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# For a Strategic, European and Competition-Oriented Industrial Policy

The competitiveness of German industry is under significant pressure. While politicians acknowledge the need for change, their proposed solutions remain vague and lack a clear strategic direction. Current approaches focus on tax relief, broad investment subsidies for domestic firms or targeted cost reductions, such as lower electricity prices. While these measures may improve production conditions, they fail to address the fundamental issue: the technological investment trap. To overcome the current investment stagnation, a European, strategic and competition-oriented industrial policy is essential. Germany's and Europe's long-term competitiveness depends on targeted investments in innovative technologies and future-oriented projects while avoiding market-distorting subsidies and inefficient financial support.

German industry plays a key role in the European Union's economy, not only because of its size but also due to its strategic importance within value chains. German automobiles, machinery and equipment integrate numerous components produced in other European countries. This makes it all the more worrying that the bad news from German industry has been persistent, particularly regarding specific companies. Volkswagen – a flagship of Germany's industrial model – is expected to implement significant cuts to its core VW brand. Established firms such as Miele, BASF, ThyssenKrupp, Siemens and ZF Friedrichshafen are announcing drastic job cuts. Moreover, according to industry associations, the state of Germany's industrial sector is dire. Taxes, wages and energy costs are reportedly too high, leading to the impression

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that it is only a matter of time before Germany's industrial lights go out.<sup>1</sup>

A look at official statistics, however, presents a far less dramatic picture (Figure 1). Although real industrial gross value added in Germany in 2024 is slightly below the peak values from before the coronavirus crisis, it is significantly higher than in the years before 2015. Likewise, no clear deindustrialisation trend is evident compared to overall economic development – until now. However, we also see a stagnation since 2017. Hence, while significant economic losses have been avoided so far, there is obviously need for action.

## Is it mainly a problem of (energy) costs that calls for a horizontal industrial policy?

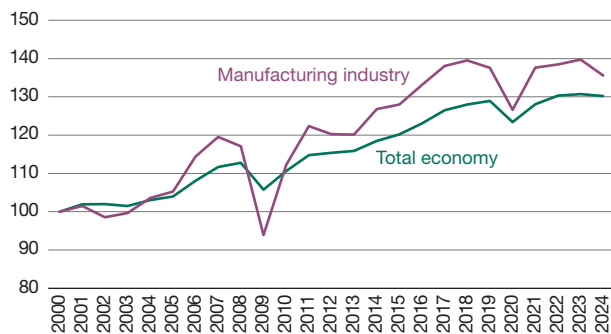
Securing Germany's industrial base is a widely recognised goal in domestic policy discussions. However, the strategies to achieve this remain largely unclear. Party programmes mainly propose traditional economic measures such as tax cuts and broad investment subsidies for domestic companies. Lower electricity costs are also heavily discussed. According to the Federal Statistical Office, all non-household consumers are currently paying about 30% more for electricity than before Russia's invasion of Ukraine.<sup>2</sup> This increase would likely have been even higher had the previous government not significantly reduced taxes and levies on electricity to counter soaring production costs. Currently, all political parties support a

<sup>1</sup> A nuanced perspective about the industrial sector in Germany can be found in Brandt et al. (2022).

<sup>2</sup> See Destatis (2025), Table 61241-16.

**Figure 1**  
**Real gross value added in Germany**

Index, 2000 = 100



Source: National accounts, Federal Statistical Office, 2025; authors' own calculations.

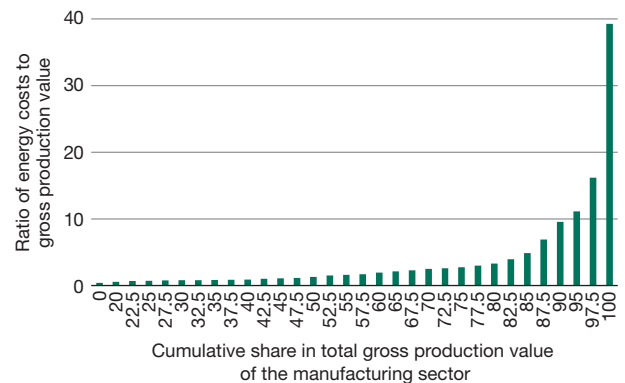
further capping of grid fees and a reduction of levies and taxes on electricity. Unlike the controversial proposal for a so-called industrial electricity price discussed last year, these measures would benefit not only energy-intensive industries but also all businesses and consumers (see Bernhardt et al., 2023).

While it undoubtedly makes sense for policymakers to mitigate the impact of external price shocks through tax relief, especially as taxes and levies account for around 40% of electricity prices, it remains questionable whether a horizontal industrial policy of this kind will sustainably improve Germany's long-term competitiveness. One way to assess this question is by examining the ratio of energy costs to gross production value. This metric serves as a reliable indicator of how significantly energy costs influence total expenses.

According to the latest available data (2022) – which already includes energy price increases following Russia's invasion of Ukraine – approximately 87% of the gross production value of the manufacturing sector comes from industries where energy costs account for 5% or less of total expenses (Figure 2). Sectors where energy costs exceed 10% represent only about 9% of gross production value. In contrast, labour costs play a much larger role, averaging about 21% of total expenses and exceeding 45% in some industries. On average, a 1% increase in wages leads to the same increase in costs as a 10% increase in energy prices in many sectors of the manufacturing industry. Energy costs are therefore not the main cost driver for most industries. As a result, a reduction in electricity prices would have a limited impact on the overall cost competitiveness of the industrial sector.

**Figure 2**  
**Ratio of energy costs to gross production value in the German manufacturing industry**

in %



Notes: The observation units in the chart are the so-called economic classes, i.e. the lowest possible sectoral classification level published by the Federal Statistical Office as part of the cost structure survey in the manufacturing industry. Around 87% of the total gross production value of the manufacturing industry is generated by sectors with an energy cost share of 5% or less.

Source: Cost structure survey of the German manufacturing sector, Federal Statistical Office, 2025; authors' own calculations.

A horizontal industrial policy aimed at improving the framework conditions for production – for example, by reducing electricity costs or cutting red tape – would likely strengthen Germany as a business location. Yet, this alone will not be sufficient to overcome the investment and innovation backlog and improve competitiveness in the long term. Concrete proposals from the political side on how to support industry in the current phase, particularly through vertical industrial policy, are rare.

**Systemic risks and market failures: Overcoming roadblocks for a sustainable industrial transformation**

Most of the key challenges for German industry are not national but have European or even global dimensions. First and foremost is climate change, which ultimately requires the decarbonisation of industrial production. In addition, geopolitical changes require adjustments to production structures in order to increase the resilience of production chains by maintaining and diversifying suppliers.

Such a structural change requires major innovation and investment efforts.<sup>3</sup> The vast majority of this will have to be provided by companies. The profit expectations of

3 A discussion on the elements of a climate-neutral structural transformation can be found in Bardt et al. (2024).

long-term investments in old technologies based on fossil fuels are increasingly falling. By contrast, the earnings potential of investments in climate-neutral technologies is arguably high – but so are the systemic risks due to the sometimes fundamentally new technological development paths.

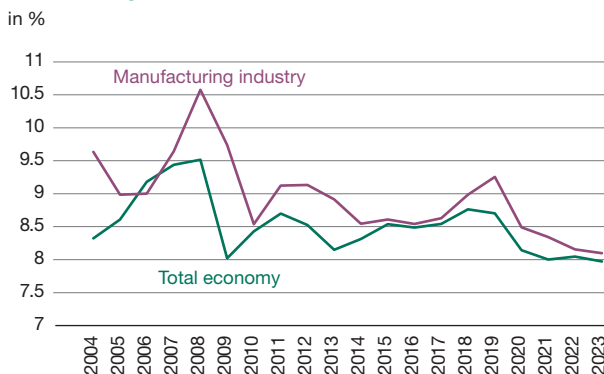
Electromobility and hydrogen technology are among the key areas of structural change. In both technological areas, a company's innovative and economic success depends heavily on other companies also investing successfully in new technologies and value chains. Without charging infrastructures and battery recycling, there will be no successful electric cars; without efficient hydrogen processing and safe transport routes, there will be no climate-neutral steel production. Even large companies cannot bear such systemic risks on their own. The result is innovation and investment blockages, i.e. market failure.

A similar phenomenon is occurring in efforts to create more resilient industrial value chains (Elliott et al., 2022). The need for greater resilience first became apparent during the COVID-19 pandemic and its aftermath. The crisis exposed vulnerabilities in global supply chains, as container ship congestion in Asian ports and shortages of critical components such as semiconductors disrupted production in Europe and the US. The once reliable global division of labour – based on concentrated production and low costs – began to unravel. Even after the pandemic, shortages of key intermediate goods persisted due to a variety of factors. Meanwhile, rising geopolitical tensions between China, Taiwan and the US, as well as conflicts in Ukraine and the Middle East, continue to highlight the urgency of ensuring more stable and resilient supply chains. The increasing unpredictability of global trade, combined with widespread lean manufacturing practices, has created systemic risks where even minor disruptions can quickly escalate into global economic shocks (Goldin & Mariathan, 2014).

On the one hand, companies competing internationally must actively mitigate the risk of disruptions to global supply flows and the failure of key suppliers. Being cut off from critical inputs, even temporarily, is not an option – especially if competitors retain access. While certain risks, such as credit default or minor technical failures, can be covered by insurance, major risks associated with supply delays or disruptions require strategic action. These include stockpiling, insourcing, supplier diversification and nearshoring.

Stockpiling key intermediate goods helps to mitigate short-term supply disruptions. Insourcing allows companies to regain control over key parts of their value chain by

**Figure 3**  
**Ratio of equipment investment to gross value added in Germany**



Source: National accounts, Federal Statistical Office, 2025; authors' own calculations.

reintegrating previously outsourced tasks and functions. Diversification reduces dependence on individual suppliers and ensures that alternative sources are available if one fails – although this can limit economies of scale and reduce profit margins. Nearshoring and friendshoring offer additional opportunities to increase resilience by moving operations from distant, politically uncertain regions to geographically closer or politically aligned countries, thereby reducing exposure to global trade instability.

On the other hand, these risk mitigation measures come at a cost. The efficiencies gained through just-in-time manufacturing and economies of scale at high production volumes may be lost. In the short term, companies that do not take precautions may gain a competitive advantage by maintaining lower costs. As a result, many companies remain reluctant to adopt necessary risk prevention strategies.

The impact of these uncertainties and dilemmas is evident in declining investment levels, as reflected in the investment ratio of the manufacturing sector (Figure 3). The volume of equipment investment relative to gross value added has remained weak for some time and has recently fallen well below the long-term average of the past two decades.

The current investment backlog – resulting from the market failures described above – can be addressed with the help of a coordinating entity: the state (e.g. Michelsen, 2023; Wambach, 2023). By facilitating agreements, absorbing part of the costs and reducing systemic risks, the state can help accelerate the adoption of green technologies. Additionally, it can assume part of the insurance burden to enhance the resilience of industrial supply chains, thereby encouraging firms to invest despite prevailing uncertainties.

The existing concepts for how the state can respond with vertical industrial policy vary (Belitz et al., 2021). Under the Inflation Reduction Act, the USA relies on tax incentives to encourage companies to innovate and invest in green technologies. At the same time, subsidies are linked to certain proportions of domestic production in order to reduce dependence on foreign suppliers. China is forcing the corresponding technology pushes through its influence on large state-owned companies or high individual subsidies, as in the case of electromobility.

However, the institutional and legal requirements for both strategies are not in place in Europe. The European Union lacks standardised common financial structures for the use of simple tax incentives. Access rights to individual companies – even if they are subject to state participation – are strictly limited. Despite the recent announcement of a major debt-financed investment programme of historic proportions, Germany alone lacks the financial and industrial capacity to drive the breakthrough of climate-neutral production technologies.

### The need for a strategic, European and competition-oriented industrial policy

To maintain its capacity for innovation and structural transformation, Germany must pursue a strategic, European and competition-oriented industrial policy (e.g. Criscuolo et al., 2022; Piechucka et al., 2024; OECD, 2024).<sup>4</sup> Such an industrial policy should be primarily competition-oriented: instead of promoting national champions, it should use competitive mechanisms to distribute funding efficiently, effectively and transparently. Open tenders with objective evaluation criteria can help ensure that public funds are directed towards projects with high societal value without distorting competition. Additional mechanisms, such as open-access requirements for publicly funded infrastructure (e.g. Duso et al., 2025) or specific conditions in public procurement (e.g. Chiappinelli et al., 2025), can also be further developed.

It is important that this industrial policy is efficient and forward-looking, with a focus on promoting innovation and investment rather than subsidising running costs. Germany's and Europe's competitiveness depends crucially on targeted investing in new technologies, while at the same time avoiding market-distorting and inefficient subsidies. This increases the incentives for innovation and promotes sustainable economic development.

A strategic approach is essential. Not everything should receive funding – investments must be directed towards

key areas such as the digital economy, the healthcare sector and clean technologies (Belitz & Gornig, 2023). Furthermore, priority should be given to technologies at the beginning of many supply chains, such as semiconductors, batteries and hydrogen production, to enhance economic resilience. Expanding public infrastructure, including electricity grids, hydrogen networks and gigabit broadband, is also crucial as it creates long-term competitive advantages and strengthens the economy's innovative capacity. Such investments benefit not only competitiveness but also the broader public interest.

Another key pillar of this industrial policy is a much stronger European focus. Challenges such as technological sovereignty and securing strategic value chains cannot be tackled by individual countries alone. Close cooperation at the EU level is therefore essential. The EU must act as a coordinator to minimise risks, pool resources and prevent fragmented industrial policies. This will create the foundation for a resilient and innovative European economy capable of facing global challenges. Only through collective action can Europe navigate the evolving geopolitical landscape.

An exemplary instrument for a European-coordinated industrial policy is the Important Projects of Common European Interest (IPCEI). This instrument promotes projects in several member states that are aimed at the industrial utilisation of new technologies. In contrast to traditional technology policy, funding can extend directly to commercial utilisation in the context of mass production to enable the development of production capacities across the entire value chain. To this end, the European state aid rules for these projects have been relaxed. The specific type of funding (loans, guarantees, grants) and the underlying conditions (eligible expenditure, funding rate, funding period) are determined for each IPCEI by the member state concerned (European Commission, 2025). Projects to date have focussed on microelectronics, battery cell production and hydrogen technologies, among other things. However, in order for the IPCEIs to realise their full potential, they need to be broadened, significantly strengthened financially, and implemented more efficiently and transparently.

### How to finance industrial policy

A key outstanding question is how to finance this industrial policy. Several levels can be envisaged. First, the new German government leveraged its majority in the previous parliament to secure a €500 billion special fund to address critical infrastructure needs. Investing in roads, bridges, schools and rail networks is a form of horizontal industrial policy – an essential and long overdue step given Germany's well-documented infrastructure underinvestment

<sup>4</sup> For a comprehensive overview of the impact of various industrial policy measures, see also Juhász et al. (2023).

(Gornig et al., 2015; Fratzscher et al., 2015). However, when it comes to network expansion – such as electricity grids, hydrogen infrastructure and broadband – public investment must be carefully designed to avoid crowding out private capital or creating unintended windfall gains. Equally important, the fund can also be used to strengthen and improve public administration to ensure that funds are used efficiently and without delay. Achieving this requires two key reforms: accelerating the digitisation of public administration to streamline regulatory processes and remove outdated barriers; and strengthening administrative structures that have been significantly weakened in recent decades, especially at the municipal level.<sup>5</sup>

Second, while infrastructure investment – a key element of horizontal industrial policy – can be financed through the newly established special fund, additional vertical industrial policy measures will still be necessary. Within this framework, there is room for debt-financed investment, particularly in conjunction with the Climate and Transformation Fund. However, new borrowing is not the only option. Existing programmes and subsidies should first undergo a systematic review to identify inefficiencies and potential savings. Redirecting these freed-up resources towards more targeted and strategic vertical industrial policies would significantly enhance their effectiveness. Additionally, a revolving fund could be established to pre-finance key industrial projects, ensuring sustainable long-term financing without excessive fiscal burden. This approach would ensure that public funds are not simply spent, but are partly replenished by returns from successful projects, making future investments more self-sustaining. The success of German industrial policy also depends on coordinated efforts across Europe. To this end, a European Innovation and Industrial Development Fund could be set up at the EU level, financed by common borrowing. Such a fund would allow targeted support for strategic European technologies but would require reforms of EU fiscal rules and greater acceptance of common financial instruments.

Third, beyond traditional horizontal and vertical industrial policies, defence spending offers an additional way to stimulate innovation and investment in Germany's manufacturing sector. Russia's war against Ukraine, growing geopolitical uncertainties and the US's turn towards isolationism have underlined the urgent need for Europe to

<sup>5</sup> The latest official commission on Germany's investment gap has already underlined the urgency of these reforms. One of its proposals is the creation of a federal agency that municipalities can use for construction projects. This would eliminate the need for each municipality to develop administrative capacities that are only needed occasionally for large-scale projects (Bundesministerium für Wirtschaft und Energie, 2016).

strengthen its defence capabilities. In addition to the creation of the special infrastructure fund, Germany has taken an important step by exempting defence spending above 1% of GDP from its debt brake. This major rearmament is a strategic opportunity to drive technological innovation and strengthen Germany's industrial base. While a significant portion of the additional funds will be spent on conventional military equipment such as tanks and ammunition, which is likely to boost investment at several levels of the supply chain, a forward-looking strategy will also prioritise emerging defence technologies. Artificial intelligence-driven weapon systems, drones, cryptographic security solutions and other advanced technologies should be systematically integrated into procurement strategies. These investments can act as a catalyst for broader technological progress, fostering innovation in both defence and civilian industries while generating spillover effects that enhance industrial competitiveness. The dual-use potential of these technologies thus creates new funding opportunities to complement other industrial policy instruments.

To maximise the impact of these investments, strong European coordination is essential. A common procurement framework backed by unified financing mechanisms and aligned strategic priorities would not only bolster Europe's collective defence but also strengthen its defence industry and the broader manufacturing sector. However, implementing such a framework would require significant institutional and governance reforms, as it would entail a reduction of national control over the deployment and use of military assets by other member states. This is particularly sensitive for Germany, which has historically insisted on having a decisive say in the disposition and utilisation of jointly produced military equipment.

## Conclusion

The German manufacturing industry is currently facing profound and complex challenges. High production costs, growing geopolitical uncertainties and the urgent need to transition towards climate-neutral technologies are placing significant pressure on Germany as a business location and industrial base. Measures that have been discussed so far – such as tax relief or reductions in electricity costs – fall short, as they fail to address the deeper structural problems. What is needed instead is a multifaceted approach that integrates both horizontal and vertical industrial policy measures. While the newly established €500 billion special fund is a crucial first step in addressing infrastructure needs and, possibly, public administration modernisation, a competition-oriented and strategic industrial policy that not only promotes innovation in a targeted way but also avoids market distortions and actively supports long-term structural transformation will be key.

An essential component of this approach is close European cooperation to prevent fragmentation and to build a resilient, innovation-driven economy. Particularly important is a funding strategy that fosters competition and focuses on key enabling technologies. Initiatives such as the IPCEI already provide a suitable framework, but they must be made more efficient and transparent. Moreover, strategic rearmament offers a unique opportunity to stimulate innovation and fortify the manufacturing sector. Only with a clear, forward-looking industrial policy can Germany safeguard the long-term competitiveness of its manufacturing industry.

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