Endogenous and Exogenous Factors in the Growth of Democracy, 1900-2005

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ABSTRACT

Although numerous studies over many years have demonstrated a powerful relationship between a society's level of economic development and its level of democratization, recently some scholars have begun to consider the role of external rather than internal factors – in short, diffusion – in the growth of democracy. The only study to examine both endogenous and exogenous factors simultaneously is Barbara Wejnert's, published in the ASR in 2005. She shows that diffusion variables, especially membership in democratic networks and spatial proximity to democratic countries, are much more powerful predictors of democratic growth than a series of endogenous variables, such as GNP and literacy. This paper reexamines the issue of the relative role of endogenous and exogenous factors for several time periods between 1900 and 2005. We conducted a series of panel regressions, and our results show that the growth of literacy is the best predictor of democratization in its early stages, but that diffusion variables become more important later, especially after 1980. The growth of literacy remains important, however, throughout the entire period. We conclude that the expansion of democracy is a product of both endogenous and exogenous conditions, and thus that Wejnert's claim that external factors are much more important cannot be sustained. However, future research needs to consider other endogenous variables, especially those involving increased power resources percolating throughout societies, and to see how these compare to external factors in the growth of democracy.

INTRODUCTION AND BACKGROUND

Although an early form of democracy developed in ancient Athens (Bollen and Paxton, 1997), fully democratic societies – those with mass suffrage and constitutions granting civil liberties – did not develop until the nineteenth and twentieth centuries in the Western world. A number of cross-national, quantitative studies have been carried out showing a close link between democracy and economic development (e.g., Lipset, 1959; Cutright, 1963; Bollen, 1979, 1983; Bollen and Jackman, 1985a, 1985b; Brunk, Caldeira, and Lewis-Beck, 1987; Diamond, 1992; Lipset, Seong, and Torres, 1993; Burkhart and Lewis-Beck, 1994). There is space to look at only a few of the most important representative studies.

In a classic early study carried out in the late 1950s, Seymour Martin Lipset (1959) divided a sample of countries into 4 categories: stable democracies, unstable democracies and dictatorships, democracies and unstable dictatorships, and stable dictatorships. He cross-tabulated these 4 categories with 4 indicators of economic development: wealth, industrialization, education, and urbanization. He found a fairly consistent and strong linear relationship between the 4 political categories and the measures of economic development. By today's statistical and theoretical standards, this is a pretty primitive article, as there were no tests of significance or measures of association, and no control variables. However, it launched a research tradition.

In a 1963 study, Philips Cutright studied 77 countries; he developed an index of political development that was essentially an index of democracy in the sense of competitive political parties whose members are elected and a chief executive who is elected. He correlated 4 indexes with the political development index: a communications index, an urbanization index, an education index, and an agriculture index. His results showed that the communications index correlated .81 with the political development index, urbanization .69, education .74, and agriculture -.72. The multiple R was .82.

In a study published in 1979, Kenneth Bollen developed his well-known measure of democracy for the years 1960 and 1965. Bollen's index consisted of 6 components; 3 of these measured the degree of popular sovereignty, and the other 3 measured political liberties. Using a sample of 100 countries, Bollen found that the timing of development – whether development occurred early or late – was *not* related to the level of democracy. The level of development (as measured by energy consumption per capita) was far more important than the timing of development when both variables were put together in a regression analysis. When level of development was put into a regression analysis with state control of the economy, and percentage Protestant, these latter two variables had a statistically significant effect, but the level of development was still much more important. In a panel analysis regressing 1965 levels of political democracy on 1960 levels of the independent variables, the level of development still emerged as clearly the most important independent variable.

In a followup study, Bollen and Jackman (1985a), using the same sample and measure of democracy in 1960 and 1965, looked at the effects of the level of economic development along with several other independent variables: cultural pluralism (ethnolinguistic fractionalization), percentage Protestant, British colonial experience,

and New Nation effect (independence obtained between 1958 and 1962). The authors entertained the possibility that the relationship between economic development and democracy is spurious. Regression results showed that all five independent variables explained 58 percent of the variance but that economic development alone explained 46 percent. The other four independent variables combined explained less than economic development alone – 35 percent. The level of economic development was therefore much stronger in its effect than these other variables.

Lipset, Seong, and Torres, in a 1993 study, used a large cross-national sample (N not specified, except to say "every country") and looked at several independent variables: economic development (per capita GNP), British versus French colonization, political mobilization (the annual sum of protests, riots, and strikes), regime coerciveness (the ratio of military expenditure to GNP), and trade dependence (the ratio of total trade to GNP). Democracy was measured using the Bollen scale for 1960 and 1965, and using the Freedom House measures for 1975, 1980, and 1985. The results showed that economic development was clearly the best predictor.

In a 1992 study, Larry Diamond classified regimes along a continuum from closed state hegemonic regimes to liberal democracies and found that economic development was closely related to democracy, whether measured by GNP or the World Bank's Human Development Index, or HDI (an unweighted average of literacy, life expectancy, and GNP). The HDI was a somewhat better predictor. Of 17 countries at the highest level of the HDI (.951 or higher), all 17 were liberal democracies. Of 11 countries at the lowest level of the HDI, (.242 or lower), all 11 had closed state hegemonic regimes. Diamond also reports on earlier regression analyses conducted with Lipset and Seong which showed that the most powerful predictive variable was the Physical Quality of Life Index, a composite of infant mortality, life expectancy at age one, and adult literacy. He concludes that the effect of economic development on democracy is heavily mediated through its effects on the physical quality of life.

All of the preceding studies, with the slight exception of Bollen and Jackman's, share one major attribute: they focus on determinants of the level of democracy that are *endogenous* or *internal* factors. Very few studies have considered exogenous determinants. O'Loughlin et al. (1998) did find that diffusion from more democratic to less democratic countries played a role in the growth of democracy, as did Whitehead (1996). But a recent study by Barbara Wejnert (2005) is the only one that has attempted to assess the relative role of endogenous factors compared to exogenous ones by putting sets of each into multivariate analyses. Using nearly all the world's societies, she examined the role of five endogenous variables: GNP per capita, the literacy rate, the level of urbanization, a country's world-system position, and the percentage of the regional labor force in nonagricultural labor. When she analyzed the data using hierarchical linear modeling for the entire period 1800-1999, she found that GNP per capita and world-system position were "robust" predictors of democratic growth, and that a low level of regional industrialization inhibited democratic growth. Somewhat surprisingly, growth in the literacy rate did not predict democratic growth, and in fact correlated negatively with it. Increased urbanization was unrelated to democratic growth.

Wejnert next explored the effects of several exogenous variables: a country's membership in networks with other democratic countries, the spatial proximity of a country to other democratic countries, historical participation in colonial networks, and

the role of such mass media as newspapers, radios, and televisions. When these four variables were entered into the analysis along with the endogenous variables, the exogenous variables, especially the democratic network and spatial proximity variables, turned out to be much more powerful predictors of democratic growth. The most powerful predictor of all was the democratic networks variable. Wejnert concluded that the growth of democracy over the past two centuries has occurred far more as the result of the effects of diffusion than as the product of a country's endogenous characteristics.

Puzzled by these results – it seemed to us implausible that diffusion effects would be nearly the entire story – we obtained Wejnert's data set, integrated it into our own existing cross-national data set, and reanalyzed the data using different methods than the method used by Wejnert.

METHODS

Data Set

Our new data set contains 148 contemporary nation-states. A very large number of variables are included in this data set, but because of missing data on a number of the variables used in the present study, the number of cases has been reduced considerably. The largest N for any of the analyses that follows is 99.

Measurement: Independent Variables

We employed the following seven independent variables, the first five of which are endogenous, and the fifth and sixth exogenous.

- *GDP per capita*.
- *Literacy*: Percentage of the adult population that is literate.
- *Urbanization*: Percentage of the population living in urban areas.
- *World-system Position*: 1 = periphery; 2 = semiperiphery; 3 = core.
- *Percentage of the Labor Force in Industry and Service.*
- *Networks*: Participation and duration of membership in economic and political networks weighted by the number of democratic countries in those networks.
- *Spatial Density*: The sum of democratic countries in a world region (Europe, the Americas, Africa, the Middle East, Asia, and Oceania) divided by the total number of countries in the region.

The five endogenous variables are either identical to those used by Wejnert or close replicas of them, and the two exogenous variables are taken directly from her own data set.

Measurement: Dependent Variable

We used a different measure of level of democracy than Wejnert used, employing the measure used by Vanhanen (1997, 2003). Vanhanen has measured democratization in terms of two indexes, the extent of electoral participation and the degree of political party competition. These two indexes were multiplied and then divided by 100 to

produce an Index of Democracy. This is a rigorous measure of democracy because if the value of either of the measures is zero, then the Index of Democracy will be zero. One excellent attribute of Vanhanen's measure of democracy is that it conceptualizes democracy as a continuous variable. Countries are not regarded as simply either democratic or nondemocratic, but as having large variations in their level or degree of democratization.

There are several other good indexes of democratization in addition to Vanhanen's. Wejnert used a measure of democracy that combined Jagger and Gurr's (1995) well-known measure with the also very well-known Freedom House measures. She produced an index of democracy with values ranging from 0 to 10 in single unit intervals. The Wejnert and Vanhanen measures correlated on average .767 for the years 1850, 1900, 1950, and 1980 (.863 for 1950 and 1980). We prefer the Vanhanen measure on conceptual grounds and because it measures democracy more precisely. Its range in the data set is from 0 to 45.6 (although conceptually it can go higher), with intervals of 0.1 rather than 1. It thus has much more variability than the Wejnert measure, taking 456 possible values rather than only 11.

Statistical Analyses

The statistical analyses were OLS panel regressions for two fifty-year intervals (1900-1950 and 1950-2000) and one twenty-five-year interval (1980-2005). These analyses were designed to assess the degree to which the independent variables at the beginning of a period predict change in the dependent variable over that period. We had hoped to analyze the period between 1850 and 1900, but there were only 43 possible cases for that period and missing data for several independent variables reduced that number to 10. Multicollinearity among the independent variables, as assessed by VIF scores, was too great to perform a reliable analysis.

Another way we could have analyzed the data was by using hierarchical linear modeling. This procedure was used in the study by Wejnert and is suitable for measuring change over a long period. However, we performed panel regressions for different periods in order to see whether the causes of democratization differed from period to period. For example, diffusion might be more important as a cause in later than in earlier periods.

RESULTS

Our findings are summarized in Table 1 below. In the 1900-1950 period, one endogenous factor, the literacy rate, was the lone predictor of democratization. Neither of the diffusion variables, spatial density or networks, was an important predictor. The results for 1950-2000 are presented in the second column. The growth of democracy during this period is predicted by the growth of literacy and by one of the diffusion variables, growth in spatial density. These findings are somewhat more in line with previous studies that have found diffusion to be important (especially Wejnert's study), but the effect of diffusion does not neutralize the effect of literacy. Both are about equally important as predictors. However, there is an important difference vis-à-vis Wejnert's findings. She found that networks was a substantially stronger predictor of

democratic growth than spatial density, but for the 1950-2000 period we found just the opposite.

Column 3 presents the results for the most recent period, 1980-2005. This period is particularly significant for study because it corresponds to the most recent wave of democratization occurring in many less-developed countries (Markoff, 1996; Kurzman, 1998). The results are very interesting. The effect of diffusion is now stronger than in the previous period, with both spatial density and networks being significant predictors. However, literacy is still important, and in fact is a better predictor than either of the diffusion variables, with substantially higher beta weights and lower levels of significance. Of course, if we consider the diffusion variables together, then they explain more of the variance than literacy.

These results tell essentially the following story:

- Only endogenous variables are important prior to 1950.
- After 1950 diffusion starts to become important, but only in terms of the spatial proximity of countries to other democratic countries.
- After 1980, diffusion is even more important, both in terms of spatial proximity and membership in important economic and political networks.
- The growth of literacy remains an important predictor throughout the entire period between 1900 and 2005.
- A very large amount of the variance in the growth of democracy is being explained in these analyses: 64 percent in the 1900-1950 period, 75 percent in the 1950-2000 period, and 68 percent in the most recent period between 1980 and 2005. There are other causes of democratization still to be identified, but we feel that we have identified some of the most important ones.

We have a general sense of how diffusion contributes to the growth of democracy, although we still need to be able to specify the particular mechanism or mechanisms by which the diffusion process occurs. But why is the growth of literacy important? We see increasing literacy as important because it gives people a major power resource that they can use to organize for suffrage and rights. This was especially important for the early democratizers but has remained important throughout the entire period because many less-developed countries have come to democratization very late. Late democratizers need to acquire important resources for the struggle for democratization just as early democratizers did. In more recent times, diffusion has become an important factor because of the enormous expansion of the world-system and the increasing density of international economic and political relations. Countries all over the world have become more connected and thus have come to influence each other more. But literacy fits in here as well. Not only is it relevant as an endogenous cause; it is undoubtedly important as a key medium through which diffusion affects the growth of democracy. Diffusion is not an automatic process and can only occur by way of certain mechanisms of transmission. It is not yet clear what all of these mechanisms might be, but literacy is very likely one of them because the diffusion of democratic norms and practices is made much easier when the receiving country has a highly literate population. Literacy, then, is a kind of nexus of endogenous and exogenous forces.

CONCLUSION

Our grand conclusion is thus that democratization depends on both endogenous and exogenous conditions. For social scientists who are concerned about policy implications – we ourselves are not especially so concerned, but we realize that many others are – democratic nation-building can proceed to some extent from the more democratic to the less democratic, but it is also important that the internal conditions promoting democracy be established first. Without this democracy is much harder to achieve and will take considerably longer. Or so it appears up to 2005. We cannot be certain how all of this will play out in the future.

FUTURE RESEARCH

Two different lines of thinking prevail in understanding how endogenous factors contribute to the growth of democracy. Some scholars, such as Lipset and Diamond, advocate a version of *modernization theory*. In this view, education and literacy help to create and maintain beliefs in the importance of democratic norms, and economic growth promotes large working and middle classes that favor democracy. A second strand of thought emphasizes the *resource balance* between political elites and the rest of the population rather than changing attitudes and norms. Bollen (1983) emphasizes that education and literacy are not so important in promoting democratic norms, but rather in giving people greater awareness of the political processes of their society. This awareness becomes a resource that people can use to mobilize themselves for greater political representation. Charles Tilly (2000:3) takes a similar view, commenting that "any explanation of democratization must include a serious account of mechanisms that reduce the standard obstacles" to democratic government. For example, education and increased communication can offer people new models of organization that are less coercive and exploitative, and the equalization of assets throughout a population can give people resources with which to struggle for increased democratic representation. We favor the resource balance interpretation, and initially acquired it from reading the work of the Finnish political scientist Tatu Vanhanen.

In one of the most detailed cross-national, quantitative studies of democracy ever carried out, one based on 172 countries, Vanhanen (1997) has rested his whole analysis on this balance of resources argument. Vanhanen argues that democracy cannot emerge until the large mass of the population acquires critical resources for mobilizing against autocratic states. He stresses that these resources, although products of economic development, are not limited to economic ones. Vanhanen identifies six types of resources that should contribute to democratization: size of the nonagricultural population, size of the urban population, the degree to which farms are owned by independent families (which Vanhanen calls "family farms"), the literacy rate, the number of students in higher education per 100,000 population, and the deconcentration of economic resources.

Vanhanen measured all of these variables in or around 1990 and combined them into a comprehensive supervariable that he called the Index of Power Resources (IPR), which he then correlated with his index of democracy. The average correlation of the

Index of Power Resources with the level of democracy for three different years (1991, 1992, and 1993), was .786. Vanhanen assumed that the correlation is causal in the sense that the acquisition of power resources preceded and brought about changes in the level of democracy.

However, Vanhanen's research is limited by his failure to control for the effects of other variables, and also for his seemingly unwarranted assumption that each of the components of the IPR are of equal significance. This assumption remains untested. However, we can test it for him. We suggest that future research should draw on Vanhanen's lead, and those of Bollen and Tilly, that it is power resources rather than simple modernization per se that is the critical factor in the growth of democracy. Future research can employ the necessary controls, and also decompose the IPR and examine each of its components separately. (Indeed, we have already done this in terms of the literacy component of the IPR.) And it can look at the effects of these variables along with diffusion variables. We are currently beginning this much more detailed research.

REFERENCES

Bollen, Kenneth A. 1979. "Political democracy and the timing of development." *American Sociological Review* 44:572-87.

_____. 1983. "World-system position, dependency, and democracy: The cross-national evidence." *American Sociological Review* 48:468-79.

Bollen, Kenneth A., and Robert W. Jackman. 1985a. "Economic and noneconomic determinants of political democracy in the 1960s." *Research in Political Sociology* 1:27-48.

_____. 1985b. "Political democracy and the size distribution of income." *American Sociological Review* 50:438-57.

Bollen, Kenneth A., and Pamela M. Paxton. 1997. "Democracy before Athens." In Manus I. Midlarsky (ed.), *Inequality, Democracy, and Economic Development.* Cambridge, UK: Cambridge University Press.

Brunk, Gregory G., Gregory A. Caldeira, and Michael S. Lewis-Beck. 1987. "Capitalism, socialism, and democracy: An empirical inquiry." *European Journal of Political Research* 15:459-70.

Burkhart, Ross E., and Michael S. Lewis-Beck. 1994. "Comparative democracy: The economic development thesis." *American Political Science Review* 88:903-10.

Cutright, Phillips. 1963. "National political development: Measurement and analysis." *American Sociological Review* 28:253-64.

Diamond, Larry. 1992. "Economic development and democracy reconsidered." In Gary Marks and Larry Diamond (eds.), *Reexamining Democracy: Essays in Honor of Seymour Martin Lipset.* Newbury Park, CA: Sage.

Jagger, Keith, and Ted Robert Gurr. 1995. "Polity III: Regime type and political authority, 1800-1994." Ann Arbor, MI: Interuniversity Consortium for Political and Social Research.

Kurzman, Charles. 1998. "Waves of democratization." *Studies in Comparative International Development* 33:42-64.

Lipset, Seymour Martin. 1959. "Some social requisites of democracy: Economic development and political legitimacy." *American Political Science Review* 53:69-105.

Lipset, Seymour Martin, Kyoung-Ryung Seong, and John Charles Torres. 1993. "A comparative analysis of the social requisites of democracy." *International Social Science Journal* 136: 155-75.

Markoff, John. 1996. *Waves of Democracy: Social Movements and Political Change.* Thousand Oaks, CA: Pine Forge Press.

O'Laughlin, John, Michael Ward, Corey Lofdahl, Jordin Cohen, David Brown, David Reilly, Kristian Gleditsch, and Michael Shin. 1998. "The diffusion of democracy, 1946-1994." *Annals of the Association of American Geographers* 88:545-74.
Tilly, Charles. 2000. "Processes and mechanisms of democratization." *Sociological Theory* 18:1-16.
Vanhanen, Tatu. 1997. *Prospects of Democracy: A Study of 172 Countries.* London: Routledge.
_____. 2003. *Democratization: A Comparative Analysis of 170 Countries.* London: Routledge.
Wejnert, Barbara. 2005. "Diffusion, development, and democracy." *American Sociological Review* 70:53-81.
Whitehead, L. 1996. "International aspects of democratization." In G. O'Donnell, P. Schmitter, and L. Whitehead (eds.), *Transitions to Democracy.* Baltimore, MD: Johns Hopkins University Press.

Table 1. Effects of GDP per capita, Literacy, Urbanization, World-System Position, Labor Force in Industry or Service, Democratic Networks, and Spatial Density on Level of Democracy, 1900-2005.

Variable	*1900-1950*	*1950-2000*	*1980-2005*
DEM	.604 (.771) .233 .784	.639 (.117) .540 5.443****	.285 (.089) .296 3.222***
GDP	-.004 (.004) -.388 -1.112	.001 (.001) -.055 -.424	.000 (.000) -.074 -.728
LIT	.441 (.166) 1.062 2.661**	.098 (.051) .228 1.936*	.143 (.047) .334 3.023***
URB	.170 (.130) .282 1.306	-.006 (.062) -.010 -.100	.025 (.076) .051 .325
WSP	3.844 (7.764) .204 .495	-2.787 (2.162) -.156 -1.289	1.465 (1.941) .086 .755
LAB	-.160 (.340) -.176 -.472	.077 (.111) .124 .692	-.017 (.081) -.041 -.213
NET	-.148 (.273) -.148 -.543	.177 (.113) .133 1.568	.094 (.056) .163 1.697*
SPA	-.029 (.117) -.048 -.248	.067 (.025) .256 2.702***	.037 (.020) .170 1.862*
N =	22 (83 potential)	67 (148 potential)	99 (148 potential)
Adj. R^2 =	.64	.75	.68

DEM = Index of Democracy; GDP = Gross Domestic Product per capita; LIT = Literacy Rate; URB = % of Population Living in Urban Areas; WSP = World-System Position; LAB = % of Labor Force in Industry or Service; NET = Membership in Democratic Networks; SPA = Spatial Proximity to Democratic Countries.

The first two numbers are the unstandardized beta coefficients and their standard errors; the third number is the standardized beta coefficient, and the fourth is the t test and its level of significance.

*p < .10; **p < .05; ***p < .01; ****p < .001