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Modernization Theory

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Summary and Keywords

Modernization theory studies the process of social evolution and the development of societies. There are two levels of analysis in classical modernization theory: the microcosmic evaluations of modernization, which focuses on the componential elements of social modernization; and the macrocosmic studies of modernization focused on the empirical trajectories and manifest processes of the modernization of nations and their societies, economies, and polities. However, there are two key sources of problems with classical modernization theory. The first is the determinism implied in the logic of modernization, while the second relates to the specific development patterns that modernization theory must contend with. A contemporary theory on modernization relates structural change at a higher level of analysis to instrumental action at a lower level of analysis, doing so within a stochastic framework rather than the deterministic one that classical modernization theory implied. In addition, the refocused attention of social scientists on the process of development has led to a renewed interest in the characterization of the relationship between economic development and democratization. The transformation of knowledge into economic development can be examined by looking at the weightless economy—a collection of “weightless” knowledge products such as software, the Internet, and electronic databases. It is closely connected to a weightless political concept called the credible polity, which is a government that creates institutions that credibly protect property rights and are also transparent in their functioning to all members of its society.

Keywords: modernization theory, classical modernization theory, contemporary modernization theory, economic development, democratization, weightless economy, credible polity, social modernization

Introduction

Modernization Theory

Fundamentally, modernization theory studies the process of social evolution and the development of societies. Given the complexity that arises from tracing the multidimensional development of social processes, the goal of discovering a single definitive social theory of evolution is perhaps the most ambitious research goal in all of social science. It is therefore unsurprising that, with the benefit of hindsight that is advantaged by cumulative research, we find classical modernization theory unsatisfactory due to its Western bias, capitalist ideological underpinnings, and an overall social Darwinism in its logic. Most troubling, though, is that it displays a poor understanding of the socioeconomic development process, especially when it comes to issues such as economic sustainability, political freedoms, and social emancipation. Empirically, too, the logic of classical modernization theory has been shown to be unsophisticated at best and expressly erroneous at worst. So there is a strong case to be made for arguing that, in fact, modernization theory is extinct and hardly deserves an essay devoted to it in this compendium.

However, this essay looks ahead and suggests a considered methodical resuscitation of social evolution theory - a new modernization theory that attempts at providing a social-scientific metastructure within which the constituent development processes relevant to sociologists, political theorists, and economists all form contributory substructures. As such, it suggests salvaging not the message, but rather the spirit of classical modernization theory, which attempted a single conjoint explanation for social development processes, democratization, and economic growth.

This essay consequently requires the reader to be ready for a distinct change of gears from the survey it presents of modernization theory in its classical form to the basis for a research program it proposes for continuing research into a modernization theory for the future. The suggested approach is based on social choice theory and more recent insights gained from political and economic development theory. It is meant to be accessible to any social scientist with an interest in this area. It is presented as one possible and exciting way forward and as a call for addressing key weaknesses in classical modernization theory by using a tractable formal structure that remains true to the eclectic social scientific research that classical modernization theory spawned, and not to introduce needless overformalization.

Classical Modernization Theory

Contributions to classical modernization theory can usefully be studied as belonging to two levels of analysis. At a finer level are the microcosmic evaluations of modernization that focus on the componential elements of social modernization such as urbanization, gender and income inequality, skills acquisition and education, the role of political communication and the media, bureaucratic corruption, and so on. At a broader level are the macrocosmic studies of modernization focused on the empirical trajectories and manifest processes of the modernization of nations and their societies, economies, and polities. While this characterization is not absolute, and indeed both levels of analysis are actually linked in that theoretical constructs from one hold logical implications for the other, such a categorization perhaps makes it easier to understand the emphasis and primary focus of a given modernization theorist.

Why the timing of the birth of classical modernization theory spans the late 1950s to the 1970s is in itself an interesting question worth addressing. Arguably key contributions at both the micro and macro levels came around the time the behavioral revolution was sweeping across the social sciences, albeit at different rates in economics, sociology, and political science. It essentially espoused the merits of methodical analysis and treating social science as a science of social processes, and naturally the study of development took center stage in this ambition. The benefit of the behavioral revolution to the study of modernization was in social scientists recognizing that it deserved a treatment that prevented variegated and ethnocentric interpretations for the definition of “modernity” from overwhelming its practical usefulness. In a review published in 1976, Portes noted this fundamental difference between the more contemporary studies on social development and those that came earlier, and interestingly attributed the drive for the methodical study of development to discovering systematic sociological differences between the Western developed European societies and the underdeveloped societies around the world (Portes 1976).

At the level of the microcosm of modernization, emphasis was therefore focused more squarely on characterizing the modern social entity, be it an individual, a family, or even a firm. Sociologists with an interest in sociometry devised surveys to study the effects of industrialization, urbanization, and the acquisition of skills on the development of a modern social being that shared certain similarities across nations (Smith and Inkeles 1966; Inkeles 1969) and generally discovered emergent social values that evolved from the process (Feldman and Hurn 1966). Pinning down changes in social values resulting from the idea that an increasingly specialized modernizing society can effect is understandably an arduous task owing to the complex dimensionality of social change. However, this complexity is also interesting in that it reinforces the humanistic reality of modernization that macro studies simply cannot address. For instance, in an interesting study, Delacroix and Ragin (1978) conducted a panel regression analysis on the effects of schooling and the cinema on the development process in third world countries. They

Modernization Theory

reaffirmed the observation made by classical theorists that schooling helps modernization but attributed this to schools being generally secular institutions; in contrast, they suggested how cinemas may hinder growth by promoting Western social values that are not compatible locally.

With respect to the macrocosmic studies of classical modernization, it is hardly a surprise that its primary contributors came from a time (unsurprisingly, prior to the formal publication of Gödel's theorem, which denied that such an enterprise was at all possible) when theories of *everything* were all the rage. Therefore, Rostow (1990) was not trying to explain sectoral transitions of economies; he was creating an all-encompassing theory of development that inexorably led to a modernization of the polity and society. Likewise, Lipset (1959) was not constructing a socioeconomic development model; he was instead positing an endogenous transition theory that explained the sociopolitical development of nations. And Kuznets, who is often forgotten for his contribution to modernization theory due to his dissenting views, was, while disclaiming the existence of a climacteric change that signified modernization (see, for instance, Rostow 1963), himself interested in characterizing the overarching dynamic of the socioeconomic development process (Kuznets 1955). Still, Lerner's study on modernization as a process of three distinct phases was remarkable in that it was rooted primarily in micro-social processes yet attempted to explain societal evolution as a single macro-social process that transformed traditional societies into modern ones (Lerner 1958). It began with urbanization that led to a growing need for education and technology, which in turn created the demand for mass communication and a more efficacious media sector. His phase theory culminated in one of the earliest characterizations of modernity based on an institutional explanation because for him a modern society was one that eventually had modern institutions that facilitated political participation.

In contrast to these macro-level grand theories, it is fair to say that contemporary eclectic social scientific study of the modernization of societies has sputtered to a halt, and there are two chief reasons for this. First, the study of each of the constituent social dimensions of modernization theory has advanced independently and created significant barriers to entry for anyone who wishes to retain the social-scientific perspective to modernization rather than select and commit to a component area and concentrate his or her efforts from the perspective of either a social development theorist, a democratization scholar, or a researcher on economic development or economic growth theory.

Second, the foundations of modernization theory are now considered questionable, a charge based more significantly on its inadequate empirical validity rather than its underlying logic. Most political scientists would consider the most important contribution in this regard as being that of Przeworski and Limongi (1997). However, it is equally illuminating to realize the significance of the emergence of the *endogenous* growth literature in economics (beginning with Romer in 1986), which started suggesting the relevance of government policy and even social behavior in creating an environment for households and firms in which to determine their savings, investments, acquisition of skills, size of their family, and so on. With the multifactoral endogeneity across the

Modernization Theory

numerous variables spread over the various social sciences that classical modernization theory necessarily implied, it is very easily shown to be lacking in any exercise that takes empirical validity as a benchmark for success.

As a result of these developments, the status quo for classical modernization theory is that it is discounted as being overly deterministic in its logic. Ironically, the endogeneity that made modernization theory in its classical form an interesting unifying theory in the first place appears now to be its principal failing because that makes it too deterministic in the eyes of any empiricist worth his or her salt. Additionally, it is also critiqued as simply being unable or at least wanting in its ability to be reconciled with the various empirical truisms that have been established through specialist study of the political, social, and economic strands since its advent.

How, after all, can a political scientist make peace with a theory that is unable to explain the process of *probabilistic* regime transition negotiated by key political actors in one instance and by exogenous forces in another? How can an economist allow a theory to suggest that no process of economic growth can be studied without taking sociopolitical developments as prior, and, therefore, all growth theories must ideally inform themselves with social transformations and political realities? Indeed, how can a social development researcher agree to a theory that suggests social development is necessarily conditioned by political process and economic structure? These are all uncomfortable requirements that ask too much of a social scientist. It is easiest to start with a subset of social science and study *its* modernization in isolation, assuming independence from other social dimensions.

One may hold the view that ignoring the holistic and eclectic view of classical modernization theory and emphasizing the separate strands of social, economic, and political development has yielded much insight and, ergo, if modernization theory must be sacrificed at the altar of scientific progress then so be it. I agree wholeheartedly with the first part of that statement but would argue that the conclusion it arrives at sets the bar too low. The beauty of classical modernization theory is that it forces the researcher to study development as a social process. Just as no theory of development within each of the social sciences is considered as being definitive and is thus constantly revised, neither was classical modernization theory a definitive theory of social development and also deserves more constant attention than it gets.

Classical Modernization Theory Facing New Evidence

There are a few significant changes worth reviewing here that have breathed new life into the prospects of modernization theory reemerging as a pursuit worthy of its own

Modernization Theory

dedicated researchers. The far more advanced state of understanding that we can now draw on – some 50 years after classical modernization theory was initially formulated – about the individual development processes that must inform each other in the revision of modernization theory is an obvious advantage, but there are also other factors.

Primary among those is the econometric sophistication and the quality of data now available to social scientists, which has made it far easier for us to reassess the validity of the trends we observe and then establish the factual basis for what a theory of modernization must explain.

A concrete illustration of this sort of thinking comes from both the economic growth literature and the political science literature. In economics, in a series of articles, chiefly Quah (1993; 1994; 1996) among others suggested that, in per capita income, countries do not all necessarily converge to a single steady-state future like many before them had argued (see Solow 1956; Mankiw et al. 1992), which had inspired the idea of unconditional convergence by Barro (1991; 1999), Barro and Sala-i-Martin (1992; 1999) and Sala-i-Martin (1996). The economies of countries might, on the contrary, be forming two distinct clubs of convergence, a club of high-income countries and a club of low-income countries, with any middle-income groups disappearing over time as the global system approached a steady state. So while there is convergence *within* each of those clubs, the world, on the other hand, is characterized by divergence as the difference in economic income *between* the clubs increases. Exactly what causes this surprising outcome is not entirely resolved in the economic growth literature and remains somewhat of a puzzle. The controversy is summarized rather well in Durlauf (1996).

In political science, since Huntington (1991) gave us the now well-embedded idea that democratization comes in waves and that we are riding the crest of the third such wave, the implication drawing considerable interest has obviously been whether this latest wave, too, will subside as the two that have come before it or whether, on the other hand, this time the wave is here to stay. The notion that it will stay and culminate in the global convergence to a Western form of liberal democracy across all nations is itself an empirical extension of Francis Fukuyama's idea that we have arrived at the End of History, as it were, as far as the ideological evolution of the forms of political regimes is concerned (Fukuyama 1992).

These two observations pertaining to economic incomes and political regimes are usually seen in isolation. While the former is debated in a relatively more methodical manner using the more precisely defined standards for convergence versus nonconvergence, the latter can essentially be formulated in similar terms as well. In fact, Goorha (2007) reviews and discusses them together using similar methodological perspectives. It presents an empirical investigation employing Quah's suggestion on economic income dynamics to test for nonconvergence in the ergodic distribution of political regimes and shows that twin clubs of convergence in the attainment of democracy do indeed appear to be forming over time. This result of polarization in regimes appears to be rather robust under a variety of specifications, and seems to be even more exaggerated in the post-war

Modernization Theory

years. Convergence to perfect democracy for the global distribution of political regimes does not appear imminent at all. While Goorha (2007) is certainly not a definitive characterization of the ergodic global distribution of political regimes, the message of twin clubs of convergence in political regimes it provides is quite clear.

Second, and rather obvious, is the fact that the number of political and economic transitions over the preceding two decades has refocused our attention as social scientists on the process of development. From the reunification of Germany, the fall of the Soviet Union, and the enlargement of the EU to the overwhelming relevance of the BRIC countries in global economic growth, relatively recent global developments have, time and again, reminded us of the need for a better understanding not of political regime transitions or socioeconomic development, but of the links between them. We are clearly living in a period of history where we have moved beyond a simpler preoccupation with an understanding of the process of economic growth or democratization to one where we need to understand social development in its entirety.

An area where this has led to a renewed interest is in the characterization of the relationship between economic development and democratization, and the trend this has recently taken is related intrinsically to the first point about the empirics of convergence. One of the methodological criticisms leveled at the analysis of convergence in economic incomes over time is that when it is based on cross-sectional rather than time-series data, the inferences are unreliable. Similarly, studying the democracy and economic growth relationship faces the most basic problem of reverse causation, which leads to inconsistent estimation unless the system of equations can be identified using an informative instrumental variable. This, in principle, has been tried in earnest only very recently, most notable among which is Acemoglu et al. (2005), which reinforces the view that the direct effect of economic income on democratization is negligible. However, while modernization is not their focus, even if it were, this approach would still not pay enough attention to the role of the identifying assumptions made by the researcher simply because the complexity of relationships is multiplied when the question is broadened from that of democratization to that of a general theory on the evolutionary process of an entire society.

Embedding Institutional and Instrumental Perspectives in Modernization Theory

The responsibility that studying modernization theory places on the shoulders of its researchers when it comes to having a sound understanding of economic development theory cannot be overstressed. Geddes (1999), summarizing the state of the literature in 1999, highlighted the point that the most significant established contribution of the literature has been in suggesting a nonlinear relationship between the probability of democratization and economic development. This can, of course, be viewed as more than

Modernization Theory

merely a statistical artifact if it is in fact structurally induced at the level of institutions – in the tradition of North (1981). While there are numerous studies in new institutional economics that link the polity and the economy, Acemoglu and Robinson (2005) is an especially notable recent contribution for our purpose since it emphasizes the role of institutions simultaneously in shaping private as well as economic and political interactions.

The strictly structural view institutional approaches often seem to present might not appeal to those interested in seeing the bottom-up (or instrumental rational actor) counterpart to social change that modernization suggests. Constructive contribution to increasing our understanding of the modernization process, especially given its increasing complexity in contemporary societies, can only be made if the structural and instrumental perspectives can be reconciled with each other and informed by one another. Here, Williamson (2000) remains a very worthwhile contribution in its suggestion that the level of institutional “embeddedness,” which is a function of the length of time over which the process of change needs to be studied, determines the sort of institutional analysis that is required. At one extreme the best manner of approaching the analysis is standard neoclassical agent-based economics, and at the other extreme, sociological and even anthropological explanations might be far more useful. This perspective, in the true spirit of what is required to advance modernization theory in the twenty-first century, explicitly encourages the researcher to recognize the limits of any given traditional approach. Moreover, it encourages donning a basic social science perspective – one that espouses methodical and tractable interdisciplinary analysis – to study the variegated social processes associated with all levels of modernization and at different amounts of embeddedness.

Therefore, when political scientists are looking at parametric changes across broad classifications of regimes, they are usually operating at a high level of institutional embeddedness and must consequently look over a longer period of time to study their change. A classic example of this is Huntington (1991), where the interpretation and explanation of an empirical regularity – essentially that of a periodicity in the time series of political regime – in regime change is the impetus. However, this obviously does not restrict general political analysis of regimes strictly to the temporal domain provided the order of the analysis is made explicit at the outset. For instance, still at a high level of embeddedness, a researcher may study institutional or regime transitions at the level of the country or polity, where he or she may concentrate on debating and evaluating the relevance of the various factors germane to regime change. After all, classics in comparative political analysis such as O’Donnell et al. (1986) or Rueschemeyer et al. (1992) are illustrative examples of this type of regime-change analysis; the former considers the role of the economy, the military and its junta, the structure of the bureaucracy, the private sector, and the international environment, whereas the latter concentrates on the role of the middle class in its relation to other social classes. This sort of research is fundamentally an effort at specification of the general structural model and as such remains vital when conceptualizing the parameters of the social evolutionary process. At a lower level of embeddedness, the researcher switches interest to the

Modernization Theory

comparative statics of the specification, dealing, therefore, with higher order conditions. An excellent example of this is Geddes (1996), where the approach is expressly built on assessing behavior derived from studying the compatibility of incentives that political actors face.

The essential point is that a contemporary theory on modernization must ideally be able to relate structural change at a higher level of analysis to instrumental action at a lower level of analysis, but do so within a stochastic framework rather than the deterministic one that classical modernization theory implied. While this would then allow it to explain variable real-world outcomes and is obviously preferable, it is no mean task given that modernization theory is a holistic theory of general social evolution and as such sets the bar very high for a methodologically sophisticated and tractable yet flexible model. Let us take three specific examples that suggest the scale of this task.

First, an understanding of the role of social capital in modernization is very relevant to any contemporary effort on studying modernization as a general theory. Definitionally, however, it encompasses an uncomfortably large swathe of ideas ranging from more esoteric ideas such as trust and respect to somewhat less contentious ones such as group cohesion and cooperation. Yet, owing to the burgeoning weight of evidence suggesting the relevance in societies of its stock, its depletion, and its changing nature, research suggesting the impact of social capital on even the most general dimensions of modernization pertaining to democracy, economic development, and social welfare cannot be ignored. This requires looking at its logical and empirical influence on societies and cultures at the highest level of institutional embeddedness as well as studying its role on private market and civil interactions at far lower levels of institutional embeddedness - indeed, at the level of an agent. Its manifestation at higher levels of analysis has been studied for a very long time, but most recently and significantly by Robert Putnam (1994; 2001). However, the conceptual link that social capital has with social network analysis and thereby a whole host of other scale-free networks in numerous spheres of the natural and social sciences allows it to be more succinctly and systematically considered in more general and formal models. After all, Metcalf's law and Reed's law on networks suggest that the "value" of a network increases in proportion to the number of users the group has; social network theory allows studying social capital as an intrinsic feature of a social network with a defined architecture, and allows interpreting less and more interconnected nodes in the network as individuals or social organizations all operating within the same social context.

A second such valuable link across institutional levels of analysis that a contemporary theory on modernization could benefit from is provided by the efforts within social choice theory to transform the institutional structure into a simple tractable parameterization of rational actor optimization behavior, be it a political actor or an institutional collective actor. The contributions of social choice theory are of fundamental importance owing to their concentration on how the regime structure specifically affects the first principles of political competition itself. Perhaps the most well known application of this in political science has been the veto player terminology developed by Tsebelis (1995) for a variety of

Modernization Theory

political institutions using spatial voting theory. The use of social choice theory in understanding the basics of political regime operation also hints at why the mechanism design approach to studying endogenously evolving institutions and constitutional design simultaneously with political and social learning forms a very sound basis for the analysis if not the basic formulation of a social modernization theory. See Mantzavinos et al. (2004) for recent discussion of this view. The language in such analysis changes from the economist to the political scientist, but its relevance is rarely debated.

As an application of this, consider Shepsle and Weingast (1984A), who suggest the role of self-interested rational actors as the basis for the evaluation of public sector institutions since the adoption of such an approach facilitates an evaluation of public sector institutions not too unlike their private sector counterparts. McKelvey and Ordeshook (1984) then support the suggestion that when rules engender political constraints that lead to results that are not to the liking of politicians, they (political groups) are able to bypass such constraints. They are unable, however, to support a stronger version of the hypothesis that institutions are therefore subservient to political actors to the extent that they can permit certain equilibria not to obtain in spite of the original institutional design. To this, Shepsle and Weingast (1984B) answer that rules have consequences and therefore politicians are indeed interested in them in accordance with their preferences. They believe that their first hypothesis is necessary but the second fails due to a sufficiency condition not being met - that of Coasian transactions costs, which themselves are a product of the mechanism design or "rules of the game." If these are incorporated, then we find that certain institutionalized procedures are more susceptible to manipulation by motivated politicians than others. It is precisely this sort of interpretation of the politician as a rule creator as well as a player of the political game that is very enlightening in developing the basis for social modernization, as is illustrated below.

The third and final example of an issue that any modern theory on modernization must be able to comfortably deal with is actually related to two strands of literature within political science and economics. Broadly, this is related to the debate among political scientists about the ability of political development processes to endow stable and consolidated regimes with accountable institutions and veto players, and the debate among economic growth theorists regarding the process of convergence in economic income mentioned above. The point is that a logical connection between these largely separated literatures is needed for any contemporary modernization theory that jointly deals with the dynamics in both economic growth and political development. Gladly, this logical link does exist and is a product of the research done on the reasons for failure and success of macroeconomic stabilization programs, which have increasingly recognized the importance of sociopolitical issues in equal measure as the economic ones. Therefore, it is unsurprising that the insight comes from the development economics literature this time, where Rodrik (1989; 1992), Calvo (1989), Dornbusch (1990; 1993), Garrett (1998), and Dixit (1992; 1993), among others, have suggested that countries undergoing economic reform (without much attention to regime) face a polarized outcome too. Unreformed countries form one group and reformed ones form the other. Those countries

Modernization Theory

that are reforming must credibly suggest their sincerity to the domestic private sector and foreign investors in order to successfully jump from one group to the other. If reform is seen as fleeting or “incredible” then distorted incentives will cause capital flight, mobile capital investment (which is less complementary with long-run growth), intertemporal substitution in consumption, and so on, which, in turn, is likely to hinder the progress of reform. This credible commitments idea gives us the virtuous versus vicious cycle theory, a dynamic relevant for modernization theory since it makes economic and political outcomes logically codependent.

It is easy to see that this argument is obviously closely related to the economic convergence literature. Simply, the idea is that virtuous cycles are virtuous for the reason that they reinforce economic reform, which eventually leads to higher growth; it takes no far stretch of the imagination to see that these countries are liable to be the ones that form the high-income convergence club. Likewise, the low-income convergence club is composed of the countries facing a vicious cycle of pathetic reinforcing economic performance, which in steady state should be a stable group if the cost of reform outweighs those elusive benefits accrued even in the slightly longer run that initially tend to be a significant component of the lure toward reform. But, crucially, there is no deterministic link in this with political regime types; a virtuous cycle *may* include nondemocratic countries provided their polities have the ability to make credible commitments.

Revising and Continuing the Classical with the Contemporary in Modernization Theory

The preceding discussion has emphasized the benefit of a social modernization theory while simultaneously acknowledging the problematic elements of classical modernization theory. Before we turn to a suggested future research plan for modernization theory based on trends in the existing literature, it is worth reiterating the key sources of problems with classical modernization theory that contemporary modernization theorists would need to take a view on and address in their work.

Those difficulties pertain primarily to two key issues. The first is the determinism implied in the logic of modernization. Partly this criticism of determinism is justified since economic modernization indeed cannot deterministically create a democracy if democracy itself is predicated on more requisites than those obvious ones visible at a higher level of analysis (and highlighted by classical modernization theorists), such as increasingly specialized and organized economic activity and social groups capable of informed collective action. It often has to contend with time inconsistent political actors at a lower level of analysis or cultural incompatibilities at a much higher one. However, this is also a somewhat unfair criticism simply because we are evaluating a long-existing theory with the benefit of a better understanding of game theory, nonlinear dynamics,

Modernization Theory

better data (both in terms of our datasets as well as many more observations that have created more variance in the variable of interest), econometric sophistication, and so on. This is not an excuse for classical modernization theory, but rather an effort to suggest that those tools should be brought to bear on understanding whether an endogenous social modernization theory can in fact be formulated rather than dispensing with the whole idea in favor of an exogenous view to social modernization processes.

The second issue relates to the specific development patterns that modernization theory must contend with. That the economic development path selected by a country is increasingly a sociopolitical issue just as much as an economic one is very evident in the recent debates on defining, agreeing to, and implementing a sustainable development plan that reengineers traditional economic development, and also in the debates on knowledge-based growth or clean development. It is for these reasons that for research on modernization theory to progress into the next century, it must be able to produce an endogenous social modernization theory that, while being internally consistent, can also produce varying outcomes and is empirically testable.

A New Modernization Theory through a Credible Polity and a Weightless Economy

Modernization Theory

We can now turn to a review of how a new modernization theory might be constructed addressing the problems with the classical version discussed above as well as being able to tractably study the role of embedded social institutions as well as instrumental rational action. We build this perspective with the logical link identified above in development economics on the polity's ability to generate credible signals for the economy. In doing so, we will also take a necessary detour to study the crucial role of information and knowledge since social modernization is, now more than ever before, characterized by more informed societies.

What is peculiar about knowledge that requires cognizance by the modern modernization theorist is that it fundamentally changes the pattern and nature of development.

Knowledge has two basic features. First, it is a resource that paradoxically grows when exploited (and therefore features the *comedy* of the commons rather than the traditional *tragedy* of the commons we are familiar with). Second, it requires a credible regulatory structure that allows demand aggregation, and therefore a society that has experience in creating social institutions that do this more effectively is more likely to be able to exploit the benefits of knowledge more rapidly.

Regarding the first of these features, it does not require long hours of deliberation to understand that knowledge is accumulated with increasing returns. Most phenomena we study as advanced students of a field are ultimately related to a smaller and smaller set of basic principles and it is, in turn, the effective comprehension of those principles that enables us to expand our knowledge exponentially. This temporal "path dependence" creates the potential for increasing returns and positive network externalities in acquiring knowledge. It is thus the nature of knowledge that it is best when it is cumulative and there is therefore a reason why MIT, Harvard, Brandeis, Boston College, Boston University, Tufts University, and almost 60 other academic institutions thrive within the Greater Boston area while the entire northwestern region of the United States suffers from a paucity of first-rate colleges. Generally, clustering and spatial agglomeration of knowledge-based economic activity is not uncommon, ranging from the various fashion capitals of the world to the various Silicon Valley look-alikes.

The transformation of knowledge into economic development can be manageably examined by looking at the idea of a weightless economy. The weightless economy, in its purest meaning, is a collection of "weightless" (in a rather literal sense of the word) knowledge products such as software, the Internet, and electronic databases, and the continual expansion of its share in total output generated by many advanced economies of the world demonstrates how intensive the role of knowledge capital has gradually become. Since some authors, e.g. Shapiro and Varian (1998), have argued that the information economy is not entirely unique and is in fact governed by standard economic theory dealing with physical capital, we can employ the language of the weightless economy concept in recognizing the distinct impact that knowledge - a largely invisible product - has on the structure and size of an economy.

Modernization Theory

Now, one of the most interesting features of the weightless economy is that for it to have maximal impact on the state of economic development in a country what is essential is an effective demand aggregation mechanism, for it is the nature of a knowledge product that suboptimal demand will prevent it from becoming fundamentally and continuously effective in facilitating long-term overall economic development. A preference for the use of copyrights for certain knowledge products over patents, for instance, allows for more demand-side flexibility in the consumption of a knowledge product, in its subsequent improvement, and consequently in extracting maximal benefit from it for the economy as a whole by popularizing its usage. UseNets and beta versions for various software products illustrate significantly the fact that producers realize this phenomenon full well.

However, as researchers on social modernization, it is important not to see the weightless economy as disjoint from the otherwise tangible portion of an economy or its society and polity. In fact, the weightless economy is closely connected to a weightless political concept we can call the credible polity. Just as essentially intangible knowledge products are the produce from a weightless economy, similarly intangible credibility capital is the produce from the credible polity. Both evolve symbiotically, and are inextricably related. Studying aspects of either is inherently incomplete unless the other is also considered, and doing so within the unifying framework of a modernization theory is intrinsically logical. While we are looking here at the weightless economy for its neat analogy to the credible polity, for the purpose of this essay at least – which is to introduce the concept of a credible polity to a new breed of researchers on modernization – the distinction between weightless and tangible sectors of the economy is ultimately negligible at least in their relation to the genesis of a credible polity. The reason we use the idea of a weightless economy to introduce the credible polity is because it is more intuitive to understand the significance of the credible polity from this analogous perspective.

Politics in Knowledge Centers

A key feature in at least Lerner's and Lipset's perspectives on modernization theory was that of urbanization and specialization being a prerequisite for the successful modernization of societies. Urbanization is fundamentally just a social agglomeration process, and agglomeration and the clustering of economic activity in cities, regions, and nations have been studied extensively in the literature. Agglomeration is typically shown to be related to minimizing both transportation costs for a production line and the negative externalities of proximal production while concomitantly maximizing the advantages of increasing returns through scale and scope economies (see Krugman 1991; Venables 1996). Interestingly, though, it seems to be an idea that was initially suggested by Simon Kuznets, who was mentioned above as an important early contributor to modernization theory for his crucial attempts to link development dynamics and socioeconomic outcomes (Kuznets 1966).

Modernization Theory

On the whole, this agglomeration dynamic, while very relevant for modernization in the industrial era of the twentieth century, does not seem wholly appropriate for knowledge products of a weightless economy that theoretically incur negligible transportation costs. Indeed, as mentioned above, what is different about agglomeration in the weightless economy is that it seems to be driven by consumer demand instead. A high consumer demand for a knowledge product implies its popularization, which in turn leads to improvements and enhancements in a cumulative path-dependent manner. A low consumer demand or controlled consumerism would thereby increase the long-term cost of adjustment and this would lead to clustering. Spatially, this represents itself in the form of cities while temporally this provides some motivation for observing nonconvergence in economic income across countries.

It is instructive here to remind ourselves of the failed industrial revolution in fourteenth century China, where the possible long-term advantages of being a vastly technologically advanced society of its time went to waste due to a monarchy that regulated consumer demand closely. And once such an opportunity is squandered, over time the problem of extrication becomes more substantial for the country; Eeckhout and Jovanovic (2002) suggest how even exclusive free riding off the innovators can still lead to inequalities since the effort expended by the laggards is suboptimal.

The studies reveal a fascinating empirical regularity. If consumer demand is taken to be pivotal in developing knowledge clusters that enable rapid modernization then it is natural to ask how this consumer demand fosters in one society continually and even how it can be nurtured by a government seeking reform. The answer provided by one of the early authors of the weightless economy appears to be twofold - devolution of power to city governments and, generally, minimalist and noninterventionist government that provides the meta-structure for the unfettered functioning institutions (Coyle 1998). There is definitely merit in these suggestions; however, they seem rather cursory for a topic of the magnitude of societal evolution and provide little if any help for the systematic analysis of development processes. We can approach the issue by juxtaposing the weightless economy with a similarly unadorned concept that can perhaps provide a more systematic answer to studying the role of political and social institutions in contemporary modernization processes: that of a credible polity.

The Credible Polity

Numerous studies in the Northian tradition (North 1981; 1993) have mentioned the importance of credibility in political institutions in creating positive economic development outcomes. For some interesting examples see Weingast (1993), Ruge-Murcia (1995), and Leblang (1996). A credible polity is thus simply a government that creates institutions that credibly protect property rights and are also transparent in their functioning to all members of its society. Therefore, studying the weightless economy and

Modernization Theory

the credible polity in conjunction with each other provides a useful construct for the modernization researcher.

In the abstract theoretical construct, a credible polity is simply one that abides by two simple principles. First, a credible polity has complete political representation and has zero barriers to entry in being represented directly. And, second, a credible polity is characterized by political representatives with only one objective – maintaining power. A polity satisfying both conditions completely is a credible polity in pure form – or a *fully perfect credible polity* – and, arguably, is more than what is required to generate the symbiotic relationship between the political and the economic spheres, which leads to that clustering of economic activity that aids political and economic development and the modernization of a society. Let us begin with an important remark. The credible polity is independent of a specific political regime type even though a fully perfect credible polity has close resemblance to an ideal form of democratic government and a fully *imperfect credible polity* has implications that make it appear remarkably like a textbook autocratic government. The credible polity is for this reason a useful tool for studying the relationship between political regimes and economic development without falling into the trap of selecting on the dependent variable that has brought many such analyses under embarrassing scrutiny.

We can now start by examining the major characteristics of a fully perfect credible polity. The political entity in charge – let us simply call it the government – in such a polity receives no economic rent since there are zero barriers to entry and all supernormal profits are therefore driven away by competitor governments. All governments thus face a perfectly elastic demand for their services. Imagine that a real-time election process is at work even while a government is in office with an infinite set of governments in the running. It also represents the entire population directly and there are thus no brokers between a citizen and the political entity. The government itself has no objective other than staying in power – it desires no legacy (for there is no term limit), has no charisma (since all governments are identical), and certainly enjoys no loyalty, say in the form of a sticky partisanship effect.

The name, fully perfect credible polity, of such an unexciting polity derives from the fact that the government will have an infinite stock of credibility with its population since the threat of recall is immediate and perfect. An even more interesting feature is that the stock of credibility is set to its maximum possible value at the start of time, and even a theoretical change in government, owing perhaps to a shift in preferences, would not alter its value since adjustment to a new government would be instantaneous.

Now let us consider the fully imperfect credible polity, which in turn is a polar opposite of its fully perfect version. The government in this equally colorless setup is a perfect monopoly and thus never has any competitors to contend with. It creates impenetrable barriers to entry into the political sphere at zero cost to itself and extracts maximum rent by virtue of it having a monopoly status. The government, of course, represents no one from the general populace yet the population has a perfectly inelastic demand for this

Modernization Theory

government. Credibility in a fully imperfect credible polity is an oxymoron. The population has no threat of recall ever and the stock of the credibility it thus provides its government remains at the lowest possible value indefinitely.

While a more exact derivation of these results would be a needless digression due to their obvious reliance on standard microeconomic theory, it is still instructive to understand intuitively some more formal foundations for these hypothetical cases. The usefulness of this abstract construct will hopefully become more transparent if we understand its origins.

Let us employ the language of spatial voting theory in our analysis, famously done by Tsebelis (1995), as mentioned above, in his development of the veto player construct, simply because it forces us to start from the very first principles of political competition. Assume a simple two-dimensional issue space (packages of guns and butter perhaps being the only choices) with preferences measured in Euclidean distance. In this setup, it is possible to define two concepts. The first is that of a yolk (see Miller et al. [1989] for a formal presentation on this and other elementary concepts in spatial voting theory). The second, owing to remarkable work by Wuffle et al. (1989), is that of a finagle circle. While these concepts are theoretical constructs primarily useful to studying majority voting behavior, they also provide some useful insight here as well. A yolk is simply a circle that contains a minimum set of ideal points or preferred positions represented in the issue space that cannot be beaten by any and all ideal points outside of it. A finagle circle, by contrast, is a much smaller circle within the yolk that outlines all points that would allow a political incumbent - who is assumed to have the valuable advantage of rallying her supporters after all her competitors have done so - to finagle or adjust her position infinitesimally to beat a competitor - even one that is situated within the yolk. So it suggests all points that one could finagle to and successfully beat all competitors. The finagle circle has two further characteristics of relevance here. First, the radius of the finagle circle outlines the population's tolerance for political finagling, and, second, minimizing the distance an incumbent must move preserves his credibility with his electors.

Consider now how things might play out over time. Clearly, it behooves a political entity to locate his election position within the yolk. The trouble is that there exists no strict and direct connection between the number and position of ideal points represented in the issue space and the size of the yolk. Therefore, infiltration into the issue space (positive and negative) through enfranchisement or, generally, any increase in the number of preferred positions represented in the issue space over time should not be expected to have a discernible and tractable affect on the behavior of the politician. If, however, we assume, as we have done in developing the credible polity argument above, that the government's sole objective is to remain in power then it is better served by locating within the smaller subset of points in the yolk or the competitive solution set known as the finagle circle. In fact, with this objective - rather like Milton Friedman's pool shark who unknowingly learns how to solve complex geometry and physics problems to pocket a shot - we can rest assured that the successful politician will learn to locate within the

Modernization Theory

finagle circle in a long-term evolutionary sense. While adopting a strategy of being in the yolk might provide for a win in an election and is thus necessary, adopting a strategy of being in the finagle circle guarantees it and is thus sufficient.

Now we can return to the analysis of the credible polity again. Note that the position of the finagle circle will likely alter with any positive rate of infiltration into the issue space over time or a change in the preferences of those already represented, and a concomitant rate of adjustment to the finagle circle becomes an issue in determining the length of time the polity stays out of equilibrium and perhaps loses credibility. In a fully perfect credible polity, of course, a rate of issue space infiltration is not applicable since everyone is represented at the start of time. The radius of the finagle circle remains unchanged and, under some conditions, is actually zero, with the finagle point and the median voter being superimposed. Similarly, in a fully imperfect credible polity, the rate of issue space infiltration is zero since everyone is disenfranchised forever and any change in the preferences of the population is disregarded. The radius of the finagle circle is the maximum possible value allowed by the issue space since the government can “finagle” to whatever part of the issue space it pleases, provided, of course, that it is feasible.

In a polity that exists anywhere on the spectrum between these extrema the rate of infiltration into the issue space and any shifts in preferences (perhaps simply from economic development raising social awareness) would matter. An example would be illustrative here. Assume that such infiltrations happen in discrete time and at regular intervals. Elections might be a helpful imagery to have in mind. Every time there is an issue space infiltration or a shift in preferences, the position of the finagle circle is perturbed. Even with politicians actively seeking to rediscover the position of the finagle circle, for any time spent politicking from outside the finagle circle or, for that matter, even possibly the yolk, the polity is in disequilibrium and the government *loses credibility* and popularity. The speed of readjustment is a function of the level and quality of information the polity has about such changes. Disenchantment with the new government in many countries undergoing economic and political transitions occurs precisely because of the poor quality of information politicians have access to at a time when the shifts in preferences and the rates of issue space infiltrations are large and frequent.

Only in a fully perfect credible polity is there no disequilibrium since information is always and forever perfect. In all other cases disequilibrium is managed either by gathering information directly or enlarging the size of the yolk itself. Information can obviously be gathered through polling, canvassing, interviewing, and the like. The size of the yolk can be enlarged by making issue space infiltration rates artificially smaller through the creation of parties or interest groups that internalize the ideal points of their members. Institutional issue space infiltration then allows for far more flexibility in terms of a larger set of feasible solutions and a more forgiving size of the finagle circle. Shifts in underlying preferences or any change in the composition of members of such institutions would of course change the size and location of the finagle circle (through a change in

Modernization Theory

the institution's own internal finagle circle); however, the degree of complexity in finding its new location is reduced appreciably.

The Credible Polity and the Weightless Economy

In this discussion on modernization theory, the emphasis on credibility is in no small measure also a means of critically assessing the latent processes behind the development and aftermath of that very climacteric event, which causes a shift in political regime and, in so doing, makes the entire process much smoother in our understanding. And this emphasis on credibility is not new nor is it unfounded. We have seen that scholars in development economics have long recognized its importance as a tool to enable economic reform. In macroeconomic growth theory and political science it has been studied in relation to central bank independence, debt, and stabilization, and, relatedly, in comparative politics it has been considered crucial in wage bargaining. The issue of credible commitments to party platforms has been well studied in political science in relation to everything from roll-call voting behavior to convergence properties in multidimensional spatial voting models. In international relations, credible commitments have been studied in relation to deterrence theory and the ability of political actors to make agreements at the international level in a two-level game with nontrivial national politics.

Usage of the term credibility in such a plethora of contexts gives it a very amorphous character, thus making it uncomfortable for some to see it as a crucial factor in the construction of a contemporary theory of social modernization. But in this variety of applications, the fundamental common factor is the effect of risk, ameliorated by credibility, on the variable of interest. That is, in essence, also the driving force behind the credible polity and precisely why it is so closely related to the weightless economy. The credibility capital of a polity determines the political risk investors and consumers perceive, and risk in any form dictates where productive capital (in any form) is employed. A polity, for instance, that fails to employ its credibility capital in guaranteeing ownership of a knowledge product and subsequent right to the income stream it produces, cannot sustain a weightless economy and thereby hampers the process of the modernization of its society. After all, if a weightless economy could grow independently of a credible polity, it could in theory thrive in North Korea and Cuba to the same extent as it does in the US or Germany.

Some Remarks

The credible polity construct is more than just a method of introducing political relevance to economic development simply for the benefit of researchers on modernization theory. It is, in itself, also a framework for analyzing transitions in political regimes. And it does so without simply ordering existing regime classifications and providing an argument with deterministic step functional form. The credible polity is a continuous latent process

Modernization Theory

that does not come to life only in times of transition in economic systems or political regime. Note that we can start from any specific location on the imperfect to perfect credible polity spectrum less than the perfect and, by application of its two principles, converge toward a perfect credible polity directly, without oscillation and theoretically in one shot.

Another implication of the analysis here is that as democracies start becoming more and more perfect in the sense implied by credible polities, we should start witnessing fewer and fewer changes in government and a convergence of all candidate governments to the center.

Some Concluding Thoughts

This essay has deliberately not looked at modernization theory as a constant theoretical idea that was proffered in an inviolable format to social scientists. Instead it has favored a view to modernization theory that, while in its classical form is indubitably in need of reformulation, is a twofold gift to social scientists. First and foremost it provides an endogenous theory for social modernization. The gauntlet that empirical discoveries of irregularities and fifty years of research on social, economic, and political development has laid down is a significant challenge for constructing a contemporary endogenous modernization theory, but it is a task worth pursuing and, as this essay hints, not entirely insurmountable. Second, modernization theory is not the purview of political science, sociology, or economics. Seen as such it will fail to progress into the next century and will likely be seen as an amusing exercise in grandiose theorizing by our predecessors. Progress will likely be most fruitful when provided through the minds of rigorous and methodological *social* scientists who borrow from the traditions of social science without bias and fear of unorthodoxy.

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Links to Digital Materials

Professor Witold Henisz's POLCON Dataset, Wharton Management Faculty, University of Pennsylvania. At www-management.wharton.upenn.edu/henisz, accessed Mar. 6, 2009. The POLCON or Political Constraints Index Dataset is an exhaustive dataset that measures the ability of a regime's political and legal institutions for creating credible commitments to policy. For anyone interested in studying the role of credibility in modernization empirically, it is an excellent resource.

NBER Working Papers Series. At www.nber.org/papers, accessed Mar. 6, 2009. The NBER has a working paper series that includes many of the contributors cited in this chapter, and others well known for their work on economic growth and development theory, as well as on the political economy of growth.

Professor Danny Quah, London School of Economics. At http://econ.lse.ac.uk/staff/dquah/index_own.html, accessed Mar. 6, 2009. Professor Quah's website at the London School of Economics includes useful and interesting articles, commentary, and blogs related to economic growth, income inequality, and the weightless economy, as well as some lighthearted material.

Modernization Theory

Social Capital Gateway. At www.socialcapitalgateway.org/index.htm, accessed Mar. 6, 2009. Any empirical study of modernization must grapple with the effects of the nature, stock, and flow of social capital in a society over time and space. The Social Capital Gateway is an excellent resource with new and archived papers on the subject of social capital as well as links to databases, conferences, and educational resources.

Online Publications on Social and Cultural Evolution. At http://socio.ch/evo/index_evo.htm, accessed Mar. 13, 2009. Maintained by the Sociology Institute of the University of Zurich, Switzerland, this database contains a truly impressive list of resources. It covers theoretical and applied aspects of social evolutionary theory. A modernization theorist would find a lot of useful material, ranging from traditional approaches to sociocultural evolution to modern views of cyber-evolution and even the emerging link between modernization and social network theory.

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