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The Effect of World Economy on Income Inequality: A Reassessment*

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The research on the world systems model of income distribution has been marked by some conflicting reports on whether or not periphery status is significantly related to inequality. Writers such as Robinson argue for the salience of the world-systems model, while authors such as Weede claim that it is insignificant if we include a correctly specified control for level of development. This confusion is based, in part, on a debate over how periphery status should be measured. Previous work has often used measures of questionable validity, such as foreign trade, as a percent of GDP. The present investigation develops a conceptualization of dependency on the world market based on the concentration of export receiving nations. A multiple regression analysis of data from forty-three nations indicates that the index of periphery status does influence indicators of inequality. However, the parabolic model of level of development tends to explain more of the variance in inequality than the world-systems factor. Finally, a control for political democracy gave no support for the political paradigm on inequality.

Research on the cross-national analysis of income inequality has followed a number of different paradigms. Traditional work on the subject has followed an economic development model which posits a decline in income inequality due to processes such as occupational differentiation (Kuznets, 1963; Jackman, 1975; Stack, 1978a; Weede, 1980). Second, other theorists have advanced a political model which contends that facets of political democracy give the many the necessary political punch to redistribute incomes effectively, thus reducing income inequality (Lenski, 1966; Cutright, 1967; Stack, 1978b, 1979; Hewitt, 1977; Robinson and Quinlan, 1977). Third, there is the most recent paradigm which argues that the degree of a nation's vulnerability in the world economy is the key factor in shaping its internal stratification system (Robinson, 1976; Bornschier and Ballmer-Cao, 1979; Chase-Dunn, 1975; Bornschier, Chase-Dunn, and Robinson, 1978). While there has been considerable research to date on the determinants of income inequality, there are several issues yet to be resolved. First, there is conflicting evidence on the impact of world-economy factors in shaping the degree of income inequality. While work by such writers as Robinson (1976) and Stack (1978b) finds a significant linkage between peripheral status and inequality, Weede (1980) claims that this is an artifact of their using a misspecified model with regard to the level of development variable. The latter factor needs to be measured in terms of a quadratic term. The present paper, however, suggests that the measures of dependence on the world economy used in Weede's (1980) work

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are not the most theoretically appropriate ones. Our investigation develops a reconceptualization of vulnerability on the world market and tests two measures of this concept in a multivariate model of income distribution. A second contribution of the present paper is that it includes a measure taken from the political democracy model of inequality. To date, no major work on the subject has included a measure of political democracy in an analysis with a correct specification of level of development. By utilizing a concept of periphery status based on the concentration of exports in world trade, by controlling for the correct specification of economic development, and by including a control for the degree of political democracy, a more accurate weighing of the importance of the three major models of inequality can be accomplished.

The world-economy model of intercountry differences in income inequality maintains that it is not the effects of internally generated wealth or economic production that affect intranational income distribution (Rubinson, 1976). Instead, this model envisions a single system of production comprised of multiple political units which exist primarily to thwart the operation of the free market (Wallerstein, 1974, 1979a). Internal distribution of income is thus determined by the social control and organization of production relationships among these political entities in the capitalist world-economy. "The basic idea is that the greater the economic dominance and influence that states (and the economic actors within them) have in the world economy, the more equal the distribution of power within states, and consequently the more equal the distribution of reward" (Rubinson, 1976:640). Accordingly, the weakest states, or peripheral areas, with a substantial amount of external control over production and a high dependence on foreign markets for both materials and outlets are expected to exhibit the most unequal distribution of income.

That dependence is associated with greater internal inequality has been attributed to three interrelated mechanisms (Rubinson, 1976). First, class formation in dependent countries has resulted in a small elite whose economic interests are linked to foreign investors in the core countries. This externally oriented elite impedes the development of an indigenous manufacturing class and ultimately controls an immense share of the wealth of the country. Second, because the production and export of food and raw materials are determined by a small elite in alliance with the dominant countries, there is no large-scale diversification of production. Under this type of development a small labor elite emerges which works in the export sector for wages substantially higher than those for workers in other sectors. Finally, class relations in dependent countries are such that income inequality is exacerbated. This primarily refers to a situation in which "the labor force as a whole has less bargaining power in relation to employers since they face a smaller more homogeneous set of employers. Since the state is relatively weak, workers cannot effectively use access to the state to apply political leverage to meet demands for higher wages" (Rubinson, 1976:644). In sum, these three processes create a situation in which development is directed toward enhancing the mutual interests of elites in the core and periphery. Balanced development is retarded, efforts to seize an equitable share of growth are thwarted, and extreme inequalities are maintained in the periphery.

A number of empirical studies on the relationship between power and control in the world economy and the degree of income inequality have been reported in

the last few years. Chase-Dunn (1975) found no significant support for the relationship between penetration of a nation by direct foreign capital investment and inequality but did find that such investment retarded economic development. The role of multinational corporations, the dominant producers within the world economy and distributors of an increasing proportion of goods and services in international trade, was examined by Bornschier and Ballmer-Cao (1979). Their results only indirectly confirmed the hypothesis that greater multinational penetration leads to a greater degree of income inequality. Moreover, multinational headquarter status was not associated with greater income equality as predicted.

Rubinson (1976) examined three specific aspects of the skewed distribution of power inherent in the world economy. Greater state strength, both externally and internally, was found to be associated with more equal intranational income distribution. However, Rubinson's conceptualization of state strength as government revenue as a percent of the GDP has been criticized. It has been contended that it is more of a measure of socialism than of the power of a nation in the world market (Stack, 1978b, 1980b). Second, greater direct economic penetration, measured by the level of debits on investment income, was significantly related to increased income inequality. Finally, dependence on external markets for production activities, in terms of exports and imports, was associated with a greater degree of income inequality. In addition, specialization in the production of food and raw material for export was found to not engender greater income inequality unilaterally, as suggested by Galtung (1971).

A common element in these previous examinations of world power and control of production organization is the importance attributed, explicitly or implicitly, to international trade. Dependence, or periphery status, is integrally associated with restricted trade networks in terms both of the type and diversification of goods imported and exported (Lenin, 1965) and of the outlets available for internally produced commodities. By its very nature, the capitalist world economy with its insatiable quest for profit necessitates that "one either reduce costs somehow or increase one's share of the total market" (Wallerstein, 1979b:75). For those at the lower echelons of a highly hierarchical international system, however, the development fostered by trade is an increasingly elusive goal while the same hierarchy serves to reinforce the advantage of those at the top (Sideri, 1972).

This hierarchical international trade structure emerged in the fifteenth and sixteenth centuries (Wallerstein, 1974; Heilbroner, 1975), gained momentum in the early part of the eighteenth century, and culminated in the Age of Imperialism (Heilbroner, 1975). The legacy of this loss of control by local economies over the shape and content of their productive activity is that the typical underdeveloped nation is thrust into the international market with a paucity of exportable commodities, or worse, one basic commodity. "The less developed countries do not possess the expertise, facilities, or marketing capability that is essential to compete successfully in contemporary international trade in anything but labor intensive products" (Pirages, 1978:229). The problem is further exacerbated by the fact that the core countries have a comparative advantage in almost every sector that they choose to develop and exploit; the less developed countries have to make do with the markets that remain.

To assess the effects of a nation's location in the hierarchically structured network of trade and the geographic division of labor on the degree of income in-

equality, the composition of a country's foreign trade must be examined. As previously suggested, "a country whose exports consist chiefly of one commodity is dependent upon the fluctuating supply and demand of that commodity; a country that sends its exports primarily to one country is dependent upon markets in that one country" (Taylor and Hudson, 1972:346). Moreover, an inordinately high degree of specialization in export commodities and restricted outlets in international trade networks is expected to be associated with a higher degree of income inequality within nations.

The specific indexes utilized in this research to explore the relationships of external dependence are the concentration of commodities within a country's exports and the concentration in the countries to which a country sends these exports. Previous research has indicated that specialization in the export of raw materials and food does not significantly affect internal income distribution (Rubinson, 1976) or impede economic development (Naya, 1973; MacBean, 1966), lending credence to the assertion by Wallerstein (1979b) that a particular product cannot be identified with a structural sector of the world economy. The relevant dimension may be in fact the overall level of diversification of commodity exports (Delacroix and Ragin, 1980).

Research conducted with the nation-state as the unit of analysis regarding the degree of restriction in the international market has been limited, despite the pervasive implication that the expansion of market volume and outlets is an essential mechanism for maintaining profit levels and fostering development (Chirot, 1977; Wallerstein, 1979a; Sideri, 1972). Exceptions include Delacroix and Ragin (1980), Meyer et al. (1979), and Rubinson (1976), none of which examined the relationship between export concentration and income inequality.

Our first control variable is taken from the economic development model of income distribution (Kuznets, 1963; Kerr et al., 1964). Proponents of this perspective have emphasized the importance of the degree of differentiation in the occupational structure in determining the degree of inequality. Increases in economic development are associated with an increase in technological complexity. A parallel development is an increase in the demand for highly skilled labor. Members of the skilled blue-collar class as well as the growing middle class are viewed as having effective bargaining power for obtaining relatively high incomes. This bargaining power is based on such factors as a shortage of technical manpower, high education, and the functional importance of the work performed. The elite in society is viewed as having to share an increasingly large proportion of income with skilled labor in order to maintain a flow of skilled blue- and white-collar employees to jobs involving the increasingly complex technology. The relationship between industrialization and inequality is, however, curvilinear. During the early stages of development, inequality should increase, given that skilled labor forms a labor aristocracy of sorts. However, in the middle and later stages of development, there is a bulge in the middle class in society wherein the income share of the highly educated masses of people greatly increases at the expense of the propertied elite. Unfortunately, the models using the industrialization factor used a linear function up until the work of Bornschier and Ballmer-Cao (1979). The present investigation will follow the lead of these writers and introduce a parabolic function as suggested by the classic theoretical works on this paradigm.

Our second control variable is taken from the political theory of inequality, a

major paradigm in the literature (Lenski, 1966; Cutright, 1967; Peters, 1973; Rubinson and Quinlan, 1977; Stack, 1978b, 1979, 1980a). In this view, dimensions of political democracy such as the number of parties, universal suffrage, and responsible governments give the common people the necessary power to reduce inequality through state action. Such action designed to reduce inequality can include minimum wage laws, progressive income taxation, full employment policies, and social security legislation. It is anticipated that the greater the degree of political democracy the more equitable the distribution of political power and the less the degree of income inequality (Lenski, 1966; Stack, 1978b, 1979, 1980a).

However, the literature has noted a relationship between political and economic development (Lenski, 1966:316–17). Economic development nurtures political development through such means as raising the education level of the common people. This, in turn, raises the political expectations of the population, as well as providing the necessary intellectual capabilities for effective political participation. In addition, industrialization brings shorter workweeks which free up time for political participation. Finally, industrialization is associated with the development of the mass media which gives the population the necessary information for effective political action. Given that the economic and political models are related, two important questions are whether or not politics affect inequality independent of industrialization, and also if industrialization affects inequality independent of politics. This key issue has not been resolved. The past work using a correct specification of level of development has omitted the political democracy variable from the analysis (Weede, 1980; Bornschier and Ballmer-Cao, 1979). The present investigation will shed some new light on this debate by including the political factor in an analysis with the proper measure of economic development.

Methodology

Data on income inequality were originally collected by Adelman and Morris (1971). Paukert (1973) added comparable data to this collection for sixteen advanced nations. Of the fifty-six nations for which data were available on income distribution, the present study uses forty-three nations for which data were also available for the other independent variables. These nations are Argentina, Australia, Barbados, Brazil, Chad, Chile, Colombia, Costa Rica, Denmark, Ecuador, El Salvador, Finland, France, Gabon, Germany (West), Greece, India, Israel, Ivory Coast, Jamaica, Japan, Madagascar, Mexico, Morocco, Netherlands, Niger, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Senegal, Sierra Leone, South Korea, Sudan, Sweden, Tanzania, Trinidad-Tobago, Tunisia, United Kingdom, United States, and Zambia. These data refer to the pretax distribution of household incomes.

Following Jackman's (1980) recommendations in using the Paukert data, we omit Italy and South Africa from the analysis. In the first case the date of the observation is the year 1948, a date that precedes the independent variables by an uncomfortable margin. In the case of South Africa, Jackman found that for the purposes of assessing the impact of democracy on equality, South Africa represents an outlier which presents a problem of bias in the analysis. The present study used several measures of inequality following the literature by such writers as Weede (1980). First, the Gini Index of inequality is used to measure the overall

degree of income inequality. The Gini Index ranges from 0 (no inequality) to 1 (complete inequality, such that a single household receives all income). The Gini Index is an equal interval scale, such that a measure of .400 on the index represents twice as much inequality as a measure of .200. For a further description of the Gini Index see Bronfenbrenner (1971:45–53). Since the Gini Index is a measure of the overall degree of inequality, it is somewhat independent of the particular location of inequality in the income distribution. For this reason we also include measure of inequality based on income shares throughout the income distribution. These are the income share of the top 5 percent, the bottom 60 percent, the lowest income fifth, and the second lowest income fifth. The data are for circa 1965.

Although the present paper uses the best available data on income inequality, caution should be exercised in interpreting its results. These data have their limitations. First, as Wood and de Carvalho (1982:53) point out in their study of Brazilian inequality, the existing cross-national data have the limitation of masking the identity of the poor. That is, to the extent that the poor band together in multiple earner households, the official data underestimate inequality. A measure of per capital household income, if available, would rectify this problem. Second, the official data are based solely on monetary income. Income in kind such as the value of home-grown food, company-provided cars, gifts, and corporate expense accounts are omitted. Finally, the gross income inequality measures can be misleading if they are not age-adjusted. Paglin (1975) contends that traditional measures are based on a restrictive measure of equality. This assumes that people have equal incomes at all stages of the life cycle. To the extent that real incomes increase with age, the distribution of lifetime income will be less unequal than the distribution of annual income. Given variability among nations in the extent to which real incomes increase with age, the results of the present investigation are tenuous, if we are interested in the distribution of lifetime earnings. This may not be a major limitation, however, given some research evidence based on the U.S. For the American case, the choice of age-adjusted versus nonage-adjusted measures of inequality does not affect one's results for most predictor variables (Ruthenberg and Stano, 1977).

The world-systems paradigm on inequality is measured in terms of market dependency. Dependence on the world market is measured along two dimensions involving export concentration. First, there is the concentration of export-receiving nations. Second, there is the concentration of export commodities. The first is an index of how many nations a given country trades with and how concentrated that trade is in terms of the amount of exports going to just a few nations. It is hypothesized that the greater the concentration of export-receiving nations, the more vulnerable the periphery nation and the higher the degree of inequality. The second index, concentration of export commodities, measures the degree to which a nation depends on a few exports in its world trade. For example, if an underdeveloped nation depends solely on bananas for an export, it would have a perfect score on this index. The greater the concentration of export commodities, the higher the vulnerability on the world market and the greater the internal stratification. Both measures range from 0 to 1 where 1 represents perfect concentration and 0 would mean an absence of world trade. For a discussion of the method used in calculating the concentration ratios see Taylor and Hudson (1972:346–

48). The data are for 1965 and are from the same source (Taylor and Hudson, 1972:366–71).

The measure of the economic development paradigm is the same as in most of the previous work on the subject, energy consumption per capita (Weede, 1980). However, as determined by recent work in the field, the logarithmic transformation of this variable is used and a polynomial term is added in keeping with the classical theory on the subject. The data are for 1965 and are from Taylor and Hudson (1972:326–28). The political paradigm is measured in terms of Bollen's (1980) index. This instrument taps six dimensions of political democracy: press freedom, freedom of group opposition, government sanctions, fairness of elections, executive selection, and legislative selection. The moderate to high correlations of this index with previous measures of democracy support its external validity (Bollen, 1980:381). The index's reliability is supported by a confirmatory factor analysis. Its other advantages are that it is available for 1965, the year of our analysis, it is available for ninety-nine nations—far more countries than any of its competitors—and it taps more dimensions of political democracy than any of its predecessors. It is defended at length in a recent article (Bollen and Grandjean, 1981). Our findings based on these and other measurements must be taken with some caution for such reasons as our set of nations does not constitute a sample in any technical sense. The Klein test of multicollinearity was applied to the first-order variables, but the problem was not detected (Dutta, 1975). The analysis will proceed with all the variables included in the model.

Some caution should be exercised in interpreting the results, since there are omitted variables which may have an impact on inequality. For example, at the heart of the theory linking economic development with lowered inequality is the linkage between development and mass education. Mass education reduces inequality in educational credentials which, in turn, should result in less inequality of income. Hence, the inclusion of a measure of the degree of inequality in educational credentials would tighten up the paper's theoretical argument. However, data were not available on this condition.

Analysis

Tables 1 to 5 present the results of the multiple regression analysis. In four tables the concentration of export-receiving nations exerts a significant impact on inequality. Controlling for level of development, political democracy, and the concentration of export commodities, the greater the concentration of export receiving nations, the greater the overall degree of inequality, as predicted. In addition, such dependence on a few trade partners decreases the income share of the three bottom quintiles of the income distribution. Such a drain would be anticipated to the extent that elite groups take the cream off the top of the trade flow. The share of the top 5 percent is positively related to such concentration at the .10 level of significance. The concentration of export commodities, however, is not significantly related to any of the income inequality measures.

The beta coefficients indicate that the world-economy factor is never the variable most closely associated with the variance in inequality. However, this is due to the rather large standardized coefficients of the log of energy consumption per capita and its square. Such large betas are due to multicollinearity between LEC

Table 1. Effects of Development, Democracy, and World Economy on Income Inequality: Gini Index (N = 43)

Variable	Regression Coefficient	Standard Error of Coefficient	T Ratio	Beta Coefficient
Log energy consumption per capita (EC)	.177	.049	3.64**	3.35
(Log EC) ²	-.015	.004	-3.66**	-3.25
Political democracy (Pol Dem)	-.0002	-.0008	-.21	-.004
Concentration of export commodities (CEC)	-.007	.068	-.10	-.001
Concentration of export-receiving nations (CER)	.285	.113	2.53*	.330

R² = .399.

Prob > F = .001.

F = 4.92.

1,37 df.

*Statistically significant at .05.

**Statistically significant at .01.

Constant -.086.

Table 2. Effects of Development, Democracy, and World Economy on Income Inequality: Bottom Fifth (N = 43)

Variable	Regression Coefficient	Standard Error of Coefficient	T Ratio	Beta Coefficient
Log EC	-1.785	1.05	-1.69	-1.63
(Log EC) ²	.113	.086	1.32	1.26
Pol Dem	-.019	.016	-1.18	-.23
CEC	.023	1.47	.015	.002
CER	-7.16	2.43	-2.94*	-.457

R² = .345.

Prob > F = .006.

F = 3.89.

1,37 df.

*Statistically significant at .01.

Constant 14.30.

Table 3. Effects of Development, Democracy, and World Economy on Income Inequality: Share of 21–40 Percentile (N = 43)

Variable	Regression Coefficient	Standard Error of Coefficient	T Ratio	Beta Coefficient
Log EC	−4.35	1.28	−3.38**	−3.22
(Log EC) ²	.365	.10	3.48**	3.27
Pol Dem	.001	.02	.091	.018
CEC	.996	1.79	.556	.079
CER	−6.66	2.96	−2.24*	−.34

R² = .366.

Prob > F = .003.

F = 4.27.

1,37 df.

*Statistically significant at .05.

**Statistically significant at .01.

Constant 21.86.

Table 4. Effects of Development, Democracy, and World Economy on Income Inequality: Share of Top 5 Percent (N = 43)

Variable	Regression Coefficient	Standard Error of Coefficient	T Ratio	Beta Coefficient
Log EC	12.7	5.45	2.33*	2.31
(Log EC) ²	−1.10	.44	−2.48*	−2.4
Pol Dem	−.033	.086	−.38	−.078
CEC	4.41	7.59	.58	.084
CER	20.54	12.58	1.6	.259

R² = .336.

Prob > F = .013.

F = 3.36.

1,37 df.

*Statistically significant at .05.

Constant −9.00.

Table 5. Effects of Development, Democracy, and World Economy on Income Inequality: Bottom 60 Percent (N = 43)

Variable	Regression Coefficient	Standard Error of Coefficient	T Ratio	Beta Coefficient
Log EC	-12.8	3.47	-3.70**	-3.39
(Log EC) ²	1.06	.283	3.74**	3.40
Pol Dem	.012	.055	.210	.039
CEC	1.04	4.83	.214	.024
CER	-20.37	7.99	-2.55*	-.376

R² = .409.

Prob > F = .024.

F = 5.14.

1,37 df.

*Statistically significant at .05.

**Statistically significant at .01.

Constant = 65.95.

and (LEC)². They overshadow the betas for the other variables including the world-economy factor. Weede (1980:500) notes the same problem, which is endemic to polynomial regression modeling.

The results regarding level of development indicate that development is significantly related to inequality in four out of the five regressions. Controlling for democracy, and world economy, the development terms are significantly related to overall inequality, the income share of the 21-40 percent quintile, the share of the bottom 60 percent of households, and the share of the top 5 percent. In all cases the signs of both the first-order and polynomial terms are significant, indicating support for the curvilinear thesis of such writers as Kerr et al. (1964). The salience of the development perspective is shown by the beta coefficients in these three regressions. In all three cases development is the factor most closely tied to the variation in inequality. Development is not, however, related to the share of the bottom fifth.

A key issue which has not been addressed in past literature is the inspection of the parabolic curves signifying the economic development-inequality relationship. In particular, one needs to plot these functions in order to arrive at the turning point in the curve. In addition, care must be taken to make sure that the turning point is included in the domain of the function (EC ranges from 13 to 9,201). Finally, the slopes of the curve have theoretical significance for understanding the speed at which inequality decreases or increases. The analysis now turns to these issues.

The signs of the economic development terms in the equation on the overall degree of inequality (Table 1) indicate the expected inverted U curve. Inequality sharply increases up to a development score of 600 and then steadily decreases, although much less markedly, through the higher stages up through the high score of 9,201.

The plots of the parabolic function for the bottom two-fifths (Tables 2 and 3) depart from the expected results. There are no turning points in the domains of

these functions. This is a point omitted by Weede (1980). The share of the bottom quintile declines very quickly to a *leveling off* point of approximately 1,200 EC/capita. This may account for the insignificant polynomial terms in Table 2. With respect to the share of the second fifth, there is only part of a parabolic function in the domain of energy consumption. Herein the share decreases, but the decrease follows the curve of only the left-hand side of a **U** curve. The future of the share of this income group, then, is rather indeterminant. Both of these curves indicate that there is essentially no "trickle-down" effect. Development does not result in a redistribution of income to low income groups. However, the relationship between development and the share of the bottom 60 percent does follow the expected full **U** curve (Table 5). The share of this group falls following a very steep slope reaching a turning point of approximately 600 EC units. Thereafter, it increases to a level similar to that of the least developed nations.

The share of the highest income group follows the anticipated inverted **U** curve (Table 4). The share of this group increases very rapidly as EC goes from 13 to 400–500 units. It then decreases slowly throughout the higher levels of EC. Ultimately the income share of this group in the most advanced nations is below that of the least advanced.

In the three cases where a full parabolic relationship does exist, it should be noted that the period of an increase in inequality is relatively short-lived, ranging from 13 to approximately 400–600 EC units. Thereafter, there is a much longer period of falling inequality (600–9,200 units). It would seem that social policy intervention would be most needed in early industrialization if society desires to lessen inequality.

The results provide no support for the political paradigm on inequality. While zero-order correlations between democracy and inequality were often significant and in the expected direction, once controls are introduced for the variables from the other models, the zero-order relationships are found to be spurious.

The model explains up to 40 percent of the variance in inequality. It works best for explaining the variance in the Gini Index, the overall degree of inequality, and the income share of the bottom 60 percent.

Conclusion

This paper has tested aspects of the three major paradigms on income distribution. Unlike its predecessors it incorporated indicators from all three models, including a correct specification of development. In this fashion, this paper was able to shed some light on the question of weighing the relative importance of each paradigm while all three compete equally for explaining the variance in inequality. The results indicate, contrary to Weede's (1980) conclusion, that the world-economy model does affect aspects of income distribution independent of level of development. This includes a significant impact on the overall degree of inequality. This discrepancy in findings seems to be due to a difference in measurements of world economy. Weede's measures seem to be of questionable theoretical importance. He uses foreign trade as a percent of GNP as an index of dependency on world economy. While this does indicate such dependency, it does not measure *periphery* status in the world system. For example, Britain has

engaged in a relatively high amount of foreign trade for centuries but would be considered a *core nation*, not a *periphery nation*, in the world system. Weede's (1980) other index is government revenue as a percent of GDP. This has been criticized by Stack (1978b) as theoretically irrelevant to world dependency. Indeed, both Stack (1978a) and Bornschier and Ballmer-Cao (1979) use government revenue/GDP to measure internal processes, not world-systems considerations. In contrast, the present paper measuring dependency in relation to concentration of trade partners finds that the world-economy factor is a significant predictor of inequality. Our reconceptualization of periphery status, then, resurrects the world-systems model for the purposes of inequality analysis.

The results on level of development support the position of classic writers on the subject who hypothesized a curvilinear, parabolic relationship. Unlike two earlier investigations by Weede (1980) and Bornschier and Ballmer-Cao (1979), we included a control for political democracy in our analyses. Since development is known to influence democracy, it is actually critical to control for democracy to test for the possibility of a spurious development inequality relationship. Since the previous research did not control for democracy, it was inconclusive. Our analyses, however, suggest that even after one controls for democracy, development often affects inequality. Indeed, the results support the contentions of Jackman (1975, 1980) who argues that politics are irrelevant to distribution of incomes. However, Jackman's analyses are inconclusive given his use of an inaccurate measure of income inequality based on sectorial income distribution (Jackman, 1975) and his failure to control for the world-systems model (Jackman, 1980). By correcting these deficiencies the present analysis provides more systematic support for the failure of democratic organization to influence distribution. This finding, however, needs to be taken with some caution. While our results are negative for the political paradigm, we are testing it only as it applies to simple democratic organizations. We did not test Hewitt's notion that social democracy is the key political factor. Data on Hewitt's concept of socialist party strength were available for only a small minority of our cases, so we did not include it in the present analysis. Future research effort is needed to assess the impact of social democracy on inequality for a large sample of nations.

The results of the analysis of the relationship between economic development and inequality have some theoretical implications. An inspection of the plots of the polynomial functions against energy consumption values indicates the lack of the presumed turning point in the U curve. This indicates the absence of any alleged "trickle-down" effect. It also indicates the need for state action in the form of income transfers to the poor if the goal of greater equality is to be achieved.

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