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North Korea's nuclear and missile programs: Foreign absorption and domestic innovation

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ABSTRACT

North Korea's strategic weapons innovation system is exemplary of an authoritarian mobilization model. The top leadership prioritizes the program and mobilizes the country's science, technology, and heavy industrial resources around key programs. Key to success are investments in a defense industrial infrastructure that runs from basic research and development to applied R&D, product development, and linked production capability. Although foreign borrowing is important, the country's nuclear and missile programs would not have gelled in the absence of complementary domestic investments.

KEYWORDS North Korea; defense innovation; weapons; international relations; technology

The international community has consistently underestimated North Korean nuclear and missile capabilities. How has an economically impoverished, technologically backward, and internationally isolated state been able to establish robust and increasingly competent nuclear weapons and ballistic missile programs? Has the Democratic People's Republic of Korea (DPRK) achieved this on its own, as it proudly claims, or has it been predominantly reliant on foreign sources and if so to whom and in what ways?

This essay synthesizes what we know about the development of North Korean nuclear and missile capabilities, which together makes up the country's strategic weapons complex. In the typology of defense innovation ecosystems presented in the introductory essay to this volume, the North Korean strategic weapons complex is a rapidly catching up regime that has made concerted progress over the past two decades in moving up the innovation ladder. This highly secretive apparatus is the most technologically advanced, innovative and privileged segment of the North Korean national economy.

The security challenges that North Korea faces – some of its own making – have clearly been important motives in the regime's pursuit of a nuclear

