Foreign Direct Investment, Industrialization, and Social Change

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Indicators of the changes in social structure which result from the industrialization of traditional societies are developed via factor analysis of data from 59 developing countries. Multiple regression is then used to investigate the relationship between industrialization, social change, and the relative economic importance of foreign direct investment. The relationship is found to be interactive; foreign direct investment intensifies the pressures for changes in social structure produced by industrialization. The paper concludes that this finding is inconsistent with a theory of underdevelopment in which integration into the world capitalist system inhibits, or even prevents, broadscale industrialization. Rather it requires a transformation of the concept of dependence which recognizes the possibility of capitalist industrialization through foreign investment.

At this point, there is little consensus about the impact of foreign direct investment (FDI) on the industrialization of the poor countries. The argument is being conducted on at least two levels. Those who accept the desirability of capitalist development and the premises of mainstream economics disagree on such issues as the balance of payments effects of FDI, its relative efficiency and effectiveness as a vehicle for the transfer of resources such as capital, management, and technology, and its effect upon the structure and behavior of markets in host countries.

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On the other hand, to those who accept the validity of the neo-imperialist paradigm FDI is an element of a more complex process. It is viewed as a means (perhaps the primary one) by which the poor countries are incorporated into the international capitalist system. To theorists such as Baran and Frank, the development of the industrialized capitalist countries and the exploitation and resulting perpetual under-development of the poor countries are components of a single process. The literature of dependence (Sunkel, 1972; Weisskopf, 1972, for example) extends the argument by elaborating on the mechanism. Foreign investment, and international capitalist institutions in general, inhibit indigenous development by creating and maintaining a state of economic, technological, and cultural dependence of poor countries upon rich.

However, more recently, writers such as Warren (1973) have disputed this thesis of perpetual "backwardness" and the impossibility of indigenous development. He notes that industrialization has taken place in third world countries and posits that political independence has significantly changed relationships between rich and poor nations. In opposition to those who see neo-imperialism replacing overt colonialism and emasculating independence, Warren believes that the attainment of sovereignty resulted in significant changes in relative strength which facilitated capitalist development. He notes that "foreign private investment since the Second World War has probably created or encouraged indigenous capitalism" (Warren, 1973: 39) and concludes that "private investment in the Third World is increasingly creating the conditions for the disappearance of imperialism as a system of economic inequality between nations of the capitalist world system" (Warren, 1973: 40, emphasis original).

Whether one views questions of development from a mainstream or a radical perspective, it is clear that foreign investment has been, and continues to be, a major conduit between rich and poor nations. While there has been a good deal of empirical work attempting to evaluate the negative and positive contributions of FDI to development, most of the hard evidence presented tends to use economic data: balance of payments flows, industry structure and behavior, and the like.\footnote{While the intellectual framework of radical and explicitly Marxist analysis integrates economic, social, and political causes and effects, empirical work often utilizes economic data. For an example see Hymer and Rowthorn (1970).} It is recognized by both mainstream and radical analysts, however, that FDI is thoroughly enmeshed in the entire sociocultural and political fabric of the host society. It is a primary vehicle for intersocietal contact and functions as a cross-cultural change agent (Thorelli, 1966: 1; Baran, 1970).
This research investigates the relationship between FDI—as a vehicle for the cross-cultural transfer of values, attitudes, and institutions—and social change in developing countries. A conceptual framework is developed which supports a hypothesis that FDI intensifies the process of social change that accompanies (and is a requisite of) capitalist industrialization. The hypothesis is tested empirically utilizing a quantitative and cross-national methodology with data obtained from 59 developing countries. After conceptually significant indicators of social modernization are derived, the relationship between industrialization, social modernization, and FDI is examined via multiple regression. While there is no evidence found of a direct or additive relationship between the aspects of social modernization and the relative importance of FDI, a multiplicative or interactive relationship is established. The relationship between social modernization and industrialization is intensified in countries where FDI is relatively more important.

The paper concludes that the findings are inconsistent with a view of FDI as a mechanism for creating and maintaining a state of dependence which prevents the industrialization of poor countries. They are consistent with a view of FDI as an effective agent of the extension of capitalist development to the Third World. Last, the affects of the findings upon the meaning of dependence are discussed.

INDUSTRIALIZATION AND SOCIAL MODERNIZATION

1. Industrialization, defined as the application of inanimate sources of power to the productive process (Levy, 1969: 11; Moore, 1963: 91; Slotkin, 1960: 13), inevitably leads to an increased emphasis on economic efficiency and increases in the scale of productive enterprise (Kerr, 1971). The requirements of both efficiency and scale conflict with the diffused roles, independent self-sufficiency, restricted horizontal and vertical mobility, ascriptively determined status, particularistic relationships, and in general, with the social structures characteristic of traditional societies (Levy, 1969; Moore, 1969: 107, 109). This conflict between the requisites of industrialization and the structure of traditional life results in pressures for change in social structure; for social modernization.

2. The industrialization of the Third World countries can be characterized as a process of acculturation or culture contact (Herskovits, 1961; Slotkin, 1960: 23). This involves the transfer of machines, products, technology, managerial skills, and importantly, entire formal organizations
from the industrialized Western nations (Friedland, 1969: 79). However, the industrialization of the LDCs tends to be inverted (Lewis, 1969: 22) relative to the Western experience. In the West, as feudalism was replaced by capitalist or bourgeois relationships, productive institutions and social structures evolved simultaneously over an extended period of time. In the Third World, productive institutions and organizations tend to be imported and superimposed upon traditional societies.

Thus, industrialization is introduced as an exogenous variable which in turn affects the symmetry of its causal relationship with social modernization (Spengler, 1961: 3). To a significantly greater extent than was true in the West, the flow of causality is unidirectional; industrialization in the LDCs may be taken as producing or causing changes in social structure or social modernization.²

3. The pressures exerted by broadscale industrialization are not neutral in their consequences (Moore, 1965a: 45). Rather industrialization tends to act as a “universal social solvent” (Levy, 1969: 744) exerting disintegrative pressure on traditional social structures. Diffused and ascribed roles, the unity of economic, social and religious aspects of life, and restricted mobility are eventually replaced with new social structures (such as differentiated roles, horizontal and vertical mobility, and nuclear or conjugal families) consistent with the increasing emphasis on efficiency and scale which forms the central logic of industrialization (Kerr, 1960: 21). While there is a considerable variation in structure of societies at early and intermediate stages of industrialization due to differences in preindustrial social structure, this variation should also be an increasingly important function of the path or trajectory of industrialization (Moore, 1965b: 13).

4. The path or trajectory of industrialization is a function of the nature of the cross-cultural contact or the process of acculturation (Firth, 1959: 484; Slotkin, 1960: 23). Contacts can be indirect (printed matter) or direct (student exchanges) and discontinuous (technical aid missions) or continuous (FDI). While the ultimate results of cultural borrowing depend upon the aspect of culture transferred, the nature of the contact, and host receptivity, one would expect that the chances of a successful transfer and

² It is not suggested that causality flows entirely from industrialization to social modernization. Changes in social structure in the LDCs certainly “pave the way” for further industrialization. However, causality is significantly more asymmetrical than it was in the course of Western development. It is reasonable to consider industrialization as producing or causing changes in social structure in the current LDCs.
adoption are greater (ceteris paribus) the more direct and continuous the contact. Thus, the extent of the pressure for social modernization is a function of the path or trajectory of industrialization which in turn depends, to a large extent, upon the nature of the culture contact.

FOREIGN DIRECT INVESTMENT

Foreign direct investment involves equity ownership extended across national frontiers accompanied by a significant degree of managerial control (Dunning, 1970: 4). In the context of this research FDI serves primarily as: (1) a vehicle for the transfer of the elements of industrialization and (2) a means for Western investors to exert a direct and continuous influence (managerial control) in LDCs. Since FDI serves as an important, if not the primary, vehicle for the transfer of the institutions of industrialization to LDCs (Chudson, 1971: 7; Stikker, 1968: 14; United Nations, 1973: 49), it must, by definition, affect the process of social modernization. However, if it has a unique effect, we should be able to demonstrate that the process of cross-cultural transfer associated with FDI differs from the other vehicles for the transfer and diffusion of the institutions of industrialization. It is posited that this unique effect exists and is a function of: (1) the direct and continuous nature of the culture contact associated with FDI and (2) differences in the philosophy and style of management found in indigenous and foreign enterprise.

The implications of the first point should be clear from the discussion thus far. FDI provides for a direct and continuous contact between cultures. Thus, ceteris paribus, to the extent that FDI is relatively important in a given society, one would expect industrialization to follow a path which intensifies the pressures for social modernization. FDI acts as a change agent or catalyst; it affects the pace and the extent of the social changes resulting from industrialization.

The second point requires some explanation. To the extent large scale indigenous enterprises exist in a relatively traditional society, they are likely to be owned and managed by individuals of high status—the current elites (Fernandez-Hurtado, 1967: 51-55; McMillian et al., 1964: 89; Richman and Copen, 1972: 152; Vernon, 1963: 157). It is reasonably clear that large scale industrial enterprises do not generally grow out of
small commercial ventures. In many LDCs, capital, or access to capital, organizational ability, and importantly, often necessary connections are restricted to elite groups.

To the extent such individuals are either a product of or owe their position to the traditional social system, there is little impetus to innovate—to establish new patterns of social relationships—and much pressure to accommodate. In contrast, the foreign controlled firm occupies a position analogous to that of the "marginal man" (Hoselitz, 1960) in the host culture. While integrated into the host socioeconomic system, its origins are rooted in an industrialized culture and it is responsive to external direction. Thus, within the constraints posed by the host social system, it is more likely to innovate and less likely to reach accommodation with traditional values and relationships than is the indigenous firm. Except as the realities of the local environment require, the foreign controlled enterprise is less likely to be bound by traditional attitudes and values and traditional social relationships.3

Managerial recruitment policies provide a case in point. Studies in both Brazil and India (McMillian et al., 1964; Richman and Copen, 1972) demonstrate that foreign controlled firms are more likely to recruit and promote capable lower status individuals into managerial positions than are indigenous enterprises. The latter tend to be owned and managed by local elites with recruitment (at least to the managerial ranks) so limited. Thus, foreign firms may provide a channel for upward mobility that either does not exist or is severely restricted in a traditional society.

In net, what is posited is that first, industrialization, as a process of cross-cultural transfer of institutions, produces or causes changes in the social structure of traditional societies (social modernization). Second, to the extent that FDI is relatively important in a given society, we would expect the pressures for social modernization (produced by industrialization) to be intensified.

In operational terms we are positing an interactive relationship. We would not expect to find a direct or additive relationship between social modernization and the relative importance of FDI alone; they would not be correlated. The relationship between social modernization and industrialization is not the same—in terms of both magnitude and slope—at all levels of FDI.

3. This is often viewed differently in the literature of imperialism. The extension of Western capitalist institutions maintains a "comprador bourgeois" through whom control is exerted.
RESEARCH METHOD

The investigation entails a quantitative, cross-sectional analysis of variables over 59 developing countries. All nonsocialist bloc LDCs that were sovereign national units in 1965 and of sufficient size (a population of over one million and a GNP of at least $500 million) to represent comparable national entities are included. At the "upper limit" a LDC is defined by a GNP per capita of less than $1,000. The sole exception is Japan, which is eliminated, following Kuznets (1966: 400), on the basis that its 1965 GNP per capita ($861) did not reflect its level of socioeconomic development. Appendix I provides a country list.

The analysis can be broken down into three steps: quantification of (or the development of indices representing) aspects of social modernization, industrialization, and the relative importance of FDI; establishing a relationship between the various aspects of social modernization and industrialization; and last, adding FDI as a second independent variable and determining the nature of its relationship (if any) to social modernization.

DEVELOPMENT OF INDICES

The 17 raw indicators of social development selected to serve as a basis from which aspects of social modernization are derived include both quantitative measures, such as literacy and school enrollment ratios, derived from published sources and qualitative estimates of such factors

4. Socialist bloc countries have been excluded from many studies of development due to problems of comparability. See Adelman and Morris (1967) and Kuznets (1966).

5. A 1970 UNRISD study, for example, excluded countries with a population of less than one million because of the "special circumstances that apply to so many of them." See McGranahan (1972).

6. It is difficult to objectively establish an "upper limit" or "cut-off point" for developing countries. While there are well-known problems with GNP per capita as a comparative measure of development, it is probably the most generally used index and is adequate for definition of the sample.

7. Saudi Arabia was dropped due to data problems. Furthermore, data for FDI was not available from the OECD study for either Portugal or South Africa. Therefore, while 59 countries were included in the analysis of industrialization and modernization, only 57 were used when FDI was included as a variable.

8. Principal sources were, The U.N. Statistical Yearbook, the U.N. Demographic Yearbook, the Yearbook of Labour Statistics, The Statesman's Yearbook, and data collections such as: Banks (1971), Banks and Textor (1963), Russett (1964), and Taylor and Hudson (1972).
as social organization and the modernization of outlook obtained primarily from the work of Adelman and Morris (1967) or Banks and Textor (1963). Missing data are estimated by reference to other sources and by regression on similar and highly correlated indicators.  

The raw data are composed of a rather large number of indicators, which by definition (they are all intended as measures of social development) are highly correlated and interrelated. The problem faced is thus to reduce this mass of indicators to a smaller number of variables, each of which represents a conceptually different aspect of modernization. Factor analysis, which provides an empirical means for deriving constructs from raw attributes (Nunnally, 1967: 289), is used for this purpose.

The index of industrialization consists of an unweighted linear average of indices of power consumption per capita and the proportion of GDP arising from the manufacturing sector. The definition of industrialization (see above) suggests power consumption per capita as a logical indicator. Manufacturing GDP is added to provide a measure of the breadth of industrialization: very resource-intensive countries may consume relatively large amounts of power in an isolated economic (or geographic) sector.

The source for FDI data is the thorough study, Stock of Private Direct Investments by D.A.C. Countries in Developing Countries, Year-End 1967, published by the O.E.C.D. in 1972, which reports book value by sector and by country of origin in 1967. However, what is of interest is not the absolute, but rather a relative measure of FDI—its importance to the host economy. Furthermore, as agricultural investment tends to be rather singular in many respects, only nonagricultural FDI is considered in this research. The index of FDI then consists of nonagricultural book value divided by nonagricultural GDP as a measure of economic size. The final index is thus a measure of the relative importance of FDI to the host economy. As development indicators are often highly skewed, variables are transformed logarithmically if a histogram indicates it would be appropriate (see Banks, 1974: 321).

9. See Deutsch (1966) for a discussion of estimating missing data in cross-national research.

10. The problems with using the book value of assets as an indicator of direct investment are legion and well-known. However, it is the only indicator available on a widespread basis. Furthermore, some of the problems of comparability are mitigated when the investigation is limited to developing countries as indigenous capital markets tend to be underdeveloped. The Development Assistance Committee countries include: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Norway, Portugal, Sweden, Switzerland, the United Kingdom, and the United States.
SOCIAL MODERNIZATION AND INDUSTRIALIZATION

The relationship between each of the aspects of social modernization (derived via factor analysis) and industrialization is then established through regression analysis with the former as the dependent variable. Six zero-one dummy variables are included in the regression equations to represent the major world regions—Latin America, Europe, North Africa, Sub-Saharan Africa, the Near East, and Asia—primarily as proxies for differences in preindustrial social structure. While it is by no means suggested that the regions are even relatively homogeneous, interregional differences—in terms of family organization, for example—are sufficiently greater than intraregional differences to make the indicator valid as a proxy.

FDI: TESTING FOR INTERACTION

The last step involves including FDI as a second independent variable and determining the nature of the relationship, if any, between it and social modernization. The problem can be summarized as follows:

\[ SM = a + b \text{IND} + c \text{FDI} + d \text{IND} \times \text{FDI} \]  \[1\]

where SM represents a given aspect of social modernization, IND the index of industrialization, and FDI the index of foreign direct investment relative to economic size. If the coefficient c is significant, an additive or direct relationship between social modernization and FDI would be confirmed. If d is significant, an interactive relationship would be indicated. (There is no reason to expect that FDI—as a relative measure—and IND would be correlated; in point of fact, analysis indicates they are not.) However, the conceptual framework posits that there is no

11. See Suits (1957). As all dummy variables are either zero or one, and as all cases are included in the set, six regions can be represented by five dummy variables. Using N dummy variables to represent N variables would result in an indeterminate solution. Thus, one of the regional variables had to be dropped. Each of the three dependent variables was regressed on industrialization and various combinations of five dummy variables. The coefficient of the dummy for North Africa was found to be insignificant in all instances and that variable was “dropped” when the hypotheses were tested. One of course, “drops” a given dummy in a set of zero-one variables but not its effect upon the equation. If N-1 dummy variables for a given case are zero, then in a set of N, the Nth must be one. Both the regions and their bounds were taken from Banks and Textor (1963: 55).
direct relationship between social modernization and FDI. If that is the case, c should not be significant and the problem reduces to:

$$SM = a + b \text{IND} + d \text{FDI} \times \text{IND}$$  \[2\]

Equation 2, however, specifies a linear and rather simple multiplicative relationship. There is no a priori reason to expect it to capture the interactive effects postulated, and indeed empirical results confirm it does not. While an attempt could be made to develop an explicit model, it is felt that neither the state of the data nor the theory justify it. The objective of this (preliminary) research is to establish that a relationship exists rather than to model it explicitly.

The problem is circumvented by categorization and the use of dummy (zero-one) variables (Suits, 1957). Thus both industrialization and FDI are categorized (their respective ranges divided into four equal “levels”) and represented by a series of four dummy variables. The term FDI x IND is then represented by a 4 x 4 matrix (FDI1 IND1 to FDI4 IND4) known as a system of “pattern” variables. FDI1 IND1 (or X1), for example, would be one if a case is contained in both the lowest level of FDI and the lowest level of industrialization.

If R is a dummy variable representing region and IND and FDI are both in categorical form, then the additive model takes the form:

$$SM = a + b_{1} \text{IND}_1 + \ldots + b_{4} \text{IND}_4 + c_{1} \text{FDI}_1 + \ldots + c_{4} \text{FDI}_4 \quad [3] + d_{1} R_1 \ldots + d_{6} R_6$$

If X is a “pattern” variable the interactive model is then:

$$SM = a + b_{1} X_1 + b_{2} X_2 \ldots + b_{16} X_16 + c_{1} R_1 + \ldots + c_{6} R_6 \quad [4]$$

The hypothesis that a relationship between social modernization and FDI exists and is interactive rather than additive or direct is then established by testing both models sequentially. With both independent variables in dummy variable form, each aspect of social modernization is regressed first on the additive (3) and then on the interactive (4) model and the variance captured (R2) compared. The interactive hypothesis is taken as confirmed if the appropriate F ratio shows that the interactive
model accounts for a significantly greater percentage of the variance of a
given aspect of social modernization than does the additive model.¹²

RESEARCH FINDINGS

Factor analysis (using a principal axis solution) was applied to 17 raw
indicators of social modernization and the factors extracted were then
submitted to a Varimax rotation. (An oblique, Promax, rotation was also
attempted with virtually identical results.) Both routines are widely used
and require little discussion. The raw indicator variables are listed in Table
1 and the matrix of rotated factor loadings in Table 2. (Appendix II
provides a more detailed list of variables including data on measurement
and sources.)¹³

The loadings (shown in Table 2) are a measure of the degree to which a
given variable is associated with a factor; they are correlation coefficients
between variables and factors. The column headed by h² contains
 communalities or the percentage of the common variance of a given
variable accounted for by the factors in total; it is the sum of the squares
of the loadings of a variable on each of the factors. As the factors were
rotated orthogonally, the loadings define the major clusters of interrela-
tionships among the variables and the factors are independent. While
interpretation is necessarily subjective, the meaning of a factor may be
inferred from those variables loading most highly on it.

¹2. Significance is determined via the sequential F test which determines the
value (e.g., the significance) of the last term added to a regression equation.
Following Draper and Smith (1966: 119), the sum of squares due to regression is
broken down into two parts; one including and one not including the additional
term. The formula for the F ratio is thus:

\[ F = \frac{\text{mean square due to regression including additional term}}{\text{mean square due to residual variation including additional term}} - \frac{\text{mean square due to regression without additional term}}{\text{mean square due to residual variation including additional term}} \]

Once the term cFDI is dropped from equation 1, regressing social modernization on
equations 3 and 4 sequentially is analogous to testing for interaction via 2. The
independent variables are, of course, categorized in 3 and 4.

¹³. See Kobrin (1975) for a more complete discussion of the variables and their
sources.
Inspection of the factor matrix reveals that the three rotated factors together capture 71% of the variance that the 17 variables have in common. Thus, a considerable gain in simplicity has been achieved at a relatively low cost.

The variables which load most highly on the first factor represent the movement from diffused and traditional agricultural roles into more differentiated roles in the mining and manufacturing industries and commercial agriculture and the associated general societal changes. It is thus named role differentiation or roles.

The second factor is the most clearly defined and the easiest to interpret. It includes literacy, the school enrollment ratios, the index of human resource utilization, urbanization, and transportation. As all are

TABLE 1
Social Indicator Variables

1. The percentage of the active population in traditional agriculture.
2. The percentage employed in mining and manufacturing industries.
3. The character of agricultural organization reflecting the range between peasant farming and modern commercial agriculture.
4. The importance of the indigenous middle class.
5. The extent of dualism.
6. Modernization of outlook.
7. The efficiency and modernization of the bureaucracy.
8. The extent of interest articulation by associational groups.
9. Literacy.
10. First and second level school enrollment ratio.
11. Third level school enrollment ratio.
12. Human resource utilization; ten plus eleven with the latter weighted by a factor of five.
13. Urbanization; the percentage of the population in cities of 100,000 or more.
14. Transportation; an index of road and rail length per unit of area adjusted for the concentration of population.
15. Basic family structure reflecting a range from tribal units to nuclear families.
16. The extent of interest articulation by nonassociational or ascriptive groups; ethnic, kinship, and lineage groups, and the like.
17. An index of cultural and linguistic fractionalization.
measures (or requisites of) horizontal or vertical mobility, the factor is taken as a measure of mobility and will be so named.

The third factor can be interpreted as encompassing the transition from tribes and extended families to nuclear families, a corresponding lessening of the influence of nonassociational groups and increasing integration and homogeneity of society as cultural and linguistic differences break down. The third factor then describes basic changes in the organization of a society and is named social organization.

SOCIAL MODERNIZATION AND INDUSTRIALIZATION

The next step involves establishing a relationship between the factor scores (aspects of modernization) and industrialization. While, as expected,

| TABLE 2 |
| Factor Analysis of Social Modernization |

| Variables         | Roles | Mobility | Social Organization | \( h^2 \) |
|-------------------|-------|----------|---------------------|----------|
| 1. % Agriculture  | -.69  | -.48     | -.38                | .85      |
| 2. % Min. and Mfg.| .59   | .51      | .32                 | .71      |
| 3. Agric. Org.    | .69   | .32      | .24                 | .64      |
| 4. Middle Class   | .55   | .47      | .27                 | .59      |
| 5. Dualism        | .78   | .47      | .14                 | .85      |
| 6. Mod. Out.      | .85   | .15      | .28                 | .83      |
| 7. Bureaucracy    | .55   | .29      | .22                 | .42      |
| 8. Assoc. Groups  | .62   | .36      | .37                 | .64      |
| 9. Literacy       | .48   | .50      | .48                 | .72      |
| 10. Enrol. 1 and 2| .41   | .63      | .22                 | .61      |
| 11. Enrol. 3      | .35   | .74      | .31                 | .81      |
| 12. Human Res.    | .33   | .84      | .31                 | .91      |
| 13. Urbanization  | .44   | .63      | .38                 | .72      |
| 14. Transportation| .37   | .65      | .36                 | .70      |
| 15. Family        | .43   | .30      | .69                 | .74      |
| 16. Non. Assoc. Groups | -.37  | -.21    | -.71                | .68      |
| 17. Fractionalization | -.09  | -.40    | -.65                | .58      |

Percent of Total Variance | 29 | 25 | 17 |
roles and industrialization are highly correlated \((r^2 = .81)\), mobility and social organization (the second and third factors) turn out to be virtually uncorrelated with industrialization. While this was certainly not anticipated—a high correlation between the aspects of modernization and industrialization should follow from the definition of the former—it is a function of the very high correlation of the first factor with industrialization and the statistical independence of factor scores.

Factor analysis extracts statistically independent factors which are, by definition, maintained through an orthogonal rotation. In practice, the correlation between factors (or more precisely factor scores) is virtually zero. Thus, in the case at hand, if the first factor (roles) is both highly correlated with industrialization and independent of the second and third factors (mobility and social organization), then the latter two factors must be virtually uncorrelated with industrialization. While the "problem" this presents is exogenous to the factor analysis (it arises only because we want to relate the resulting scores to another variable—industrialization) it prevents use of the scores for the second and third factors in further analysis. The "problem" was circumvented by using the factor loadings as weights in simple linear indices composed of the variables loading most highly on the second and third factors. While this procedure sacrifices the independence of the factor scores, it allows development of indices that represent the concepts embodied in the second and third factors which can be used in further analysis.

The correlations between roles (factor scores), mobility and social organization (indices), and industrialization are shown in Table 3. While mobility and social organization correlate strongly and positively with industrialization, they do so at a lower level than does roles.

| TABLE 3          |
|------------------|
| Correlations of Revised Indices of Social Modernization with Industrialization |
| \(r^2\)          |
|------------------|
| Roles            | .81          |
| *Mobility        | .72          |
| *Social Organization | .49        |

*revised indices
Equations 5-7 show the results of regressing each of the aspects of social modernization on the index of industrialization and the dummy variables representing region. (Only terms with coefficients significant at the .05 level are shown. The t statistic is shown in parentheses.)

\[
\begin{align*}
\text{Roles} & = 2.52 + 4.07\text{IND} - .39\text{Afr.} + .56\text{Eur} (R^2 = .87) \\
& \quad (10.97) \quad (-2.08) \quad (2.14) \quad (df = 52) \quad [5] \\
\text{Mob.} & = -6.63 + 18.50\text{IND} \quad (R^2 = .80) \\
& \quad (8.94) \quad (df = 52) \quad [6] \\
\text{SOC. Org.} & = 1.80 + 4.63\text{IND} - 4.08\text{Afr.} + 4.41\text{LA} + 4.67\text{Eur} \quad (R^2 = .85) \\
& \quad (2.60) \quad (-4.56) \quad (4.76) \quad (3.72) \quad (df = 52) \quad [7]
\end{align*}
\]

Two points are in order. First, the Near East, North Africa, and Asia were not significant (at the .05 level) in any of the equations. Only the "least" industrialized region (Africa) and the two "most" industrialized regions (Latin America and Europe) appear. Thus, region—as a proxy for preindustrialized social structures and/or relationships with the West—is significant only at the extremes of industrialization. Second, while adding region resulted in an increase of only six and eight points of variance explained respectively for roles and mobility, it resulted in an increase of the $R^2$ for social organization from .49 to .85. Thus, factors exogenous to industrialization—in this instance we would suggest preindustrial social structures—account for half of the variance of social organization. This appears reasonable; tribal organizations in Africa and the nuclear family in parts of Latin America both preceded the introduction of industrialization and are probably the most resistant to change of the three aspects studied (Levy, 1969: 232; Moore, 1963: 110; Tumin, 1960: 315).

**FOREIGN DIRECT INVESTMENT**

At this point the hypothesis regarding the nature of the relationship between social modernization and FDI (relative to economic size) can be tested. First, FDI is simply added to equations 5-7 as a second independent variable to determine if a direct relationship exists. (Regional variables are not shown; as before the t statistic is in parentheses.)
It is clear that a direct or additive relationship cannot be established between any of the aspects of social modernization and FDI. Only in the case of social organization does the coefficient of FDI even approach significance at the .05 level and adding FDI does not increase the explained variance (R²) compared with equations 5-7.

As described above, the interactive hypothesis was tested by comparing the R² of categorized additive and interactive models. The additive models are identical to equations 8-10 excepting that IND and FDI are categorized and represented by two sets of three zero-one dummy variables (the dummy variables representing region are also included in each instance). The regression equations are shown in Appendix III.

The interactive models consist of each of the aspects of modernization regressed on the pattern variables created from FDI and industrialization and the dummies representing region. As industrialization and FDI were both transformed into four level categorical variables, their combination resulted in 16 possible pattern variables (a 4 x 4 matrix). However, it should be noted that all interactive models did not contain 16 pattern variables. First, some of the pattern variables did not contain any cases.

14. Each of the aspects of social modernization was regressed on a continuous interactive model (equation 2). As can be seen below, the coefficient of the interactive term (cFDI x IND) did not approach significance at the .05 level in any of the equations. (The t statistic is shown in parentheses and regional dummy variables are not reported.)

\[
\text{Roles} = -2.52 + 3.92\text{IND} - .07\text{FDI}\times\text{IND} \quad (R^2 = .87) \\
\quad (7.97) \quad (-.66) \quad (df = 49)
\]

\[
\text{Mobility} = -7.51 + 18.8\text{IND} - .02\text{FDI}\times\text{IND} \quad (R^2 = .80) \\
\quad (6.94) \quad (-.37) \quad (df = 49)
\]

\[
\text{SOC. Org.} = -5.90 + 8.97\text{IND} + 2.02\text{FDI}\times\text{IND} \quad (R^2 = .85) \\
\quad (7.63) \quad (.31) \quad (df = 49)
\]
Second, pattern variables were often combined where logical and where the combination did not result in any loss of explanatory power.

Equations 11-13 show each of the aspects of social modernization regressed on the pattern variables. Again, only variables significant at the .05 level are shown and the regional variables are not presented. In each instance $X_1$ (FDI$_1$IND$_1$) was dropped to avoid redundancy and $X_4$ (FDI$_1$IND$_4$) contains no cases. Where variables have been combined, they are shown as sums. (Appendix III contains the full interactive models in matrix form.)

Roles = $-1.99 + 2.28X_3 + 1.07(X_5 + X_9 + X_{13}) + 1.38X_6 + 1.94X_7 + 2.57X_8 + 1.80(X_{10} + X_{14}) + 1.58X_{11} + 2.65X_{12} + 2.52X_{15} + 2.30X_{16}$  \( (R^2 = .85) \)  \( (df = 41) \)  

Mob. = $-4.59 + 11.56X_3 + 5.51X_6 + 8.12X_7 + 10.99X_8 + 6.47(X_9 + X_{13}) + 7.78(X_{10} + X_{14}) + 6.53(X_{11} + X_{15}) + 10.40(X_{12} + X_{16})$  \( (R^2 = .78) \)  \( (df = 41) \)

Soc. Org. = $1.68 + 5.32X_2 + 5.94X_3 + 4.61X_{16}$  \( (R^2 = .89) \)  \( (df = 37) \)

The $R^2$ for the categorized additive model (Appendix III) and the interactive model (equations 11-13) are shown in Table 4. It should be noted that categorization of the additive model did not result in a great

| Aspect              | $r^2$ Additive | $r^2$ Interactive | F Ratio |
|---------------------|--------------|------------------|--------|
| Roles               | .80          | .85              | 2.92   |
| Mobility            | .71          | .78              | 3.40   |
| Social Organization | .85          | .89              | 2.34   |

All F ratios are statistically significant at the .05 level.
loss of explanatory power. The $R^2$s shown in Table 4 are only four to seven points lower than those of the continuous additive equations (8-10).

As can be seen, the interactive model captures a significantly larger proportion of the variance of each aspect of social modernization. While the categorized interactive equations obviously contain more terms than the comparable interactive models, significance is computed via the sequential F test (see note 12) which measures the value of adding a term to a model which did not originally contain the term. The F test takes differences of degrees of freedom into account. Thus, based upon the analysis to this point we can conclude: (1) that there is no evidence of a direct or additive relationship between FDI (per dollar of GDP) and social modernization and (2) that an interactive relationship is consistent with the data.

While caution is necessary when analyzing the regression coefficients in the categorized interactive models, several points can be noted. First, as would be expected from the very strong correlation between each of the aspects of social modernization and industrialization, the coefficients are generally larger at higher levels of industrialization. Second, the relationship between social modernization and industrialization is not the same at all levels of FDI; interaction is present.\(^{15}\) Third, with one insignificant exception, all coefficients have positive signs. FDI intensifies the relationship between social modernization and industrialization. Last, there is no pattern of interaction obvious from the coefficients of the pattern variables.

CONCLUSIONS

Any conclusions that can be drawn from this research are limited by problems with both the data and the methodology. As in most cross-national research across large numbers of developing countries, the raw data are weak in terms of both accuracy and comparability (Gillespie, 1971: 21; McGanahan, 1972: vii). Furthermore, the usual problems encountered when one attempts to establish causal relationships at the societal level are exacerbated by reliance on cross-sectional analysis. Investigating historical phenomena cross-sectionally requires an assump-
tion that individual observations represent points on a longitudinal path (Adelman and Morris, 1967: 149; Russett, 1966: 104). This obviously does not present a very good picture of reality, and while not destroying the usefulness of the analysis, it limits how far one can take the results.

With these caveats in mind the following conclusions are drawn. First, research findings are consistent with the hypothesis. FDI, as a direct and continuous agent of intercultural contact, intensifies the relationship between industrialization and social modernization. The changes in social structure that have accompanied capitalist industrialization in the past (and which, it can be argued, are its requisites) are accelerated if foreign investment is relatively more important in a given economy.

This conclusion is consistent with both a mainstream and the emerging radical interpretation. If one accepts capitalist industrialization within the context of the existing (or even the “new”) international economic order as the goal of development, then FDI can be seen as accelerating changes necessary to achieve that desideratum. On the other hand, if one views capitalist development and concomitant ties to the international economic system in terms of dependency relationships, FDI is obviously seen as an agent of that process. However, the research findings are not consistent with the Baran/Frank view of dependence which assumes that the extension of the institutions of the world capitalist system into the poor countries inhibits or even prevents industrialization (Baran, 1970). The changes in social structure observed, admittedly through statistical indicators, reflect broad changes in society: urbanization, the movement out of agriculture and into industry, increased access to education, the breakup of extended families and clans, the articulation of interest through voluntary associations, and so on. It is difficult to reconcile this type of disruption with a theory of underdevelopment which restricts the benefits of foreign investment and industrialization to a small elite.

Dependence, while transformed, has certainly not lost relevance. The admission that industrialization is taking place and that FDI can intensify the resulting societal changes does not imply anything about the distribution of benefits either within or between countries and it certainly does not imply anything about either the freedom of societies to plan their own development or their ability to develop the indigenous institutions necessary for economic and technical independence. On the contrary, there is good evidence, for example, that FDI may limit access to alternative sources of technology, increase dependence upon imported technology, and inhibit the development of an indigenous scientific and/or
technological capacity (UNCTAD, 1975). Given the view of FDI as a vehicle for cross-cultural transfer expressed in this research, one would also expect that foreign investment could result in cultural dependence. The "demonstration effect" resulting from the introduction of Western consumer goods and advertising may result in industrialization based upon luxury products, which are inappropriate given the overall income level, sold to a small but wealthy elite.

If the research findings are consistent with more than one ideological position, policy implications are obviously dependent upon the world view of the policy maker. At one extreme a socialist society would, and should, reject broadscale foreign investment. However, the only alternative need not be unrestricted acceptance of FDI. Steps can be taken to maximize its benefits, some of which are undeniably unique, and to minimize its costs. Under a wide range of circumstances, and given a proper framework of regulation, agreements allowing the participation of foreign enterprise should provide for both a net positive contribution to indigenously determined development goals and a reasonable return to the investor. Warren, for example, concludes that "conflicts (over foreign manufacturing investment) occur within a long-term framework of eventual accommodation mutually acceptable and mutually advantageous to both sides" (Warren, 1973: 30).

This requires a good deal more information than is currently available to government policy makers. While increased disclosure on the part of the multinationals is an absolute prerequisite, much additional research on the effects of foreign investment is needed.

REFERENCES

ADELMAN, I. and C. T. MORRIS (1967) Society, Politics and Economic Development. Baltimore: Johns Hopkins Press.

BANKS, A. S. (1974) "Industrialization and development: a longitudinal analysis." Econ. Development and Cultural Change 22: 320-337.

--- (1971) Cross-Polity Timeseries Data. Cambridge: MIT Press.

--- and R. B. TEXTOR (1963) A Cross Polity Survey. Cambridge: MIT Press.

BARAN, P. A. (1970) "On the political economy of backwardness," in R. I. Rhodes (ed.) Imperialism and Underdevelopment: A Reader. New York: Monthly Review.

BLALOCK, H. M., Jr. (1969) Theory Construction. Englewood Cliffs, N.J.: Prentice-Hall.
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CHUDSON, W. A. (1971) The International Transfer of Commercial Technology to Developing Countries. New York: UNITAR.

DEUTSCH, K. W. (1966) "The theoretical basis of data programs," in Merritt and Rokkan (eds.) Comparing Nations: The Use of Quantitative Data in Cross-National Research. New Haven: Yale Univ. Press.

DRAPER, N. R. and H. SMITH (1966) Applied Regression Analysis. New York: John Wiley.

DUNNING, J. H. (1970) Studies in International Investment. London: Allen & Unwin.

FERNANDEZ-HURTADO, E. (1967) "Private enterprise and government in Mexican development," in E. Perez-Lopez (ed.) Mexico's Recent Economic Growth: The Mexican View. Austin: Univ. of Texas Press.

FIRTH, R. D. (1959) Economics of the New Zealand Maori. Wellington: R. E. Owen.

FRIEDLAND, W. H. (1969) "A sociological approach to modernization," in C. Morse et al. (eds.) Modernization by Design: Social Change in the Twentieth Century. Ithaca: Cornell Univ. Press.

GILLESPIE, J. V. (1971) "An introduction to macro cross-national research," in J. V. Gillespie and Betty A. Neusold (eds.) Macro Quantitative Analysis: Conflict, Development and Democratization. Beverly Hills: Sage.

HERSKOVITS, M. J. (1961) "Economic change and cultural dynamics," in R. Braibanti and J. Spengler (eds.) Tradition, Values and Socioeconomic Development. Durham: Duke Univ. Press.

HOLELITZ, B. F. (1960) Sociological Aspects of Economic Growth. Glencoe, Ill.: Free Press.

HYMER, S. and R. ROWTHORN (1970) "Multinational corporations and international oligopoly: the non-American challenge," in C. P. Kindleberger (ed.) The International Corporation. Cambridge: MIT Press.

KERR, C. et al. (1971) "Postscript to industrialism and industrial man." International Labour Rev. 103: 519-540.

KOBRIN, S. J. (1975) "Foreign direct investment, industrialization and social change: acculturation and modernization in developing countries." Ph.D. dissertation, University of Michigan.

KUZNETS, S. (1966) Modern Economic Growth. New Haven: Yale Univ. Press.

LEVY, M. J., Jr. (1969) Modernization and the Structure of Societies: A Setting for International Affairs. Princeton: Princeton Paperback.

LEWIS, J. W. (1969) "The social limits of politically induced change," in C. Morse et al. (eds.) Modernization by Design: Social Change in the 20th Century. Ithaca: Cornell Univ. Press.

McGRANAHAN, D. V. (1972) Contents and Measurement of Socio-Economic Development. New York: Praeger.

McMILLIAN, C., R. GONZALEZ, and L. G. ERICKSON (1964) International Enterprise in a Developing Economy: A Study of U.S. Business in Brazil. East Lansing: Michigan State Univ. Press.

MERRITT, R. L. and S. ROKKAN [eds.] (1966) Comparing Nations: The Use of Quantitative Data in Cross-National Research. New Haven: Yale Univ. Press.
MOORE, W. E. (1969) "Changes in occupational structures," in W. A. Faunce and W. H. Form (eds.) Comparative Perspectives on Industrial Society. Boston: Little, Brown.

--- (1965a) Impact of Industry. Englewood Cliffs, N.J.: Prentice-Hall.

--- (1965b) Industrialization and Labor: Social Impacts of Economic Development. New York: Russell & Russell.

--- (1963) "Industrialization and social change," in B. F. Hoselitz and W. E. Moore (eds.) North American Conference on the Social Implications of Technological Change. Paris: Mouton.

NUNNALLY, J. C. (1967) Psychometric Theory. New York: McGraw-Hill.

RICHMAN, B. and M. COPEN (1972) International Management and Economic Development. New York: McGraw-Hill.

RUSSETT, B. M. (1966) "The Yale political data program: experience and prospects," in Merritt and Rokkan (eds.) Comparing Nations: The Use of Quantitative Data in Cross-National Research. New Haven: Yale Univ. Press.

--- (1964) 1964 World Handbook of Political and Social Indicators. New Haven: Yale Univ. Press.

SLOTKIN, J. S. (1960) From Field to Factory: New Industrial Employees. Glencoe, Ill.: Free Press.

SPENGLER, J. (1961) "Theory, ideology, non-economic values and political economic development," in R. Braibanti and J. Spengler (eds.) Tradition, Values, & Socio-Economic Development. Durham: Duke Univ. Press.

STIKKER, D. W. (1968) The Role of Private Enterprise in Investment and the Promotion of Exports in Developing Countries. New York: UNCTAD.

SUTIS, D. H. (1957) "The use of dummy variables in regression analysis." J. of the Amer. Statistical Assn. 52: 548-551.

SUNKEL, O. (1972) "Big business and dependence." Foreign Affairs 50: 517-531.

THORELLI, H. B. (1966) "The multinational corporation as a change agent." Southern J. of Business 3: 1-9.

TAYLOR, C. L. and M. C. HUSON (1972) World Handbook of Political and Social Indicators. New Haven: Yale Univ. Press.

TUMIN, M. M. (1960) "Competing status systems," in W. E. Moore and A. Feldman (eds.) Labor Commitment and Social Change in Developing Areas. New York: Social Sci. Research Council.

UNCTAD (1975) Major Issues Arising from the Transfer of Technology to Developing Countries. New York: UNCTAD.

United Nations (1973) Multinational Corporations in World Development. New York: United Nations.

VERNON, R. (1963) The Dilemma of Mexico's Development. Cambridge: Harvard Univ. Press.

WARREN, B. (1973) "Imperialism and Capitalist Industrialization." New Left Rev. 81: 3-44.

WEISSKOPF, T. E. (1972) "Capitalism, underdevelopment and the future of the poor countries," in J. N. Bagwati (ed.) Economics and World Order. New York: Free Press.
## APPENDIX I

### The Country List

**Africa**

- Cameroon
- Congo (Kinshasa)\(^a\)
- Ethiopia
- Ghana
- Ivory Coast
- Kenya
- The Malagasy Republic
- Nigeria
- Senegal
- South Africa\(^b\)
- Sudan
- Uganda
- Tanzania
- Zambia

**North Africa**

- Algeria
- Libya
- Morocco
- Tunisia
- United Arab Republic

**Latin America**

- Costa Rica
- Dominican Republic
- El Salvador
- Guatemala
- Honduras
- Jamaica
- Mexico
- Nicaragua
- Panama
- Argentina
- Bolivia
- Brazil
- Chile
- Colombia
- Ecuador
- Peru
- Uruguay
- Venezuela

**The Near East**

- Iran
- Iraq
- Jordan
- Lebanon
- Syria

**Asia**

- Burma
- Cambodia
- Ceylon
- India
- Indonesia
- Malaysia
- Nepal
- Pakistan
- Philippines
- South Korea
- Taiwan
- Thailand
- Vietnam

**Europe**

- Greece
- Portugal\(^b\)
- Spain
- Turkey

---

\(^a\) Now Zaire.

\(^b\) Not included in the analysis of foreign direct investment.
APPENDIX II
Sources and Measurement of Social Variables

1. Percentage of the economically active population in traditional agriculture (Adelman and Morris, cross-checked against UN and I.L.O. data).

2. Percentage of the economically active population in mining and manufacturing (Yearbook of Labor Statistics).

3. Character of agricultural organization reflecting the range from peasant farming to modern commercial agriculture. Countries were divided into groups based upon area studies and the classifications were then validated through interviews with experts (Adelman and Morris).

4. Importance of the indigenous middle class. An estimate based upon (1) the percentage of the population engaged in middle class occupations and (2) a qualitative assessment of the importance of expatriates (Adelman and Morris).

5. The extent of dualism. A qualitative estimate of the degree of separation of the traditional and modern sectors. Countries are divided into groups (as described under three above) ranging from an overwhelmingly traditional economy to the relatively complete integration of traditional and modern sectors (Adelman and Morris).

6. Modernization of outlook. A qualitative estimate (perhaps the most subjective used in this study) of the modernization (in terms of lifestyle) of educated urban groups and the degree of acceptance of programs of social and political modernization among both urban and rural populations (Adelman and Morris).

7. The efficiency and modernization of the bureaucracy. An estimate (countries were divided into four groups) of the efficiency and ascriptive versus achievement orientation of the civil service. Efficiency is judged in terms of functionally specific relationships and rational decision-making (Banks and Textor).

8. The extent of interest articulation by associational groups. This reflects the influence of voluntary groups, such as trade unions and civic associations (Banks and Textor).

9. Literacy. The percentage of the adult population (generally over 15 years of age) that meets a given country’s standard of literacy (Taylor and Hudson).

10. First and second level school enrollment ratio. The percentage of appropriate age groups enrolled in primary and secondary schools (Taylor and Hudson).

11. Third level enrollment ratio. The percentage of appropriate age groups enrolled in university (UNESCO Statistical Yearbook).

12. An index of human resource utilization. A linear combination of variables 10 and 11 with the latter weighted by a factor of five. The index is suggested in Harbison and Myers, Education, Manpower and Economic Development. New York: McGraw-Hill, 1964.

13. Urbanization. The percentage of the population living in cities of 100,000 or more (Taylor and Hudson, and Banks).

14. Transportation. An index, original to this research, intended as a measure of the potential for horizontal mobility and economic independence. The index is composed of a measure of road and rail length per unit of area multiplied by an index of the concentration of the population. The latter is scored so that the more concentrated the population (a greater proportion living in a few large cities rather than in many smaller ones) the higher the index. It is assumed that, ceteris paribus, countries with more diffused populations will tend to have larger transportation networks relative to area (The Statesman’s Yearbook. London: MacMillan, 1967 and
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1972; Ginsburg, Norton. Atlas of Economic Development. Chicago: University of Chicago Press, 1961; and Taylor and Hudson).

15. Basic family structure. Countries were grouped into three classes: those in which tribal allegiances are widespread, those in which the extended family is the norm and those in which the nuclear family predominates (Adelman and Morris).

16. The extent of interest articulation by nonassociational groups. This reflects the importance of ascriptive groups such as clans and tribes in a society. The index is qualitative; countries were divided into groups based upon country studies (Banks and Textor).

17. Cultural and linguistic fractionalization. Countries are scored on a scale ranging from .00 (extremely homogeneous) to .99 (extremely fractionalized). Atlas Narodov Mira, Academy of Sciences, Moscow (reported in Taylor and Hudson.)

SOURCE TO APPENDIX

Irma Adelman and Cynthia Taft Morris, Society, Politics and Economic Development. (Baltimore: Johns Hopkins University Press, 1967).

Arthur S. Banks, Cross-Polity Time-Series Data. (Cambridge: MIT Press, 1971).

Arthur S. Banks and Robert B. Textor, A Cross-Polity Survey. (Cambridge: MIT Press, 1963).

Charles Lewis Taylor and Michael C. Hudson, World Handbook of Political and Social Indicators: Second Edition. (New Haven: Yale University Press, 1972).

APPENDIX III

Categorized Models

( t statistics are in parentheses; only coefficients significant to the .05 level are reported.)

Roles = \(-1.21 + .68 \text{IND}/2 + 1.13 \text{IND}/3 + 1.88 \text{IND}/4 + .99 \text{EUR} \)

\( (3.08) \quad (4.46) \quad (6.07) \quad (2.56) \)

\( R^2 = .80 \quad \text{df} = 48 \)

Mobility = \(.08 + 2.54 \text{IND}/2 + 4.83 \text{IND}/3 + 8.41 \text{IND}/4 \)

\( (2.12) \quad (3.47) \quad (4.95) \)

\( R^2 = .71 \quad \text{df} = 48 \)

Soc. Org. = \(4.97 + 2.71 \text{IND}/4 - 3.59 \text{Afr.} + 4.73 \text{L.A.} + 4.47 \text{EUR} \)

\( (2.31) \quad (3.28) \quad (4.78) \quad (3.05) \)

\( R^2 = .85 \quad \text{df} = 48 \)

Interactive Models

( t statistics are in parentheses and * if significant at the .05 level; regional variables are not reported.)

Roles

\( R^2 = .85 \quad \text{df} = 41 \)
|                | IND1               | IND2               | IND3             | IND4             |
|----------------|------------------|------------------|-----------------|-----------------|
| FDI/GDP1      | $X_1 + X_2$      |                  |                 | $2.28X_3$       |
|                |                  |                  |                 | $(3.99^*)$      |
| FDI/GDP2      | $1.07(X_5 + X_9 + X_{13})$ | $1.38X_6$       | $1.94X_7$       | $2.57X_8$       |
|                | $(1.94)$         | $(2.85^*)$       | $(3.84^*)$      | $(4.78^*)$      |
| FDI/GDP3      |                  | $1.80(X_{10} + X_{14})$ | $1.58X_{11}$    | $2.65X_{12}$    |
|                |                  | $(2.94^*)$       | $(3.08^*)$      | $(4.55^*)$      |
| FDI/GDP4      |                  |                  |                 |                 |
|                |                  |                  |                 | $2.52X_{15}$    |
|                |                  |                  |                 | $(3.64^*)$      |
|                |                  |                  |                 | $2.30X_{16}$    |
|                |                  |                  |                 | $(3.76^*)$      |
| Mobility      | $R^2 = .78$      |                  |                 |                 |
|                | df = 41          |                  |                 |                 |
| FDI/GDP1      | $X_1$            | $3.07X_2$        | $11.56X_2$      | $X_4$           |
|                |                  | $(.89)$          | $(3.76^*)$      |                 |
| FDI/GDP2      | $3.03X_5$        | $5.51X_6$        | $8.12X_7$       | $10.99X_8$      |
|                | $(.98)$          | $(2.08^*)$       | $(2.99^*)$      | $(3.81^*)$      |
| FDI/GDP3 & 4  | $6.47(X_9 + X_{13})$ | $7.88(X_{10} + X_{14})$ | $6.53(X_{11} + X_{15})$ | $10.04(X_{12} + X_{16})(3.46^*)$ |
|                | $(2.09^*)$       | $(2.39^*)$       | $(2.36^*)$      | $(3.46^*)$      |

Social Organization

|                | IND1               | IND2               | IND3             | IND4             |
|----------------|------------------|------------------|-----------------|-----------------|
| FDI/GDP1      | $X_1$            | $5.32X_2$        | $5.94X_3$       | $X_4$           |
|                |                  | $(2.14^*)$       | $(2.68^*)$      |                 |
| FDI/GDP2      | $2.89X_5$        | $2.76X_6$        | $2.70X_7$       | $3.58X_8$       |
|                | $(1.27)$         | $(1.45)$         | $(1.38)$        | $(1.72)$        |
| FDI/GDP3      | $3.45X_9$        | $3.08X_{10}$     | $2.59X_{11}$    | $4.31X_{12}$    |
|                | $(1.48)$         | $(1.28)$         | $(1.30)$        | $(1.91)$        |
| FDI/GDP4      | $-2.03X_{13}$    | $2.66X_{14}$     | $4.14X_{15}$    | $4.61X_{16}$    |
|                | $(-.75)$         | $(1.01)$         | $(1.56)$        | $(1.94)$        |

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