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Should the Kuznets Effect be Relied on to Induce Equalizing Growth: Evidence from Post-1950 Development

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Summary. — The large body of cross-sectional statistical research assessing (a) Kuznets inverted-U for less-developed countries (LDCs), and (b) a turning point, is analyzed. An alternative methodology is presented. Those countries which started in 1950 well below the "turning point" in RGDP and which reached an RGDP well above the "turning point" by 1980 are utilized as key cases. Income distribution data and assessments from individual country experts are combined with historical-comparative micro-analyses for each key case — Brazil, Costa Rica, Greece, Japan, Malaysia, South Korea, Taiwan, and Turkey — to construct patterns of income distribution during this crucial growth period. It is demonstrated that the jury is still very much out on the Kuznets inverted-U for LDCs, and the notion of a turning point should be rejected. Copyright © 1997 Elsevier Science Ltd

Key words— income-distribution, Kuznets, inequality, poverty, development, economic growth

1. INTRODUCTION

In his watershed 1954 presidential address to the American Economic Association, Simon Kuznets suggested that income inequality first increases but subsequently decreases as a country industrializes (1955). In subsequent years, a significant body of scholarly research confirmed the Kuznets effect for advanced industrial nations (see reviews by Lacaillon *et al.*, 1984; Lindert and Williamson, 1985).

In recent years, numerous studies have focused on the applicability of the Kuznets effect for less-developed countries (LDCs). A host of cross-sectional statistical analyses have been published (Adelman and Morris, 1973; Ahluwalia *et al.*, 1979; Anand and Kanbur, 1993; Muller, 1988; Nielsen, 1994; Nielsen and Alderson, 1994; Paukert, 1973; Ram, 1988; Saith, 1983). Some studies have identified the per capita GNP turning-point in the inverted-U, which when reached by the "typical" country will provide the expectation of a more equitable distribution to accompany additional economic growth (Ahluwalia, 1976; Randolph and Lott, 1993). While many cross-sectional studies refute the effect of the inverted-U in LDCs, the bulk of the research supports Kuznets's hypothesis.[1] Yet the results are not conclusive and the contradictory results have led one researcher to note that "(A)ny reader of the major social science journals today would be rightly confused by the varied findings reported in the increasingly frequent articles on this subject" (Seligson, 1993, p. 442). Adelman and Robinson (1989, p. 958) and Saith (1983) have expressed skepticism of the cross-sectional approach ever generating conclusions about the inverted-U in LDCs. What all the studies do agree on is that inequality increases markedly in the earliest phases of industrialization, "But there is controversy whether a decrease in inequality with development is inevitable (the U-hypothesis) or a matter of policy choice (the J-hypothesis)" (Adelman and Robinson, 1989, pp. 958–959).

While many scholarly debates are of little significance outside of academia, an understanding of the forces which reduce inequality potentially has staggering real-world repercussions.[2] To illustrate, we briefly examine the cases of Brazil and Costa Rica, two Latin American countries at middle levels of

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development (according to the 1992 *World Development Report* Brazil's 1990 per-capita GNP was $2,680 while Costa Rica's was $1,900). These countries had similar levels of inequality in the size distribution of income in 1960, the top quintile income share was 62% in Brazil and 61% in Costa Rica (Muller, 1985). By 1989 the Gini coefficient for inequality in Brazil was 0.6331 while the Gini in Costa Rica was 0.4604 (Psacharopoulos *et al.*, 1993). The result is that even though Brazil had a higher per capita income 40.9% of its population was in poverty in 1989 compared to only 3.4% in Costa Rica.[3] If Brazil would just match Costa Rica's moderate level of income inequality, some 53 million individuals would be lifted out of poverty![4]

A better understanding of the inverted-U is more important than ever given the strong emphasis on the growth-dominant development strategies of neoliberalism currently reigning in developing countries, even in many countries — such as Costa Rica — which have historically placed high emphasis on equity. In this study, I briefly discuss the shortcomings of the two principal approaches for assessing the inverted-U; cross-sectional regressions and case studies. Utilizing suggestions for further research proposed by Kuznets, an alternative synthesized approach is presented and the applicability of the inverted-U for LDCs is tested.

2. TRADITIONAL METHODS AND THEIR SHORTCOMINGS

Two methods have dominated the research of the Kuznets hypothesis. The most common has been cross-country regression studies. Much of this research has respecified previously published models, implemented different data, and presented often contradictory statistical evidence. This type of scholarly ping-pong has been the root of the considerable confusion noted by Seligson (1993, p. 442) and the "dead-end" suggested by Saith (1983, p. 367). Even if the cross-sectional studies came to some general agreement on the inverted-U, the conclusions could be questioned on theoretical and methodological grounds. Saith (1983) and Seligson (1993) discuss a host of potential challenges to using this methodology for this particular research question.[5] It is useful to present three critiques here.

The first major problem of this methodology for assessing the inverted-U for LDCs is extreme sample selection sensitivity and stems from the shortage of available data. Seligson calls this problem:

> the "Mauritania effect" — that is the dramatic differences in results that can be produced by the inclusion of as few as one or two countries. In one investigation, for example, the inclusion of Mauritania, with a population of only 1.5 million, had a major impact on the results of a key regression equation. The findings tend not to be robust when minor variations in the sample design occur; one's confidence in the results is therefore shaken (1993, p. 443).

A related problem is country date-of-observation selection sensitivity. For example, Randolph and Lott (1993) use the van Ginneken and Park (1984) comparable data set which provides income distribution for single years for 32 countries (24 LDCs and eight developed countries). The dates selected for many of the higher income LDCs coincide with relatively low levels of inequality which have subsequently risen. For example van Ginneken and Park use 1968 data for Chile. With a moderately low Gini coefficient of 0.45 and a high level of development of $2,015 in RGDP as compared to the other 23 LDCs in the study, 1968 Chile lends crucial support for the Kuznets hypothesis in Randolph and Lott's study. Had more recent data been substituted — Chile's 1989 Gini jumped to 0.573 even though the RGDP was higher — the authors' conclusions might well have been different.

A second major problem of cross-sectional analyses of the Kuznets curve for LDCs is that they largely ignore cultural, historical, and political variables.[6] Many of the LDCs with mid-levels of development and high levels of inequality are found in Latin America.

> It is also the case that Latin American nations have been found to exhibit comparatively high levels of . . . dependency . . . One might leap to the conclusion, as some have, that inequality is therefore a function of dependency. However, there is another, equally appealing thesis suggesting that inequality in Latin America is part of a corporatist bureaucratic/authoritarian political culture considered to be characteristic of the region. One does not know, therefore, if Latin America's comparatively high level of inequality is a function of this intermediate level of development (as Kuznets would suggest), its dependency . . ., or its political culture. *Determining which of these hypotheses is correct would require longitudinal data* (Seligson, 1993, p. 444, emphasis mine).

Remember, there is general agreement that in the initial phase of development, industrialization is accompanied by significant increases in inequality. The controversy is whether further growth will *ceteris paribus* lead to a decrease in inequality of the size distribution of income. In a relatively small sample, if there are several LDCs with relatively high GNPs and which achieved low levels of inequality due to either (a) massive land distribution at early stages of development (redistribution before growth) or (b) strong redistributive policies during industrialization (redistribution with growth) — and not at all due to any economic tendency associated with the inverted-U — the apparent inverted-U shape may very well be present in study after study but assigning the shape to the Kuznets effect would likely be spurious.

The third major problem, especially for those studies which include both LDCs and developed countries in the same regressions, involves the assumption that LDCs in the 1990s are on the same developmental path as industrialized countries which passed through similar developmental phases in the early 1900s. A large literature has followed the research of Alexander Gerschenkron in arguing that timing is crucial and that going through the same developmental steps in different eras will produce different outcomes (Gerschenkron, 1962). Even before Gerschenkron's watershed works appeared, Kuznets himself weighed in on this matter:

> Both the absolute and relative economic position, as well as the general cast of the immediately antecedent history, of the now developed countries in their pre-industrial phase were *cardinally different* from the economic position and the immediate historical heritage of the underdeveloped countries of today. It is, therefore far from safe to extrapolate economic or demographic aspects from the earlier records for the developed countries to current and prospective levels for the underdeveloped (1954, p. 151, emphasis mine).

Another avenue for research has been the case study methodology, sometimes analyzing one case (Fei *et al.*, 1979; Randolph, 1990; Taylor *et al.*, 1980) and sometimes several (Hansen, 1991; Mizoguchi, 1985). Case studies are able to present a more profound examination of causation and longitudinal data. Unfortunately, it is difficult to generalize from one or even a couple of cases and the longitudinal data have often been drawn from too short of a time-period to make any definitive statement on the long-term processes suggested by Kuznets.[7]

3. A SYNTHESIZED APPROACH

An additional examination of the Kuznets curve for LDCs is justified due to: the inability of either cross-national or traditional case-study research to yield conclusive results; the methodological and theoretical critiques of dominant methodologies in assessing Kuznets for LDCs; and the substantial real world policy ramifications of the hypothesis. Kuznets's own writings provide a valuable blueprint for an alternative approach to help assess the controversial claim that after a given level of economic development, additional economic gains will generally produce declining levels of inequality:

— Kuznets evaluated individual nations (Germany, United States, United Kingdom) which had achieved a measure of success for economic development and with the benefit of hindsight evaluated their paths with respect to inequality.

— Kuznets stated unequivocally that conditions for the developed nations in 1954 and those developing after 1954 were "cardinally different" (1954, p. 151). Real progress in evaluating LDCs can only come from evaluating nations which developed economically after 1950.

— Kuznets rejected research where economic growth was the principal independent variable: "Effective work in this field *necessarily* calls for a shift from market economics to political and social economy" (1955, p. 28, emphasis mine).

— Kuznets advised that longitudinal data be used: ... periods covered should be long enough for rates of secular change to be established without confusion with more transient changes. It is from long period studies, with emphasis on the interconnection of secular trends in population, in economic level and structure, in internal political and social institutions, and in the world scene, that we can hope to derive testable conclusions that may be useful in understanding and dealing with problems of the economic growth of underdeveloped countries. The alternative shortcuts prevalent to date — of cross-country comparisons ... are far from an adequate guide either to testable analytical conclusions or to the formation of long-term policy (1954, p. 153).

In the spirit of Kuznets, I propose the following research design for evaluating the inverted-U for nations developing after WWII: Conduct longitudinal comparative-historical microanalyses of economic growth and inequality for all cases which passed through such a range of economic development since WWII that the inverted-U would be expected to be observable. In essence, this takes us back to the original research design of Kuznets, but examines countries which started poor and experienced long-term economic growth after WWII instead of using the cases of Germany, the United Kingdom, and the United States.

(a) *Case selection*

The cases required are those that at one point were poor and which subsequently passed through and far surpassed the expected turning point in the inverted-U. Randolph and Lott (1993) provide the most sophisticated estimate of the "turning point." The authors use the Summers and Heston (1984) purchasing power parities as an indicator of level of development. Randolph and Lott arrive at the following conclusions: (i) "robust support for Kuznets's hypothesis" for the full sample of developed and modern developing countries (p. 838); (ii) cautious support for the structural change hypothesis that "developed and developing countries are on the same Kuznets curve" (p. 838); and (iii) the detection of the "income level at which the turning point is predicted to occur" which is the "key question ... (f)rom a policy perspective"

(p. 838). The mean turning point of the Gini coefficient from their six models is $1,200 1975 dollars. The authors suggest that to confirm or reject their tentative support for the structural change hypothesis, multiple observations from individual countries near the turning point are needed (pp. 838–889). This is precisely what I propose.

With a turning point in hand, we can set forth specific rules for selecting cases. As the turning point is approximate and the inverted-U a long-term effect, I employ a selection process which identifies those countries which began circa 1950 as poor (well below the Randolph and Lott purported turning point) and which by 1980 had reached a level of development far beyond the turning point. If the notion of the turning point has any policy utility, then it is in some of these countries that an unambiguous inverted-U should be present. All countries which had both a Summers and Heston RGDP at least 25% below the $1,200 turning point in 1950 and a RGDP of at least $2,000 in 1980 were selected.[8] At the beginning of the time period studied, all key cases were poor. As measured by RGDP, each of the key cases' 1950 level of development was below that in 1980 for Bolivia, the Congo, and Honduras.[9] The universe of countries generated by the case selection procedure includes Brazil, Costa Rica, Greece, Japan, Malaysia, Portugal, South Korea, Taiwan, and Turkey, and are presented more fully in Table 1. This group of key cases is composed of countries from six different regions of the world; Central America, South America, Europe, the Middle East, East Asia, and Southeast Asia.

Sufficient data and comparative-historical research exist for each of these cases — except Portugal which is therefore excluded — to derive tentative conclusions about the Kuznets effect for LDCs.[10] For this research to be effective, three questions will be addressed. First, utilizing the best available data for inequality and Summers and Heston for RGDP, what has been the relationship between per capita income change and income inequality over time for our key eight countries? Second, can significant changes in income inequality be better explained by the Kuznets effect or by other socio-political variables? Third, does the Randolph and Lott or any other turning point have any policy implications whatsoever? Can we really know if a "country is several years or several decades away from the turning point" where the "equalizing trend can be expected to set in" (1993, p. 838)?

(b) *Data comparability*

Before the cases are presented, the issue of data comparability must be addressed. With the possible exception of the Luxembourg (LIS) surveys of advanced industrialized countries, no cross-national longitudinal data exist which are 100% comparable and there has been concern expressed about measurement problems (Bollen and Jackman, 1985; Muller, 1985, 1988). Randolph and Lott attempt to certify the van Ginneken and Park data as the only acceptable source for income distribution. Muller (1993), Nielsen (1994), Randolph (1990) and many others, however, have utilized other data and Nielsen and Alderson (1994) use income inequality data from eight sources for their dependent variable. In this study, the problem of comparable data is minimized for three reasons. First, I am looking for unambiguous changes in Gini coefficients in longitudinal analyses of individual countries and conclusions will not be affected by measurement errors of 1% or 2% in the way that they may be in regression analysis.[11] Second, collection techniques and variable definitions for inequality surveys are often repeated over time in an individual country and therefore longitudinal data for a single case are often more comparable than are cross-sectional data for multiple countries. Great effort has been made to maximize data comparability when data for a single case come from different sources. Sources with obvious comparability differences — i.e. individual *vs.* household level of analysis — were not utilized.[12] Finally, where the findings are tentative, I supplement

Table 1. *Turning point and RGDP for key cases in 1950, 1980*

Country	1950 RGDP*	Turning point†	1980 RGDP*
Brazil	$637	$1,200	$2,152
Costa Rica	819	1,200	2,170
Greece	905	1,200	3,946
Japan	810	1,200	5,996
Malaysia	784‡	1,200	2,204
Portugal	733	1,200	3,092
South Korea	558‡	1,200	2,007
Taiwan	508	1,200	2,522
Turkey	701	1,200	2,069

*Summers and Heston real GDP per capita in 1975 international dollars.
†GDP per capita after which GNP growth should induce a decline in Gini coefficients per Randolph and Lott.
‡1953 is beginning for South Korea and 1955 for Malaysia in Summers and Heston RGDP data.

the raw data with the corroboration from leading researchers who study income distribution in the individual countries. This is one of the major strengths of this research design.

4. THE KEY CASES

(a) *Brazil*

Brazil is an ideal-typic case (Ragin, 1987, p. 71) for an examination of the Kuznets effect and the turning point for LDCs as government officials have religiously clung to the inverted-U as a developmental policy. In Brazil, the relationship between economic growth and inequality can be analyzed in a case with minimal intervention of government redistributive policies.

Brazil's market forces approach to distribution is embodied in the work of Carlos Langoni, a University of Chicago-trained government economist who believed that increasing inequality was an inevitable concomitant of economic development but that eventually the turning point would be reached and income inequality would decline. Following Kuznets, Langoni linked the rise and subsequent decline in inequality to the forces inherent in sector dualism and urbanization (Taylor *et al.*, 1980, pp. 306–313). For Langoni, the role of the government in distribution should be minimal,

> aside from providing more university education, all the Brazilian government needs to do is continue with the business of growing — and market forces will take care of the equality issue (Hewlett, 1982, p. 332).

Langoni and the inverted-U made a considerable impression on Delfim Netto, the flamboyant architect of the Brazilian economic miracle, who expressed the official position on inequality: "We know 100 percent of the population are getting 100 percent of the national income: the distribution is not important" (quoted in Mittelman, 1988, p. 98). In his preface to Langoni's 1973 book, *Distribuicao da Renda*, Delfim Netto ridiculed those who favored government policies to reduce Brazil's legendary disparity between the haves and the have nots:

> accusing them of indulging in "a veritable confidence game which would end up leaving the nation dividing up the misery more equitably." The "market forces" theory has been adopted as the official interpretation of distributional trends over the recent period for the obvious reason that it absolves the military regime from any direct guilt in the deteriorating social welfare situation. The theory is extremely convenient in that it precludes the need for any redistributional policies in the future. It also disarms criticism from the advanced democracies. Underlying much of the analysis is an implicit comparison with nineteenth-century Europe and North America. If these nations could incur short-run costs in their development processes, why not Brazil (Hewlett, 1982, 332).

The results of Brazil's "market forces" policies are summarized in Table 2, and comparatively charted in Figures 1 and 2.

Brazil was able to achieve significant growth during this period, and was even able to post real per capita growth during the "lost decade" of the 1980s. In agriculture, the country ranks as the world's largest exporter of coffee and orange juice. In manufacturing, Brazil's impressive economic machine exports everything from high-tech arms, airplanes, and computers to low-tech shoes and jeans. The market never intervened as predicted by Langoni and the benefits of all of this growth were never realized by most people. Today, some 25 years after passing Randolph and Lott's turning point of $1,200 (reached in 1970), Brazil is the world's second largest market for executive jets while at least one-quarter of the population goes to bed hungry each night (Brooke, 1993, p. 20). Infant mortality, malnutrition, life expectancy, and other social indicators are at very low levels given the county's level of per capita GDP. Poverty levels as a percentage of population approach those of Honduras and Bolivia. In the words of one Brazilian military president, "Brazil is doing fine. It's the people who are doing poorly" (quoted in Brooke, 1993, p. 20).

Brazil's 1980 RGDP was nearly double the $1,200 suggested apex for inequality, and the Gini keeps rising with additional growth. By 1989, the Gini coefficient was at an astonishing 0.6331. The richest 20% received 66.5% of the national income while the poorest 40% received a trifling 7%. The case of Brazil challenges the applicability of the Kuznets effect for

Table 2. *Household income distribution in Brazil*

RGDP*	$864	$997	$974	$1,084	$1,225	$1,902	$2,053	$2,143*
Gini†	0.5086	0.5413	0.5193	0.5245	0.5776	0.5774	0.5944	0.6331
Year	1959	1962	1965	1968	1971	1976	1979	1989

*RGDP is real international per capita 1975 dollars from Summers and Heston (1984). The last available year was for 1980. For 1989, ECLAC economic growth data 1980–89 from the *Statistical Abstract of Latin America, Vol. 30*, pp. 1244–1247 is applied to 1980 RGDP from Summers and Heston.

†Sources: Hewlett (1982), p. 320; Psacharopoulos *et al.* (1993), pp. A3.7–A3.8; Taylor *et al.* (1980), p. 212.

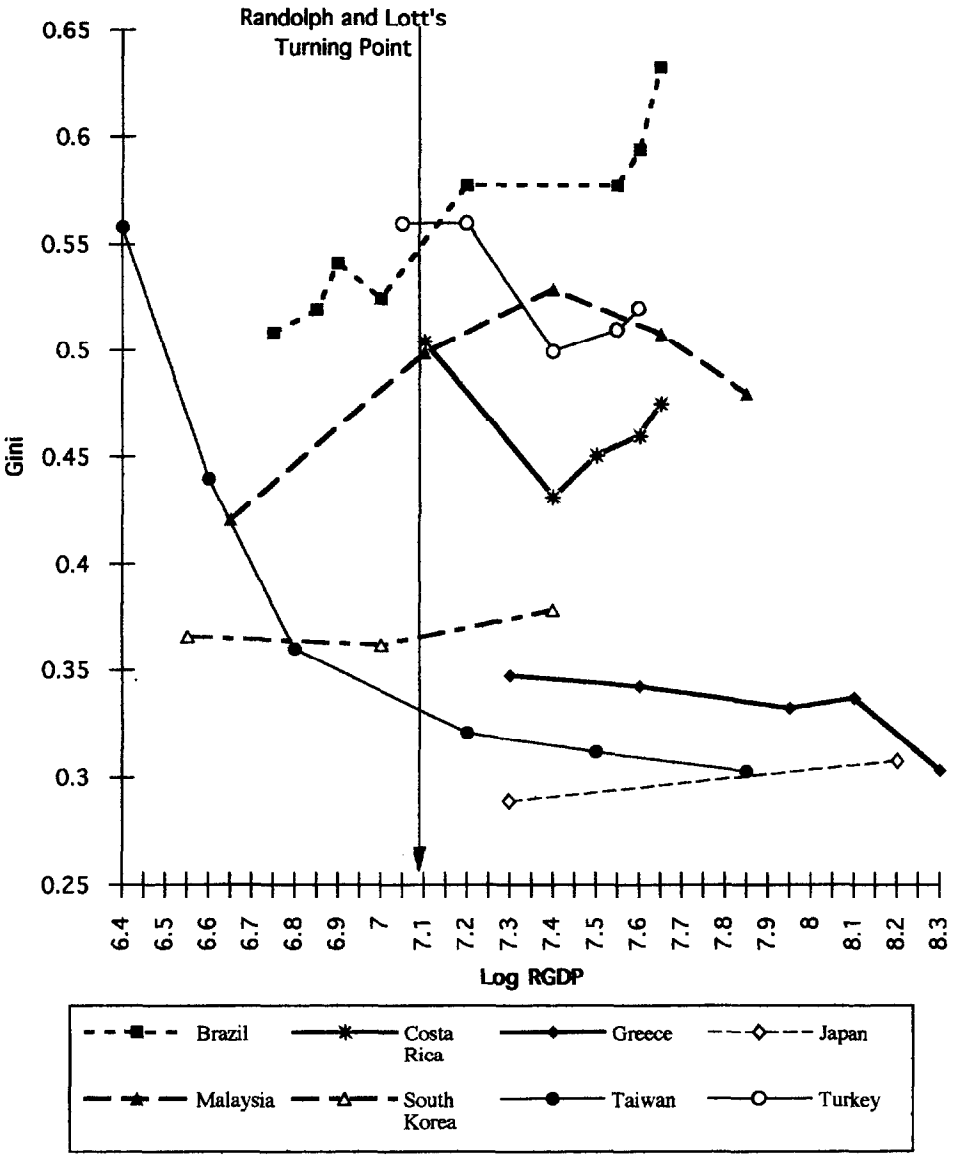

Figure 1. *Gini coefficients over Log RGDP for key cases.*

LDCs and provides tragic and compelling evidence against policies based on turning points.

(b) *Costa Rica*

Costa Rica in 1950 was a poverty-stricken, resource-poor, and inegalitarian country emerging from the devastating 1948 civil war.[13] While Costa Rica's economic growth during 1950–80 has been lower than the other countries in this study, compared to its Central American neighbors, it has been highly enviable: Costa Rica's RGDP ranked third (out of six) in 1950 and rose to first in 1980. Economic growth has been accompanied by significant but moderate improvements in the size distribution of income. What has been the relationship between income inequality and economic growth in Costa Rica, and what have been the causes of any significant changes in income distribution?

The available data indicate that household income inequality as measured by the Gini coefficient decreased significantly as RGDP grew from $1,180 to $1,601 and then increased slightly with additional

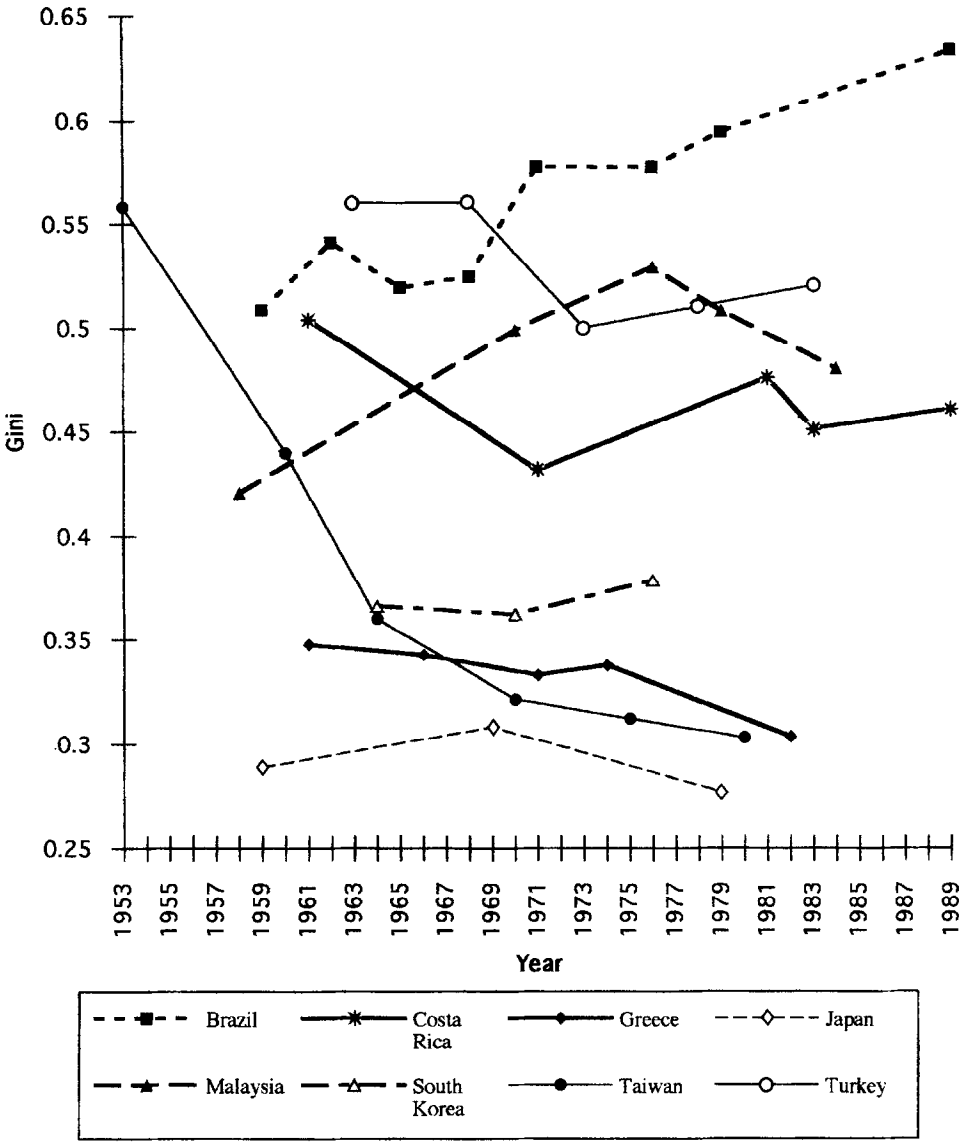

Figure 2. *Gini coefficients over time for key cases.*

Table 3. *Household income distribution in Costa Rica*

RGDP*	$1,180	$1,601	$1,845	$2,039	$2,056
Gini†	0.504	0.432	0.451	0.4604	0.4754
top 20% share†	60%	50.6%	51.8%	50.8%	51.4%
Year	1961	1971	1983	1989	1981

*RGDP is real international per capita 1975 dollars from Summers and Heston. The last available year was for 1980. For 1981, 1983, and 1989 economic growth data from the *Statistical Abstract of Latin America, Vol. 30*, pp. 1244–1247 is applied to 1980 RGDP from Summers and Heston.

†Sources: Gonzalez-Vega (1993), p. 46; Psacharopoulos *et al.* (1993), pp. A315–A316.

economic per capita growth. The relationship between Gini and RGDP is charted in Figure 1 and Gini and Year is presented in Figure 2. Most conspicuous, the percentage share of the richest 20% decreased from 60% to 50.6% and then remained somewhat stable. Looking solely at the first two observations, the evidence provides ambiguous support for the inverted-U hypothesis and the turning point. Unfortunately, data are not available for 1950–60 when Costa Rica's RGDP rose from $819 to $1,180. It is quite likely that prior to 1961 inequality was not significantly lower than a Gini of 0.504, as "in 1961 inequality was already comparatively moderate in Costa Rica" (Gonzalez-Vega and Cespedes, 1993, p. 45). There is not evidence or suggestion from country experts that levels of income inequality had been increasing in the period prior to 1961. Even if one gives the Kuznets curve the benefit of the doubt and accepts rising inequality up to 1961, the pattern for Costa Rica during growth would be an inverted-U connected to a regular-U with three consecutive Gini increases accompanying additional growth after the $1,601 level.[14] If we examine Costa Rica's inequality over time (see Figure 2), an oscillating pattern in inequality at the moderate level is suggested.

In the World Bank's recent study of equity and growth in Costa Rica, Gonzalez-Vega and Cespedes reject the inverted-U path:

> Income inequality has been moderate, and a substantial reduction in poverty was observed during most of the 1950–85 period. Alleviation of poverty was complemented by effective assistance programs for the indigent and other critical groups. Thus, Costa Rica has been an example of growth-with-equity (1993), p. 126.

The second important aspect for our microanalysis of Costa Rica is to flesh out the causes for unambiguous changes in levels of inequality, such as the substantial decline in Ginis from 0.504 to 0.432. Rapid economic growth was likely one important factor, as GNP was growing at an annual rate of 6.5% during this time (Seligson, 1987, p. 180). Yet, country experts also point to political factors. According to Winson (1989), seeds for Costa Rica's relative success were sown in the years immediately following the 1948 civil war, when a coalition of intellectual "modernizers" led by war-hero José Figueres created a social-democratic Latin American-style welfare state. In contrast to Brazil, a key component of the framework was an interventionist and equity-enhancing state as the basis for economic development. At no time, however, did the state advocate large-scale sectoral restructuring (equity-then-growth) but rather emphasized the reduction of poverty and an improvement in social development and education. The stability of this socio-political transformation was partially due to the weakened position of the coffee oligarchy, which lost considerable relative power during the 1930s depression and the civil war. In addition, Figueres permanently disbanded the military and rechanneled defense dollars to education and social policies which had a long-term positive effect on economic growth and equity (Bowman, 1993).

> One of the most powerful tools at the disposal of governments that can serve to redistribute is the tax structure . . . Improvements achieved in Costa Rica came about as a direct result of government policies in the 1950s and 1960s that resulted in the tripling of income tax revenues (Seligson 1987, p. 185).

Lacking an expensive military, these tax revenues were funneled into equity-enhancing educational and social programs. In 1976 30% of the budget was spent on education compared to only 7% worldwide averages (Seligson, 1987, p. 182). As defense spending fell from 25% of the national budget in the late 1940s to 2% in 1958, the percentage of the budget going to health and social services climbed from 20% in 1938 to 45% in 1958. By 1987, a scant 0.6% of GDP was allotted to national defense while more than 20% of the entire GDP was spent on social services (Proyecto Estado de Nación, 1995, p. 67). It is estimated that the effective income of the poorest Costa Ricans is doubled due to the extent of the social services. Eighty percent of all social services are of universal coverage, including health care, social security, and education (Proyecto Estado de Nación, 1995, p. 22). The growth of social services and poverty amelioration programs are such that levels of poverty declined even during the "lost" decade of the 1980s when RGDP declined. Social indicators have improved dramatically to the point that life expectancy is higher than in the much-wealthier United States.

In addition, the state largely replaced the invisible hand in credit and investment decisions. Figueres quickly nationalized the banks, stating that "(t)he administration of money and credit ought not to be in private hands, any more than the distribution of water and the mail" (quoted in Honey 1994, p. 77). The four national banks were used not only to spur economic development but to encourage cooperatives, exports, and social programs. In addition, the banking system allowed the government to set up or purchase many of the most important industries such as electricity, communications, fertilizer, cement, and petroleum processing. In one state bank, the Gini coefficient for credit declined from between 0.7 and 0.9 in 1950–60 to 0.39 in commercial credit and 0.41 in rural credit by 1987 (Proyecto Estado de Nación, 1995, p. 25).

This is a case with magnificent success against poverty and moderate success against inequality. Costa Rica has not followed the inverted-U, rather it has exhibited a regular-U since reaching the Randolph and Lott turning point. Country experts have concluded that Costa Rica is a case of growth-with-equity. While income growth may have been a

contributing factor to periods of inequality reduction, political factors and redistributive measures are more salient for this case.

> Compared with other developing countries of similar size and resource endowment, Costa Rica has been exceptional. In the long run this country has been able to sustain an unusual combination of rapid economic growth, substantial improvements in standards of living, political stability, and a strong concern with the wide distribution of the fruits of progress and with the alleviation of poverty (Gonzalez-Vega and Cespedes, 1993, p. 3).

(c) *Greece*

In the period under study, Greek RGDP increased by over 370%, rising from $905 in 1950 to $3,956 in 1980. This period of spectacular growth followed a period of war, occupation, and dislocation in Greek power structures (Spourdalakis, 1988, p. 18).

Greece entered WWII in 1940 and was occupied and divided by Bulgarian, German, and Italian armies by the spring of 1941. Many of the elites, including the king and most of the Liberal and right-wing politicians fled to Cairo. The National Liberation Front, the vanguard of the resistance, was formed by an assemblage of left-of-center groups, including the Communist Party and the People's Democratic Party. With the aid of the United Kingdom and the United States, the Liberals were able to defeat the Left in the bloody 1946–49 civil war (over 100,000 Greeks died in the civil war, more than were killed in WWII) (Featherstone, 1987, p. 6). In ensuing years, strong economic growth remained fairly constant, even while politics remained unstable: Constitutional government was interrupted from 1967–74 by the Colonels' Coup.

Data on income distribution are sparse for Greece. Available Gini coefficients are presented in Table 4, Figure 1, and Figure 2.

Greece has a relatively low level of income inequality throughout this period. According to Randolph and Lott's turning point, the Gini coefficient should be near the apex circa 1961 when RGDP was at $1,496. Yet, despite the RGDP more than doubling to $3,224, the Gini was stable, declining by 1% during this growth period. While the data are less than comprehensive for Greece, support is not found for the Kuznets effect and the Randolph and Lott turning point is strongly, though not categorically, refuted.

Several factors appear to have contributed to Greece's low levels of income inequality in the post-WWII period. First, the ravages of WWII and the civil war broke up old patronage systems. Second, emigration, which grew from 75,000 in 1960 to 935,000 in 1976, kept unemployment low and upward pressure on wages (Featherstone, 1987, p. 12). Finally, farmers, who made up 40% of the working population in 1971, paid no direct taxes.

The results of this microanalysis are best summed up by Germidis and Negreponti-Delivanis: "Greece has managed to go through the decisive stage of its development without encountering dangerous pressures as a result of pronounced disparities in income distribution" (1975, p. 199). While the evidence is by no means unequivocal, it is reasonable to conclude that Greece is a case of growth-with-equity and did not follow an unambiguous inverted-U as it developed from LDC to near-developed status.

(d) *Japan*

Of all our key cases, Japan experienced the most dramatic income growth during the period of study, with RGDP rising from $810 in 1950 to $5,996 in 1980.[15] Sufficient data and expert commentary exist to permit a conclusive microanalysis of the relationship between income inequality and economic growth for this case.

WWII completely devastated the position of the political, economic, and social elites in Japan. After the war, the Supreme Command Allied Powers (SCAP) controlled nearly every aspect of the public sector. In one of the many efforts to dismantle the oligarchy, the SCAP ordered in 1948 that tenant farmers could buy the land which they worked from the previously-powerful landlords at very low prices. The war's destruction, the land reform, and high inflation rates combined to erode the economic basis of the rich in Japan (Mizoguchi, 1985, p. 316). It is generally acknowledged that the period 1950–80 therefore began with low levels of inequality in Japan. While there have been mild changes in income distribution since 1950, Japan has been able to grow through the entire development cycle without experiencing high levels of inequality.

Table 4. *Household income distribution in Greece*

RGDP*	$1,496	$2,024	$2,814	$3,224	$3,946*
Gini†	0.3475	0.3425	0.3325	0.3372	0.3034
Year	1961	1966	1971	1974	1982

*Summers and Heston (1984); $3,946 is RGDP for 1980.

†Sources: Germidis and Negreponti-Delivanis (1975), p. 170 for years 1961, 1966, and 1971. They provide a net and a gross Gini which are averaged here and which both decline by less than 2% over 1961–71; and Tsaklogou (1993), p. 64.

Table 5. *Household income distribution in Japan*

RGDP*	$1,484	$3,672.5	$5,829
Gini (WADA)†	0.3032	0.3188	
Gini (NFIE)	0.2747	0.2972	
Gini (WB)			0.277
Year	1959	1968–69*	1979

*Summers and Heston (1984); 1968–69 RGDP is mean average.
†Sources: NFIE from Grootaert (1983), p. 34. The National Survey of Family Income and Expenditures slightly underestimates inequality as it only surveys periods from September to November when seasonal bonus payments are not included. Hence, NFIE and WADA are very consistent. WADA from Grootaert (1983), p. 34. WB from Berry *et al.* (1991), p. 62.

As illustrated in Table 5, inequality, as measured by the Gini coefficient, has remained extremely low during 1959–79. Japan's RGDP in 1959 was $1,484, which according to Randolph and Lott should be near the summit of inequality. The Gini, however, is somewhere between 0.302 and 0.2747. Even the higher figure is lower than circa 1985 Gini coefficients for Norway, Sweden, and the United States! As the RGDP rose from $1,484 to $5,829, inequality remained virtually identical (the 1979 Gini coefficient came from the World Bank table derived from quintiles and the Gini is therefore understated by 1–2%).

Several socioeconomic and political factors may help to explain Japan's low level of inequality in the postwar period. First and foremost was the destruction of the war and the policies of the Supreme Command Allied Powers, the most notably being extensive land reform. Boltho (1975) points to the virtual absence of minorities, immigrants, and elderly living alone as reasons for Japan's growth-with-equity success; these three groups make up a bulk of the poor in many countries.

> Japan's particular income distribution patterns seems to have combined the "best of both worlds"... Japan seems to have avoided, at least in part, the dilemma of reconciling equity and efficiency which faces so many of today's developing countries (Boltho, 1975, p. 183).

The Japanese microanalysis provides solid support against the inverted-U hypothesis and the turning point policy.

(e) *Malaysia*

As presented in Figures 1 and 2, Malaysia's pattern of income distribution and economic growth exhibits an unambiguous inverted-U. The apex is relatively close to the suggested $1,200 turning point. Does Malaysia help confirm the Kuznets effect for LDCs and Randolph and Lott's turning point proposition? Data for this case are presented in Table 6.

Figures 1 and 2 show a very similar developmental pattern for Brazil and Malaysia up to 1976, with greater inequality accompanying increases in RGDP for both cases. Beginning in 1976, the paths diverged; Brazilian inequality continued to rise while Malaysia experienced a significant drop in the Gini coefficient. Did the Kuznets effect, totally impotent in Brazil, induce equalizing growth in Malaysia? I contend that the Kuznets effect is not supported by the Malaysian case. Rather, the Malaysian case, particularly when juxtaposed to Brazil, supports policies of redistribution.

In the post-independence period, Malaysian economic policy was quite similar to that of Brazil. The government provided for basic services, offered industrial sites and financial inducements to lure investment, and provided limited protection to existing local industries. Malaysia's redistribution policy relied entirely on the free-market and growth-induced redistribution (Bowie, 1991). Rapid economic growth through the 1960s led to increased income inequality both overall and between the two largest ethnic groups, the Malay and the Chinese. By 1970, mean household income for ethnic Malays was less than one-half mean household income for Malaysians of Chinese descent (Bruton, 1992, p. 272). Only 26% of Malays earned more than $48 per month as compared to 67% for Chinese (Bowie, 1991, p. 81). Malays, who accounted for 50% of the population, owned a mere 1.5% of share capital in public limited companies (Bowie, 1991, p. 80). During 1958–70, the overall Gini coefficient had deteriorated from 0.421 to 0.499 and there was little reason to expect improvements in the near future.

Table 6. *Household income distribution in Malaysia*

RGDP*	$787.5	$1,242	$1,638	$1,856	$2,584†
Gini‡	0.421	0.499	0.529	0.508	0.480
Year	1957–58	1970	1976	1979	1984

*Summers and Heston (1984); 1957–58 RGDP is mean average.
†Estimated using Summers and Heston 1980 RGDP and 1980–84 growth from Bruton (1992), p. 388.
‡Source: Bruton (1992), p. 270.

In her 1990 article, Randolph examined "The Kuznets Process in Malaysia" for 1968–76. This period of time was chosen to test Ahluwalia's predicted turning point, which was reached by Malaysia in 1970. "The results indicate a U-shaped trend in inequality, rather than the inverted-U expected" (p. 20). After testing sectoral productivity levels, Randolph concluded that the "equalizing phase appears to be delayed in its arrival. *In the absence of intervention*, the Kuznets process will continue to increase inequality for some time to come" (1990, p. 27, emphasis mine).

Intervention on a massive scale did come and inequality dropped. According to Randolph's own conclusion, this drop was not induced by the Kuznets effect but was rather in spite of the Kuznets process. Malaysia's commitment to growth-generated distribution came to a crash with the May 1969 riots which resulted in 196 official deaths and 6,000 refugees (Bruton, 1992, p. 268). The constitution and parliament were suspended and a task force was formed to search for a solution to ethnic tensions. The government's principal response to the riots was the New Economic Policy (NEP) announced in 1971. It was argued that national unity was "unattainable without greater equity and balance among Malaysia's social and ethnic groups . . . (and) accelerating the process of restructuring Malaysian society to correct economic imbalance" (quoted in Bowie, 1991, p. 90). Government leaders agreed to provide increased relative income to Malays through an expanding economic pie (redistribution with growth) and not by taking from the economic elites.

In the Malaysian version of sector dualism, overall inequality equaled inequality within ethnic groups plus inequality between ethnic groups. As policies adopted under the NEP ideology significantly reduced inequality between "sectors," overall inequality began a steady decline after 1976. For a comprehensive description of government redistribution policies and their successes and failures see Anand (1983), Bowie (1991), and Bruton (1992). NEP policies to reduce inequality include: stated goals of Malay gains in employment and ownership; regulations, such that any firm seeking government support such as a tax holiday must employ at least 30% Malays at all employment levels (Bowie, 1991, p. 94); programs to develop and finance Malay entrepreneurship; the establishment of numerous state businesses that would later be transferred to Malay ownership; an ambitious program to increase Malay ownership of corporate stock; and an increase in government employment from 397,000 in 1970 to 710,000 in 1980 (Bruton, 1992, p. 289). The role of the state in the economy increased with the announcement of the Heavy Industries Corporation of Malaysia (HICOM), which called for government investment in 1981–86 roughly equal "to the entire government development budget for all social programs, including education, health, welfare, and housing" (Bowie, 1991, p. 111). The HICOM sought investments and joint ventures in iron and steel, cement, autos and other critical industries in part to increase Malay participation in high-paying jobs. While some have argued that the government's restructuring investment returned too little for the amount invested, there is no doubt that Malays have made significant relative gains in ownership, employment, and income.

In addition, billions of dollars were spent on poverty eradication programs apart from the restructuring ($9.3 billion just in 1980–85), largely in the rural agricultural sector (Bruton, 1992, pp. 275–283). In palm oil and rubber, productivity was greatly improved with technology and irrigation projects. While some observers credit government restructuring efforts for Malaysia's distribution success, Anand (1983) argues that the poverty eradication programs had a greater impact on the size distribution of income than did the program to reduce inequality between the ethnic groups. For this paper, it does not matter which of the two related prongs had the greater effect on income inequality, Malaysia's inverted-U appearance is a result of politics and government intervention and not economic growth.

(f) *South Korea*

In 1953, (South) Korea was the poorest of all of our key cases; Korea's 1953 RGDP of $598 was lower than the 1953 RGDP of any country of the Western Hemisphere, including Haiti. From 1953–80, Korea's RGDP ballooned to $2,007, an increase of over 230%. Korea is a superb case for this study, as data for income distribution are available for all critical stages of development as needed to test the inverted-U and the turning point.

Korea entered the post-WWII period as a remarkably homogeneous, relatively fluid society. Japanese colonial rule contributed to "substantially weakened . . . demarcations between the social classes" (Adelman and Robinson, 1978, p. 37). Korean society exhibited various inconsistencies. For example, while hunger was routine and outright famine quite common, approximately 50% of the Korean children attended primary school (pp. 37–38).

Immediately following WWII, Korea went through several phases of massive land redistribution. At that time, three out of four South Koreans were engaged in agriculture. In an effort to break up any power of past and potentially-future Japanese allies, the US powers seized some 500,000 hectares of land and sold them to 700,000 tenant farmers in 1947 (Adelman and Robinson, 1978, p. 38). The Koreans were also suspicious of landlordism, due to wide-

spread charges of collaboration with the Japanese, and enacted a second phase of land reform in 1950.

> With this reform, in which the government took over landlords' properties with nominal compensation and distributed the land to some 900,000 farm households, tenancy was virtually eliminated, and a structure of very small owner operated farms was established. A limit of three *cheongbo* (roughly three hectares of paddy land) was imposed, but few households (less than one percent) in fact reached that limit. (Adelman and Robinson, 1978, pp. 39–40.)

The Korean War brought about a third wholesale assault on the oligarchy and leveling of incomes. Korea entered the 1950s under the following conditions: relatively high levels of education; extreme poverty; relatively egalitarian distribution of income; and intense ambition and drive pent up in the Korean people, who had been exploited by the Japanese, ravished by two wars, and dominated under wardship status.

Prior to Adelman and Robinson's 1978 landmark study on Korea, no acceptable data existed for that country's size distribution of income. Adelman and Robinson pieced together "fragmentary evidence" and constructed income distribution data for 1964 and 1970. "The size distributions obtained in this way also reproduce very closely (to within a percentage point for every decile) the size distribution obtained with more detailed and comprehensive data . . ." (p. 45). Income distribution data for 1976 are from van Ginneken and Park (1984).

South Korea is an excellent case to examine the Kuznets effect and the Randolph and Lott turning point as we have one observation at a RGDP well below the purported Gini apex, one observation near the apex, and one observation well above the turning point. As Korea grew through this cycle, the Gini coefficients remained relatively stable, exhibiting an insubstantial regular-U pattern.

Thus we have in South Korea a case which went through a significant cycle of development without any significant change in inequality. Korean policy during this period was explicitly based on a "redistribution-cum-growth" strategy. This microanalysis is best summed up by Adelman and Robinson:

> First, the country has shown spectacular growth performance. Second, it has pursued an industrialization strategy that is export oriented, and thus avoids some of the negative income distribution consequences of import-substitution-led growth. Third, it combines a human resource-intensive development strategy with a highly educated, literate population. Fourth, largely because of the Korean War, the accelerated growth process was initiated starting from a relatively egalitarian distribution of wealth. Fifth, by international standards the current distribution of income in Korea is quite good. And finally, the data are very good (1978, p. 11).

Table 7. *Household income distribution in South Korea*

RGDP*	$698	$1,112	$1,648
Gini	0.366	0.362	0.378
Year	1964	1970	1976

*Summers and Heston (1984).

(g) *Taiwan*

Taiwan has long been heralded as the anomaly LDC which deviated from the inevitable increase in inequality of the inverted-U. As Fei *et al.* noted in their landmark study, *Growth with Equity: The Taiwan Case*, "Taiwan is the one exception" of the inverted "U-shaped relation between growth and equity" (1979, p. 2).[16]

Taiwan, like Korea, was a pre-war colony of Japan. Land distribution during the colonial era was extremely skewed, as the poorest 40% of farming households owned less than 10% of the land while the wealthiest 2% owned more than 33%. In addition, Japanese owned 25% of the arable land (Fei *et al.*, 1979, p. 40). WWII and the Chinese Revolution undercut the oligarchy in Taiwan and set the stage for widespread land reform.

> The record of landlord abuse and the need to meet the food demands of postwar Taiwan — which in addition to its own increased population, included hundreds of thousands of mainland Chinese — laid the groundwork for reform. In addition, the principle of land ownership by the tiller, although never receiving much attention, had always been part of the ideology of the Chinese Nationalists. The loss of the mainland and the social unrest threatening in Taiwan made the redistribution of wealth a particularly important issue for the government. Land reform was also considered to be an essential ingredient of agricultural growth and economic recovery. Moreover, it could be imposed by a government free of obligations and ties to the landowning class (Fei *et al.*, 1979, p. 39).

During 1948–58, 78% of all arable land was sold to tillers for selling prices equal to 2.5 times the value of the annual yield of the crops (Fei *et al.*, 1979, p. 40). The effect of land distribution on inequality was drastic, as illustrated by the changes in inequality from 1953 to 1959–60 in Table 8. I contend that if data were available for South Korea and Japan for the immediate postwar period, we would see the same pattern due to equally far-reaching land reform and dislocation of the traditional oligarchy.

As shown in Table 8, and Figures 1 and 2, Taiwan's level of inequality was relatively high in 1953 and declined significantly during 1953–80. The lion's share of that decline occurred in 1953–64, in the decade following the end of the land reform program.

Table 8. *Household income distribution in Taiwan*

RGDP*	$607	$719	$893	$1,298	$1,755	$2,522
Gini†	0.558	0.440	0.360	0.321	0.312	0.303
Year	1953	1959–60	1964	1970	1975	1980

*Summers and Heston (1984).
†Source: Kuo (1989), p. 241.

During this period, the RGDP grew from $607 to $893, a level significantly below the Randolph and Lott turning point. Income inequality decreased only moderately as RGDP grew from $893 to $2,522. Taiwan is indisputably a case of equity-then-growth. The Kuznets effect and the turning point are not salient in this case.

(h) *Turkey*

Turkey suffered incredible destruction and upheaval during WWI and the subsequent War of Independence. Total population declined by 10% in 1914–24 (Hansen, 1991, p. 309). This extended period of war weighed heavily on the Turkish collective memory in later years and the country remained neutral in WWII. While the economic costs of WWII were high, Turkey did not suffer the same postwar industrial and agricultural dislocation as Greece, Japan, Korea, or Taiwan. In addition, Kemalist *Etatism* did not promote massive government programs of redistribution (Hansen, 1991; Ozbudun and Ulusan, 1980). Changes in income distribution are therefore likely results of economic forces.

Income distribution data for Turkey are of very poor quality.[17] The case is included nevertheless because the data can be interpreted to support Randolph and Lott's turning point. The available data are presented in Table 9, Figure 1, and Figure 2.

These data indicate a drop in the Gini coefficient from 0.56 to 0.50 as RGDP grew from $1,342 to $1,586. The Gini has remained relatively stable as the RGDP continued to grow to $2,140. The Gini decline corresponds quite closely to the Randolph and Lott turning point. We have little evidence, either from surveys or from country experts, of the trend in inequality before RGDP reached $1,152. The available evidence supports the Kuznets inverted-U effect for Turkey.

One of the major components of the Kuznets effect is sector dualism between agriculture and industry (see Lecaillon *et al.*, 1984; Nielsen, 1994). Dervis and Robinson (1980) examine sector dualism in Turkey for 1950–73. They measure what they call the K-ratio (named after Kuznets), which is represented as $(I + S)/A$, where A is productivity per worker in agriculture, I is productivity per worker in industry, and S is productivity per worker in services and commerce. The higher the K-ratio, the higher the expected inequality in income distribution. Dervis and Robinson find that the K-ratio for Turkey is extremely high in 1950–73, growing from 3.57 in 1950 to a high of 5.09 in 1968 and subsequently declining to 4.26 in 1973. The authors conclude that towards "the late 1960s . . . a trend toward less intersectoral inequality seems to have asserted itself" (1980, p. 120). This evidence combines with the Gini coefficient decline from 1968–73 — even if the data are of poor quality — to provide in Turkey a case which tentatively provides weak support for Randolph and Lott's turning point and for the inverted-U. Even though additional RGDP growth after 1973 has accompanied a slight increase in the Gini coefficient, until more recent data appear I will classify Turkey as exhibiting modest support for the inverted-U and the turning point.

5. CONCLUSIONS

More than 2,500 years ago, Confucius stated that "inequality is to be lamented more than scarcity." While scarcity has been vanquished in much of the modern world and shelves are stocked from Tegucigalpa to Calcutta, the problems of inequality have remained. Forty years ago, Kuznets suggested that income inequality first increases and then decreases as nations develop economically. Early

Table 9. *Household income distribution in Turkey*

RGDP*	$1,152	$1,342	$1,586	$1,893	$1,940†
Gini†	0.56	0.56	0.50	0.51	0.52
Year	1963	1968	1973	1978	1983

*Summers and Heston (1984).
†Estimated.
‡Source: Hansen (1991), p. 276.

cross-national statistical studies confirmed Kuznets's inverted-U hypothesis, and for many, a paradigm developed. Other studies questioned the inverted-U and a controversy emerged over the eventuality of the decline in inequality. Randolph and Lott (1993) confirm the effect for developing countries and reveal the "turning point" in development as measured by RGDP, which when reached promises decreased inequality with additional economic growth.

In this paper I present critiques of cross-sectional statistical research for assessing the Kuznets inverted-U for LDCs. Using Kuznets's early writings for a blueprint, I presented an alternative approach to test the inverted-U and the turning point for countries developing in the postwar period. Eight key cases, each of which were poor in the 1950s and which grew to levels well above the purported turning point by 1980, were selected for longitudinal microanalyses. These are the cases which, if the turning point of $1,200 is correct, should exhibit unambiguous inverted-U shapes.

The evidence challenges the Kuznets effect in LDCs and questions the policy utility of a "turning point." In Kuznets's landmark study, all three cases of pre-WWII development exhibit an unambiguous inverted-U. In contrast, of our eight post-1950 cases, only Malaysia exhibits an unambiguous inverted-U relationship between economic growth and income inequality. The apex of inequality is near the $1,200 turning point. Yet, according to Randolph's own earlier work, the decline in income inequality in Malaysia was not a result of the Kuznets effect but rather was in spite of it. Massive government intervention to reduce both poverty and sectoral inequality between ethnic groups, embodied in the NEP, has been credited for the improvements in distribution. Malaysia is the exception which proves the rule. In six of the other cases, both the Kuznets inverted-U and the turning point are unsupported. For those cases which lacked data on inequality at RGDP levels below the turning point (Costa Rica, Greece, and Japan) country inequality experts supplemented the data and confirmed the dynamic of growth-with-equity or equity-then-growth in each case. For Brazil, South Korea, and Taiwan, both the data and the country experts repudiate the Kuznets inverted-U and the turning point. The only case that can be construed to support Kuznets is Turkey. Taken together, these key cases demonstrate that: (a) the jury is still very much out on the Kuznets inverted-U for LDCs; and (b) the notion of a turning point should be rejected and therefore the Kuznets effect should have no implications for either governmental policies or projections of international lending institutions.[18]

These key case studies provide some suggestions for future research. Additional data on income inequality in LDCs are becoming available all the time. For years, it was argued that cross-sectional statistical studies were the only way to assess the inverted-U for LDCs due to an absence of data. More comparative longitudinal work should now be done with groups of LDCs which have experienced long-term economic growth. One of the weaknesses of this study is that only two countries, Brazil and Turkey, followed a policy of equity as a product of growth. In recent years, other countries such as Chile have experienced significant growth with a trickle-down distribution policy. As data on income distribution changes become available for such cases, longitudinal multi-case studies can help verify my tentative conclusions.

Second, the findings suggest that the controversial conclusions of Adelman and Morris (1973) may deserve a new examination. They rejected the notion that economic growth alone would result in a more just standard of living for the masses:

> The frightening implication of the present work is that hundreds of millions of desperate people throughout the world have been hurt rather than helped by economic development. Unless their destinies become a major focus of development policy in the 1970s and 1980s, economic development may serve merely to promote social injustice (1973, p. 192).

These findings alarmed many economists and were subject to both methodological and statistical attacks. Ahluwalia's work directly contradicted many of the book's findings and many view Adelman and Morris's conclusions as wrong.

As presented in Figure 3, the cases in this study not only question the Kuznets effect for equalizing growth, but lend support to Adelman and Morris's thesis that "the only hope of significantly improving the income distribution in these countries (LDCs) lies in a transformation of the institutional setting" (p. 194). From my research of the individual cases, a patterned relationship between inequality and socio-political forces took shape. As a country develops in the postwar period, an assault on the traditional elite (especially the large landholders) with a resulting shift in class power relations appears to be a necessary and sufficient condition for low levels of inequality. In Greece, Japan, South Korea, and Taiwan, the traditional elites were all displaced and class power relations shifted significantly during the 1940s and 1950s. These were all cases of what Adelman and Robinson (1978) term "redistribution before growth" and as they predict these countries experienced the most success in achieving both growth and equality. Costa Rica and Malaysia have attempted what Adelman terms "redistribution with growth" — which in my diagram entails moderate shifts in class power relations — and have had some success, though redistribution before growth appears to be much more effective. At the other extreme, Brazil has never witnessed meaningful land reform or any similar weakening of the oligarchy and increases in income inequality continue to accompany

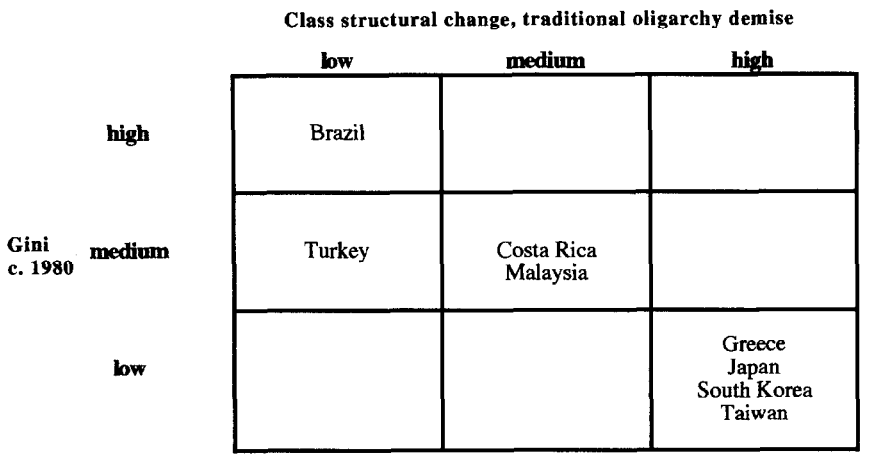

Figure 3. *Class/structural change and inequality.*

high levels of economic growth as they continue "redistribution through growth."

From these eight cases comprised of two from Latin America, one from Europe, one from the Middle East, three from East Asia, and one from Southeast Asia, the class/structural variable has more utility than Kuznets in explaining inequality. Socio-political factors are more salient than purely economic determinants. Finally, these findings question the neo-liberal policies which have swept much of the developing world. Part of the neo-liberal dogma posits that if nonmarket forces intervene in the economy to encourage reductions in inequalities, inefficiencies will result in unsatisfactory economic growth. The eight cases in this study experienced exceptional growth in the period 1950–80, and six of them did it with respectable equity.

NOTES

1. The weight of the cross-national evidence and the support for the hypothesis by mainstream economists was such that the inverted-U became a "modern paradigm" (Saith, 1983, p. 367). Statistical support for Kuznets and perhaps a little wishful-thinking for the idea that with enough economic growth there would be a general tendency toward equity resulted in the inverted-U becoming both a basis for World Bank projections of poverty and inequality (Anand and Kanbur, 1993, p. 41) and a justification for high-growth high-inequality policies in countries such as Brazil (Muller, 1993, p. 290).

2. Some such as Streeten (1981), while doubting the downturn of the inverted-U, argue that an emphasis on basic needs is more useful than one on income distribution.

3. There are numerous measures of poverty and some place Costa Rica's level of poverty much higher. The measure used here is $60 per person per month in 1985 real US dollars and the justification for this criterion can be found in Psacharopoulos *et al.* (1993, pp. 51–82).

4. Przeworski (1991, pp. 177–178) notes that for Brazil, "taxing the highest quintile of income recipients at an additional 30 percent rate would collect 20 percent of GNP and quadruple the standard of living of the bottom two quintiles of households."

5. For a defense of the cross-sectional methodology for this type of research see Jackman (1985) and Nielsen and Alderson (1994, pp. 4–8).

6. There are notable recent exceptions (Milanovic, 1994; and Nielsen and Alderson, 1994).

7. For an excellent discussion of the strengths and weaknesses of these two methodological approaches in comparative research see Ragin (1987).

8. 1953 is the first year of inclusion by Summers and Heston for South Korea and 1955 for Malaysia.

9. 1980 RGDP was $1,114 for Bolivia, $1,067 for the Congo, and $1,031 for Honduras.

10. Due to space constraints, the discussion of each case will be brief. For more information on individual cases see sources cited. The individual case studies will not be symmetrical and extra space will be dedicated to Costa Rica and Malaysia as they are the only cases in this study where the governments attempted distribution with growth.

11. In an examination of the Kuznets effect using 279 observations, Nielsen and Alderson find the difference between household and individual units of analysis of only about 1.5%, much lower than the unambiguous changes in inequality needed for conclusions in this study. Nevertheless, I have used household data of all observations in this study.

12. The exception is for Taiwan. The 1953 and 1959–60 estimates of inequality, while oft-used and widely accepted, are of a very poor quality (Moll, 1992). They are nevertheless

included as they are so often cited by leading scholars and their inclusion makes little difference to the results of this study.

13. The widely held belief that Costa Rica has always been an egalitarian society is a myth, largely generated by social-democrats for political purposes (Molina Jiménez, 1991). Comparisons of income distribution with other Latin American countries circa 1960 demonstrate that Costa Rica inequality was comparable to that in Brazil and Mexico and much worse than that of Argentina and Chile (Muller, 1985). The conventional wisdom that coffee production was always dominated by small farmers is false. In 1935 the largest 1% of coffee farms had some 20 million trees while the smallest 75% of farms had some 12.5 million trees. In comparative perspective, excellent data are available from a UN study of coffee land ownership circa 1950 in Costa Rica, El Salvador, and Colombia. In Costa Rica, 27% of the coffee land was in farms larger than 100 hectares as compared to 28% in El Salvador and only 4% in Colombia (Winson, 1989, p. 95).

14. This study focuses on 1950–80 since this is the time period covered by the Summers and Heston (1984) purchasing parity estimate tables which are utilized by both Ram (1988) and Randolph and Lott (1993). Data from later years are used for Brazil, Costa Rica, Greece, Malaysia, and Turkey. For Brazil, 1989 is used to illustrate just how high Ginis can go when the Kuznets effect is relied on to provide equity. For Costa Rica, data from 1981, 1983, and 1989 are used since patterns derived from data from 1950–80 are indeterminate. For Greece, 1982 data are used to approximate inequality at circa 1980. For Malaysia, 1984 data are presented to confirm a declining trend in income inequality.

15. It can be argued that Japan was not a poor LDC in 1950 but was a developed country building after the war. Japan is included nevertheless to be true to the case selection criteria.

16. As many of the cases presented in this study demonstrate, this comment is perhaps more indicative of the paradigmatic status of the Kuznets effect rather than the absolute uniqueness of Taiwan.

17. For a comprehensive critique of the income distribution surveys for Turkey, see Hansen (1991, pp. 275–280).

18. While the question is not directly addressed, Nielsen and Alderson's longitudinal findings also reject the notion of a turning point (1994).

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