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ABSTRACT

A scale of national social security programs is developed and related to economic development, literacy, urbanization, and a political-representativeness index. The degree of social security coverage of a nation's population is most powerfully correlated with its level of economic development, but when economic development is controlled for, the more representative governments introduce programs earlier than the less representative governments. A separate analysis of the relationship between changes in political representativeness and changes in social security legislation found that new social security programs were more likely to follow positive than negative political changes.

Comparative sociological studies of political systems in modern nations have, in recent years, experienced impressive theoretical development. Attention has been focused on the "functional prerequisites" for political democracies, the structural conditions generating political stability or instability in "democratic" states, and the value structures necessary for a democratic order.[2] A number of excellent studies of political stability in non-democratic nations exist, but when more than one nation is studied, the comparison is usually limited to somewhat similar underdeveloped nations. When comparisons between democratic and non-democratic nations are made, the number of observations (nations) is severely limited by the absence of scales and indexes relevant to the analytical variables guiding the analysis.[3]

Elsewhere the author has developed and tested a scale of the complexity of national political organization.[4] The development of similar scales that would increase the number of nations in comparative studies and serve to aid in the selection of a few nations to fit the requirements of special studies is clearly a desirable goal. One aspect of this article is the development of a scale that can be applied to nations throughout the world. It measures the development of national programs to provide populations with insurance against severe loss of income under stated conditions, that is, the general level of social

[1] My thanks to E. Palmore for criticism and helpful suggestions. The opinions expressed are those of the author and do not reflect the opinion of the Social Security Administration.

[2] William Kornhauser (*The Politics of Mass Society* [Glencoe, Illinois: Free Press, 1959]), in particular, gives a detailed discussion of the concept of "representativeness" and democratic pluralism. Robert R. Alford (*Party and Society: The Anglo-American Democracies* [Chicago: Rand McNally & Co., 1963]) examines longitudinal data bearing on the relations between political parties and the social structure of five democracies. S. M. Lipset ("Democracy and the Social System," in Harry Eckstein [ed.], *Internal War: Problems and Approaches* [New York: Free Press of Glencoe, 1964]) develops a framework for analyzing the value patterns that support democratic government.

[3] See Dick Simpson, "The Congruence of Political, Social and Economic Aspects of Development," *International Development Review,* VI (June, 1964), 21–25.

[4] P. Cutright, "National Political Development: Measurement and Analysis," *American Sociological Review,* XXVIII (April, 1963), 253–64. That study also argues the case for scales rather than crude qualitative categories in international studies. See n. 12 of the present article for a description of the revised political representativeness index used in this study.

security development in the nations of the world. Because such national programs are an output of government activity, the analytical value would seem to go beyond the concrete phenomena directly measured. The scale can be used as a yardstick against which governments with varying characteristics can be compared.[5] It may allow one to measure, for example, one aspect of what democratic governments *do* that may distinguish them from nondemocratic governments.[6]

In this paper we develop an index of the general level of social security in different nations that is a direct consequence of one kind of government activity (i.e., legislation or government order). We then analyze the relationship of this index to an index measuring the political representativeness of nations and to other indicators of economic and social development. The general purpose of the analysis is to assess the importance of representativeness in governmental organization to the social security and welfare of national populations. Our working hypothesis is that governments in nations whose political structures tend to allow for greater accessibility to the people of the governing elite will act to provide greater social security for their populations than that provided by governments whose rulers are less accessible to the demands of the population. The theoretical contribution of this analysis is toward an application of the construct of representativeness (or accessibility) to actual government activity.

[5] An inventory of municipal services in Bristol, England, and Seattle, Washington, revealed remarkable similarities "even in two cities where the govermnental power is based on different philosophies. In Bristol the Labor (socialist) party holds political dominance with its leaders in almost all key legislative positions. In Seattle, a conservative local government rules (Republican). Yet each city has almost the same amount of municipal ownership and control" (William H. Form and Delbert C. Miller, *Industry, Labor and Community* [New York: Harper & Bros., 1960], p. 501).

[6] There has been relatively little systematic work on the consequences for national populations of living under more or less representative governments. Studies of this sort often compare only totalitarian and democratic governments, highlighting the impact of government activity on the expression of individual freedoms.

Unfortunately, an inventory of the activities of national governments, or even a conceptual scheme to aid in their classification, is not at hand. Comparative studies of the outputs of national governments are limited by the lack of scales of those activities, and relatively little attention has been given to classification of the activities. Available indicators of government activities are not, however, being fully exploited. Thus, studies using measures of education, health, or demographic conditions do not examine these phenomena as though they were related to government activity. For example, we are more likely to see a certain level of education as a requisite for democratic government than to view government activity as vital for the development of national education levels.

MEASURING NATIONAL SOCIAL SECURITY

Perhaps one of the more striking developments of the twentieth century has been the effort by national governments to protect that portion of the population that is, for one reason or another, not in the employed labor force. National social-insurance programs, initiated in Europe near the end of the nineteenth century, first dealt with the problem of income loss resulting from industrial work injury, a problem that was greatly intensified by the expansion of industrial activity. As urbanization and industrialization (and their social and political correlates) continued, social-insurance programs covering other types of risks—sickness, old age, unemployment—began to appear.

Although there exists some detailed information on the extent of coverage or the level of benefits provided by various national social-insurance schemes, these data are available for only a few nations. In a study that concentrated on the economic correlates of certain social-insurance programs, Henry Aaron was able to locate adequate detailed data on twenty-two nations—all economically well developed

—and subjected these data to an intensive multiple-regression dummy variable analysis.[7] These data on program coverage and benefit levels showed that the most powerful explanatory variables were (1) years of experience with the program (number of decades since its initiation) and (2) various indicators of national economic development. If one knows how long a nation has had certain programs and what its level of economic development is, then one can assess how the nation will rank in coverage and benefit levels relative to the remaining twenty-one nations in the sample. (The homogeneous economic and political character of the nations in Aaron's study should be noted. Correlations are often low within homogeneous groups; the present instance is an exception to this rule.) Aaron suggests that the relationships among his variables may not be the same in less-developed nations; but the question is not whether the regression is the same but whether Aaron's detailed study can be applied to a slightly different type of analysis that will allow us to get around the problem of lack of detailed program data in many nations. If number of years' experience with a program is highly correlated with the total expenditures, benefit levels, and coverage of a program, then the number of years can be used as an indicator of the level of program development.

However, the lack of detailed and comparable data on social security programs is not the only stumbling block in the way of international comparisons. We have also to establish that what we call social security programs are conceptually related. The fact that custom and administrative usage have grouped different types of programs under a common label (social security) is not proof that these programs are interrelated and form a continuum along which nations may be placed in order from high to low social security development. The first task is to offer some evidence that we can talk about the social security development of nations because a definite pattern of program occurrence or non-occurrence exists among the nations of the world.

[7] Henry Aaron, "Social Security in an Expanding Economy" (unpublished doctoral dissertation, Harvard University, 1963).

PATTERNS OF SOCIAL SECURITY PROGRAM DEVELOPMENT

There are five major types of social security programs.[8] Of the seventy-six nations outside Africa[9] that had achieved independent political status by 1960, seventy-one had begun work-injury programs, fifty-eight had sickness and/or maternity programs, fifty-six had programs grouped under old-age, invalidism, and death, forty had some type of family allowance plan, and twenty-seven had unemployment-insurance programs. This frequency distribution does not, in itself, tell us that a nation with an unemployment program is necessarily more or less advanced toward a social-insurance goal than is a nation with only a work-injury program. There are several ways to approach this question, but perhaps the simplest is with the Guttman scale.[10] If

[8] All data pertaining to social security programs are taken from U.S. Department of Health, Education, and Welfare, Social Security Administration, *Social Security Programs throughout the World, 1961* (Washington, D.C.: Government Printing Office, 1961). Discussion of the characteristics of each type of program can be found in that document.

[9] This part of the analysis is based on research initially focused on the correlates of political development, which for statistical reasons omitted all African nations in order to avoid spuriously high correlations. The seventy-six nations are listed in Appendix A.

[10] S. A. Stouffer, *et al., Measurement and Prediction* (Princeton, N.J.: Princeton University Press, 1950), pp. 60–90. For a more recent explication of Guttman scaling see Allen L. Edwards, *Techniques of Attitude Scale Construction* (New York: Appleton-Century-Crofts, 1957), pp. 172–98.

several discrete items, in this case the five types of social-insurance and benefit programs, form a Guttman scale, we can say that the scale is measuring an underlying dimension along which each of the items may be placed in a known order, and that a given combination of items (i.e., social-insurance programs) represents a higher place along a continuum of social-insurance development than some alternative combination.

The five major types of social security programs do form a Guttman scale. A nation can have between zero and five programs, and we have six possible perfect-scale types with varying combinations of programs. Twenty-two nations in our sample are in the first perfect-scale type, having all five programs, while the second type contains thirteen nations lacking only unemployment insurance. It is interesting that seven of these thirteen nations were Soviet Russia and its satellites. A third perfect-scale type contains the twelve nations that had neither unemployment nor family allowances, but did have the three other programs. The five nations in the fourth scale type lack, in addition to unemployment and family-allowances programs, a program to provide for the aged, invalidism, and/or death. They have both work-injury and sickness programs. In the fifth scale type are six nations with work-injury programs only, and the final scale type contains five nations with no programs at all. Thus sixty-three of the seventy-six countries are in perfect-scale types. It is worth noting that, had we included African nations, the sixth scale type would have had many more nations, with a resulting increase in the coefficient of reproducibility (CR) to about .98. However, even without this group the CR is .966, considerably above the usually acceptable level of .90.

Because the items do form a Guttman scale, these scale types may be used to rank order the nations of the world according to the extent to which they have developed a social-insurance program. The scale does not necessarily tell us whether a nation in scale type 1 has a better or more comprehensive old-age program than a nation in scale type 2, but it does indicate that the general social security coverage of the population outside the employed labor force is better in scale type 1 than in scale type 2, 3, and so on.

A CUMULATIVE MEASURE OF THE YEARS OF SOCIAL-INSURANCE PROGRAM EXPERIENCE

Because the programs form a Guttman scale, it is possible to apply a measure that distinguishes more than six levels of social security development. The measure is, simply, the years of experience with social-insurance programs for each of the seventy-six nations for the period 1934–60. This statistic is similar to that used by Aaron for well-developed nations, and from the above analysis it appears applicable to less-developed nations as well.

An index of a nation's social insurance program experience (SIPE) can be computed by totaling the number of years from 1934 through 1960 that the nation had a given type of program in operation. For each of the five programs, a score of from 0 to 27 is possible. A score of 27 on each program would yield a maximum SIPE score of 135.[11]

The following analysis concentrates on the relationship of SIPE scores to various aspects of national political and economic

[11] SIPE scores for each of the seventy-six nations are shown in Appendix A. Data on political structure are available for as early as 1928, and that time is used in analyzing the introduction of new social-insurance programs later in this paper. The base year for computing the years of program experience is 1934 rather than 1928, however. This is the product of error, not design. However, if 1928 had been used, there would be little difference beyond adding five points to the range of the scale; the relationships with other variables would remain the same.

life. The final section focuses on a social-insurance completion index and relates scores on this index to political and economic levels and changes from 1928 to 1960.

SIPE scores are one possible index of the responsiveness of governments to the needs of the governed. A nation that lacks work-injury or old age insurance programs may or may not have the economic base capable of supporting such programs, but the extent to which governments initiate and improve insurance programs may reflect much more than the operation of an automatic and economically triggered mechanism.

Nevertheless, it is also the case that the ability of a government to begin a program is closely related to the nation's level of social and economic development. The SIPE scores of the seventy-six nations have been correlated with 1960 indexes of energy consumption, urbanization, literacy, and political representativeness (PRI),[12] and the full matrix of product-moment correlations is shown in Table 1.

The highest correlation is between energy consumption and SIPE. This correlation of .90 accounts by itself for 81 per cent of the variation around the mean SIPE score. It is much higher than the correlation of energy consumption with PRI, literacy, or urbanization. Further, it is considerably higher than the zero-order relationship between literacy and SIPE. This indicates that the level of economic development has a powerful role in determining the level of social-insurance development, and that we must control for level of economic development as measured by energy consumption as well as for level of political development in any analysis of the amount of change in social-insurance programs from the 1930's through the early 1960's.

TABLE 1

ZERO-ORDER CORRELATION MATRIX OF ENERGY CONSUMPTION, URBANIZATION, LITERACY, POLITICAL REPRESENTATIVENESS, AND YEARS OF SOCIAL-INSURANCE PROGRAM EXPERIENCE, 1960*

	Urbanization	Literacy	PRT	SIPE
Energy consumption	72	81	61	90
Urbanization	.....	64	58	58
Literacy	.....	.....	76	83
PRI	.....	.....	.....	74

* All variables except SIPE have been T-scored; $N = 76$.

Source Data for energy consumption, urbanization, and literacy are taken from the U.N. *Demographic Yearbook* and the U.N. *Statistical Yearbook*. The primary source for political data is the *Political Handbook of the World: Parliaments, Parties and Press* (New York: Harper & Bros. [for the Council on Foreign Relations], annual publication 1928–62).

The high correlations between social security development and energy consumption or political representativeness do not mean, however, that urbanization and the literacy level of the population are not also important correlates of social security development. Quite the opposite is true. In general, nations with high levels of SIPE also have high literacy rates and tend to be highly urbanized. Nations with low levels of urbanization or literacy have less-developed social security programs as well as lower levels of energy consumption and political representativeness.

Although this analysis centers on the

[12] See Appendix B.

relationship of economic development and PRI, it should not be assumed that a change in one or both of these variables alone would be sufficient (although it might be necessary) to produce changes in social security. Changes in the levels of literacy and urbanization of the population usually occur concomitantly with changes in PRI or energy consumption. It would appear that the probability of an increase in the level of social-insurance development is greatest when all four variables are rising.

ANALYSIS OF NATIONAL DIFFERENCES IN YEARS OF SOCIAL-INSURANCE PROGRAM EXPERIENCE

Table 2 presents the mean SIPE scores for nations at five levels of economic development—as measured by energy consumption—and four levels of political development in 1930. The mean social-insurance experience of these nations and the number of nations is shown.

In the upper left-hand cell is a single nation with 99 cumulative years of program experience and immediately below it are three nations with a mean of 25 years' experience. (The reader may prefer to collapse cells having only one case with adjacent cells before comparing individual cells with column means.) The mean SIPE scores associated with each level of economic development are in the "row mean" column. The twenty-one nations with the highest level of economic development had an average of 114 years of cumulative social-insurance program experience from 1934 through 1960. Nations in the second highest group had an average of eighty-three years' experience while the ten nations at the lowest level had an average of only

TABLE 2

MEAN YEARS OF SOCIAL-INSURANCE PROGRAM EXPERIENCE BY MEAN 1930–60 ENERGY CONSUMPTION AND 1930 LEVEL OF POLITICAL REPRESENTATIVENESS*

MEAN ENERGY CONSUMPTION 1930–60	1930 PRI†				
	Dependent Nations	Below Mean	Above Mean	Highest Nations	Row Mean
I	99 (1)	101 (2)	114 (4)	116 (14)	114 (21)
II	25 (3)	93 (4)	100 (5)	102 (3)	83 (15)
III	36 (1)	88 (4)	62 (5)	54 (2)	67 (12)
IV	30 (8)	44 (9)	54 (1)	.....	39 (18)
V	18 (5)	7 (4)	63 (1)	.....	18 (10)
Column mean	30 (18)	59 (23)	86 (16)	107 (19)	70

* Nations are placed into energy consumption levels according to their T-score. Groups I and II are above the mean of 50; Groups III, IV, and V are below the mean. Groups I and V contain nations that were more than 1 standard deviation from the mean.

† Number in parentheses = N.

This view is compatible with the proposition that changes in major institutional areas of the society do not proceed far without reacting on each other as well as on lesser aspects of life. Institutions are interdependent. The matrix of correlations is evidence in support of this hypothesis—at the level of national social systems.

In the following section we test the hypothesis that the levels of economic development and PRI will have independent and joint effects on SIPE. Economic development was selected because of its high correlation with SIPE and political development because it is central to analysis.

eighteen years' experience. The same pattern of decreasing length of program experience is found within each column. We may conclude that the level of economic development is related to SIPE; statistical control for political development does not remove the positive association between the two.

The mean SIPE scores associated with each level of 1930 PRI are in the bottom row of Table 2. The scores show a steady gain with increasing PRI levels. The eighteen nations with dependent political status in 1930 have a mean score of thirty years compared to 107 years for the nineteen nations with the highest PRI scores. This pattern of larger SIPE scores with higher PRI levels holds at the first, second, and fourth levels of economic development. The third level does not fit the general pattern—this "deviant" row may explain why the correlation between PRI and SIPE was "only" .74—and the association in the lowest economic level is also of dubious strength.

Controlling first for one and then for the other variable, then, we see that each is related to the SIPE scores. We should note that the ten nations at the lowest level of economic development have considerably lower SIPE scores than the nations at the next highest level of development. For these nations, it is level of economic development rather than level of political development that determines the level of social-insurance program experience. In terms of causal sequence, it appears that before positive change in political structure can bring about positive change in social-insurance program development, a nation must have experienced some economic growth.

Table 2 supports our working hypothesis. In general, governments in nations with more representative political structures have provided greater social security coverage to their populations. Among self-governing nations there is a nearly uniform increase in government social security activities from one level of representativeness to the next. However, nations with the highest PRI scores—those we would normally call "democratic"—do not really differ qualitatively from those nations of parallel economic development that are in the next lowest PRI group. This finding will be discussed at the conclusion of this paper.

In the next section the idea that changes in political structure are associated with changes in years of social-insurance experience will be tested.

CHANGES IN YEARS OF SOCIAL-INSURANCE PROGRAM EXPERIENCE AND CHANGES IN PRI

Table 3 shows the relationship between changes in political representativeness and changes in SIPE. Since the amount of change in PRI is strongly associated with initial level of PRI (as seen in the disproportionately high gains made by the initially lowest PRI group), it is important to control for 1930 PRI level; level of economic development is not controlled. Nations are ranked in each column according to the size of their gain or loss in political representativeness between 1930 and 1960. Reading down the columns, a near-perfect correlation can be seen between changes in PRI and changes in SIPE. Even within the initially highest PRI group, the twelve nations whose political structure remained perfectly stable throughout the period had an average gain of 121 years of experience; the three that ended at the same level as they began but experienced instability in between (Japan, Uruguay, and Costa Rica) had an average increase of eighty-one; and the two that declined in political representativeness (Canada and Colombia) had a gain of only seventy-six years.

We might note that SIPE gains also are

strongly associated with initial PRI level. The largest gains in social insurance are found in nations that began the time period with a maximum political-representativeness score. Reading across the rows in Table 3, within each PRI-change interval there is a positive association (slightly reversed in only one case) between 1930 PRI level and SIPE gains.

A NON-CUMULATIVE MEASURE OF SOCIAL-INSURANCE DEVELOPMENT

An alternative measure of social-insurance development in a nation is, for some purposes, more satisfactory. Instead of using a cumulative measure of years of program experience, we can examine the political situation surrounding major changes in a nation's social-insurance programs (i.e., each time a new program is launched). An index can then be developed to measure the extent to which a nation is moving toward social-insurance program completion (SIPC). Completion is used here to mean that a nation has begun to tackle the needs associated with the five basic types of social security programs, and not to refer to the extent of coverage of the population by any or all programs. Some examples of how the SIPC index is constructed follow.

If a nation had three programs in 1928, it can introduce only two additional programs. Assume that such a country experiences a positive political change in 1932 and in 1934 adds one program. Between 1932 and 1934 no political changes occur. A score of 50 (i.e., 50 per cent of the total change possible in social-insurance program coverage) is awarded to that specific 1932 political change. If, however, the nation experiences a positive change in 1932 and a negative change in 1933 and adds a social-insurance program in 1934, the positive 1932 political change receives a score of zero, and the negative 1933 change a score of 50. The social-insurance-program completion index is, therefore, a measure of the amount of social-insurance change associated with each change in PRI.[13] The

TABLE 3

MEAN CHANGE IN SOCIAL-INSURANCE PROGRAM EXPERIENCE, 1934–60, AND SIZE OF CHANGE IN POLITICAL REPRESENTATIVENESS INDEX, 1930–60*

RANKED PRI CHANGE INTERVAL	1930 PRI											
	Dependent ($N=18$)			Below Mean† ($N=20$)			Above Mean† ($N=15$)			Highest† ($N=17$)		
	PRI Gain	N	SIPE Gain	PRI Gain	N	SIPE Gain	PRI Gain	N	SIPE Gain	PRI Gain	N	SIPE Gain
Largest	23	3	63	13	4	97	7	6	114	0	12	121
Second	16	6	31	5	7	56	3	3	70	0	3‡	81
Third	11	4	22	3	3	20	−2	3	66	−8	2	76
Fourth	6	5	14	0	6	49	−5	3	65	§	§	§

* Controlled for PRI.

† Soviet satellites (Albania, Bulgaria, Hungary, Poland, Romania, and Czechoslovakia) are omitted from this table as our scoring of PRI changes excluded those caused by external domination. They are included in all other tables.

‡ These three nations began and ended the period with the highest PRI scores, but were unstable during the period.

§ No. cases.

[13] One feature of the SIPC index that should be considered in future work is the correlation between economic and political development and the size of the score awarded to a single program

mean SIPC change per nation is calculated in the following manner. For positive and negative PRI changes (computed separately), if a nation has more than one change, the sum of the SIPC index scores associated with these changes is divided by the number of changes. Next, the average SIPC scores for each nation are summed and divided by the number of nations to get the mean SIPC change per nation. For nations with no PRI changes, the mean SIPC change per nation is merely the sum of the nations' SIPC scores divided by the number of nations.

It was suggested earlier that social-insurance programs may represent a measure of the responsiveness of government to the social needs of the population. If so, we would expect not only that social-insurance development would be associated with a *high level* of political representativeness but also that a *positive change* in political representativeness would be *followed* by an increase in social-insurance program coverage. The gain in SIPC index should be larger in association with positive political changes than with negative political changes.

Table 4 presents the results of an analysis of SIPC changes associated with political changes of both types. In the time covered, a total of ninety-eight positive political changes and an average increase in SIPC of twenty-two are found. In the same period, there were seventy negative changes with an increase in SIPC of eleven per negative change; a net gain of eleven points is associated with each positive change.

A slightly different statistic which allows us to consider SIPC changes in nations experiencing *no* political change between 1928 and 1960 is the mean SIPC change per nation. Table 4 shows that fifty-six nations experienced a positive political change, forty-one had negative changes, and sixteen experienced no change. A net advantage of nearly twenty points per nation goes to countries with positive rather than negative changes, but a still larger SIPC increase of eighty-seven is found among nations that had no political change at all. These stable nations are nearly all at the highest level of economic and political development, a condition favorable to maximum SIPC changes.

TABLE 4

SIPC INDEX GAINS ASSOCIATED WITH POSITIVE, NEGATIVE, AND NO CHANGES IN PRI

Direction of PRI Change	Mean SIPC Change* per PRI Change	Mean SIPC Change per Nation
Positive.....	22 (98)	38 (56)
Negative.....	11 (70)	20 (41)
No change	Not applicable	87 (16)

* Numbers in parentheses are the number of PRI changes and the number of nations.

Table 5 controls for the level of economic development and shows the amount of social-insurance program-completion change associated in any economic level with either positive or negative political changes or with stable political systems.

At the highest level of energy consumption there were five nations that experienced positive political changes with an average social-insurance index increase of eighty, while seven nations that experienced

change. Since nations at high development levels will also be more likely to have had several programs by 1928, they will also receive "extra" credit when they introduce their next program. Whether it is more difficult for a nation to launch its first than its last program is not the issue here. Comparison of the results using this index as opposed to another is a matter for investigation rather than for debate. Although it might be expected that larger scores would be associated with the economically and politically more-developed nations, this does not justify assuming that high scores should be associated with positive rather than with negative political changes. Controls for economic-development levels will also be introduced to reduce the spurious association between large scores and high economic-development scores.

negative changes had an increase of only seventeen per nation. The thirteen nations with completely stable political structures had an increase of ninety-two. At the second level of energy consumption there is no difference in the amount of social-insurance program-coverage gains between countries with positive or negative change, but the two nations (Finland and Italy) with stable PRI experience have a gain of seventy-five. The third level of economic development again shows the expected pattern with a score of forty-seven associated with positive political change compared to a score of twenty-three associated with negative change. In like fashion, the fourth energy-consumption level reveals an increase of thirty-nine associated with positive change and only eleven with negative change, while the single nation with stable government (Saudi Arabia) had an increase of forty. At the lowest level of development, the ten nations with positive increases had an average of only seven in social-insurance program completion. There were very few cases of negative change and no cases of stable governments in this category. Part of the reason for the small number of negative changes is that nations at this level of economic development have minimal PRI scores to begin with and thus have little room to decrease.

TABLE 5

SIPC INDEX GAINS PER NATION ASSOCIATED WITH POSITIVE, NEGATIVE, AND NO CHANGES IN PRI*

Energy Consumption Level and Type of Political Change	Mean SIPC Index Change per Nation Following Each PRI Change			No. of Nations	Net No. of Nations
Level I:					
Positive	80			5	8
Negative		17		7	
No PRI change			92	13	13
Level II:					
Positive	35			13	13
Negative		35		9	
No PRI change			75	2	2
Level III:†					
Positive	47			10	11
Negative		23		8	
Level IV:					
Positive	39			18	18
Negative		11		17‡	
No PRI change			40	1	1
Level V:†					
Positive	7			10	10
Negative				(4)§	

* Level of energy consumption controlled.
† Levels III and V had no nations without at least one PRI change between 1928 and 1960.
‡ Includes four cases from lowest level.
§ Combined with negative group in Level IV.

If we look down the columns in Table 5, we see some irregularities in the pattern associated with positive and negative PRI changes—there is not a perfectly steady decline in the size of the score from one energy-consumption level to the next.[14]

[14] An alternative method of computing SIPC change per political change rather than per nation provides a somewhat more consistent table when broken down in the same way as Table 5. At each level of energy consumption the average SIPC index change following each PRI positive

Regardless of the method used, the conclusion seems clear enough: Nations at very high levels of economic development are able to take advantage of stable government or positive political change, and they are likely to move toward completing the normal pattern of social-insurance programs. Social security growth is less likely to follow a negative PRI change than a positive change at *any* level of economic development. Again it is seen that nations with the lowest level of economic development are not introducing social insurance programs even when they have a positive PRI change. On the one hand, this reinforces the earlier conclusion that for these nations a rise in the level of the economy must precede the introduction of social-insurance programs. On the other hand, a positive change in political representativeness will tend to induce economically more-developed nations to introduce new social security programs.

DISCUSSION

An index (SIPE) measuring the general level of social security protection legislated or otherwise directed by the national government was developed. The SIPE index was closely related (.90) to the level of economic development, literacy (.83), and to a lesser extent (.58) urbanization. The .74 correlation of the SIPE index with the Political Representativeness Index (PRI) was found, after further analysis, to be related to variation in the SIPE index when the level of economic development was controlled.

The effect of different levels of political representativeness on the development of national social security programs varied with the level of economic development enjoyed by the nation. In nations with very low economic development, the push for social security development has, in most cases, yet to begin, despite the presence in this group of several different levels of political representativeness. This finding was interpreted in terms of the necessity of certain technological and bureaucratic prerequisites for successful introduction of social-insurance schemes. However, nations that have this capability (Levels I through IV) do not always exercise it. Within the mid-range of economic development (III and IV), the level of PRI was not powerfully related to SIPE. Nations in the upper two economic-development strata not only had high SIPE scores but within each stratum SIPE was positively related to PRI. In general, the political condition that was most strongly related to low levels of social security development was colonial or quasicolonial status. With few exceptions (especially that of Iceland) little was done by occupying powers to institute social security programs. The difference between being politically dependent and being politically self-governing appears (Table 2) critical to the early development of social security programs. Once political independence is achieved, the degree to which the national government becomes more and more representative is also related to how rapidly the government acts to introduce national social security programs. This is most clearly demonstrated at the higher levels of economic development. In a separate analysis that controlled for the 1930 PRI level and ranked the 1930–60 PRI change against 1934–60 gains in SIPE, the size of PRI changes was positively related to SIPE gains.

A second index (SIPC) of government activity in the social security field was devised. A score was computed that measured the degree to which any new program instituted by a nation moved that nation closer to complete program coverage. Analysis of these scores revealed that social-insurance completion followed more upon

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change is larger than for negative PRI changes. The pattern of decline in SIPC change associated with decreasing energy consumption is also consistent for both positive and negative PRI change.

positive political changes than upon negative political changes, whatever the level of economic development. Also, the few nations that enjoyed stable political structures had larger social security completion scores than did unstable nations.

If we are willing to speak of nations with the highest PRI scores as being democratic and of nations with lower scores as something less than democratic, we can engage the question of whether people living in a democracy enjoy levels of social security protection that are not provided to populations in other political systems. The analysis indicated that only a small difference could be found between nations at the very highest PRI level and a second group of nations above the mean on PRI. Further, at the upper levels of economic development even nations below the mean on PRI had SIPE scores close to those of the democratic nations.

The evidence presented in this paper supports the idea that national political, economic, and social systems are interdependent. Changes in the complexity of organization in one sphere are followed by changes in organization in other areas. The specific activities that engage the attention of national governments are not independent of the general level of development. Quite the contrary is true. In spite of very great differences among nations in ideological orientation as well as in type of political organization, we found that actual activities of government in the social security field were strongly related to the complexity of social organization in economic, social, and political institutions. Nations with high levels of economic development but with less than "perfect" (i.e., democratic) political systems had government activities highly similar to those undertaken by democratic governments. Further comparative studies of government activities in other areas of social life will aid in understanding this conclusion. One might see the activities of government as intimately related to the problem of maintaining motivation and order in societies as well as being a response to the democratically organized demands of the population. A government can act without being told what to do. The scholar operating within a democratic context (and especially that of the United States) may tend to view government activities as being dependent upon the demands of secondary groups. A major but tentative conclusion that can be drawn from this study of government activity is that it need not await the petition of secondary groups. The role (or even the existence) of politically relevant secondary groups in guiding government decisions in many of the nations included in this study is modest.

In many nations we would conclude that the introduction of social security measures is a response by government to changes in the economic and social order that is not strongly affected by some degree of departure from ideal democratic organizational forms. Similar levels of social security coverage are found in nations whose governments are thought to act in response to the popular will as occur in nations whose governments are thought to act with less regard to public demands. It appears that the level of social security in a nation is a response to deeper strains affecting the organization of society. Governments may ignore human needs, but there are rather tight limits on the extent to which they may ignore organizational requirements.

SOCIAL SECURITY ADMINISTRATION
WASHINGTON, D.C.

APPENDIX A

YEARS OF SOCIAL-INSURANCE PROGRAM EXPERIENCE, 1934–60, BY NATION

Nation	Years	Nation	Years
Afghanistan	15	Japan	88
Albania	53	Jordan	6
Argentina	75	Laos	0
Australia	118	Lebanon	36
Austria	121	Luxembourg	122
Belgium	135	Malaya	37
Bolivia	54	Mexico	65
Brazil	101	Mongolia	0
Bulgaria	100	Nepal	0
Burma	34	Netherlands	130
Cambodia	27	New Zealand	131
Canada	106	Nicaragua	39
Ceylon	52	Norway	121
Chile	129	Pakistan	27
China	37	Panama	67
Colombia	46	Paraguay	63
Costa Rica	62	Peru	77
Cuba	81	Philippines	41
Czechoslovakia	97	Poland	95
Denmark	117	Portugal	100
Dominican Republic	55	Romania	98
Ecuador	86	Russia	98
Finland	96	Salvador	39
France	135	Saudi Arabia	28
Germany	115	South Korea	0
Great Britain	124	Spain	131
Greece	100	Sweden	122
Guatemala	30	Switzerland	104
Haiti	10	Syria	29
Honduras	9	Thailand	5
Hungary	104	Turkey	44
Iceland	99	United States	95
India	49	Uruguay	92
Indonesia	26	Venezuela	48
Iran	40	Vietnam	31
Iraq	40	Yemen	0
Ireland	125	Yugoslavia	115
Israel	45		
Italy	133		

APPENDIX B

The index used to measure differences among national political structures is computed according to a point system. Parliament and the executive branch of government are scored as follows.

A. Parliament scoring

2 points if the largest party has less than 70 per cent of the seats in the lower or only chamber and achieved the seats through elections.

1½ points if the largest party has 70 per cent or more but the second party has at least 20 per cent.

1 point if the largest party has 70 per cent or more and the second party has less than 20 per cent.

½ point if the largest grouping in parliament is over 70 per cent with the second less than 20 *and* they do not represent parties selected by election but are appointed to represent trade, commerce, ethnic, or other interests. Includes Fascist and Communist party systems.

No points if there is no parliament, if a former parliament is dissolved during the year by coup or revolt, if it is a "constituent assembly," or if the nation still has colonial status.

B. Executive scoring.

1½ points for each year under a chief executive who was selected by a party or parliament under conditions meeting the 70 and 20 per cent rule.

1½ points if the chief executive is elected directly by the people in a competitive election held at the usual time, regardless of the 70–20 rule.

1 point when the chief executive is selected by a party that is a sustaining force (has existed for 5 years as a party in parliament), but the party composition (is not a multiparty system) violates the 70–20 rule.

1 point when the executive is selected by a party in a system that fails to observe the usual election time or goes outside the rules for having an election or has a non-competitive election or fails the 70 per cent rule.

½ point for junta, clique, non-party selection of leaders, or when existing leaders remain in power beyond the regular time.

No points to independent nations with hereditary rulers having chief executive power.

No points to nations with dependent colonial status or occupied by a foreign power.

In order to maintain a distinction between dependent and independent nations, ½ point was added to the over-all raw PRI score of each independent nation, while colonial or dependent nations received a score of zero.

It was possible for a nation to achieve from 0 to 4 points each year. A mean yearly PRI score was computed for each of the following four time periods: 1928–34; 1935–44; 1945–54; 1955–61, and a total of 304 scores (four for each of the seventy-six nations) was amassed and *T*-scored. The four distributions were *T*-scored separately as well. (A simple technique for computing the *T*-score is given in Allen E. Edwards, *Statistical Methods for the Behavioral Sciences* [New York: Holt, Rinehart & Winston, 1954]. For a single variable, *T*-scoring the raw data will yield a distribution with a mean of 50 and a standard deviation of 10.)