Nicholas Bahrich

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Profile

I am an economist by training who is currently employed as a PhD researcher at the Center for Security Studies at ETH Zürich to conduct practice-oriented research at the intersection of innovation and security policy. My core interest lies in civil-military integration policy, with a special focus on technology. This broadly spans the design of policy to integrate civilian developed technology with military technology, and the second-order effects of these policies on the global economy and the international security environment. I am especially interested in the effects of civil-military integration policy on the direction of innovation in artificial intelligence (AI).

Education

Oct 2022-Feb 2027 PhD - ETH Zürich

Dissertation:
Promoting While Protecting Dual-Use Innovation in Emerging Technologies:
Embedding National Security Regulation into Innovation Policy

Sept 2019 - Feb 2022 M.A. in Economics (Magna Cum Laude) - University of Zürich

Thesis:
The Effects of Parental Legal Status on Native Born American Children of Hispanic Descent:
Evidence from the 1996 IIRAIRA Act

Academic Employment History

Oct 2022 - Present Center for Security Studies, ETH Zürich
PhD Researcher

Dissertation Description

Policy promoting innovation in emerging technologies is increasingly dual-use, as governments have sought to integrate largely civilian-driven research and development (R&D) in technologies, such as AI, into military technology. However, because many outputs of R&D exhibit public good characteristics, a state that provides public support for dual-use innovation faces the risk that its adversaries will benefit from their investment. Motivated by this dilemma, my dissertation asks the overarching question, *can policy both protect and promote dual-use innovation in emerging technologies?*

I make two key conceptual and theoretical contributions within my dissertation. First, I develop a framework to study how states design national security policy to protect R&D in emerging technologies. This framework conceptualizes how governments can use innovation policy to create an incentive for firms to self-enforce their national security preferences when conducting R&D. By linking their support for R&D in emerging technologies to their national security preferences, governments shift part of the administrative and enforcement costs of national security policy onto the firms conducting the R&D. Second, I make a theoretical contribution by developing a stylized model to study the impact of self-enforced national security regulation on the private supply of dual-use innovation in emerging technologies. The stylized model shows that when firms with limited financial resources rely on broad heuristics, such as reputation, to enforce national security regulation, there is an increase in market concentration among investors in startups conducting dual-use R&D.

The predictions derived from the stylized model are explored empirically through a policy change to the Small Business Innovation Research (SBIR) program in the United States. Leveraging variation in firms' exposure to the policy change based on the dual-use intensity of their business models, I empirically examine the association between tying public support for innovation to the supporting government's national security preferences and concentration in the supply of venture financing for dual-use R&D.

The results of this dissertation are of high relevance given the emerging global security environment. Many Western governments have sought to ease entry into their defense market in order to reverse the consolidation of their military-industrial base. However, they have also increasingly conditioned their support for innovation in emerging technologies on their national security preferences. By studying the interaction between these competing policy imperatives, my dissertation highlights the trade-offs inherent in using innovation policy as an instrument of national security regulation.

PhD Committee: Dr. Andreas Wenger, Dr. Stefano Brusoni

Research Interests: The Economics of Defense, Innovation Policy, The Economics of AI, Dual-Use Economics

Oct 2020 - Dec 2020 Immigration Policy Lab, ETH Zürich
Research Assistant

I was a research assistant for Mortiz Marbach.

Teaching

Teaching Assistant for the ETH Zürich Master's Level Course: Global Operations Strategy (Spring, 2025)

As part of my duties, I designed and gave a lecture entitled "The Role of Industrial Policy in the Integration of Civilian and Military Technologies".

Publications

Hangartner, D., et al (2021).
Empathy-based counterspeech can reduce racist hate speech in a social media field experiment
Proceedings of the National Academy of Sciences, Published Online on December 6, 2021

Working Papers

Untitled Project on Geopolitical Risk and the Electric Vehicle Supply Chain
Co-authored with Oliver von Dzengelevski

Conferences

European Initiative for Security Studies (EISS) Annual Conference (26-27 June 2025)

Additonal Coursework

The Law and Economics of Consumer Contracts (Studycenter Gerzensee, given by Omri Ben-Shahar)