

S04E06: Can Europe ever catch up to the US in technology?

Crossing Channels
Interdisciplinary answers to today's challenging questions
A Podcast series hosted by Richard Westcott

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Season 4 - Episode 6
CAN EUROPE EVER CATCH UP TO THE US IN TECH?
With
Diane Coyle, Bennett Institute
Jacques Crémer, TSE
Paul Seabright, IAST, TSE

HOST

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GUEST SPEAKERS

Diane Coyle (Bennett Institute for Public Policy, University of Cambridge), Jacques Crémer (IAST), Paul Seabright (IAST)

Richard Westcott 00:01

Hello and welcome to Crossing Channels. I'm Richard Westcott. Can Europe ever catch up to the US in technology? That's the subject of the latest in our podcast collaboration between Cambridge University's Bennett Institute for Public Policy and the Institute for Advanced Study in Toulouse. As ever, we're going to use the interdisciplinary strengths of both institutions to explore a complex issue: What's holding Europe back in the global tech race? How do industrial policy, innovation ecosystems and productivity shape its ability to compete? And should Europe focus on closing the gap or just carve out its own path in key areas where it can lead?

Richard Westcott 00:54

To explore these issues, today, we have Diane Coyle from the Bennett Institute. Diane, just start us off, what does your research focus on?

Diane Coyle 01:01

I've been researching the digital economy for as long as there's been a digital economy, because I'm old and AI, and also questions of industrial policy and competition policy.

Richard Westcott 01:10

Joining us from the IAST, we have Jacques Cremer and Paul Seabright now, Jacques remind us of your main research interests.

Jacques Crémer 01:17

So, I'm even older than Diane, and I've been researching the digital economy for years and years, I'm mostly an economic theoretician, but I've been quite involved in economic policy too, along the regulation of big tech.

Richard Westcott 01:31

Everyone looks very young. I'm just saying this now. You all look great for your age, including me! Paul, what's the central focus of your research?

Paul Seabright 01:39

Well, I work on the interface between behavioral economics and the economics of institutions, so where our prehistoric brain meets the modern world, and in some sense, digital technology brings these two aspects of our lives together more sharply than ever before.

Richard Westcott 01:55

For more than two decades, Europe has struggled to keep pace with the US in advanced technologies because of poor productivity and low private sector R&D investment, while the US dominates in high tech innovation, Europe remains stuck in a middle technology trap, dominated by traditional sectors that spend less on innovation than tech led sectors. The innovation gap between the US and EU is wide and growing with private sector R&D investment in the EU at just 1.3% of GDP compared to 2.4% in the US. High energy costs and fragmented markets further widen that gap, raising the question, Can Europe truly catch up to the US, or must it take a different path. So let's define the problem. Paul, Europe has world class research institutions, a highly skilled workforce, yet it hasn't developed a tech hub that rivals something like Silicon Valley of that kind of scale. Why is that?

Paul Seabright 02:54

Well, it's a great question, but it's less dramatic than you make it sound. Europe has some fantastically innovative companies. I mean, think of Novo Nordisk, which is currently working night and day to produce the anti obesity drugs, Ozempic and Wegovy, which are essentially trying to undo the damage that's been done to us by Europe's incredibly innovative food retailers and manufacturers like Carrefour and Lidl and Danone. We have, you know, the world's most innovative furniture company, IKEA. We have the world's most innovative luxury companies like LVMH. We have innovation and medical devices, you name it. We've got it. What we don't have is a digital tech hub like Silicon Valley. But again, most of the US doesn't have it either. There's no Silicon Valley in Minnesota or Texas or Vermont, and nobody thinks that the citizens of Minnesota or Texas or Vermont are not benefiting from digital innovation. They use Uber and Lyft, and they use Google Maps and they use Google search and Apple phones. And guess what we do in Europe too. So there's a good question

about, what benefits can we get from having Silicon Valley? There's some interesting possible answers to that. But again, it's not that we're left behind in innovation. It's that, for a variety of reasons, innovation in digital tech has been heavily geographically concentrated in a particular area, not just of the world, but of the US that supports risky innovation. And I think we can ask us questions about why and why that matters, but let's get out of the drama. It's not Europe is a desert for innovation.

Richard Westcott 04:36

But do you think then we should want a Silicon Valley?

Paul Seabright 04:39

Yes, I do, and some of the reasons for that are to do with the fact that there do seem to be spillovers in digital tech innovation in important areas for our security. So thinking about things like military innovation, where for all sorts of reasons, Europe is going to have to be much more self reliant than it has been in the past. The fact that we don't have as good a digital tech innovation ecosystem is going to be a problem, but we need to focus on that rather than making complaints about the lack of innovation in general.

Richard Westcott 05:15

Diane, in your upcoming book, [The Measure of Progress](#), you argued that the framework underpinning today's economic statistics is outdated, doesn't reflect the realities of the digital economy. Is there a good example of what you mean by that?

Diane Coyle 05:28

Well, there are lots of examples, and the basic problem is that we've got a framework for measuring the economy that was set up in the 1940s and is geared towards an economy that's mostly tangible things, or where the value added is tangible things. And now we're in an intangibles world, so measuring ideas is just inherently difficult. But things like, what's the value of the contribution from all the open source software, all the free entertainment that we can get on our phones because people are creating that would be one example. But another might be the new automatic checkouts you get in many supermarkets now, which are going to make the supermarkets look more productive, because they're using fewer workers at the checkouts, but on the other hand, we're substituting our free labor. And so in some broader sense, you could question whether that's a real productivity gain or not. So there are all kinds of mismatches between what's happening in the economy and the statistics we have.

Richard Westcott 06:24

It does beg the question, if the statistics are out of date, then are the policies to boost productivity and innovation also out of date? Because if you put in the wrong data in the first place, you're going to get the wrong answer.

Diane Coyle 06:35

Well, I think we would need much more granular information about the kinds of strengths that Paul was just describing, and the supply chains that feed into those fantastic European companies. The trouble with the policy debate is, first of all, it's very dominated by Silicon Valley. Second, that it's not structured around the way that production actually happens, which is supply chains that cross national borders. And so you need to think about policies

that are geared towards the whole of that chain, rather than simply a very high profile set of companies at the top.

Richard Westcott 07:07

Now let's move on to industrial policy and innovation strategies in a bit more detail. So Jacques, all the dominant tech giants are American-Google, Meta, Amazon. Why hasn't Europe created any of those tech giants? Is it all structural? How much of it is down to regulation? Is some of it cultural? And Paul is suggesting, we do have the ideas here. What do you think the issues are?

Jacques Crémer 07:29

Firstly, I'd like to disagree slightly with Paul. I don't think it's and also with premise of your question, it's not only Silicon Valley, it's also Seattle. It's also Boston and the universities around it. It's also Austin, Texas. Any American listen to this is going to point out about five other places in the States which are also great hubs of innovation. So I don't think that we can say it's only just a local phenomenon in the US. And you know, the statistics on the increase in the level of living now the last 20 years in between Europe and the US have been somewhat discouraging for Europe. So I do think that we do have a problem of productivity and innovation, which is worse than what the Paul is saying. I think there are some policy issues, and we can discuss that. I think the fact that there are enough of those policy issues is a prove that there's also, I don't know if it's a cultural I don't know exactly what that means, but there is also an environment which is less conducive to innovation and more fear of change, I think, in Europe, than varies in the US. So I mean just one example, which is already old, but you know, France put the principle precaution of the precautionary principle in its constitution, which turns out in practice to be let's be scared of new things. We need to do policy reforms, but we also need to make those policy reforms by emphasis, emphasizing, not that there are medication, but they are good things which we are trying to do, I also think that we need to make sure that the policy initiatives in favor of innovation are also oriented, not only towards the startup and the top of the chain, but also to make sure that the general public recognizes that it benefits from it.

Richard Westcott 09:38

Do you think, though, that governments can really play a role in sort of changing a mindset. You're talking about America having this sort of frontier spirit, fearlessness, no fear of failure. You know, breaketh, break things along the way. We hear these things all the time. It sounds like, if it's not like that in Europe, then it's going to be very, very difficult to change that cultural mindset. There's not really a lot policies could do for that.

Jacques Crémer 09:59

There is no key for it, but just let me take an example. When President Macron came to power, he emphasized the fact that he wanted France to become a startup nation, and in particular, did a number of reforms of the tax system to encourage more risk, creation of more firms and so on. There's still lots to be done, but, you know, it was a good start. I think it would have been important at the same time to do something like saying that we're going to renovate the technological education or, you know, to show that we are not just trying to give more money to a group of very innovative people, but that we are trying to make sure that those innovations serve the general public.

Richard Westcott 10:47

Diane, let's explore this a little bit more. So Europe's turning to industrial policy to boost innovation. We've had the chips act to reduce Europe's reliance on foreign chip manufacturers and boost domestic production of semiconductors. We've had a boost in funding for AI as an AI conference recently. How can policy makers ensure that these efforts actually support the innovative new ideas and the businesses, rather than just helping the big companies already in the market?

Diane Coyle 11:12

I don't really think there's a cultural problem at all. You know, anybody who deals with students, as we all do, will know that there's plenty of entrepreneurial spirit and energy, and in fact, lots of Europeans go to Silicon Valley. So that tells me there's something about the environment. And therefore, the policy questions that you're raising that we should think about. And the areas to look at are pretty obvious. Is it, how easy is it to start up and also close a business? A lot of new businesses fail. Is that straightforward to do? Does the failure hang over you, or can you just get up and start again? As people can in the United States. There are questions about finance. What financial structures are available, and so certainly in the UK and some other European countries, it's what money is available for scaling up. You can get small amounts of investment for startups much harder to raise the bigger amounts you need to scale up. There is a question about, what markets can you grow into? And here, I think competition policy is important, digital markets and AI in particular, at the moment, startup very concentrated, big American tech companies dominate those so if Europe wants to have its own AI industry, there will need to be scope to enter those markets and grow in those markets. So the competition policy is important. Probably there has been under enforcement in the past. Now we need to change that, and then a whole bunch of, I suppose, more subsidiary things like skills training features of the tax system. So there's a whole array of policies. There's not going to be one thing that fixes it, but I don't think there's a cultural problem, and therefore that gives me optimism that it can be fixed. And also, let's look on the bright side, America is really hampering itself at the moment by the damage that's being done to its science based by the new Trump administration. So this is actually a good opportunity for Europe to do some catching up.

Richard Westcott 13:05

Paul, do you think this is a good time for Europe at the moment? And we, you know, Diane mentions everything that's going on in the States at the moment, but is the EU doing enough? I mean, we read about the US StarGate Project, which is a \$500 billion project in AI infrastructure. Do you think this is a good opportunity for the EU, even though we're not talking about the kinds of investment that the Americans are?

Paul Seabright 13:26

Well, I don't think it's good news that the US is shooting itself in the foot, innovation wise. It's bad news for Europe. Nevertheless, we don't have to follow them in that particular direction. We can do our own things. And I think Diane's exactly right. It's not culture, it's the environment, and the environment is many things. So there's no gap, really, between Europe and the US in public funding. There's a huge gap in private funding, and we don't know exactly why that is. It could be because the private funding doesn't see complementarities with the public funding, or it could be because the rules on starting businesses, and in particular, closing businesses, are very costly for innovators. Part of the problem with

innovation, and it's the secret of what Silicon Valley got right but what Europe has not got right is that most innovations fail. I mean, people, you know, the Sebastian Mallaby has an excellent book called [The Power Law](#) about this. People talk about it being sort of, you know, 90% of innovative companies fail. You can work the numbers any way you want, but most of them fail, and you have to have an environment that can deal with pervasive failure. And the entrepreneurs who failed have to be able to pick themselves up and start again. The workers in the companies that failed have to be able to leave the companies relatively easily without leaving a big weight of obligations around the entrepreneurs neck and they also have to be able to pick themselves up and start again, and for a whole lot of reasons, that doesn't really happen in Europe. What I worry slightly is that Europe's become convinced that the sexy thing to do is to identify sectors. For example, in France, we're very excited about the pharmaceutical sector, and so just in the area around Toulouse, we've decided to subsidize the production of paracetamol. Now, paracetamol is a pharmaceutical that doesn't make it innovative. It's churned out in huge amounts by for tiny costs of a 10th of what we cost to produce it in generic labs in India. We should not be producing pharmaceuticals, but Europe's leaders have got it into their heads that if it's pharmaceuticals, it must be cool, it must be innovative. What I think we need to do is get away from the idea that public policy chooses the priorities. What public policy needs to do is to give us the environment in which all of these innovative Europeans, and Diane's exactly right, anybody has anything to do with young people knows how innovative our young people are. But they have to be allowed to try and succeed. When they succeed, they have to be allowed to prosper enough to make up for the high probability of failure. But importantly, they have to be allowed to fail, and once they fail, the resources that are tied up in their enterprises have to be liberated to be available elsewhere.

Diane Coyle 16:21

I'd like to slightly disagree with you, Paul, about sectors. So I think there's a difference between identifying the strengths that a country has, an economy has, which are probably going to be in sectoral terms, and then turning that into support for individual companies or activities. But the UK, for example, has long standing strengths, such as the creative industries, professional services, parts of life sciences and tech and I think they should be priorities for limited government funding, in the sense of, where is public research funding going to be weighted? What kind of skills provision ought there to be. So I think there's a sort of midway path between the sort of horizontal supports that you're clearly talking about and identifying clear national strengths in the economy.

Paul Seabright 17:11

I agree with what you say at the end, Diane, but I'm still surprised that you talk about sectors instead of the other word you used, which I like much better, which is activities. The point about sectors is they're essentially statistical definitional tags, and you, of all people, have brought your critical acumen to bear against the idea of allowing our economic choices to be made by statistical convention, sectors are just basically the way we parcel up our economic data, but activities are very different. That's why I say, for example, that producing vaccines or anti cancer treatments is an utterly different activity, requiring utterly different skills from producing paracetamol. And what we need to do is to identify the productive activities, which I agree are much wider than individual firms, but they're also they fit rather awkwardly into definitions of sectors.

Diane Coyle 18:05

Well, I'd rather we had the statistics on supply chains, but sectors is what we got. So much as I'm working on changing the basis of the statistics, I think we have to, we have to go with it for the time being.

Richard Westcott 18:15

Jacques, let me bring you in on this. Who do you think at the moment is best place to create a more innovative environment? Is it the EU, which is all aligned, or is it the UK which is now sitting outside the EU, and does potentially have the opportunity to regulate in a different way?

Jacques Crémer 18:34

Is, I don't know answer which I can give, but if I may, back, I would like, I'd like to go back to this cultural thing, because I agree with Paul and Diane, but you can find very innovative young people in the UK and in the EU, lots of them go to the US to create their firms. And you know, saying a long list of policies and say, if we had those policies, then Europe would be as innovative as the US, is not really an answer, because why is it that those policies are not implemented? So Paul was speaking about the problem of failure at a recent conference in Toulouse, Olivier Coste, who's a Frenchman who now is an entrepreneur in the US, argued that labor regulations in Europe make it very costly to fail, because if you hire people for a project, you hire them for life. US firms can innovate much more easily. The reason you cannot change labor regulations is a cultural problem. So upstream to those policy failures are cultural problems. And so I, which I think is also a communication problem by both of us who are interested in helping innovation in Europe, we have to convince the population at large that innovation is good for the country as a whole, and not just for the students at Cambridge or the TSE or IAST.

Richard Westcott 20:12

Isn't the cultural element in the end, though? If you go to America as a scientist, you go to San Francisco, you literally get double the salary that you would get, for example, in Cambridge. And if you're running a business there, you've got the biggest market, and you've got access to venture capital in a way that you just haven't in other parts of Europe.

Jacques Crémer 20:30

So yes, you are right. But I mean, if you take the universities, at least French universities, which I know better, the salary is part of a problem. The structure of a university, and I won't go into a boring detail about this, is another problem which is at least as large, the incredibly heavy bureaucracy from the Ministry of Education is also a large problem. Those issues are all interrelated, and I think that we cannot just a long list of policies, and if we just did this and that, and that is not really going to be sufficient. We need to find a strategy to convince the people who elect the politicians, who decide the policies that they should elect politicians who are pro innovation. And that's a very, very difficult problem.

Paul Seabright 21:22

Just wondering if I could come in and sort of triangulate a bit between Jacques and Diane on this, because I think we do have some common ground here. Diane's exactly right that we have lots of innovators in Europe. Jacques is also right that we don't treat our innovators with the respect and the welcome that they deserve. And the former point shows that there is

an environmental issue. And the second point shows that the environmental issue is partly cultural and not just about the formal rules and laws of the society. It's true that in Europe, innovators are viewed with much more suspicion. It's generally assumed they're trying to disrupt something. I mean, the French are paradoxical about this, because the French will tell you that the status quo is absolutely terrible, but then anything that threatens to shift the status quo is even worse. And I think we feel that about innovators, that innovators are people who are disrupting the status quo, which is absolutely terrible, but at the same time we don't want to lose. So yes, there's a cultural problem. I don't know how to change that, but as we see with many things, when I first moved to France, everybody smoked. It was believed to be impossible to go into a restaurant ever in the rest of my life, when I would not have smoke blown in my face by fellow diners. That changed within five years. Culture can change, but it needs leadership.

Diane Coyle 22:44

There's this really interesting tension that Paul is highlighting. You know, innovation is about taking risks, and we've got quite risk averse societies. So how do you change that? One way to think about it is that there are going to be risks anyway, because there are some fundamental technological transformations going on. One is in energy and the transition away from fossil fuels, and one is in digital and AI. So not innovating in this context is also risky, and I think that's the political story that needs to be told, but there needs to be actually, I think, political leadership to build that sense of confidence and optimism and opportunity, which is something that historically, the United States has always had, and not so much in Europe.

Richard Westcott 23:25

So do you think then the spark comes from the government narrative, rather than sort of individuals trying to upend things at the bottom.

Diane Coyle 23:32

It's going to be a bit of both, isn't it? And I think that the risk is that politicians think we've got to do it in exactly the same way as the US. Therefore we've got to have Silicon Valley, therefore we've got to have these very big companies doing the same things that they're doing. It'll be different. It'll be a different set of opportunities that we can capitalize on. But I think that sort of narrative of optimism, opportunity, and also the risk of not grabbing the opportunities, is the one that needs to be set out.

Jacques Crémer 24:01

If I could add something Diane, I totally agree with you, but I think it's also a responsibility of those of us who speak about public policy and give advice to provide the language to help the politicians have a language and the arguments which will convince the population at large.

Diane Coyle 24:19

I agree with you. Give me the opportunity to plug an article I wrote in the Financial Times saying exactly that just recently.

Richard Westcott 24:25

Looking ahead, are there policies European governments should look at to try and compete with the US on tech? What you think are the key starting points that would spark this off in terms of policy making? So we'll start with you, Jacques.

Jacques Crémer 24:39

So let me plug one thing. I'm not sure it's the correct answer, but I think it's important. So right now, it's clear that the future of energy is renewable and probably solar. Okay, we the cost of solar has decreased a lot, and so on. The Trump administration is insisting on, going on subsidizing old technology in energy and trying to disadvantage new technologies. So I think there's an opportunity here for Europe to be the leader in, I mean, China's is a good advantage on us, but we can try to catch up in some dimensions, and I think we should try to take those type of opportunities. But again, stressing the fact that this is good, not just as a medicine because the climate is dangerous, but it's good for Europe to be a leader in the technological development, in the in the energy of the future.

Richard Westcott 25:41

Paul, where do you see the next opportunity in terms of policy?

Paul Seabright 25:42

Well, I think we need to work broad and we need to work narrow. So by working broad, we do need what Jacques and Diane have been describing as imaginative narratives, which I think are not just political narratives, but they're narratives about how the world needs us to innovate and we need to be bold, because actually not innovating is almost more dangerous than taking risks in the innovation sphere. So we can point to not just climate change, not just AI, but also, most importantly, security risks from some of the autocrats on our doorstep. Now, in thinking narrow, we then need to look at where specific innovations and specific activities. Again, I stress that, rather than sectors have important ecosystem wide spillovers. Some of the most remarkable innovation going on right now in the digital space is in the battlefields of Ukraine, and it's in drones. And the important point about that is that that innovation is happening so fast, we need to ensure that we have as many as possible of the elements of the supply chain for drone technology as we're going to need in any possible future. Security standoff with obviously Russia and China are the two main threats, but there could be other threats on our doorstep, including in the Middle East. And I think we need to bear in mind that innovation isn't just finding sexy products, it's about putting together immensely sophisticated supply chains. And so we have countries, for example, like in Germany, which are host to a number of firms that are fantastic at putting together supply chains, but unfortunately, all their incentives are to put those into the service of yesterday's products, which are basically internal combustion engines. And we need to find ways of ensuring that the German car manufacturing industry, but also the French and the UK car manufacturing industries, are putting their fantastic supply chain expertise to the service tomorrow rather than yesterday.

Richard Westcott 27:48

Diane, do you agree? And Paul's suggesting it's the infrastructure that you need in place, and then the idea will kind of come along, and you can look at approximate areas. Do you agree with that?

Diane Coyle 27:55

I think there are two important points, and what Paul said, one is that defense spending is often a driver of innovation, and that was absolutely true for Silicon Valley back in the day. The other is that a lot of the economic gains from innovation come from process changes, rather than product innovations, and so that that's how do people make things, not just what do they make is important, but I'm going to add the way policy is made, because since 1980 we have seen the job of policy makers as just filling in for things the market can't do. I think we're in a phase where we're talking about a much more active partnership between policy makers and industry. And I recently met an old friend who had been in the what used to be called the DTI, Department of Trade and Industry, here in the UK back in the 1990s and his job had been to have really detailed knowledge about a few sectors, I'm afraid, of the economy, but one of them was autos. It was a time when Japanese investments were starting to be made in the UK, but they needed a supply chain built up. And so he knew the people. He knew the companies in the supply chain. He took managers from those supply chain companies to Japan to visit Japanese factories, to learn what they did their just in time, production methods and quality methods, and then ship them back home again to introduce those into their companies. And so that kind of active partnership is probably where we need to go back to, and it's actually a very different way of thinking about how does policy get made, and the detailed knowledge that you need to make it effective.

Richard Westcott 29:23

Paul, do you want to come in on that?

Paul Seabright 29:24

Yeah, I just have a last point. I love what Diane is saying there. And let me add that, in addition to getting policy makers on board, I think we need cultural innovators on board. I mean, most of the young people who determine the culture in which we're going to be able to reform our institutions, for example, like the labor market legislation that makes it so costly to fail if you innovate in Europe, most of the young people who are going to be voting for or against these measures are influenced not by what Diane or Jacques or I say, not even by what politicians say, not even what by former people working in the Department of Trade and Industry say. They're going to be influenced by people who work in the creative arts, by singers, by rappers, by all sorts of people who are creating their idea of what's a cool way to live in the world of tomorrow. And I think we do a terrible job in reaching out to them, and we need to get them on board, and we need them to be saying, Europe needs to be a cool, funky, innovative place, and the world of tomorrow is going to be much brighter for us if it is so invite some wrappers on Crossing Channels for your future episodes, please.

Richard Westcott 30:32

That's a brilliant thought to end on. Thanks very much. Thanks to Diane Coyle from the Bennett Institute and Jacques Crémer and Paul Seabright from the Institute for Advanced Study in Toulouse. Now let us know what you think of this latest episode of Season Four of Crossing Channels. If you enjoyed it, then do leave us a review. It helps us shape future episodes and helps people to find us too. So we do appreciate it, and do listen to other Crossing Channels episodes where we've covered everything from the clean transition to young people's mental health and whether the world is becoming less democratic and whether prisons actually work. And join us next month for the next edition, when we'll be talking about public health and what we should eat.