Global Economy Podcast – Episode 112

Techno-Nationalism: Strategic Competition in the 21st Century

Full Transcript

Fredrik Erixon: Hello, everyone, and welcome to ECIPE's Global Economy Podcast. My name is Fredrik Erixon, and I am very pleased to be joined today by Alex Capri to talk about his new book titled *Techno-Nationalism: How It is Reshaping Trade, Geopolitics, and Society*. It's a great book that I recommend to anyone interested in these subjects. Alex currently teaches business and public policy at the National University of Singapore, but for many years he gained practical experience in the world of trade and techno-nationalism. He worked in KPMG's global trade practice for several years and was a partner and regional leader for the company's international trade and customs practice in Asia. Alex, welcome to the podcast.

Alex Capri: Thank you, Fredrik.

Fredrik Erixon: Let's begin with techno-nationalism. Many listeners may already have a general idea of what it is, and might associate it with US export restrictions to China in certain technologies or with how semiconductors have become a highly charged issue—subject not just to restrictions but also to efforts at localisation. But let's step back. What is techno-nationalism?

Alex Capri: As many would expect, it's about nation-states linking technological capabilities directly to national security—and increasingly, to economic security and strength. From a societal perspective, in an era of hybrid warfare, issues like truth, disinformation, and narrative wars are all intertwined with technological prowess. These factors form the basis of a simple definition of techno-nationalism. When we think of the types of measures that fall under this category, are there specific examples you'd highlight? Yes, in the book I approach techno-nationalism through a framework of six core elements. These are interconnected, and your listeners will likely recognise them—even if only the behaviours rather than the terms. The first is what I call supply chain or value chain weaponisation. That's when states act to prevent others—companies and indirectly other nations—from acquiring strategic technologies. To achieve that, we've seen a combination of export controls, sanctions, and increased scrutiny of outbound direct investment and acquisitions. This weaponisation affects physical goods, data flows, and increasingly, human capital—people with particular skills or nationalities. This leads to the second element: strategic decoupling. While de-risking supply chains is nothing new—things like diversification or removing bottlenecks—strategic decoupling focuses specifically on critical technologies. Third, there's reshoring, near-shoring, and ring-fencing. This involves moving supply chains closer to home or aligning them with trusted partners to create more resilient networks. The fourth is what some call innovation mercantilism—essentially aggressive industrial policy with a heavy focus on technology. Fifth, we have tech diplomacy, which is highly relevant given today's geopolitical environment. It includes government-to-government and government-to-business collaboration, where states proactively form strategic alliances to bolster techno-nationalist agendas. The final, sixth element is more existential: the ever-present hybrid cold war environment. That ongoing backdrop frames all the other elements.

Fredrik Erixon: And you're also taking a historical view in your book.

Alex Capri: Yes.

Fredrik Erixon: So if we assess these developments now, how fast is techno-nationalism accelerating? We see headlines about new measures in Europe, the US, China, and elsewhere. Are we on the cusp of a major escalation?

Alex Capri: It's a good question. Historically, I refer to the "technology feedback loop"—a kind of virtuous cycle that produces network effects. Technology accelerates and enables progress, and that process is driven by defence institutions, academia, government, and the private sector all working together.

What's new is that technology is scaling innovation at an unprecedented rate. It's now ubiquitous—permeating economic, social, political, and defence domains. Today's techno-nationalism is more widespread and comes with much more serious consequences for those left behind. This is especially true at a pivotal moment defined by developments in AI and semiconductors. There are 12 strategic technologies that I highlight in the book. At the centre of them all are semiconductors, which underpin everything from aerospace and artificial intelligence to biotechnology, quantum technologies, hypersonics, and advanced energy systems. I often refer to this as the "semiconductor-AI nexus" because it's so critical.

Fredrik Erixon: Taking that historical view further, how is this tech transformation different from earlier ones? For instance, hundreds of years ago the Dutch tried to block Belgium from accessing certain technologies. Fifty years ago, governments still tried to maintain an edge over neighbours—but today, it seems more about geopolitical blocs, collaboration within those blocs, and barriers against others.

Alex Capri: Yes, there are significant differences. One recurring theme in the book is paradox. The global economy today is deeply interdependent. Trade relations and supply chains have developed between strategic rivals—China and the US being the clearest example. Yet public-private partnerships today are far more international than ever before. That's new. Still, despite this interdependence, the strategic importance of self-sufficiency in those 12 critical technologies has never been higher. As you noted with the Dutch and Belgians, the Dutch East India Company was one of the earliest examples of a techno-nationalist structure, shaping the "West vs. the Rest" economic and technological divide. Fast forward to the 20th century—the First World War was the war of chemists and engineers. It was followed by World War II, the Cold War, the space race, the nuclear arms race, and the Third Industrial Revolution. Now we're in the Fourth Industrial Revolution. One key difference today is that with the rise of open-source platforms and the expansion of AI, more actors can access powerful technologies. Although in highly strategic industries like semiconductors and advanced AI, barriers to entry remain steep. Within this open-source environment, I foresee increasing fragmentation—of trade, financial markets, and corporate alliances. This links to another major theme in the book: the "state–firm grey zone", where private companies play outsize roles in national strategies. Would you like me to continue editing the remainder of the transcript?

Fredrik Erixon: That's a fascinating aspect. And not only state-owned firms—many countries can point to key private companies that have become central to their technological ecosystems and future competitiveness. In the US, for example, it's hard to talk about techno-nationalism or technological supremacy without mentioning big tech.

Alex Capri: Absolutely. If we go back to the Second World War, firms like Daimler and Bosch benefited from their engagement in national efforts. Similarly, American firms involved in the Cold War and space race—like General Motors or Boeing—were given long-term, visionary projects that would not have happened in a pure free market. Many of today's tech giants are also the beneficiaries of major government funding and contracts—Amazon Web Services, Microsoft,

SpaceX, and others. They are embedded in a kind of public–private symbiosis. These companies are essential not just for commercial reasons, but for strategic ones. And that can create both opportunity and distortion in the global market. Would you like me to continue from this point? On the one hand, these public–private relationships enable rapid development of technologies for both commercial and strategic purposes. On the other hand, such ties can distort markets and make firms geopolitical targets—as proxies in global rivalries.

Fredrik Erixon: Let's turn to how production and competition networks are evolving. As companies increasingly compete in these spaces, do we see one model dominating? One approach is to localise and nationalise every component of production. Another is to focus on upstream technologies—owning the IP, the patents, and investing to stay far ahead of the competition. But even the United States can't do everything alone. So, are we seeing a shift towards strategic control of the upstream rather than full localisation?

Alex Capri: Yes, let's refer to that as the technology stack. Take any of the 12 strategic sectors and break it down. At the top are rare earths, critical minerals, and base components. Then you move through all the steps—like what goes into a high-performance data centre, or the infrastructure behind AI. In an ideal free-market model, under the trade liberalisation model, the value chain would find its most efficient, cost-effective location. But in today's geoeconomic reality, externalities like resilience, security, and strategic alliances must be factored in. No single country can ring-fence the full semiconductor supply chain, for instance. That's where tech diplomacy becomes vital. It's surprising that the Trump administration has not been making an effort to produce strategic alliances around those core strategic sectors like the Biden administration, who has worked with partners on semiconductors, critical minerals, and rare earths. That said, the rhetoric and reality don't always match. We are seeing restructuring, particularly in the upper layers of the tech stack—magnets, rare earths, and so forth. This will take 5 to 10 years and will involve government–industry collaboration, like we've seen with the US CHIPS Act. There is no single, clean model for how governments and businesses will manage this transition. But the key lies in a balance—finding the right mix of market forces, public investment, and national interest. I don't believe we're entering an era of full deglobalisation. Instead, this is a reorganisation—a bifurcation of critical supply chains between rival blocs: China and Russia on one side, and G7-plus partners on the other. Despite short-term turbulence in transatlantic relations, those ties will hold in the long run. Europe may aim for more strategic autonomy, but alliances will remain crucial.

Fredrik Erixon: In this shifting global order, some countries might struggle. Small and mid-sized economies may not find the "sweet spot" in this new structure. With scale and capacity increasingly vital, will they become more dependent on the larger powers? And what about Southeast Asia? These countries are often caught between a powerful neighbour and a major trading partner across the Pacific. How do you see these strategic realignments playing out?

Alex Capri: For countries in the Global South—including much of Southeast Asia and even India—being forced to choose sides is a dilemma. No country wants to be placed in that position. The question is whether open-source systems can empower "middle-tier" countries—those not in the core of the technology blocs. We're seeing this debate now, for example with DeepSeek, a Chinese AI firm. Has it really achieved a game-changing breakthrough? Could open-source developments give smaller countries more agency? Take the G42 case in the UAE—it had to choose between the US and China. The same is likely to happen in Malaysia, Vietnam, Singapore. Middle powers are being forced to navigate a fraught strategic landscape. While DeepSeek's progress is significant, many believe it still relies heavily on foreign technology. Meanwhile, access to advanced semiconductors remains a game-changer. China is still years—possibly decades—away from mastering them. As long as countries like the US, Japan, the Netherlands, Taiwan, and South Korea

control the most advanced chips, they will hold disproportionate power in these ecosystems. And this power can be used strategically.

Fredrik Erixon: One last question. Your book is a scholarly work, not a policy handbook. But if you were advising an open, globalised economy that has prospered under the current model—what would you say now that tech security is reshaping the playing field? Governments might fear that techno-nationalist measures will slow growth, force risky investments, or reduce global market access. What should they be thinking?

Alex Capri: First, they need to accept that we are at a geopolitical inflection point. Denial or wishful thinking is not helpful. We've entered a new paradigm. Many of the old critiques of industrial policy—that it distorts markets, that it never works—need to be reconsidered. We must move beyond purely academic arguments and plan for a world of geopolitical volatility. This means scenario mapping. What if geopolitical tensions escalate? What if supply chains are disrupted? What if military conflict breaks out? Lessons from the pandemic should guide us. Second, I talk about "techno-nationalist creative destruction". As old value chains fragment, new ones must be built. That won't be easy. Governments will need to subsidise, and some ventures will fail. But new, resilient structures will emerge. There's a huge opportunity in traceability and transparency technologies—tools to monitor suppliers, track financial flows, and ensure compliance with end-use rules. Regulatory tech, fintech, secure transactions, and AI all have a role to play. We're living in a paradox: global fragmentation and rapid tech-driven growth at the same time. Success depends on facing that reality—and adapting policies to manage risk, build resilience, and seize new opportunities.

Fredrik Erixon: Thank you, Alex. We've mostly discussed technologies tied to computing and data, but your book also covers other sectors—like climate tech and financial services. It's a much richer book than we've had time to explore here. Let me conclude by reminding listeners of the title: *Techno-Nationalism: How It Is Reshaping Trade, Geopolitics and Society* by Alex Capri. Alex, thank you for joining me.

Alex Capri: Thank you, Fredrik. It was a real pleasure.