account. For example, some are based on the household, whereas others are based on the individual; some are based on expenditure, whereas others are based on income.⁹ These shortcomings are addressed in the sensitivity analysis.

⁷ This variable is frequently used in the macroeconomic and international literature and measures how the cost of investment varies between each country and the United States. It is meant to capture market distortions that affect the cost of investment, such as tariffs, government regulations, corruption, and the cost of foreign exchange.

⁸ For example, this means that growth in period 3 is measured from 1976–1980 and is regressed on explanatory variables measured during period 2 (1971–1975). In practice, each explanatory variable is measured in 1975, except inequality, which is often not available on an annual basis and is taken from the year closest to 1975 in the stated period.

⁹ To reduce any inconsistency resulting from the fact that some gini coefficients are based on income, whereas others are based on expenditure, I follow Deininger and Squire's suggestion and add 6.6 to gini coefficients based on expenditure. See Deininger and Squire (1996) for further discussion of this adjustment and other data problems.

TABLE 1—SUMMARY STATISTICS: HIGH-QUALITY DATA

Variable	Definition	Source	Year	Mean	Standard deviation	Minimum	Maximum
<i>Female Education</i>	Average years of secondary schooling in the female population aged over 25	Barro & Lee	1965	0.90	0.95	0.04	3.10
			1970	0.95	0.94	0.04	3.36
			1975	1.11	0.94	0.05	3.62
			1980	1.40	1.10	0.14	5.11
			1985	1.54	0.99	0.20	4.84
			1990	1.76	1.02	0.21	4.69
<i>Income</i>	Ln of Real GNP per capita, in 1987 \$US, calculated using the Atlas method	World Bank	1965	7.62	1.46	5.49	9.45
			1970	7.68	1.31	5.63	9.54
			1975	8.19	1.23	5.63	9.81
			1980	8.38	1.34	5.33	9.96
			1985	8.00	1.27	5.07	9.75
			1990	8.28	1.51	5.23	10.04
<i>Inequality</i>	Inequality, measured by the gini coefficient. As in Deininger and Squire, I have added 6.6 to gini coefficients based on expenditure (instead of income)	Deininger & Squire	1965	37.8	8.37	24.3	55.5
			1970	40.3	9.45	25.1	57.7
			1975	39.9	9.03	23.3	61.9
			1980	38.1	8.36	21.5	57.8
			1985	37.4	8.59	21.0	61.8
			1990	38.0	9.03	23.3	59.6
<i>Male Education</i>	Average years of secondary schooling in the male population aged over 25	Barro & Lee	1965	1.13	0.85	0.18	2.94
			1970	1.27	0.86	0.35	3.27
			1975	1.47	0.92	0.37	3.55
			1980	1.79	1.06	0.57	5.07
			1985	1.90	0.99	0.65	4.81
			1990	2.16	1.02	0.73	4.85
<i>PPPI</i>	Price level of investment, measured as the PPP of investment/exchange rate relative to the United States	Heston & Summers	1965	76.7	22.7	40.8	119.2
			1970	68.1	18.9	41.2	107.1
			1975	86.4	24.6	36.5	130.7
			1980	93.5	28.5	44.4	140.7
			1985	61.2	16.3	31.9	94.3
			1990	75.7	31.4	27.9	129.3

Note: If the gini coefficient is not available for a given year, the observation is taken from the closest year in the five-year period ending in the stated year.

Sources: Barro & Lee, the data set compiled in Barro and Lee (1996). Deininger & Squire, the data set compiled in Deininger and Squire (1996). Heston & Summers, the "Penn World Tables" version 5.6 described in Alan Heston and Robert Summers (1991). World Bank, "World*Data 1995" published by the World Bank and available on CD-ROM.

III. Estimation

There are a variety of different techniques that can be used to estimate equation (1). To evaluate which technique is optimal, it is necessary to consider three factors: the relationship between the country-specific effect and the regressors, the presence of a lagged endogenous variable (income), and the potential endogeneity of the other regressors.

The standard methods of panel estimation are fixed effects or random effects. For the purpose of estimating equation (1), the major difference

between these two techniques is the information utilized to calculate the coefficients. The fixed-effects estimates are calculated from differences within each country across time; the random-effects estimates are more efficient, since they incorporate information across individual countries as well as across periods. The major drawback with random effects is that it is consistent only if the country-specific effects are uncorrelated with the other explanatory variables. A Hausman specification test can evaluate whether this independence assumption is satisfied.

TABLE 2—GINI COEFFICIENTS

Country	1961–1965	1966–1970	1971–1975	1976–1980	1981–1985	1986–1990
Australia	—	—	—	39.3	37.6	41.7
Bangladesh	37.3	34.2	36.0	35.2	36.0	35.5
Belgium	—	—	—	28.3	26.2	26.6
Brazil	—	57.6	61.9	57.8	61.8	59.6
Bulgaria	—	—	—	—	23.4	24.5
Canada	31.6	32.3	31.6	31.0	32.8	27.6
Chile	—	45.6	46.0	53.2	—	—
China	—	—	—	32.0	31.4	34.6
Colombia	—	52.0	46.0	54.5	—	—
Costa Rica	—	—	44.4	45.0	47.0	46.1
Denmark	—	—	—	31.0	31.0	33.2
Dominican Republic	—	—	—	45.0	43.3	50.5
Finland	—	31.8	27.0	30.9	30.8	26.2
France	47.0	44.0	43.0	34.9	34.9	—
Germany	28.1	33.6	30.6	32.1	32.2	—
Greece	—	—	—	—	39.9	41.8
Hong Kong	—	—	39.8	37.3	45.2	42.0
Hungary	—	—	—	21.5	21.0	23.3
India	37.7	37.0	35.8	38.7	38.1	36.3
Indonesia	—	—	—	42.2	39.0	39.7
Ireland	—	—	38.7	35.7	—	—
Italy	—	—	39.0	34.3	33.2	32.7
Japan	34.8	35.5	34.4	33.4	35.9	35.0
Korea (South)	34.3	33.3	36.0	38.6	34.5	33.6
Malaysia	—	50.0	51.8	51.0	48.0	48.4
Mexico	55.5	57.7	57.9	50.0	50.6	55.0
Netherlands	—	—	28.6	28.1	29.1	29.6
New Zealand	—	—	30.0	34.8	35.8	40.2
Norway	37.5	36.0	37.5	31.2	31.4	33.1
Pakistan	—	36.5	38.1	38.9	39.0	38.0
Peru	—	—	—	—	49.3	49.4
Philippines	—	—	—	—	46.1	45.7
Poland	—	—	—	—	25.3	26.2
Portugal	—	—	40.6	36.8	—	—
Singapore	—	—	41.0	40.7	42.0	39.0
Spain	—	—	37.1	33.4	31.8	32.5
Sri Lanka	47.0	37.7	35.3	42.0	45.3	36.7
Sweden	—	33.4	27.3	32.4	31.2	32.5
Thailand	41.3	42.6	41.7	—	—	—
Trinidad and Tobago	—	—	51.0	46.1	41.7	—
Tunisia	—	—	50.6	49.6	49.6	46.8
Turkey	—	56.0	51.0	—	—	—
United Kingdom	24.3	25.1	23.3	24.9	27.1	32.3
United States	34.6	34.1	34.4	35.2	37.3	37.8
Venezuela	—	—	47.7	39.4	42.8	53.8
Average	37.8	40.3	39.9	38.1	37.4	38.0

Note: Gini coefficient is taken from the latest available date within the given period.

A problem with both fixed effects and random effects, however, is that equation (1) contains a lagged endogenous variable (the income term). This is immediately apparent when the equation is rewritten with growth expressed as the difference in income levels and then $Income_{i,t-1}$ is added to both sides:

$$\begin{aligned}
 (2) \quad Income_{it} &= \beta_1 Inequality_{i,t-1} \\
 &+ \gamma_2 Income_{i,t-1} \\
 &+ \beta_3 MaleEducation_{i,t-1}
 \end{aligned}$$

$$\begin{aligned}
 & + \beta_4 \text{FemaleEducation}_{i,t-1} \\
 & + \beta_5 \text{PPPI}_{i,t-1} + \alpha_i + \eta_t + u_{it}
 \end{aligned}$$

with

$$\gamma_2 = \beta_2 + 1.$$

To simplify the following discussion, this can be written

$$(3) \quad y_{it} = \gamma y_{i,t-1} + \mathbf{X}'_{i,t-1} \mathbf{B} + \alpha_i + \eta_t + u_{it}.$$

Even if $y_{i,t-1}$ and u_{it} are not correlated, if t does not approach infinity (which it clearly does not in this model where $t = 6$), then estimation by fixed effects or random effects is not consistent (even as n goes to infinity). Monte Carlo simulation shows that for panels with a comparable time dimension, the bias of the coefficient on the lagged dependent variable can be significant, although the bias for the coefficients on the other right-hand-side variables tends to be minor.¹⁰

One popular method of correcting for this bias is Chamberlain's π -matrix technique.¹¹ The fundamental identifying condition for this estimator is the exogeneity of a large enough subset of the explanatory variables. In the model of equation (1), however, it is unlikely that this condition is satisfied. A whole branch of economics has investigated the Kuznets' relationship of how income might affect inequality, and recent work suggests that growth may free resources for investment in human capital, therefore raising education levels. This would leave only one variable (PPPI_{it}) for identification, which is clearly not sufficient. A Hausman specification test can evaluate whether the explanatory variables (other than income) are exogenous.¹²

¹⁰ For example, Ruth Judson and Ann L. Owen (1996) estimate that under fixed effects when $t = 5$, the bias in the lagged dependent variable is over 50 percent, whereas the bias in the other coefficients is only about 3 percent.

¹¹ For details on this approach, see Gary Chamberlain (1984) or Bruno B. Crépon and Jacques Mairesse (1996).

¹² This test is developed in Caselli et al. (1996) and compares estimates obtained under Chamberlain's and

Manuel Arellano and Stephen R. Bond (1991) suggest an alternative estimation technique that corrects not only for the bias introduced by the lagged endogenous variable, but also permits a certain degree of endogeneity in the other regressors.¹³ This generalized method of moments (GMM) estimator first-differences each variable so as to eliminate the country-specific effect and then uses all possible lagged values of each of the variables as instruments. More specifically, Arellano and Bond rewrite equation (3) as:

$$\begin{aligned}
 (4) \quad y_{it} - y_{i,t-1} &= \gamma(y_{i,t-1} - y_{i,t-2}) \\
 &+ (\mathbf{X}'_{i,t-1} - \mathbf{X}'_{i,t-2}) \mathbf{B} \\
 &+ (u_{it} - u_{i,t-1}),
 \end{aligned}$$

where all variables are now expressed as deviations from period means (to control for the period dummy variables). For period 3, Arellano and Bond use $y_{i,1}$ as an instrument for $(y_{i,2} - y_{i,1})$, for period 4 they use $y_{i,1}$ and $y_{i,2}$ as instruments for $(y_{i,3} - y_{i,2})$, etc., and follow the same procedure to create instruments for each differenced variable. Two critical assumptions must be satisfied for this estimator to be consistent and efficient. First, the $\mathbf{X}_{i,t-s}$'s must be predetermined by at least one period: $E(\mathbf{X}'_{it} u_{is}) = 0$ for all $s > t$. Second, the error terms cannot be serially correlated: $E(u_{it} u_{i,t-s}) = 0$ for all $s \geq 1$. Tests of both of these assumptions are performed below.

Table 3 reports estimates of equation (1) using fixed effects, random effects, Chamberlain's π -matrix procedure, and Arellano and Bond's GMM technique. Estimates vary significantly, based on which technique is utilized, so it is necessary to test the validity of the assumptions underlying each method. First, a Hausman specification test comparing the fixed-effects

Arellano and Bond's techniques. Each of the estimators is consistent if the explanatory variables are exogenous (and the other assumptions discussed previously are satisfied). If the explanatory variables are not exogenous, only the Arellano and Bond estimator is consistent.

¹³ Caselli et al. (1996) also use this technique in a growth regression. A more detailed explanation of this procedure is available in an Appendix prepared by the author.

TABLE 3—REGRESSION RESULTS: ALTERNATE ESTIMATION TECHNIQUES

Estimation method	Five-year periods				Ten-year periods: fixed effects (5)
	Fixed effects (1)	Random effects (2)	Chamberlain's π -matrix (3)	Arellano and Bond (4)	
<i>Inequality</i>	0.0036 (0.0015)	0.0013 (0.0006)	0.0016 (0.0002)	0.0013 (0.0006)	0.0013 (0.0011)
<i>Income</i>	-0.076 (0.020)	0.017 (0.006)	-0.027 (0.004)	-0.047 (0.008)	-0.071 (0.016)
<i>Male Education</i>	-0.014 (0.031)	0.047 (0.015)	0.018 (0.010)	-0.008 (0.022)	-0.002 (0.028)
<i>Female Education</i>	0.070 (0.032)	-0.038 (0.016)	0.054 (0.006)	0.074 (0.018)	0.031 (0.030)
<i>PPP</i>	-0.0008 (0.0003)	-0.0009 (0.0002)	-0.0013 (0.0000)	-0.0013 (0.0001)	-0.0003 (0.0003)
R^2	0.67	0.49			0.71
Countries	45	45	45	45	45
Observations	180	180	135	135	112
Period	1965–1995 ^a	1965–1995 ^a	1970–1995	1970–1995	1965–1995

Notes: Dependent variable is average annual per capita growth. Standard errors are in parentheses. R^2 is the within- R^2 for fixed effects and the overall- R^2 for random effects.

^a Estimates are virtually identical for the period 1970–1995 (with 135 observations).

estimates of column 1 with the random-effects estimates of column 2 rejects the assumption required for random effects.¹⁴ As mentioned previously, however, both methods are inconsistent due to the presence of the lagged income term. Columns 3 and 4 correct for this problem. Another Hausman test rejects the exogeneity of the explanatory variables, suggesting that Chamberlain's technique used in column 3 is also inconsistent.¹⁵ Finally, several tests of the requirements underlying Arellano and Bond's estimates suggest that these assumptions are satisfied. Although there is no formal test of the first assumption, estimates obtained using instruments lagged by more than one period, extending the length of t , or regressing inequality on lagged growth, all suggest that the $\mathbf{X}_{i,t-s}$'s are predetermined by at least one period. Tests for the second assumption, namely a test for second-order serial correlation and Sargan's test of overidentifying restrictions, are both satis-

fied.¹⁶ Therefore, although it is still possible that endogeneity between inequality and growth undermines the requirement that $E(\mathbf{X}'_{it}u_{is}) = 0$ for all $s > t$, evidence suggests that the estimates reported in column 4 are consistent and efficient, and the following discussion focuses on these estimates.

Not only do most of the coefficient estimates in column 4 agree with those traditionally reported in this literature, but most are highly significant.¹⁷ As predicted by models implying conditional convergence, the coefficient on ini-

¹⁶ Details of these two tests are available in Arellano and Bond (1991). In the test for second-order serial correlation in the differenced equation, the test statistic is $N(0, 1) = 0.44$, which is unable to reject the null (of no second-order serial correlation) at any standard level of significance. The Sargan test is also satisfied, although it is less meaningful since it requires that the error terms are independently and identically distributed (and error terms in this model are heteroskedastic).

¹⁷ For example, a test that the coefficients on the explanatory variables are zero yields the statistic: $F(5, 130) = 12.3$. In the fixed-effects specification of column 1, if the country and period dummies are included outright (instead of demeaning the variables), then a test of the null that all country effects are equal yields the statistic: $F(44, 125) = 4.6$, and a test that all period dummies are zero yields the

¹⁴ The test statistic is $\chi^2(5) = 67.6$. This rejects the null hypothesis at any standard level of significance.

¹⁵ The test statistic is $\chi^2(5) = 29.3$. This rejects the null hypothesis at any standard level of significance.

tial income is negative and significant. The coefficient on male education is negative (although not significant) and that on female education is positive and significant. Although this pattern of signs may not support traditional human capital theory, these coefficients are similar to those found in other growth models estimated using the same technique [such as Caselli et al. (1996)]. The coefficient on market distortions is negative and highly significant. The one unexpected result is the coefficient on inequality. No matter which estimation technique is utilized, this coefficient is never negative, as estimated in recent work examining the relationship between inequality and growth. Instead, the coefficient on inequality is always positive and significant at the 5-percent level. Not only is the sign surprising, but also the magnitude of the coefficient. A ten-point increase in a country's gini coefficient is correlated with a 1.3 percent increase in average annual growth over the next five years.¹⁸

IV. What Affects the Coefficient on Inequality?

It is important to note that the coefficients in Table 3 are interpreted differently than in previous work on this subject. As mentioned above, earlier work utilized ordinary least squares (OLS) or instrumental variables (IV) to estimate some variant of the standard cross-country growth regression. The resulting estimates of a negative coefficient on inequality suggested that countries with lower levels of inequality tend to have higher steady-state levels of income. These estimates do not directly assess a potentially more relevant question: how are changes in a country's level of inequality related to changes in that country's growth performance? The Arellano and Bond fixed-effects estimator, however, specifically addresses this question. It controls for a country's unobservable, time-invariant characteristics or "fixed ef-

fect," and instead of analyzing differences in inequality and growth across countries, focuses on changes in these variables within each country across time. The resulting coefficient on inequality can therefore be interpreted as measuring the highly relevant relationship of how changes in inequality are related to changes in growth *within* a given country.

Another difference between the interpretation of this paper's results and that of earlier work is the time period under consideration. The standard cross-country growth regression estimates how initial inequality is related to growth over the next 25 or 30 years, thereby assessing a long-run relationship. Since this paper utilizes five-year panels, however, the coefficients in columns 1–4 reflect a short- or medium-run relationship. As an informal test whether this shorter-term, positive relationship between inequality and growth diminishes over time, column 5 estimates equation (1) based on ten-year panels.¹⁹ The coefficient on inequality remains positive, although it decreases substantially and becomes insignificant. These results must be interpreted cautiously because of the limited degrees of freedom available. Therefore, until inequality data becomes available for a longer time span, it is difficult to draw any conclusions about the long-term relationship between inequality and growth within a given country.

Is it just these differences in estimation technique and period length that cause the inequality coefficient in Table 3 to be consistently positive, whereas most work in the field finds it is negative? Or do other factors, such as sample selection or the improved inequality data, affect results? Column 1 in Table 4 reports Perotti's estimates, which are typical in this literature and could differ from those in Table 3 for five reasons. First, Perotti defines two variables differently. Second, Perotti's sample is larger and there could be a structural difference in the relationship

statistic: $F(5, 125) = 16.8$. In each of these cases, the null is rejected at any standard level of significance.

¹⁸ Ten points is the difference in inequality in 1985 between the United States and the United Kingdom and is also close to one standard deviation in this paper's sample. Note, however, that it is unlikely that any country's gini coefficient could increase by this magnitude in a short period of time.

¹⁹ I report only fixed-effects estimates since Arellano and Bond's technique requires observations across an additional period, so only two ten-year periods are available for estimation. As a result, a number of countries must be excluded from the sample and meaningful estimation is impossible. I focus on fixed effects not only because it focuses on within-country differences, but also because random-effects estimation is rejected in favor of fixed effects.

TABLE 4—REGRESSION RESULTS: WHAT AFFECTS THE COEFFICIENT ON INEQUALITY?

Definitions and data set	Perotti ^a low quality	D&S ^b low quality ^c	D&S ^b low quality ^c	D&S ^b high quality	D&S ^b high quality	D&S ^b low quality ^c	D&S ^b high quality
Estimation and period	OLS 25-year (1)	OLS 25-year (2)	OLS 25-year (3)	OLS 25-year (4)	OLS 25-year (5)	Arellano & Bond 5-year (6)	Arellano & Bond 5-year (7)
<i>Constant</i>	-0.018 (0.013)	0.046 (0.027)	0.061 (0.026)	0.071 (0.030)	0.018 (0.031)		
<i>Inequality</i>	-0.118 ^a (0.042)	-0.0005 (0.0002)	-0.0005 (0.0003)	-0.0005 (0.0003)	0.0002 (0.0003)	-0.0001 (0.0001)	0.0013 (0.0006)
<i>Income</i>	-0.002 (0.001)	-0.001 (0.003)	-0.002 (0.003)	-0.004 (0.003)	0.002 (0.008)	-0.053 (0.013)	-0.047 (0.008)
<i>Male</i>	0.031 (0.008)	0.040 (0.008)	0.039 (0.008)	0.037 (0.009)	0.023 (0.007)	0.047 (0.014)	-0.008 (0.022)
<i>Female</i>	-0.025 (0.008)	-0.035 (0.008)	-0.035 (0.008)	-0.034 (0.009)	-0.023 (0.007)	0.019 (0.009)	0.074 (0.018)
<i>Education</i>							
<i>PPP</i>	-0.002 (0.006)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0011 (0.0001)	-0.0013 (0.0001)
<i>R</i> ²	0.31	0.38	0.40	0.40	0.50		
Countries	67	63	45	45	45	45	45
Periods	1	1	1	1	5	5	5

Notes: Dependent variable is average annual per capita growth from 1970–1995. Standard errors are in parentheses. R^2 is the overall- R^2 .

^a Estimates reported in Perotti (1996). Variable definitions used by Perotti are different from those used in the rest of this paper. For example, *Inequality* is measured as the income share held by the middle class (a measure of equality) rather than by the gini coefficient (a measure of inequality) and I add the negative sign to facilitate comparisons. Also Perotti defines *Income* as initial income, whereas I use the log of initial income. Finally, I have translated Perotti's reported t -statistics into standard errors to facilitate comparison with my estimates in the rest of the table.

^b D&S is the data set compiled by Deininger and Squire (1996) and used throughout this paper. Inequality is measured by the gini coefficient.

^c Low-quality data is average inequality in the unabridged Deininger and Squire data set. This includes statistics accepted as high quality as well as those not accepted.

between inequality and growth in the two samples. Third, Perotti's data on inequality are low quality and not subject to the stringent consistency requirements of the Deininger and Squire data set. Fourth, as discussed earlier, Perotti focuses on the relationship between inequality and growth over longer periods of time. Fifth, and finally, Perotti focuses on differences across countries (instead of within countries across time) and does not correct for time-invariant omitted-variable bias by estimating the country-specific effects. Therefore, modifying one or more of these factors should explain why this paper finds the opposite relationship between inequality and growth than previously reported.

To test which of these modifications alters the sign of the coefficient on inequality, I

make each change independently. First I examine the impact of different variable definitions. Instead of using the gini coefficient as a measure of *Inequality*, Perotti uses the income share held by the middle class as a measure of equality (and I add a negative sign to his coefficient to facilitate comparison with the other columns). The other variable defined differently is *Income*. This paper and virtually all other work on growth utilize the logarithm of initial income, whereas Perotti simply uses initial income. To isolate the effect of these different definitions, I use Perotti's sample (as close as possible using my data sources), low-quality measures of inequality, and cross-country estimation (OLS). The low-quality data are the unabridged data collected by Deininger and Squire, which include not only the consistent measures of inequality

used throughout this paper, but also all of the inconsistent measures used in past work.²⁰ Also, to use OLS, equation (1) is rewritten

$$(5) \text{ Growth}_i = \alpha_0 + \beta_1 \text{Inequality}_i \\ + \beta_2 \text{Income}_i \\ + \beta_3 \text{MaleEducation}_i \\ + \beta_4 \text{FemaleEducation}_i \\ + \beta_5 \text{PPPI}_i + u_i,$$

where Growth_i is average annual growth from 1970–1995 for country i ; α_0 is a constant term that does not vary across countries; and Inequality_i , Income_i , MaleEducation_i , FemaleEducation_i , and PPPI_i are as previously defined and measured in 1970.²¹ Estimates of equation (5) obtained utilizing this paper's definitions, Perotti's sample, and the low-quality data set are reported in column 2 of Table 4. A comparison with column 1 shows that, although the coefficients on the variables defined differently do change, altering definitions does not change Perotti's key result: inequality has a significant negative relationship with growth.

Second, to test whether sample selection affects the results, column 3 uses the same definitions, low-quality data, and OLS framework as in column 2, but for the same set of countries as in column 7 (which replicates the central results reported in the last section). The coefficient on inequality barely changes (falling from -0.00050 to -0.00047), and although its standard error increases slightly (from 0.00022 to 0.00027), a Chow test strongly rejects any structural difference between the countries included

²⁰ When more than one observation on inequality is available per country in a given year, I average all available observations. The resulting low-quality data contain all but four countries in Perotti's sample. I do not use Perotti's low-quality measures of inequality since his data set does not contain observations across time, which are necessary for the following comparisons.

²¹ I estimate growth from 1970–1995 (with explanatory variables from as close to 1970 as possible) so that these estimates are directly comparable with the central results in column 7. Estimates of growth from 1965–1995 (using explanatory variables from 1965) are virtually identical.

in Perotti's sample and those excluded from my sample.²²

Third, to test for the impact of reducing measurement error, I utilize the same variable definitions, sample, and OLS framework as in column 3, but replace the low-quality inequality statistics with the more consistent measures from the high-quality data set. Results are reported in column 4. Reducing measurement error slightly strengthens the negative effect of inequality on growth (from -0.00047 to -0.00049).²³ This is not surprising since random measurement error biases coefficient estimates toward zero. The standard error changes even less, suggesting that either measurement error is not a significant problem in columns 1–3, or the Deininger and Squire selection criteria do not significantly minimize any error.

Fourth, to see whether period length affects the relationship between inequality and growth, I utilize the same variable definitions and sample as in columns 4 and 7, but use the panel data that include statistics for five-year periods. Then I use OLS to estimate the same cross-country growth model of equation (5). I do not first-difference or express the variables as deviations from country or period means, so I do not control for any omitted-variable bias. Results using the high-quality measures of inequality are reported in column 5 (and are virtually identical to those based on the low-quality data). The coefficient on inequality is now positive (although insignificant), suggesting that the length of the period under consideration does affect the relationship between inequality and growth.

Finally, to test for the effect of correcting for time-invariant omitted-variable bias, I utilize the same variable definitions, sample, and low-quality data as in column 3, and the shorter periods of column 5, but estimate the panel model of equation (1) rather than the cross-country model of equation (5). The results based on Arellano and Bond's estimator are

²² The impact of sample selection is further investigated in the sensitivity analysis.

²³ It is worth noting that this estimate is virtually identical to that in Deininger and Squire (1998), Table 3. They estimate a cross-country growth model using the same high-quality measures of inequality, but with a different specification and much larger sample.

reported in column 6. The coefficient on inequality is insignificant and close to zero.

This set of comparisons reported in Table 4 has several strong implications. Column 2 shows that the positive effect of inequality on growth found in column 7 is not an artifact of variable definition or model specification. Column 3 indicates that sample selection has little influence (at least in a comparison with earlier work), and Column 4 reveals that minimizing measurement error has little impact in the cross-country framework. Column 5 shows that in the five-year periods, when I do not control for the country- or period-specific effects, there is no significant relationship between inequality and growth. Correcting for time-invariant omitted-variable bias in column 6, but using the low-quality measures of inequality, also yields no significant relationship. When this panel estimation technique is combined with the more consistent measures of inequality in column 7, however, the relationship between inequality and growth is positive and significant. It is not surprising that minimizing measurement error is more important in panel than cross-country estimation; the correlation between the random term in initial inequality and the disturbance in the growth regression would be larger over 5-year than 30-year periods.²⁴

V. Sensitivity Analysis

Since this positive relationship between inequality and growth challenges previous econometric work, and also since sample selection may influence the coefficient estimates, this section thoroughly tests the robustness of these results.²⁵ It estimates a number of variations of the model estimated in Table 3, testing whether the positive relationship between inequality and growth persists across different samples, variable definitions, and model specifications. This section uses Arellano and Bond's methodology whenever possible, but in several cases when the variation being tested limits sample or pe-

riod availability, utilizes the computationally less stringent fixed effects.

One potential problem with the results reported previously is sample selection. Because of the limited availability of inequality statistics, sample selection is always a problem in estimates of the relationship between inequality and growth. This problem is magnified by the use of panel estimation, which requires observations across time for each country, as well as across countries. Moreover, since only 45 countries are included, a group of outliers could have a large impact. Even more important, as discussed in Section II, period, regional, and country coverage are highly unrepresentative. If the selection mechanism is non-ignorable (i.e., if there is some relationship between the independent variables and the countries and/or periods which are included) then coefficient estimates may be inconsistent and inefficient.²⁶ Utilizing a fixed-effects estimator instead of random effects should minimize this problem, but it is still necessary to test for the influence of sample selection.

First, I test for the effect of removing outliers. I estimate the basic model removing one country at a time, removing the five observations farthest above and below the country mean for each variable, and then removing the five countries with the lowest and highest average inequality, income, or growth.²⁷ In each case, although the value of the coefficient on inequality does fluctuate, the coefficient always remains positive and significant. A related concern is that different countries are included in each period. To control for this effect, I reestimate the basic model for a variety of different periods but only include countries that have observations for each period. For example, I estimate growth from 1975–1995 for the 24 countries with observations across all four periods, or growth from 1970–1990 for the 17 countries with data for each of these years. Once again, the coefficient on inequality is always positive and significant at the 5-percent level.

A similar concern is that if the model's coefficients change over time, then the pooling required to estimate fixed effects would not be appropriate

²⁴ Also note that measurement error has the predicted effect in the panel framework: it biases the coefficient on inequality toward zero.

²⁵ See Ross E. Levine and David Renelt (1992) for a discussion of the importance of sensitivity tests in cross-country growth regressions and a detailed set of such tests.

²⁶ See Marno Verbeek and Theo Nijman (1996) for a discussion of selection bias and its resultant problems.

²⁷ To conserve space, these results and several others referred to in the remainder of this section are not included in the tables. They are available from the author on request.

and parameter estimates would be biased and inconsistent. This concern is especially valid since tests based on the OLS estimation of equation (5) for different periods suggest that the slope coefficients are not constant across time. Removing any single period from the fixed-effects model or estimating the model for any subset of periods, however, does not significantly change the inequality coefficient. Moreover, when country and period dummies are included in the regression, tests are no longer able to reject the equality of the coefficients across periods.²⁸ These results not only support the assumptions required for pooling, but further suggest that omitted-variable bias is a significant problem in this cross-country framework.

Next, I examine how the sample's unbalanced regional coverage affects results. I reestimate equation (1), excluding countries from East Asia, Latin America, and the OECD. The resulting inequality coefficients are reported near the top of Table 5. No matter which of these regions is excluded from the sample, the relationship between inequality and growth remains positive and significant.²⁹

Related to this unbalanced regional coverage is another potential problem with the sample: the representation of very poor countries is extremely limited. This is not surprising; wealthier countries tend to keep more accurate statistics and are therefore more likely to have enough consistent mea-

asures of inequality to be included in the sample. The relationship between inequality and growth, however, could depend on a country's stage of development. I test for this by experimenting with different functional forms, such as including a squared and/or cubed term for inequality. Results suggest that the relationship between inequality and growth is, in fact, the linear model specified in equation (1). As an alternate test, I divide the sample into wealthy and poor countries, based on initial income, and then reestimate equation (1) for each group.³⁰ The middle of Table 5 shows that no matter which division is utilized, the relationship between inequality and growth remains positive in each group. In every case, I am unable to reject the null of the equality of coefficients across low-income and high-income countries.

In addition to unbalanced sample composition, another concern with this paper is that variable definitions could affect results. I reestimate the model for different definitions of education, income, market distortions, and/or inequality. For example, as alternate measures of education, I use enrollment rates or total years of schooling in primary or secondary education. As other measures of income or market distortions, I use (respectively) GDP per capita or the log of the black market premium. Finally, as alternate measures of inequality, I utilize two ratios of income shares or the negative of the income share held by the middle class. The bottom of Table 5 reports estimates for these other measures of inequality and shows that changing this variable definition does not affect the main results.³¹ Another concern with each of these measures of inequality, including the gini coefficient, is that even in this more consistent data set, different sources are occasionally utilized for the same country. The final row of Table 5 therefore reestimates the basic model, using only measures of inequality from the same source for each country. Once again, the coefficient on inequality remains positive and significant.

²⁸ For example, I estimate equation (1) using OLS (i.e., without dummy variables) and then add the country and period dummies. In each case I perform a test of structural change between the first half of the sample (1965–1980) and the second half of the sample (1980–1995). When I use OLS, I strongly reject the null hypothesis of the equality of the slope coefficients across the two periods, with the test statistic $F(5, 168) = 9.5$. When I include the country and period dummies, I am unable to reject the null hypothesis, with the test statistic $F(5, 120) = 1.7$ (and a 5-percent critical value of 2.2). I am also unable to reject the null of the equality of all coefficients (including country dummies) across the two periods, with a test statistic $F(50, 76) = 0.5$ (and a 5-percent critical value of 1.5).

²⁹ In several of these tests, standard errors decrease significantly when the sample is abridged. This is not unusual when the Arellano and Bond estimator is used with small samples, because the variance-covariance matrix used in the second stage is only asymptotically efficient. Tests comparing the first-stage and second-stage estimates, however, suggest that this is not a problem and estimates are unbiased. Moreover, fixed-effects estimates of the inequality coefficient are always positive and significant, with t statistics in the standard range (between 2 and 4).

³⁰ Results do not change if I divide the sample into wealthy and poor countries based on final per capita income or average per capita income. I focus on fixed effects due to the small sample size of most groups.

³¹ I do not report results using alternate measures of education, income, or market distortions, since these changes have virtually no impact on the inequality coefficient. These estimates are available from the author.

TABLE 5—SENSITIVITY ANALYSIS: COUNTRY GROUPS AND INEQUALITY DEFINITIONS^a

	Coefficient on INEQ	Standard error ^b	Countries	Observations	Period of growth	Estimation technique ^b
Standard analysis						
Whole sample	0.0013	(0.0006)	45	135	1970–1995	A&B
Whole sample	0.0036	(0.0015)	45	180	1965–1995	FE
Regional groups ^c						
Excluding East Asia	0.0039	(0.0000)	38	115	1970–1995	A&B
Excluding Latin America	0.0025	(0.0003)	36	111	1970–1995	A&B
Excluding OECD	0.0045	(0.0022)	25	97	1965–1995	FE
Income groups ^d						
Income < \$1000	0.0056	(0.0032)	11	48	1965–1995	FE
Income > \$1000	0.0024	(0.0016)	34	132	1965–1995	FE
Income < \$3000	0.0061	(0.0021)	23	90	1965–1995	FE
Income > \$3000	0.0018	(0.0021)	22	90	1965–1995	FE
Income < \$6000	0.0042	(0.0020)	34	126	1965–1995	FE
Income > \$6000	0.0022	(0.0017)	11	54	1965–1995	FE
Inequality definitions ^e						
20/40 ratio	0.0164	(0.0005)	43	118	1970–1995	A&B
20/20 ratio	0.0062	(0.0001)	43	118	1970–1995	A&B
–Middle Class	0.1710	(0.0212)	43	118	1970–1995	A&B
Adjusted inequality	0.0053	(0.0020)	37	122	1965–1995	FE

^a Complete results for each of these specifications is available from the author in an Appendix.

^b A&B, Arellano and Bond. FE, fixed effects. A&B is used whenever possible. FE is used when the analysis restricts the sample so that A&B is not feasible. See footnote 29 for an explanation of why standard errors decrease significantly for abridged samples with the A&B estimator.

^c Regional divisions follow Barro and Lee (1997). The countries included in each region are: East Asia: Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand; Latin America: Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Mexico, Peru, Trinidad and Tobago, and Venezuela; OECD/High Income: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Turkey, United Kingdom, and United States.

^d Countries are categorized based on GNP per capita in 1965. Income is measured in 1987 \$US.

^e 20/40 ratio is the income share held by the richest 20 percent of the population to the share held by the poorest 40 percent. 20/20 ratio is the share held by the richest 20 percent to that held by the poorest 20 percent. –Middle Class is the negative of the income share held by the third and fourth wealthiest quintiles. Adjusted inequality uses only gini coefficients from the same source for each country.

As a final sensitivity test, I estimate a variety of different model specifications. In each case, I use three different estimation techniques: OLS to estimate the cross-country model standard in this literature; OLS to estimate the pooled specification; and fixed effects to estimate the panel model central to this paper. I focus on fixed effects for the panel estimation because in many of these specifications the sample becomes so truncated that estimation based on Arellano and Bond's technique is not possible. The Appendix lists additional variable definitions and Table 6 reports estimates.³² Row 1 replicates this paper's cen-

tral model for the truncated sample utilized for these regressions; rows 2–5 use models from four well-known papers which estimate the effect of inequality on growth; columns 6–10 add inequality to models frequently cited in the more general growth literature.³³ These results

variable is not available, the closest possible alternative is utilized. Most of these variables are available only through 1985, so the dependent variable in these regressions is growth from 1965–1990. Also note that Alesina and Perotti (1994) use a dummy variable for democracy, but since this dummy variable is constant for most countries across time, I replace it with political instability.

³³ These specifications are only a subset of those estimated in these papers. I have also estimated the other variants of these basic models—and the estimated inequality coefficients follow the same patterns as reported in Table 6. The results reported in the table were chosen to represent the widest variety of specifications previously utilized in this literature.

³² Because of the large amount of data required to replicate each of these studies, all variable sources and definitions are not identical to those utilized in the original papers. Instead, all variables for this comparison are drawn from Barro and Lee (1997), and in the few cases where the same

TABLE 6—SENSITIVITY ANALYSIS: ALTERNATE SPECIFICATIONS

Specification source	Independent variables other than <i>Inequality</i> and <i>Income</i>	Coefficient on inequality ^a			Countries	Observations	R ²
		X-country OLS ^b	Pooled OLS ^c	Panel FE ^d			
(1) This paper & Perotti (1996)	<i>FemaleEducation, Male Education, PPPI</i>	-0.0004 (0.0003)	0.0004 (0.0005)	0.0048 (0.0017)	45	144	0.73
(2) Alesina & Perotti (1994)	<i>Prim, Pstab</i>	-0.0005 (0.0004)	-0.0000 (0.0006)	0.0034 (0.0016)	40	104	0.82
(3) Birdsall et al. (1995)	<i>Assa, Gcons, PPPI, Prim, Revo, Sec</i>	-0.0021 (0.0005)	-0.0001 (0.0008)	0.0041 (0.0017)	38	102	0.83
(4) Deininger & Squire (1998)	<i>Bmp, FemaleEducation, Inv, MaleEducation, PPPI</i>	-0.0007 (0.0003)	0.0002 (0.0005)	0.0038 (0.0017)	43	141	0.75
(5) Perotti (1996)	<i>FemaleEducation, MaleEducation, Pop > 65, PPPI</i>	-0.0005 (0.0005)	0.0006 (0.0007)	0.0044 (0.0016)	42	140	0.74
(6) Levine & Renelt (1992)	<i>Gcons, Inv, Popgr, Prim, Revcp, Sec</i>	-0.0015 (0.0005)	0.0001 (0.0008)	0.0035 (0.0018)	38	102	0.83
(7) Levine & Renelt (1992)	<i>Bmp, Exp, Gcons, Inv, Popgr, Prim, Revcp, Sec</i>	-0.0013 (0.0004)	0.0006 (0.0008)	0.0026 (0.0017)	37	100	0.87
(8) Barro & Sala-i-Martin (1995)	<i>Bmp, FemaleEducation, Fhigh, Gcons, GDP*HM, Goved, Inv, Lifex, MaleEducation, Mhigh, Pstab, Tot</i>	-0.0007 (0.0004)	0.0016 (0.0006)	0.0037 (0.0018)	38	102	0.86
(9) Caselli et al. (1996)	<i>Assa, Bmp, FemaleEducation, Gcons, Inv, Lifex, MaleEducation</i>	-0.0008 (0.0003)	0.0010 (0.0007)	0.0026 (0.0017)	38	102	0.84
(10) Caselli et al. (1996)	<i>Assa, Bmp, FemaleEducation, Gcons, Inv, MaleEducation, Tot</i>	-0.0008 (0.0003)	0.0008 (0.0006)	0.0028 (0.0017)	38	102	0.84

^a Dependent variable is average annual growth from 1965–1990. Standard errors are in parentheses.

^b Cross-country estimation. Independent variables are from 1965 or the earliest available year thereafter.

^c Data divided into five-year panels. Estimation obtained using OLS on this pooled data. Country and period dummies are not included.

^d Data divided into five-year panels. Estimation obtained using fixed effects (including both country and period dummies).

show that when OLS is used in the cross-country framework, inequality is estimated to have a negative relationship with economic growth. This relationship is significant in about three-quarters of the specifications. When the data are pooled into five-year periods, the relationship between inequality and growth fluctuates between positive and negative, and is usually insignificant and close to zero. When country and period effects are incorporated in this pooled model, the relationship between inequality and growth is always positive and significant (at the 10-percent level and usually at the 5-percent level). It is noteworthy that the

models in rows 1–5 were previously used to show that inequality has a negative effect on growth, but under the estimation technique used in this paper, the relationship is not only positive, but always significant at the 5-percent level. As a whole, these comparisons suggest that the positive relationship between inequality and growth reported in this paper is not driven by model specification.

VI. Conclusion

The results reported in this paper clearly challenge the current belief that income inequality has

a negative effect on economic growth. Previous work on this topic was limited by the availability of cross-country measures of inequality. This paper uses an improved set of inequality statistics not only to reduce measurement error, but also to utilize panel estimation to control for time-invariant omitted variables. By focusing on a generalized method of moments technique developed by Arellano and Bond, this paper directly estimates how changes in inequality are correlated with changes in growth within a given country. Results suggest that in the short and medium term, an increase in a country's level of income inequality has a significant positive relationship with subsequent economic growth. This relationship is highly robust across samples, variable definitions, and model specifications, with the one caveat that it may not apply to very poor countries.

A series of these sensitivity tests (reported in Table 6) shows that for a wide range of model specifications, pooled OLS estimates of the five-year relationship between inequality and growth are insignificant. When country effects are incorporated into this pooled model, however, the relationship between inequality and growth becomes positive and significant. This suggests that country-specific, time-invariant, omitted variables generate a significant negative bias in the estimated inequality coefficient. What causes this bias? Although it is impossible to predict the sign of the bias generated by an omitted variable in this multivariate context, theory suggests a number of variables that could generate a strong negative bias in the univariate context. Some examples are: higher levels of corruption (which tend to be positively correlated with inequality and negatively correlated with growth); a higher share of government spending on basic health care or primary education; or better-quality public education (which all tend to be negatively correlated with inequality and positively correlated with growth). Future research could try to identify whether these omitted variables, or any others, generate the negative bias in the inequality coefficient in cross-country growth regressions.

Taken as a whole, this paper's finding of a positive relationship between inequality and growth has disappointing implications. Countries may face a trade-off between reducing inequality and improving growth performance. It is too soon, however, to draw any

definitive policy conclusions. Sample selection, endogeneity, and serial correlation could still influence estimates. Not enough data are available to accurately measure this relationship for very poor countries. Although the data on inequality are markedly improved, measurement error may still be a problem, and although panel estimation adjusts for time-invariant omitted variables, it does not control for omitted variables that vary across time. Both of these problems could be aggravated by the use of panel estimation. Moreover, these estimates do not directly contradict the previously reported negative relationship between inequality and growth. Earlier work utilizes cross-country growth regressions to estimate the long-term relationship between these two variables across countries. This paper focuses on the short- and medium-term relationship within individual countries. Sufficient data are not currently available to estimate this within-country relationship over periods longer than ten years, and it is possible that the strong positive relationship between inequality and growth could diminish (or even reverse) over significantly longer periods.³⁴ It is also possible that the within-country and cross-country relationships between inequality and growth work through very different channels and are of opposite signs. Therefore, the estimates in this paper should be interpreted as suggesting that the relationship between inequality and growth is far from resolved, and that further careful reassessment of the sign, direction, and strength of the linkages between these two variables is necessary.

Equally important, even if this short-term, within-country, positive relationship between inequality and growth is proven to be robust, this paper does not investigate how these two variables and their underlying determinants are interconnected. The introduction outlines several theories that could explain a positive association between inequality and growth, but none

³⁴ Some of the theoretical channels explaining why inequality might have a negative impact on growth would have a stronger impact over longer periods of time. For example, if higher levels of inequality and the resultant liquidity constraints limit investment in education, the negative impact on growth would be greater in the long term.

has been subject to rigorous empirical tests. Therefore, this paper suggests the need for not only a further careful reassessment of the reduced-form relationship between these two variables, but also further theoretical and empirical work evaluating the channels through which inequality, growth, and any other variables are related.

APPENDIX: VARIABLE DEFINITIONS FOR
ALTERNATE SPECIFICATIONS

Variable	Definition
<i>Assa</i>	Number of assassinations per million population per year
<i>Bmp</i>	The log of (1 + black market premium). Black market premium measured as (black market exchange rate/official exchange rate) - 1
<i>Exp</i>	Ratio of exports to GDP (in current international prices)
<i>Fhigh</i>	Average years of higher schooling in the female population aged over 25
<i>Gcons</i>	Ratio of real government consumption expenditure net of spending on defense and education to real GDP
<i>GDP*HM</i>	Interactive term between a country's per capita income and human capital. Calculated as $Income * (MaleEducation + FemaleEducation + Mhigh + Fhigh + Lifex)$ where <i>Income</i> , <i>MaleEducation</i> , and <i>FemaleEducation</i> are defined in Table 1
<i>Goved</i>	Ratio of total nominal government expenditure on education to nominal GDP
<i>Inv</i>	Ratio of real domestic investment (private plus public) to real GDP
<i>Lifex</i>	Life expectancy at birth
<i>Mhigh</i>	Average years of higher schooling in the male population aged over 25
<i>Popgr</i>	Growth rate of the population
<i>Pop > 65</i>	Proportion of the population aged over 65
<i>Prim</i>	Total gross enrollment ratio for primary education
<i>Pstab</i>	Political instability. Calculated as $(0.5 * Assa) + (0.5 * Revo)$
<i>Revc</i>	Total number of revolutions and coups per year
<i>Revo</i>	Total number of revolutions per year
<i>Sec</i>	Total gross enrollment ratio for secondary education
<i>Tot</i>	Growth in the terms of trade (or the terms of trade shock). Measured as the growth rate of export prices minus the growth rate of import prices

Source: All data are taken from Barro and Lee (1997), except the variables used in the base regression and defined in Table 1.

REFERENCES

- Alesina, Alberto and Perotti, Roberto.** "The Political Economy of Growth: A Critical Survey of the Recent Literature." *World Bank Economic Review*, September 1994, 8(3), pp. 351-71.
- Alesina, Alberto and Rodrik, Dani.** "Distributive Politics and Economic Growth." *Quarterly Journal of Economics*, May 1994, 109(2), pp. 465-90.
- Anand, Sudhir and Kanbur, S. M. Ravi.** "Inequality and Development: A Critique." *Journal of Development Economics*, June 1993, 41(1), pp. 19-43.
- Arellano, Manuel and Bond, Stephen R.** "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations." *Review of Economic Studies*, April 1991, 58(2), pp. 277-97.
- Barro, Robert J. and Lee, Jong Wha.** "International Measures of Schooling Years and Schooling Quality." *American Economic Review*, May 1996 (*Papers and Proceedings*), 86(2), pp. 218-23.
- _____. "Data Set for a Panel of 138 Countries." Data set available on disk from authors, 1997.
- Barro, Robert J. and Sala-i-Martin, Xavier.** *Economic growth*. New York: McGraw-Hill, 1995.
- Benabou, Roland.** "Heterogeneity, Stratification, and Growth: Macroeconomic Implications of Community Structure and School Finance." *American Economic Review*, June 1996a, 86(3), pp. 584-609.
- _____. "Inequality and Growth," in Ben S. Bernanke and Julio J. Rotemberg, eds., *NBER macroeconomics annual 1996*. Cambridge, MA: MIT Press, 1996b, pp. 11-74.
- Birdsall, Nancy; Ross, David R. and Sabot, Richard.** "Inequality and Growth Reconsidered: Lessons from East Asia." *World Bank Economic Review*, September 1995, 9(3), pp. 477-508.
- Caselli, Francesco; Esquivel, Gerardo and Lefort, Fernando.** "Reopening the Convergence Debate: A New Look at Cross-Country Growth Empirics." *Journal of Economic Growth*, September 1996, 1(3), pp. 363-89.

- Chamberlain, Gary.** "Panel Data," in Zvi Griliches and Michael D. Intriligator, eds., *Handbook of econometrics II*. Amsterdam: North-Holland, 1984, pp. 1247–318.
- Clarke, George R.** "More Evidence on Income Distribution and Growth." *Journal of Development Economics*, August 1995, 47(2), pp. 403–27.
- Crépon, Bruno B. and Mairesse, Jacques.** "The Chamberlain Approach," in László Mátyás and Patrick Sevestre, eds., *The econometrics of panel data*. Dordrecht: Kluwer Academic, 1996, pp. 323–96.
- Deininger, Klaus and Squire, Lyn.** "A New Data Set Measuring Income Inequality." *World Bank Economic Review*, September 1996, 10(3), pp. 565–91.
- . "New Ways of Looking at Old Issues: Inequality and Growth." *Journal of Development Economics*, December 1998, 57(2), pp. 259–87.
- Fields, Gary S.** "Data for Measuring Poverty and Inequality Changes in the Developing Countries." *Journal of Development Economics*, June 1994, 44(1), pp. 87–102.
- Galor, Oded and Tsiddon, Daniel.** "The Distribution of Human Capital and Economic Growth." *Journal of Economic Growth*, March 1997a, 2(1), pp. 93–124.
- . "Technological Progress, Mobility, and Economic Growth." *American Economic Review*, June 1997b, 87(3), pp. 363–82.
- Heston, Alan and Summers, Robert.** "The Penn World Tables (Mark 5): An Expanded Set of International Comparisons, 1950–1988." *Quarterly Journal of Economics*, May 1991, 106(2), pp. 327–68.
- Islam, Nazrul.** "Growth Empirics: A Panel Data Approach." *Quarterly Journal of Economics*, November 1995, 110(4), pp. 1127–70.
- Judson, Ruth and Owen, Ann L.** "Estimating Dynamic Panel Data Models: A Practical Guide for Macroeconomists." Working paper, Federal Reserve Board of Governors, 1996.
- Knight, Malcolm D.; Loayza, Norman and Villanueva, Delano.** "Testing the Neoclassical Growth Model." *International Monetary Fund Staff Papers*, September 1993, 40(3), pp. 512–41.
- Levine, Ross E. and Renelt, David.** "A Sensitivity Analysis of Cross-Country Growth Regressions." *American Economic Review*, September 1992, 82(4), pp. 942–63.
- McGranahan, Donald.** *International comparability of statistics on income distribution*. Geneva: United Nations Research Institute for Social Development, 1979.
- Park, Jong-goo and Van Ginneken, Wouter.** *Generating internationally comparable income distribution estimates*. Geneva: International Labour Office, 1984.
- Perotti, Roberto.** "Growth, Income Distribution and Democracy." *Journal of Economic Growth*, June 1996, 1(2), pp. 149–87.
- Persson, Torsten and Tabellini, Guido.** "Is Inequality Harmful for Growth?" *American Economic Review*, June 1994, 84(3), pp. 600–21.
- Saint-Paul, Gilles and Verdier, Thierry.** "Education, Democracy, and Growth." *Journal of Development Economics*, December 1993, 42(2), pp. 399–407.
- Verbeek, Marno and Nijman, Theo.** "Incomplete Panels and Selection Bias," in László Mátyás and Patrick Sevestre, eds., *The econometrics of panel data*. Dordrecht: Kluwer Academic, 1996, pp. 449–90.
- World Bank.** "World*Data 1995." Data set available on CD-ROM, 1995.

This article has been cited by:

1. Yasi Tian, Lei Wang. 2019. Mutualism of intra- and inter-prefecture level cities and its effects on regional socio-economic development: A case study of Hubei Province, Central China. *Sustainable Cities and Society* **44**, 16-26. [[Crossref](#)]
2. Devdatta Ray, Mikael Linden. 2018. Health, inequality and income: a global study using simultaneous model. *Journal of Economic Structures* **7**:1. . [[Crossref](#)]
3. Ke Zou, Jing He. 2018. Intra-Provincial Financial Disparity, Economic Disparity, and Regional Development in China: Evidence from Prefecture-Level City Data. *Emerging Markets Finance and Trade* **54**:13, 3064-3080. [[Crossref](#)]
4. Nicolas Sommet, Andrew J. Elliot, Jeremy P. Jamieson, Fabrizio Butera. 2018. Income inequality, perceived competitiveness, and approach-avoidance motivation. *Journal of Personality* **8**. . [[Crossref](#)]
5. T. Tavor, L. D. Gonen, M. Weber, U. Spiegel. 2018. The Effects of Income Levels and Income Inequalities on Happiness. *Journal of Happiness Studies* **19**:7, 2115-2137. [[Crossref](#)]
6. Roy van der Weide, Branko Milanovic. 2018. Inequality is Bad for Growth of the Poor (but Not for That of the Rich). *The World Bank Economic Review* **32**:3, 507-530. [[Crossref](#)]
7. Pankaj C. Patel, Jonathan P. Doh, Sutirtha Bagchi. 2018. Can Entrepreneurial Initiative Blunt the Economic Inequality-Growth Curse? Evidence From 92 Countries. *Business & Society* **12**, 000765031879710. [[Crossref](#)]
8. Binkai Chen, Dan Liu, Ming Lu. 2018. Opportunity equality and development: Rural income mobility and city size in China. *The World Economy* **95**. . [[Crossref](#)]
9. Tolga Tezcan. 2018. ' I (do not) know what to do': how ties, identities and home states influence Mexican-born immigrants' return migration intentions. *Migration and Development* **7**:3, 388-411. [[Crossref](#)]
10. Stephen J. Turnovsky, Jorge Rojas-Vallejos. 2018. The distributional consequences of trade liberalization: Consumption tariff versus investment tariff reduction. *Journal of Development Economics* **134**, 392-415. [[Crossref](#)]
11. Andrew Berg, Jonathan D. Ostry, Charalambos G. Tsangarides, Yorbol Yakhshilikov. 2018. Redistribution, inequality, and growth: new evidence. *Journal of Economic Growth* **23**:3, 259-305. [[Crossref](#)]
12. Markus Brueckner, Daniel Lederman. 2018. Inequality and economic growth: the role of initial income. *Journal of Economic Growth* **23**:3, 341-366. [[Crossref](#)]
13. Jianzhi Zhao. 2018. Chinese State-Owned Companies, Misallocation and the Reform Policy. *Chinese Political Science Review* **119**. . [[Crossref](#)]
14. . Bibliography 285-295. [[Crossref](#)]
15. Vicente Royuela, Paolo Veneri, Raul Ramos. 2018. The short-run relationship between inequality and growth: evidence from OECD regions during the Great Recession. *Regional Studies* **25**, 1-13. [[Crossref](#)]
16. Bilin Neyapti. 2018. Income distribution and economic crises. *International Finance* **37**. . [[Crossref](#)]
17. Thanti Mthanti, Kalu Ojah. 2018. Institutions, human capital and entrepreneurial orientation: implications for growth policy. *Journal of Entrepreneurship and Public Policy* **7**:2, 135-160. [[Crossref](#)]
18. Richard Marens. 2018. Laying the Foundation: Preparing the Field of Business and Society for Investigating the Relationship Between Business and Inequality. *Business & Society* **57**:6, 1252-1285. [[Crossref](#)]

19. Adnen Ben Nasr, Mehmet Balcilar, Seyi Saint Akadiri, Rangan Gupta. 2018. Kuznets Curve for the US: A Reconsideration Using Cosummability. *Social Indicators Research* 3. . [[Crossref](#)]
20. Paul A. Lewin, Philip Watson, Anna Brown. 2018. Surviving the Great Recession: the influence of income inequality in US urban counties. *Regional Studies* 52:6, 781-792. [[Crossref](#)]
21. Dong-Eun Rhee, Hyoungjong Kim. 2018. Does income inequality lead to banking crises in developing countries? Empirical evidence from cross-country panel data. *Economic Systems* 42:2, 206-218. [[Crossref](#)]
22. Philippe Aghion, Ufuk Akcigit, Antonin Bergeaud, Richard Blundell, David Hémous. 2018. Innovation and Top Income Inequality. *The Review of Economic Studies* 105. . [[Crossref](#)]
23. Lewis Davis. 2018. Growth, Inequality and Tunnel Effects: A Formal Mode. *Journal of Happiness Studies* 88. . [[Crossref](#)]
24. Bidisha Mandal, Raymond G. Batina, Wen Chen. 2018. Do gender gaps in education and health affect economic growth? A cross-country study from 1975 to 2010. *Health Economics* 27:5, 877-886. [[Crossref](#)]
25. Pablo Gluzmann, Leonardo Gasparini. 2018. International inequality in subjective well-being: An exploration with the Gallup World Poll. *Review of Development Economics* 22:2, 610-631. [[Crossref](#)]
26. Nicholas Apergis, Christina Christou, Rangan Gupta, Stephen M. Miller. 2018. Convergence in Income Inequality: Further Evidence from the Club Clustering Methodology across States in the U.S. *International Advances in Economic Research* 24:2, 147-161. [[Crossref](#)]
27. Matías Braun, Francisco Parro, Patricio Valenzuela. 2018. DOES FINANCE ALTER THE RELATION BETWEEN INEQUALITY AND GROWTH?. *Economic Inquiry* 64. . [[Crossref](#)]
28. Cássio Nobrega Besarria, Jevuks Matheus Araujo, Andrea Ferreira da Silva, Erika Fernanda Miranda Sobral, Thiago Geovane Pereira. 2018. Effects of income inequality on the economic growth of Brazilian states. *International Journal of Social Economics* 45:3, 548-563. [[Crossref](#)]
29. Mark D. Packard, Per L. Bylund. 2018. On the relationship between inequality and entrepreneurship. *Strategic Entrepreneurship Journal* 12:1, 3-22. [[Crossref](#)]
30. José Alemán, Dwayne Woods. 2018. A Comparative Analysis of Inequality and Redistribution in Democracies. *International Studies Quarterly* 62:1, 171-181. [[Crossref](#)]
31. Mengcen Qian, Shin-Yi Chou, Mary E. Deily, Jin-Tan Liu. 2018. Gender inequality, economic growth, and the intergenerational transmission of adverse health consequences at birth. *Social Science & Medicine* 200, 174-181. [[Crossref](#)]
32. Laura Cabeza-García, Esther Del Brio, Mery Oscanoa-Victorio. 2018. Gender Factors and Inclusive Economic Growth: The Silent Revolution. *Sustainability* 10:2, 121. [[Crossref](#)]
33. Stilianos Alexiadis. Setting the Overall Context 1-16. [[Crossref](#)]
34. Shinhye Chang, Rangan Gupta, Stephen M. Miller. 2018. Causality Between Per Capita Real GDP and Income Inequality in the U.S.: Evidence from a Wavelet Analysis. *Social Indicators Research* 135:1, 269-289. [[Crossref](#)]
35. Stefan Trapp. Theorien zur personellen Verteilung 21-28. [[Crossref](#)]
36. Seung Jin Baek. 27. [[Crossref](#)]
37. Seung Jin Baek. 85. [[Crossref](#)]
38. Seung Jin Baek. 119. [[Crossref](#)]
39. Seung Jin Baek. 229. [[Crossref](#)]
40. Jakob B. Madsen, Md. Rabiul Islam, Hristos Doucouliagos. 2018. Inequality, financial development and economic growth in the OECD, 1870-2011. *European Economic Review* 101, 605-624. [[Crossref](#)]

41. David Castells-Quintana, Vicente Royuela. 2017. Tracking positive and negative effects of inequality on long-run growth. *Empirical Economics* 53:4, 1349-1378. [[Crossref](#)]
42. Nicole Grunewald, Stephan Klasen, Inmaculada Martínez-Zarzoso, Chris Muris. 2017. The Trade-off Between Income Inequality and Carbon Dioxide Emissions. *Ecological Economics* 142, 249-256. [[Crossref](#)]
43. Enobong Udoh, Ndem Ayara. 2017. An Investigation of (Non-) Inclusive Growth in Nigeria's Sub-Nationals: Evidence from Elasticity Approach. *Economies* 5:4, 43. [[Crossref](#)]
44. Klaus Gründler, Philipp Scheuermeyer. 2017. Growth Effects of Inequality and Redistribution: What are the Transmission Channels?. *Journal of Macroeconomics* . [[Crossref](#)]
45. Mohsen Bahmani-Oskooee,, Amid Motavallizadeh-Ardakani. 2017. Impact of Economic Growth on Income Distribution: Are the Effects Asymmetric?. *Applied Economics Quarterly* 63:4, 391-427. [[Crossref](#)]
46. Makram El-Shagi, Liang Shao. 2017. The Impact of Inequality and Redistribution on Growth. *Review of Income and Wealth* 101. . [[Crossref](#)]
47. Andrew G. Berg, Jonathan D. Ostry. 2017. Inequality and Unsustainable Growth: Two Sides of the Same Coin?. *IMF Economic Review* 65:4, 792-815. [[Crossref](#)]
48. Roberto J. Santillán-Salgado, Araceli Ortega-Díaz. Is there Convergence or Divergence in the International Competitiveness of the Eurozone Countries? 387-416. [[Crossref](#)]
49. Angelica Sbardella, Emanuele Pugliese, Luciano Pietronero. 2017. Economic development and wage inequality: A complex system analysis. *PLOS ONE* 12:9, e0182774. [[Crossref](#)]
50. Jacob Hochard, Edward Barbier. 2017. Market Accessibility and Economic Growth: Insights from a New Dimension of Inequality. *World Development* 97, 279-297. [[Crossref](#)]
51. Tom Kennedy, Russell Smyth, Abbas Valadkhani, George Chen. 2017. Does income inequality hinder economic growth? New evidence using Australian taxation statistics. *Economic Modelling* 65, 119-128. [[Crossref](#)]
52. Maria Adelaide Pedrosa da Silva Duarte, Marta Cristina Nunes Simões. Structural Change, Inequality and Economic Growth: Evidence from a Panel of Central and Eastern European Countries 143-173. [[Crossref](#)]
53. Edmond Berisha. 2017. Yield spread and the income distribution. *The Quarterly Review of Economics and Finance* 65, 363-377. [[Crossref](#)]
54. Christian Bjørnskov. 2017. GROWTH, INEQUALITY, AND ECONOMIC FREEDOM: EVIDENCE FROM THE U.S. STATES. *Contemporary Economic Policy* 35:3, 518-531. [[Crossref](#)]
55. Su-Hyun Lee. 2017. Party Competition and the Inter-Industry Structure of US Trade Protection. *Political Science Research and Methods* 5:03, 489-509. [[Crossref](#)]
56. ?nal T?ng?r, Adem Yavuz Elveren. 2017. The nexus of economic growth, military expenditures, and income inequality. *Quality & Quantity* 51:4, 1821-1842. [[Crossref](#)]
57. Francisco H. G. Ferreira, Christoph Lakner, Maria Ana Lugo, Berk Özler. 2017. Inequality of Opportunity and Economic Growth: How Much Can Cross-Country Regressions Really Tell Us?. *Review of Income and Wealth* 105. . [[Crossref](#)]
58. Simon Gächter, Friederike Mengel, Elias Tsakas, Alexander Vostroknutov. 2017. Growth and inequality in public good provision. *Journal of Public Economics* 150, 1-13. [[Crossref](#)]
59. Jorge Rojas-Vallejos, Stephen J. Turnovsky. 2017. Tariff Reduction and Income Inequality: Some Empirical Evidence. *Open Economies Review* 19. . [[Crossref](#)]
60. Lei Zhao, Yufeng Dong. 2017. Tourism agglomeration and urbanization: empirical evidence from China. *Asia Pacific Journal of Tourism Research* 22:5, 512-523. [[Crossref](#)]

61. Xuehui Han, Shang-Jin Wei. 2017. Re-examining the middle-income trap hypothesis (MITH): What to reject and what to revive?. *Journal of International Money and Finance* **73**, 41-61. [[Crossref](#)]
62. Siddhartha Biswas, Indraneel Chakraborty, Rong Hai. 2017. Income Inequality, Tax Policy, and Economic Growth. *The Economic Journal* **127**:601, 688-727. [[Crossref](#)]
63. Siddhartha Biswas, Indraneel Chakraborty, Rong Hai. 2017. Income Inequality, Tax Policy, and Economic Growth*. *The Economic Journal* **127**:601, 688-727. [[Crossref](#)]
64. Phuc Van Phan, Martin O'brien, Silvia Mendolia, Alfredo Paloyo. 2017. National pro-poor spending programmes and their effect on income inequality and poverty: Evidence from Vietnam. *Applied Economics* **56**, 1-12. [[Crossref](#)]
65. Ghislain N. Gueye, Hyeongwoo Kim, Gilad Sorek. 2017. PITFALLS IN TESTING FOR COINTEGRATION BETWEEN INEQUALITY AND THE REAL INCOME. *Economic Inquiry* **55**:2, 941-950. [[Crossref](#)]
66. Reto Foellmi, Josef Zweimüller. 2017. Is inequality harmful for innovation and growth? Price versus market size effects. *Journal of Evolutionary Economics* **27**:2, 359-378. [[Crossref](#)]
67. Thomas Liebmann, Stefan Kassberger, Martin Hellmich. 2017. Sharing and growth in general random multiplicative environments. *European Journal of Operational Research* **258**:1, 193-206. [[Crossref](#)]
68. Tony Ward. 2017. Inequality and Growth: Reviewing the Economic and Social Impacts. *Australian Economic Review* **50**:1, 32-51. [[Crossref](#)]
69. Panagiotis Pegkas, Constantinos Tsamadias. 2017. Are There Separate Effects of Male and Female Higher Education on Economic Growth? Evidence from Greece. *Journal of the Knowledge Economy* **8**:1, 279-293. [[Crossref](#)]
70. Sirine MNIF. 2017. The Impact of Inequality on Growth Driven by Technological Changes: a Panel of Developing Countries. *Journal of the Knowledge Economy* **8**:1, 127-140. [[Crossref](#)]
71. Nicholas R. Buttrick, Shigehiro Oishi. 2017. The psychological consequences of income inequality. *Social and Personality Psychology Compass* **11**:3, e12304. [[Crossref](#)]
72. Rohan Joshi. 2017. Assessing the Impact of Income Inequality on Economic Growth. *The Indian Economic Journal* **65**:1-4, 1-26. [[Crossref](#)]
73. Yiwen Yang, Theresa M. Greaney. 2017. Economic growth and income inequality in the Asia-Pacific region: A comparative study of China, Japan, South Korea, and the United States. *Journal of Asian Economics* **48**, 6-22. [[Crossref](#)]
74. Maria Iosifidi, Nikolaos Mylonidis. 2017. Relative effective taxation and income inequality: Evidence from OECD countries. *Journal of European Social Policy* **27**:1, 57-76. [[Crossref](#)]
75. Athanasios Tsagkanos. 2017. Stock market development and income inequality. *Journal of Economic Studies* **44**:1, 87-98. [[Crossref](#)]
76. Erik Thorbecke, Yusi Ouyang. 2017. Is the Structure of Growth Different in Sub-Saharan Africa?. *Journal of African Economies* . [[Crossref](#)]
77. Nobuhiro Mizuno, Katsuyuki Naito, Ryosuke Okazawa. 2017. Inequality, extractive institutions, and growth in nondemocratic regimes. *Public Choice* **170**:1-2, 115-142. [[Crossref](#)]
78. Kua Wongboonsin, Piyachart Phiromswad. 2017. Searching for empirical linkages between demographic structure and economic growth. *Economic Modelling* **60**, 364-379. [[Crossref](#)]
79. Nicholas Apergis, Arusha Cooray. 2017. Economic Freedom and Income Inequality: Evidence from a Panel of Global Economies- A Linear and a Non-Linear Long-Run Analysis. *The Manchester School* **85**:1, 88-105. [[Crossref](#)]

80. Bogang Jun, Tai-Yoo Kim. 2017. Non-financial hurdles for human capital accumulation: landownership in Korea under Japanese rule. *Cliometrica* 11:1, 63-92. [[Crossref](#)]
81. Siong Hook Law, N.A.M. Naseem, Ali M. Kutun. 2017. The Role of Institutions in Finance Curse: Evidence from International Data. *Journal of Comparative Economics* . [[Crossref](#)]
82. Vassilis Tselios, Antonis Rovolis, Yannis Psycharis. 151. [[Crossref](#)]
83. Pedro Paulo Pereira Funari. Inequality, Institutions, and Long-Term Development: A Perspective from Brazilian Regions 113-142. [[Crossref](#)]
84. Leanne Roncolato, Nicholas Reksten, Caren Grown. 2017. Engendering Growth Diagnostics: Examining Constraints to Private Investment and Entrepreneurship. *Development Policy Review* 35:2, 263-287. [[Crossref](#)]
85. Prabir C. Bhattacharya. 2017. A Model of Optimal Development for an Economy with an Informal Sector. *Journal of Applied Mathematics and Physics* 05:09, 1808-1824. [[Crossref](#)]
86. Livio Di Matteo. 2017. Does Egalitarianism Come at a Price? Inequality and Economic Performance in Late-Nineteenth-Century Ontario. *Social Science History* 41:04, 615-644. [[Crossref](#)]
87. Partha Gangopadhyay, Biswa Nath Bhattacharyay. Does Economic Growth Increase Inequality?: An Empirical Analysis for ASEAN Countries, China and India 3-30. [[Crossref](#)]
88. International Monetary Fund.. 2017. Euro Area Policies: Selected Issues. *IMF Staff Country Reports* 17:236, 1. [[Crossref](#)]
89. M. Suresh Babu, Vandana Bhaskaran, Manasa Venkatesh. 2016. Does inequality hamper long run growth? Evidence from Emerging Economies. *Economic Analysis and Policy* 52, 99-113. [[Crossref](#)]
90. Richard Bluhm, Denis de Crombrughe, Adam Szirmai. 2016. THE DYNAMICS OF STAGNATION: A PANEL ANALYSIS OF THE ONSET AND CONTINUATION OF STAGNATION. *Macroeconomic Dynamics* 20:08, 2010-2045. [[Crossref](#)]
91. Adelaide Duarte,, Marta Simões,, João Sousa Andrade. 2016. The Welfare State and Economic Performance: Quantiles and Nonlinearities. *Applied Economics Quarterly* 62:4, 269-296. [[Crossref](#)]
92. Michael Connolly, Cheng Li. 2016. Government spending and economic growth in the OECD countries. *Journal of Economic Policy Reform* 19:4, 386-395. [[Crossref](#)]
93. Dong Jin Lee, Jong Chil Son. 2016. Economic Growth and Income Inequality: Evidence from Dynamic Panel Investigation. *Global Economic Review* 45:4, 331-358. [[Crossref](#)]
94. Susan E. Mayer, Leonard M. Lopoo, Lincoln H. Groves. 2016. Government spending and the distribution of economic growth. *Southern Economic Journal* 83:2, 399-415. [[Crossref](#)]
95. József Pántya, Judit Kovács, Christoph Kogler, Erich Kirchler. 2016. Work performance and tax compliance in flat and progressive tax systems. *Journal of Economic Psychology* 56, 262-273. [[Crossref](#)]
96. Muhammad Tariq Majeed. 2016. Economic growth, inequality and trade in developing countries. *International Journal of Development Issues* 15:3, 240-253. [[Crossref](#)]
97. René Cabral, Rocío García-Díaz, André Varella Mollick. 2016. Does globalization affect top income inequality?. *Journal of Policy Modeling* 38:5, 916-940. [[Crossref](#)]
98. Laura Policardo, Lionello F. Punzo, Edgar J. Sánchez Carrera. 2016. Brazil and China: Two Routes of Economic Development?. *Review of Development Economics* 20:3, 651-669. [[Crossref](#)]
99. Zhaobin Fan, Ruohan Zhang, Xiaotong Liu. 2016. Income inequality, entrepreneur formation, and the economic development: evidence from China. *Journal of the Asia Pacific Economy* 21:3, 444-464. [[Crossref](#)]
100. Ricardo Molero-Simarro. 2016. Growth and inequality revisited: the role of primary distribution of income. A new approach for understanding today's economic and social crises. *Cambridge Journal of Economics* bew017. [[Crossref](#)]

101. Xie Bo. Capital market imperfections, income inequality and economic growth: A model approach 1-4. [[Crossref](#)]
102. DANIEL L. BENNETT, BORIS NIKOLAEV. 2016. Factor endowments, the rule of law and structural inequality. *Journal of Institutional Economics* 1-23. [[Crossref](#)]
103. Ünal Töngür, Adem Yavuz Elveren. 2016. The impact of military spending and income inequality on economic growth in Turkey. *Defence and Peace Economics* 27:3, 433-452. [[Crossref](#)]
104. Cécile Détang-Dessendre, Mark D. Partridge, Virginie Piguet. 2016. Local labor market flexibility in a perceived low migration country: The case of French labor markets. *Regional Science and Urban Economics* 58, 89-103. [[Crossref](#)]
105. Lingsheng Meng, Binzhen Wu, Zhaoguo Zhan. 2016. Linear regression with an estimated regressor: applications to aggregate indicators of economic development. *Empirical Economics* 50:2, 299-316. [[Crossref](#)]
106. Frances Stewart. 2016. Changing Perspectives on Inequality and Development. *Studies in Comparative International Development* 51:1, 60-80. [[Crossref](#)]
107. Unal Seven, Yener Coskun. 2016. Does financial development reduce income inequality and poverty? Evidence from emerging countries. *Emerging Markets Review* 26, 34-63. [[Crossref](#)]
108. José M. Casado-Díaz, Hipólito Simón. 2016. Wage differences in the hospitality sector. *Tourism Management* 52, 96-109. [[Crossref](#)]
109. Pedro Cunha Neves, Óscar Afonso, Sandra Tavares Silva. 2016. A Meta-Analytic Reassessment of the Effects of Inequality on Growth. *World Development* 78, 386-400. [[Crossref](#)]
110. Wei Ha, Junjian Yi, Ye Yuan, Junsen Zhang. 2016. The dynamic effect of rural-to-urban migration on inequality in source villages: System GMM estimates from rural China. *China Economic Review* 37, 27-39. [[Crossref](#)]
111. Juin-jen Chang, Hsiao-wen Hung. 2016. TRADE UNIONS, UNEMPLOYMENT, ECONOMIC GROWTH, AND INCOME INEQUALITY. *Macroeconomic Dynamics* 20:01, 404-428. [[Crossref](#)]
112. Sutirtha Bagchi, Jan Svejnar, Kendra Bischoff. Does Wealth Distribution and the Source of Wealth Matter for Economic Growth? Inherited v. Uninherited Billionaire Wealth and Billionaires' Political Connections 163-194. [[Crossref](#)]
113. Fred Campano, Alberto Costantiello, Dominick Salvatore. Long-Term Tendencies in the Shares of Total Household Income Flowing to Upper and Lower Quantiles of European Households 7-18. [[Crossref](#)]
114. Hamid E. Ali, Sara M. Sami. Inequality, Economic Growth and Natural Resources Rent: Evidence From the Middle East and North Africa 50-76. [[Crossref](#)]
115. Richard Barwell. Objectives 293-327. [[Crossref](#)]
116. . 69. [[Crossref](#)]
117. Francesco Grigoli, Evelio Paredes, Gabriel Di Bella. 2016. Inequality and Growth: A Heterogeneous Approach. *IMF Working Papers* 16:244, 1. [[Crossref](#)]
118. Lisa Kolovich, Sakina Shibuya. 2016. Middle East and Central Asia: A Survey of Gender Budgeting Efforts. *IMF Working Papers* 16:151, 1. [[Crossref](#)]
119. Sonali Jain-Chandra, Tidiane Kinda, Kalpana Kochhar, Shi Piao, Johanna Schauer. 2016. Sharing the Growth Dividend: Analysis of Inequality in Asia. *IMF Working Papers* 16:48, 1. [[Crossref](#)]
120. Tingting Li, Jennifer T. Lai, Yong Wang, Dingtao Zhao. 2016. Long-run relationship between inequality and growth in post-reform China: New evidence from dynamic panel model. *International Review of Economics & Finance* 41, 238-252. [[Crossref](#)]

121. Stephen P. Jenkins. 2015. World income inequality databases: an assessment of WIID and SWIID. *The Journal of Economic Inequality* 13:4, 629-671. [[Crossref](#)]
122. Stephen J. Turnovsky. 2015. Economic growth and inequality: The role of public investment. *Journal of Economic Dynamics and Control* 61, 204-221. [[Crossref](#)]
123. . Ending Extreme Poverty and Sharing Prosperity: Progress and Policies 25-86. [[Crossref](#)]
124. Abdul Jabbar Abdullah, Hristos Doucouliagos, Elizabeth Manning. 2015. Are regional incomes in Malaysia converging?. *Papers in Regional Science* 94, S69-S94. [[Crossref](#)]
125. David Castells-Quintana, Raul Ramos, Vicente Royuela. 2015. Income inequality in European Regions: Recent trends and determinants. *Review of Regional Research* 35:2, 123-146. [[Crossref](#)]
126. Jorge Rojas-Vallejos, Stephen J. Turnovsky. 2015. Erratum to: The Consequences of Tariff Reduction for Economic Activity and Inequality. *Open Economies Review* 26:4, 601-631. [[Crossref](#)]
127. David Castells-Quintana, Vicente Royuela. 2015. Are Increasing Urbanisation and Inequalities Symptoms of Growth?. *Applied Spatial Analysis and Policy* 8:3, 291-308. [[Crossref](#)]
128. Constantine Angyridis. 2015. ENDOGENOUS GROWTH WITH PUBLIC CAPITAL AND PROGRESSIVE TAXATION. *Macroeconomic Dynamics* 19:06, 1220-1239. [[Crossref](#)]
129. Arjan de Haan. 2015. Inclusive Growth: Beyond Safety Nets?. *The European Journal of Development Research* 27:4, 606-622. [[Crossref](#)]
130. Arturo Martinez, Mark Western, Michele Haynes, Wojtek Tomaszewski. 2015. How Income Segmentation Affects Income Mobility: Evidence from Panel Data in the Philippines. *Asia & the Pacific Policy Studies* 2:3, 590-608. [[Crossref](#)]
131. Amir Rubin, Dan Segal. 2015. The effects of economic growth on income inequality in the US. *Journal of Macroeconomics* 45, 258-273. [[Crossref](#)]
132. Alokesh Barua, Aparna Sawhney. 2015. Development Policy Implications for Growth and Regional Inequality in a Small Open Economy: The Indian Case. *Review of Development Economics* 19:3, 695-709. [[Crossref](#)]
133. Eiji Yamamura. 2015. The Impact of Natural Disasters on Income Inequality: Analysis using Panel Data during the Period 1970 to 2004. *International Economic Journal* 29:3, 359-374. [[Crossref](#)]
134. OLAF VAN VLIET, CHEN WANG. 2015. Social Investment and Poverty Reduction: A Comparative Analysis across Fifteen European Countries. *Journal of Social Policy* 44:03, 611-638. [[Crossref](#)]
135. Roberto Dell'Anno, Adalgiso Amendola. 2015. Social Exclusion and Economic Growth: An Empirical Investigation in European Economies. *Review of Income and Wealth* 61:2, 274-301. [[Crossref](#)]
136. Fadi A. Fawaz, Masha Rahnama, Victor J. Valcarcel. 2015. Developing Countries and Economies in Transition: The Nexus between Economic Growth and Income Inequality. *Applied Economics Quarterly* 61:2, 155-174. [[Crossref](#)]
137. Vicente German-Soto, Joana Cecilia Chapa Cantú. 2015. Cointegration with structural changes between per capita product and income inequality in Mexico. *Applied Economics* 1-14. [[Crossref](#)]
138. Sutirtha Bagchi, Jan Svejnar. 2015. Does wealth inequality matter for growth? The effect of billionaire wealth, income distribution, and poverty. *Journal of Comparative Economics* . [[Crossref](#)]
139. Amarakoon Bandara. 2015. The Economic Cost of Gender Gaps in Effective Labor: Africa's Missing Growth Reserve. *Feminist Economics* 21:2, 162-186. [[Crossref](#)]
140. Thomas G. Poder, Jie He. 2015. The Role of Ethnic and Rural Discrimination in the Relationship Between Income Inequality and Health in Guatemala. *International Journal of Health Services* 45:2, 285-305. [[Crossref](#)]
141. Markus Brueckner, Era Dabla Norris, Mark Gradstein. 2015. National income and its distribution. *Journal of Economic Growth* . [[Crossref](#)]

142. Richard Pomfret. 2015. Is Inequality Increasing?. *Australian Economic Review* 48:1, 103-111. [[Crossref](#)]
143. Sirine Mnif. 2015. L'impact des Changements Technologiques sur les Inégalités des Revenus dans les Pays en Développement: Analyse Empirique sur Données de Panel. *La Revue Gestion et Organisation* 7:1, 23-32. [[Crossref](#)]
144. Jorge Rojas-Vallejos, Stephen J. Turnovsky. 2015. The Consequences of Tariff Reduction for Economic Activity and Inequality. *Open Economies Review* . [[Crossref](#)]
145. Ho-Chuan (River) Huang, WenShwo Fang, Stephen M. Miller, Chih-Chuan Yeh. 2015. The effect of growth volatility on income inequality. *Economic Modelling* 45, 212-222. [[Crossref](#)]
146. Antonis Adam, Pantelis Kammas, Athanasios Lapatinas. 2015. Income inequality and the tax structure: Evidence from developed and developing countries. *Journal of Comparative Economics* 43:1, 138-154. [[Crossref](#)]
147. Nadia Belhaj Hassine. 2015. Economic Inequality in the Arab Region. *World Development* 66, 532-556. [[Crossref](#)]
148. Sambit Bhattacharyya, Budy P. Resosudarmo. 2015. Growth, Growth Accelerations, and the Poor: Lessons from Indonesia. *World Development* 66, 154-165. [[Crossref](#)]
149. Diego Araujo Reis, José Ricardo Santana. 2015. Os efeitos da aplicação dos royalties petrolíferos sobre os investimentos públicos nos municípios brasileiros. *Revista de Administração Pública* 49:1, 91-118. [[Crossref](#)]
150. Aniruddha Mitra, James T. Bang, Arnab Biswas. 2015. Gender Equality and Economic Growth: Is it Equality of Opportunity or Equality of Outcomes?. *Feminist Economics* 21:1, 110-135. [[Crossref](#)]
151. Jeff Dayton-Johnson. Making Sense of Latin America's Middle Classes 1-31. [[Crossref](#)]
152. Bernhard Eckwert, Itzhak Zilcha. Screening and Income Inequality 141-169. [[Crossref](#)]
153. Bernhard Eckwert, Itzhak Zilcha. Evidence on Higher Education and Economic Performance 39-46. [[Crossref](#)]
154. Jair Andrade Araujo, Janaina Cabral. 2015. Relación entre la desigualdad de la renta y el crecimiento económico en Brasil: 1995-2012. *Problemas del Desarrollo* 46:180, 129-150. [[Crossref](#)]
155. Marco D'Errico, Corrado Macchiarelli, Roberta Serafini. 2015. Differently unequal: Zooming-in on the distributional dimensions of the crisis in euro area countries. *Economic Modelling* 48, 93. [[Crossref](#)]
156. Martin Ravallion. The Idea of Antipoverty Policy 1967-2061. [[Crossref](#)]
157. . Bibliography 171-175. [[Crossref](#)]
158. 2015. *Economic Modelling* 48. . [[Crossref](#)]
159. Lawrence Haddad. 2015. Equity: Not Only for Idealists. *Development Policy Review* 33:1, 5-13. [[Crossref](#)]
160. Daniel J. Henderson, Junhui Qian, Le Wang. 2015. The inequality-growth plateau. *Economics Letters* 128, 17. [[Crossref](#)]
161. Edinaldo Tebaldi, Jongsung Kim. 2015. Is Income Growth in the United States Pro-Poor? A State-Level Analysis. *Eastern Economic Journal* 41:2, 251-272. [[Crossref](#)]
162. Arusha Cooray. 2014. Ethnic or Political Fractionalisation? A District Level Analysis of the Provision of Public Goods in Sri Lanka. *Growth and Change* 45:4, 640-666. [[Crossref](#)]
163. Veronica Amarante. 2014. Revisiting Inequality and Growth: Evidence for Developing Countries. *Growth and Change* 45:4, 571-589. [[Crossref](#)]
164. Wei-Bin Zhang. 2014. Capital and Knowledge: Integrating Arrow's Learning-by-Doing, the Walrasian Equilibrium Theory and Neoclassical Growth Theory. *South Asian Journal of Macroeconomics and Public Finance* 3:2, 267-293. [[Crossref](#)]

165. F. Chen, X. Sun. 2014. Urban–rural income polarization and economic growth in China: evidence from the analysis of a dynamic panel data model. *Applied Economics* 46:32, 4008-4023. [[Crossref](#)]
166. Toshiaki Tamai. 2014. Redistributive taxation, wealth distribution, and economic growth. *Journal of Economics* . [[Crossref](#)]
167. Fernando Delbianco, Carlos Dabús, María Ángeles Caraballo. 2014. Income inequality and economic growth: new evidence from latin america. *Cuadernos de Economía* 33:63, 381-398. [[Crossref](#)]
168. Mthuli Ncube, John C. Anyanwu, Kjell Hausken. 2014. Inequality, Economic Growth and Poverty in the Middle East and North Africa (MENA). *African Development Review* 26:3, 435-453. [[Crossref](#)]
169. Yong-Hwan Noh. 2014. A Study on the Income Flow of Welfare Policy: Multiplier Decomposition and Structural Path Analysis in a SAM Structure. *Health and Social Welfare Review* 34:3, 222-258. [[Crossref](#)]
170. Bebonchu Atems, Jason Jones. 2014. Income inequality and economic growth: a panel VAR approach. *Empirical Economics* . [[Crossref](#)]
171. Stefan Thewissen. 2014. Is it the income distribution or redistribution that affects growth?. *Socio-Economic Review* 12:3, 545-571. [[Crossref](#)]
172. Qing He, Jack W. Hou, Boqun Wang, Ning Zhang. 2014. Time-varying volatility in the Chinese economy: A regional perspective. *Papers in Regional Science* 93:2, 249-268. [[Crossref](#)]
173. Muhammad Shahbaz, Ijaz Ur Rehman, Nurul Shahnaz Ahmad Mahdzan. 2014. Linkages between income inequality, international remittances and economic growth in Pakistan. *Quality & Quantity* 48:3, 1511-1535. [[Crossref](#)]
174. Gregory P. Casey, Ann L. Owen. 2014. Inequality and Fractionalization. *World Development* 56, 32-50. [[Crossref](#)]
175. Daniel Halter, Manuel Oechslin, Josef Zweimüller. 2014. Inequality and growth: the neglected time dimension. *Journal of Economic Growth* 19:1, 81-104. [[Crossref](#)]
176. David Castells-Quintana, Vicente Royuela. 2014. Agglomeration, inequality and economic growth. *The Annals of Regional Science* . [[Crossref](#)]
177. Fadi Fawaz, Masha Rahnama, Betty Stout. 2014. An empirical refinement of the relationship between tourism and economic growth. *Anatolia* 1-12. [[Crossref](#)]
178. Pedro Cunha Neves, Sandra Maria Tavares Silva. 2014. Inequality and Growth: Uncovering the Main Conclusions from the Empirics. *The Journal of Development Studies* 50:1, 1-21. [[Crossref](#)]
179. Wei-Bin Zhang. 2014. A Study of the Role of Government in Income and Wealth Distribution by Integrating the Walrasian General Equilibrium and Neoclassical Growth Theories. *Interdisciplinary Description of Complex Systems* 12:1, 28-45. [[Crossref](#)]
180. Cheah Ying Lim, Siok Kun Sek. 2014. Exploring the Two-Way Relationship between Income Inequality and Growth. *Journal of Advanced Management Science* 2:1, 33-37. [[Crossref](#)]
181. Fadi Fawaz, Masha Rahnama, Victor J. Valcarcel. 2014. A refinement of the relationship between economic growth and income inequality. *Applied Economics* 46:27, 3351. [[Crossref](#)]
182. Giuseppe Maggio, Alessandro Romano, Angela Troisi. 2014. The Legal Origin of Income Inequality. *Law and Development Review* 7:1, 1-21. [[Crossref](#)]
183. Henrikas Bartusevičius. 2014. The inequality–conflict nexus re-examined. *Journal of Peace Research* 51:1, 35-50. [[Crossref](#)]
184. Markus Bruckner, Era Dabla-Norris, Mark Gradstein. 2014. National Income and Its Distribution. *IMF Working Papers* 14:101, 1. [[Crossref](#)]
185. Jonathan Ostry, Andrew Berg, Charalambos Tsangarides. 2014. Redistribution, Inequality, and Growth. *Staff Discussion Notes* 14:02, 1. [[Crossref](#)]

186. David Cuberes, Marc Teignier. 2013. GENDER INEQUALITY AND ECONOMIC GROWTH: A CRITICAL REVIEW. *Journal of International Development* n/a-n/a. [[Crossref](#)]
187. Agne Suziedelyte, Meliyanni Johar. 2013. Can you trust survey responses? Evidence using objective health measures. *Economics Letters* **121**:2, 163-166. [[Crossref](#)]
188. Zlatko Nikoloski. 2013. FINANCIAL SECTOR DEVELOPMENT AND INEQUALITY: IS THERE A FINANCIAL KUZNETS CURVE?. *Journal of International Development* **25**:7, 897-911. [[Crossref](#)]
189. Gustavo A. Marrero, Juan G. Rodríguez. 2013. Inequality of opportunity and growth. *Journal of Development Economics* **104**, 107-122. [[Crossref](#)]
190. Marta C. N. Simões, João A. S. Andrade, Adelaide P. S. Duarte. 2013. A regional perspective on inequality and growth in Portugal using panel cointegration analysis. *International Economics and Economic Policy* **10**:3, 427-451. [[Crossref](#)]
191. Miguel Viegas, Ana Paula Ribeiro. 2013. Welfare-improving government behavior and inequality in a heterogeneous agents model. *Journal of Macroeconomics* **37**, 146-160. [[Crossref](#)]
192. W. Adrián Riso, Lionello F. Punzo, Edgar J. Sánchez Carrera. 2013. Economic growth and income distribution in Mexico: A cointegration exercise. *Economic Modelling* **35**, 708-714. [[Crossref](#)]
193. Stephen J. Turnovsky. 2013. The relationship between economic growth and inequality. *New Zealand Economic Papers* **47**:2, 113-139. [[Crossref](#)]
194. Liyanage Devangi H. Perera, Grace H.Y. Lee. 2013. Have economic growth and institutional quality contributed to poverty and inequality reduction in Asia?. *Journal of Asian Economics* **27**, 71-86. [[Crossref](#)]
195. Bebonchu Atem. 2013. A NOTE ON THE DIFFERENTIAL REGIONAL EFFECTS OF INCOME INEQUALITY: EMPIRICAL EVIDENCE USING U.S. COUNTY-LEVEL DATA. *Journal of Regional Science* **40**, n/a-n/a. [[Crossref](#)]
196. Baoshan Zhang, Xiaoni Zhang, Xiaoling Yuan. 2013. Pollutant emissions, energy consumption and economic development in China: Evidence from dynamic panel data. *Chinese Journal of Population Resources and Environment* 1-13. [[Crossref](#)]
197. Dierk Herzer, Sebastian Vollmer. 2013. Rising top incomes do not raise the tide. *Journal of Policy Modeling* **35**:4, 504-519. [[Crossref](#)]
198. Florence Jaumotte, Subir Lall, Chris Papageorgiou. 2013. Rising Income Inequality: Technology, or Trade and Financial Globalization?. *IMF Economic Review* **61**:2, 271-309. [[Crossref](#)]
199. Ling Shen. 2013. How does wealth distribution affect firm's incentive to innovate better quality goods?. *Economic Modelling* **32**, 516-523. [[Crossref](#)]
200. Samuel Bazzi,, Michael A. Clemens. 2013. Blunt Instruments: Avoiding Common Pitfalls in Identifying the Causes of Economic Growth. *American Economic Journal: Macroeconomics* **5**:2, 152-186. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
201. Michael Hanlon. 2013. Inequality and growth: Understanding the link through a simulation. *International Review of Economics Education* . [[Crossref](#)]
202. NICHOLAS APERGIS, OGUZHAN DINCER, JAMES E. PAYNE. 2013. ECONOMIC FREEDOM AND INCOME INEQUALITY REVISITED: EVIDENCE FROM A PANEL ERROR CORRECTION MODEL. *Contemporary Economic Policy* no-no. [[Crossref](#)]
203. Mark D. Partridge, Amanda L. Weinstein. 2013. Rising Inequality in an Era of Austerity: The Case of the US. *European Planning Studies* **21**:3, 388-410. [[Crossref](#)]
204. Felix Roth, Anna-Elisabeth Thum. 2013. Intangible Capital and Labor Productivity Growth: Panel Evidence for the EU from 1998-2005. *Review of Income and Wealth* n/a-n/a. [[Crossref](#)]

205. Juin-jen Chang, Chia-ying Liu, Hsiao-wen Hung. 2013. Does Performance-Based Compensation Boost Economic Growth or Lead to More Income Inequality?. *Economic Record* **89**:284, 72-82. [[Crossref](#)]
206. Jan Lorenz, Fabian Paetzel, Frank Schweitzer. 2013. Redistribution Spurs Growth by Using a Portfolio Effect on Risky Human Capital. *PLoS ONE* **8**:2, e54904. [[Crossref](#)]
207. Lee J. Alston, Marcus Andre Melo, Bernardo Mueller, Carlos Pereira. 2013. Changing social contracts: Beliefs and dissipative inclusion in Brazil. *Journal of Comparative Economics* **41**:1, 48-65. [[Crossref](#)]
208. Hung-Lin Tao, Shih-Yung Chiu. 2013. Income growth, redistribution, and subjective well-being in Taiwan – a simulation study. *Applied Economics* **45**:6, 775-791. [[Crossref](#)]
209. Lewis S. Davis, Matthew Knauss. 2013. The moral consequences of economic growth: An empirical investigation. *The Journal of Socio-Economics* **42**, 43-50. [[Crossref](#)]
210. Iñaki Permanyer. 2013. Are UNDP Indices Appropriate to Capture Gender Inequalities in Europe?. *Social Indicators Research* **110**:3, 927-950. [[Crossref](#)]
211. Khalid Zaman, Bashir Ahmad Khilji. 2013. The relationship between growth and poverty in forecasting framework: Pakistan's future in the year 2035. *Economic Modelling* **30**, 468-491. [[Crossref](#)]
212. Tuomas Malinen. 2013. INEQUALITY AND GROWTH: ANOTHER LOOK WITH A NEW MEASURE AND METHOD. *Journal of International Development* **25**:1, 122-138. [[Crossref](#)]
213. Agnieszka Gehringer. 2013. Growth, productivity and capital accumulation: The effects of financial liberalization in the case of European integration. *International Review of Economics & Finance* **25**, 291-309. [[Crossref](#)]
214. Zheng Liu. 2013. Do Redistributive Policies Affect Economic Growth?. *Technology and Investment* **04**:01, 67-72. [[Crossref](#)]
215. Leonel Muineló-Gallo, Oriol Roca-Sagalés. 2013. Joint determinants of fiscal policy, income inequality and economic growth. *Economic Modelling* **30**, 814-824. [[Crossref](#)]
216. Joël Hellier, Stéphane Lambrecht. Inequality, Growth and Welfare: The Main Links 274-311. [[Crossref](#)]
217. Eiji Yamamura. 2013. Institution and decomposition of natural disaster impact on growth. *Journal of Economic Studies* **40**:6, 720-738. [[Crossref](#)]
218. Aysit Tansel, Nil Gungor. 2013. Gender effects of education on economic development in Turkey. *Journal of Economic Studies* **40**:6, 794-821. [[Crossref](#)]
219. Robbie M. Sutton, Aleksandra Cichocka, Jojanneke van der Toorn. The Corrupting Power of Social Inequality: Social-Psychological Consequences, Causes and Solutions 115-140. [[Crossref](#)]
220. Dierk Herzer, Sebastian Vollmer. 2012. Inequality and growth: evidence from panel cointegration. *The Journal of Economic Inequality* **10**:4, 489-503. [[Crossref](#)]
221. Stuart McDonald, Jie Zhang. 2012. INCOME INEQUALITY AND ECONOMIC GROWTH WITH ALTRUISTIC BEQUESTS AND HUMAN CAPITAL INVESTMENT. *Macroeconomic Dynamics* **16**:S3, 331-354. [[Crossref](#)]
222. Santanu Chatterjee, Stephen J. Turnovsky. 2012. Infrastructure and inequality. *European Economic Review* **56**:8, 1730-1745. [[Crossref](#)]
223. . Commodity Price Volatility and Inclusive Growth in Low-Income Countries . [[Crossref](#)]
224. Dustin Chambers, Susan Hamer. 2012. CULTURE AND GROWTH: SOME EMPIRICAL EVIDENCE. *Bulletin of Economic Research* **64**:4, 549-564. [[Crossref](#)]
225. Inyong Shin. 2012. Income inequality and economic growth. *Economic Modelling* **29**:5, 2049-2057. [[Crossref](#)]

226. ZAINAB IFTIKHAR, AMANAT ALI. 2012. IMPACT OF INCOME INEQUALITY AND DEFENCE BURDEN ON ECONOMIC GROWTH. *The Singapore Economic Review* 57:03, 1250014. [[Crossref](#)]
227. Radhika Lahiri, Shyama Ratnasiri. 2012. Growth Patterns and Inequality in the Presence of Costly Technology Adoption. *Southern Economic Journal* 79:1, 203-223. [[Crossref](#)]
228. W. Adrián Risso, Edgar J. Sánchez Carrera. 2012. Inequality and economic growth in China. *Journal of Chinese Economic and Foreign Trade Studies* 5:2, 80-90. [[Crossref](#)]
229. Nicholas Apergis, Oguzhan C. Dincer, James E. Payne. 2012. Live free or bribe: On the causal dynamics between economic freedom and corruption in U.S. states. *European Journal of Political Economy* 28:2, 215-226. [[Crossref](#)]
230. . Bibliography 395-444. [[Crossref](#)]
231. Abdul Jalil. 2012. Modeling income inequality and openness in the framework of Kuznets curve: New evidence from China. *Economic Modelling* 29:2, 309-315. [[Crossref](#)]
232. André Varella Mollick. 2012. Income inequality in the U.S.: The Kuznets hypothesis revisited. *Economic Systems* 36:1, 127-144. [[Crossref](#)]
233. Rosa Marina González, Gustavo A. Marrero. 2012. Induced road traffic in Spanish regions: A dynamic panel data model. *Transportation Research Part A: Policy and Practice* 46:3, 435-445. [[Crossref](#)]
234. Ronaldo de Albuquerque e Arraes, Francisca Zilania Mariano, Andrei Gomes Simonassi. 2012. Causas do desmatamento no Brasil e seu ordenamento no contexto mundial. *Revista de Economia e Sociologia Rural* 50:1, 119-140. [[Crossref](#)]
235. Neil Padukone. 2012. India's Climate Planning. *South Asian Survey* 19:1, 9-31. [[Crossref](#)]
236. Muhammad Shahbaz, Mohammad Mafizur Rahman. 2012. Does Nominal Devaluation Improve Income Distribution? Evidence from Bangladesh. *South Asian Survey* 19:1, 61-77. [[Crossref](#)]
237. Martin Ravallion. 2012. Why Don't We See Poverty Convergence?. *American Economic Review* 102:1, 504-523. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
238. Ho-Chuan (River) Huang, Chih-Chuan Yeh. 2012. A reassessment of inequality and growth in the United States. *Applied Economics Letters* 19:3, 289-295. [[Crossref](#)]
239. Ben Greiner, Axel Ockenfels, Peter Werner. 2012. The dynamic interplay of inequality and trust—An experimental study. *Journal of Economic Behavior & Organization* 81:2, 355-365. [[Crossref](#)]
240. Jorge Oliveira Pires, Fernando Garcia. 2012. Productivity of Nations: A Stochastic Frontier Approach to TFP Decomposition. *Economics Research International* 2012, 1-19. [[Crossref](#)]
241. Francesca Bastagli, David Coady, Sanjeev Gupta. 2012. Income Inequality and Fiscal Policy (2nd Edition). *Staff Discussion Notes* 12:08, 1. [[Crossref](#)]
242. David Coady, Sanjeev Gupta. 2012. Income Inequality and Fiscal Policy. *Staff Discussion Notes* 12:08, 1. [[Crossref](#)]
243. Thorvaldur Gylfason. Development and Growth in Resource-Dependent Countries: Why Social Policy Matters 26-61. [[Crossref](#)]
244. ANPING CHEN, NICOLAAS GROENEWOLD. 2011. Regional Equality and National Development in China: Is There a Trade-Off?. *Growth and Change* 42:4, 628-669. [[Crossref](#)]
245. Juan Gabriel Brida, Lionello F. Punzo, Wiston Adrián Risso. 2011. Research Note: Tourism as a Factor of Growth – the Case of Brazil. *Tourism Economics* 17:6, 1375-1386. [[Crossref](#)]
246. Dwayne Benjamin, Loren Brandt, John Giles. 2011. Did Higher Inequality Impede Growth in Rural China?. *The Economic Journal* 121:557, 1281-1309. [[Crossref](#)]
247. Fabrizio Carmignani. 2011. The Making of Pro-Poor Growth. *Scottish Journal of Political Economy* 58:5, 656-684. [[Crossref](#)]

248. Yong Liu, Wei Zou. 2011. Rural-urban Migration and Dynamics of Income Distribution in China: A Non-parametric Approach. *China & World Economy* 19:6, 37-55. [[Crossref](#)]
249. Solomon W. Polachek, Daria Sevastianova. 2011. Does conflict disrupt growth? Evidence of the relationship between political instability and national economic performance. *The Journal of International Trade & Economic Development* 1-28. [[Crossref](#)]
250. Edinaldo Tebaldi. 2011. The Determinants of High-Technology Exports: A Panel Data Analysis. *Atlantic Economic Journal* . [[Crossref](#)]
251. Julian Du, Qing He, Oliver M. Rui. 2011. Channels of interprovincial risk sharing in China. *Journal of Comparative Economics* 39:3, 383-405. [[Crossref](#)]
252. Manoj Atolia, Santanu Chatterjee, Stephen J. Turnovsky. 2011. Growth and inequality: Dependence on the time path of productivity increases (and other structural changes). *Journal of Economic Dynamics and Control* . [[Crossref](#)]
253. LEONEL MUINELO-GALLO, ORIOL ROCA-SAGALÉS. 2011. ECONOMIC GROWTH AND INEQUALITY: THE ROLE OF FISCAL POLICIES*. *Australian Economic Papers* 50:2-3, 74-97. [[Crossref](#)]
254. Akira Nishiyama. 2011. Economic Growth and Infant Mortality in Developing Countries. *The European Journal of Development Research* 23:4, 630-647. [[Crossref](#)]
255. Michele Bernasconi, Paola Profeta. 2011. Public education and redistribution when talents are mismatched. *European Economic Review* . [[Crossref](#)]
256. Lewis Davis, Mark Hopkins. 2011. The Institutional Foundations of Inequality and Growth. *Journal of Development Studies* 47:7, 977-997. [[Crossref](#)]
257. Ha Vu, Pundarik Mukhopadhaya. 2011. Reassessing the Relationship between Economic Growth and Inequality. *Economic Papers: A journal of applied economics and policy* 30:2, 265-272. [[Crossref](#)]
258. Lynn Ilon. 2011. Can education equality trickle-down to economic growth? The case of Korea. *Asia Pacific Education Review* . [[Crossref](#)]
259. Khuong M. Vu. 2011. ICT as a source of economic growth in the information age: Empirical evidence from the 1996–2005 period. *Telecommunications Policy* 35:4, 357-372. [[Crossref](#)]
260. M. J. Voors, E. H. Bulte, R. Damania. 2011. Income Shocks and Corruption in Africa: Does a Virtuous Cycle Exist?. *Journal of African Economies* . [[Crossref](#)]
261. Kyosuke Kurita, Takashi Kurosaki. 2011. Dynamics of Growth, Poverty and Inequality: A Panel Analysis of Regional Data from Thailand and the Philippines*. *Asian Economic Journal* 25:1, 3-33. [[Crossref](#)]
262. Galor Oded. Inequality, Human Capital Formation, and the Process of Development 441-493. [[Crossref](#)]
263. Jo-Hui Chen, Wan-Chieh Tsai. 2011. A comparison of international income inequality: an ordered probit model analysis. *Applied Economics* 1-16. [[Crossref](#)]
264. Edgardo Bucciarelli, Fabrizio Muratore, Iacopo Odoardi, Carmen Pagliari. 2011. Is it possible to define gender effects of the human capital on the processes of well-being?. *Procedia - Social and Behavioral Sciences* 15, 1067-1075. [[Crossref](#)]
265. Fiona Tregenna. 2011. What are the distributional implications of halving poverty in South Africa when growth alone is not enough?. *Applied Economics* 1-20. [[Crossref](#)]
266. Nasser Elkanj, Partha Gangopadhyay. Economic Foundation of Conflicts in the Middle East 153-167. [[Crossref](#)]
267. Jonathan Ostry, Andrew Berg. 2011. Inequality and Unsustainable Growth: Two Sides of the Same Coin?. *Staff Discussion Notes* 11:08, 1. [[Crossref](#)]

268. Tuomas Malinen. 2010. Estimating the long-run relationship between income inequality and economic development. *Empirical Economics* . [[Crossref](#)]
269. María Santana-Gallego, Francisco J. Ledesma-Rodríguez, Jorge V. Pérez-Rodríguez, Isabel Cortés-Jiménez. 2010. Does a Common Currency Promote Countries' Growth via Trade and Tourism?. *The World Economy* **33**:12, 1811-1835. [[Crossref](#)]
270. Maria Cornachione Kula, Daniel L. Millimet. 2010. Income Inequality, Taxation, and Growth. *Atlantic Economic Journal* **38**:4, 417-428. [[Crossref](#)]
271. Fuad Hasanov, Oded Izraeli. 2010. INCOME INEQUALITY, ECONOMIC GROWTH, AND THE DISTRIBUTION OF INCOME GAINS: EVIDENCE FROM THE U.S. STATES*. *Journal of Regional Science* no-no. [[Crossref](#)]
272. AKIHITO ASANO. 2010. IS THERE A "DOUBLE BONUS" FROM REDUCING INEQUALITY?. *Economic Inquiry* no-no. [[Crossref](#)]
273. Jaejoon Woo. 2010. Growth, income distribution, and fiscal policy volatility#. *Journal of Development Economics* . [[Crossref](#)]
274. Sadullah Çelik, Ulkem Basdas. 2010. How Does Globalization Affect Income Inequality? A Panel Data Analysis. *International Advances in Economic Research* **16**:4, 358-370. [[Crossref](#)]
275. Gustavo A. Marrero. 2010. Greenhouse gases emissions, growth and the energy mix in Europe. *Energy Economics* **32**:6, 1356-1363. [[Crossref](#)]
276. Angus C. Chu, Shin-Kun Peng. 2010. International intellectual property rights: Effects on growth, welfare and income inequality. *Journal of Macroeconomics* . [[Crossref](#)]
277. Angus C. Chu. 2010. Effects of Patent Policy on Income and Consumption Inequality in a R&D Growth Model. *Southern Economic Journal* **77**:2, 336-350. [[Crossref](#)]
278. Cecilia García-Peñalosa. 2010. Income distribution, economic growth and European integration. *The Journal of Economic Inequality* **8**:3, 277-292. [[Crossref](#)]
279. Amparo Castelló-Climent. 2010. Inequality and growth in advanced economies: an empirical investigation. *The Journal of Economic Inequality* **8**:3, 293-321. [[Crossref](#)]
280. Christina Peters, Ron Sprout, Robyn Melzig. 2010. Regional poverty disparity and economic performance in Central and Eastern Europe and Eurasia. *Post-Communist Economies* **22**:3, 345-365. [[Crossref](#)]
281. Muhammad Shahbaz. 2010. Income inequality-economic growth and non-linearity: a case of Pakistan. *International Journal of Social Economics* **37**:8, 613-636. [[Crossref](#)]
282. DONG-HYEON KIM, HO-CHUAN HUANG, SHU-CHIN LIN. 2010. KUZNETS HYPOTHESIS IN A PANEL OF STATES. *Contemporary Economic Policy* no-no. [[Crossref](#)]
283. Sherif Khalifa. 2010. Heterogeneity in Ability and Inheritance, Disparities, and Development. *International Economic Journal* **24**:2, 209-236. [[Crossref](#)]
284. Dustin Chambers, Alan Krause. 2010. Is the relationship between inequality and growth affected by physical and human capital accumulation?. *The Journal of Economic Inequality* **8**:2, 153-172. [[Crossref](#)]
285. C. N. Pitelis, V. Vasilaros. 2010. The Determinants of Value and Wealth Creation at the Firm, Industry, and National Levels: A Conceptual Framework and Evidence. *Contributions to Political Economy* **29**:1, 33-58. [[Crossref](#)]
286. Carles Boix. 2010. Origins and Persistence of Economic Inequality. *Annual Review of Political Science* **13**:1, 489-516. [[Crossref](#)]
287. Andrés Rodríguez-Pose, Vassilis Tselios. 2010. Inequalities in income and education and regional economic growth in western Europe. *The Annals of Regional Science* **44**:2, 349-375. [[Crossref](#)]

288. Xuehua Shi, Xiaoyun Liu, Alexander Nuetah, Xian Xin. 2010. Determinants of Household Income Mobility in Rural China. *China & World Economy* 18:2, 41-59. [[Crossref](#)]
289. Hyun Park. 2010. Fiscal Policy and Equitable Growth. *Review of Development Economics* 14:1, 121-140. [[Crossref](#)]
290. Anindya S. Chakrabarti, Bikas K. Chakrabarti. 2010. Statistical Theories of Income and Wealth Distribution. *Economics: The Open-Access, Open-Assessment E-Journal* 4:2010-4, 1. [[Crossref](#)]
291. Deodat Emilson Ad. 2010. Do International Remittances Promote Human Development in Poor Countries? Empirical Evidence from Sub-Saharan Africa. *The International Journal of Applied Economics and Finance* 4:1, 31-45. [[Crossref](#)]
292. Asli Demirgüç-Kunt, Ross Levine. 2009. Finance and Inequality: Theory and Evidence. *Annual Review of Financial Economics* 1:1, 287-318. [[Crossref](#)]
293. Bradley Ewing, Benhua Yang. 2009. The Differential Growth Effect of FDI across US Regions. *International Economic Journal* 23:4, 511-525. [[Crossref](#)]
294. C.R.K. Ahoritor, D.E. Adenutsi. 2009. The Impact of Remittances on Economic Growth in Small-Open Developing Economies. *Journal of Applied Sciences* 9:18, 3275-3286. [[Crossref](#)]
295. Brian P. Simpson. 2009. Wealth and Income Inequality: An Economic and Ethical Analysis. *Journal of Business Ethics* 89:4, 525-538. [[Crossref](#)]
296. Luca Spinesi. 2009. Rent-seeking bureaucracies, inequality, and growth. *Journal of Development Economics* 90:2, 244-257. [[Crossref](#)]
297. Carles Boix. 2009. The Conditional Relationship between Inequality and Development. *PS: Political Science & Politics* 42:04, 645-649. [[Crossref](#)]
298. Toshiaki Tamai. 2009. Inequality, unemployment, and endogenous growth in a political economy with a minimum wage. *Journal of Economics* 97:3, 217-232. [[Crossref](#)]
299. Stephan Klasen, Francesca Lamanna. 2009. The Impact of Gender Inequality in Education and Employment on Economic Growth: New Evidence for a Panel of Countries. *Feminist Economics* 15:3, 91-132. [[Crossref](#)]
300. William R. Hauk, Romain Wacziarg. 2009. A Monte Carlo study of growth regressions. *Journal of Economic Growth* 14:2, 103-147. [[Crossref](#)]
301. Mark W. Frank. 2009. Income Inequality, Human Capital, and Income Growth: Evidence from a State-Level VAR Analysis. *Atlantic Economic Journal* 37:2, 173-185. [[Crossref](#)]
302. James K. Galbraith. 2009. Inequality, unemployment and growth: New measures for old controversies. *The Journal of Economic Inequality* 7:2, 189-206. [[Crossref](#)]
303. Eiji Yamamura, Inyong Shin. 2009. Effects of Income Inequality on Growth through Efficiency Improvement and Capital Accumulation. *International Economic Journal* 23:2, 237-258. [[Crossref](#)]
304. A. B. Atkinson, A. Brandolini. 2009. On data: a case study of the evolution of income inequality across time and across countries. *Cambridge Journal of Economics* 33:3, 381-404. [[Crossref](#)]
305. Gerry Mooney, Carlo Morelli, Paul Seaman. 2009. The Question of Economic Growth and Inequality in Contemporary Scotland. *Scottish Affairs* 67 (First Serie:1, 92-109. [[Crossref](#)]
306. Kirill Borissov, Stéphane Lambrecht. 2009. Growth and distribution in an AK-model with endogenous impatience. *Economic Theory* 39:1, 93-112. [[Crossref](#)]
307. Jülide Yildirim, Nadir Öcal, Süheyla Özyildirim. 2009. Income Inequality and Economic Convergence in Turkey: A Spatial Effect Analysis. *International Regional Science Review* 32:2, 221-254. [[Crossref](#)]
308. Salvador Perez-Moreno. 2009. An Assessment of the Causal Relationship between Growth and Inequality in Spanish Regions. *European Planning Studies* 17:3, 389-400. [[Crossref](#)]

309. Roberto Ezcurra. 2009. Does Income Polarization Affect Economic Growth? The Case of the European Regions. *Regional Studies* 43:2, 267-285. [[Crossref](#)]
310. Felix Roth. 2009. Does Too Much Trust Hamper Economic Growth?. *Kyklos* 62:1, 103-128. [[Crossref](#)]
311. David Roodman. 2009. A Note on the Theme of Too Many Instruments. *Oxford Bulletin of Economics and Statistics* 71:1, 135-158. [[Crossref](#)]
312. Yi Jin. 2009. A NOTE ON INFLATION, ECONOMIC GROWTH, AND INCOME INEQUALITY. *Macroeconomic Dynamics* 13:01, 138. [[Crossref](#)]
313. Andy Sumner, Meera Tiwari. Doing Growth 135-164. [[Crossref](#)]
314. Takeo Hori. 2009. Inequality and growth: the roles of life expectancy and relative consumption. *Journal of Economics* 96:1, 19-40. [[Crossref](#)]
315. MARK W. FRANK. 2009. INEQUALITY AND GROWTH IN THE UNITED STATES: EVIDENCE FROM A NEW STATE-LEVEL PANEL OF INCOME INEQUALITY MEASURES. *Economic Inquiry* 47:1, 55-68. [[Crossref](#)]
316. . Bibliography 337-361. [[Crossref](#)]
317. Partha Gangopadhyay, Manas Chatterji. Chapter 6 Snares and quicksand on the pathway to peace: role of international tension in local conflicts 171-246. [[Crossref](#)]
318. 2008. Book Reviews. *Journal of Economic Literature* 46:4, 989-1041. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
319. Derek Headey. 2008. The Principal Components of Growth in the Less Developed Countries. *Kyklos* 61:4, 568-598. [[Crossref](#)]
320. Sue Bowden, Blessing Chiripanhura, Paul Mosley. 2008. Measuring and explaining poverty in six African countries: A long-period approach. *Journal of International Development* 20:8, 1049-1079. [[Crossref](#)]
321. Laura de Dominicis, Raymond J. G. M. Florax, Henri L. F. de Groot. 2008. A META-ANALYSIS ON THE RELATIONSHIP BETWEEN INCOME INEQUALITY AND ECONOMIC GROWTH. *Scottish Journal of Political Economy* 55:5, 654-682. [[Crossref](#)]
322. Chiaki Moriguchi, Emmanuel Saez. 2008. The Evolution of Income Concentration in Japan, 1886–2005: Evidence from Income Tax Statistics. *Review of Economics and Statistics* 90:4, 713-734. [[Crossref](#)]
323. Christian Bjørnskov. 2008. The growth–inequality association: Government ideology matters. *Journal of Development Economics* 87:2, 300-308. [[Crossref](#)]
324. 2008. Full Report - World of Work Report 2008: Income inequalities in the age of financial globalization. *World of Work Report* 2008:1, i-162. [[Crossref](#)]
325. Hyeok Jeong. 2008. ASSESSMENT OF RELATIONSHIP BETWEEN GROWTH AND INEQUALITY: MICRO EVIDENCE FROM THAILAND. *Macroeconomic Dynamics* 12:S2. . [[Crossref](#)]
326. Cristiano Perugini, Gaetano Martino. 2008. INCOME INEQUALITY WITHIN EUROPEAN REGIONS: DETERMINANTS AND EFFECTS ON GROWTH. *Review of Income and Wealth* 54:3, 373-406. [[Crossref](#)]
327. Jan Hanousek, Dana Hajkova, Randall K. Filer. 2008. A rise by any other name? Sensitivity of growth regressions to data source. *Journal of Macroeconomics* 30:3, 1188-1206. [[Crossref](#)]
328. Shaoping Wang, Zhigang Ouyang. 2008. The threshold effect of the urban-rural income disparity on real economic growth in China. *Social Sciences in China* 29:3, 39-53. [[Crossref](#)]
329. MENGISTEAB CHOKIE, MARK D. PARTRIDGE. 2008. Low-Income Dynamics in Canadian Communities: A Place-Based Approach. *Growth and Change* 39:2, 313-340. [[Crossref](#)]

330. François Bourguignon, Francisco H. G. Ferreira, Phillippe G. Leite. 2008. Beyond Oaxaca–Blinder: Accounting for differences in household income distributions. *The Journal of Economic Inequality* 6:2, 117-148. [[Crossref](#)]
331. Sangkwon Lee, Joseph T. O'Leary. 2008. Determinants of Income Inequality in U.S. Nonmetropolitan Tourism- and Recreation-Dependent Communities. *Journal of Travel Research* 46:4, 456-468. [[Crossref](#)]
332. Roberto Patricio Korzeniewicz, Timothy Patrick Moran. World Inequality in the Twenty-First Century: Patterns and Tendencies 565-592. [[Crossref](#)]
333. Stephan Klasen. 2008. The Efficiency of Equity. *Review of Political Economy* 20:2, 257-274. [[Crossref](#)]
334. Niko Gobbin, Glenn Rayp. 2008. Different ways of looking at old issues: a time-series approach to inequality and growth. *Applied Economics* 40:7, 885-895. [[Crossref](#)]
335. Nathan J. Ashby, Russell S. Sobel. 2008. Income inequality and economic freedom in the U.S. states. *Public Choice* 134:3-4, 329-346. [[Crossref](#)]
336. Isabel Cortés-Jiménez. 2008. Which type of tourism matters to the regional economic growth? The cases of Spain and Italy. *International Journal of Tourism Research* 10:2, 127-139. [[Crossref](#)]
337. BERNHARD ECKWERT, ITZHAK ZILCHA. 2008. Efficiency of Screening and Labor Income Inequality. *Journal of Public Economic Theory* 10:1, 77-98. [[Crossref](#)]
338. ChangHwan Kim, Arthur Sakamoto. 2008. Does Inequality Increase Productivity?. *Work and Occupations* 35:1, 85-114. [[Crossref](#)]
339. Hristos Doucouliagos, Mehmet Ali Ulubaşoğlu. 2008. Democracy and Economic Growth: A Meta-Analysis. *American Journal of Political Science* 52:1, 61-83. [[Crossref](#)]
340. Chris Papageorgiou, Subir Lall, Florence Jaumotte. 2008. Rising Income Inequality: Technology, o +L3904r Trade and Financial Globalization?. *IMF Working Papers* 08:185, 1. [[Crossref](#)]
341. W EASTERLY. 2007. Inequality does cause underdevelopment: Insights from a new instrument#. *Journal of Development Economics* 84:2, 755-776. [[Crossref](#)]
342. Ann L. Owen, Stephen Wu. 2007. Is Trade Good for Your Health?. *Review of International Economics* 15:4, 660-682. [[Crossref](#)]
343. Ricardo Fort. 2007. Land inequality and economic growth: a dynamic panel data approach. *Agricultural Economics* 37:2-3, 159-165. [[Crossref](#)]
344. Niko Gobbin, Glenn Rayp, Dirk Van de gaer. 2007. INEQUALITY AND GROWTH: FROM MICRO THEORY TO MACRO EMPIRICS. *Scottish Journal of Political Economy* 54:4, 508-530. [[Crossref](#)]
345. Roberto Ezcurra. 2007. Is Income Inequality Harmful for Regional Growth? Evidence from the European Union. *Urban Studies* 44:10, 1953-1971. [[Crossref](#)]
346. GÜNTHER REHME. 2007. Education, Economic Growth and Measured Income Inequality. *Economica* 74:295, 493-514. [[Crossref](#)]
347. H HUANG, S LIN. 2007. Semiparametric Bayesian inference of the Kuznets hypothesis. *Journal of Development Economics* 83:2, 491-505. [[Crossref](#)]
348. Dipanwita Sarkar. 2007. The role of human capital in economic growth revisited. *Applied Economics Letters* 14:6, 419-423. [[Crossref](#)]
349. Sripad Motiram, Jeffrey B. Nugent. 2007. Economic and political inequality and the quality of public goods. *International Journal of Development Issues* 6:2, 142-167. [[Crossref](#)]
350. Belal N. Fallah, Mark Partridge. 2007. The elusive inequality-economic growth relationship: are there differences between cities and the countryside?. *The Annals of Regional Science* 41:2, 375-400. [[Crossref](#)]

351. Thorsten Beck, Asli Demirgüç-Kunt, Ross Levine. 2007. Finance, inequality and the poor. *Journal of Economic Growth* 12:1, 27-49. [[Crossref](#)]
352. CECILIA GARCÍA-PENALOSA, STEPHEN J. TURNOVSKY. 2007. Growth, Income Inequality, and Fiscal Policy: What Are the Relevant Trade-offs?. *Journal of Money, Credit and Banking* 39:2-3, 369-394. [[Crossref](#)]
353. Jr-Tsung Huang. 2007. Labor force participation and juvenile delinquency in Taiwan: a time series analysis. *Journal of Family and Economic Issues* 28:1, 137-150. [[Crossref](#)]
354. Christian Bjørnskov, Axel Dreher, Justina A. V. Fischer. 2007. The bigger the better? Evidence of the effect of government size on life satisfaction around the world. *Public Choice* 130:3-4, 267-292. [[Crossref](#)]
355. Ben-David Nissim. 2007. Economic growth and its effect on income distribution. *Journal of Economic Studies* 34:1, 42-58. [[Crossref](#)]
356. D CHAMBERS. 2007. Trading places: Does past growth impact inequality?. *Journal of Development Economics* 82:1, 257-266. [[Crossref](#)]
357. Henry Willebald. 2007. Desigualdad y especialización en el crecimiento de las economías templadas de nuevo asentamiento, 1870-1940. *Revista de Historia Económica / Journal of Iberian and Latin American Economic History* 25:02, 293-347. [[Crossref](#)]
358. Joilson Dias, Maria Helena Ambrósio Dias. 2007. Crescimento econômico e as políticas de distribuição de renda e investimento em educação nos estados brasileiros: teoria e análise econométrica. *Estudos Econômicos (São Paulo)* 37:4. . [[Crossref](#)]
359. Malte Lübker. 2007. Inequality and the demand for redistribution: are the assumptions of the new growth theory valid?1. *Socio-Economic Review* 5:1, 117-148. [[Crossref](#)]
360. Juan Carlos Cordoba, Geneviève Verdier. 2007. Lucas vs. Lucas: On Inequality and Growth. *IMF Working Papers* 07:17, 1. [[Crossref](#)]
361. François Bourguignon, Michael Walton. Is Greater Equity Necessary for Higher Long-Term Growth in Latin America? 95-125. [[Crossref](#)]
362. YOSHIAKI SUGIMOTO. 2006. INEQUALITY, GROWTH, AND OVERTAKING. *Macroeconomic Dynamics* 10:05. . [[Crossref](#)]
363. David Fielding, Sebastian Torres. 2006. A simultaneous equation model of economic development and income inequality. *The Journal of Economic Inequality* 4:3, 279-301. [[Crossref](#)]
364. Budy P. Resosudarmo, Yogi Vidyattama. 2006. Regional Income Disparity in Indonesia: A Panel Data Analysis. *Asean Economic Bulletin* 23:1, 31-44. [[Crossref](#)]
365. Mark D. Partridge. 2006. The relationship between inequality and labor market performance: Evidence from U.S. states. *Journal of Labor Research* 27:1, 1-20. [[Crossref](#)]
366. Gerardo Angeles-Castro. The Effects of Economic Liberalization on Income Distribution: A Panel-Data Analysis 151-180. [[Crossref](#)]
367. ROBERT M. TOWNSEND, KENICHI UEDA. 2006. Financial Deepening, Inequality, and Growth: A Model-Based Quantitative Evaluation1. *Review of Economic Studies* 73:1, 251-293. [[Crossref](#)]
368. Hyun Park. 2006. Expenditure Composition and Distortionary Tax for Equitable Economic Growth. *IMF Working Papers* 06:165, 1. [[Crossref](#)]
369. Debasis Bandyopadhyay, Parantap Basu. 2005. What drives the cross-country growth and inequality correlation?. *Canadian Journal of Economics/Revue canadienne d'économie* 38:4, 1272-1297. [[Crossref](#)]

370. Zhen-biao Liu, Xiao-hong Chen. 2005. Empirical analysis of influence on economic growth of China by income distribution difference. *Journal of Central South University of Technology* 12:1, 247-252. [[Crossref](#)]
371. Sarah Voitchovsky. 2005. Does the Profile of Income Inequality Matter for Economic Growth?. *Journal of Economic Growth* 10:3, 273-296. [[Crossref](#)]
372. Richard Breen, Cecilia Garcia-Penalosa. 2005. Income Inequality and Macroeconomic Volatility: An Empirical Investigation. *Review of Development Economics* 9:3, 380-398. [[Crossref](#)]
373. Barbara Heyns. 2005. Emerging Inequalities in Central and Eastern Europe. *Annual Review of Sociology* 31:1, 163-197. [[Crossref](#)]
374. Ingrid Woolard, Stephan Klasen. 2005. Determinants of Income Mobility and Household Poverty Dynamics in South Africa. *The Journal of Development Studies* 41:5, 865-897. [[Crossref](#)]
375. ANDREAS SCHAFFER. 2005. THE INTERACTION BETWEEN ENDOGENOUS FERTILITY AND INEQUALITY IN THE POLITICAL ECONOMY. *The Manchester School* 73:4, 522-541. [[Crossref](#)]
376. Marta Bengoa, Blanca Sanchez-Robles. 2005. Does equality reduce growth? Some empirical evidence. *Applied Economics Letters* 12:8, 479-483. [[Crossref](#)]
377. Roberto Patricio Korzeniewicz, Timothy Patrick Moran. 2005. Theorizing the relationship between inequality and economic growth. *Theory and Society* 34:3, 277-316. [[Crossref](#)]
378. . Stabilization and Reforms in Latin America . [[Crossref](#)]
379. Mark D. Partridge. 2005. Does Income Distribution Affect U.S. State Economic Growth?*. *Journal of Regional Science* 45:2, 363-394. [[Crossref](#)]
380. Philip Nel. 2005. Democratization and the dynamics of income distribution in low- and middle-income countries. *Politikon* 32:1, 17-43. [[Crossref](#)]
381. Louis Kaplow. 2005. Why measure inequality?. *The Journal of Economic Inequality* 3:1, 65-79. [[Crossref](#)]
382. John Gerring, Philip Bond, William T. Barndt, Carola Moreno. 2005. Democracy and Economic Growth: A Historical Perspective. *World Politics* 57:03, 323-364. [[Crossref](#)]
383. Robert MacCulloch. 2005. Income Inequality and the Taste for Revolution. *The Journal of Law and Economics* 48:1, 93-123. [[Crossref](#)]
384. J. Philipp Reiß, Lutz Weinert. 2005. Entrepreneurs, moral hazard, and endogenous growth. *Journal of Macroeconomics* 27:1, 69-86. [[Crossref](#)]
385. James K. Galbraith, Hyunsub Kum. 2005. ESTIMATING THE INEQUALITY OF HOUSEHOLD INCOMES: A STATISTICAL APPROACH TO THE CREATION OF A DENSE AND CONSISTENT GLOBAL DATA SET. *Review of Income and Wealth* 51:1, 115-143. [[Crossref](#)]
386. Roland Bénabou. Inequality, Technology and the Social Contract 1595-1638. [[Crossref](#)]
387. Steven N. Durlauf, Paul A. Johnson, Jonathan R.W. Temple. Chapter 8 Growth Econometrics 555-677. [[Crossref](#)]
388. Abhijit V. Banerjee, Esther Duflo. Chapter 7 Growth Theory through the Lens of Development Economics 473-552. [[Crossref](#)]
389. Li Fuzhu. 2005. On The Research of Foreign and Domestic Human Capital Theory. *Chinese Journal of Population Resources and Environment* 3:4, 59-63. [[Crossref](#)]
390. HAL HILL, SAM HILL. 2005. GROWTH ECONOMETRICS IN THE TROPICS: WHAT INSIGHTS FOR SOUTHEAST ASIAN ECONOMIC DEVELOPMENT?. *The Singapore Economic Review* 50:spec01, 313-343. [[Crossref](#)]

391. Garbis Iradian. 2005. Inequality, Poverty, and Growth: Cross-Country Evidence. *IMF Working Papers* 05:28, 1. [[Crossref](#)]
392. Oded Galor, Omer Moav. 2004. From Physical to Human Capital Accumulation: Inequality and the Process of Development. *Review of Economic Studies* 71:4, 1001-1026. [[Crossref](#)]
393. Francisco Rodriguez. 2004. INEQUALITY, REDISTRIBUTION, AND RENT-SEEKING. *Economics and Politics* 16:3, 287-320. [[Crossref](#)]
394. Nita Rudra. 2004. Openness, Welfare Spending, and Inequality in the Developing World. *International Studies Quarterly* 48:3, 683-709. [[Crossref](#)]
395. C. Peter Timmer. 2004. The road to pro-poor growth: the Indonesian experience in regional perspective. *Bulletin of Indonesian Economic Studies* 40:2, 177-207. [[Crossref](#)]
396. Yong Bao, Jang-Ting Guo. 2004. Reexamination of Economic Growth, Tax Policy, and Distributive Politics. *Review of Development Economics* 8:3, 474-482. [[Crossref](#)]
397. Andrew McKay, Sarmistha Pal. 2004. Relationships between Household Consumption and Inequality in the Indian States. *The Journal of Development Studies* 40:5, 65-90. [[Crossref](#)]
398. Peter Svedberg. 2004. World Income Distribution: Which Way?. *Journal of Development Studies* 40:5, 1-32. [[Crossref](#)]
399. Murat F. Iyigun, Ann L. Owen. 2004. Income inequality, financial development, and macroeconomic fluctuations*. *The Economic Journal* 114:495, 352-376. [[Crossref](#)]
400. Olivier Basdevant *. 2004. Some perspectives on human capital and innovations in growth models. *Compare: A Journal of Comparative and International Education* 34:1, 15-31. [[Crossref](#)]
401. James C. Murdoch, Todd Sandler. 2004. Civil Wars and Economic Growth: Spatial Dispersion. *American Journal of Political Science* 48:1, 138-151. [[Crossref](#)]
402. Dino Falaschetti. 2003. Credible Commitments and Investment: Does Opportunistic Ability or Incentive Matter?. *Economic Inquiry* 41:4, 660-674. [[Crossref](#)]
403. Klaus Deininger, John Okidi. 2003. Growth and Poverty Reduction in Uganda, 1999-2000: Panel Data Evidence. *Development Policy Review* 21:4, 481-509. [[Crossref](#)]
404. W Lee. 2003. Is democracy more expropriative than dictatorship? Tocquevillian wisdom revisited. *Journal of Development Economics* 71:1, 155-198. [[Crossref](#)]
405. Daniele Checchi. 2003. Inequality in Incomes and Access to Education: A Cross-country Analysis (1960-95). *Labour* 17:2, 153-201. [[Crossref](#)]
406. Hadi Salehi Esfahani, María Teresa Ramírez. 2003. Institutions, infrastructure, and economic growth. *Journal of Development Economics* 70:2, 443-477. [[Crossref](#)]
407. Scott Gilbert. 2003. Distribution of Rankings for Groups Exhibiting Heteroscedasticity and Correlation. *Journal of the American Statistical Association* 98:461, 147-157. [[Crossref](#)]
408. Mark Rogers. 2003. A Survey of Economic Growth. *Economic Record* 79:244, 112-135. [[Crossref](#)]
409. Micael Castanheira, Hadi Salehi Esfahani. The Political Economy of Growth: Lessons Learned and Challenges Ahead 159-212. [[Crossref](#)]
410. Robert M. Townsend, Kenichi Ueda. 2003. Financial Deepening, Inequality, and Growth: A Model-Based Quantitative Evaluation. *IMF Working Papers* 03:193, 1. [[Crossref](#)]
411. Tito Cordella, Giovanni Dell'Araccia. 2003. Budget Support Versus Project Aid. *IMF Working Papers* 03:88, 1. [[Crossref](#)]
412. Maria Sophia Aguirre. 2002. Sustainable development: why the focus on population?. *International Journal of Social Economics* 29:12, 923-945. [[Crossref](#)]
413. Robin M. Grier. 2002. On the Interaction of Human and Physical Capital in Latin America. *Economic Development and Cultural Change* 50:4, 891-913. [[Crossref](#)]

414. Michael P. Keane, Eswar S. Prasad. 2002. Inequality, Transfers, and Growth: New Evidence from the Economic Transition in Poland. *Review of Economics and Statistics* **84**:2, 324-341. [[Crossref](#)]
415. Amparo Castello, Rafael Domenech. 2002. HUMAN CAPITAL INEQUALITY AND ECONOMIC GROWTH: SOME NEW EVIDENCE. *The Economic Journal* **112**:478, C187-C200. [[Crossref](#)]
416. Stefano Pettinato. 2002. A Conceptual Primer on the Currents and Trends in Inequality. *Journal of Human Development* **3**:1, 23-56. [[Crossref](#)]
417. JAMES C. MURDOCH, TODD SANDLER. 2002. Economic Growth, Civil Wars, and Spatial Spillovers. *Journal of Conflict Resolution* **46**:1, 91-110. [[Crossref](#)]
418. Carlos Leite, Charalambos G. Tsangarides, Dhaneshwar Ghura. 2002. Is Growth Enough? Macroeconomic Policy and Poverty Reduction. *IMF Working Papers* **02**:118, 1. [[Crossref](#)]
419. T Eicher. 2001. Inequality and growth: the dual role of human capital in development. *Journal of Development Economics* **66**:1, 173-197. [[Crossref](#)]
420. Anthony B. Atkinson,, Andrea Brandolini. 2001. Promise and Pitfalls in the Use of "Secondary" Data-Sets: Income Inequality in OECD Countries as a Case Study. *Journal of Economic Literature* **39**:3, 771-799. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
421. Susan E. Mayer. 2001. How Did the Increase in Economic Inequality between 1970 and 1990 Affect Children's Educational Attainment?. *American Journal of Sociology* **107**:1, 1-32. [[Crossref](#)]
422. H Hansen. 2001. Aid and growth regressions. *Journal of Development Economics* **64**:2, 547-570. [[Crossref](#)]
423. Paul Cashin, Catherine A. Pattillo, Ratna Sahay, Paolo Mauro. 2001. Macroeconomic Policies and Poverty Reduction: Stylized Facts and An Overview of Research. *IMF Working Papers* **01**:135, 1. [[Crossref](#)]
424. Kevin Sylwester. 2000. Income inequality, education expenditures, and growth. *Journal of Development Economics* **63**:2, 379-398. [[Crossref](#)]
425. Araceli Ortega-Díaz. Assessment of the Relationship between Income Inequality and Economic Growth: A Panel Data Analysis of the 32 Federal Entities of Mexico, 1960-2002 361-381. [[Crossref](#)]
426. Manoel Bittencourt. Economic Growth and Inequality: Evidence from the Young Democracies of South America 37-58. [[Crossref](#)]
427. Mehtap Isik. Making Innovation Development Policies Work for MENA 74-104. [[Crossref](#)]
428. Muslum Basilgan. The Impact of Turkey's Internal Economic Situation in 2000s on Its Foreign Economic Relations 209-229. [[Crossref](#)]
429. Sovik Mukherjee, Asim Kumar Karmakar. A Tri-Variate Nexus of Microfinance-Growth-Inequality 247-265. [[Crossref](#)]