Global Social Transformation: The Sweet Spot, the Steady Slog, and the Systemic Shift
Author(s): Barry B. Hughes
Source: *Economic Development and Cultural Change*, Vol. 49, No. 2 (January 2001), pp. 423-458
Published by: The University of Chicago Press
Stable URL: http://www.jstor.org/stable/10.1086/452510

Global Social Transformation: The Sweet Spot, the Steady Slog, and the Systemic Shift*

Barry B. Hughes
University of Denver

Alexis de Toqueville, astute observer and prescient commentator on the human condition, recognized the youth of a global social transformation that has now reached middle age: ''Although the revolution that is taking place in the social condition, the laws, the opinions, and the feelings of men is still very far from being terminated, yet its results already admit of no comparison with anything that the world has ever before witnessed. I go back from age to age to the remotest antiquity, but I find no parallel to what is occurring before my eyes.''[1] The transformation he identified in the United States has become global. It has proceeded in tandem with dramatic economic change over the intervening century and a half. The purpose of this study is to help refine our empirical map and understanding of some of the relationships among the spectacular economic and social changes underway globally.

It is, of course, to the development literature that we must first look for contemporary commentary on these transformations and their relationships.[2] Thinking and writing about economic and social development were optimistic in the early post–World War II period, in sharp contrast to the theory of the 1920s and 1930s, which had rejected the grand and optimistic theories of progress that characterized the nineteenth century.[3] Postwar authors believed that both economic and social change were proceeding rapidly, and they saw close relationships between the two forms of development. Although the arguments had nuance, enthusiasts of what came to be called modernization theory argued that, in essence, all good things go together. That is, economic development, demographic transition, enlightenment of individual belief systems and empowerment of those individuals, improved social conditions, installation of stable democracies, and movement toward more egalitarian incomes would all ultimately flow from the process of development within and across countries.

0013-0079/2001/4902-0010$02.00

The highly optimistic versions of such arguments presented an easy target for subsequent criticism. Disillusionment appeared as early as the 1960s, while many less developed countries still celebrated their independence from colonialism. Samuel Huntington noticed numerous retreats in the advance of democracy, especially in Latin America but also in Pakistan and even Greece.[4] He built a critique of modernization, in part on those reversals, even as economic growth continued.[5] It did not appear that all good things do, in fact, go together.

A global economic downturn in the 1970s and a collapse of growth in many developing countries under the weight of external debt led another set of critics to question not only modernization theory but the prospects for widespread economic growth itself. The world systems and dependency theorists, often armed with neo-Marxist logic developed by P. Baran, A. G. Frank, and many others, pointed to what they saw as a highly persistent global class system that maintained and even fostered economic and social underdevelopment.[6] B. Moore, Jr., and G. O'Donnell carefully traced historical patterns of socioeconomic evolution that led societies to very different and less happy endpoints than the Western democracy of early capitalist states.[7] The counterpoint of neoclassical economists such as Peter Bauer, who touted economic miracles in east Asia, proved unable to dispel the predominant gloom of the development community.[8]

The past 2 decades brought still other assaults on earlier development theory. Herman Daly questioned the ecological sustainability of development.[9] Amitai Etzioni pointed to the breakdown of community, even under conditions of steady economic growth and even within the so-called developed countries.[10] Many see development as an empty promise.

One major strain of economics literature, however, has gone in a direction that is more supportive of the traditional modernization arguments, but it is much more sophisticated and nuanced. Specifically, this literature intensively analyzes the factors that influence the rate of economic growth. Some of this work grows out of the neoclassical theory that all countries will ultimately converge to the same level of per-capita GNP.[11] Sensitive to the failure of many LDCs to achieve growth rates that would maintain them on a convergence path, studies have sought to explain the cultural, institutional, or policy factors that determine slower growth paths.[12] Some of this attention focuses also on the consequence of differential growth rates, as does the work of J. B. Londregan and K. T. Poole on coups.[13]

Motivated by more than the theoretical prediction of convergence, much of this literature has sought to understand the influence of a broad range of institutional and policy factors on economic growth, recognizing the value of such understanding for policy formulation. R. Levine and D. Renelt considered the impact, in particular, of investment rates and trade.[14] G. W. Scully investigated political openness, while R. J.

Barro looked at the implications for growth rates of human capital levels and political instability and returned to the interactions of democracy and growth.[15] Another considerable subset of studies looks at the implications of inequality for growth.[16] Still others have explored with care the extensive webs of association among sociopolitical factors and economic performance.[17]

Although these studies on economic growth quite consistently support the argument that social and economic transformations interact closely with each other in the development process (in a bidirectional manner), the nature of that interaction over the long term remains less clear than one would like. This study will help clarify one important element of that interaction, namely, the sequencing and consistency of two different types of social development over the long range of economic development.

Goals and Theoretical Context

It is not the intent of this study to resolve the grand theoretical debates about development. The purpose instead is more narrowly to revisit, with the help of substantial empirical data, the critical relationship between economic and social development. The character of that relationship is of great importance to the broader debates, and the relationship is both closer than often acknowledged and more complicated than generally recognized. The study will show the importance of distinguishing two aspects of social development: improvement of individual life condition and restructuring in social organization. The nature of the relationships between economic advance and these two aspects of social development contrast sharply.

Because this distinction between social indicators of individual life condition and indicators of social organization is important to the argument here, and because it is not commonly made, it needs to be clarified. All social conditions can benefit from the actions of others and from government policies. This is true of literacy, life expectancy, and fertility rate, key examples of what I call here individual life conditions. Yet we can talk about an individual achieving literacy, prolonging a lifetime, obtaining enough to eat, or reducing the number of children in a family; our measures typically aggregate these into a statement of average conditions across a society, but they remain individual conditions. We cannot meaningfully talk about an individual obtaining democracy, reaching gender equity, eliminating societal corruption, or redressing income inequality. All of these latter social changes take place only as societal transformation, and they typically imply significant changes in social organization and institutions.

With respect to these two dimensions, I will present data that allow three conclusions of importance. First, there is a ''sweet spot'' in the development process, that is, a zone of GDP per capita within which social change across a wide range of individual life conditions is especially

rapid; large numbers of countries, with the bulk of the world's population, have entered and are moving rapidly through that sweet spot. Second, within the second cluster, that of social organizational components, change is a slower and more uneven process—a ''steady slog'' rather than relatively predictable movement through a sweet spot (with some reverses possible, as in any slog); even the most economically advanced countries continue to struggle with the changes in social structure on this second dimension. Third, there are also ''systemic shifts'' occurring in the social condition of both types that are clearly unrelated to the economic condition; one would need to look to forces such as technological advances and global attitudinal change for their origin; the magnitude of those shifts has been substantial, even over as few as 20 years.

Thus social development has at least two largely separable component clusters and three separate dynamics. Differentiation helps us understand better the continuing divide between those who believe that they see an empirical reality of global social development as forecast by modernization theory and those who question the theory and sometimes doubt the empirical reality of such development. For instance, observers in the first set are more likely to be looking at individual life conditions (the social indicators of most data sources fall primarily into this category), and observers in the second set are likely to be watching more truly social relationships and structures.

Theoretically, these findings make sense. As per-capita GDP levels and personal incomes increase, individuals obviously want to improve their social conditions. That over which they have the most control is that which they can to a greater degree accomplish themselves, including personal attention to education, the size of families, and greater attention to health. That which will come more slowly (and irregularly) is change in social organization. Moreover, à la the need hierarchies of A. Maslow and others, many of those changes in societal organization may simply have a lower inherent priority for individuals than do their personal life conditions.[18] Barro noted a similar sequencing and suggested that ''political freedom emerges as a sort of luxury good.''[19] It should be obvious, of course, that the contributions of these individual life improvements to human capital will, as noted in the literature, contribute, in turn, to economic growth and development and to further social transformation.

Shifting focus to changes in social organization rather than individual life condition reinforces the expectation and importance of the sequencing explored here. D. Rueschemeyer, E. H. Stephens, and J. D. Stephens concluded that the cross-sectional relationship between development and democracy was too robust a finding to allow rejection of the conclusion that there are close causal linkages between them.[20] At the same time they argued that the explanation of those causal linkages lies in careful, comparative study of historical paths of development. Ironically, authors undertaking such comparative historical studies have con-

cluded, in contrast to those who use cross-sectional approaches, that economic development does not lead to democracy.

The key for Rueschemeyer, Stephens, and Stephens to reconciling these two different conclusions (and explaining how different methodological approaches have led to them) lies in a comparative historical analysis that carefully extends the number of cases and that focuses on the role of the working class in democratization. It is necessary, they argued, for the working class to press for full democratization, because the bourgeoisie will not generally do it on their behalf. In exploring whether the working class may be positioned to pursue democratization, they pointed out that ''political democracy inevitably stands in tension with the system of social inequality.''[21] The advance of literacy, life expectancy, and other conditions of the working class help reduce social inequality and thus should make changes in social organization, like democracy, more probable. Hence here again is the logic of sequencing, namely, improvements in the individual life condition in advance of fundamental changes in social organization.

With respect to the systemic shift, which appears to have accelerated both forms of social transformation across almost the entire range of economic development, the most obvious explanation in many cases is technological advance. Obviously, progress in medical technology has increased life expectancy across the range of GDP per capita. We shall see, however, that the phenomenon of systemic shift is so pervasive—across the range of social measures we examine, including those of social organization—that technological change alone appears an inadequate explanation. Although I will not attempt here a research design that can investigate the hypothesis, it appears highly likely that there is also a significant ideational component to the systemic shift.[22] That is, the spread of ideas about how to improve social conditions and about proper social structures is almost certainly having a significant impact on social conditions around the world. Although it will require a separate analysis, globalization has probably accelerated the systemic shift.

The organization of the presentation will be (1) an examination of the systemic (and generally long-term) associations between levels of economic and social development in recent data (using cross-sectional analysis of recent data, including some comparative cross-sectional analysis that also draws on data from 20 years earlier); and (2) an investigation of the shorter-term linkages between changes in economic and social conditions (relying on longitudinal analysis of the last 20 years). I begin by looking at the global cross-sectional relationships and by identifying recurrent patterns of sweet spot, steady slog, and systemic shift.

Identifying Sweet Spot, Steady Slog, and Systemic Shift

The early development literature relied heavily on GNP per capita to measure economic growth. Since the work of R. Summers and A. Hes-

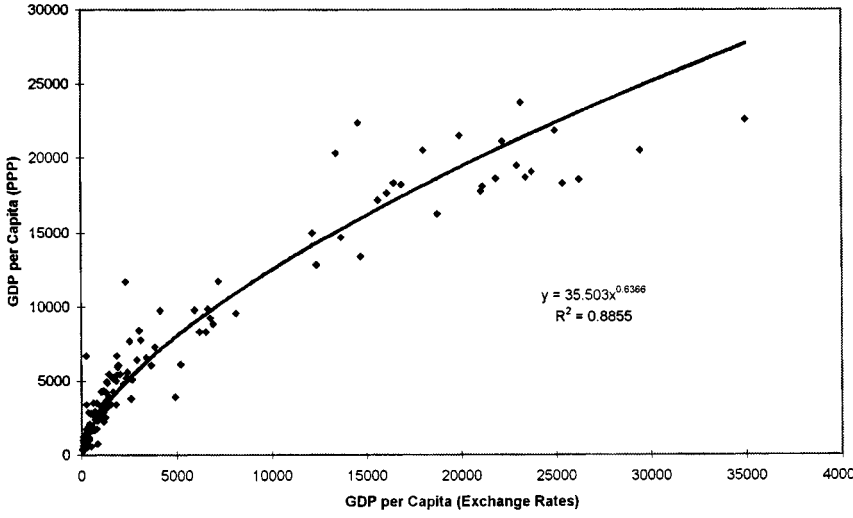


FIG. 1.—GDP in exchange rates and purchasing power, 1992

ton, however, we have a measure of economic condition that better assesses the real purchasing power of consumers around the world.[23] When possible, in this discussion I use GDP per capita as measured at purchasing power parity (PPP). As figure 1 suggests, the relationship between GDP measured more traditionally at exchange rates and GDP at PPP is actually very strong. The virtue of using a PPP-based GDP lies as much in the way it spreads values at low levels of GDP as in its improved assessment of economic condition. Specifically, as GDP per capita at exchange rates climbs to about $2,500, GDP per capita at PPP climbs to approximately $5,000. In contrast, at higher levels of GDP per capita at exchange rates, GDP per capita at PPP climbs much more slowly.[24]

One of the implications of the relationship between GDP per capita at exchange rates and GDP per capita at purchasing power is that in countries below $2,500 per capita at exchange rates, citizens gain approximately $2 in purchasing power for every dollar they gain in per-capita GDP at exchange rates. Although the GDP in countries with GDP per capita (exchange rates) below $2,500 did not grow as rapidly between 1970 and 1990 as that of richer countries, the purchasing power of the citizens in those countries actually grew more rapidly. Moreover, as I show below, the individual social condition of citizens in those countries improved even more rapidly than did their purchasing power.

I will refer to the region below $2,500 GDP per capita (at exchange rates) or below $5,000 GDP per capita (at purchasing power) as the sweet spot of individual social development. Although not labeling it, H. Chenery and M. Syrquin similarly identified a zone of economic growth

in which most rapid development occurs. They noted ''that 75 to 80 percent of the total structural change takes place within'' the range of GNP per capita between $100 and $1,000 in 1964 dollars. Inflating to 1992, the top end of their range is roughly $4,500 at exchange rates or $7,500 at purchasing power.[25] Although part of the analysis here supports the proposition that the upper end of the sweet spot has dropped somewhat, to about $5,000 at purchasing power, the zone of rapid social transition in the early 1990s is remarkably consistent with the Chenery and Syrquin values of 20 years earlier.

My focus here is largely on sociopolitical change rather than on the economic change to which Chenery gave most attention.[26] Because it is important, however, to understand that the sweet spot is an economic as well as a social phenomenon, I comment in passing on the relationship between GDP per capita (PPP) and the portion of economic product derived from agriculture (see fig. 2). That portion drops dramatically as GDP per capita rises toward $5,000. This pattern is repeated again and again. In fact, of course, it is structural economic change, such as movement from agricultural to industrial economies, that drives much of the social change. Rueschemeyer, Stephens, and Stephens are far from alone in pointing out that traditional agricultural societies, particularly those in which land ownership is concentrated, are not hospitable environments for social change.[27] Consider also that by one rule of thumb, movement of average incomes above $5,000 per capital coincides with rapid increases in automobile purchases.[28] Surely such purchases have social and not just economic import.

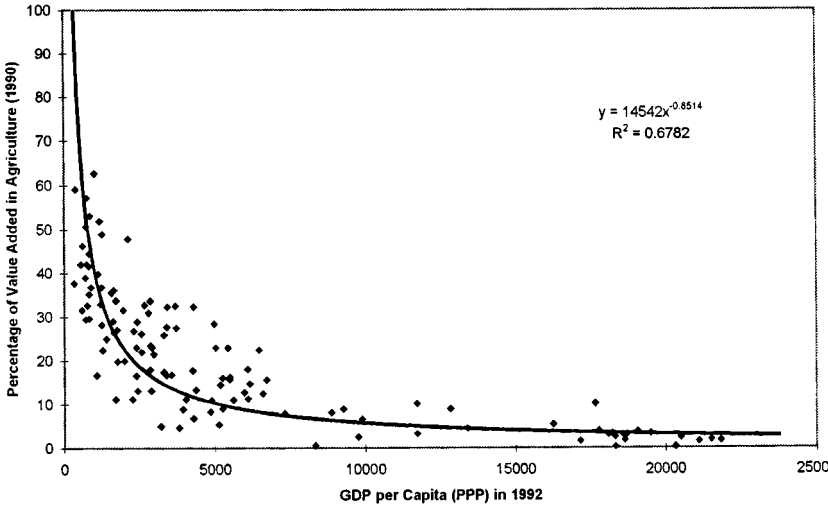
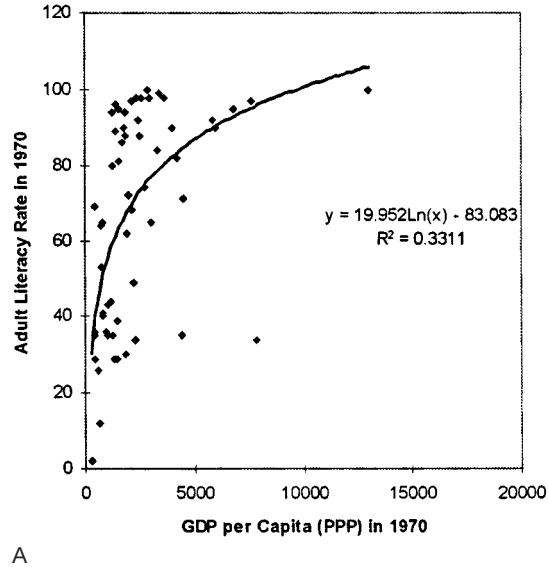
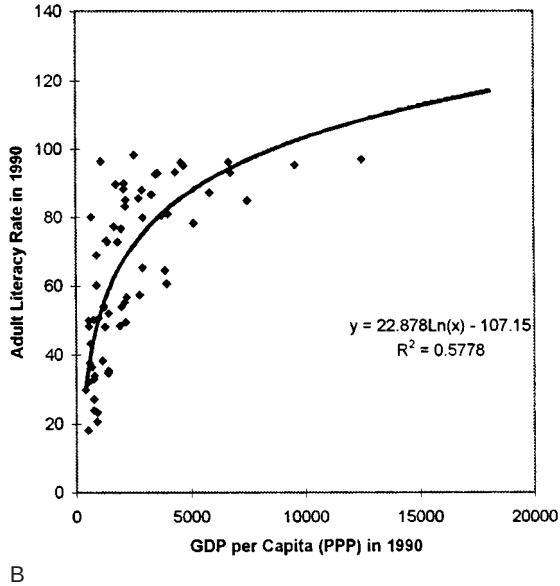


FIG. 2.—Agricultural value added as a function of GDP per capita



A



B

FIG. 3.—Literacy as a function of GDP per capita. *A*, 1970. *B*, 1990

The Condition of Individual Lives

Literacy is a key aspect of life condition. Figure 3 shows a pattern of especially rapid progress in the improvement of the literacy rate through somewhat more than $5,000 per capita (PPP).[29] The outliers make it clear, of course, that GDP per capita in no way guarantees social devel-

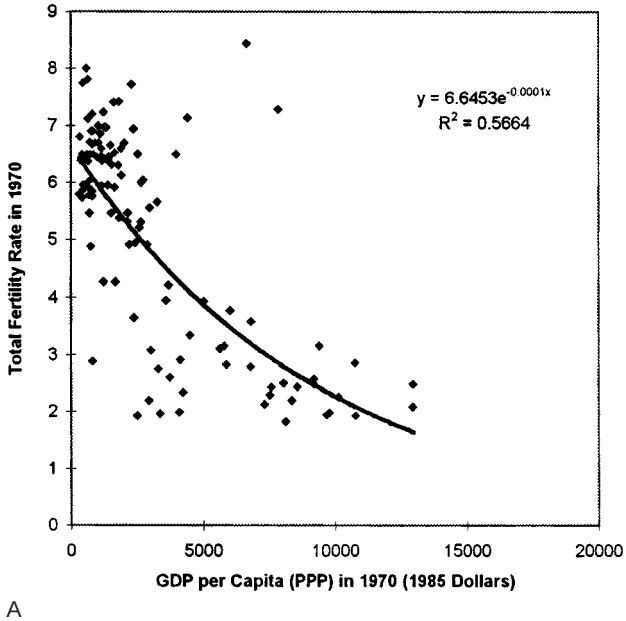
opment. Note also in figure 3 that the pattern is tighter in 1990 than in 1970. This occurs often. Although it might indicate that economic development is becoming more important in explaining social conditions (globalization could be leveling other factors), there could be many explanations, including improved data collection over time.

Turning to demographic development, the total fertility rate of countries drops very rapidly through the sweet spot, falling in 1990 below three children per woman for most countries above $5,000 per capita. Note also in figure 4 the clear systemic shift between 1970 and 1990. In 1970, the total fertility rate at high levels of GDP per capita was at or above two children per woman, while in 1990, the fertility rate at high levels of GDP per capita fell near and even below two children. Moreover, the rate of drop in fertility rates through the sweet spot was not nearly as pronounced in 1970 as in 1990.

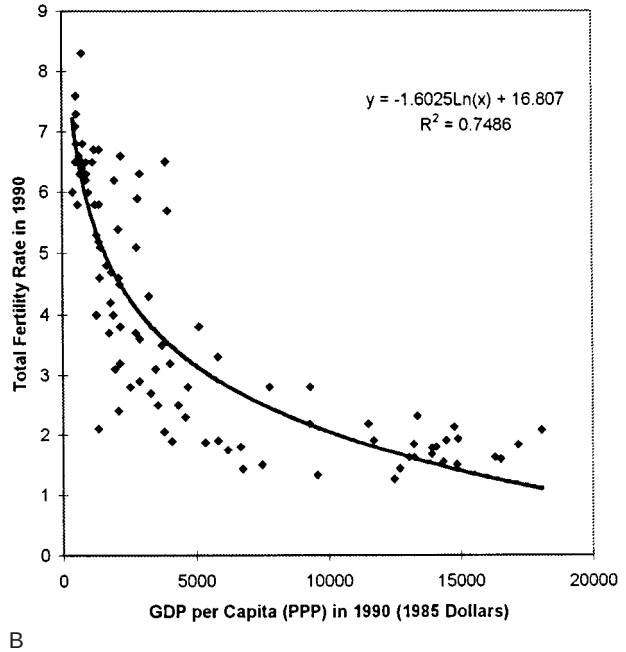
It is sometimes argued that social development is strongly influenced by the culture of countries or even that national culture is a more important factor than economic growth.[30] This pair of figures does not support that proposition, even with respect to fertility, an aspect of development on which we might expect culture would have a particularly strong effect. Note that the systemic pattern appears to be nearly universal—no regional or cultural grouping of countries has resisted the downward shift in fertility with higher GDP per capita. Considering the shift in pattern between 1970 and 1990, it is probable that, beyond economic growth, the key factors shaping fertility rates over the past 2 decades have been the wide-scale governmental, intergovernmental, and nongovernmental efforts to decrease those rates, along with improvements in the technology of contraception. If there is a cultural force at work, it may be a global cultural change with respect to attitudes and beliefs concerning the desirability of large families.

Figure 5 shows that one of the most noticeable aspects of the relationship between life expectancy and GDP per capita, especially in 1990, is the tightness of it, that is, the relatively few outliers from the relationship. Obviously, continued life is one of the strongest values that humans hold and it is even less susceptible to cultural variation than fertility. It seems reasonable to posit that individuals in all countries act to secure the longest life expectancy that their means can provide. Again, however, there is a clear sweet spot, with the transition through it largely complete by GDP per capita of $5,000 (PPP).

Note that the most rapid change in life expectancy actually occurs in the first half of the sweet spot, in the range below GDP per capita of $2,500 (PPP). This pattern appears general. We can further divide the sweet spot roughly into two subranges: one in which growth is fastest, up to about $2,500 (PPP), and a second one in which the social condition approaches that of the most developed countries, between $2,500 and $5,000 (PPP).

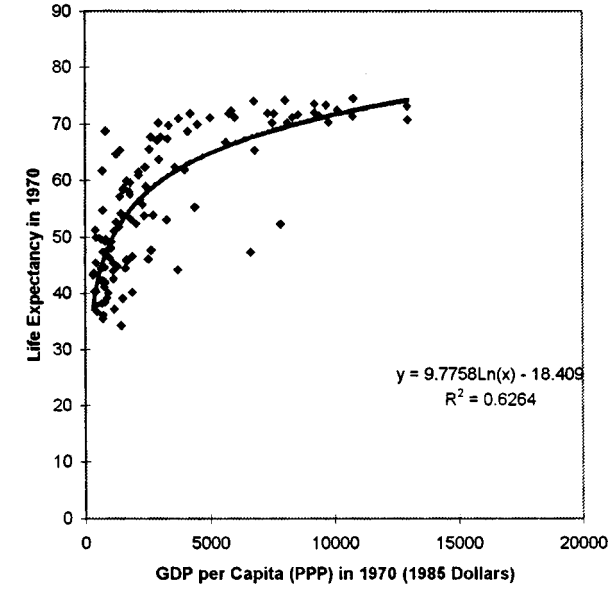


A

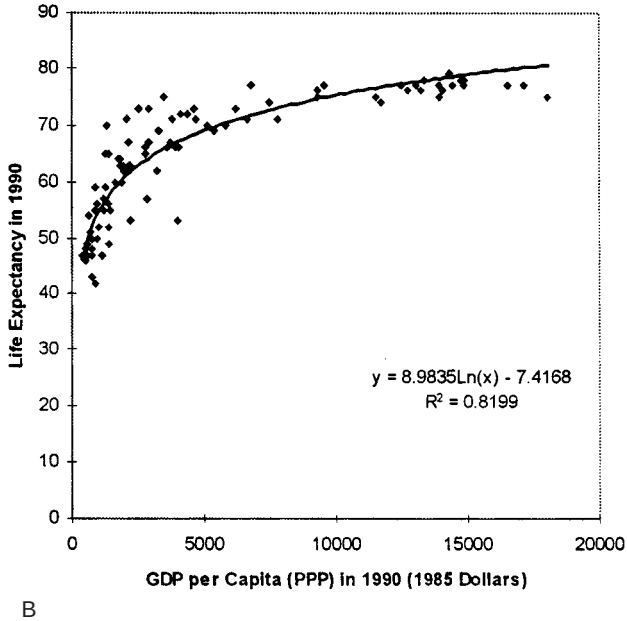


B

FIG. 4.—Total fertility rate as a function of GDP per capita. *A*, 1970. *B*, 1990.



A



B

FIG. 5.—Life expectancy as a function of GDP per capita. *A*, 1970. *B*, 1990

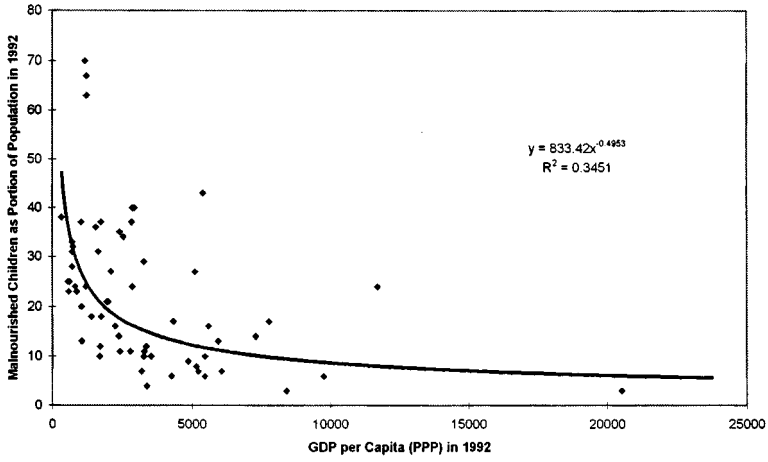


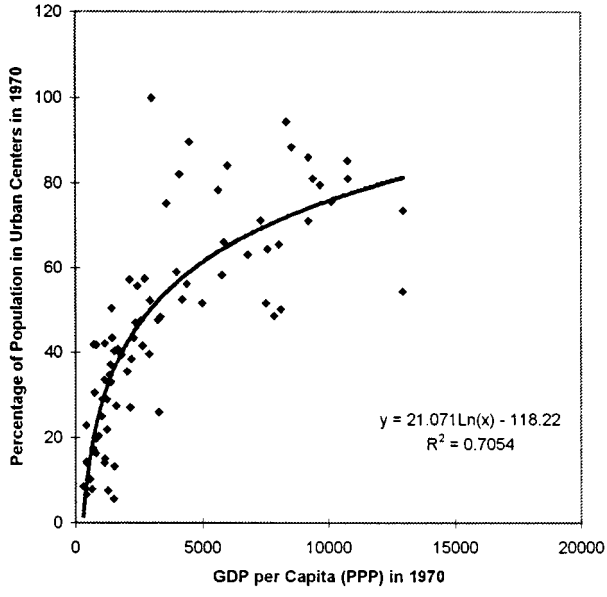
FIG. 6.—Malnutrition as a function of GDP per capita

Like life expectancy, we would expect food sufficiency to have an especially high value around the world (data before 1990 are too spotty to be of use here). If we consider the proportion of children who are malnourished (see fig. 6), we once more see a concentration of change in that variable at the lower end of the sweet spot. It is somewhat surprising, however, that there are more outliers on this figure than there are in figure 5 (all the countries at the very top of the graph are south Asian: India, Bangladesh, and Nepal). While this might suggest some cultural norm at work, it is not clear what that would be. It is quite possible that data reporting standards explain some of the phenomenon.

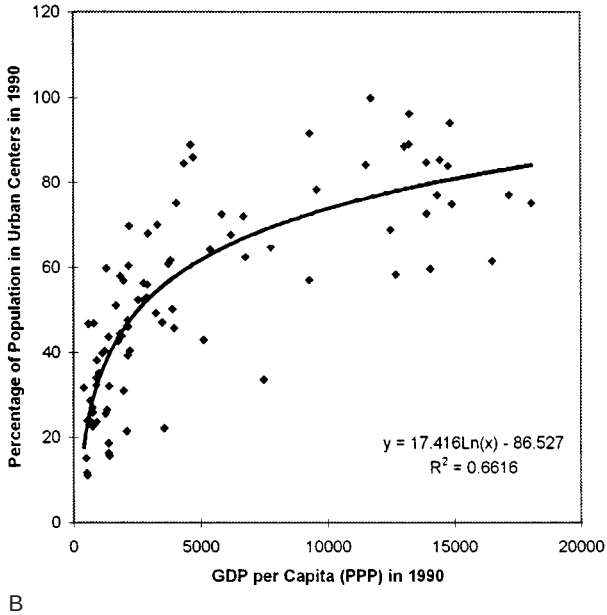
Urbanization may not seem a human value, especially to those in developed countries who long for the sylvan life of leisure that the countryside promises. But for those whose livelihood is tied to backbreaking toil in the fields, an opportunity for shorter working hours and higher cash incomes; access to entertainment, medical care, a wide range of consumer goods; and the fellowship of other humans will all draw people from the countryside to the city. In any case, urbanization does increase rapidly through the sweet spot of development (see fig. 7).

Still another human value is access to safe water (see fig. 8). Those who link environmental deterioration to development tend to focus on air quality, and especially on the deterioration of that quality with growth in automobile emissions. It is important to realize, however, that dirty water generally kills a lot faster than does dirty air. Access to improved water quality may actually be another positive trade-off that those in LDCs make with their moves to the city.

Note again the systemic shift in the pattern of transformation to safer water over the past 20 years.[31] Specifically, the curve has become

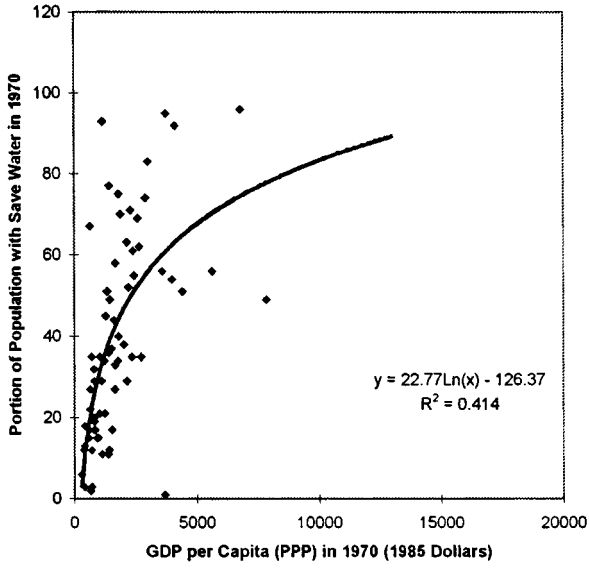


A

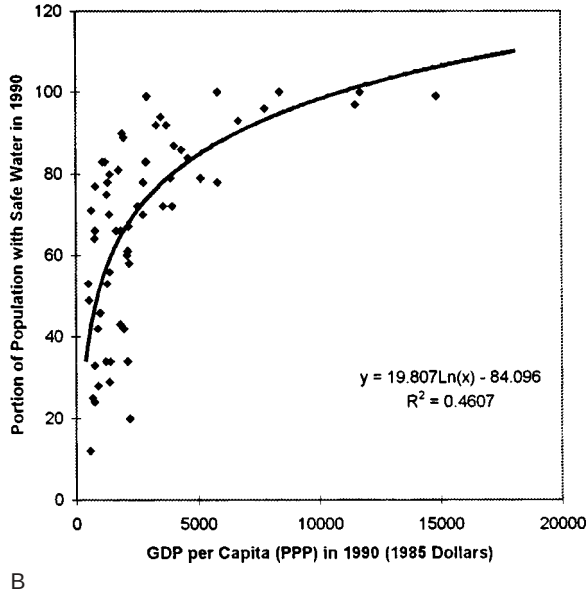


B

FIG. 7.—Urbanization as a function of GDP per capita. *A*, 1970. *B*, 1990



A



B

FIG. 8.—Safe water as a function of GDP per capita. *A*, 1970. *B*, 1990

clearly steeper and higher during that period. It has also become a bit tighter. Leaders and citizens around the world have made a significant effort to improve water safety.

Theorists have argued that it is not just individual social conditions that change with development but also individual values, beliefs, and attitudes. Although the data that would allow examination of that argument are limited, the World Values Survey directed by R. Inglehart does allow some analysis of the proposition.[32] There is some tendency, for example, for both religion and work to become less important as GDPs per capita increase (see fig. 9).[33] Although the figures hint at something equivalent

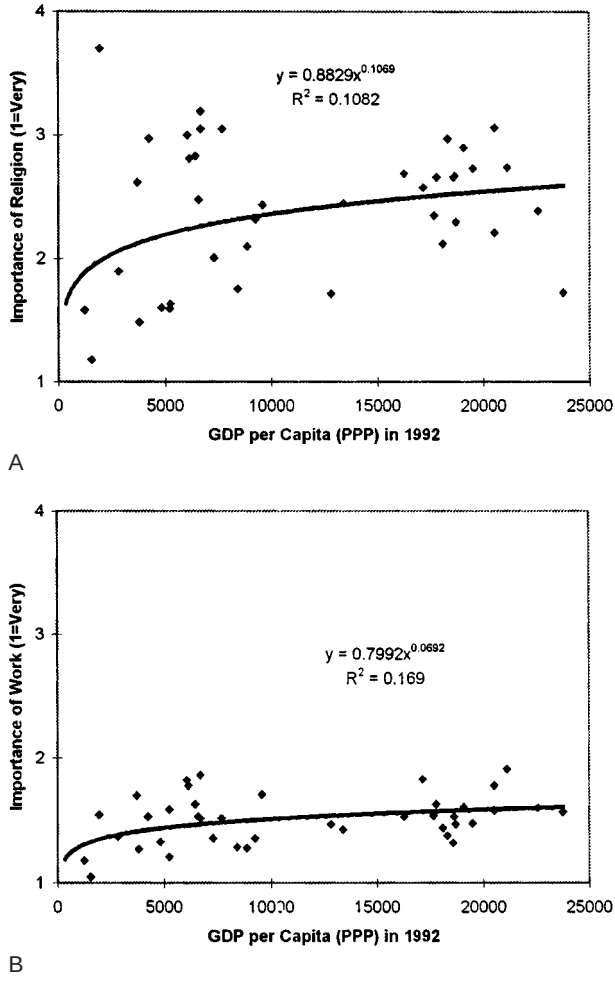


FIG. 9.—*A*, Religion importance as a function of GDP per capita. *B*, Work importance as a function of GDP per capita.

to the sweet spot in attitudes as well, only eight of the 43 countries in the survey have GDP per capita of less than $5,000 at purchasing power parity. Thus it is impossible to examine carefully attitudinal changes in the sweet spot.

The Character of Social Organization

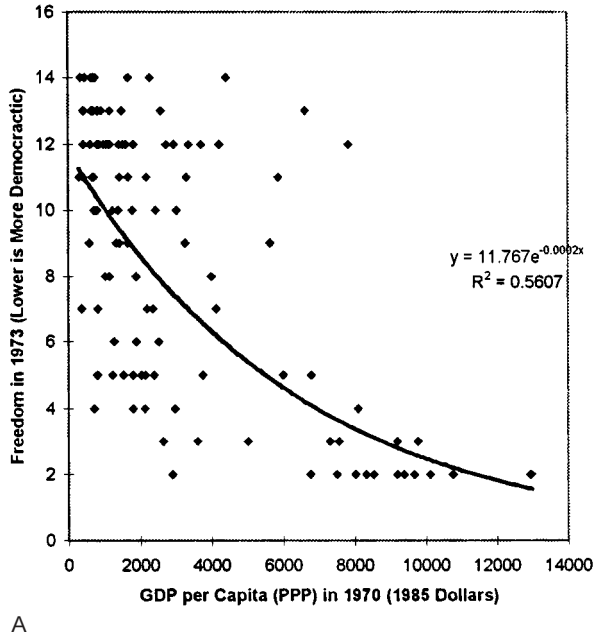
The distinction could easily be overdrawn, but most elements of social change that I have examined to this point are sampled at the individual level and then presented for entire countries. I turn now to measures that are more strictly social or social organizational (including the political).

The first measure I consider is democratization. There is now a vast literature examining the relationship between economic development and democracy, going back, as said S. M. Lipset in his own classic study, to Aristotle.[34] Rueschemeyer, Stephens, and Stephens provided a wonderful extension, while S. Haggard and K. R. Kaufman and A. Przeworski and F. Limongi have contributed recent reviews and additions.[35]

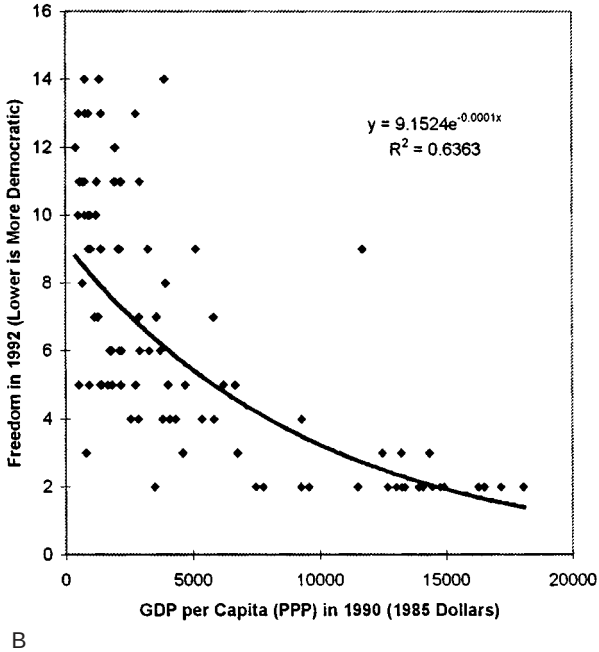
Studies consistently find that democracy is more common at higher levels of economic development. Przeworski and Limongi attribute the correlation not to the increased probability of transition to democracy as GDP per capita increases but to the decreased probability of transition away from it (that is, to the stability of democracy) and to a bell-shaped pattern of instability for dictatorships.

Figure 10 draws on the Freedom House for data and sums their two measures of democracy (political rights and civil liberties), creating a scale that runs from 14 (least democratic) to two (most democratic). Although there is a great deal of variation around the central tendency, a sweet spot in the development pattern is again clear (although the exponential form that fits best here gives a somewhat flatter curve than most of the curves that we saw in figures 3–9, which represent relationships at the individual level). Moreover, the top of the range at which the most rapid change occurs is again about $5,000 (PPP). Of course, the third wave of global democratization, as identified by Huntington, has shifted that curve downward and to the left in the past 2 decades and prior waves of democratization have receded—it is quite possible that the contemporary figure exaggerates the responsiveness of fundamental change in social organization to higher GDP per capita.[36]

Most of the transformations from authoritarian to democratic governments in recent years (like those in Latin America and Eastern Europe) have occurred in countries shown in the upper portion of the sweet spot rather than at either end of the range in GDP per capita. Huntington suggested a zone of transition in which countries confront choices about government forms.[37] Although historical factors, cultural context, and other characteristics of development condition those choices, external



A



B

FIG. 10.—Freedom as a function of GDP per capita. *A*, 1970. *B*, 1990

factors influence them as well. External factors, including powerful actors like superpowers as well as near neighbors, may influence large numbers of choices but leave them subject to subsequent revision. In short, the long-term curve may be a less good fit and somewhat flatter than the contemporary one.

Other social indicators, including the status of women, also give reason to question whether the basic pattern of transformation in broad social structures is as steep as the contemporary pattern of democratization suggests. The United Nations Development Programme assesses women's status with the Gender Empowerment Measure.[38] Given that equality of women with men would be reached only with a value of 1.0, it is obvious that even the most developed societies in the world still have much development ahead of them. It is interesting that this is the first measure I have examined where there is no obvious economic zone of rapid transformation that is followed by a much slower transformation (see fig. 11). That is, rather than a sweet spot in the development pattern, it shows a steady slog.

Inglehart's World Values Survey project (see fig. 12) gives some information on the attitudinal structures underlying measures on democracy and empowerment of women.[39] With respect to human rights, perhaps the safest conclusion is that expressed approval of the human rights movement is effectively unrelated to GDP per capita. The fact that approval for the human rights movement is consistently strong across the entire range of GDP per capita (the approval scale runs from one to four) suggests that desire for greater human rights protection is a constant across all levels of development.

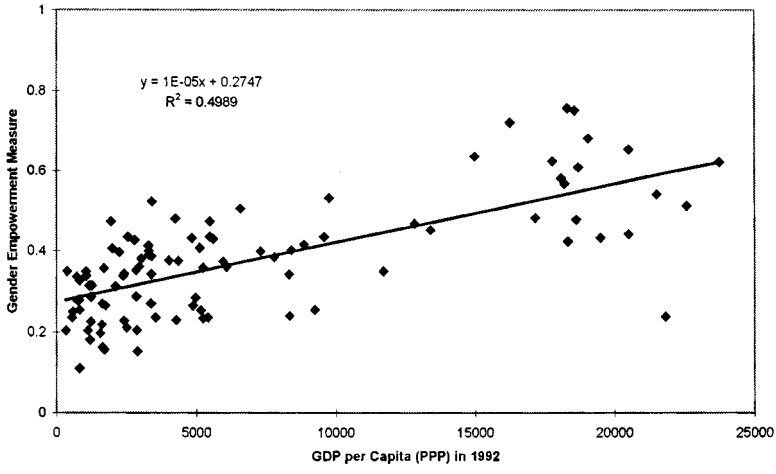
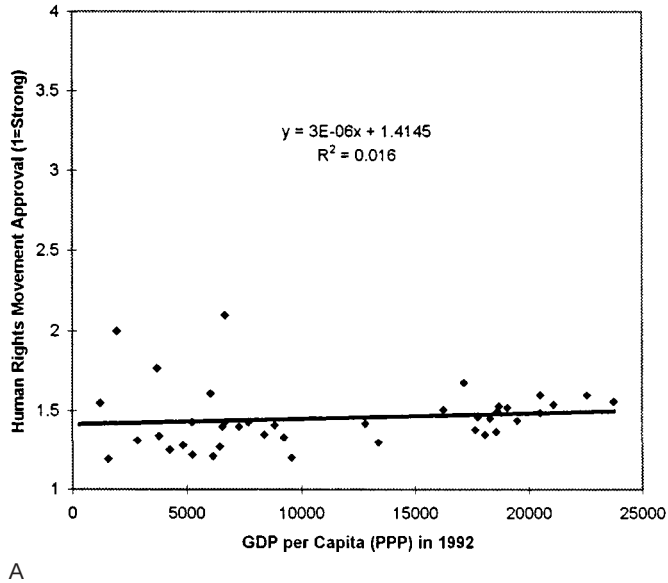
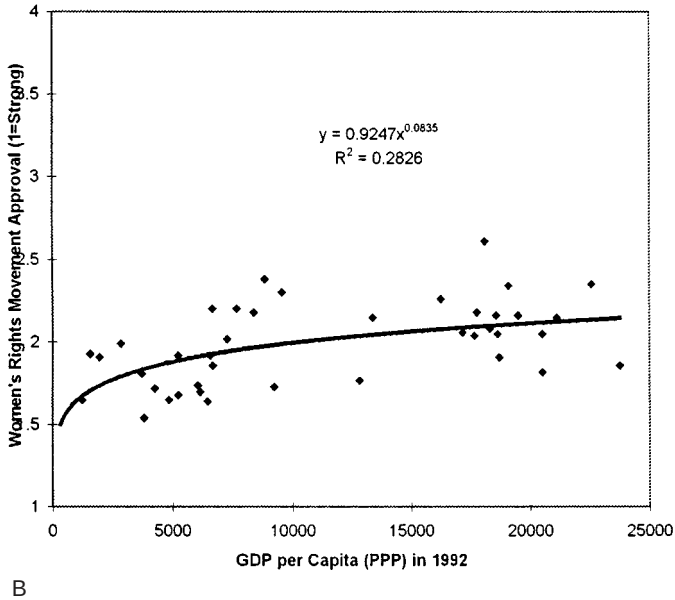


FIG. 11.—Status of women as a function of GDP per capita



A



B

FIG. 12.—*A,* Support for human rights as a function of GDP per capita. *B,* Support for women's rights as a function of GDP per capita.

Similarly, approval of the women's rights movement exists at all levels of GDP per capita. Surprisingly, it fades a little with higher levels of economic well-being. Given that the actual condition of women improves at higher levels, this pattern could indicate either a small backlash against such improvement or against the movement or simply a small increase in satisfaction with prevailing conditions.

Transparency International and Göttingen University have developed a 10-point scale of societal corruption that changes with GDP per capita, much as democracy levels and the status of women change with this measure.[40] This scale (see fig. 13) also indicates a generally linear pattern of movement toward lower levels of corruption.

The pattern is somewhat similar for income distribution (see fig. 14). It appears that there is no zone of rapid transformation in average level of the income share obtained by the 20% of the population with the highest income. There is, however, a zone of transformation in the homogeneity of countries on income distribution as GDP increases. Countries above the sweet spot are more alike.[41] The same patterns appear in data from 20 years earlier and in data (not shown) for the poorest 20% of the population (where, however, the increase in share with increasing GDP per capita is markedly less pronounced). Perhaps the most surprising feature of figure 14 is the systemic shift toward lower income shares for the rich over time. This is contrary to much understanding of those decades. However, the number of countries for 1970 is too small for extended analysis.

Together, the measures of democratization, status of women, level of corruption, and income distribution suggest that development in social structure is slower (more of a slog) than development of individual well-

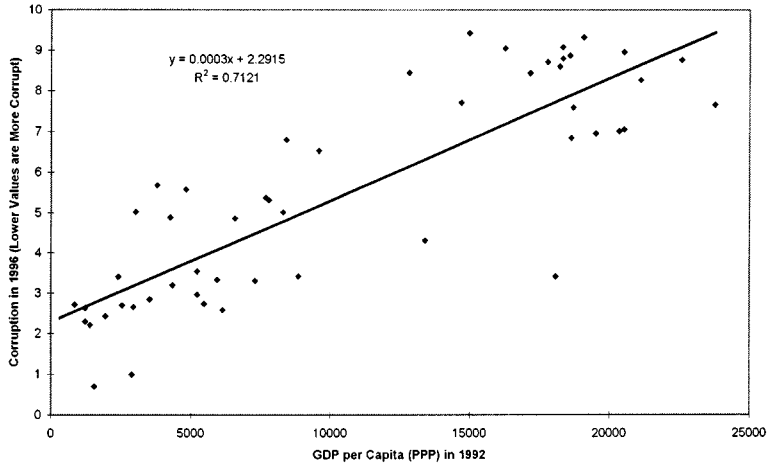
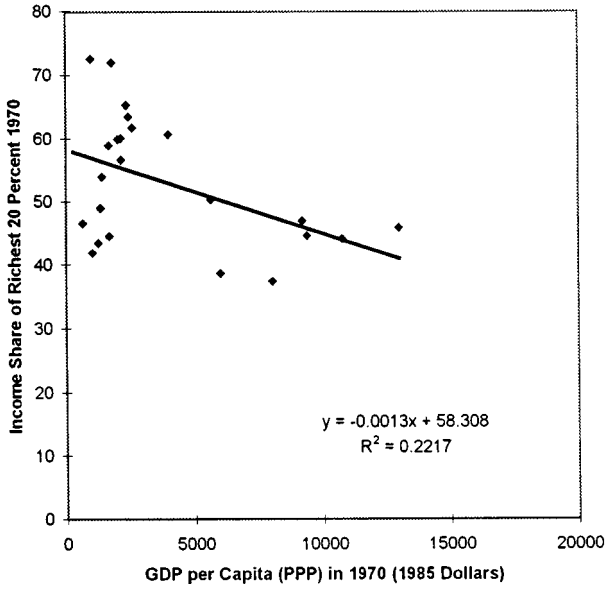
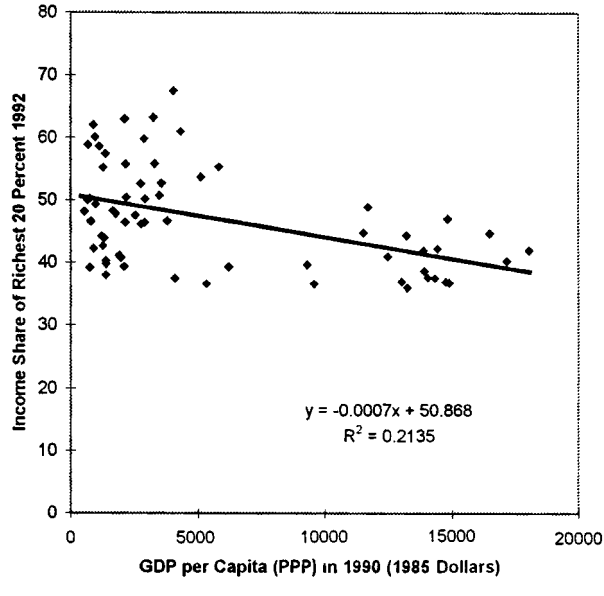


FIG. 13.—Corruption as a function of GDP per capita



A



B

FIG. 14.—Richest as a function of GDP per capita. *A*, 1970. *B*, 1990

being. One criticism that can be raised of this conclusion, and that I cannot fully address, is that the individual life conditions examined earlier were all subject to ceiling effects that caused their growth to top out in advance of the measures of social organization. Measures of life condition do, in fact, have ceiling effects that explain their leveling. Obviously, improvements in individual life quality do not stop at GDPs per capita (PPP) of $5,000. For instance, educational advancement does continue with higher education, even after the achievement of literacy. Yet it is very important that, within that range, key measures of life quality do reach levels found in much more economically developed countries. And the measures of social organization will eventually reach similar ceilings: the Freedom House measure of democracy has a limit as does the corruption measure of Transparency International. Gender equity and income inequality have ceilings. What is important here is that the attainment of those ceilings occurs much earlier for individual life conditions than for social organization.

Analyzing Social Change

To this point, I have relied on cross-sectional analysis to investigate the relationship between economic and social development (although the comparisons across time move toward longitudinal analysis). The strong correlations that I show are highly suggestive of a dynamic relationship, but the data cannot definitively map such a relationship. Therefore, time has to be introduced into the analysis in order to consider whether changes in the economic level of countries over time appear to be related to social change in the same manner as that shown in the relationship across countries.

I will begin by looking individually at the change over time in economic and social conditions. I do this because of the widespread but inaccurate belief that the 1970s and 1980s economically were lost decades for less developed countries. I need to establish clearly that there was, in fact, extensive change in economic levels during that period before I can expect to associate that variation with changes in the social conditions, and I also will briefly consider the changes in the social conditions. This will be followed by an examination of the relationship between economic and social change.

Historic Economic Performance

Contrary to popular belief, GDPs per capita grew substantially in both developing and developed countries during the 1970s and 1980s. A. Maddison divided the period since 1820 into five distinct phases of global growth and pointed out that the rate of global growth from 1973 to 1994 ranked third, outperformed only by the golden age of 1950–73 and the belle époque of 1870–1913.[42] On average, GDP per capita in constant dollars rose by about 50% (2.0% annually) between 1970 and

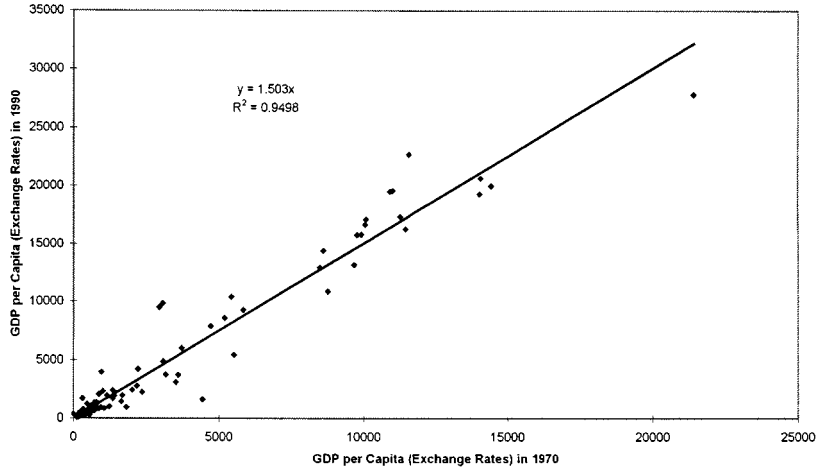


FIG. 15.—Growth in global GDP per capita over 2 decades (1987 dollars)

1990 (see fig. 15; note that the coefficient in the equation relating GDP per capita in 1970 to the level in 1990 is 1.503).

It is important to emphasize how really extensive this growth was, bringing along most less developed countries as well. This can be determined by an extensive examination of the countries that had a GDP per capita of $2,500 or less in 1970 (see fig. 16). The growth rate for those countries was noticeably slower in the 1970s and 1980s than for the world as a whole (the coefficient of the equation suggests an average rate of just over 30% or 1.3% annually), but it was substantial.

The countries that did not participate in this growth were primarily the low income countries in sub-Saharan Africa. With the notable exception of Botswana (the outlier in the graph), those countries experienced

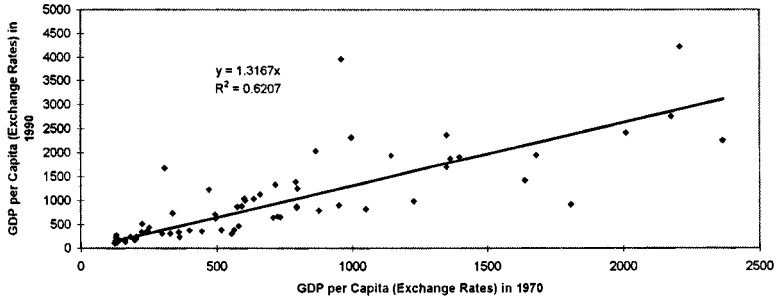


FIG. 16.—Growth in GDP per capita over 2 decades (1987 dollars) in countries with GDP per capita below $2,500 in 1970.

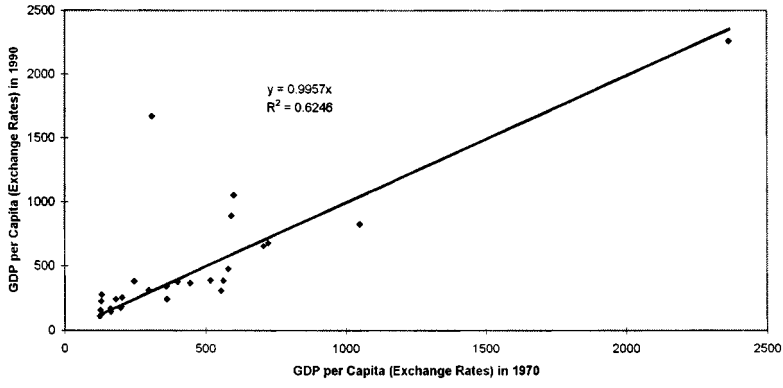


FIG. 17.—Growth in African GDP per capita over 2 decades (1987 dollars)

2 decades of essentially no per capita growth in the 1970s and 1980s—lost decades for the continent (see fig. 17).

Historic Social Performance

At the beginning of the twentieth century, the average GDP per capita (at exchange rates and in 1990 dollars) of Western European countries was only $2,899.[43] At best, those countries were at the top end of the modern sweet spot in social development. Literacy was nearly universal in Great Britain and the United States by 1900, up from 81% in both countries in 1870 and from 50% in Britain in the early nineteenth century.[44] Those countries scored considerably lower, however, on some technology-influenced social measures than did contemporary countries with similar income levels. For instance, life expectancy in 1900 was approximately 50 years in the richest Western European countries, compared with an average life expectancy today of more than 65 years in countries with a GDP per capita of approximately $2,900 (at exchange rates) in contemporary dollars. Unfortunately, it is very difficult to obtain adequate measures of the social condition for even the richest countries early in the century. The attention paid to data on the social condition is really a post–World War II phenomenon.

Globally, an average GDP per capita of about $4,500 in exchange rate terms and an average of $7,000 in purchasing power parity has now been reached. That might suggest that humanity has passed through the sweet spot. Global inequality, however, is so great that the averages are very misleading. In fact, nearly 100 countries, with a total population of about 4.2 billion people (nearly 75% of the global population), have GDPs per capita below $3,000. Those countries and peoples remain within the most turbulent zone of socioeconomic development.

Nonetheless, progress for LDCs through the sweet spot of social development has been substantial. Since 1960, global life expectancy has

increased from 55 to 66 years, the total fertility rate has dropped from 4.9 to 2.9 births per woman, and food calories per capita have increased by about 15%. In low-income countries, social change substantially exceeded the global rate on each of these measures and on others. Life expectancy advanced from 48 to 63 years over the same period, the total fertility rate dropped from 6.1 to 3.3 births per woman, calories per capita increased by 25%, and literacy grew from less than 30% to 65% of the population. Both economic and and social development have been remarkable success stories.[45]

The Linkages between Economic and Social Performance

It is important to understand that the relationships suggested by the previous analysis across countries imply a very long-term connection between economic condition and social condition. It took most of the nineteenth century for the rich countries of North America and Western Europe to reach the top of the sweet-spot range for GDP per capita. Although many LDCs now have GDP growth rates that exceed those ever attained by the richest countries of the world, it remains uncommon for such countries to add more than $2,000–$3,000 to their GDPs per capita in 20 years. And the database of relatively consistent and extensive measurements in GDP per capita and social condition available for this longitudinal analysis extends only about 20 years.

One would expect that the relationships found in an analysis over 20 years would be considerably less strong than those found in the analysis across all countries at a single point in time, an analysis that implicitly looks at approximately 200 years of development. In 20 years, one would also expect other factors, such as policy changes, uncertain and probably variable time lags, and perhaps even some inconsistency in measurement, to play more important roles.

Another reason to expect weaker relationships in the longitudinal analysis is that the underlying longer-term relationships seen in cross-section are highly curvilinear. The longitudinal relationships for individual countries are in essence tangents to those curves at very different points on the curves, and one would expect quite variable slopes for those tangents.

Although I expect all longitudinal relationships to be considerably weaker than cross-sectional ones, as a general rule one would anticipate the strongest longitudinal relationships among economic variables, weaker relationships between economic variables and those of individual life condition, and the weakest relationships between economic variables and those of social organization. This expectation grows from my finding a pattern of decreasing strength of relationships in the cross-sectional analysis.

The purely economic relationships hold up well in the analysis across time. First, the relationship between change in GDP per capita at

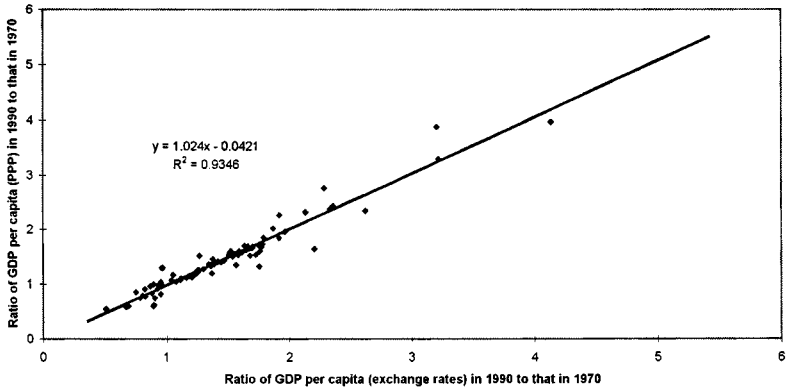


FIG. 18.—GDP in exchange rates and PPP (1990–70 ratios)

exchange rates and GDP per capita at purchasing power remains very strong. As in the figures to follow, figure 18 considers the relationship of two ratios across all countries for which I have data. In this particular instance, the independent variable is the ratio of GDP per capita at exchange rates in 1990 to that in 1970, and the dependent variable is the ratio of GDP per capita at purchasing power for the same 2 years (both in constant dollars).

Note that the best fit in this relationship is a straight line, instead of the logarithmic function that I fit to the relationship for all countries at a single time point. Remember again that the longitudinal relationships are effectively tangents to the longer-term curves that are implicit in the cross-sectional relationships.

Figure 19 shows the relationship between GDP per capita at purchasing power and value added in agriculture (as a percentage of the total GDP). The relationship between the two ratios is relatively strong,

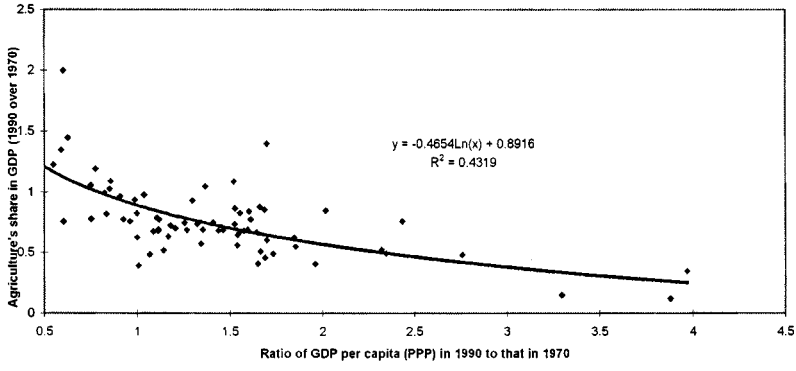


FIG. 19.—Agriculture's share as a function of GDP per capita

although not as strong or as steep as that shown in figure 2 across the entire range of GDP per capita. In general, one might expect that larger proportional changes in the GDP per capita (PPP) will not translate into similarly large proportional changes in dependent variables. One reason is that changes in variables dependent on a change in GDP per capita are likely to lag somewhat behind the change in GDP per capita, and that lag is likely to be greater when the change in GDP per capita is most rapid. In addition, one would expect that many of the dependent changes, including agricultural share, could be resistant to reversal. Thus decreases in GDP per capita are especially unlikely to have dramatic impact.

As stated previously, when turning to relationships between a change in GDP per capita and changes in individual life condition, one expects them to be less tight. That proves true with respect to infant mortality (see fig. 20). One interesting aspect of this relationship is that the curve does not pass through the point 1,1 in the figure. Clearly, there has been a substantial downward shift in the value of infant mortality, regardless of the change in GDP per capita. Presumably this indicates a global improvement in medical technology.

It may be that the systemic shift is even more pronounced and consistent for life expectancy than for infant mortality, overwhelming any effect of changes in GDP per capita (see fig. 21). On the whole, there is an average increase in life expectancy of about 15% over the 20 years, with no obvious relationship between changes in GDP per capita in individual countries and a change in life expectancy in those countries.

Figure 22 shows that the change in the total fertility rate is related

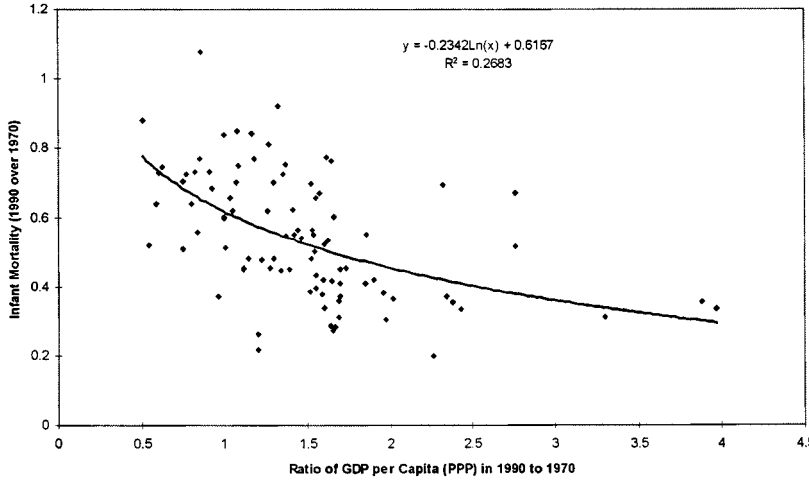


FIG. 20.—Infant mortality as a function of GDP per capita

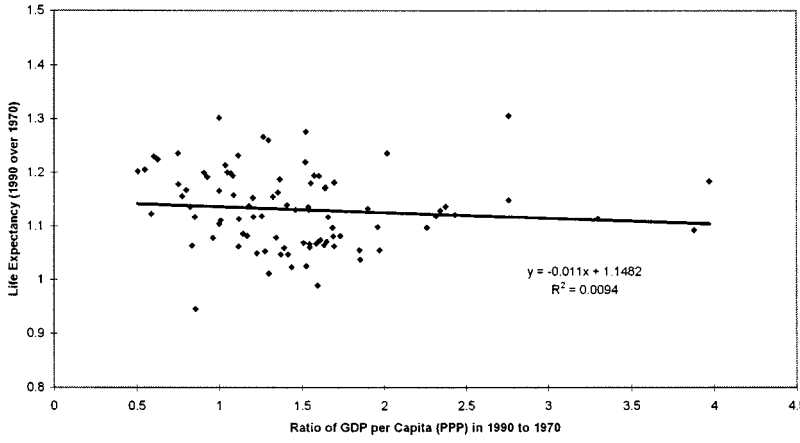


FIG. 21.—Life expectancy as a function of GDP per capita

to the change in GDP per capita in a similar way that infant mortality is. Specifically, while greater increases in GDP per capita correlate with greater decreases in fertility, there is also a downward shift in fertility that is independent of GDP per capita. Although that shift could come from improved contraceptive technology, it is also possible that a global cultural change is occurring that is leading to a desire for smaller families. Any interpretation of the shift is, of course, speculative.

As the final indicator of individual life condition, I consider the

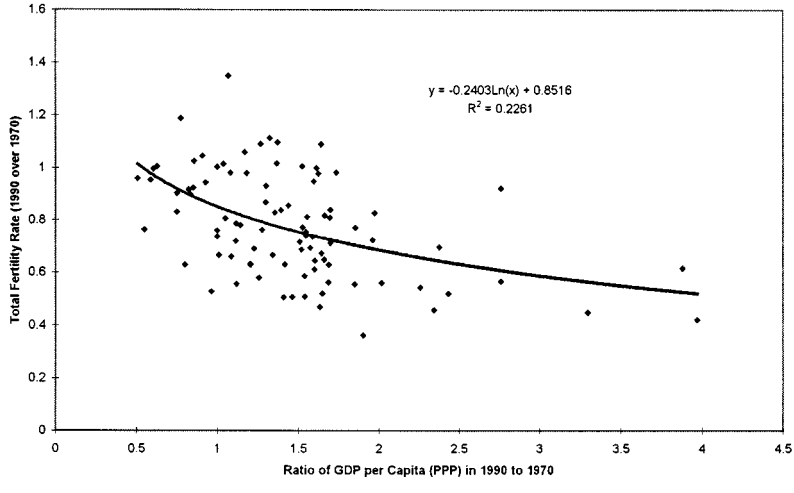


FIG. 22.—Total fertility rate as a function of GDP per capita

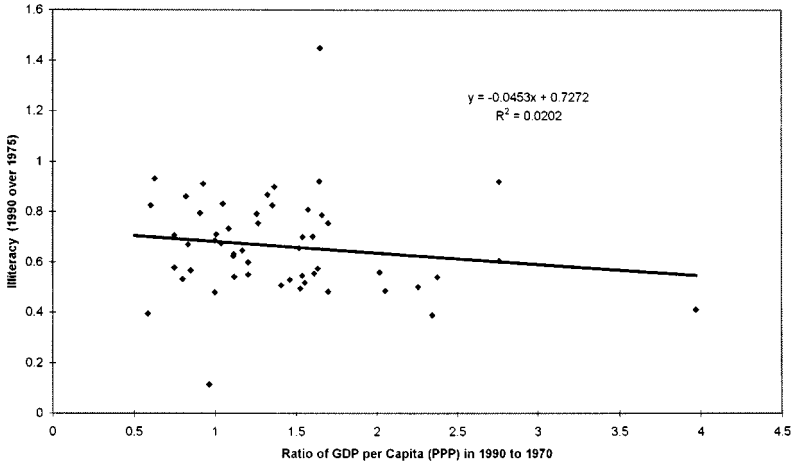


FIG. 23.—Illiteracy as a function of GDP per capita

change in the illiteracy rates in figure 23 as related to the change in GDP per capita (I use illiteracy data only from 1975 to 1990 because my source for 1970 was self-evidently incompatible). Once again, there is a clear shift over time in the social indicator but no relationship with GDP per capita. It is obvious that in this period the major systemic decrease in illiteracy (nearly 30% over only 15 years) overwhelms any relationship with GDP per capita. Even when this relationship is examined only for countries with GDP per capita of less than $3,000 or $5,000 in 1990 (thus eliminating richer countries whose GDP may change but that have reached the limits of reductions in illiteracy), the result is the same.

Unfortunately, the only measure of social organization for which I have longitudinal data is freedom (democracy). There is, however, no relationship in figure 24 between changes in freedom and changes in GDP per capita for the 1970–90 period. This is not too surprising because the relationship for the full range of GDP per capita in the early 1990s was not as strong as that for individual life conditions (as shown in fig. 10).

However, once again there is a shift in freedom that is independent of changes in GDP per capita. Specifically, the average ratio of freedom in 1992 is about 90% of that in 1973, indicating a 10% systemic shift toward more freedom on Freedom House's inverted scale. In view of the third wave of democratization, this shift is not surprising and might well be greater with more recent data.

To summarize, the analysis with changes in data from 1970 to 1990 is generally consistent with my previous analysis across the full range of GDP per capita in the early 1990s. Specifically, there are close connections between changes in GDP per capita and changes in other economic

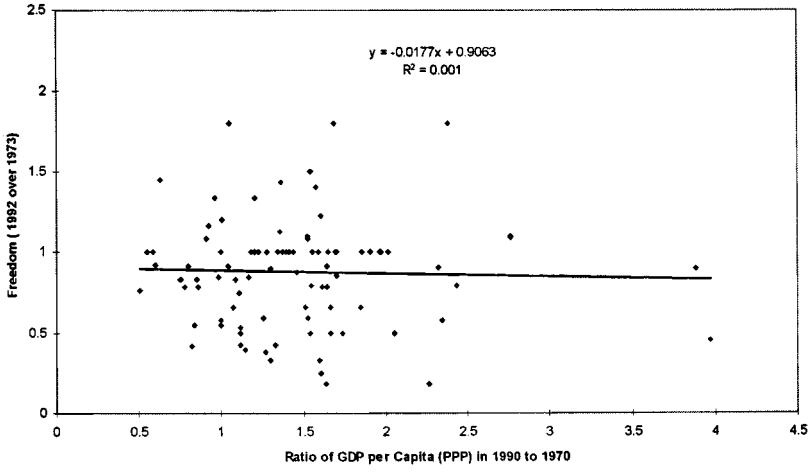


FIG. 24.—Freedom as a function of GDP per capita

variables, weak connections with changes in individual life condition, and no relationships with changes in freedom. I had expected the relationships from the analysis over time to be weaker than those at a single time point.

In addition, the longitudinal analysis shows the systemic shifts that appeared previously in the time-comparative cross-sections over the full range of GDP per capita. The magnitude of those shifts and the relatively weak relationships in my longitudinal analysis reinforce an earlier conclusion: social condition is a function of much more than economic condition.

Economic and Social Development: Caveats and Conclusions

Although this study was never intended to be a defense of the modernization theory, there clearly is a basis for the argument that many good things go together. I have shown that large numbers of important social indicators improve in interaction with economic growth and do so in very similar ways. There is a sweet spot of development in most indicators of individual social condition. That zone of rapid social transformation generally appears below $5,000 per capita at purchasing power parity and below $2,500 per capita at exchange rates. Most change occurs in the first half of that zone.

In considering the sweet spot, however, it should be clear that by no means all good things go together. First, change itself is disruptive and painful. Thus the zone of transformation to improved social conditions is also a zone of great social turmoil. It is most likely that more rapid economic and social advances in some communities relative to

other communities within a country (whether communities are defined by geographic region, ethnic group, religious affiliation, or economic class) will contribute to social and political turmoil. Such turmoil almost certainly helps explain the inability of countries to consolidate change in sociopolitical structures.

A distinction must be made between what happens to individuals within a society and what happens to social structures and relationships. Individual well-being increases sharply and predictably with increases in income through the sweet spot and beyond. In contrast, as critics of modernization theory have long emphasized, the linkages of economic change to aspects of social structure (such as democratization, status of women, corruption level, and government spending) are much less strong. The great variation around the central tendency implies that many other forces are at work and that there is much path dependency in social structure. Social structures change (on average) so much more slowly over a wide range of GDP per capita that there is no sweet spot with respect to them but rather a steady slog. Democratization appears an exception to the rule, but it is possible that global supporters of democracy have pushed it forward at levels of GDP per capita at which other, and often supportive, social change has not yet occurred.

One very important caveat to this discussion of both sweet spot and steady slog is that there is a relative shortage of both comparative and longitudinal data on a number of social indicators that might change less positively with economic growth. It is difficult, for instance, to obtain extensive comparative data on crime, incarceration, suicide, drug addition, or divorce rates.[46]

Many of these missing social indicators are precisely those that development programs seldom or never target and that might reflect the level of anomie in a society. There is some reason to believe that individual anomie might increase with economic development in more advanced market economies. In fact, F. Fukuyama, the proponent of the triumph of liberalism at the end of history, argued that the shift in such countries to information societies has been a period of ''great disruption,'' marked by deterioration for economically advanced countries on exactly these kinds of individual life condition.[47] It would be tragic if relative success for countries on the steady slog was to be followed by decay in individual life condition. Although this potential sequel to the social change of the sweet spot and the steady slog merits investigation, the cross-sectional relationship between GDP per capita and suicide (which I have examined but do not show here), as an example, shows increasing homogeneity at higher economic levels, not higher rates.

Finally, we have seen clearly that social development has proceeded on many fronts in the last 20 years independently of economic growth. It is obvious that there has been a systemic shift in social condition that

has a basis in forces that this study can only speculate about but which almost certainly include both technological advance and widespread changes in beliefs and attitudes.

Humanity has moved dramatically into the social transformation that de Tocqueville and a few others identified early in the nineteenth century. We are hardly at the end of history, but the movement of humanity through perhaps the most significant transformation of individual conditions since the Neolithic revolution is very far along. We have by no means reached the end of social change, but the world can increasingly boast a literate population that is now beginning to stabilize in size and that is, for the most part, well-fed, heavily urbanized, and long-lived.

These same individuals are likely to reside in countries less far advanced in the change of social structures. They nonetheless live mostly in countries where democracy is increasing (although many of the democracies remain unstable), the rights of women are gradually improving (even in the face of some backlash against those rights), and the income share of the middle class is growing (but in the context of still high and even increasing overall income inequality). These are remarkable times of social transformation, and they are far from over.

Notes

* Thanks to James Caporaso, Steve Chan, Jack Donnelly, Kristian Gleditsch, John Grove, David Levine, John McCamant, John Passé-Smith, and Spencer Wellhofer for suggestions on earlier versions of this article. Two anonymous reviewers were unusually helpful in providing constructive ideas for improvement of the study.

1. Alexis de Tocqueville, *Democracy in America* (1831; reprint, New York: Vintage, 1945), p. 139, quoted in Ivelaw L. Griffith, ‘‘Studying Waves: Understanding Sea Changes,’’ *Mershon International Studies Review* 41, no. 1 (May 1997): 139–43.

2. It would be impossible to summarize that huge body of literature here. Although all contributors recognize the interconnected threads of the development process, they frequently emphasize one or another of them. On the social side, in spite of Talcott Parsons’s statement that a theory of change in social systems was impossible at that time, Daniel Lerner outlined ‘‘the passing of traditional society,’’ while Wilbert E. Moore and Amitai Etzioni and Eva Etzioni elaborated the elements of social change. See Parsons, *The Social System* (Glencoe, Ill.: Free Press, 1951); Lerner, *The Passing of Traditional Society: Modernizing the Middle East* (New York: Free Press, 1958); Moore, *Social Change* (Englewood Cliffs, N.J.: Prentice-Hall, 1963); and A. Etzioni and E. Etzioni, eds., *Social Change: Sources, Patterns, and Consequences* (New York: Basic, 1964). W. Arthur Lewis provided a theory of economic growth, W. W. Rostow described stages of economic growth, and Hollis Chenery and Moises Syrquin elaborated further the structural changes that mark economic transformation. See Lewis, *The Theory of Economic Growth* (London: Allen & Unwin, 1955); Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (London: Cambridge University Press, 1960); and Chenery and Syrquin, *Patterns of Development, 1950–1970* (Oxford: Oxford University Press, 1975). Like Parsons

on social change, David Easton decried the absence of theory on political change, but Gabriel A. Almond and G. Bingham Powell, Jr., picked up the challenge, and Seymour Martin Lipset and Samuel P. Huntington made seminal contributions to the literature on the development of democracy. See Easton, *The Political System: An Inquiry into the State of Political Science* (Chicago: University of Chicago Press, 1953); Almond and Powell, Jr., *Comparative Politics: A Developmental Approach* (Boston: Little, Brown, 1966); Lipset, ''Some Social Requisites of Democracy: Economic Development and Political Legitimacy,'' *American Political Science Review* 53, no. 1 (March 1959): 69–105, and *Political Man: The Social Bases of Politics* (Garden City, N.Y.: Doubleday, 1960); Huntington, *Political Order in Developing Societies* (New Haven, Conn.: Yale University Press, 1968), and ''The Change to Change: Modernization, Development, and Politics,'' *Comparative Politics* 3, no. 3 (April 1971): 283–322. Lipset's contributions included early empirical, cross-sectional analysis. David McClelland and Alex Inkeless and David Smith explored the attitutidinal changes that de Tocqueville and Max Weber had suggested should accompany development and that Ronald Inglehart continues to trace. See McClelland, *The Achieving Society* (New York: Free Press, 1961); Inkeles and Smith, *Becoming Modern: Individual Change in Six Developing Countries* (Cambridge, Mass.: Harvard University Press, 1974); de Tocqueville; Weber, *The Protestant Ethic and the Spirit of Capitalism* (London: Allen & Unwin, 1930); and Inglehart, *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies* (Princeton, N.J.: Princeton University Press, 1997). The theory of modernization and the argument that change occurs simultaneously and interactively across economic, social, and political dimensions emerged in the 1950s; David E. Apter and Marion J. Levy, Jr., provide systemic discussions of it. See Apter, *The Politics of Modernization* (Chicago: University of Chicago Press, 1965); and Levy, Jr., *Modernization and the Structure of Societies* (Princeton, N.J.: Princeton University Press, 1966). Huntington presented a number of early critiques of the modernization argument, and Moore and many others have explored the limitations to the thesis that there is convergence across countries in the development process. See Huntington, *Political Order in Developing Societies;* Moore, *World Modernization: The Limits of Convergence* (New York: Elsevier North Holland, 1979). Alvin Y. So and David Jaffe present good surveys of the theory and literature, emphasizing the social change that is relevant to this article. See So, *Social Change and Development: Modernization, Dependency, and World-Systems Theories* (Newbury Park, Calif.: Sage, 1990); and Jaffe, *Levels of Socio-Economic Development Theory* (New York: Praeger, 1990). Most who examine the links among dimensions of development implicitly or explicitly look to economic (or perhaps technological) change as the key driving force, but others appropriately recognize a complex web of developments that reinforce one another. See Johannes Fedderke and Robert Klitgaard, ''Economic Growth and Social Indicators: An Exploratory Analysis,'' *Economic Development and Cultural Change* 46, no. 3 (April 1998): 455–90.

3. Huntington, ''The Change to Change.''

4. Huntington, *Political Order in Developing Societies.*

5. It is interesting that 25 years later, and not long after Huntington had detailed the revival of democracy in a third wave, he threw cold water on the second celebration of improved global prospects that followed the end of the Cold War. See Samuel P. Huntington, *The Third Wave: Democratization in the Late Twentieth Century* (Norman: University of Oklahoma Press, 1991), and ''The Clash of Civilizations?'' *Foreign Affairs* 72, no. 3 (Summer 1993): 22–49.

6. Paul Baran, *The Political Economy of Growth* (1957; reprint, Harmonds-

worth: Penguin, 1973); and Andre Gunder Frank, *Capitalism and Underdevelopment in Latin America* (London: Modern Reader Paperbacks, 1967).

7. Barrington Moore, Jr., *Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World* (Boston: Beacon, 1966); and Guillermo O'Donnell, *Modernization and Bureaucratic-Authoritarianism: Studies in South American Politics* (Berkeley: Institute of International Studies, 1979).

8. Peter T. Bauer, *Reality and Rhetoric: Studies in the Economics of Development* (London: Weidenfield & Nicolson, 1984).

9. Herman E. Daly and John B. Cobb, Jr., *For the Common Good* (Boston: Beacon, 1989).

10. Amitai Etzioni, ed., *New Communitarian Thinking* (Charlottesville: University of Virginia Press, 1995).

11. Robert Solow, ''A Contribution to the Theory of Economic Growth,'' *Quarterly Journal of Economics* 70, no. 1 (February 1956): 65–94; William Baumol, ''Productivity Growth, Convergence and Welfare: What the Long-Run Data Show,'' *American Economic Review* 76, no. 5 (December 1986): 1072–85.

12. Silvio Borner, Aymo Brunetti, and Beatrice Weder, *Political Credibility and Economic Development* (New York: St. Martin's, 1995).

13. John B. Londregan and Keith T. Poole, ''Poverty, the Coup Trap, and the Seizure of Executive Power,'' *World Politics* 42, no. 2 (January 1990): 151–83.

14. Ross Levine and David Renelt, ''A Sensitivity Analysis of Cross-Country Regressions,'' *American Economic Review* 82, no. 4 (September 1992): 942–63.

15. Gerald W. Scully, ''The Institutional Framework and Economic Development,'' *Journal of Political Economy* 96, no. 3 (June 1988): 652–63; Robert J. Barro, ''Economic Growth in a Cross Section of Countries,'' *Quarterly Journal of Economics* 106, no. 2 (May 1991); 407–43, and ''Democracy and Growth,'' *Journal of Economic Growth* 1 (March 1996): 1–27.

16. Alberto Alesina and Roberto Perotti, ''Income Distribution, Political Instability, and Investment,'' Working Paper no. 4486 (National Bureau of Economic Research, Cambridge, Mass., 1993); Torsten Persson and Guido Tabellini, ''Is Inequality Harmful for Growth?'' *American Economic Review* 84, no. 3 (June 1994): 600–621; George R. G. Clarke, ''More Evidence on Income Distribution and Growth,'' *Journal of Development Economics* 47 (1995): 403–27.

17. Robert Klitgaard and Johannes Fedderke, ''Social Integration and Disintegration: An Exploratory Analysis of Cross-Country Data,'' *World Development* 23, no. 3 (March 1995): 357–69; and Fedderke and Klitgaard (n. 2 above), ''Economic Growth and Social Indicators.''

18. Abraham Maslow, *Motivation and Personality,* 2d ed. (New York: Harper & Row, 1970).

19. Barro, ''Democracy and Growth,'' p. 24.

20. Dietrich Rueschemeyer, Evelyne Huber Stephens, and John D. Stephens, *Capitalist Development and Democracy* (Chicago: University of Chicago Press, 1992).

21. Ibid., p. 41.

22. Weber; John Gerard Ruggie, *Constructing the World Polity: Essays on International Institutionalization* (London and New York: Routledge, 1998).

23. Robert Summers and Alan Heston, ''International Comparisons of Real Production and Its Composition, 1950–1980,'' *Review of Income and Wealth* 30, no. 2 (June 1984): 207–62.

24. The World Bank's world development indicators (CD-ROM) (Wash-

ington, D.C., 1997) and annual development reports provided many of the data for this discussion. The World Bank's data can be obtained through www.worldbank.org/data/. This study employed many other sources. Full data sources, all data, and the analysis tools are available in the International Futures (IFs) modeling system (version 3.17). Barry B. Hughes, *International Futures*, 3d ed. (Boulder, Colo.: Westview, 1999), documents the modeling system and provides a CD-ROM with it. More recent information on IFs can be found at www.du.edu/~bhughes/ifs.html. I used Microsoft Excel version 5.0 to fit functions to the data and to calculate the regression coefficients. In each case, I evaluated linear, logarithmic, and exponential equation forms. I display functions based on best fit, not based on theoretical assumptions about the best analytic form.

25. Chenery and Syrquin (n. 2 above), p. 19.

26. Hollis Chenery, *Structural Change and Development Policy* (New York: Oxford University Press, 1979).

27. Rueschemeyer, Stephens, and Stephens.

28. *Economist*, September 13, 1997, p. 69.

29. Although this study generally avoids the terminology of causality (as in, ''increases of GDP per capita lead to higher literacy rates''), it is clear that I am exploring relationships to discover possible causal linkages. I do so only with great caution. One limitation of this study is the bivariate, cross-sectional focus maintained in the graphs (although these scattergrams also allow close attention to nonlinearities). Robert W. Jackman explores the issues carefully and makes a supportive case for the kind of cross-national statistical research done here. I am sensitive to the criticisms of cross-sectional analysis, yet when cross-sectional argument holds up both in comparative cross-section across time and in shorter-term longitudinal analysis (as in the next section of this article), the argument gains considerable weight. See Jackman, ''Cross-National Statistical Research and the Study of Comparative Politics,'' *American Journal of Political Science* 29, no. 1 (February 1985): 161–82.

30. Lawrence C. Harrison, *Underdevelopment Is a State of Mind: The Latin American Case* (Lanham, Md.: Center for International Affairs, Harvard University and University Press of America, 1985).

31. It is important, however, to caution against giving too much weight to changes over time (or even differences across countries) in any single measure, especially one as subject to fluctuations in standards or measurement as is water quality. The source of most of my statistics on countries is the government of those countries, and officials obviously can have political motivations for errors in reporting, especially to show improvements over time.

32. Inglehart kindly provided data from the third wave (approximately 1995) of the World Values Survey. For information on that data, see Inglehart (n. 2 above).

33. McClelland argued that rise of ''achievement motivation'' was a precondition for modernization. Inglehart's data on attitudes toward work show a drop through the sweet spot in the reported importance of work. These may not be contradictory, because McClelland argued that achievement motivation long preceded economic development (clearly it is very important at the lowest levels of GDP per capita), and Inglehart has argued that societies are now moving into a postmodern phase in which individuals value work less. In Rostow's terminology, we appear to be looking at take-off and subsequent stages, not traditional and preconditional stages. See McClelland; Inglehart; and Rostoe, *The Stages of Economic Growth* (all in n. 2 above).

34. Lipset (n. 2 above), ''Some Social Requisites of Democracy.''

35. Rueschemeyer, Stephens, and Stephens (n. 20 above); Stephan Hag-

gard and Robert R. Kaufman, *The Political Economy of Democratic Transitions* (Princeton, N.J.: Princeton University Press, 1995); and Adam Przeworski and Fernando Limongi, ''Modernization: Theories and Facts,'' *World Politics* 49, no. 2 (January 1997): 155–83.

36. Huntington (n. 5 above), *The Third Wave.*

37. Samuel P. Huntington, ''Will More Countries Become Democratic?'' *Political Science Quarterly* 99, no. 2 (Summer 1984): 193–218.

38. United Nations Development Programme, *Human Development Report, 1995* (New York: Oxford University Press, 1995). The Gender Empowerment Measure assesses women's participation in economic and political life and decision making through an index of women's relative income; share of professional, technical, administrative, and management jobs; and share of parliamentary seats. It is not available for earlier decades.

39. Inglehart.

40. Internet Center for Corruption Research, ''TI-Corruption Perception Index, 1996'' (http://www.gwdg.de/~uwvw/icr.htm). This is a fundamentally subjective scale based on expert judgment.

41. Marion J. Levy, Jr., argued that modernization brought homogenization. Many of the graphs here show less variation among countries above the sweet spot than below it. Levy, Jr., ''Social Patterns (Structures) and Problems of Modernization,'' in *Readings on Social Change,* ed. Wilbert Moore and Robert M. Cook (Englewood Cliffs, N.J.: Prentice-Hall, 1967), pp. 189–208.

42. Angus Maddison, *Monitoring the World Economy, 1820–1992* (Paris: Organization for Economic Cooperation and Development, 1995).

43. Ibid., p. 23.

44. W. W. Rostow, *The World Economy: History and Prospect* (Austin: University of Texas Press, 1978), p. 61.

45. Ruth Leger Sivard and other sources provide these data. Sivard, *World Military and Social Expenditures, 1996,* 16th ed. (Washington, D.C.: World Priorities, 1996), p. 44.

46. There is also a lack of useful longitudinal data. The rate of violent crime in the United States grew from 488 crimes per 100,000 inhabitants in 1975 to 732 crimes per 100,000 in 1990 (John W. Wright, *The Universal Almanac, 1995* [Kansas City, Mo.: Andrews & McNeal, 1994] p. 247). A focus on that period might suggest that this pattern portends social anarchy for countries following the development path of the United States and achieving its increases in GDP per capita. But country-specific factors such as a growing youth population and laws on drug use that favor criminalization over harm reduction may explain much of the increase. Violent crime rates began to drop rapidly within the United States in the mid-1990s.

47. Francis Fukuyama, ''The Great Disruption,'' *Atlantic Monthly* 283, no. 5 (May 1999): 55–80.