

How to Drive Innovation in Europe

Europe is underutilizing its innovation potential

Lack of innovation has long been blamed for Europe's sluggish economy. But despite our seemingly poor innovation record, we still cling to the hope that innovation will be Europe's salvation in the face of fierce competition from Asia.

How to make that hope a reality? The touted solutions are many: more R&D; more cutting-edge research facilities; more spending on education, more cooperation between academia and business, more co-operation between big and small business, more competition or just more plain old good ideas.

McKinsey is of the mind that competition is key. We have documented at length how competitive intensity (ideally coupled with robust demand) is the clearest driver of innovation within companies and sectors. Factors other than competition can and do play a role. Nonetheless, our research clearly shows that wherever competitive intensity is greatest, innovative products and practices proliferate and productivity grows.

Many now accept that competition and competition policy play an important role in creating the conditions favorable to innovation. But what remains less well understood – or at least less discussed – is exactly *how* competition drives innovation. What links them? And, more importantly still, given that the ultimate goal isn't simply more

innovation but more economic growth – what is the process by which competition drives innovation, then transforms it into economic growth?

I would like to take a few minutes to explain this transformation process as we at McKinsey see it as a result of our work with corporations around the world, and research conducted by our economics think tank, the McKinsey Global Institute. Then, with this process in mind, I will touch on just a couple of areas where I believe governments and the public sector can drive innovation in a way that can have a huge impact on our economies.

Understanding the link between innovation and economic growth

So, how does competition drive innovation and economic growth? At the outset, it's important to be clear that innovation isn't only about new products and technology – the more glamorous side of the business. Innovation also includes new processes, new business systems and new management methods – all of which have an important impact on productivity and hence growth.

Take management. McKinsey worked with the London School of Economics to look at the impact of management innovation on productivity. In a study of 700 manufacturing companies in the UK, France, Germany and the US, we found an indisputable link between the companies that enjoyed the highest productivity, and those that used best-practice techniques in their operations management, performance management, and talent management.

The same is true of process innovation. A study by the McKinsey Global Institute looked at how the US auto industry responded to pressure from global competition. Between 1987 and 2002, productivity performance rose by 3.3 percent a year. But a full 45 percent of this was due not to product innovation but process innovation – mainly the adoption of the lean production techniques pioneered by the Japanese. The introduction of new products – in this case popular light trucks – accounted for only 25 percent of the increase.

So point one: when we talk about innovation, let's not overlook innovation in its various forms. Moreover, as the examples just cited illustrate, *companies don't always have to innovate themselves to raise their productivity and thereby create growth.* They can adopt other firms' frontier-shifting innovations. We should bear this in mind too.

Next, when we measure the success of innovation, we need to look at its impact on productivity – the only sustainable engine of wealth and job creation. It's clear that individual companies can raise their own productivity by innovating. But it is when other companies adopt these innovations that the benefits start to spread.

So my second point is this: it isn't the individual innovations themselves that dictate their impact on a sector or an economy, but the *speed* and *scale* at which they are adopted. Our work demonstrates this quite clearly.

During the 1990s in the US, for example, productivity growth more than doubled. Many believed the primary source of this boom to be IT and high tech innovation. Research by the McKinsey Global Institute showed a quite different story.

Consider what happened in the US retail industry. This particular sector accounted for a full 25 percent of the economy-wide acceleration in productivity between 1995 and 1999. Wal-Mart was the early innovator, having introduced the likes of the large-scale "big-box" format, "everyday low prices," economies of scale in warehouse logistics and purchasing, and electronic data interchange with suppliers. By 1995, it had a 48 percent lead over its competitors in terms of productivity. But it wasn't until its competitors started to copy these innovations that productivity in the sector as a whole took off. In the process, a variety of Wal-Mart innovations became industry standards.

So the route to higher productivity through innovation is this: A company introduces business and technology innovations that improve operations or deliver new and more higher value-added products and services. Those innovations are then diffused across the sector as competitors copy best practice. Finally, those innovations are fully scaled through consolidation or through higher sales and capacity utilization.

So point three: competition is important in the innovation/economic growth equation in so much as it ensures innovation is copied by others, and at scale. The Wal-Mart story illustrates this. A lack of competitive intensity hinders the process. And this is precisely Europe's problem, a lack of competitive intensity in many – but not all – of its industry sectors. Companies have no reason to raise their game if their profits aren't threatened. As a result, productivity flags. Our research suggests that the main obstacle to competition is regulation, and often at the sector rather than country level.

This is perhaps best illustrated in a sector where regulation that once distorted competition was eased, and productivity subsequently took off – road freight. Early last decade, the French and German freight industry was protected by market access restrictions, fixed prices, and regulations governing the size and capacity of trucks allowed on the roads. Competition was low and the industry fragmented. When the market was deregulated, competition became so fierce that in the German market, prices fell by as much as 50 percent over a four-year period. The industry responded with operational changes – longer journeys, bigger trucks – but also by consolidating, which then gave freight companies the necessary scale to make use of innovative, automated network optimization tools economically. In the course of the 90s, labor productivity in the French and German freight industry rose a remarkable 5 percent per year, reducing a yawning productivity gap with the US by almost 70 percent. But industries don't stand still. Today, French and German operators face fierce competition from Eastern European companies. The introduction of yet more productivity enhancing IT tools and further consolidation is now needed.

My fourth point concerns consolidation. Consolidation is often the inevitable outcome of competition – though many often see it as anti-competitive. It is the role of anti-trust bodies to rule on such matters. But we need to acknowledge that consolidation is a means of maximizing the scale at which innovation is adopted, and hence enhancing productivity. When competing on a global scale, size really matters.

Europe's high-tech industry trails behind both the US and Asia in terms of productivity and growth. Why? Lack of scale. Competition in this sector is intrinsically global. Process and product innovations need to be scaled globally to be competitive. The global leadership of companies such as Microsoft, SAP and Oracle proves the point. But today, less than a fifth of the world's largest high-tech companies are European, while nearly a half are from the US. Moreover, the US and Asia both have large high-tech clusters – groups of companies that together employ anywhere between 100,000 and 300,000 people. No European cluster comes near this critical mass: Europe lacks the vibrant clusters so conducive to innovation. As my fellow speaker Phillippe Aghion has pointed out in his research, it is the constant entry of new firms with new ideas that guarantee what economist Joseph Schumpeter identified as "creative destruction" – waves of innovation that make old ideas, skills, technologies and equipment obsolete.

But Europe *also* lacks enough really large high-tech players that can adopt the innovations that originate in clusters and scale them globally. In the absence of global scale, companies tend to be specialist players in niche markets, where competition is low and productivity suffers.

What should governments do? Encourage innovation at scale

So to quickly recap. Innovation comes in different guises. Its impact on productivity and economic growth is determined by the *speed and scale* at which it is adopted, which in turn is determined by competition.

Understanding this, what should governments do to encourage productivity improvements and economic growth through innovation? The answer is: *encourage innovation at scale*.

Broadly speaking, they need to remove the barriers to competition in the economy.

Though much has already been done, much more remains. In many sectors, access to the domestic market for new or foreign competitors is still limited, and consolidation blocked.

Government subsidies still prop up unproductive sectors that are in decline and that would struggle to survive in more competitive environments. And import tariffs and quotas, restrictions on foreign direct investment, and support for state-owned monopolies can all create barriers to competition. I'm not suggesting that all such barriers be removed wholesale. But governments should be very wary of calls for more innovation and more spending on innovation, if they distract from the altogether more challenging task of structural changes to the economy.

More specifically, however, I would like to address just two areas where governments can have a big impact on innovation at scale – smart regulation, and the public sector itself.

Smart regulation

Smart regulation. The transformation of innovation into productivity and economic growth depends not only on the elimination of regulation that stifles competition, but also on the introduction of smart regulation.

Smart regulation *encourages* competition and *scale*. But at the same time, smart regulation allows companies the possibility of making a decent return on their capital when they make bold investments in new markets.

The European telecommunications market demonstrates what we mean by smart regulation.

Europe's mobile industry has been a productivity success thanks to smart regulation. Europe had the sense to introduce a single GSM standard. Initially, the interoperability between the operators that a single standard allowed was a key factor in convincing customers to use mobile services. But standardization of the basic infrastructure also encouraged innovation at scale. Device manufacturers like Nokia could quickly roll out new, innovative devices and services to an ever increasing numbers of customers. In comparison, Nokia's main competitor, Motorola, had to contend with different, competing standards in its home market in the US. In just a few years, Nokia had ousted Motorola as the global market leader

As a result of this smart move by regulators, productivity growth in mobile telephony in France and Germany was roughly double that of the US industry for almost a decade (though the US industry is now moving towards a common standard, and rapidly consolidating).

However, a dose of smart regulation is now sorely needed to encourage the building of a broadband infrastructure in Europe. The focus of much regulatory policy in the telecommunications industry has been on reducing consumer prices. And it has been successful. The competition that gave birth to new players, services and technologies has improved the quality of services and sent prices plummeting.

Unfortunately, however, many of the new entrants have not been companies that themselves invest in alternative infrastructure or innovate at scale with new kinds of services. Instead, the regulatory environment has encouraged intense competition between companies reselling similar services on the incumbents' networks. At the same time, with the focus on reducing consumer prices, regulations have restricted the returns incumbents make when competitors use their networks. The end result is that companies are wary of making new investments in broadband infrastructure that would enable innovative services to be adopted at scale. They're not sure they'll be able to make a decent return on their capital given the current regulatory environment. Already, most European countries under-spend on basic broadband infrastructure compared with the OECD average.

Smart regulation adapts. The productivity gains that result from competition can feed through, either into higher corporate profits, or into better services and lower prices for consumers. To date, regulation has focused on reducing prices for consumers. It is the role of *smart* regulation to ensure that as market conditions change, so too does the regulation in order that companies continue to invest at the frontier of innovation.

The public sector

So that's smart regulation. What of the public sector itself? How can the public sector encourage innovation at scale?

Now, if you accept that innovation is adopted as a result of competition, you also understand why governments have a problem driving productivity improvements through innovation. The key ingredient – competition – is often missing. This presents a real leadership challenge for governments, given the controversy regarding competition in the public sector, and the cultural change it might require. But they have a *choice* of options. Private provision or competition between public and private sector providers lie at one extreme of the spectrum, individual performance management, benchmarking or internal business plan competitions are at the other. All can help.

And whatever your views on these issues, it is clear that innovation in the public sector is crucial for economy-wide productivity growth given the sheer size of the sector. Public administration alone in European countries accounts for 5 to 7 percent of GDP and employment. But public spending as a whole – excluding transfer payments such as benefits and pensions – is closer to 20 to 30 percent.

I want to concentrate specifically on ways that the public sector can improve its own productivity while *simultaneously* driving that of the private sector.

Public sector managers need to bear in mind that the public sector is the biggest single customer in many industries – especially in innovation-intensive ones like hi-tech, IT and telecoms. *The public sector should – but often fails to – use its clout to encourage innovation at scale.*

I will offer just two examples of the ways in which the public sector can encourage innovation at scale: public procurement, and the creation of standardized basic infrastructure.

Public procurement. This is an area where conditions have recently improved. Under old EU procurement laws, companies tendering for a contract were given no encouragement to be innovative. Details for, say, a new waste water treatment plant would be meticulously specified, with the tender document ending up as thick as a volume of the Encyclopaedia Britannica. Rarely were the specifications based on cutting-edge knowledge, and the only thing companies could compete on was price. All this changed with the 2004 EU procurement laws, that give companies much more flexibility. Innovation, as well as pricing, are now part of the competitive process.

One public authority we know of in Germany got itself a far superior water treatment plant than that built by a neighboring authority – and at half the price – by *not* specifying much detail when the project went to tender. It simply stipulated the water quality levels needed. We need to see many more examples like this, given the impact it can have on the public sector's own productivity *and* the way in which it encourages innovation in the private sector. Far too many public sector organizations still feel uncomfortable with their new-found freedom, finding it easier to go for the cheapest bid, rather than starting to build strategic relationships with suppliers.

My second example – **the standardisation of basic infrastructure.** The internet – a free infrastructure with a common standard – spawned the creation of services and

applications that are used globally, as well as corporate giants like Google. It could also be argued that Germany's much-admired network of high-speed motorways spurred its automotive companies into building high-class, high-performing cars – a market sector they led for decades. And I have already referred to the success of Europe's mobile telecommunications sector, enabled by the GSM standard.

By building standardized infrastructures, the public sector can create intense competition among a far bigger cohort of companies wanting to provide services on that infrastructure – and ensure that the best among them are delivered at scale.

There is a huge opportunity in the healthcare sector – a sector where productivity improvements are crucial given governments' stretched budgets, ageing populations, and demanding electorates. Different governments are trying different approaches to improving efficiency – many of which entail injecting a degree of competition into the system. The introduction of a standardized IT infrastructure on which suppliers can compete to offer innovative services – such as integrated clinical pathways, efficient information exchange between doctors and hospitals, and telemedicine applications -- could prove to be a powerful lever for raising productivity by encouraging innovation at scale. Data security is an issue – but some governments, Germany's for example, are giving the idea serious consideration.

Conclusion

To conclude, I have explained how we need to recognize that innovation comes in many forms, and suggested that it is the speed and scale at which innovation is adopted – rather

than the innovation itself – that dictate the extent to which it will impact productivity and economic growth.

This calls for the removal of barriers to competition – as well as smart regulation that encourages innovation at scale. In addition, the public sector must itself be innovative, using its clout to drive innovation at the kind of scale that will really make a difference to our economies. Europe *can* meet the innovation challenge if governments help show the way. They are fond of urging companies to raise their productivity, but they are missing a huge opportunity if they fail to understand the process by which competition transforms innovation into productivity and economic growth -- and the crucial role that they themselves should be playing in making that transformation happen.