

The Founding Entrepreneurs: America's Prosperity

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The American economy has had the fastest and most dramatic development of all the world's major economies. Four hundred years ago, the economic output of the area that became the United States was negligible by world standards. Yet only 250 years later, the U.S. economy had become the largest in the world, surpassing all other countries, including those that had a head start of thousands of years, such as China and Britain. And since that milestone in the mid-1800s, the U.S. economy has grown by about 50 times, remaining well ahead of economies such as Japan and Germany that at times appeared to be closing the gap.

This is too long and consistent a record to be a matter of happenstance. Nor can it be explained, as some have suggested, by the fact that the United States has had a rich endowment of natural resources. Americans have made good use of what nature has provided—the deep topsoil of Iowa, for example—but large areas of the West (witness Wyoming) do not receive enough rain to grow anything other than sagebrush. And the areas that Americans have now made useful are comparable newcomers. For thousands of years they lay idle, because people did not know how to put them to work. These resources became productive only within the broader pattern of human energy and ingenuity that was driving the entire economy.

The critical factor that explains America's exceptional growth is human creativity. The only force that could have enabled people to find productive uses for resources that had previously lain idle is knowledge. And knowledge has to be created by people—people known, in this

role, as entrepreneurs. Entrepreneurs are the specialists who focus on innovation, developing new products and services and expanding the supply of resources that people can use to produce more of what they value.

Much of this effort is incremental and thus not obvious, but it can cumulate into huge increases over time. Innovation is seldom a Eureka experience in which the new product appears full blown. More typically, success requires the entrepreneur to work through several iterations in an effort to smooth out the multiple connections that innovations almost always require. All these steps require numerous trials, and the output at each point along the way has to be adjusted to other components in the process. In fact, the organization that will deliver the new product or service may itself have to be reshaped. The automobile, for example, required gas pumps, service hoists, and tire stores, each of which dictated new retail outlets.

Everyone assumes that entrepreneurs

are motivated by money, and of course the prospect of making money does provide an important incentive. But other motives are also important. Innovators also enjoy creating productive solutions that provide better services for others. They enjoy solving problems and creating new organizations, within which they and their associates often establish something akin to family relationships. Interests of this sort help to explain the large amount of successful innovation that occurs in nonprofit firms, the arts, and other sectors where participants do not expect to earn much income, even in return for important advances.

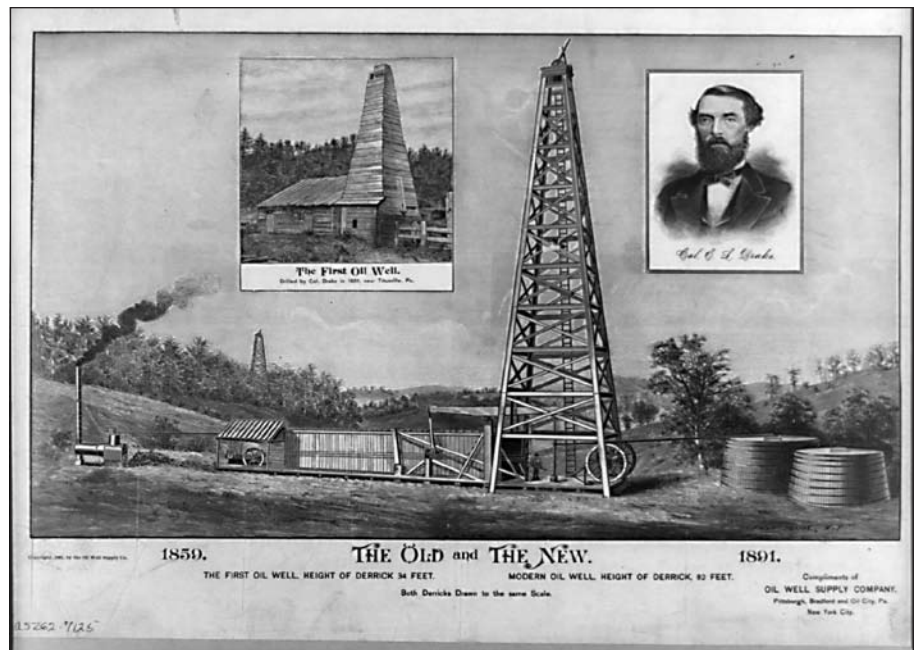
The motivation of entrepreneurs is often misjudged in another respect as well. One familiar characterization of entrepreneurs is that they are risk takers—people who thrive on big projects and uncertain outcomes that most folks cannot stomach. But it is a mistake to view entrepreneurs as flat-out gamblers who just throw the dice. Most entrepreneurs assume no more risk in launching their initiatives than an average person does in the course of everyday routines.

This point becomes clear when we look closely at how entrepreneurs work. Risk is a result of what you know and control. Most of us would consider jumping out of an airplane in flight to be very risky, but skydivers who understand parachutes and jump procedures

consider the activity fun—they pay to do it. (And they will tell you they are safer jumping than you are driving home from work in the evening.) Entrepreneurs control risk by becoming specialists in the particular technology that governs their products. Furthermore, they typically improve their special knowledge by conducting frequent, small experiments, no one of which would be devastating if it failed. They understand that many of the trials will not be successful, but they also understand that they might learn something important even from failed trials. They have the attitude of Thomas Edison, who said, “I have learned a lot, I know ten thousand things that do not work.” In one sense, entrepreneurs have an advantage over people who do not practice much innovation. Entrepreneurs shape the future rather than having to adapt to it. Thus they bypass many of the risks faced by those who are on the receiving end of changes in the economy. They do not worry about losing their jobs, for example; they create jobs for themselves.

While it is not difficult to understand that entrepreneurs have created many improvements in the course of American history, it can be surprising to learn that they actually *founded* the U.S. economy. The Atlantic Coast of what is now the United States remained unsettled for more than 100 years after Columbus stepped foot on it. No one saw much promise there, and the governments that claimed it, especially Britain, would not spend government funds to develop anything in such an unpromising place. So it fell to entrepreneurs to devise the new knowledge that would eventually make the area useful and livable. There actually were more prospective entrepreneurs than the area could accommodate. To deal with this, the British government held an informal competition, selecting those aspirants who seemed most likely to develop a colony in such a way that trade would flourish and the claim of Britain to the area would be solidified.

Not surprisingly, many of the first efforts at settlement were failures, but after experiencing failures, the founding



entrepreneurs often regrouped and tried again. After experimenting with products that seemed promising when plans were being made beforehand in Europe but proved unsuccessful, such as wine, they sought out products that took advantage of local resources.

But in these efforts, the colonial entrepreneurs also learned that their initial form of organization, the chartered company, was inappropriate. They soon divided its functions, giving its governance over to colonial governments and the economic role to private farmers and merchants. For example, Thomas Smythe reordered the Virginia Company three years after its founding in 1607, to encourage individuals to find the products and methods that would be worthwhile in that locality. One obvious result of that incentive was Will Rolf’s crossing of local tobacco plants with others brought in from the Caribbean to produce a much more productive plant—and the largest export of colonial America.

New learning of this sort continued as individuals seeking to better their own circumstances developed new farming techniques appropriate to abundant land. New techniques reduced costs of production, enabling more producers to bear the cost of shipping exports back to Europe. Soon, Americans began moving inland to develop new lands; increasingly,

they also crafted new forms of production, such as whaling on the high seas, well out from the shore, the only hunting ground until then. This growth in economic activity continued throughout the 170 years prior to the Revolution. On the eve of the Revolution, the Americans had developed the largest economy in the Western Hemisphere, and one comparable to medium-sized European economies like Holland.

The record of growth and geographical expansion during the colonial era is very suggestive. First, it occurred without much in the way of industry, large cities, or large capital investments. Although many analysts have subsequently deemed some form of industrial revolution to be a key factor in shifting an economy from a pre-modern to a developed state, no industrial revolution drove economic growth in the colonies. If there was a revolution at work, it was a revolution in productivity—in the amount of output obtainable from a given amount of inputs—not one involving spending more resources on particular sectors. Second, economic growth in the colonies followed an evolutionary path. As noted above, innovation proceeds in small steps. When a major episode of growth process is completed, the cumulative result may be revolutionary, but the journey down the path toward that



New products and services, such as the railroad, in the post-Civil War period, fueled America's dramatic development.

point is usually one of trying this and that, testing each trial along the way, and starting over again with new knowledge gained from the trials.

The American colonial experience also contradicts a common presumption about the supply of natural resources—that is, that a sustained period of growth will exhaust the supply. Colonial America grew for almost two centuries from 1607 to 1776, and at the end of this period its supply of natural resources appeared to be just as abundant as it had been at the beginning. The explanation here lies in the way entrepreneurs work. They create new resources as a byproduct when they develop new knowledge that enables them to produce new goods and services. In the colonies, for example, the American whalers were the first to capture whales on the high seas, well out from the shore.

The supply of useable resources is not a fixed stock; it can be increased as new knowledge is applied to the physical world. The physical world is fixed, but mankind's ability to convert the physical world to economic ends is limited only by limits of ingenuity and energy. Even today, after an additional two centuries of sustained growth, the supply of economic resources—that is, useable resources—is still less than 1 percent of the total quantity of the Earth's physical resources.¹ Nobody needs to worry

about using up all the Earth's resources; it is enough to be concerned about the tiny fraction of resources that human ingenuity has to date made useable.

Robust economic growth in the colonial period also calls into question another common assumption about the process of development—that is, that colonial status hinders development. According to this assumption, the colony's growth will be sacrificed to aid the mother country. But when we look at America as a test case, we note that it grew fast under colonial status; in fact, it grew faster than its mother country. On this point, people have often gone wrong by assuming that the economic relationship in question must be zero sum. If the trade relationship could yield only a fixed amount of output, benefits for the mother country would have to come out of the hide of the colonies. But suppose instead that the relationship—as is highly likely in the American case—results in a net increase in output. In that case, both sides can be better off by dividing the net gain between them.

Such synergy can come through gains from trade and specialization, but it can also result from the transfer of institutional structures that colonial relations facilitate. The Americans imported the English system of common law, with provisions for protecting property rights, which most scholars now believe was a

central component of economic growth. This institutional structure encouraged entrepreneurs and investors to work at improvements, knowing that they would be able to keep rewards for the value they produced. Americans understood that these inherited institutions were valuable; even when they decided to break with Britain over the control of foreign policy, they retained the English-type legal system and its approach to protecting property rights.

Because the colonists kept much of their political and legal system intact when they evicted the British, historians have sometimes characterized the American Revolution as a conservative effort. Even so, in the aftermath of revolution, many Americans realized that some form of national government would be necessary to fill a vacuum in the new confederacy of states. Political entrepreneurs were soon at work crafting an alternative. It seemed essential to create some executive and legislative power at the national level, but Americans were wary of centralized power, still smarting from what they saw as the unrestricted, arbitrary authority of King George III. George Mason and James Madison of Virginia debated the issue and tried out several new arrangements in their state. Taking account of such local experiments, Americans built a series of checks and balances into the new federal government's branches; then they buffered themselves further against abuses of power by adding an explicit bill of individual rights. As a result, it now takes a strong consensus to make major changes in federal policies. This bias toward inertia or gridlock, as we sometimes call it today, frustrates those who wish to use government to accomplish their particular purposes. But for entrepreneurs, it is a framework that assures a stable base against which they can make plans and commitments.

That framework for stability soon demonstrated its importance in events following the founding era. From the approval of the Constitution in 1788, to the end of the War of 1812 in 1815, the United States was buffeted, and sometimes invaded, by foreign powers. But

entrepreneurs, assured of a stable local environment for their efforts, continued to develop new technologies and ways of organizing production. Robert Fulton developed the steamboat, making large areas of western land accessible. Others, such as Francis Cabot Lowell, took advantage of a growing domestic market to develop factories that could mass-produce consumer products cheaply. Lowell built the first complete textile mill just west of Boston and soon was shipping cotton cloth nationwide. This was especially good news to the women and children of America who had previously been obliged to spend hundreds of hours with spinning wheels and home looms just to make enough cloth for a shirt or a dress.

The Lowell example also illustrates how entrepreneurs begin their work by seeking out sources of demand that look promising. The potential source of demand in the case of textiles was clearly evident, and, taking the cue, many aspiring entrepreneurs began to work on elements of the process for producing cotton cloth. (One of those was Eli Whitney, way off on a Georgia plantation, who invented the cotton gin, thus reducing the work needed to extract seeds from cotton.) Often, however, the source of demand is less evident, and the entrepreneur then must develop technologies and products to the point at which consumers can see that, yes, this is really something that they would like. There is a common expression that “necessity is the mother of invention,” but the expression is misleading. Necessity is the mother of improvisation. By improvisation, people can devise temporary fixes to problems. But temporary fixes do not involve anywhere near the sustained effort needed to identify, and then develop, an effective response to a major demand. Entrepreneurs sometimes say that it takes six or seven years to grow plums.

Cyrus McCormick took more than seven years to grow his plums. He began work on his first mechanical grain reaper in the 1830s. Initially, he was held back by the imprecision of the metal working machinery then available and by the lack

of a large market. In his first decade of production, most of his reapers were custom pieces, assembled one at a time. Over time, his machinery improved and the market of grain farmers expanded. In this expanded market, farmers increasingly bought reapers, because reapers enabled them to speed up the crucial step of harvesting. McCormick expedited sales by franchising his dealers to insure that they would provide repairs and instructions during harvest season.

American entrepreneurs have received by far the most attention for their efforts during the period between the Civil War and World War I. They created huge industries with new products and services such as oil, steel, copper, and railroads. Those who questioned their ethical practices during the period called these entrepreneurs “robber barons.” The industrialists in question sometimes created monopolies, and they certainly forced older businesses to close up shop if they could not improve. But for ordinary Americans, the gains in new products and reduced prices far outweighed any market inefficiencies the new industrialists could have created. The price of kerosene, for example, fell from a dollar a gallon in 1870 to less than a dime in the 1890s, converting it from a fuel for luxury lighting that only the wealthy could afford, to a common commodity.

Entrepreneurs such as John D. Rockefeller and Andrew Carnegie were sometimes accused of selling below cost to drive their competitors out of business. While their prices were at times below their *competitors'* costs, the low prices covered their *own* costs because their production was more efficient than their competitors'. And it was not really the publicized entrepreneurs who forced others out of business; it was their customers. Given new choices, customers deserted certain suppliers in order to purchase items that they preferred from other suppliers.

Entrepreneurs rose to their peak of visibility from 1865 to 1914. Conditions then were ideal for their work. Entrepreneurship involves a

choice of how to spend your time: you can either focus on innovation and future returns or you can keep producing what you have produced before and receive a fairly certain return now. When prospective markets for goods and services appear large, it pays to shift more of your efforts toward innovation. By the time of the Civil War, the American consumer market had become the largest in the world. Entrepreneurs therefore found it more attractive on average to develop new products in the United States than in any other economy in the world. In addition, large U.S. markets allowed producers to use large scale-of-production techniques, resulting in lower costs. All the prominent entrepreneurs leveraged their contributions through large organizations and then made them valuable by reducing costs and improving their products ahead of others in their sector. It made for conspicuously large fortunes; many entrepreneurs earned wealth unprecedented in human history.

The experience of U.S. entrepreneurs from 1865 to 1914 offers a good model for our era. The American economy continues to be the largest in the world, augmented today by the global economy. Potential innovators not only have many American consumers whose purchases may reward their innovations, they can readily reach consumers in other parts of the world as well. This means that the relative attractiveness of being an entrepreneur will increase, and Americans accordingly will increase the share of time they devote to innovation. It also means that the growth rate of the U.S. economy will be strong, possibly higher than it has been at most times in the past. 📖

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1. Julian Simon, *The Ultimate Resource* (Princeton, N.J.: Princeton University Press, 1981).

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