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The Stratification of the World Economy. Global, Local and Regional Aspects

I. PURPOSE OF THE PROJECT

The project aimed at updating and replicating with more rigorous techniques the findings of previous research by the Principal Investigator on the stratification of the world economy over the period 1938-1983. The funds supplied through the grant from the World Society Foundation were applied towards the replication for the period 1938-1994 of the following findings:

(1) world population classified by the log of GNP per capita tends to cluster into three high frequency zones -- "core", "semiperiphery, and "periphery" or high-, middle-, and low-income -- separated by two low frequency zones;

(2) while the relative size of the three high frequency zones tends to remain roughly constant, the income differential between them tends to increase;

(3) upward and downward mobility of states between the three high frequency zones tends to be very limited and to be greater in the short-run (one decade or two) than in the long-run (three or more decades);

(4) since the 1960's, the difference in the degree of industrialization between states in the high-income zone and states in the other two zones (especially in the middle-income zone) has tended to decrease significantly. But whereas initially this tendency was associated with a narrowing of the income gap between the upper and lower zones, in the 1980's it resulted in a major widening of that gap.

II. WORK COMPLETED DURING THE TERM OF THE GRANT

A. Polynomial Regression Analysis

The main problem with the Principal Investigator's earlier research on the distribution of world population by the log of GNP per capita was that the trimodality of the distribution was determined by visual inspection. This method was good enough to establish preliminary evidence for the four tendencies listed above. But it could not rule out alternative hypotheses concerning the distribution which might have led to different results.

In order to rule out such alternative hypotheses, the method of polynomial regression was adopted. This analysis enables us to compare the statistical significance of a trimodal distribution in the relevant range of GNP per capita with the statistical significance of distributions with a smaller or greater number of modes. Particularly

important is a comparison of the significance of the trimodal distribution hypothesized by world systems theories with the significance of unimodal and bimodal distributions implicitly hypothesized by modernization and dependency theories, respectively.

This test provided strong evidence in support of the trimodality hypothesis by showing (1) that the polynomials with the highest statistical significance had three maxima in the relevant range of GNP per capita and (2) that this is true also for the period 1984 -1994, not examined in previous research. The results of the test for the period 1964 -1994 are presented and discussed in the attached paper "Modeling Zones of the World Economy: A Polynomial Regression Analysis (1964-1994)." Similar results were obtained for the period 1938 -1963 for which data are less reliable and comparable than for the later period.

B. Diachronic Analysis of the Stratification of the World Economy

Having established that a trimodal distribution provides the best fit of the data across the period 1938 -1994, we proceeded to analyze changes in the parameters of the distribution. Two changes are particularly germane to the concerns of the project: changes in the income differentials between the three high frequency zones and changes in the distribution of world population among these zones. Following the criteria as described in the attached paper, we established boundaries between high and low frequency zones. We then calculated the relative demographic size of the zones and the differentials between the average and modal GNP per capita of the three high frequency zones.

These diachronic analyses of the relative size of, and income differentials between, the three high frequency zones replicated some, though not all of the most important findings of previous research. For what concerns the period covered by previous research, the analysis confirmed the overall tendency of the relative size of the three high frequency zones to remain roughly constant and the tendency of the income differentials to widen. But it departed from earlier findings in two main respects: (1) it considerably shrunk the size of the intermediate ("semiperipheral") high frequency zone relative to its contiguous low frequency zones; and (2) it showed a tendency for the size of the "core" zone to decrease rather than increase relative to the size of the "peripheral" zone over the period 1964 -1983.

The more interesting results of the new analysis, however, concern the period 1984 -1994, which was not covered by the earlier research. According to the new analysis, this period has been characterized by three main tendencies: (1) a much sharper increase than in any previous period covered by the research of the income gap between "core" and the other two zones; (2) a sharper reduction than in the preceding twenty years of the size of the "core" relative to the "periphery"; and (3) a sharp increase in the size of the semiperiphery relative to its contiguous low frequency zones. As underscored in the attached paper, these findings demonstrate that the hypothesis of widespread "catching-up" shared by all variants of modernization theory has become even less plausible than it already was from the mid-1980's onwards; that is, precisely when the rise of highly dynamic capitalist economies in East Asia and the demise of Soviet communism have led many to declare the dependency and world-systems perspectives obsolete and to advocate a revival of the modernization perspective.

C. Analysis of Interzonal Mobility

Although the catching-up with the levels of GNP per capita of "core" states has become an increasingly remote possibility for the vast majority of the world population, a few states have actually experienced upward mobility from the "peripheral" to the "semiperipheral", or from the "semiperipheral" to the "core" zones. As in previous research, upward and downward mobility of the GNP per capita hierarchy of the world-economy has been analyzed by means of mobility tables that cross-classify states according to their ranking in the hierarchy at two points in time. States were cross-classified into five groups/zones: (1) the high frequency, low-income ("peripheral") zone; (2) the low frequency, low-middle-income zone; (3) the high frequency, middle-income ("semiperipheral") zone; (4) the low frequency, upper-middle income zone; (5) the high frequency, high-income ("core") zone.

The preliminary results of this analysis confirm the findings of previous research -- that is, that mobility from a high frequency to a contiguous low frequency zone and vice-versa is quite common, but more so in the short-run (ten or twenty years) than in the long-run (thirty years or more). In other words, there seems to be a tendency for states that are upwardly mobile in any give decade or two to become downwardly mobile in the next decade or two, and vice-versa. As a result, instances of genuine upward/downward mobility between high frequency zones is very limited. Previous research had identified only four instances of genuine upward mobility in the period 1938 -1983: Taiwan and South Korea from "peripheral" to "semiperipheral" position, and Japan and Italy from "semiperipheral" to "core" position. The redefinition of the zones by means of polynomial regression for the period 1938 -1994 confirms this finding, but adds two more instances of upward mobility from a "semiperipheral", to a "core" position, namely, Singapore and Hong Kong.

The analysis of interzonal mobility has not yet been completed. Mobility tables have been constructed only for a few base years and comprehensive statistical tests of the significance of mobility for different base years and periods have not been run. Additional funds will be sought to complete this part of the analysis.

D. Analysis of Interzonal Differences in the Degree of Industrialization

When the analysis of interzonal mobility is completed, it will be possible to identify groups of states that have occupied in a stable way one of the three high frequency zones. As in previous research, we shall call these groups "organic core", "organic semiperiphery", and "organic periphery". We will proceed to compare variations over time in their degree of industrialization and other attributes. Data on CD-ROM needed for this analysis have already been purchased and gaps in these data have been filled from, additional sources.

III. OUTCOMES AND PLANNED FUTURE ACTIVITIES

A. Articles, Conference Papers and Lectures

The preliminary results of this research project were presented at the August 1996 Annual Meeting of the American Sociological Association (paper enclosed), and in a

lecture entitled "The Rise of East Asia and the Demise of the USSR: Puzzles of the 1980's, Research Programs for the 1990's and Beyond", given at the Johns Hopkins University Sociology Department in January 1997. A paper exploring the implications of these results for development theory will be presented next August at the 1997 Annual Meeting of the American Sociological Association in Toronto. The full results of the research will be presented next October in a lecture at the Havens Center for the Study of Social Structure and Social Change at the University of Wisconsin, Madison. These papers and lectures will be written-up in two articles, one more empirically and one more theoretically oriented, to be submitted to the American Sociological Review or the American Journal of Sociology.

B. Book on the Stratification of the World Economy

The main outcome of the research grant will be the book still provisionally entitled The Stratification of the World Economy. Global, Local, and Regional Aspects promised in the grant application. The two articles mentioned above will constitute the core of the part of the book focusing on the global aspects. The parts on the local and regional aspects will consist of published and unpublished papers that will be revised in the light of the results of this research. I expect to have a complete manuscript ready to send to a publisher by the Summer of 1998.

Report: Schlussbericht zuhanden der Stiftung Weltgesellschaft, Zürich