
Rethinking Development Economics

Joseph E. Stiglitz

Twelve years ago, when I was chief economist of the World Bank, I suggested that the major challenge to development economics was learning the lessons of the previous several decades: a small group of countries, mostly in Asia, but a few in other regions, had had phenomenal success, beyond anything that had been anticipated by economists; while many other countries had experienced slow growth, or even worse, stagnation and decline—inconsistent with the standard models in economics which predicted convergence. The successful countries had followed policies that were markedly different from those of the Washington Consensus, though they shared some elements in common; those policies had not brought high growth, stability, or poverty reduction. Shortly after I left the World Bank, the crisis in Argentina—which had been held up as the poster child of the country that had followed Washington Consensus policies—reinforced the doubts about that strategy.

The global financial crisis, too, has cast doubt over the neoclassical paradigm in advanced industrial countries, and rightly so. Much of development economics had been viewed as asking how developing countries could successfully transition toward the kinds of market-oriented policy frameworks that came to be called “American style capitalism.” The debate was not about the goal, but the path to that goal, with some advocating “shock therapy,” while others focused on pacing and sequencing—a more gradualist tack. The global financial crisis has now raised questions about that model *even for developed countries*.

In this short essay, I want to argue that the long-term experiences in growth and stability of both developed and less developed countries, as well as the deeper theoretical understanding of the strengths and limitations of market economies, provide support for a “new structural” approach to development—an approach

similar in some ways to that advocated by Justin Lin in his paper, but markedly different in others. This approach sees the limitations of markets as being greater than he suggests—even well functioning market economies are, on their own, neither efficient nor stable. The only period in the history of modern capitalism when there has not been repeated financial crises was the short period after the Great Depression when the major countries around the world adopted, and enforced, strong financial regulations. Interestingly this was also a period of rapid growth and a period in which the fruits of that growth were widely shared.

But government not only has a restraining role; it has a constructive and catalytic role—in promoting entrepreneurship, providing the social and physical infrastructure, ensuring access to education and finance, and supporting technology and innovation.

The perspective that I am putting forward differs not only in its view of the efficiency and stability of unfettered markets, but also in what it sees as the primary driver of economic growth. Since Solow's pioneering work more than a half-century ago (Solow 1957), it has been recognized that the major source of increases in per capita income are advances in technology.¹

The argument that improvements in knowledge are a primary source of growth is even more compelling for developing countries. As the *World Development Report* for 1998–99 emphasized, what separates developing and developed countries is not just a gap in resources, but a disparity in knowledge. There are well understood limits to the pace with which countries can accumulate capital, but the limitations on the speed with which the gap in knowledge can be closed are less clear.

But the view that creating a learning society, focusing on absorbing and adapting, and eventually producing knowledge, provides markedly different perspectives on development strategies than those provided by the neoclassical model. That model centered attention on increasing capital and the efficient allocation of resources. Since the appropriate sectoral structure of the economy naturally depends on the resource endowment, there will be a natural evolution of the economy's structure over time. Markets allocate resources efficiently, enabling the structure to change as the (endogenous) endowments change. A government's main role, in this view, is not to put impediments in the market.

The standard market failures approach criticized these conclusions by focusing on a variety of market imperfections: For instance, imperfections in capital markets meant that finance was often not available for new enterprises that were required as part of this sectoral adjustment. Individuals on their own couldn't finance their education. There are pervasive externalities—not only environmental externalities but also those associated with systemic risk, so evidenced in the current crisis. Research over the past 20 years has explored the consequences of market failures like imperfect capital markets, traced these imperfections back

to problems of imperfect and asymmetric information, and proposed a set of remedies, which in some countries, in some periods, have worked remarkably well. Good financial regulations in countries like India protected them against the ravages of the global financial crisis.

But the perspective of the “learning society”—or, as Greenwald and I call it, the “infant economy”—adds a new dimension to the analysis (Greenwald and Stiglitz 2006). Knowledge is different from an ordinary commodity. The accumulation of knowledge is inherently associated with externalities—knowledge spillovers. Knowledge itself is a public good. If the accumulation, absorption, adaptation, production, and transfer of knowledge are at the center of successful development, then there is no presumption that markets, on their own, will lead to successful outcomes. Indeed there is a presumption that they will not.

The “new structuralist approach” advocated by Justin Lin is perfectly aligned with this perspective. Lin provides guidance as to how governments should direct the economy; he emphasizes that they should strive to shape the economy in a way that is consistent with its comparative advantage. The problem is that some of the most important elements of comparative advantage are *endogenous*. Switzerland’s comparative advantage in watch-making has little to do with its geography.

Standard Heckscher-Ohlin theory (emphasizing that trade in goods was a substitute for movement in factors) was formulated in a period before globalization allowed the kinds of flows of capital that occur today. With fully mobile capital, outside of agriculture, natural resource endowments need not provide the basis for explaining patterns of production and specialization.² In short, there is no reason for countries to need to limit themselves to patterns dictated by endowments, as conventionally defined. More important is the “endowment” of knowledge and entrepreneurship. A major focus of policy should be on how to enhance and shape those endowments.

Even if a government would like to avoid addressing these issues, it cannot; for what the government does (or does not do) has consequences, positive and negative, for the development of the “learning society.” This is obviously so for investments in infrastructure, technology, and education; but also for financial, trade, intellectual property rights and competition policies.

At the center of creating a learning society is the identifying of sectors that are more amenable to learning, with benefits not captured by firms themselves, so that there will be underinvestment in learning. Elsewhere Greenwald and I have argued that an implication of this is the encouragement of the industrial sector, which typically has large spillovers. This approach provides an interpretation of the success of Asia’s export-led growth. Had Korea allowed market forces on their own to prevail, it would not have embarked on its amazing development successes. Static efficiency entailed that Korea produced rice; indeed the country

might today have been among the most efficient rice farmers—but it would still be a poor country. As Arrow pointed out (1962), one learns by doing (and one learns how to learn by learning [Stiglitz 1987]).

This discussion highlights the fundamental difference with neoclassical approaches emphasizing short-run efficiency. The fundamental trade-offs between static and dynamic efficiency should be familiar from the debate over patent laws.

A major concern with these industrial policies³ concerns implementation—do developing countries have the requisite capacities? We need to put this question in context.

There is probably no country that has grown successfully without an important role, not just in restraining and creating markets, but also in promoting such industrial policies, from the countries of East Asia today to the advanced industrial countries, not just during their developmental stages, but even today. The task is to adopt policies and practices—to create institutions like an effective civil service—that enhance the quality of the public sector. The successful countries did so. Policies that either intentionally or unintentionally weaken the state are not likely to do so.

Economic policies have to reflect the capacity of the state to implement them. One of the arguments in favor of exchange rate policies that encourage export industries is that they are broad based: the government does not have to pick particular “strategic” sectors to support. As always, there are trade-offs: efficiency might be enhanced if the sectors with the largest externalities could be targeted.

There are other broad-based policies, such as a development-oriented intellectual-property regime, and investment and financial policies that encourage transfer of technology and the promotion of *local* entrepreneurship, that can help promote a learning and innovation society (Hausman and Rodrik 2003; Stiglitz 2004; Emran and Stiglitz 2009; Hoff 2010). Some forms of financial and capital market liberalization may be counterproductive.

Interventions will never be perfect, nor need they be to effect an improvement in economic performance.⁴ The choice is not between an imperfect government and a perfect market. It is between imperfect governments and imperfect markets, each of which has to serve as a check on the other; they need to be seen as complementary, and we need to seek a balance between the two—a balance which is not just a matter of assigning certain tasks to one, and others to the other, but rather designing systems where they interact effectively.

While I have been discussing the *economics* of development, that subject cannot be separated from broader aspects of societal transformation (Stiglitz 1998), as Hirschman emphasized in his writings (1958, 1982). Race and caste are social constructs that effectively inhibit the human development of large parts of the population in many parts of the world. The study of how these constructs get formed, and how they change, is thus a central part of developmental studies

(Hoff and Stiglitz 2010). In this article, I have emphasized the creation of a learning society. The economics of doing so entails policies that change sectoral composition. But at the root of success is the education system and how it inculcates attitudes toward change and skills of learning. Other policies (for example legal systems, gender-based microcredit schemes, affirmative action programs) can also play an important role.

Before concluding, I want to make two further remarks. The first concerns the relationship between growth and poverty reduction. While growth may be necessary for sustained poverty reduction, it is not sufficient. Not all development policies are pro-poor; some are anti-poor. Policies like financial and capital market liberalization have, at least in some countries, contributed to greater instability, and a consequence of that instability is more poverty.⁵ Contractionary monetary and fiscal policies in response to crises exacerbate the downturns, leading to higher unemployment and a higher incidence of poverty. Policies to promote a learning economy too can either be pro- or anti-poor, but the most successful policies will necessarily be broad-based, engendering a transformation of the learning capacities of all citizens, and will therefore be pro-poor.

The second comment relates to the broader objectives of development, which should be sustainable improvements in the well-being of the citizens of the country, and the metrics we use to assess success.⁶ Our metrics don't typically capture the increase in the wealth of a country that is a result of the learning strategies advocated here. It is only gradually, over time, that the benefits are realized and recognized.

The aftermath of the global financial crisis should be an exciting time for economists, including development economists, since it dramatically revealed flaws in the reigning paradigm. This paradigm has had enormous influence in development economics, though that influence was already waning, because its prescriptions had failed. Fortunately there are alternative frameworks already available—a plethora of ideas that should provide the basis for new understandings of why a few countries have succeeded so well and some have failed so miserably. Out of this understanding, perhaps we will be able to mold new policy frameworks that will provide the basis of a new era of growth—growth that will be both sustainable and enhance the well-being of most citizens in the poorest countries of the world.

Notes

This article was originally a paper prepared for a World Bank symposium, based on Justin Yifu Lin's paper, "New Structural Economics." The perspective taken here is based on joint work with Bruce Greenwald (2006 *forthcoming*). I am indebted to Eamon Kirchen-Allen for research assistance.

1. Even before Solow, Schumpeter had argued that the strength of a market economy resided in its ability to promote innovation and invention; and, shortly after Solow's work, there developed a

large literature on endogenous growth, associated with names like Arrow, Shell, Nordhaus, Atkinson, Dasgupta, Uzawa, Kennedy, Fellner, and Stiglitz, followed on in the 1980s and 90s by the work of Romer. (See for example Atkinson and Stiglitz, 1969; Dasgupta and Stiglitz, 1980a and 1980b; Fellner, 1961; Kennedy, 1964; Nordhaus, 1969a and 1969b, Romer, 1994; Shell, 1966 and 1967; Uzawa, 1965.) The earlier work on endogenous (sometimes referred to as induced) innovation addressed not only the rate of innovation but its direction. For a discussion of more recent contributions in this line of research, see [Stiglitz \(2006\)](#).

2. Indeed, the work of Krugman has emphasized that today most trade is not related in fact to differences in factor endowments.

3. I use the term broadly to embrace any policy attempting to affect the direction of the economy.

4. Indeed, if all projects were successful, it suggests that the government is undertaking too little risk.

5. As I have also noted, such policies may have an adverse effect in enhancing domestic learning capacities.

6. The International Commission on the Measurement of Economic Performance and Social Progress emphasized the failures of GDP to reflect either sustainability or well-being ([Fitoussi, Sen, and Stiglitz 2010](#)). GDP per capita does not say anything about how well most citizens are doing; it can be going up even though most citizens incomes are declining (as has been happening in the United States). GDP focuses on production in the country, not on incomes earned by those in the country, and takes no account of environmental degradation or resource depletion, or, more broadly, of sustainability. The United States and Argentina both provide examples of countries whose growth appeared to be good—but both were based on unsustainable debts, used to finance consumption booms, not investment.

References

- Arrow, Kenneth J. 1962. "The Economic Implications of Learning by Doing." *Review of Economic Studies* 29:155–73.
- Atkinson, A.B., and J.E. Stiglitz. 1969. "A New View of Technological Change." *The Economic Journal* 79(315): 573–8.
- Dasgupta, P., and J.E. Stiglitz. 1980a. "Industrial Structure and the Nature of Innovative Activity." *The Economic Journal* 90(358): 266–93.
- . 1980b. "Uncertainty, Market Structure and the Speed of R&D." *Bell Journal of Economics* 11(1): 1–28.
- Emran, S., and J.E. Stiglitz. 2009. "Financial Liberalization, Financial Restraint, and Entrepreneurial Development." Working paper, Institute for International Economic Policy Working Paper Series Elliott School of International Affairs The George Washington University, January, (www2.gsb.columbia.edu/faculty/jstiglitz/download/papers/2009_Financial_Liberalization.pdf).
- Fellner, W. 1961. "Two Propositions in the Theory of Induced Innovations." *The Economic Journal* 71(282): 305–8.
- Fitoussi, J., A. Sen, and J.E. Stiglitz. 2010. *Mismeasuring Our Lives: Why GDP Doesn't Add Up*. New York: The New Press. (The Report of the Commission in the Measurement of Economic Performance and Social Progress, also known as the Sarkhozy Commission.)
- Greenwald, B., and J.E. Stiglitz. 2006. "Helping Infant Economies Grow: Foundations of Trade Policies for Developing Countries." *American Economic Review: AEA Papers and Proceedings* 96(2): 141–6.

- . Forthcoming. *Creating a Learning Society: A New Paradigm For Development and Social Progress*. New York: Columbia University Press.
- Hausman, R., and D. Rodrik. 2003. "Economic Development as Self-Discovery." *Journal of Development Economics* 72(2): 603–33.
- Hirschman, A.O. 1958. *The Strategy of Economic Development*. New Haven, CT: Yale University Press.
- . 1982. "The Rise and Decline of Development Economics." In M. Gersovitz, and W.A. Lewis, eds., *The Theory and Experience of Economic Development*. London: Allen and Unwin: 372–90.
- Hoff, K. 2010. "Dysfunctional Finance: Positive Shocks and Negative Outcomes." Policy Research Working Paper 5183, The World Bank Development Research Group Macroeconomics and Growth Team, January.
- Hoff, K., and J.E. Stiglitz. 2010. "Equilibrium Fictions: A Cognitive Approach to Societal Rigidity." *American Economic Review* 100(2): 141–6.
- Kennedy, C. 1964. "Induced Bias in Innovation and the Theory of Distribution." *Economic Journal* 74(295): 541–7.
- Lin, J.Y. 2010. "New Structural Economics: A Framework for Rethinking Development." Policy Research Working Paper 5197, The World Bank.
- Nordhaus, W.D. 1969a. "An Economic Theory of Technological Change." *American Economic Association Papers and Proceedings* 59:18–28.
- . 1969b. *Invention, Growth and Welfare: A Theoretical Treatment of Technological Change*, Cambridge, MA: MIT Press.
- Romer, P. 1994. "The Origins of Endogenous Growth." *The Journal of Economic Perspectives* 8(1): 3–22.
- Shell, K. 1966. "Toward a Theory of Inventive Activity and Capital Accumulation." *American Economic Association Papers and Proceedings* 56:62–8.
- . ed. 1967, *Essays on the Theory of Optimal Economic Growth*. Cambridge, MA: MIT Press.
- Solow, Robert M. 1957. "Technical Change and the Aggregate Production Function." *Review of Economics and Statistics* 39(3):312–20.
- Stiglitz, J.E.. 1987. "Learning to Learn, Localized Learning and Technological Progress." In P. Dasgupta and P. Stoneman, eds., *Economic Policy and Technological Performance*. Cambridge, New York: Cambridge University Press: 125–53.
- . 1998. "Towards a New Paradigm for Development: Strategies, Policies and Processes." The 9th Raul Prebisch Lecture delivered at the Palais des Nations, Geneva, October 19, UNCTAD. Also Chapter 2 in Ha-Joon Chang, ed., *The Rebel Within*. London: Wimbledon Publishing Company, 2001: 57–93.
- . 2004. "Towards a Pro-Development and Balanced Intellectual Property Regime." Keynote address presented at the Ministerial Conference on Intellectual Property for Least Developed Countries, World Intellectual Property Organization, Seoul, October 25. (www0.gsb.columbia.edu/ipd/pub/IPRjs1.pdf).
- . 2006. "Samuelson and the Factor Bias of Technological Change." In M. Szenberg, L. Ramrattan and A.A. Gottesman, eds., *Samuelsonian Economics and the Twenty-First Century*. New York: Oxford University Press: 235–51.
- Uzawa, H. 1965. "Optimum Technical Change in an Aggregate Model of Economic Growth." *International Economic Review* 6(1): 18–31.
- World Bank. 1999. *World Development Report 1998–99: Knowledge for Development*. New York: Oxford University Press

Copyright of World Bank Research Observer is the property of Oxford University Press / UK and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.