

Does Russia Need a Tom Sawyer Strategy for Economic Growth?

Although they agree about little else, Russia's current leaders and their liberal critics share one firmly-held belief: To secure high growth rates and create jobs, the country needs to innovate.

In the old days, Russia could get by merely exploiting its oil and gas deposits. But not any more. At least, that is what one hears both in the Kremlin and among Moscow's dissident intellectuals. Today, to increase its prosperity, Russia must leap to the cutting edge of knowledge, investing in nanotechnology, lasers, genetic engineering, superconductors, and other information-rich products and processes.

Innovation—like motherhood and national holidays—has become such a universal value that to question the current fashion is to ask for trouble. So let me be clear: Supporting science should be a priority in its own right.

But as a strategy for boosting economic growth, investing in high technology may end up disappointing its advocates. A look at the economic history of other countries suggests the need for a little realism.

Consider Great Britain, the powerhouse of the Industrial Revolution. Between 1700 and 1820, according to the best available estimates, Britain's GDP per capita grew by 36 percent, adjusted for inflation.¹ Impressive, perhaps—until one realizes that in the same period colonial Brazil grew by 41 percent, and the provincial outposts of Canada and the US by 110 and 139 percent respectively.

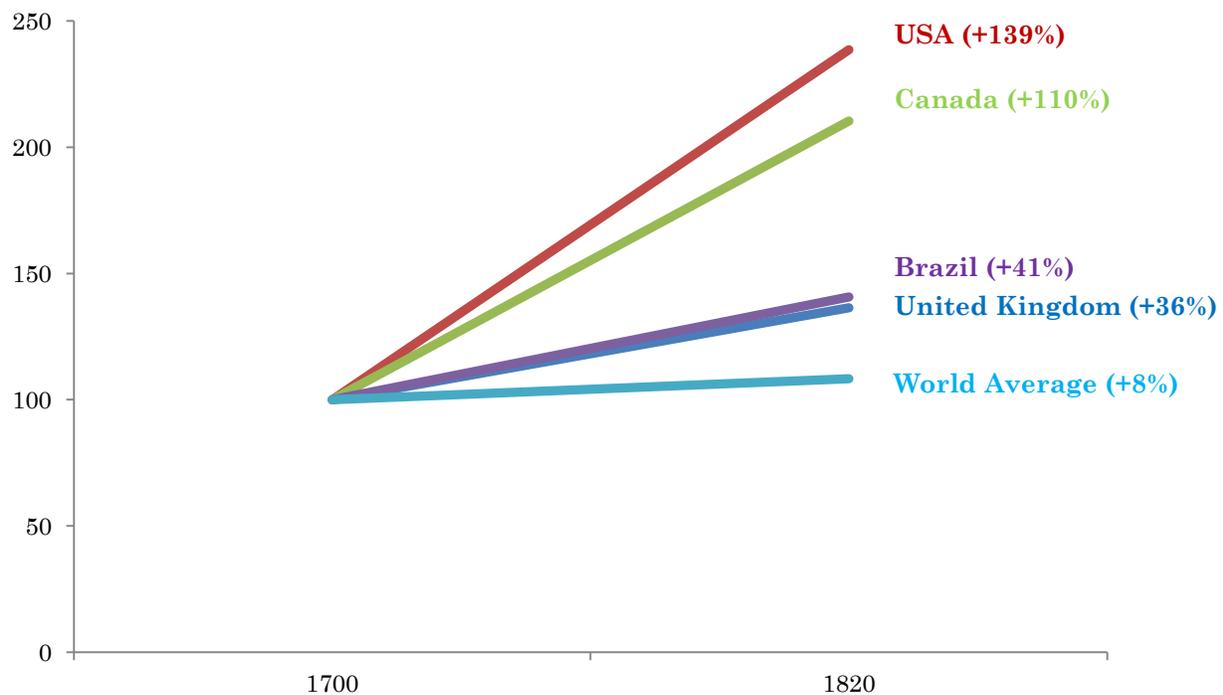
Or take the US, whose researchers have dominated the period since World War II. Between 1950 and 2008, US GDP per capita grew by 226 percent. Again, that might sound like a lot until one notices that the average for all countries was 261 percent. American growth fell

¹ Angus Maddison, *Historical Statistics of the World Economy, 1-2008 AD*, available at www.ggdc.net/MADDISON/oriindex.htm.

far behind not just the Asian miracle economies of China (1,401 percent) and Singapore (1,167 percent), but even Southern European late developers such as Greece (754 percent).

The Industrial Revolution: Britain the technological leader

Growth in GDP per Capita, 1700 = 100



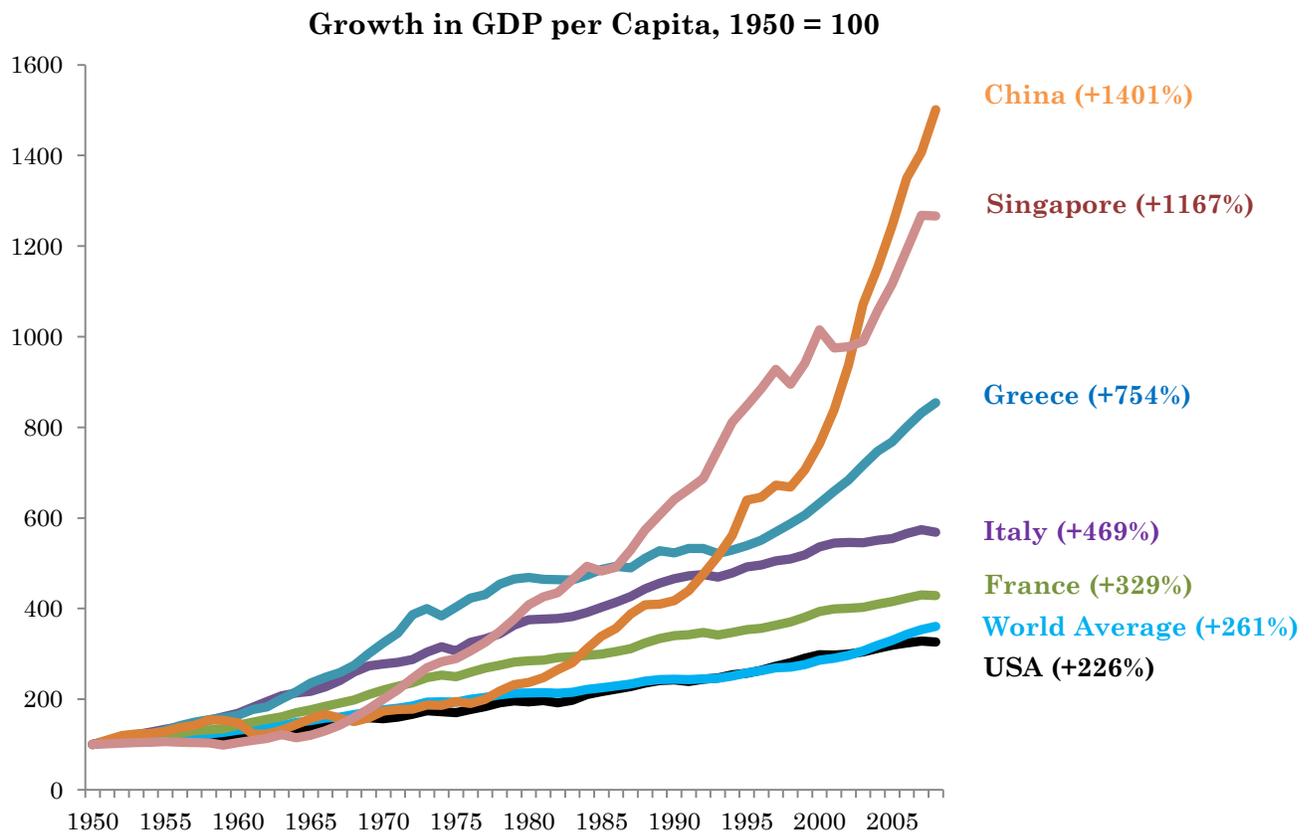
Source: Angus Maddison, *Historical Statistics of the World Economy: 1-2008 AD*.

Even these figures exaggerate the contribution of technological innovation. Most of the growth in Britain and the US during these periods had other causes. According to the economic historian Nicholas Crafts, only a little more than one third of the increase in Britain's GDP during the Industrial Revolution reflected higher productivity—and only part of that third can be attributed to technological progress.² Dale Jorgenson, the

² Nicholas Crafts, "Productivity Growth in the Industrial Revolution: A New Growth Accounting Perspective," 2002; figures for 1780-1860.

preeminent expert on US productivity, writes that, despite the revolution in information technology, less than 12 percent of the America's growth in recent decades has come from innovation.³

After 1945: USA the technological leader



Source: Angus Maddison , *Historical Statistics of the World Economy: 1-2008 AD*.

In fact, the most innovative economy in each era usually has one of the *slowest* growth rates.

Why do revolutionary inventions not have a larger impact? For one thing, new discoveries often take a very long time to change the way businesses operate. Massive investments are required to replace outmoded capital equipment. Steam power—the signature

³ Dale Jorgenson, “Innovation and Productivity Growth,” 2010.

breakthrough of the Industrial Revolution—had its biggest impact on growth, according to Crafts, “about one hundred years after Watt’s famous invention.” In the late 19th Century, it took decades for factories to be reorganized to exploit electric power.

Beyond the expense and difficulty of replacing capital equipment, a variety of other obstacles often delay the commercialization of new ideas. Vested interests and regulators with a taste for red tape conspire to block change.

What matters most for growth is not where new ideas first appear but where they are developed. And this depends less on the brainpower of scientists or the extent of state research funding than on the quality of the business environment.

In countries with relatively secure property rights, competitive markets, and liberal regulations, discoveries—even if they come from elsewhere—can be commercialized quickly and profitably. In such settings, entrepreneurs are willing to risk making major capital investments and pioneering new products. By contrast, where property rights are insecure and markets distorted by monopolists and corrupt bureaucrats, even if local inventors hold patents they will look to more welcoming environments to develop their inventions.

A simple conclusion follows: Even if Russian scientists have brilliant ideas, unless the country undergoes major reforms of its economy and state those brilliant ideas will be exploited first *somewhere else*. Innovation hubs and technology centers are not substitutes for the politically challenging liberalizations needed to improve Russia’s business environment. Without liberalizing reforms, those innovation hubs will have little impact on the broader economy. They will supply ideas to the mass production meccas of China and India.

Although crucial for the world as a whole, technological innovation is actually one of the hardest ways for countries to develop. It is favored only by those countries that have already used up all the easier pathways to prosperity.

What are those easier pathways? In Moscow these days, referring to “catchup growth” is

considered in bad taste. The general feeling is that Russia should find a way to win the race without first overtaking the leaders.

So let me pose a concrete question: Would Russians prefer a growth rate of 2.7 percent a year, as in the US, or of 8.0 percent a year, as in China?⁴ Very rapid growth, when it does not come from raw materials booms, is almost always the result of applying technologies, business models, and management techniques that have already been shown to work elsewhere. Given the very low productivity in some Russian sectors—and in some firms within given sectors—there are huge opportunities for gains of this kind.

What is needed to bring about such growth? The answers are familiar and obvious. They also overlap with the conditions for the successful development of innovations.

Competition—so managers must struggle to outperform their rivals. Secure property rights—so entrepreneurs will risk buying expensive capital equipment. Business-friendly regulations—to attract foreign investors with knowhow.

In a famous chapter in Mark Twain's novel *Huckleberry Finn*, Tom Sawyer decides to free a slave who has been locked up in a shed. Rather than simply use the key, Tom decides that he will dig his way underneath the door with a kitchen knife because that will be more of an adventure. It would certainly be an adventure for Russia to expand its economy by means of revolutionary breakthroughs in nanotechnology and genetics. Supporting science is an important goal for any country.

But... there are easier ways to grow.

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<http://mn.ru/economics/20110404/300844760.html>.

⁴ Maddison's estimates for annual compound growth rates 1990-2008.