

Interview with Fredrik Erixon, author of *The Innovation Illusion*

Capitalism & Innovation — Reflections on How to Fully Exploit the Fruits of New Technologies

By Japan SPOTLIGHT

Economists today have no doubts that innovation plays a leading role in achieving economic growth. It could be a panacea for solving the major challenges we face now, such as cumulative fiscal debt, income inequality, global environmental problems and aging societies. There are, however, differing views on the potential of innovation in the future. Some are pessimistic, some are optimistic. This article introduces the co-author of *The Innovation Illusion*, published last year by Yale University Press, Dr. Fredrik Erixon, director and co-founder of the European Center for International Political Economy (ECIPE), an international economic think tank based in Brussels. He shares the view that we are in a world filled with the seeds of technological innovations, but he points out our capitalism today impedes their full exploitation for the interest of business and economy. This interview, which was held on Dec. 12, 2016, provides a good opportunity for reflection on technology and the economic system.

Motive for Writing the Book

JS: What was your motive for writing the book?

Erixon: My co-author (Bjorn Weigel) and I wanted to engage in a dialogue about why we've had a gradual decline in our capacity to add more productivity to the economy and why we have seen an increasing difficulty for a lot of entrepreneurs and innovators to get a foothold in the markets. I have viewed this as an economist. My co-author has viewed it from the vantage point of business — his experience of working with both large companies and small startups in which he has invested. Drawing from our experiences, we wanted to write this book to provide almost a wake-up call to policy makers, to business leaders and others about the need to reconsider what type of behavior and what type of policies guide markets and the extent to which there is space in markets for what we believe are the most crucial elements in order to get innovation, namely economic experimentation and new entrepreneurs and innovators contesting markets; to basically step into markets in order to squeeze out other incumbent firms.

Workings of the Markets

JS: You seem to suggest that the markets are not working well.



Fredrik Erixon, director and co-founder, European Center for International Political Economy

Erixon: I think markets have become better than ever in dealing with issues of integrating different suppliers and mediating transactions. We have far more sophisticated production structures today than we have ever had in the past because the transaction costs have gone down. It's easier today to trade and invest across the world, to operate production facilities much closer to the consumer and to do it on a transaction basis, and in my view this testifies to the benefits of the market in terms of providing far better opportunities to increase efficiency, to scale down risks in production, to scale down the time of production and to be far more flexible in how you, as a company, will face your consumers or your competitors.

However, partly as a consequence of markets improving and the capabilities of producers across the world to operate more sophisticated production structures,

we have also seen increased concentration of markets. We now have greater market dominance compared to in the past and the large multinational enterprises are very skilled at positioning themselves on the market, close to the customers, in a way which almost leads to controlled or managed competition in markets. Think about an innovator that comes up with a brilliant new technology with huge commercial potential. You can go to most markets today, and look at the space that exists for competitors like that to step in, and you're going to find it's virtually impossible. In other words, the innovator has little choice but to step into the supply chain network of an already existing incumbent because if they try to contest the market

which the incumbents already control very well, they're probably going to fail, because incumbents have so many tools today in order to control end-customer markets. So in that sense the space for entrepreneurs and innovators to compete with incumbents has gone down. There's less fundamental competition in the market.

Aging Companies

JS: Is it right to assume that incumbent companies are aging and that this prevents them being innovative?

Erixon: I think it is broadly correct. In all the countries that we study we see that the age of companies is going up, the creation and destruction of firms is going down, so there are fewer companies being started and going out of business every year. We can see a gradually declining churning rate of job creation and destruction in the economy as well. That's a general description of what is going on and, to me, an indicator of declining competition in markets, because in general competition works best when firms go in and out of markets. We now have a type of competition where it is almost fixed which companies are going to compete with each other and what the relative balance between these companies should be and lead to. Competition is important when it comes to innovation because if you want to have big innovation in markets you need to have high contestability and destruction of existing firms. This means that entry and exit rates are high and, ideally, that they're increasing, not declining as they are today. In this scenario, we have a development where there are newer companies coming in, with new technologies and products that everyone will learn about, especially incumbents that will be confronted by much stronger competition.

In many sectors, actual barriers to entry have also gone up. One reason is because existing firms have become so skilled in making supply chains efficient and positioned themselves closer to the end-customer. In order to compete with them, a new innovator needs to be an extremely efficient producer and access and assemble components equally well. That can include having to set up its own supply chain network. That's difficult in itself, especially when incumbents control their suppliers. The other reason is about regulation. Policy makers across the Western world have for a long time regulated markets in a way that increases the barriers to entry for someone who comes with something new. It happens in two ways. The first is about the classic type of economic regulations of business and markets. They generally became much more liberal up to the late 1990s, with fewer restrictions on trade, on domestic competition, and generally more opportunity to compete as many legal monopolies were privatised. But ever since the late 1990s, the restrictions to compete because of classic economic regulations have increased again. Old types of distortion in the market have increased.

But the other aspect of regulation that we cover extensively in the book is, I think, even more important, especially given the relative

openness of most advanced economies. This has to do with the ambiguity and non-transparency of regulation in many of the sectors where breakthrough innovation can come, for example pharmaceuticals and nanotechnology. In these and other areas we have an increasing degree of complexity in regulation, which leads all market participants to have problems understanding what they are allowed to do and what they are not allowed to do. This is something which has stronger consequences for new entrepreneurs, for innovators that want to step into the market and compete with existing firms, because that requires so much in terms of money, organization and having a good understanding of what they are allowed to do. If you add to all the other uncertainties that exist for a new market entrant, uncertainty caused by regulation becomes a deterrent against innovation. When that happens, it destroys the chances for a lot of good technologies to enter the market because too many innovators are not willing to take the risks involved in all innovation. Incumbent firms have better ways of managing risks than new entrants; they have the opportunity to just reallocate their different innovations to areas where they know there is regulatory openness, for instance by adding a new form of technology to existing products.

Globalization as a Culprit

JS: In your book you mention four factors that you say make Western capitalism dull in terms of innovation. In particular I'm interested in why you single out globalization.

Erixon: I'm strongly in favor of globalization. I think it has created huge opportunities across the entire world. When you look at it from an economics point of view, the real benefit of globalization is that low-productive economies and low-productive firms have converged with the productivity from peers. They adopted technologies, changed organizations, learned from other companies and as a consequence raised the productivity in their economies or in their firms, and have created huge opportunities for people to become more prosperous and have access to different things in life that they didn't have in the past. That's what's been going on for the past 40-50 years, a process of convergence, and it's a process that continues. There are still a lot of economies around the world that are far away from the productivity frontier, which is why I think we're going to see globalization continue to be a force to be reckoned with.

Globalization requires different talents. In strict economic terms, though, globalization is not about innovation or coming up with something new. Globalization is about taking what you already have and expanding to a larger customer base. In the period of globalization, companies focused and got skilled at understanding the nature and the requirements of stepping into new markets, and what that entails in terms of changes in production and general management. What became important centered very much on the logistics of production, on finding out how you can manage an entire

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production apparatus in order to be able to compete in different types of markets around the world. That required companies to have more types of technocrats, more engineers than entrepreneurs. You needed people who could understand the entire process of both stepping into new markets and using new production opportunities across the world.

The process of globalization, from an economics point of view, is very much about specialization. It's about the capacity of labor, companies and entire economies to use the various endowments they have in a way to raise income. Specialization is a blessing for economies, but can sometimes be difficult to integrate with breakthrough innovation. The type of innovation that works well with processes of specialization is incremental adaptation, incremental introduction of new technologies in the entire production process. Big innovation is about shaking up existing patterns of specialization.

From an organizational point of view, it's quite difficult to work with radical innovation when companies don't control their own production, where they are dependent on long contract-based supply chains. It's far easier if someone has it all in-house and they can focus on innovation throughout the entire process of production. That's why I think there has been, through globalization, a process where big innovation has become one of the casualties. Many companies today don't have innovation-focused skills, mentalities and organizations. They are geared for specialization and globalization.

JS: The major multinationals are in serious competition with each other and there is an argument that to gain a competitive edge companies have to identify innovative startups or individuals. Is that how globalization contributes to innovation?

Erixon: I'm not so sure I would ascribe that process to globalization itself. I think there have been many other forces that have been at play. Many companies are chasing brilliant ideas and people, but a greater share of big firms have seen a declining pay-off to their own R&D investments. Trying to avoid sitting with a large R&D department that may not produce what you'd like, they've rather been cutting down on in-house capabilities for R&D and then gone for a transactional approach to innovation based on purchasing new innovative firms. The jury is still out, from a corporate point of view, if this is a good model or not. For the economy as a whole, though, this is exactly what has reduced the space for experimentation and contestability in many markets. Incumbent firms reign, and by purchasing possible competitors their grip on markets remain. We're having fewer new players coming in to contest these markets and challenge incumbent firms. Even if incumbents have a relation of cut-throat competition with each other, they don't have to fight for their own existence with new firms. And competition between established firms is often controlled in several markets because they have different niche profiles or behave in very similar ways. They can be active in parts of the market where competition may not be as strong

as in other parts. They are generally all in a similar type of situation where the capability to compete is restricted to certain aspects of markets and products. And they are united in a general desire to avoid invaders coming in to disrupt the pattern of competition.

This process is going on in many sectors right now and what's important to be aware of is that, where the innovation process is limited by the selection of which firms are going to compete, it will also lead to a reduction in the space for experimentation and contestability generally and, to me, this explains the paradox that there are a lot of exciting new technologies developed but we can't actually see the effect in any type of economic statistics. One of the reasons for that is that the competition process has changed over the past 50 years and reduced the space for big innovation to contest markets.

JS: Let's turn to complex regulations. You've mentioned that ambiguity could have a negative impact on innovation. Globalization could play a part here since it involves harmonization of rules and regulations, which means less ambiguity.

Erixon: That's a process that's been going on through various mechanisms: learning experience, looking at what others are doing and trying to find out the benefits or the faults of what other countries have done in terms of regulation and improving it. But that tends to be regulation which is either generic — like classic economic regulations — or regulations that are specific to products that already exist. So we have standards for safety in automobiles and so on, which has been a learning experience for 50 years and where we've seen gradual convergence between countries in how they regulate.

When I talk about ambiguity and non-transparency in regulations it's related to new things, not existing products, those technologies we don't know yet; products that are a bit more complicated in their technologies. Regulators are less willing to accept that there may be risks associated with new innovative products that are being offered on markets and that's partly because we have regulations based on the precautionary principle. We have in most parts of the Western world seen a shift in demography where as people grow older they tend to be less willing to accept new products that may be associated with risks.

Many pharmaceutical companies, even if they are buying up more innovative start-ups, close the innovation and R&D processes around new potential drugs because they are afraid they are never going to pass the tests that exist for Phase III trials, which is when you are getting closer to take a product to the market. Many novel drugs can't pass this test because the difficulties in complying with all existing standards now have become either so much harder or so confusing that it's just very difficult to understand on what basis a regulator would make a decision. If there is uncertainty about obtaining regulatory approval, many companies are already going to close the R&D process before they are even getting to a Phase

III trial. A good example: if you were going to take penicillin, in its form when it was first invented, and put it on the market today, it would never get the necessary approvals. Penicillin was a product that required a lot more research, and through decades, doctors, researchers and others learned how to improve the drug and its use. But we don't have similar opportunities today. When you step into the market now, you need to have a product that's so much further ahead in the development stage compared to in the past.

Corporate Governance & Innovation

JS: Let's turn to corporate governance, which today seems to be driven by return on equity. This encourages short-term profits and discourages long-term benefits. How does this tie in with innovation?

Erixon: The general problem we describe in the book is that with the type of ownership of firms we have companies prefer investments with short lifetime cycles because they are far more predictable and you can better control them. But for any type of investment — and innovation is such an investment — that are for the long term, it's very difficult to get approval by the board and perhaps the owners. So that's why we've become more short-term focused.

JS: The emergence of institutional investors like big pension funds could encourage this trend for short-term profits?

Erixon: Absolutely. This is one of the main explanations. What most institutions prefer is management that delivers predictably and to the schedule set by them, and they prefer management that has little access to the cash flow in the company where, basically, a good part of investments has to be funded on external capital markets. We have had a growing market for corporate finance outside regular stock markets to which companies go to ask for money for what they want to do in the future. But external capital markets are not capable of understanding long-term innovation processes because that's not what they are there to do or what they are good at. The natural process for me as an individual saving for my retirement is to ask for assistance from institutions to manage my money. It is these savers that now own a good part of enterprises and they prefer predictability. This process aggregates up to a structure of business and ownership, which is less capable of making long-term investments or bets on the future.

Some Other Issues

JS: You mention in your book the decoupling of wages and productivity. Could this perhaps be the main cause of income inequality, which is a major problem in the world today?

Erixon: The process of wage inequality has been strong for quite some time. And just as in previous eras, it goes up partly because of generally low productivity growth. One of the main reasons why we have seen slow wage growth for many and increasing wage inequality has to do with the fact that productivity has declined. Europe is a good example. From the 1970s when we had a productivity growth of roughly 4% per decade, we have lost 1% of productivity growth for each decade. That means we're basically down to zero in many parts of Europe today. That type of economy will always produce high forms of inequality.

JS: Optimists say that it takes time to see the benefits of technological change.

Erixon: We have to recognize that over time we have slowed down the pace of technological change and the capacity of new technologies to change the economy. We don't know if Artificial Intelligence is going to be a really big thing in terms of its ability to change the behavior of producers and consumers. Hopefully it will. But we do know that what we can control as far as big innovation is concerned has far more to do with economic factors rather than with technology itself. And then we should embrace expectations about future technological change with a degree of skepticism. Look at some of the big things we are talking about now, like big data, robots and automation. The ICT revolution began in the 1970s, not 20 years ago. We have extraordinary amounts of economic data and we can make judgments about the capacity of ICT to change the economy and make it more productive, and what we try to show in the book is that there have been periods when the ICT revolution really had a strong effect on the economy but that was in the 1990s, going up to the Millennium, and not in the past 10 years. We're now fearing the process of automation using robotics in production facilities. But that's something that began in the 1960s when Japan was one of the economies that revolutionized the way production was organized. It takes a long time to affect these changes — and that's the problem, not that change is coming too fast.

JS: What you write about in your book is Western capitalism. Do you think what you say is also true of Asian capitalism?

Erixon: Many Asian economies are still going through the process of converging their economies through the productivity frontier. Others are at that frontier and tend to display similar types of problems that we can see in Europe and America. In that category I would put the early East Asian successes, including Japan. **JS**

Written with the cooperation of Ian de Stains OBE who is a writer and consultant.