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Economic Development, Technology and the Role of the State

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Jeffrey A. Hart, *Rival Capitalists: International Competitiveness in the United States, Japan, and Western Europe*. Ithaca, NY: Cornell University Press, 1992.

Paul M. Kennedy, *Preparing for the Twenty-First Century*. New York: Random House, 1993.

Eugene B. Skolnikoff, *The Elusive Transformation: Science, Technology, and the Evolution of International Politics*. Princeton, NJ: Princeton University Press, 1993.

John M. Stopford and Susan Strange, *Rival States, Rival Firms: Competition for World Markets*. New York: Cambridge University Press, 1991.

Each book reviewed in this essay focuses, in one form or another, on the "winners and losers" emerging from the changing global economy. Will Japan resume the miraculous economic growth it enjoyed between 1945 and the late 1980s? Can the United States regain its place in the forefront of technological innovation? Will the European Union unite the diverse fortunes of the various European states into an economic superpower? Which less-developed countries will overcome economic backwardness, technological weakness, demographic pressures, and environmental degradation, to share the economic progress enjoyed by the advanced industrial countries?

Studies attempting to answer these types of questions about changing patterns of growth and development in the international economy often make two assumptions: First, that economic growth depends upon technological development, and second, that the pace of technological development has accelerated since World War II (and, by implication, will continue to accelerate into the twenty-first century). With these assumptions in mind, scholars have studied (a) how technology is transferred between social units (e.g., corporations, government laboratories, and universities) within nations, and (b) how technology spreads between and among nation-states. The books under consideration here focus most closely on the latter issue.

One conclusion common to all four books is that technological change will have divergent impacts upon the advanced industrial societies and the less-developed world. For example, for the countries Jeffrey Hart studies—Japan, France, Great Britain, Germany, and the United States—the game is positional. Each society already provides for the basic needs of its citizenry and a great deal more. Since the Industrial Revolution, the populations in these countries have enjoyed ever-increasing living standards—high levels of personal consumption, high levels of spending on public infrastructure, and protective social welfare systems. In this environment of abundance, western policymakers have the comparative luxury of worrying about the relative gains of their advanced economic competitors. The distributional consequences of economic development, for some domestic constituencies, often play a subordinate role in national policy circles. As Robert Reich, among others, has argued, privileged groups such as "symbolic-analysts" are often more connected to transnational markets than to the less privileged segments of their own societies.

In the developing world, however, the game is survival. Entire societies teeter on the edge of Malthusian disaster due to famine, disease (e.g., AIDs in Central Africa and growth, when it occurs at all, often proves a mixed blessing. The unfortunate consequences of growth include increased income inequalities, social dislocations (dualistic economic development, hyper-urbanism, etc.), ecological nightmares, and failing supplies of natural resources (potable water, arable land, raw materials, etc.). With the exception of several newly-industrializing economies (NIEs), few developing countries can compete in world markets with the more advanced countries. At best, they can seek gains at the margins. At worst, they struggle to maintain coherent polities in the face of deepening social and economic crises—for example, Haiti, Somalia, and Rwanda.

In short, the capacities of advanced industrial societies to respond to the economic challenges of the twenty-first century are much greater than those of their underdeveloped or undeveloped counterparts. The four books in this review offer insights into which First World countries will flourish. More importantly, perhaps, they offer insights into what public policies might promote adaptive behavior in both advanced industrial societies and the rest of the world. The following discussion seeks to untangle the conflicting views presented by Paul Kennedy, Eugene Skolnikoff, Jeffrey Hart, and John Stopford and Susan Strange.

Paul Kennedy's *Preparing for the Twenty-First Century* is the most ambitious study under review. Kennedy has drawn upon research from several disciplines to write a richly detailed overview of the issues facing the international community. The focus of Kennedy's book is straightforward: "to consider the human race's encounter with technology, economic change, and population growth" (p. 14). The Yale historian argues that "the newer forces for change bearing down upon our planet could cause instability and conflict in the future, and that governments and peoples need to reconsider their older definitions of what constitutes a threat to national and international security" (p. 14).

By Kennedy's account, each region of the globe has specific strengths and weaknesses in the quest to survive and prosper as the millennium approaches. The United States, Japan, and the European Community (now the European Union) will contend for global political leadership. They will also jockey for position in the race to provide for the material needs of their citizenry. Each region will develop and utilize new technologies, such as biotechnologies, infomatics, and robotics, with varying success.

The book is much less optimistic about the ability of the global backwater regions to overcome chronic underdevelopment (chap. 10). With a few extraordinary exceptions (e.g., South Korea), most of the developing world will stagnate. Demographics and inadequate access to technology will limit their economic, political, and social futures. Even emerging biotechnologies that might offer promise will be dominated by "giant pharmaceutical and agrochemical companies in the 'First' World" (p. 222). Moreover, technologies created and perfected in the First World—robotics and telecommunications, for example—threaten to widen the gap between the "haves" and the "have-nots." Indeed, as Kennedy sees it, recent developments in the First World may hasten the obsolescence of the economic mainstays of developing economies—abundant land, cheap labor, and accessible raw materials.

According to Kennedy, the state will be of little use in overcoming the twin pressures of demographic and technological change. He argues that technological changes, environmental problems, and demographic growth undermine the usefulness of the state both as an organizing concept for social scientists and as an instrument for societies seeking to insulate themselves from global difficulties. Instead, Kennedy believes that political authority may evolve upward to supranational organizations or devolve downward to smaller political units based on ethnic or religious groupings. Neither possibility will resolve the challenges facing underdeveloped countries or global society as a whole.

In many respects, Eugene Skolnikoff is as ambitious in his *The Elusive Transformation* as Paul Kennedy is in *Preparing for the Twenty-First Century*. Skolnikoff rejects the conventional wisdom about international change stated so eloquently in Kennedy's study. Skolnikoff argues that "the fundamentals of the nation-state system have not been altered as much as most rhetoric would have us believe; and they will not be altered materially in the foreseeable future" (p. 7). Technology may have changed, and will change in the future, but the fundamental precepts of the interstate system will remain in place. For Skolnikoff, nation-states will remain the preeminent players, power will remain a function of military strength, and the problems of the global commons can be resolved only through interstate cooperation. In an era when received scholarly wisdom discounts these conclusions, Skolnikoff's ambition is admirable, especially for one studying the effects of technological developments on international affairs.

On the future of the less-developed world and the contributions of technology transfers to their economic future, Skolnikoff is for the most part realistic and judicious. He argues that even if greater transfers were arranged, the net result would be a greater degree of dependence. Based on historic research and development (R&D) spending patterns and the prevailing concentration of intellectual capital, most technological development will occur in the First World. Western nations will guard advanced technologies jealously to the point of opposing direct technology transfers and even working to reduce the natural process of technological diffusion. When technology is willingly passed between the haves and the have-nots (e.g., on a contractual basis between multinational corporations and indigenous firms) it will be done under conditions favorable to the First World.

Occasionally, however, Skolnikoff is optimistic to the point of naiveté about relations between the developed world and the developing countries. For example, despite his early claim that the fundamental nature of international politics has not been altered, he muses that industrialized countries might transfer technologies to allow less-developed countries to combat global warming. Yet, even a cursory study of the New International Economic Order in the 1970s or the Rio Summit in 1992 suggests that the possibilities of cooperative relations and technology sharing between the two sides are remote.

Skolnikoff summarizes the implications of his analysis for public policy and governance in a penultimate chapter. Rather than offering concrete suggestions, this chapter introduces the issues policymakers and scholars alike must understand to cope with the consequences of technological change. Here Skolnikoff rightfully highlights accelerated time horizons, the increasing technical complexity of issues not traditionally assumed to be technical, and the complications inherent to "large systems" (whether involving telecommunications, advanced weapons development programs, or other issues).

When Skolnikoff strays into institutional issues he is less persuasive. He argues, for example, that international cooperation could be facilitated by greater leadership by important players, including the United States. Apparently Skolnikoff forgets or downplays the obstructionist role played by the United States throughout much of the post-World War II era. On a host of issues having technological causes or solutions—global warming, seabed mining, the exploitation of space—the United States has not led; rather, it has often helped block collective action. As Robert Gilpin reminds us, hegemonic powers may be "malign" and exploitative, as well as selfless providers of public goods.

While Skolnikoff and Kennedy wrestle with the future from a systemic perspective, Jeffrey Hart's approach is inductive. *Rival Capitalists* examines the determinants of economic competitiveness from a cross-national, comparative perspective. Implicitly, Hart believes that each nation-state is the master of its own destiny. States, or more specifically the state bureaucracies charged with implementing industrial policy, are willing and able to promote national champions in industrial sectors as diverse as steel, automobiles, and semiconductors. Without elaborating the reasons why, he seems to believe that competitiveness in one or more key industries translates into wider economic health.

Japan and Germany emerge the big winners in Hart's analysis; their industrial policymaking apparatus in conjunction with labor and industry managed to maintain competitiveness in critical industrial sectors. Moreover, for much of the post-World War II period these nations have enjoyed macroeconomic health. By contrast, the United States, France, and Great Britain were relatively less successful. In the late 1980s, when Hart conducted his research, these conclusions seemed reasonable. With the benefit of hindsight and the opportunity to observe recent developments in both Japan and Germany, Hart's kudos seem premature. Both countries are now suffering prolonged economic difficulties, while their socio-political systems may be incapable of adapting to the new world order emerging in the wake of the Cold War.

There are few specifics in Hart's analysis that are applicable to the developing countries in their own efforts to industrialize, establish globally competitive industries, or improve the economic prospects of their own citizenry. His research into Japan, France, Germany, Great Britain, and the United States indicates that their varying capacities to compete in the post-World War II economy are dependent largely upon historical developments, ideological predispositions, and relatively fixed national characteristics like factor endowments. Further, the complex polities of these advanced societies provide a measure of resilience unavailable to developing societies buffeted by the world economy.

In the end, Hart's analysis systematically underestimates the costs of state intervention and overestimates the ability of planners to respond to changes in economic trends. He fails to give due weight to the international economic forces confronting national industries and their bureaucratic counterparts. Policymakers, tempted by his vision of successful industrial policies, but less well-endowed with knowledge, money, and political strength than the countries he studies, may find themselves in the unenviable position of bucking long-term, global trends toward openness, non-intervention, market reforms, and lower government spending to subsidize private industry.

In contrast to Kennedy, Skolnikoff, and Hart, *Rival Firms, Rival Capitalists*, by John Stopford and Susan Strange, with John Henley, is relatively modest in its ambitions but filled with insights valuable to policymakers and business leaders alike. Stopford and Strange adopt a loosely comparative approach to consider state-business relations in Brazil, Kenya, and Malaysia.

According to Stopford and Strange, "technology and the structure of international finance [are] the primary driving forces for change" in the international political economy (p. 34). As an agent of change, "technology has enhanced the capacity of producers to supply the market with new products and services, and to produce old ones by new processes" (p. 34). Given the close relationship between advances in telecommunications and information processing and the current structure of international finance, Stopford and Strange err on the side of completeness by including financial structures as a category of analysis separate from technological change.

In the face of structural changes in the international political economy, Stopford and Strange argue that states must form alliances with both firms and other states to achieve economic progress in the coming decades. Officials must bargain with businessmen to ensure that multinational enterprises (MNEs) are not exploitative, but rather partners with long-term interests in the fate of the countries they operate in. The cases examined by Stopford and Strange suggest the possibilities. On a global scale, however, the prospects for less-developed countries forming such alliances appear relatively bleak. For the most part, firms remain committed to retaining their autonomy and maximizing shareholder returns. Moreover, historically, MNEs have formed alliances with their home governments to increase their leverage over less-developed countries seeking to extract better bargains.

As a consequence, western countries promote more stringent international regimes governing technology transfers and intellectual property rights—regimes that systematically favor their own interests and the interests of their own firms over the interests of the less-developed countries. In bilateral relations such as tax and investment treaties, investor countries help promote arrangements that support their own firms. Even as Stopford and Strange advocate reordering relations between states and firms, the deck is stacked against less-developed countries seeking more equitable arrangements.

Although the bulk of the argument made by Stopford and Strange applies to developing countries seeking to reorder their relations with MNEs, their analysis applies equally well to state-business relations in the advanced industrial societies. As Hart's book on industrial policy documents, governments often form alliances with private firms to promote specific manufacturing sectors or technologies. Following Stopford and Strange's advice, they can now find ways to work in conjunction with multinational enterprises operating within the international economy.

Practical advice for public policymakers is in short supply in these volumes. With the possible exception of Stopford and Strange, each study presents a grand overview of developing trends or a new interpretation of the recent past. They do not provide sound guidelines for politicians and bureaucrats seeking to cope with technological change on a global scale (Kennedy, for his part, denies that his book is "a technical primer for responses to them," p. 337). They do not offer specific suggestions for officials faced with hard choices about which technology to promote, what institutional designs to implement, or what firms and geographic regions represent the best hopes for future economic success.

When the authors do offer specific advice, they risk irrelevance. Hart, for example, suggests that Germany and Japan are models of countries that have managed to promote economic growth in the post-World War II period. For the other developed countries in his study—Great Britain, France, and the United States—this analysis is disheartening. None possess the peculiar combination of state-society relations that Hart suggests is effective in promoting economic competitiveness. For less-developed countries struggling with the population explosion, environmental degradation, technological backwardness, ethnic conflict, religious discontent, and the legacy of colonial exploitation, the German-Japanese exemplars represent a cruel fantasy.

What each study does offer, however, is a modicum of hope. Each believes, implicitly, in man's ability to devise social structures capable of providing a better lifestyle for some, if not all. If Hart unrealistically touts reordering state-societal relations, he also provides a compelling analysis of the types of state-society institutions that might facilitate technological innovation and thus promote economic competitiveness. If Stopford and Strange recognize the difficult positions of developing countries in today's global economy, they suggest alternative strategies for states to ally themselves with the capital, technological prowess, and managerial expertise monopolized by private firms. If Skolnikoff is relatively sanguine about the impact of technology and science on international affairs, he does offer clear warnings about the pitfalls of technological development. If Kennedy prematurely eulogizes the state (chap. 7), he also quite rightfully points to the necessity of education, a greater role for women, and political leadership (areas, by the way, where states have often assumed a leading role in social progress). In sum, each book can and should be read as a contribution to a broader understanding of the interconnectedness of technological change, economic progress, and public policy.

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