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Analysis of today
Assessment of tomorrow

By: TA Analysis

# What the Stasi archives reveal about the value of technological espionage

On 27 September, Reuters reported on a new paper by three economists who attempted to answer a question that countries can usually only estimate: how much technology secretly obtained from rivals is worth to an economy.

Drawing on the archives of the East German Stasi, the authors estimate that acquiring scientific and technical information from the West up to 1988 increased the total economic output of East Germany, then the German Democratic Republic (GDR), by around 7.4 per cent compared with what, according to their model, would have been achieved without that programme. This assessment comes with clear caveats.

The paper by Albrecht Glitz, Adrian Lerche and Lucas Mergele is dated September 2026 and has not yet been published in a peer-reviewed scientific journal.

The 7.4 per cent figure is not taken from the national accounts of the time but is derived from an economic model.

The authors themselves warn that the final calculation should be interpreted with caution.

The particular value of the study lies in the fact that, thanks to the preserved Stasi records, the authors can link specific scientific and technical information obtained in the West to the companies that received it, and then determine how their production and productivity changed.

The study is therefore also important for today's technological and security competition between countries.

Governments now control access much more strictly to knowledge and technologies they consider strategically important, from advanced semiconductors and artificial intelligence to quantum computing, biotechnology and complex manufacturing processes.

The East German case cannot simply be mapped onto today's circumstances, but it shows how a single piece of technical information, when successfully applied by a company, can increase its output and productivity.

As a result, its demand for parts, materials and services from suppliers also grows, while companies that use its products can obtain cheaper, higher-quality or more readily available components for their own production.

## The archive that survived the Stasi

The basis of the research is SIRA, the electronic system of the foreign intelligence service of East Germany's Ministry for State Security.

After the collapse of the GDR, a large proportion of the Stasi's electronic data was deleted or destroyed, but some storage media survived.

Archivists spent years reconstructing the remaining material and, by the end of the 1990s, had made a substantial part of the system accessible once more.

For economists, it is an almost unique source. SIRA contains more than 180,000 records of scientific and technical information that East German institutions obtained from the West between 1970 and 1989.

For many entries, the date of receipt, source, internal assessment of value and recipient companies are known.

> In the GDR, the state organised the acquisition of information, evaluated its value and forwarded it to the industrial and research institutions best placed to apply it

This makes it possible to compare the performance of companies that received more valuable information with that of others, and to measure how this access changed output.

The authors use the term “economic espionage” in a precise sense: the covert acquisition of economic and technological knowledge in the interests of the state.

This is distinct from cases in which a company steals a competitor’s trade secrets for its own commercial gain.

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## When classified information enters production

The findings show that companies receiving higher-quality intelligence increased output and productivity more rapidly, invested more in equipment, and tended to improve existing products rather than branch out into multiple new lines.

Their exports grew primarily to other socialist countries, most notably the Soviet Union.

An even more significant finding emerges when considering not only the company that received the information, but also its commercial partners.

When a manufacturer, by virtue of a new process or technical solution, produces a more reliable or cheaper component, its customers gain an advantage in their own production, while suppliers secure larger contracts.

> Given that industry accounted for roughly one third of the GDR economy, this translates into an estimated 7.4 per cent increase in total GDP

The benefit is thus transmitted across the broader economy through existing commercial ties.

This transmission mechanism accounts for most of the estimated economic impact.

When the authors calculate only the direct benefit to firms that received the intelligence, they estimate that value added across the surveyed industrial sector in 1988 was approximately 3.2 per cent higher.

When they incorporate spillover effects across supply chains, the estimate rises to 22.3 per cent of industrial value added.

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## Copying helps to catch up, not to take the lead

The study also shows how mistaken it would be to conclude that successful espionage can compensate for the deep structural weaknesses of an economy.

East German firms became more productive and successful within the socialist bloc, but the authors find no evidence that the Western knowledge they acquired enabled them to compete significantly better in Western markets.

The GDR was able to improve existing production, quality and efficiency, yet it failed to eliminate its technological lag behind the most developed Western economies.

The authors also identify evidence that companies making greater use of intelligence obtained through espionage subsequently applied for fewer patents of their own.

While this is insufficient to prove that access to foreign technology actively stifled domestic research, it raises an important question.

> The East German experience offers valuable insights into the economic return on acquired knowledge

If a company can readily obtain a solution already developed elsewhere, it has little incentive to commit years of work and substantial capital to developing proprietary technology. It is here that the limitations of this strategy become apparent.

Acquired knowledge can help an economy catch up more swiftly with technologically superior competitors, but it cannot on its own establish a system that continuously generates new technologies.

That requires robust research centres, leading specialists, capital, competition and commercial companies willing to invest in developing products that do not yet exist.

For this reason, the East German experience offers valuable insights into the economic return on acquired knowledge, but sheds far less light on how to achieve genuine technological leadership.

## Why governments today also protect manufacturing know-how

On 14 September, the European Commission updated its common list of dual-use goods and technologies subject to export controls.

The additions include equipment and materials for manufacturing and testing semiconductors and advanced integrated circuits.

A similar rationale is increasingly evident in research security policy, where the objective is to prevent the unwanted transfer of critical knowledge without undermining the international scientific collaboration from which European universities and institutes derive substantial benefit.

US export controls on advanced semiconductors follow the same trajectory. The restrictions apply not only to designated chips, but also to fabrication equipment, specialised design and manufacturing software, proprietary technical know-how, and the identity and intended end use of the recipient.

The underlying logic is straightforward: restricting finished products achieves little if a strategic rival obtains the tooling, processes or technical expertise that enable it to manufacture identical or comparable items domestically.

The GDR of the 1980s cannot be directly equated with contemporary China, the United States or the European Union.

Today's major economies are significantly more integrated, the private sector plays a distinct role, and legal mechanisms for technology transfer through trade, foreign direct investment, licensing and joint academic research are far more sophisticated.

Modern technological security cannot simply rely on sealing borders, as states would inadvertently stifle the cross-border intellectual exchange on which innovation within their own companies, universities and research centres fundamentally depends.

## Protection is moving closer to where technology is created

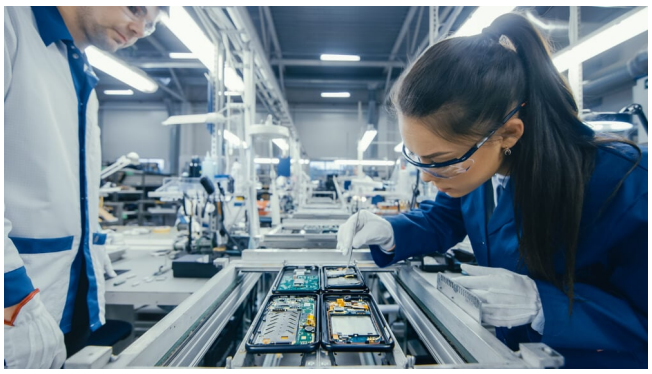
American and European measures already indicate the direction in which policy is likely to evolve.

Increasingly, protection will focus on research projects, laboratories, joint ventures, specialised software, technical documentation and the personnel who understand the manufacturing process, rather than simply on physical goods crossing borders.

This approach is more costly and complex, but far better aligned with how knowledge is transferred today.

A policy of complete decoupling would be economically unsustainable, as international trade, foreign researchers, academic collaboration and investment serve not only as

channels through which knowledge leaves the country, but also as primary catalysts for domestic innovation.



*Long-term advantage will belong to those able to advance the technological frontier faster than competitors can reach it*

A continuation of targeted controls across a narrower range of critical sectors is therefore far more likely.

This will entail heightened scrutiny of commercial partners, restricted access to sensitive programmes and tighter vetting of intended end uses, rather than any attempt to halt international scientific and technological exchange entirely.

An analysis of the Stasi archives provides a clear economic rationale for this shift.

If technical intelligence boosts productivity not only within the recipient company but also across its suppliers and industrial clients, an economy that experiences technology leakage surrenders far more than an isolated commercial advantage.

It risks accelerating the broader industrial capabilities of a strategic competitor.

At the same time, the East German experience highlights the inherent limits of such gains: acquired intelligence can refine existing production lines, but it cannot guarantee the institutional capacity to pioneer breakthrough technologies.

The Stasi records also illustrate a crucial lesson for contemporary technological competition: an advantage derived from a single proprietary technology is inherently short-lived.

As soon as a competitor acquires, reverse-engineers and integrates that technology into commercial production, the pioneer's competitive premium begins to erode.

For leading technological nations and companies, this reshapes strategic priorities: defending an existing edge is no longer sufficient; they must generate subsequent innovations faster than rivals can assimilate the last.

Although restricting access to critical technologies will remain an indispensable instrument of state policy, it will not by itself determine the outcome of technological competition.

Long-term advantage will belong to those able to advance the technological frontier faster than competitors can reach it.