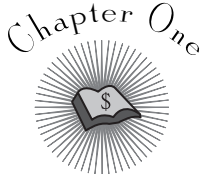

The Secrets of Success

How People, Capital, and Ideas Make Countries Rich

POP QUIZ: THE YEAR is 1990. Which of the following countries has the brighter future?

The first country leads all major economies in growth. Its companies have taken commanding market shares in electronics, cars, and steel, and are set to dominate banking. Its government and business leaders are

paragons of long-term strategic thinking. Budget and trade surpluses have left the country rich with cash.

The second country is on the brink of recession; its companies are deeply in debt or being acquired. Its managers are obsessed with short-term profits while its politicians seem incapable of mustering a coherent industrial strategy.

You've probably figured out that the first country is Japan and the second is the United States. And if the evidence persuaded you to put your money on Japan, you would have been in great company. "Japan has created a kind of automatic wealth machine, perhaps the first since King Midas," Clyde Prestowitz, a prominent pundit, wrote in 1989, while the United States was a "colony-in-the-making." Kenneth Courtis, one of the foremost experts on Japan's economy, predicted that in a decade's time it would approach the U.S. economy's size in dollar terms. Investors were just as bullish; at the start of the decade Japan's stock market was worth 50 percent more than that of the United States.

Persuasive though it was, the bullish case for Japan turned out completely wrong. The next decade turned expectations upside down. Japan's economic growth screeched to a halt, averaging just 1 percent from 1991 to 2000. Meanwhile, the United States shook off its

early 1990s lethargy and its economy was booming by the decade's end. In 2000, Japan's economy was only half as big as the U.S. economy. The Nikkei finished down 50 percent, while U.S. stocks rose more than 300 percent. Far from catching up to the United States, Japan's economy in 2010 fell to third largest in the world, behind China's.

What explains Japan's reversal of fortune? Simply put, an economy needs both healthy *demand* and *supply.* As is well known, Japan's *demand* for goods and services suffered when overinflated stocks and real estate collapsed, saddling companies and banks with bad debts that they had to work off. At the same time, though less well known, deep-seated forces chipped away at Japan's ability to *supply* goods and services.

The supply problem is critical because in the long run economic growth hinges on a country's productive potential, which in turn rests on three things:

1. Population
2. Capital (i.e., investment)
3. Ideas

Population is the source of future workers. Because of a low birth rate, an aging population and virtually

nonexistent immigration, Japan's working-age population began shrinking in the 1990s. A smaller workforce limits how much an economy can produce.

Capital and ideas are essential for making those workers productive. In the decades after World War II, Japan invested heavily in its human and economic capital. It educated its people and equipped them with cutting-edge technology adapted from the most advanced Western economies in an effort to catch up. By the 1990s, though, it had largely caught up. Once it had reached the frontier of technology, pushing that frontier outward would mean letting old industries die so that capital and workers could move to new ones. Japan's leaders resisted the bankruptcies and layoffs necessary for that to happen. As a result, the next wave of technological progress, based on the Internet, took root in the United States, whose economic lead over Japan grew sharply over the course of the 1990s.

A Recipe for Economic Growth

Numerous factors determine a country's success and whether its companies are good investments. Inflation and interest rates, consumer spending, and business confidence are important in the short run. In the long run, though, a country becomes rich or stagnates depending on whether it has the right mix of people,

capital, and ideas. Get these fundamentals right, and the short-run gyrations seldom matter.

Until the eighteenth century, economic growth was so slight it was almost impossible to distinguish the average Englishman's standard of living from his parents'.

Between 1945 and 2007 the U.S. economy went through 10 recessions yet still grew enough to end up six times larger, with the average American three times richer.

We've taken growth for granted for so long that we've forgotten that stagnation could ever be the norm. Yet, it once was. Until the eighteenth century, economic growth was so slight it was almost impossible to distinguish the average Englishman's standard of living from his parents.' Starting in the eighteenth century, this changed. The Industrial Revolution brought about a massive reorganization of production in England in the mid-1700s and later in Western Europe and North America. Since then, steady growth—the kind that the average person notices—has been the norm. According

to economic historian Angus Maddison, the average European was four times richer in 1952 than in 1820 and the average American was eight times richer.

In the preindustrial era, China was the world's largest economy. Its modest standard of living was on a par with that of Europe and the United States. But China then stagnated under the pressure of rebellion, invasion, and a hidebound bureaucracy that was hostile to private enterprise. The average Chinese was poorer in 1952 than in 1820.

So why do some countries grow and some stagnate? In a nutshell, growth rests on two building blocks: population and productivity.

1. *Population* determines how many workers a country will have.
2. *Productivity*, or output per worker, determines how much each worker earns.

The total output a country can produce given its labor force and its productivity is called *potential output*, and the rate at which that capacity grows over time is *potential growth*. So if the labor force grows 1 percent a year and its productivity by 1.5 percent, then potential growth is 2.5 percent. Thus, an economy grows.

Take a Growing Population

Let's recap. An economy needs workers to grow. And, usually, the higher the population, the higher the number of potential workers. Population growth depends on a number of factors including the number of women of child-bearing age, the number of babies each of those women has (the fertility rate), how long people live, and migration.

In poor countries, many children die young so mothers have more babies. As countries get richer and fewer children die, fertility rates drop and, eventually, so does population growth. As women have fewer children, more of them go to work. This *demographic dividend* delivers a one-time kick to economic growth. For example, it was a major contributor to East Asia's growth from the 1960s onward and to China's after the introduction of its one-child policy in 1979. But a country only gets to cash in its demographic dividend once. Eventually, as population growth slows, it ages and each worker must support a growing number of retirees. If fertility drops much below 2.1 babies per woman, the population will shrink unless offset by immigration.

Japan is not the only country to have experienced this; 40 percent of countries now have fertility rates

below 2.1, including Korea and Brazil. In some, including Russia and Germany, population is already shrinking. The most dramatic example is China where the one-child policy and, more recently, increasing wealth and urbanization have brought the fertility rate down dramatically to just 1.6. In Shanghai, China's wealthiest big city, it's 0.6, one of the lowest in the world. In 2026, China's population should start to decline. It may be the first country to grow old before it grows rich.

Add Capital

A country is not rich, though, just because it has a lot of people—just look at the Philippines, which has 21 times as many people as Ireland but an economy of roughly equal size.

The reason for this population/economic size disparity is that the average Filipino is much less productive than the average Irishman. For a country to be rich—that is, for its average citizen to enjoy a high standard of living—it must depend on productivity, which is the ability to make more, better stuff with the labor it already has.

Productivity itself depends on two factors: capital and ideas.

You can raise productivity by equipping workers with more capital, which means investing in land,

buildings, or equipment. Give a farmer more land and a bigger tractor or pave a highway to get his crops to market, and he'll grow more food at a lower cost. Capital is not free, though. A dollar invested to produce more stuff tomorrow is a dollar not available to spend on stuff today. Thus, for someone to invest a dollar, someone else must save a dollar; and so a key ingredient of growth is saving. That saving can come from households, businesses, foreigners, even governments, although most governments borrow rather than save, as we see in Chapter 14. The more a society saves, the more capital it can accumulate. (There is, however, such a thing as saving too much, as we learn in Chapter 11.)

Capital, though, will only take a country so far. Just as your second cup of coffee will perk you up less than your first, each additional dollar invested provides a smaller boost to production. A farmer's second tractor will help his productivity far less than his first. This is the *law of diminishing returns*.

Season with Ideas

How do you repeal the law of diminishing returns? With ideas. In 1989, Greg LeMond put bars on the front of his bicycle that enabled him to ride in a more aerodynamic position. This simple idea sliced seconds

off his time, allowing him to beat Laurent Fignon and win the Tour de France.

New ideas transform economic production the same way. By combining the capital and labor we already have differently, we can produce new or better products at a lower cost. "Economic growth springs from better recipes, not just from more cooking," says Paul Romer, a Stanford University economist. For example, DuPont's discovery of nylon in the 1930s transformed textile production. These man-made fibers could be spun at far higher speeds and required far fewer steps than cotton or wool. Combined with faster looms, textile productivity has soared, and clothes have gotten cheaper and better.

The productive power of ideas is nothing short of miraculous. Investing in more buildings and machines costs money. But a new idea can be reproduced endlessly for free.

The productive power of ideas is nothing short of miraculous. Investing in more buildings and machines costs money. But a new idea can be reproduced endlessly

for free. Just as other cyclists quickly copied Greg LeMond's aerobars, companies catch up to their competitors by copying their ideas. Although this can be frustrating for the person who came up with the idea, it's great for the rest of us as we benefit from the improvements made with the existing idea. Here are a few examples:

- **New business processes**. Some of the most powerful ideas involve rearranging how a company runs itself. In 1776, in the first chapter of *The Wealth of Nations*, Adam Smith marveled how an English factory divides pin making into 18 different tasks. Smith calculated that one worker, who could by himself make one pin a day, could now make 4,000. "The division of labor occasions, in every art, a proportionable increase in the productive powers of labor," he wrote. Two centuries later Walmart revolutionized retailing by using big box stores, bar codes, wireless scanning guns, and exchanging electronic information with its suppliers to track and move goods more efficiently while scheduling cashiers better to reduce slack time. As competitors like Target and Sears copied Walmart, customers of all three benefited from lower prices and more selection, a McKinsey study found.

- **New products**. Netscape's Navigator was the first commercially successful browser but was soon supplanted by Microsoft's Internet Explorer, which is now under siege by Mozilla Firefox, Apple Safari, and Google Chrome. Browsers keep getting better but consumers still pay the same price, zero. Drugs provide another example. Eli Lilly's introduction of the antidepressant Prozac in 1986 inspired competitors to develop similar drugs like Zoloft and Celexa, providing alternatives for patients who didn't respond well to Prozac.*

Ideas can be patented, or copyrighted. But overly restrictive patents and copyrights discourage the spread of ideas and leave society worse off. A lot fewer books would have been written if the estate of Johannes Gutenberg collected a fee on every one.

It's not just companies that thrive by imitating their competitors. Entire countries can turbocharge their development by strategically copying the ideas and technologies that other countries already use. Eckhard Höffner, an economic historian, attributes Germany's rapid industrial development in the nineteenth century

*According to Robin Arnold of IMS Health.

to weak copyright laws, which encouraged publishers to flood the country with cheap (and often plagiarized) copies of essential technical manuals. Japanese steelmakers didn't invent the basic oxygen furnace; they adapted it from a Swiss professor who had devised it in the 1940s. They thus leapfrogged U.S. steelmakers who were using less efficient open-hearth furnaces. Japan's mainframe computer makers benefited from a government edict that IBM make its patents available as a condition of doing business there.

More recently, China's adaptation of existing ideas from other countries has resulted in significant economic growth. Since 1978, it has moved workers from unproductive farms and state-owned companies to more productive privately owned factories that used machinery and technology bought, borrowed, and sometimes stolen from foreigners. Foreign companies are routinely required to share their expertise with local partners as a condition of doing business in China.

Still, once a country has copied all the ideas it can, future growth depends on waiting for new ideas or developing its own. Inevitably, a country at the technological frontier grows more slowly than one catching up to the frontier. As we learned earlier in this chapter, that's just what happened to Japan. It could also happen to China.

Nurturing Growth

Getting the ingredients right is essential to economic growth, but so is the environment that the government creates to foster its development. Like the temperature on the oven, the wrong setting can ruin the recipe. So, what do governments do that matters most?

- **Human capital**. It's no use equipping workers with the most advanced equipment in the world if they can't read the instructions. Education and training, both forms of human capital, are essential to productivity. Korea went from third-world status to the ranks of the industrialized nations in a generation in part by rigorously educating all its children. Its high school graduation rates now exceed those of the United States.
- **Rule of law**. Investors will invest today only if they know they get to keep the rewards years later. That requires transparent laws, impartial courts, and the right to property. The United States' army of lawyers sues at the drop of a hat and wrap every transaction in legalese, but in a maddening way that signifies its respect for laws.

  Small government is better than big government, but size is less important than quality. For

example, Sweden's government spends more than half of gross domestic product (GDP) while Mexico's spends only a quarter of its GDP. But Swedish government is efficient and honest while Mexico's is inefficient and rife with corruption. That's one reason Sweden is rich and Mexico is poor.

Is democracy necessary for growth? It helps: Governments that make people poor usually lose elections. But there's no firm rule. The authoritarian governments of China, Korea, and Chile ran smart policies that produced strong growth early in their development. Conversely, sometimes democratic governments are pressured by voters to expropriate private property, run up unsupportable debts, or shelter politically favored groups at everyone else's expense. But dictators have done all those things and worse, bringing on social unrest that ruins the investment climate. Democracy provides essential feedback to government just as free markets do to companies, and elections are generally less disruptive than civil wars.

- **Letting markets work**. Entrepreneurs and workers get rich coming up with new, cheaper ways to make things. In the process, they drive someone else out of business. Joseph Schumpeter, the

Austrian-born Harvard economist, called this "creative destruction." Governments squelch creative destruction by propping up shrinking industries, or barring the entry of new competitors. Policies that direct capital to favored sectors, such as housing in the United States, result in too much investment in unproductive activities and too little in promising, innovative enterprises. China's banks lend too much to state-owned enterprises (SOEs) and too little to private companies.

Into the Weeds

Now that we've established what a country needs to grow, how do we measure that growth? The global gold standard is gross domestic product, or GDP, the value of all the products and services a country produces in a year. GDP can be measured in two ways:

1. **Expenditure-based GDP**. Total of all the money spent on stuff.
2. **Income-based GDP**. Total of all the money earned producing stuff.

Expenditure-based GDP includes spending by consumers—on such items as houses, bread, and visits

to the doctor—and by government—on such items as schools and soldiers. It also includes spending by businesses, but only on investment-related expenses—such as a bakery's new oven or building. GDP excludes what business spends on inputs (e.g., ingredients, fuel, and parts) that go into what its customers buy. For example, when a consumer buys a cake, she is also buying the eggs and flour that the baker bought to make the cake. We include the consumer's purchase of cake in GDP but not the baker's purchase of eggs and flour as that would be counting it twice. Exports are also included in *expenditure-based GDP* because this represents what foreigners spend on things made in the United States. Imports are subtracted from GDP to exclude what Americans spend on things made in other countries.

Expenditure-based GDP is measured in nominal and real dollars. *Nominal dollars* represent the actual value of activity. *Real dollars* remove the effects of inflation. Suppose sales of bread rise 5 percent. If the price per loaf rose 2 percent, then real spending on bread (i.e., the number of loaves sold) rose 3 percent. That's real GDP and it's the usual way of measuring economic growth. However, you can't spend real GDP—wages and profits are earned in nominal dollars so nominal GDP is a better way to measure the size of the economy.

The second method, *income-based GDP*, includes the wages, benefits, and bonuses earned by workers and managers; the profits earned by companies and their shareholders; the interest earned by lenders; and the rent earned by landlords.

In theory, the expenditure-based GDP and income-based GDP should be equal, because one person's spending is another person's income. In practice, however, GDP is so large and complex that it would be a miracle if calculating it two ways produced the same number.

When the U.S. Commerce Department's Bureau of Economic Analysis calculates GDP, 75 percent of its initial estimate is based on surveys of actual activity like retail sales and construction. For the rest it gets creative. For example, it checks out the weather to estimate utility output or dog registrations to estimate spending at veterinarians' offices. It sounds goofy, but it lines up pretty well with the hard data that eventually replaces it.

GDP is not the same as well-being. As Robert Kennedy* noted in 1968, it includes "special locks for our doors and the jails for the people who break them" but not "the health of our children, the quality of their

*Kennedy at the time was talking about gross national product, which is similar to GDP.

education, or the joy of their play." In 2008 the French government asked prominent economists to come up with a better way to measure happiness and social progress. Still, as long as people and governments measure economic success in material terms, GDP will be their favorite yardstick.

Will the United States Become the Next Japan?

In 2007 the United States sank into its eleventh, and worst, recession since World War II. It emerged in 2009 but the ensuing expansion has been slow and halting. Unemployment declined much more slowly than after the previous worst recessions, those of 1973 to 1975 and 1981 to 1982. After inflation, household incomes were lower in 2011 than a decade earlier. Pessimism about America's prospects is pervasive: In one poll more Americans thought the twenty-first century would be a Chinese century rather than an American century.

Is the pessimism warranted? China's per-person income is only a tenth of America's but because it has more than four times as many people, its economy is almost half as large. When China's per-person income passes a quarter of America's, its economy will be larger. Because productivity in China is rising so quickly and the value of its currency is rising against the dollar that point will probably be reached by the end of this decade.

That is not a sign of American decline but of China exploiting the time-tested recipe of education, urbanization, and industrialization to graduate from poor- to middle-income status. Many countries like Mexico have done the same, only to stumble before becoming rich. To avoid the same trap, China has a delicate transition: Having grown through exports, investment, and manufacturing it must now rely more on services and consumers, which are less easily steered by government overseers.

What about America? As female baby boomers put their child-bearing years behind them and older boomers retire, its population and labor force will grow more slowly. Nonetheless, America's relatively high fertility rate and immigration means its population will grow more quickly than that of almost any developed country for some years to come.

The real question mark is whether Americans will keep generating new ideas and investing in them so that productivity can keep rising. Some signposts are troubling; the technology bubble of the 1990s left the United States with broadband Internet and business-to-business websites. By contrast, the real estate bubble of the late-2000s left behind vacant houses and bad property loans that made it harder for the businesses of tomorrow to get money.

In 2012, Americans expressed less faith in free markets than did Brazilians and Chinese. Government has grown: There are more rules now governing health care, the environment, and finance. Yet America's model is not broken. The business insurgents who drive creative destruction still get a warmer welcome in America than anywhere else; from Amazon.com to Google to Facebook, the companies most likely to topple the established economic order were born in the United States. Americans are jaded about finance but still like free enterprise. In April 2009, at the depths of the worst recession and bear market in memory, the Pew Research Center found that 90 percent of Americans said they admired people who get rich by working hard. Optimists would also point out that American legal and democratic traditions have survived intact. Populist anger at bankers helped produce both the Tea Party and Occupy Wall Street movements. Yet in the first major criminal trial stemming from the mortgage meltdown, jurors acquitted two traders for Bear Stearns, because, one said, "We just didn't have enough to convict them."

The optimist would go on to note that for all the rhetoric to the contrary, U.S. leaders still believe in free enterprise, as well. Within three years of taking stakes in nine major banks, the Treasury had sold all of them.

True, the federal government propped up General Motors; but to get the money GM had to go through bankruptcy and shear off 30 percent of its U.S. workforce. By contrast, France gave money to Peugeot and Renault only after they promised to preserve French jobs. In 2011, GM recorded record profits.

If the financial system can flush the bad debt left from the property bubble, then investment should resume and with it, productivity growth of perhaps 1.5 percent to 2 percent per year. Add that to labor force growth of 0.75 percent and you get long-term growth of 2.25 percent to 2.75 percent per year. The United States may no longer be a glamorous growth stock, but it's still a blue chip.

The Bottom Line

- Long-term economic growth depends on population and productivity. A growing population is the source of future workers, and the more productive those workers are, the richer they become. It takes investment in both capital and ideas to raise productivity.
- Ideas enable us to recombine the workers and the capital we already have in new ways to produce brand-new products, or old products at a lower price. Competition forces countries and companies to copy each other's ideas and constantly come up with new ones.

- Both investment and ideas must be nurtured. Honest government and trustworthy laws encourage investors and innovators to take risks in hopes of reaping the rewards. Investment in education enables workers to take advantage of the latest ideas. And free markets ensure that dying, unproductive industries are culled so that growing industries can attract capital and workers.