Foreword

Lester C. Thurow
Jerome and Dorothy Lemelson professor of Management and Economics
Former Dean
MIT Sloan School of Management

The secret to higher GDP per person is working smarter, not harder.

Two realities, a personal observation and what I learned as a professional economist, lead to this conclusion. As an economist working in Pakistan in the early 1970s, I saw Pakistani peasants working hard the way no American does. Yet they had per capita GDP just a fraction of that in the U.S. Second reality: economic historians believe that as late as 1700, there was no significant difference between countries in terms of their per capita GDPs. The richest country was close to being the poorest country. Most people, 98% or more, were farmers and everyone did their farming in the same way: human or animal power, seeds collected from the last crop, and human or animal manure. Today the income ratios between the richest countries and the poorest are at least 120 to 1.

In between these two realities, three industrial revolutions, opportunities to work smarter, occurred. The steam revolution occurred in the late 1700s; in the late 1900s, the electrification revolution and the R&D revolution occurred.

Today, we are in the midst of the third industrial revolution: new technologies, globalization, and the end of communism or socialism are producing a new economy. This is a book about globalization and the emergence of the 24-Hour Knowledge Factory. Here the opportunity is not to make the thing cheaper by outsourcing (although that might happen), but to make things much faster by taking advantage of differences in the world's time zones to do one's R&D or production around the world so that the time to market, the time it takes to reach the consumer is much shorter than it was.

In this global economy, the question is not what "can be" moved abroad (everything "can" be moved abroad), but what "should" be moved abroad. One can judge a developing country is good or bad at taking advantage of the third industrial revolution, by what fraction of foreign direct investment (FDI) it gets. This is a number that includes the developed world's investments in commodities such as oil.

China is the best country in terms of attracting FDI. It gets $60 billon out of a total of $100 billion although it has few investments in commodities. It has the best educated population in the developing world. In a few years, it will have more university educated engineers than the U.S. Further, it can easily move 500 million people out of farming and into industry.

India, another rapidly growing developing county with even lower wages, by contrast, gets only a few billion in FDI. Yet it still dominates outsourcing in services because it has millions of educated Indians who speak English and work for very low wages. More than 80% of Americans work in service companies. Eventually almost everyone will work in services. Services are what I call a garbage category. One carefully defines farming, manufacturing, and mining. Everything else, obtained by subtraction, is a service. India may get very little FDI, but it is in a growth sector.

Countries can prevent FDI in themselves; Central Africa has, but to stop FDI is to stop development.

Central Africa has almost no contact with the outside world. Other than commodities, it gets almost no FDI. It has few exports except raw materials. Not surprisingly, it is one of the few places in the world that has a falling per capita GDP. Central Africa has gone from being an area that had a per capita income above that of Asia to an area that has a per capita income below that of Asia. As Central Africa demonstrates, to stop globalization in one's own country is to stop economic development in one's own country.

The attempt to stop globalization on a world scale (the death of the Doha WTO negotiations) does no better. By wishing to protect its farmers, the wealthy world gives up its chances to get a global system of intellectual rights protection (IPR) protection from the developing world. We kill the new economy (new firms with new products protected by IPR) to protect the old economy (farms).

The question is not what "can be" moved abroad, but what "should be" moved abroad. In the end, the question is not who is willing to move what abroad, but who is willing to innovate.

A recent outside study involving the institution where I teach, MIT, illustrates the importance of innovation. MIT graduates have founded 4,000 firms that provide 1.1 million new jobs. And this study looks just at American firms. It does not count firms such as MITSUI in Japan (founded by an MIT graduate) that have created many more.

While it is fashionable to talk about the new economy, we still live in an economy dominated by the old. If one looks at the Fortune Global 500, 9 of the 10 largest companies depend on oil (oil and auto companies). The oil companies look for and produce oil much the way they did 100 years ago, and the auto companies make cars (the assembly lines) and sell cars much the way they did 80 yeas ago. The one non-oil company in the top ten is "Wal-Mart." But it also sells goods much as department stores did 80 years ago. The old economy is very much alive and well. Are you in the old economy or the new economy? This book helps you to find out.

It is also fashionable to talk about listening to the consumer. While this advice is often right, it is not always right. Think of the cell phone! It was invented by the old AT&T: yet it sold the rights to the cell phone cheap because it thought that the cell phone had no future. The consumer cannot tell you whether he or she likes something that has not yet been invented or used. Products have to be introduced and tried before the consumer knows whether he or she does or does not like them. This book helps one to figure out whether one should create a new product or service, in such situations, by optimizing the R&D and production processes using resources in multiple countries.

The globalized economy produces inequality. The income of the rich goes up vis-a-vis that of the middle class. This is exactly what economic theory predicts. The factor abundant in the world economy falls in wage, and the factor scarce in the world economy rises. In the global economy, middle-skill people are much more abundant than high-skill people. As such, the wages of the mid-skilled persons fall and the wages of the high-skilled individuals rise. Since the rich (the high skilled) also own capital (the factor in the world economy that is in scariest supply), the returns to capital rise and the rich gain doubly. Their wages rise, and their return to capital also rises.

When one adds factors such as health care (part of wages as seen from the perspective of the employer) to wages, the middle class has to take a big cut in wages to get down to world levels. The auto parts maker, Delphi, has told its bankruptcy judge that it needs a cut in wages from $66 per hour to $16 per hour in order to be competitive.

Countries, as well as companies, have to learn some new lessons in the new global economy. Countries have to learn that in the world of the 24-Hour Knowledge Factory, they can collect only two taxes, the value added tax (VAT) and the personal income tax. They know where a person lives so they can collect personal income taxes. They also must rebate taxes on exports to keep their products competitive in world markets. At the same time, they must collect taxes to help pay the cost of government programs. The answer is a VAT tax on imports. German products may be made in China, but German taxes must be paid when they are sold in Germany.

Countries that realize this reality quickly win (think of Ireland) and those who recognize this reality late (think of England) lose. In the late 20th century and for the first time in history, Ireland has a per capita GDP above that of England. And it got there quickly (since the early 1970s) by changing its tax system, specifically by getting rid of the corporate income tax. Foreign corporations, mostly American, made big investments in Ireland (they produce 80% of the Irish GDP) to get the low taxes and to service the European market. If England were to now adopt the Irish tax system, few of these firms would move to the UK. England loses!

Finding your way around the global economy requires a guide. It cannot be done by instinct (another term for knowledge gained from past experience or history). The 24-Hour Knowledge Factory is such a guide for the era of globalization and outsourcing!

Lester Thurow *has been a professor of management and economics at MIT for more than 30 years, beginning in 1968. He was dean of the MIT Sloan School of Management from 1987 until 1993. A 1960 graduate of Williams College, Thurow received his MA in 1962 on a Rhodes Scholarship at Balliol College (Oxford), and his PhD in Economics from Harvard University in 1964. He taught at Harvard from 1966 to 1968 after a term as a staff economist on President Lyndon Johnson's Council of Economic Advisers.His formal academic work focuses on globalization, economic instability, and the distribution of income and wealth. He writes for the general public in a number of American and international newspapers. He has been featured twice on 60 Minutes and has been on the cover of Atlantic magazine. A prolific writer, Thurow is the author of several books, three of them New York Times best sellers, aimed at a general audience. Head to Head: The Coming Economic Battle Among Japan, Europe and America, 1992, looked at the nature of the global economic competition. It was on the New York Times bestseller list for more than 6 months. His 1996 book, The Future of Capitalism: How Today's Economic Forces Shape Tomorrow's World, looked at the forces changing the structure of the world economy. And his latest book, Building Wealth: The New Rules for Individuals, Companies, and Nations in a Knowledge-Based Economy analyzes how the new knowledge-based economy works. In the past, Dr. Thurow has served on the Editorial Board of the New York Times, as a contributing editor for Newsweek, and as a member of Time magazine's Board of Economists. He is a fellow of the American Academy of Arts and Sciences, and served as vice president of the American Economics Association in 1993.*