DEVELOPMENT OUTREACH
DEMystifying SUCCESS
The New Structural Economics Approach

BY JUSTIN YIFU LIN
It took a Scottish moral philosopher with no training in economics to set the course of modern economics and challenge researchers to answer what is arguably the most fundamental question in public policy, namely: what is the recipe for growth, job creation, and poverty reduction?

Indeed, since Adam Smith offered his theory of wealth creation in 1776, economists have behaved like detectives in mystery novels, imagining theories, exploring hypotheses, examining facts, tracking evidence, and following leads. They have had some successes and many disappointments. Most progress has been made in identifying systemic differences in institutions and policies between high-growth and low-growth countries. But what really works in policy making remains left to conjecture. In fact, more than 200 years after Smith’s seminal work, economic growth is still a “mystery” to many, and an “elusive quest” to others—to quote Elhanan Helpman and William Easterly.

**WHAT THE CLUES TELL US**

**WE HAVE AN IMPORTANT CLUE:** prior to the 18th century, it took about 1,400 years for the Western world to double its income. In the 19th century, the same process took about 70 years, and only 35 years in the 20th century. That dramatic acceleration in growth rates came about with the transformation of agrarian economies into modern industrialized societies. This intriguing trend has led us to recognize that continuous structural change prompted by industrialization, technological innovation, and industrial upgrading and diversification are essential features of rapid, sustained growth. The pace of structural transformation and the rapid growth path followed by a small number of countries such as Brazil, Chile, China, India, Korea, Malaysia, Mauritius, Singapore, or Vietnam have been impressive. In those nine countries, several hundred million people have been lifted out of poverty in the space of one generation. On the other hand, the apparent inability of many other countries to escape the poverty trap is puzzling. These lower-income countries are home to more than one-sixth of humanity—they count as the bottom billion, a term coined by Oxford economist Paul Collier. The mystery of diverging country performances, especially during the second half of the twentieth century, persists.

**A LOSS OF FAITH**

**THE GLOBAL CRISIS** has fundamentally undermined our faith in free markets, and revived the belief that both the government and the private sector play important roles in successful economies. We now have a unique opportunity to rethink economic development—and economic theory and practice in general—and to reassess how the government and the private sector can shape the industrialization process.1

To do so, we need to understand why and how some countries have been able to succeed where others have failed. The lessons of history, theory, and practice can all help us understand the ingredients of economic success.

**HOW DID THEY GET THERE?**

**IN THE POST-WORLD WAR II ERA,** only thirteen economies have achieved an average annual growth rate of seven percent or higher for 25 years or more. The Growth Commission, headed by Nobel Laureate Michael Spence, found that the most important common feature of these 13 economies is that they were able to tap into the potential advantage of backwardness—that “they imported what the rest of the world knew and exported what it wanted” (World Bank 2008, p. 22). Lessons from these success stories can help other developing countries that are currently struggling to eradicate poverty and narrow the income gap (Lin and Monga 2010a).
THE ADVANTAGE OF BACKWARDNESS

The First Lesson is that continuous technological innovation is key to sustained economic growth in any economy (Lin 1995). And this is where developing countries may have the advantage of backwardness (Gerschenkron 1962). In advanced high-income countries, technological innovation and industrial upgrading require indigenous inventions supported by costly and risky research and development (R&D), as their technologies and industries are leading global development. Moreover, the institutional innovation required to foster the development of new technologies often entails a costly trial-and-error, evolutionary process.

In the process of upgrading or diversifying into a new sector, a developing country can borrow technology and the supporting social and economic institutions from advanced countries. In doing so, it has the potential of reducing the costs and risks of innovation and growing at an annual rate several times that of high-income countries. To tap that potential, the country’s industrial development needs to be consistent with its comparative advantages so as to be competitive in both domestic and international markets. A well-functioning market system is a precondition since the market will ensure that prices reflect the relative scarcity of the factors of production (land, labor, and capital), which in turn guides firms into industries that are consistent with the country’s comparative advantages. The country will grow fast, produce a large surplus (profits), accumulate capital rapidly, and quickly upgrade its endowment structure and industries.

A MARKET-PLUS SOLUTION

At the same time, a smooth industrial and technological upgrading process requires simultaneous improvements in soft infrastructure such as educational, financial, and legal institutions, and in hard infrastructure such as telecommunications and transportation. These improvements will enable firms to reduce their transaction costs and become the lowest-cost producers (Harrison and Rodriguez-Clare 2009). But no single firm can afford to take on all these infrastructure initiatives; and spontaneous self-coordination among many firms to meet these challenges is unrealistic.

The task requires collective action, or at least coordination, between infrastructure service providers and industrial firms. In fact, the government itself must initiate or proactively coordinate these changes. In addition, industrial upgrading and diversification requires that certain firms act as first movers. If they fail, they bear all the costs of their decisions; if they succeed, they are usually followed into the marketplace by competitors, and quickly lose the economic rents and rewards that they expected as first movers. Because of the above asymmetry in the expected cost and gain for the first movers and the information externality created by them, the government must provide incentives to encourage them.

THE NEW STRUCTURAL ECONOMICS

As we re-examine sustainable growth strategies for developing countries after the global crisis, we need to pay special attention to structural change and its corollary, industrial upgrading and diversification. The new structural economics (Lin 2010) proposes a framework that complements earlier approaches. It takes the following principles into consideration:

First, an economy’s structure of factor endowments (the relative abundance of the factors of production) changes as it moves from one level of development to another. Therefore, its optimal industrial structure will also be different at different levels of development, requiring a corresponding level and mix of hard and soft infrastructure to support its operations and transactions. For example, the United States had to update its financial and legal system when it evolved from an agrarian economy to an industrialized one in the 18th century. The dynamics of hard and soft infrastructure was even more notable in the 19th century when railroads were built to accommodate the needs of increasingly large firms, and sophisticated new regulations had to be adopted to guide interstate commerce.

Second, each level of economic development is a point on a continuum from low-income agrarian to high-income industrialized, not a dichotomy of two stages: poor versus rich or developing versus industrialized. This is why industrial and infrastructure upgrading targets in developing countries should not necessarily be the same as those of high-income countries.

Third, at each level of development, the market is the main mechanism for allocating resources. However, history and economic theory suggest that although markets are in-
dispensable in allocating resources to the most productive sectors and industries, government intervention—through the provision of information, coordination of infrastructure improvements, and compensation for externalities—is equally indispensable in helping economies move from one level of development to another. This upgrading entails large externalities that affect firms’ transaction costs and returns to capital investment. Thus, the market is necessary but not sufficient, and the government needs to play an active role.

The evidence that suggests the benefits of government involvement may not be enough to validate an idea that has long been mired in controversy. Many economists who believe that government intervention is indispensable for structural transformation may still oppose a proactive public sector role in industrial upgrading and diversification. The main reason for their opposition is the lack of a framework for industrial policy making. But we can derive some guiding principles by drawing on the theories of comparative advantage and the advantage of backwardness, and by analyzing some industrial successes and failures.

**FINDING A PATHWAY**

**THE NEW STRUCTURAL ECONOMICS** approach suggests a user-friendly six-step framework to help policy makers identify and facilitate growth paths (Lin and Monga 2010b):

- **FIRST**, identify those tradable goods and services that have existed for a period of about 20 years in dynamically growing countries that have similar endowment structures but with a per capita income that is about double their own.
- **SECOND**, among the industries on that list, identify those that have attracted domestic private firms and try to pinpoint:
  - any obstacles that may be preventing them from upgrading the quality of their products, or
  - any barriers that may be discouraging other private firms from entering.
  
  This could be done using value-chain analysis or the Growth Diagnostic Framework suggested by Hausmann, Rodrik, and Velasco (2008). The government can then implement policies to remove the constraints at home, and carry out randomized controlled experiments to test their effectiveness in eliminating the constraints before scaling those policies up to the national level.
- **THIRD**, some of the identified industries may be new to domestic firms. The government could encourage firms in the higher-income countries identified in the first step to invest in these industries, since those firms have the incentive of relocating their production to the lower-income country so as to reduce labor costs. The government could also set up incubation programs to assist the entry of private domestic firms into these industries.²
- **FOURTH**, unexpected opportunities for developing countries may arise from their unique endowment and from technological breakthroughs around the world. Developing country governments should therefore pay close attention to successful discoveries and engagement in new business niches by private domestic enterprises and provide support to scale up those industries.
- **FIFTH**, in countries with poor infrastructure and unfriendly business environments, special economic zones or industrial parks can help overcome barriers to firm entry and foreign investment. These can create preferential environments which most governments, because of budget and capacity constraints, are unable to implement for the economy as a whole in a reasonable timeframe. Industrial clusters could also be encouraged.
- **SIXTH**, the government can compensate pioneer firms through time-limited tax incentives, cofinancing of investments, or access to foreign exchange. To avoid rent seeking and the risk of political capture, these incentives should be limited both in time and in financial cost, and should not be in the form of monopoly rent, high tariffs, or other distortions.

Policy makers in all developing countries could take this approach to help their economies follow their comparative advantages, tap into the potential advantage of backwardness, and achieve dynamic and sustained growth.

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References


Endnotes

1 Stiglitz (2009), Akerlof and Schiller (2009), and Krugman (2009) have questioned some of the fundamental tenets of mainstream economics, most notably the assumption that competitive markets are sufficient to create strong business incentives, and wealth creation, and to ensure efficient outcomes. Monga (2009) and Basu (2011) suggest that economics move beyond the boundaries of methodological individualism because all economic systems rely on social norms and beliefs.

2 Bangladesh’s vibrant garment industry is an example of a new industry starting from foreign direct investment—in this case, Daiwoo, a Korean manufacturer, in the 1970s. After a few years, enough knowledge transfer had taken place and the direct investment became a sort of “incubation.” Local garment plants mushroomed in Bangladesh, and most of them can be traced back to that first Korean firm (Rhee 1990). Chile’s successful salmon industry is an example of incubation by the government. Fundación Chile, a public sector firm, set up the first commercial salmon-farming operation in the country in 1974 and demonstrated that salmon farming could be successful in Chile. This industry expanded rapidly to the private sector and in size and complexity after the 1980s (Katz 2006).