

The BY JOSEPH V. KENNEDY Demand Side *of* Innovation

*A new approach to
higher productivity.*

Much of the current thinking about innovation is misplaced. America's fundamental problem is not a lack of innovation or new technology. Indeed, advances in information technology, nanotechnology, biology, and other disciplines are beginning to deliver a wave of new products and services.

But in order to increase productivity, these advances must be incorporated into markets: innovations seldom fit neatly into existing business models. Often an industry's processes have to be fundamentally reorganized around a new technology in order to get its full benefit. This is most likely to be true for those innovations that hold out the greatest hope for major productivity improvements.

Unfortunately, large parts of the American economy have been designed to resist the very type of reorganization necessary to achieve these advances. The solution to higher productivity in these markets is not more innovation but fewer restrictions on the market disruptions needed to take advantage of it.

It is not too much of a stretch to say that the continuation of America's international leadership depends upon higher productivity. This country has a number of significant strengths including its cultural vibrancy, political ideals, military power, and historic relationships with strong allies in every part of the globe. But each of these has been damaged over the past few years.

More importantly, each of these assets depends at least partially on economic strength. Without the confidence that comes

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from steady and rising incomes, American thinking tends to be inward and short-term. The attractiveness of the American model depends on its ability to deliver economic prosperity as well as political freedom.

Yet it is far from certain that the economy will naturally rebound anytime soon. Despite unprecedented fiscal stimulus, economic growth was relatively weak following the collapse of the financial sector. Because deficits of over 10 percent of GDP could not be sustained, government spending is now having a negative effect on growth even though the federal deficit for the last fiscal year was 4.1 percent of GDP. Instead of encouraging a surge of productive investment, unprecedented monetary easing has produced an economy that seems to panic at any hint of unwinding.

INNOVATE OR DIE

Greater productivity would significantly ease each of these problems. It is hardly surprising then that a great deal of research has gone into finding ways to encourage faster growth. Much of this effort has focused on the supply side of innovation: if we can find ways to encourage more research and development in new technology, more investment in plant and equipment, and more training of workers and management, then we should be able to produce more with fewer inputs.

But it is even more important to focus on the demand side of innovation. This is best done by ensuring that customer demands for cheaper and better performance in every market place constant pressure on suppliers to innovate or die.

Over the past few decades, the economy has seen significant productivity gains in some industries. Sometimes, as in manufacturing, productivity has been forced by brutally competitive conditions that left companies little choice but to innovate. In information technology and electronics, steady scientific advances in the quality and price of every component associated with sensing, storing, processing, and transmitting information have driven productivity. In trucking, rail transport, and telecommunications, productivity followed deregulation.

Yet many industries continue to resist these trends. These include major parts of the American economy such as health care, education, energy, finance, government, professional services, and commuting. One theory is that these industries are somehow different: they involve mainly services, which are thought to be more resistant to steady advancement. For example, although individual musicians may rapidly improve early in their careers, their improvement likely falls off as they become more proficient. And the performance of the first violin in an orchestra may not

be much better than that of his predecessor. As a result, the performance of even the best professional orchestras may not have advanced much over the last century.

Yet this is a fundamentally flawed way of viewing innovation. For one thing, every worker is essentially performing a service. There is no essential difference between

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the service of cutting a person's hair and bolting wheels onto a car. Narrowly defined, both are subject to productivity constraints. Even the most experienced mechanic can only get so fast at bolting wheels and his replacement is unlikely to be much better.

Capital is also subject to this constraint. Better maintenance and management may get more out of a given machine, but only so much. The difference is that in manufacturing, both what workers do and the capital they work with have been continuously altered to produce more with less. These markets have undergone tremendous disruption as entire business organizations, production processes, and supply chains are restructured around new innovations. The way cars are made today is significantly different from how they were made even two decades ago. The same is not true in many industries.

Why? If you want to buy a television, you have a number of stores to choose from. At each store you also know that next year the televisions will be both better and cheaper. This expectation fundamentally drives your experience. Given this expectation, companies feel that they continuously need to innovate in order to remain competitive. They may not have a good idea of how they will do this over the next ten years, but at least some of them find a way. Interestingly, this expectation does not cause consumers to postpone buying televisions indefinitely. Not only do they buy new ones well before their old ones break, they purchase one for their bedroom, kitchen, and even bathroom.

The desire for cheaper and better performance applies to every market, but in some this incipient demand for innovation is dulled by a market structure that weakens the power of customers and protects incumbents from competition. As long as this is the case, more spending is unlikely to lead to better performance. Indeed, by adding cost but not improving service, many “reforms” actually lower productivity.

DISRUPT, REDUCE, ELIMINATE, IMPROVE

Yet there is plenty of room for improvement. The federal health exchanges are an excellent case study in the problem with government services. A recent head of the Center for Medicare and Medicaid Services estimated that up to 30 percent of all health spending fails to benefit the patient. A study of over two thousand college students found that after four years, 36 percent showed no improvement in critical thinking, complex reasoning, or writing skills. Wringing this waste from the system will require deep structural changes in how the market works, but it should also lead to much higher incomes.

Just as important, a broad range of new technologies promises to enable significant improvements in many industries. Medical apps, patient-run websites such as patientlikeme.com, walk-in clinics, and diagnostic software all threaten the traditional health care model. Massively open online courses, reform of teacher education, charter schools, and common standards are slowly changing education. Continued progress with renewable energy, the fracking revolution, smart meters, and demand response is upsetting the traditional energy industry. And services like Uber and self-driving cars promise to eliminate the taxi industry and dramatically reduce the demand for automobiles.

Dynamic markets share common characteristics. First, customers make the decisions about what they buy. They also pay the full cost and save anything they do not spend for other uses. This focuses attention on satisfying the customer and ensures that each company competes not only against others in its industry but also with suppliers in other industries. Second, prices and quality are transparent. Third, it is easy for new companies to enter the market. These new entrants are often the source of the most important innovations. Because they are new, they have little to lose and much to gain from introducing new products that totally disrupt the market. Combined, these traits expose producers to relentless pressure to provide better and cheaper service. They also give equal importance to both price and quality.

The combination of tremendous waste and the resource-saving nature of many innovations implies that much of the potential of productivity improvement lies

with making about the same amount of output with far fewer resources. Innovations like this threaten the existence of many hospitals, colleges, taxi drivers, and government officials. Research by the Information Technology and Innovation Fund and others demonstrates that, despite this disruption, innovation delivers strong net benefits for society. The Luddites correctly

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foresaw that automated looms would destroy demand for skilled weavers. But these machines also lowered the cost of clothing enough for everyone to afford more than one set of clothes. Imagine the distributive impact if the cost of health insurance fell by 2 percent a year instead of rising by 5 percent, if students could earn the equivalent of an average college degree for under \$10,000 by taking courses at home, or if adults could write standard wills for their friends by taking a few courses instead of three years of law school.

So far policymakers have been unwilling to expose many industries to the same competitive forces that manufacturers have endured for the past few decades. Perversely, this failure has further weakened the manufacturing sector. Yet unless these industries are forced to fundamentally reform, spending more money is likely to reduce productivity rather than improve it. Every impediment to higher productivity is defended by strong vested interests. They will never give way until significant numbers of people begin demanding it. But while progress in these markets will bring significant disruption, it will also bring a significant increase in social wealth. And these changes, more than any other, could have a major impact on the effective purchasing power of lower- and middle-income workers. We should begin demanding innovation. ◆