

G7: Balance security and collaboration

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Increased government scrutiny of cross-border university research relationships, tightened export controls on technologies, and strengthened national regimes regulating technology-related foreign direct investment are now **priorities for most democracies**. These policy changes are motivated by the common goal of shoring up economic and national security. But the approaches are neither uniform nor harmonized, even among the relatively homogeneous G7 nations, undermining cross-border research and development (R&D) collaboration. When the leaders of G7 meet in late June in Schloss Elmau, Germany, they should make it a priority to coordinate controls on knowledge flows and technology. They need to act together to demonstrate how democracies can counter illicit activities for acquiring technologies.

The issue of research security bubbled up on university campuses in the US almost 5 years ago as questions about technology exports to, and acquisitions of US firms by, China raised concerns about the economic, military, and intelligence vulnerabilities of G7 nations. Then in February 2022, Russia invaded Ukraine. Many of the world's liberal democracies banded together—in record time and a highly coordinated fashion—to impose far-reaching export controls to prevent advanced technology products from reaching Russia. Democracies in general, and the G7 in particular, have awoken to the fact that they have the means and powerful new motivations to more carefully control the diffusion of dual-use knowledge and advanced technologies to adversaries.

The result is looming changes—in law and enforcement—of national policies in advanced democracies. The new approaches fall to different governmental entities, depending on whether the policy is the granting of export licenses; agency clearance of inbound—and likely soon even outbound—foreign direct investment; or the funding of university research. The result—leading democratic states rapidly inventing or strengthening technology-protection polices with little multilateral consultation—is predictable: regulatory confusion for both researchers and companies engaged in cross-border activity, and a reduction in international flows of scientific and engineering knowledge and personnel.

There are huge and long-term costs to innovation and economic growth of allies taking distinct approaches to

export controls, placing limits on university-based open research collaboration between domestic and foreign scientists, or imposing constraints on foreign direct investment. All three of these national security policies can substantially affect beneficial cross-border research collaboration and commercial exchange in advanced technologies. But they are rarely considered together. They should be. Ensuring such integration is where the G7 must lead. Indeed, the G7 needs to act rapidly.

Because of the decentralized nature of the changes required, it is hard to know whether this imperative will even be recognized as an emerging problem when the G7 leaders meet later this month. Whereas balancing research security and openness in research was identified as a key topic in the “Research Compact” unveiled by the G7 at last year's summit in Cornwall, UK, there does not appear to be any focus planned on the impact of tightening the downstream—and arguably far more important—technology export controls and foreign direct investment regulations.

The first step is for the G7 to agree on the principles of a new regime: making the implementation of national regulations smarter about global knowledge networks, coordinating to facilitate openness among the G7 nations and control at the interface between those within the group and those outside; and ensuring harmonization that supports cross-border collaboration in public and private R&D and innovation within the G7.

The G7 leaders cannot design such a regime during their 2022 summit, but they can agree that it needs to be done on a priority basis and formally launch the process of creating modernized enforceable **cross-border science and technology agreements** governing not just government-to-government research exchanges but also setting out a process to separate high-risk from low-risk commercial technology exchanges and foreign direct investments. And they need to be quick, as the sovereign-to-sovereign agreements among the G7 must be in place soon so that other liberal democracies can align their policies and practices with the G7.

The G7 should lead democracies out of the thicket of conflicting, collaboration-dampening, and national approaches to protecting the technology-dependent aspect of economic and national security.

—Harry G. Broadman and Chaouki Abdallah

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