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**EMERGING GLOBAL SOCIETY:
DEVELOPMENT DYNAMICS AND DILEMMAS**

*Guest Editors: Proshanta K. Nandi
Shahid M. Shahidullah*

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S. Ishwaran

GLOBALIZATION AND THE EVOLVING WORLD SOCIETY

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and
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CONTENTS

Articles

Concepts and Indicators of Development

An Empirical Analysis[1]

BAM DEV SHARDA*, GEORGE A. MILLER*
and ARCHIBALD O. HALLER**

ABSTRACT

A number of concepts and measurement procedures have been proposed to describe the development-level differences among nations. This paper reviews them and examines their interrelationships. Fifteen variables and their intercorrelations are discussed. Of these, 10 were deemed acceptable on theoretical and empirical grounds for factor analysis. Two strong, orthogonal factors were found to meet the conventional criteria. They were labeled *domestic development* (*DD*) and *authority* (*A*). *DD* loads most on life expectancy, infant mortality (negative), $\log_n$ GNP/c, and population growth rate (negative). *A* loads most on $\log_n$ population, Wallerstein's "core-periphery," and Rossem's "prominence." Thus the two factors reflect two very different phenomena. *DD* expresses the meaning of development commonly held by economic planners. *A* expresses the relative power of one nation to exert influence on another, with total population and core status serving as resources by which the outcomes of negotiations among nations may be influenced.

THE CONTEMPORARY INTEREST in development research goes back at least to the 1940's when the Latin American structural school of development economics was founded. Raol Prebish, an Argentinean economist, and Celso Furtado, a Brazilian economist, played central roles in the formation of this school. In 1948, the Economic Commission for Latin America (ECLA) was formed under Prebish's direction. ECLA attacked the theory of comparative advantage, which was dominant in economics at the time. The theory was originally propounded by David Ricardo (1817), who suggested that nations produce what they can produce more efficiently and exchange those products with what other countries produce more efficiently. In this exchange, both counties benefit. The great depression of 1930's devastated the economies of many primary producing countries. For example, the world prices of coffee—a major export of Brazil and other Latin American countries plummeted but

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the price of industrial goods increased—devastating countries dependent on primary exports.

ECLA proposed the new theory, emphasizing the economic structure of underdevelopment. Contrary to the tenets of the neo-classical economic theory, ECLA recommended industrialization and state intervention as essential to Latin American national development. Further impetus to the popularity of this school occurred with the work of Andre Gunder Frank who first made explicit the dependency theory of South American underdevelopment. Frank's work was influenced by a neo-Marxist paradigm of underdevelopment, especially of Paul Baran in the United States. Dependency theory has since been incorporated in the World System approach of Wallerstein, which we will discuss later.

Development also was a new theme of the 1950's and 1960's in the United States and Europe, after the successful outcome of the Marshall Plan in Europe, and, in a sense, even before, in Truman's Point 4 Program. The European reconstruction after the devastation of World War II showed that aid could be used as a new strategy of development. Development was needed in the newly decolonized nations of Asia and Africa and the poor countries of the Western Hemisphere. It was also seen as a response to the Cold War, as two great power blocs with competing visions of development vied for hegemony over the poorer regions of the world. Industrialization was considered an essential feature of development by most social scientists. However, the term remained ill-defined. Per capita energy consumption, percent labor force not in agriculture, or even telephones per 1,000 households were used as indicators of industrialization, and hence development. However, for researchers, the handiest indicator came to be the Gross National Product per capita (GNP/c), based on Kuznet's concept of the GNP (1963). Economic development was thus mainly equated with per capita income, assuming that benefits of growth would "trickle down" (Streeten, 1981: 108).

Economic theory tends to set the form of scholarly thinking about development, and in the West at least, economists almost wholly dominate development planning. Nonetheless, theory and research on national development incorporate contributions from various disciplines: economics, anthropology, political science, and sociology in particular. The debates about development concepts, therefore, are truly interdisciplinary. The different disciplines have tended to emphasize different variables as most central to the conception and measurement of development. This may have contributed to confusion over the very concept of development that the debate is supposed to resolve. This paper is an effort to resolve this confusion by an empirical demonstration of the relationships among key indicators of competing conceptions.

In the economics literature it is, of course, recognized that nations of the modern world are linked to each other with trade, considering each as an autonomous unit as regards economic activity. The development of populations occurs within the

confines of the boundaries of the nation states. In essence, even though the political units of the world—the nations—are linked by trade, they pursue their own policies of economic growth and development. Sociologists have criticized this position as politically naive.

In the world system perspective held by many sociologists, nation states are not seen as completely autonomous. Some are seen as more autonomous than others. The world system perspective puts heavy emphasis on the international division of labor, in which different sets of nations play different roles in the world economy. The international division of labor is considered to be enforced by political power, implicitly backed by military power—though in a much different way than during the colonial era. The appropriate units of the world system are not seen as nation states but politico-economic units consisting of sets of them. Originally, Wallerstein (1974) conceived the world in three tiers: the *core*—a rich and politically powerful bloc of nations, at one extreme; the *periphery*—the poor and politically powerless countries, often also called "underdeveloped" or "third world" nations, at the other; and the *semi-periphery* set in between. Thus Chirot (1986: 97) has noted: "Internal class structures, or the distribution of power and wealth within particular societies, are related to the international distribution of power and wealth between societies." With the end of colonialism after World War II, third-world nations, impoverished and politically weak, embarked on finding strategies of development.

Chirot (1986: 98-99, passim) then outlined three analytically distinct, though "correlated dimensions" that allocated societies to different blocs in the world system: (i) sheer political and military power, the ability of a state to impose its will on others, (ii) the degree of economic development—international strength as a function of a state's level of economic development, sheer size and degree of internal cohesion, and (iii) a lower-end derivative of the level of economic development, the degree to which an economy is dependent on primary exports. Economic development, therefore, played a key role in the development of international stratification—the order of power and privilege among nations.

Bornchier and Chase Dunn (1987: 1) have held that the:

> problem of development and modernization has been recast by a new awareness of the hierarchical structure of the world-economy. What were formerly understood to be relatively independent national societies, some advanced and some backward or traditional, are now seen as differentiated parts of a larger world-economy... The basic contention of such a sociological paradigm is that national development cannot be explained by looking at isolated countries, but rather a country's position in the larger world division of labor and power structure must be taken into account in order to explain the nature and rate of national development.

In order to understand the relationship empirically, we need to define the concept of international stratification system and national development and identify indicators

of measurement. Sociologists such as Wallerstein (1974) and Bornschieir and Chase-Dunn (1987) were hardly the first to comment on this process.

International linkages and their role in development were noted by Lenin (1917: 91) who argued that "capitalism is growing with the greatest rapidity in the colonies and in the overseas countries," as Marx had claimed earlier. But Lenin also saw that this rapidly developing capitalism was imperialist and not indigenous. Since capitalists are interested only in profit and interest, the colonies could never come out of this trap and would become even more impoverished. He pointed out that colonies were used for cheap raw materials and were a dumping ground for cheap goods by the imperialist powers, thus destroying local production systems. This was the reason why the imperialist powers developed and the colonies remained underdeveloped.

Economic growth and development: Classical growth theory in economics was propounded by Adam Smith and his colleagues. Smith argued that the benefits of economic growth will "trickle down" to the lowest rungs of society. Growth, therefore, would bring "universal opulence." The factors responsible for economic growth are capital accumulation, institutional factors, trade, and technology. It is the invisible hand of the market that brings growth. He did not want governments to interfere in that process: the so-called "hands off" policy. It was Ricardo (1817) who propounded the theory of "comparative advantage" in international trade. Ricardo was writing against state intervention and in favor of the free market. The modernization theories of the 1960's were derived from this classical perspective. W.W. Rostow's (1960) theory of the stages of economic growth was one of them. Industrialization, at the appropriate stage, would bring growth and development. However, the evidence showed that nations that were developing were also increasing in income inequalities. *Neo-classical theories* propounded the curvilinear hypothesis (the inverted U-shape curve) of income inequality with development: in the initial stages of development, income inequality increases, but as development proceeded income inequality would decline (Kuznets, 1955, for explanation see Williamson, 1991).

By early the 1970's, a quarter century after the push for development began, the evidence showed that rather than 'universal opulence', *absolute* poverty, no matter how measured, was still the lot of much of the world's population (McNamara, 1973). This is the level of an endless day-to-day struggle for mere survival. It should not be confused with the *relative* unequal distribution of income, which is a question of equity rather than survival. The *basic needs* approach was articulated as a response to the problem of continued high levels of absolute poverty. In 1976, the International Labor Office (ILO) increased its emphasis on poverty alleviation through meeting the basic needs of people by year 2000, a proposal which was endorsed by all the member states. The basic needs were identified as health, education, food, water supply, sanitation, and housing. Following this, Morris and

Liser (1977) proposed a Physical Quality of Life Index (PQLI), to be used to measure the average life conditions of the people of each of the world's nations. The three indicators included in the scale: life expectancy at birth, literacy (primary school enrolment as percent of population age 5-14), and the inverse of infant mortality per thousand live births, defined basic needs. It was argued that infant mortality is also an indirect indicator of both sanitation and access to potable water (FAO, 1985; Hicks and Streeten, 1979: 578). The World Bank promoted the ILO's program, arguing these indicators are essentially linked to the development of "human capital:" health and education. There was a more radical proposal called *basic needs first* that demanded redistribution of land and which did not have much success with planners.

The 1960's were called the "decade of development," and there was interest in the development process in political science as well. Also, political scientists were interested in the newly independent nations. Their focus was on the study of nation building, political efficacy, commitment to democracy and nationalism as indicators of development: for example, Michigan State University's reported attempts to build a national government in South Vietnam in those years.

As this review shows, various indicators of development have surfaced over the decades. They are usually tied both to specific disciplines and to specific theoretical paradigms. This paper reviews indices that are frequently used in the literature of the 1990's and provides an empirical examination of the underlying themes they represent.

Indicators of National Development

In this section, we present the indicators of national development that appear to be in common use today, along with several related variables. In succeeding pages, empirical data describing the interrelations among them will be examined.

As we have seen, the notion of development is not new. It became a major concern right after World War II. The end of the War marked the end of an era of European colonialism. At this juncture, the centers of world power also shifted away from Europe to the United States and to the former Soviet Union. Many former colonies of European empires, and other countries with low incomes and living standards, were labeled as "underdeveloped." However, it was soon realized that some of these countries were experiencing reasonable rates of economic growth. Hence the static label of underdeveloped changed to that of "developing" nations. These developing nations were collectively known as the "Third World," to distinguish them from the First World "free market" nations and the Second World "command economy" nations. There are no universally accepted definitions of either of the terms "Third World" or a "developing country."

GNP/c: Economists, the World Bank, and other development banks usually categorized countries by per capita income and total national income. In that respect,

an increase in national income/per capita income is widely considered to be a measure or indicator of economic development. Many economists argue that although there are a number of problems for the measurement of both per capita income and its rate of growth, both are the best available indicators to provide estimates of the level of economic well being within a nation and its growth.

There are, of course, conceptual and measurement difficulties in using this "conventional" measure of national development/underdevelopment: the GNP or the GNP/c (GNP per capita). There are the awkward borderline cases. Even if the analysis is confined to developing countries, a handful of countries (e.g., oil producing) rank far above others in terms of per capita incomes even though it is obvious that the development levels of their people are often low. Secondly, there are technical difficulties in comparing national incomes across countries because of differences in official exchange rates at which national incomes are converted into the common denominator of the American dollar, and of the problems of estimating the value of noncash components of real incomes in developing countries.

Real GDP/c: In order to deal with the difficulty of comparison, efforts were made to adjust the GDP and GDP/c of various countries to the Purchasing Power Parity (PPP). It is argued that the goods and services produced and bought and sold in a country should be reflected in the calculations of products and services, and that the indicator of income thus arrived at is a true reflection of the country's development compared with other countries. The data for this indicator come from the calculations of Summers and Heston (1988).

The Human Development Index: In 1990, the United Nations Development Program (UNDP) produced a "Human Development Index" that the UNDP argues is a better measure of development. The UNDP argued that: "People are the real wealth of a nation. The basic objective of development is to create an enabling environment for people to enjoy long, healthy, and creative lives" (Human Development Report, 1990: 9). The report, as with later annual reports, then went in great detail to define and develop the Index (HDI).

Brazil in particular came under severe criticism in the Human Development Report (1990: 56) and was described under the title: "Missed Opportunities for Human Development." The report stated that: "Brazil failed to achieve satisfactory human development" because of (i) extreme inequality of income and (ii) insufficient targeting of public resources—much of the housing and social security subsidy went to urban rather than rural residents. (This criticism seems a bit odd when applied to a nation in which only 20-25% of the population is rural and in which the incidence of absolute poverty plummeted over the 1970's (Pastore et al., 1983).) Similarly, China was treated under the title: "Disrupted human development." It was claimed that China's health care and basic needs gains of the 1960's had stagnated or had even

reversed. This further indicates that the index is sensitive to short-term variations of components on which the index is based.

If the intent indicated here is to measure some form of human welfare, then that purpose is just about the same as that of prior measures of development such as the PQLI—the Physical Quality of Life Index (Morris and Liser, 1977). Our purpose in this paper is to compare various indicators of development and report what each of them measures.

The World System: rank and prominence: The World System concept was first proposed by Wallerstein (1974). The system emerged over a long period of time, starting with the emergence of capitalism and the industrial revolution. The system, however, became much more elaborate, with an international division of labor in which various nations occupy unequal positions. The World System theory argues that a system of dependency becomes institutionalized in the network of unequal exchange relations. Hence the theory incorporates earlier theories of imperialism and dependency as well. Quantitative analyses classified countries into a hierarchy of core, semiperiphery, and periphery (divided today into advanced periphery and true periphery). This measure is called the World System Ranks (WSR).

A recent operationalization of the World System concept, resulting in an empirical assignment of each nation to a WSR category, was performed by Rossem (1996). It classifies countries by prominence (PROM) in the World System. PROM was created by mapping five network dependence relations, imports, exports, trade in major conventional weapon systems, the presence (really: absence) of foreign troops, and the presence of diplomatic representation (see Rossem, 1996 for details). Contrary to criticisms stemming from the Human Development Index (1990) and even to Wallerstein's assignment of them to the semiperiphery, both Brazil and China have high prominence scores and are classified by Rossem's technique as members of the *Core*.

Basic Indicators: In addition to the indices that we have discussed above, other basic indicators include population, population growth rate (1980-1988), daily caloric supply, infant mortality, life expectancy at birth, percent of age 5-14 enrolled in primary schools, gross domestic savings as percent of GDP, official disbursement of aid, and average rate of growth of GNP (1965-1988). Some of these have been discussed for their relevance and others are well understood by scholars. The data (circa 1988) for the "basic indicators" are provided in Stern (1991).

Dimensions of Development

It is clear from the above description that commonly used indicators of development measure aspects of national populations which are at least nominally different. However, as yet the empirical relations among them have not been shown despite

the efforts that have been made to specify indices composed of a few of them. (The recent creation of the UNDP's Index of Human Development is an example.) Are these indices valid measures of development? The answer depends largely upon how well they relate to other dimensions of development. We proceed with a two-stage analysis. In the first, we report correlations among 15 presumably important indicators/indices of development. In the second, we factor analyze a smaller set of these indicators for the purpose of extracting their common themes.

Coefficients of correlation for the 15 indicators are reported in Appendix A. The list of nations for which complete data are available is presented in Appendix B. For the purpose of computing correlations reported in Appendix A, we used pairwise deletion method in order to maximize available information. The correlations are practically all in the predicted directions, with a few exceptions that we will discuss below.

Preliminary comments: *Variables that either do not work or that overlap with others*: Several preliminary comments are in order. First, we have included two measures of per capita national income: GNP/c and RGDP/c—Gross National Product per capita and Real GDP per capita. The correlation of the two is very high: $r = 0.92$, and the correlations of both measures with other development indicators are almost identical. Therefore, in the factor analysis we simply used GNP/c rather than RGDP/c as a measure of per capital national income.

The second (taken on data from 1987 and 1991) concerns the HDI scores published in 1990 and 1994. It is one of the most widely used measures of national development. The *Human Development Report* (1990: 9) stated: "The basic objective of development is to create an enabling environment for people to enjoy long, healthy, and creative lives." Much emphasis has been given to the supposed reliability of the HDI (for a critique, see Srinivasan, 1994). Face validity is also claimed for it. A more informative way to assess its validity would be through construct validity—correlating the indices with other available indicators of socio-economic development for which data are available. Fortunately, these can be had. They were published by Stern (1991) who took them from the *Human Development Report* (1990) itself.

Let us examine the available HDI indices—called HDI 1990 and HDI 1994—carefully. If they are valid measures of development, they should meet four criteria. First, they should be highly correlated with each other. Second, their correlations with other proposed development measures should not change much over the four years between the measurements (1987 and 1991). This is because societal-led phenomena do not change much over short periods except in violent revolutions or other calamities. Third, they should be highly correlated with other variables thought to measure development. Fourth, the correlations with other development indicators should not change much over brief periods of time.

The two HDI indices meet the first criterion rather well: $r = 0.97$ (see Appendix A). Second, their correlations (see Table 1) with nine of the 13 other indicators are reasonably consistent, varying from $r = 0.650$ and $r = 0.532$ (GNP/c) to $r = -0.022$ and $r = -0.021$ (population). However, their correlations with the other four variables differ sharply: from $r = -0.635$ and $r = -0.283$ (population growth) to $r = 0.637$ and $r = 0.453$ (caloric intake per capita). Third, their correlations with other presumptive development variables vary markedly. They are highest with Life Expectancy and Infant Mortality: $r = 0.900$ and 0.847, and $r = -0.939$ and -0.896. They are also rather high with GNP/c, RGDP/c, Education, the disbursement of official Development Assistance as a percent of GDP, and (ambivalently) with caloric intake. Their relations with the remainder are either uniformly or ambivalently low. Fourth, their correlations with most other indicators, including two of their three components (Late Expectancy and RGDP/c), declined over the four years.[2]

So what is to be concluded? It is not at all clear that the HDI index is a good measure of national development level, although the evidence is not totally negative. It does relate well to itself over four years, and it is highly correlated with some of the other indicators. But two findings argue against it. For one, its correlations with two of the hypothetically most important indices (National Prominence and World System Rank) changed markedly over the four years. The other is the fact that its correlations with at least 10 of the 13 others declined over the period. This suggests

Table 1

Coefficients of Correlation of Human Development Index (1990 and 1994) with Indicators of National Development

	Human development index, 1990	Human development index, 1994
GNP/c	0.650	0.532
RGDP/c	0.749	0.653
EDU	0.733	0.733
LIFE	0.900	0.847
IMOR	−0.939	−0.896
CAL	0.637	0.453
POP	−0.022	−0.021
POP GRO	−0.635	−0.283
GROWTH	0.379	0.402
SAVE/GDP	0.546	0.535
DEV ASSIS	−0.604	−0.625
PROM	0.504	0.197
WSR	0.559	0.226

Note: See Appendix B for description of indicators and sources.

that its efficacy may be declining rather rapidly. It must be concluded that the HDI is of dubious value as a measure of national development.

Obviously, better measures are needed. Since we have the indicators that HDI is composed of, we decided not to include the Index itself for further analysis. More important, we believe it is not very useful for policy purposes.

Therefore, along with the decision to drop RGDP/c, we excluded both of the HDIs (1990 and 1994) from the remaining analyses. In addition, we also excluded two more indicators that were in the original correlation matrix: official development assistance disbursed as a percentage of GDP (DEV ASSIS) and savings as percentage of GDP (SAVE/GDP). Limited data were available for these variables and most

Table 2

Coefficients of Correlation, Means, and Standard Deviations for Selected Indicators of National Development (N = 88)

	1	2	3	4	5	6	7	8	9	10
CAL	1.00									
LIFE	0.76	1.00								
IMOR	−0.74	−0.92	1.00							
EDU	0.44	0.72	−0.71	1.00						
LGNP/c	0.80	0.85	−0.84	0.51	1.00					
WSR	0.56	0.55	−0.46	0.38	0.54	1.00				
PROM	0.55	0.48	−0.44	0.26	0.57	0.80	1.00			
LPOP	0.13	0.09	0.00	0.12	−0.01	0.69	0.60	1.00		
POP GRO	−0.66	−0.68	0.68	−0.38	−0.68	−0.44	−0.47	−0.11	1.00	
GROWTH	0.35	0.42	−0.38	0.44	0.29	0.28	0.15	0.20	−0.32	1.00
Mean	2,658.15	63.77	56.38	91.89	7.30	2.25	0.21	2.61	2.10	1.81
Standard deviation	538.50	10.81	43.93	25.36	1.49	0.96	0.17	1.40	1.17	2.11

CAL = Daily caloric supply per capita, 1986.
LIFE = Life expectancy at birth, 1988.
IMOR = Infant mortality rate.
EDU = Percent 5-14 age group enrolled in primary education, 1987.
LGNP/c = Natural log of GNP/c, 1988.
WSR = World system rank (see Rossem, 1996).
PROM = Prominance scores (see Rossem, 1996).
LPOP = Natural log of opulation (millions) in mid-1988.
POP GRO = Average annual population growth (1980-1988).
GROWTH = Average annual growth rate of GNP/c (1965-1988).
Sources:
(1) Nicholas Stern, 1991. "Public Policy and the Economics of Development." *European Economic Review* 35, 243-250. (Reproduced in Gerald M. Meier, 1995. *Leading Issues in Economic Development*, Sixth edition. New York: Oxford University Press.)
(2) R.V. Rossem, 1996. "The World System Paradigm as a General Theory of Development: A Cross-National Test." *American Sociological Review* 61, 508-527.

pertain to the less developed nations, so they would have biased the results. Besides this, their correlations with other variables ranged from modest to low. Furthermore, we logged population and GNP/c and recomputed the correlations (Table 2) for the 88 countries for which complete data are available (see Appendix B). We factor analyzed the remaining 10 indicators. The results are reported below.

Factor analysis: Factor analysis is commonly used to identify the more fundamental conceptual variables, if any, which underlie their empirical manifestation in specific indicators. A factor loading of .30, is often considered to be a cutting point. Those items with a .30 loading are considered as significant whereas those below .30 are dropped as insignificant. This is an arbitrary criterion justified on pragmatic grounds but is consistent with previous research (Sharda, 1989). Results of this analysis are reported in Table 3.

Factor I—Domestic development: Following varimax rotation, nine of the 10 items had a factor loading of 0.30 and above (in fact the minimum loading was 0.46) on the first factor. It accounted for nearly 56% of the matrix variance. The factor was significant with an eigenvalue of 5.56. Its theme is composed of national income and economic growth (GNP/c and GROWTH), international standing (WSR and PROM), basic needs/human development (CAL, LIFE, IMOR), human capital development (EDU), and concern with population growth (POP GRO), all of which hang together. This factor truly represents the theme of national domestic development; we named it "domestic development." The several components this dimension encompasses are

Table 3

Factor analysis of basic development Indicators (circa 1988)

	Rotated score	
	Factor I: Domestic development	Factor II: Authority
LIFE	0.94	–
IMOR	−0.95	–
LGNP/c	0.89	–
CAL	0.81	–
POP GRO	−0.75	–
WSR	0.42	0.84
PROM	0.39	0.81
EDU	0.72	–
GNP G	0.46	–
LPOP	–	0.92
Eigenvalue	5.56	1.74
Percent variance	55.6	17.4

Notes: (1) See Table 2 for description of indicators and sources.
(2) – = score less than 0.30.

repeated time and again as goals of development by different traditions, academic disciplines, and development agencies. They all are significant and it would appear that they deserve to be included in any assessment of development levels of nations. In fact, either life expectancy or the inverse of infant mortality might alone serve as an indicator of development. Indeed, scholars and agencies often select a few items and exclude others in the formation of indices of development, the most recent example being the HDI.

It is also significant that the factor loading of population—more accurately the log of population (LPOP)—did not significantly load on the first factor. This may simply mean that development occurs in both the large and small nations alike and hence population size is not as significant a factor as is sometimes alleged. Population size, however, is highly significant for the second factor.

Factor II—Authority: The second factor, which we call Authority, expresses a country's position and power in international relations. It is led by the log of population size (LPOP). Recall that population size has almost no relationship with any of the variables (see Appendix A) and LPOP had nonsignificant loadings on Factor I. However, LPOP has the highest loading of 0.92 on Factor II, along with PROM with a factor loading of 0.81, and WSR with a factor loading of 0.84. This factor is also significant with an eigenvalue of 1.74. It explains another 17.4% of the variance. This indicates that the dimension expressed by these three items is uniquely different from the theme of domestic development. These items are often neglected in economic literature but are emphasized by sociologists who study the effects of international dominance and status of nations through the operation of the world system. It is, therefore, clear that both factors (domestic development and authority) should be employed in studies of development.

It is our contention, then, that larger countries pursue development goals which may or may not be consistent with the "welfare" dynamics of their citizens but are related to their position in the international authority structure. These countries may have to spend portions of their resources, both financial and human, on military preparedness, and they develop influential trade and political blocs, etc. We suppose that all nations pursue policies to increase their power and prestige, expending resources which might otherwise be used for the welfare of their citizens. Perhaps this works in the long run. With increased status and power in the international arena, nations might gain better access to international markets and/or generate more resources for the welfare of their citizens. If so, the second factor might turn out someday to be significant for national development.

In any case, it is clear that the main factor, domestic development, focuses on differences among nations regarding the degree to which they meet the needs of their populations. It looks inwardly, so to speak. The second factor, could be said to look outwardly in that it is mostly concerned with the potential for directly affecting the

decisions of other nations. Of course, one nation's position on either factor might influence other nations. But there is a difference: the first factor would exert its influence mostly by the *policy example* one nation sets for another, the second by the *pressure* one nation might or might not exert upon another.

Discussion and Conclusions

We set out to review the development literature and to identify some key indicators of development from various traditions. We examined the set of coefficients of correlations among such indicators (Appendix A) and argued that some indices of development (e.g., HDI, 1990 and 1994) constructed with few items may not have captured the greater themes of development that nations pursue. We dropped those indices but kept the items on which they are based. We dropped two others as well. We then subjected the remaining indicators to factor analysis. Two factors appeared. We called them domestic development and authority.

Factor I is the most comprehensive of the two. It clearly expresses major components of domestic development: elimination of absolute poverty, the provision of basic needs, human development, human capital development, and concern with population growth. Factor II loads heavily on the position of nations regarding total population, international dominance, and prestige. It could be argued, therefore, that development goals of nations have tended to be more comprehensive than has been recognized in the literature so far. This neglect, we believe, is due to the lack of integration of development literature among the various disciplines, notably economics. For example, the field of development economics incorporates many variables that are important to sociologists: demographic variables (life expectancy, infant mortality), education (school enrollments) but hardly ever are references made to the work of sociologists. There is almost a complete neglect of international dominance and prestige (WSR, PROM) of nations in the economic development literature, although our evidence shows that they are powerful aspects of development—aspects that are quite different from domestic development. We argue, therefore, that since the two themes of national development and authority are each justifiable on theoretical grounds and supported by hard evidence, they should both be taken into account in future research, free from disciplinary constraints.

It is, therefore, our conclusion that differential weight be put on variables in the definition of development. The domestic development variable has many correlates, as is clear from the factor analysis we have presented. For policy purposes, it must be tempting to construct a scale of domestic development, using the Factor I (national development) scores as weights in its construction. However, we realize there are limitations that need to be addressed before such a scale should be constructed.

These limitations also apply to the whole of the present analysis. But this should not vitiate our findings: among the 88 nations covered and among the variables examined, it is safe to say that we have presented strong evidence for the existence of

two different fundamental dimensions of national development, domestic development, and authority. Yet we have been able to examine only 15 of the variables that might measure development, and of course, only 88 countries. It is possible—though unlikely—that the inclusion of all other nations, and whatever other variables might be relevant, might change the factor pattern. This should be tested. Or it might simply reinforce the present findings. This seems likely. For example, the authority factor might turn out to be loaded on the absolute size of the national GNP.[3] In the future, we hope to check this and other possibilities.

NOTES

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2 HDI 1994 was *more* highly correlated than HDI 1990 with only two other variables: economic growth and development assistance.

3 This brings up another issue as yet not directly treated in the literature. There exists a formal authority structure among peoples. It consists of nationhood as defined by the United Nations and international law. Future research should examine the relationship between the formal, or *de jure*, international authority structure, and the informal, or *de facto*, structure of authority among nations.

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Appendix A. Coefficients of correlation among national indicators of development, circa 1988

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LIFE		0.40	−0.89	0.90	0.85	0.75	0.66	0.71	−0.59	0.52	0.51	0.47	0.02	−0.56	0.42
CAL			−0.57	0.64	0.45	0.27	0.63	0.64	−0.42	0.43	0.46	0.41	−0.01	−0.45	0.24
IMOR				−0.94	−0.90	−0.71	−0.64	−0.74	−0.60	−0.56	−0.48	−0.45	−0.00	−0.61	−0.40
HDI90					0.97	0.73	0.65	0.75	−0.60	0.55	0.56	0.50	−0.02	−0.64	0.38
HDI94						0.73	0.53	0.65	−0.62	0.54	0.23	0.20	−0.02	0.28	0.40
EDU							0.28	0.39	−0.53	0.42	0.36	0.27	0.10	−0.31	0.41
GNP/c								0.92	−0.34	0.35	0.48	0.60	−0.05	−0.58	0.18
RGDP/c									−0.41	0.45	0.48	0.56	−0.05	−0.54	0.26
DEV ASSIS										−0.62	−0.37	−0.41	−0.14	0.19	−0.33
SAVE/GDP											0.37	0.27	0.16	−0.34	0.34
WSR												0.85	0.27	−0.40	0.21
PROM													0.22	−0.44	0.14
POP														−0.01	0.11
POP GRO															−0.32
GROWTH															
$\bar{x}$	62.0	2,644.8	62.7	0.64	0.53	89.8	4,257.8	3,527.4	8.1	16.5	1.9	0.16	48.9	2.3	1.7
Std. dev.	12.1	639.5	45.7	0.27	0.22	27.1	6,289.6	3,676.9	10.9	14.4	1.0	0.16	155.4	1.2	2.3
(*N*)	(118)	(114)	(118)	(130)	(125)	(107)	(109)	(113)	(84)	(104)	(162)	(163)	(118)	(118)	(100)

LIFE = Life expectancy at birth, 1988.
CAL = Daily caloric supply per capita, 1986.
IMOR = Infant mortality rate (per 1,000 live births), 1988.
HDI90 = HDI 1990 (*Human Development Report*, 1990).
HDI94 = HDI 1994 (*Human Development Report*, 1994).
EDU = Percent of 5-14 age group enrolled in primary education, 1987.
GNP/c = GNP per capita, 1988.
RGDP/c = Real GDP per capita (Summers and Heston, 1990).
DEV ASSIS = Disbursement of official assistance (percent GDP), 1988.
SAVE/GDP = Gross domestic savings (percent GDP), 1986.
WSR = World system rank (see Rossem, 1996).
PROM = Prominance scores (see Rossem, 1996).
POP = Population (millions) in mid-1988.
POP GRO = Average annual population growth (1980-1988).
GROWTH = Average annual growth rate of GNP/c (1965-1988).