

# DGAP POLICY BRIEF

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## Germany and Europe Can Boost Security by Reforming Capital Markets



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Poorly developed capital markets in Germany and across the European Union (EU) hurt European security. Reforming them can foster economic dynamism, reduce harmful dependencies, and enhance Europe's military edge. If German and EU politicians took a strategic view, they would clearly see the need to overcome fragmentation in the financial sector, increase risk appetite, incentivize private investment in innovation, and optimize regulation to meet economic and security needs.

- Germany and Europe do not lack in innovation, but there is not enough funding for the scaling up of new products and processes. As a result, new technology often gets scaled abroad. Reforms are needed to help Europe produce its own tech champions.
- Most importantly, the EU needs to overcome the political hurdles which hamper its Capital Markets Union. Fully harmonized markets are key to unlocking funding for innovative EU firms and enhancing security and economic growth.
- Domestically, Germany should professionalize its fragmented pension fund system and improve the funding for business R&D and venture capital. The ensuing growth effects will also increase tax receipts and therefore the scope for critical public investments
- Particular attention is needed to improve funding for defense innovation, which is critical to Europe's security. Outdated norms and ESG criteria hinder investment in defense SMEs. Reforming guidelines and leveraging EU funding can boost investment.

Capital markets reform is not an obvious starting point for discussions on improving national security. Yet the integrated approach taken by DGAP's 'Action Group Zeitenwende' (AGZ) to Germany's geostrategic choices points to considerable negative security implications of the current state of German and European capital markets. On that basis, this policy brief analyzes the problems caused by a financial sector characterized by fragmentation (of German financial and pension firms) and low risk preference (unwillingness to invest in emerging technologies) and hindered by outdated and discordant regulations and norms (hampering private defense investments).

These tendencies combine to limit investment in innovative small and medium-sized firms (SMEs), including in the defense sector, preventing them from scaling up at a time when this is very much needed. As a result, Europeans end up paying for rather than profiting from their technological and green transitions, as they remain dependent on technologies and companies based or scaled up in other parts of the world. These dependencies represent a geopolitical risk. Europe has a cutting-edge research sector. Failing to translate its inventions and innovations into business benefits hurts economic growth and the ability of Europe's states and societies to deliver material progress.

Given the worsening geopolitical situation, especially the heightened competition between democracies and autocracies, capital markets deficiencies may have serious consequences for German and European security. The challenge inherent in Europe's economic dependency on authoritarian regimes, including China, is obvious. More obscure but no less serious is the challenge created by both the perceptions and the reality of decline. They undermine Europeans' morale and trust in the ability of their societies to deliver on democracy's promise of material and moral superiority.<sup>1</sup> This is hurting Europe's resilience. Moreover, economic dynamism is key to increasing tax revenues and thus to funding the infrastructure, services, and defense capabilities that are crucial to Europe's standard of living as well as its security. And without security,

there can be "no prosperity," as German Chancellor Olaf Scholz put it.<sup>2</sup> Given Russia's war on Ukraine, Europe urgently needs to ramp up its defense investments and industrial capacities, with its economic powerhouse Germany in a leading role. This is all the more urgent as US support to Ukraine is uncertain, should Donald Trump be reelected.

This paper offers an analysis of the security concerns caused by underinvestment in defense and innovative technologies and shows how these are linked to underperforming capital markets. It concludes with some suggestions on what German and EU policymakers can do to address these issues.

## SECURITY ISSUES ARISING FROM UNDERINVESTMENT

Since the 1990s, Germany's public infrastructure investments have barely been sufficient to offset depreciation.<sup>3</sup> The private sector has not filled the gap, partly due to the risk aversion of private households and institutional investors. To secure Germany's future against multi-faceted security threats, its economy must mobilize considerable additional investment. Only then will the country be able to arm its military; to develop, secure, and scale green and digital technologies; and to deliver prosperity for citizens which in turn will sharpen society's democratic edge and strengthen internal resilience.

### Security

To credibly deter Russia and restore peace in Europe, Scholz aims to turn Germany into a "guarantor of European security."<sup>4</sup> However, he has so far failed to show how Germany under his current budget plans can continue to reach NATO's minimum spending benchmark of two percent of GDP in the medium term, let alone the three or 3.5 percent that may become necessary according to Defense Minister Boris Pistorius.<sup>5</sup>

Apart from a sufficient defense budget, a thriving (defense) innovation ecosystem backed by capable capital markets is essential to Germany's and Europe's

- 1 Benjamin Tallis, "Neo-idealism: Grand strategy for the future of the transatlantic community," MLI Paper, Macdonald-Laurier Institute (July 2024): <https://macdonaldlaurier.ca/neo-idealism-grand-strategy-for-the-future-of-the-transatlantic-community/> (accessed July 24, 2024).
- 2 German Federal Government, "Germany needs friends and allies in Europe and around the world" (June 2023): <https://www.bundesregierung.de/breg-en/news/scholz-government-statement-2198084> (accessed July 25, 2024).
- 3 Kevin Fletcher et al., "Germany's Real Challenges are Aging, Underinvestment, and Too Much Red Tape," IMF News, International Monetary Fund (March 2024): <https://www.imf.org/en/News/Articles/2024/03/27/germanys-real-challenges-are-aging-underinvestment-and-too-much-red-tape> (accessed May 9, 2024).
- 4 Olaf Scholz, "The Global Zeitenwende," *Foreign Affairs*, January/February 2023 issue: <https://www.foreignaffairs.com/germany/olaf-scholz-global-zeitenwende-how-avoid-new-cold-war> (accessed April 8, 2024).
- 5 ZDF Heute, "Pistorius: Zwei Prozent wohl 'nur der Anfang'" (February 17, 2024): <https://www.zdf.de/nachrichten/politik/pistorius-nato-zwei-prozent-ziel-verteidigung-ausgaben-100.html> (accessed April 8, 2024).

security. This link is well-established in the United States,<sup>6</sup> which has recognized the need to mobilize additional billions in R&D to compete with China.<sup>7</sup> In the United States, the existing ecosystem is supported by a dedicated office in the Department of Defense<sup>8</sup> which helps rally private capital in support of national security. Besides boosting security, military innovations emerging from this effort bring considerable side benefits that improve people's daily life (dual use innovations and spillovers).<sup>9</sup>

### Digital and Green Technologies

In an era of geopolitical rivalry, Germany needs a similarly effective innovation system. It should, beyond defense, boost investment in digital and green technologies and thereby sharpen the country's competitive edge. The sums required are enormous. For example, to build a digital infrastructure comparable to its developed-country peers, the German economy needs to double or triple current annual investment into digitalization, which currently amounts to EUR 100–150 billion from both the public and the private sector.<sup>10</sup> To deliver on its goal of becoming climate-neutral by mid-century, the German economy needs additional investments of EUR 70 billion<sup>11</sup> (nearly two percent of GDP) per year to fund its green transformation. Improving energy security and

reducing the dependence on imported hydrocarbons would also serve Germany's national security and foreign policy credibility.<sup>12</sup>

### Harmful Import Dependencies

Underinvestment in creating or expanding home-grown green<sup>13</sup> and digital innovations have created risky dependencies. The absence of a "technological Zeitenwende"<sup>14</sup> – which would include more decisive de-risking from China<sup>15</sup> – has reinforced critical dependencies. For example, the EU still sources 98 percent of its critical raw materials from China.<sup>16</sup> While several EU member countries have deposits of some of these raw materials,<sup>17</sup> establishing new mines must overcome NIMBYism and comes with long investment cycles.<sup>18</sup> So far, the EU has not passed any legislation to compensate for these obstacles, and so the business case for developing resources available in Europe has been difficult to make.<sup>19</sup>

### Material Decline and Political Discontent

Europeans, including Germans, also increasingly face threats from within as right-wing populists play on increasing discontent, economic worries,<sup>20</sup> and feelings of relative decline (as AGZ discussions<sup>21</sup> and focus groups<sup>22</sup> showed). A recent Eurobarometer poll shows that nearly three times as many Germans believe that

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- 6 James Andrew Lewis, "National Security and the Innovation Ecosystem," CSIS (October 2021): <https://www.csis.org/analysis/national-security-and-innovation-ecosystem> (accessed April 3, 2024)
- 7 James Andrew Lewis, "How Much Is Enough?" CSIS (April 2021): <https://www.csis.org/analysis/how-much-enough> (accessed April 3, 2024)
- 8 US Department of State, "DoD Announces Release of FY24 Investment Strategy for the Office of Strategic Capital," DoD Press Release (March 8, 2024): <https://www.defense.gov/News/Releases/Release/Article/3700624/dod-announces-release-of-fy24-investment-strategy-for-the-office-of-strategic-c/> (accessed June 20, 2024)
- 9 NATO, "Military Inventions That We Use Every Day": [https://www.nato.int/cps/fr/natohq/declassified\\_215371.htm?msg\\_pos=1](https://www.nato.int/cps/fr/natohq/declassified_215371.htm?msg_pos=1) (accessed June 20, 2024)
- 10 Fritzi Köhler-Geib, "Ein Investitionsschub für die Transformation – was ist konkret nötig?," KfW Research Position Paper, p.2, KfW (November 2022): <https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-Studien-und-Materialien/KfW-Research-Positionspapier-November-2022.pdf> (accessed March 25, 2024).
- 11 Ibid., p.2
- 12 Tim Bosch et al., "Emissions Mitigation as a National Security Investment," DGAP Policy Brief Nr. 22, German Council on Foreign Relations (July 2023): <https://dgap.org/en/research/publications/emissions-mitigation-national-security-investment> (accessed March 26, 2024).
- 13 Melissa Eddy, "Germany's Solar Panel Industry, Once a Leader, Is Getting Squeezed," *The New York Times* (March 25, 2024): <https://www.nytimes.com/2024/03/25/business/germany-solar-panels-china-protectionism.html> (accessed May 10, 2024).
- 14 Tim Rühlig and Björn Fägersten, "Decisive but Forgotten: Germany's Missing Technological Zeitenwende," DGAP Policy Brief Nr. 20, German Council on Foreign Relations (July 2022): <https://dgap.org/en/research/publications/decisive-forgotten-germanys-missing-technological-zeitenwende> (accessed March 24, 2024).
- 15 Ole Spillner and Guntram Wolff, "China 'De-Risking,'" DGAP Policy Brief Nr. 16, German Council on Foreign Relations (June 2023): <https://dgap.org/en/research/publications/china-de-risking> (accessed March 24, 2024).
- 16 Polish Economic Institute, "98% of EU demand for rare-earth elements is met by China" (September 2023): <https://pie.net.pl/en/98-of-eu-demand-for-rare-earth-elements-is-met-by-china/> (accessed May 18, 2024).
- 17 Eurare, "Rare Earth Elements Deposits in Europe": <https://www.eurare.org/countries/home.html> (accessed May 18, 2024).
- 18 Arizona University Superfund Research Center, "Copper Mining and Processing: Life Cycle of a Mine": <https://superfund.arizona.edu/resources/modules/copper-mining-and-processing/life-cycle-mine> (accessed July 8, 2024).
- 19 Francesco Findeisen and Yann Wernert, "Meeting the costs of resilience: The EU's Critical Raw Materials Strategy must go the extra kilometer," Policy Brief, Jacques Delors Centre (June 2023): <https://www.delorscentre.eu/en/publications/eu-critical-raw-materials> (accessed July 8, 2024).
- 20 International Monetary Fund, "Real GDP Growth": [https://www.imf.org/external/datamapper/NGDP\\_RPCH@WEO/EU/EURO/EUQ/DEU](https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/EU/EURO/EUQ/DEU) (accessed July 9, 2024).
- 21 German Council on Foreign Relations, „Neue Veranstaltungsreihe: Zeitenwende vor Deiner Haustür ... Wie Deutschland geostrategische Herausforderungen meistern kann," DGAP Info: <https://dgap.org/de/presse/news/neue-veranstaltungsreihe-zeitenwende-vor-deiner-haustuer-wie-deutschland> (accessed July 8, 2024).
- 22 d|part, "Zeitenwende – Perceptions and Desires Regarding German Foreign Policy": <https://www.dpart.org/en/projects/zeitenwende-perceptions-and-desires-regarding-german-foreign-policy-2> (accessed August 27, 2024).

their quality of life is deteriorating than see improvements in the situation.<sup>23</sup> Such perceptions of material decline, underpinned by the reality of economic stagnation and a bleak outlook for the future help spread political discontent and contribute to the rise of the anti-democratic far right which is threatening Germany's and Europe's core values.<sup>24</sup>

Each of these examples – defense, innovation, digital and green transition, critical dependencies, economic competitiveness, and future outlook – shows how underinvestment undermines security.

## CAPITAL MARKETS PROBLEMS I: FRAGMENTATION, RISK AVERSION, AND FAILURE TO SCALE INNOVATION

Underlying this underinvestment is the underdevelopment of German and European capital markets. This section shows how those inadequacies damage economic competitiveness and meaningful innovation and create technological dependencies.

### Failure to Scale Innovation

Germany, like Europe as a whole, has been very capable at laying the groundwork for innovation but often fails to reap the benefits. Building on research and development (R&D) spending amounting to 3.1 percent of GDP, compared to a 2.7 percent OECD average,<sup>25</sup> the German economy is quite good at initial innovation, ranking 8th among 50 high-income economies.<sup>26</sup> Crucially, however, it performs poorly when it comes to scaling up its inventions and innovations into viable businesses, mainly due to lack of financial support.<sup>27</sup> All too often, Germans, as other Europeans,

do the research while foreign big tech firms, including from Silicon Valley, scale it overseas, backed by risk-seeking investors on Wall Street who then reap the returns. Ursula von der Leyen, speaking in front of the European Parliament ahead of her re-election as Commission President in July 2024, recognized that an annual “300 billion euro of European families’ savings go from Europe to foreign markets, because our capital market is too fragmented. And then this money is often used to buy innovative European companies from abroad.”<sup>28</sup>

In its European Innovation Scoreboard 2023, the European Commission identified Germany's insufficient levels of financial support along with poor digitalization as the main obstacle to meaningful innovation at scale.<sup>29</sup> While the public sector drives Germany's large R&D spending, business R&D and venture capital (VC) funding are dangerously insufficient. This is a key reason why German start-ups too rarely develop into mid-cap companies<sup>30</sup> – which are economically critical, as mid-sized companies include many of Germany's hidden champions.<sup>31</sup> German politicians, however, tend to focus either on firms with a very large market capitalization (those listed on major stock markets such as the DAX) or on the (early-stage) start-up ecosystem and so tend to neglect the mid-cap market. This also applies to the EU as a whole. For instance, EU venture capital funding averaged 0.2 percent of GDP over the past decade, compared to 0.7 percent in the United States.<sup>32</sup> This lack of scale-up funding also makes it harder for young EU firms to retain top talents, as US firms can offer more competitive professional and growth opportunities.

23 Eurobarometer, *Standard Eurobarometer 101 - Spring 2024* (May 2024): <https://europa.eu/eurobarometer/surveys/detail/3216> (accessed July 10, 2024).

24 Belén Fernández-García and Óscar G. Luengo, “Electoral scenarios of success for anti-establishment political parties in Western Europe: a fuzzy-set Qualitative Comparative Analysis,” *Journal of Contemporary European Studies*, No. 27 Issue 1 (2019), pp. 77-95: <https://doi.org/10.1080/14782804.2019.1567478> (accessed June 15, 2024).

25 OECD, “Gross Domestic Spending on R&D”: <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm> (accessed March 20, 2024).

26 World Intellectual Property Organization, “Global Innovation Index 2023 – Ranking: Germany”: <https://www.wipo.int/gii-ranking/en/germany> (accessed June 10, 2024).

27 OECD, *OECD Reviews of Innovation Policy: Germany 2022* (October 2022): [https://www.oecd-ilibrary.org/science-and-technology/oecd-reviews-of-innovation-policy-germany-2022\\_50b32331-en](https://www.oecd-ilibrary.org/science-and-technology/oecd-reviews-of-innovation-policy-germany-2022_50b32331-en) (accessed March 24, 2024).

28 European Commission, “Statement at the European Parliament Plenary by President Ursula von der Leyen, candidate for a second mandate 2024-2029” (July 18, 2024): [https://neighbourhood-enlargement.ec.europa.eu/news/statement-european-parliament-plenary-president-ursula-von-der-leyen-candidate-second-mandate-2024-2024-07-18\\_en](https://neighbourhood-enlargement.ec.europa.eu/news/statement-european-parliament-plenary-president-ursula-von-der-leyen-candidate-second-mandate-2024-2024-07-18_en) (accessed July 29, 2024).

29 Hugo Hollanders et al., “European Innovation Scoreboard 2023 – Country Profile Germany,” European Commission (June 2023): [https://ec.europa.eu/assets/rtd/eis/2023/ec\\_rtd\\_eis-country-profile-de.pdf](https://ec.europa.eu/assets/rtd/eis/2023/ec_rtd_eis-country-profile-de.pdf) (accessed June 10, 2024).

30 Klaus-Heiner Röhl, “Mid Caps – Bedeutung des größeren Mittelstands für die deutsche Wirtschaft,” BDI (January 10, 2018): <https://bdi.eu/artikel/news/mid-caps-bedeutung-des-groesseren-mittelstands-fuer-die-deutsche-wirtschaft> (accessed July 11, 2024).

31 Berit Schmiedendorf, “Hidden Champions: Die Starken aus der zweiten Reihe,” IWD Cologne (September 27, 2022): <https://www.iwd.de/artikel/hidden-champions-die-starken-aus-der-zweiten-reihe-424550/> (accessed July 11, 2024).

32 Nathaniel G Arnold et al., “Stepping Up Venture Capital to Finance Innovation in Europe,” IMF Working Paper No. 2024/146, International Monetary Fund (July 12, 2024): <https://www.imf.org/en/Publications/WP/Issues/2024/07/10/Stepping-Up-Venture-Capital-to-Finance-Innovation-in-Europe-551411> (accessed July 15, 2024).

### Risk Aversion

A related shortcoming has to do with mentality. The success of innovation in the United States is based on a stronger culture of entrepreneurship and risk taking.<sup>33</sup> Only one out of six Germans holds stocks,<sup>34</sup> whereas three out of five Americans do.<sup>35</sup> While private households in Germany hold 42.8 percent of financial assets in cash or bank deposits and only 11.9 percent in equity (stocks and shares in a company), US households keep only 13.4 percent in cash or bank deposits but 39.2 percent in equity, largely due to a different pension system structure.<sup>36</sup> German pension funds have become increasingly risk-averse since the financial crisis of 2008-09, trusting mainly in ultra-safe havens such as government bonds. They rank fifth lowest among the 38 OECD member states in terms of how much they allocate to (more risky) equities as opposed to bonds.<sup>37</sup> Germany has a highly regulated, split, and decentralized system of pension funds and is home to 34 different pension funds<sup>38</sup> and 126 pension schemes<sup>39</sup> that manage nearly EUR 4 trillion<sup>40</sup> and EUR 200 billion respectively.<sup>41</sup> Lots of capital would be available to fund innovative start-ups and mid-caps, helping to master the security, digital, and green transformation, if attitude and risk preferences were different.

At the European level, the picture is similar. Private household savings in the EU amount to as much as

EUR 33 trillion,<sup>42</sup> but they are mostly held in safe assets rather than in equities. Apart from this culture of aversion to loss and risk and lower equity returns than in the US (7.2 percent vs. 9.6 percent over past three decades),<sup>43</sup> it is also internal fragmentation that prevents European households from investing in equity, and in turn, innovative mid-caps and other EU firms from accessing more of this vast capital reservoir.

### Incomplete EU Capital Markets Union (CMU)

Ultimately, Europe's biggest shortcoming, which also affects Germany, are its fragmented financial markets with legislation varying across the 27 EU member states. First envisioned in 2015, the EU Capital Markets Union (CMU)<sup>44</sup> remains disappointingly incomplete<sup>45</sup> as regulatory harmonization has barely accelerated compared to pre-2015 levels.<sup>46</sup> Completing the CMU would require a bundle of technically complex measures,<sup>47</sup> which would considerably impact national legislation. Vested interests also play a role, as the benefits of harmonization, while larger overall, are more widely diffused than the costs.<sup>48</sup> Both reasons make serious CMU progress politically unattractive.

The lack of equity investment due to the risk-aversion of households and financial institutions as well as the fragmentation of capital markets in the EU prevents the scaling of innovation. As the far-right gains

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- 33 Roman Frydman et al., "2: Entrepreneurship in Europe and the United States: Security, Finance, and Accountability" in *Perspectives on the Performance of the Continental Economies* (Cambridge, MA, 2011), pp.27-64.
- 34 Deutsches Aktieninstitut, "Shareholder Numbers 2023 - Once again over 12 million" (January 11, 2024): <https://www.dai.de/en/detail/shareholder-numbers-2023-once-again-over-12-million/> (accessed July 30, 2024).
- 35 Statista, "Share of adults investing money in the stock market in the United States from 1999 to 2023" (February 13, 2024): <https://www.statista.com/statistics/270034/percentage-of-us-adults-to-have-money-invested-in-the-stock-market/> (accessed July 30, 2024).
- 36 German Council of Economic Experts, "Taking Advantage of Capital Markets in Germany and the EU," Annual Report 2023/24, Chapter 3 (November 2023): [https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/gutachten/jg202324/JG202324\\_Chapter\\_3.pdf](https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/gutachten/jg202324/JG202324_Chapter_3.pdf) (accessed July 15, 2024).
- 37 OECD, *Pensions at a Glance 2023* (December 13, 2023): [https://www.oecd.org/en/publications/pensions-at-a-glance-2023\\_678055dd-en.html](https://www.oecd.org/en/publications/pensions-at-a-glance-2023_678055dd-en.html) (accessed April 7, 2024).
- 38 Bafin, "Versicherer & Pensionsfonds" (September 27, 2023): [https://www.bafin.de/DE/Aufsicht/VersichererPensionsfonds/versichererpensionsfonds\\_node.html](https://www.bafin.de/DE/Aufsicht/VersichererPensionsfonds/versichererpensionsfonds_node.html) (accessed April 10, 2024).
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- 40 Arbeitsgemeinschaft für betriebliche Altersversorgung, "D. c) BaFin: Pensionsfonds – Entwicklung der Kapitalanlagen für Rechnung und Risiko der Pensionsfonds im Jahr 2022" (January 5, 2024): <https://www.aba-online.de/pensionsfonds-entwicklung-kapitalanlagen> (accessed August 10, 2024).
- 41 Arbeitsgemeinschaft für betriebliche Altersversorgung, "B. a) BaFin: Pensionskassen – Zusammenfassung der Bilanzen 2022, Aktiva" (December 22, 2024): <https://www.aba-online.de/pensionskassen-bilanzen-aktiva> (accessed August 10, 2024).
- 42 Enrico Letta, "Much More Than a Market," European Council (April 2024): <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf> (accessed July 11, 2024).
- 43 Hung Tran, "The Enrico Letta Report and the state of the EU's Capital Market Union," Atlantic Council (May 7, 2024): <https://www.atlanticcouncil.org/blogs/econographics/the-enrico-letta-report-and-the-state-of-the-eus-capital-market-union/> (accessed July 11, 2024).
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- 46 Nicolas Véron, "Europe's capital markets union: Make it or break it," Peterson Institute for International Economics (March 22, 2024): <https://www.piie.com/blogs/realtime-economics/2024/europes-capital-markets-union-make-it-or-break-it> (accessed July 1, 2024).
- 47 Central Bank of the Federal Republic of Germany, "Zukunft des EU-Binnenmarktes – Podiumsdiskussion mit Joachim Nagel und Enrico Letta" (May 8, 2024): <https://www.bundesbank.de/de/aufgaben/themen/zukunft-des-eu-binnenmarktes-podiumsdiskussion-mit-joachim-nagel-und-enrico-letta-932032> (accessed July 7, 2024).
- 48 John Berrigan, "Capital Markets Union," European Commission (April 10, 2024): [https://finance.ec.europa.eu/news/capital-markets-union-2024-04-10\\_en](https://finance.ec.europa.eu/news/capital-markets-union-2024-04-10_en) (accessed July 6, 2024).

power in Europe, reforms become harder to implement.<sup>49</sup> This limits German and European economic and military competitiveness, deepens dependencies, and fosters relative decline, creating significant security risks.

## CAPITAL MARKET PROBLEMS II: LINGERING DEFENSE INVESTMENT HURDLES

In addition to the general security challenges created by inadequate capital markets, there are specific problems in relation to the defense industry which hinder Germany's and Europe's much needed defense-industrial renaissance.

### Financing Access for Defense Industry

The increased German defense budget, however inadequate, has mainly gone to larger firms. Germany's three biggest arms producers (with at least a quarter of revenue from weapons)<sup>50</sup> have been major beneficiaries: Since Russia's full-scale invasion of Ukraine, Rheinmetall's share price increased more than five-fold;<sup>51</sup> Hensoldt's share price trebled,<sup>52</sup> and privately owned Diehl more than doubled its liquidity within a year due to first instalments from new orders by the end of 2022.<sup>53</sup> For the bigger firms, access to capital and market performance have not been major issues. For example, Rheinmetall was able to prefinance material worth EUR 1.6 billion without a single order last year.<sup>54</sup> An assessment by the Ministry of Economy also asserts that financing issues have only 'occasionally' delayed industrial expansion in the sector.<sup>55</sup> Instead,

production growth has mainly stalled because of slow and limited government orders.<sup>56</sup>

Yet this relatively rosy picture at the top obscures a significant problem for more than 300 SMEs operating in the sector which struggle with securing funds. For instance, Germany's innovative weapon parts supplier Renk, a mid-sized company, failed to secure sufficient IPO financing last year despite its high profit margins and talks with over 600 private investors.<sup>57</sup> The main reason ascribed to this was that weapons are typically not deemed to conform to ESG criteria (environmental, social, and governance standards).<sup>58</sup> According to an EU study, additional obstacles include the fact that development cycles are capital-intensive, much of a company's information is considered sensitive, and investors mostly have a limited understanding of the defense sector. Therefore, two thirds of EU defense SMEs in 2021-22 refrained from seeking equity financing. Nearly half of them also chose not to apply for bank loans as compared to only 6.6 percent among non-defense SMEs.<sup>59</sup>

### Defense and ESG

While an increasing number of financial institutions, including Swedish Bank SEB,<sup>60</sup> are toning down their immediate objections to defense activities, an overall aversion persists. Since Russia's full-scale invasion, both German and EU policy direction on the role of private financing for defense has remained largely untouched. While the EU Commission abandoned the idea of labelling the industry as socially harmful in its sustainable finance framework in 2022,<sup>61</sup> it did nothing to help it: Merely pointing to common procurement

49 Charles Grant et al., „What Will the EU Elections Results Mean for Europe?“, Centre for European Reform (June 11, 2024): <https://www.cer.eu/insights/what-will-eu-election-results-mean-europe> (accessed August 8, 2024).

50 SIPRI, „The SIPRI Top 100 arms-producing and military services companies in the world, 2022“: <https://www.sipri.org/visualizations/2023/sipri-top-100-arms-producing-and-military-services-companies-world-2022> (accessed April 11, 2024).

51 [Boerse.de](https://www.boerse.de), „Rheinmetall Aktie“ (Data from July 31, 2024): <https://www.boerse.de/chart-tool/Rheinmetall-Aktie/DE0007030009> (accessed on July 31, 2024).

52 [Boerse.de](https://www.boerse.de), „Hensoldt Aktie“ (Data from July 31, 2024): <https://www.boerse.de/chart-tool/Hensoldt-Aktie/DE000HAG0005> (accessed on July 31, 2024).

53 Diehl Holding, „Geschäftsbericht 2022 (July 3, 2023): <https://www.diehl.com/group/de/presse-medien/news/kurzbericht-zum-geschaeftsverlauf-2022-und-erwartungen-2023/> (accessed July 1, 2024).

54 Markus Fasse and Roman Tyborski, „Renk-Chefin rechnet mit Finanzbranche ab,“ *Handelsblatt* (January 30, 2024): <https://www.handelsblatt.com/unternehmen/industrie/handelsblatt-sicherheitskonferenz-renk-chefin-rechnet-mit-finanzbranche-ab/100011275.html> (accessed April 10, 2024).

55 German Ministry of Economy and Climate Action, „Jahreswirtschaftsbericht 2024 der Bundesregierung,“ Nr. 20/10415, p. 44 (February 21, 2024): <https://dserver.bundestag.de/btd/20/104/2010415.pdf> (accessed July 6, 2024).

56 Loveday Morris et al., „Germany pledged a military revamp when Ukraine war began. Now it's worse off.“ *The Washington Post* (February 16, 2023): <https://www.washingtonpost.com/world/2023/02/16/germany-military-bundeswehr-boris-pistorius/> (accessed July 7, 2024).

57 Markus Fasse and Roman Tyborski, „Renk-Chefin rechnet mit Finanzbranche ab,“ *Handelsblatt* (January 30, 2024): <https://www.handelsblatt.com/unternehmen/industrie/handelsblatt-sicherheitskonferenz-renk-chefin-rechnet-mit-finanzbranche-ab/100011275.html> (accessed April 10, 2024).

58 European Commission, „ESG rating activities“: [https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/esg-rating-activities\\_en](https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/esg-rating-activities_en) (accessed August 1, 2024).

59 European Commission, „Access to equity financing for European defence SMEs (January 11, 2024): <https://op.europa.eu/s/zQnp> (accessed July 6, 2024).

60 Ed Ballard, „Sweden's SEB Changes Course on Defense Stocks as War Tests ESG Rules,“ *The Wall Street Journal* (March 2, 2022): <https://www.wsj.com/articles/swedens-seb-changes-course-on-defense-stocks-as-war-tests-esg-rules-11646253384> (accessed July 17, 2024).

61 EU Platform on Sustainable Finance, *Final Report on Social Taxonomy*, EU Commission (February 2022): [https://finance.ec.europa.eu/document/download/494fa7fe-5dea-4c57-bda5-59c1e3a0db49\\_en](https://finance.ec.europa.eu/document/download/494fa7fe-5dea-4c57-bda5-59c1e3a0db49_en) (accessed April 4, 2024).

initiatives<sup>62</sup> and insisting that EU rules do not impede private investments in defense<sup>63</sup> does not level the playing field for defense firms to better attract private capital. In Germany, most financial institutions base their ethical investment principles on ESG frameworks such as those defined by the Federal Association of Investment and Asset Management (BVI)<sup>64</sup> and the UN Principles for Responsible Investment,<sup>65</sup> which still exclude investments in the defense industries. These regulatory obstacles are worsened by the fact that risk-averse managers often fear the prospect of dealing with a persistent minority of pacifist, activist shareholders and refrain from defense investments to avoid reputational risks.

So far, Germany's and the EU's capital markets have not yet adapted to the need to reprioritize security in a worsening geopolitical and geoeconomic environment. If policymakers fail to level the playing field for defense sector SMEs, Germany and the EU are missing a key enabler for establishing the competitive edge needed to succeed in an era of geopolitical rivalry.

## REMEDIES: CAPITAL MARKETS INTEGRATION, PENSION SYSTEM REFORM, AND DEFENSE SME INCLUSIVITY

### Prioritizing the Capital Markets Union

EU policymakers and national leaders should first and foremost focus on advancing the EU Capital Markets Union, which would come with benefits for the whole economy, as it would aid growth<sup>66</sup> as well as alleviate the specific problems outlined here. National leaders in the European Union are often rhetorically

enthusiastic but risk-averse in practice. They need to finally walk the talk. For example, German Finance Minister Lindner describes the CMU as a “key item”<sup>67</sup> and supports some reform but shies away from measures that could impose costs on German insurance companies.<sup>68</sup> Yet a more ambitious approach that would include the establishment of a joint EU supervisory authority could speed up the dismantling of hidden barriers to market integration<sup>69</sup> and bring back some of the EUR 300 billion of European household savings diverted abroad.

### Boosting R&D and VC Funding to Foster Tech Champions

European Commission President Ursula von der Leyen has made competitiveness her top priority for her second mandate. This includes proposing a European Competitiveness Fund “to develop strategic tech, [...] from AI to clean tech” and establishing a European Savings and Investment Union to create “deep and liquid capital markets.”<sup>70</sup> For this policy to succeed, it is not only start-ups that are must be able to access funds, but scale-ups. Especially in the German context, policymakers should refocus on the mid-cap market by creating conditions for mobilizing higher amounts of private capital to help innovative firms grow from small to mid-cap enterprises. Beyond advancing the CMU in other areas, they should improve state support for business R&D and VC funding. For instance, they could, like in most other highly developed countries,<sup>71</sup> offer businesses tax relief for R&D expenditures. They could also enact more bottom-up and decentralized approaches to government R&D which would boost innovation and VC funding.<sup>72</sup> In addition, German policy-makers should initiate the roll-out of ideas to widen and replicate joint

- 62 European Parliament, “Answer given by Ms McGuinness on behalf of the European Commission” (September 8, 2024): [https://www.europarl.europa.eu/doceo/document/E-9-2023-001935-ASW\\_EN.html](https://www.europarl.europa.eu/doceo/document/E-9-2023-001935-ASW_EN.html) (accessed April 4, 2024).
- 63 EUR-LEX, “A new European Defence Industrial Strategy: Achieving EU readiness through a responsive and resilient European Defence Industry” (March 5, 2024): <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=JOIN%3A2024%3A10%3AFIN> (accessed July 7, 2024).
- 64 Federal Association of Investment and Asset Management, *Wohlverhaltensregeln des BVI* (July 1, 2019): [https://www.bvi.de/fileadmin/user\\_upload/Regulierung/2019\\_07\\_BVI\\_Wohlverhaltensregeln.pdf](https://www.bvi.de/fileadmin/user_upload/Regulierung/2019_07_BVI_Wohlverhaltensregeln.pdf) (accessed April 12, 2024).
- 65 Principles for Responsible Investment, “What are the Principles for Responsible Investment?”: <https://www.unpri.org/about-us/what-are-the-principles-for-responsible-investment> (accessed April 12, 2024).
- 66 Ana Fiorella Carvajal and Ricardo Beczcuk, *Capital Markets Development*, World Bank Group (December 2019): <https://documents1.worldbank.org/curated/en/701021588343376548/pdf/Capital-Markets-Development-Causes-Effects-and-Sequencing.pdf> (accessed April 14, 2024).
- 67 Federal Ministry of Finance, “Erklärung der Eurogruppe zur Zukunft der Kapitalmarktunion,” (March 12, 2024): <https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Europa/Eurogruppe-und-ECOFIN/erklarung-eurogruppe-zukunft-kapitalmarktunion.html> (accessed July 5, 2024).
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- 69 Nicolas Véron, “Europe’s capital markets union: Make it or break it,” Peterson Institute for International Economics (March 22, 2024): <https://www.piie.com/blogs/realtime-economics/2024/europes-capital-markets-union-make-it-or-break-it> (accessed July 1, 2024).
- 70 European Commission, “Statement at the European Parliament Plenary by President Ursula von der Leyen, candidate for a second mandate 2024-2029” (July 18, 2024): [https://neighbourhood-enlargement.ec.europa.eu/news/statement-european-parliament-plenary-president-ursula-von-der-leyen-candidate-second-mandate-2024-2024-07-18\\_en](https://neighbourhood-enlargement.ec.europa.eu/news/statement-european-parliament-plenary-president-ursula-von-der-leyen-candidate-second-mandate-2024-2024-07-18_en) (accessed July 29, 2024).
- 71 OECD, “R&D tax incentives”: <https://www.oecd.org/en/topics/sub-issues/rd-tax-incentives.html> (accessed July 5, 2024).
- 72 Jun Wong et al., “Opening up military innovation: The causal effects of ‘bottom up’ reforms to US defence research,” VOX EU Column, CEPR (May 8, 2021): <https://cepr.org/voxeu/columns/opening-military-innovation-causal-effects-bottom-reforms-us-defence-research> (accessed July 12, 2024).

EU public-private funding structures similar to the European Tech Champions Initiative boosting especially late-stage VC funding across sectors and member states.<sup>73</sup> Ultimately, German policy-makers need to also undertake structural reforms, such as increasing public investments, cutting red tape, and accelerating the digitalization of government services, as the International Monetary Fund recommends.<sup>74</sup>

### Professionalizing Germany's Split Pension System

Moreover, German policymakers should professionalize, partly deregulate, and consolidate the country's system of over 150 pension funds and schemes, which would enable significant capital mobilization for innovation via equity allocations. At the same time, the EU Commission should pick up the Eurogroup's suggestions to tackle regulatory obstacles for cross-border investments by pension funds in the EU equity market, in particular regarding VC scale-up funding.<sup>75</sup> German pension reform proposals<sup>76</sup> along with political compromises culminated in the passing of the Generational Capital Law last year<sup>77</sup> that allows the German state fund KENFO to invest up to EUR 12 billion per year in the stock market (equities).<sup>78</sup> This is a step in the right direction, but the government should review, improve, and considerably scale these investments over time, along with finalizing plans for tax incentives for stock investments in the private pension system.<sup>79</sup> Doing so will require political boldness because policymakers will need to go against narrow voter preferences and vested interests. Yet it would help citizens become proper shareholders of the transitions and thus increase societal buy-in

if the proposed measures are put in the context of strategic security.

### Foster Private Defense Investment by Updating Norms and Leveraging the European Investment Bank

German and EU policymakers and standard setting institutions should work toward greater differentiation of investment norms to allow for better financing conditions and increase the competitiveness especially of smaller defense firms. Many European investors now indicate demand for such a measure.<sup>80</sup> Accordingly, the BVI and other national associations are currently revising their guidelines toward the minimum standards for climate benchmarks set by the European Securities and Markets Commission (ESMA), which do not exclude defense companies as long as they do not produce weapons banned under international law.<sup>81</sup> By engaging with defense firms, financial actors, and experts, the EU should, in addition, find ways to accelerate private defense investments. Rather than disincentivizing firms' access to private capital, the primary means of ensuring that weapons do not end up working against Germany's and Europe's interests should be to design export controls more strategically,<sup>82</sup> for instance to ensure that the defense or other industries do not supply Russia's war machine.<sup>83</sup>

The European Investment Bank (EIB) could also send a normative signal to this effect by investing in the defense sector as well as its usual field of green technology – a measure that German Finance Minister Lindner has expressed openness to. So far, EU

- 73 Consilium Europa, "Statement of the Eurogroup in inclusive format on the future of Capital Markets Union" (March 11, 2024): <https://www.consilium.europa.eu/en/press/press-releases/2024/03/11/statement-of-the-eurogroup-in-inclusive-format-on-the-future-of-capital-markets-union/> (accessed July 13, 2024).
- 74 Kevin Fletcher et al., "Germany's Real Challenges are Aging, Underinvestment, and Too Much Red Tape," IMF News, International Monetary Fund (March 27, 2024): <https://www.imf.org/en/News/Articles/2024/03/27/germanys-real-challenges-are-aging-underinvestment-and-too-much-red-tape> (accessed April 6, 2024).
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- 76 Clemens Fuest et al., "Staatsfonds für eine effiziente Altersvorsorge: Welche innovativen Lösungen sind möglich?," ifo Schnelldienst, 2019, 72, Nr. 14, 03-24 (2019): <https://www.ifo.de/publikationen/2019/aufsatz-zeitschrift/staatsfonds-fuer-eine-effiziente-altersvorsorge> (accessed May 18, 2024).
- 77 Federal Ministry of Finance, "Das Generationenkapital": [https://www.bundesfinanzministerium.de/Web/DE/Themen/Internationales\\_Finanzmarkt/Altersvorsorge/Generationenkapital/generationenkapital.html](https://www.bundesfinanzministerium.de/Web/DE/Themen/Internationales_Finanzmarkt/Altersvorsorge/Generationenkapital/generationenkapital.html) (accessed July 17, 2024).
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- 79 Hermann-Josef Tenhagen, "Die Alternative zur Riester-Rente," *Der Spiegel* (August 3, 2024): <https://www.spiegel.de/wirtschaft/service/altersvorsorge-depot-die-alternative-zur-riester-rente-a-24c497b8-62d4-4eea-90fa-48bcef0fd359> (accessed August 11, 2024).
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- 81 EUR-LEX, "Commission Delegated Regulation (EU) 2020/1818" (July 17, 2022): [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L\\_.2020.406.01.0017.01.ENG&toc=OJ%3AL%3A2020%3A406%3ATOOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2020.406.01.0017.01.ENG&toc=OJ%3AL%3A2020%3A406%3ATOOC) (accessed July 22, 2024).
- 82 Filip Medunić, "Deutschland muss Exportkontrollen strategischer gestalten," DGAP Memo 15, German Council on Foreign Relations (July 2024): <https://doi.org/10.60823/DGAP-24-40955-de> (accessed July 19, 2024).
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ministers have been reluctant to change the EIB's mandate accordingly, concerned about lower ESG ratings and worse financing conditions.<sup>84</sup> To help address these concerns and build societal acceptance, the EIB could incentivize green defense procurement, favoring goods with a reduced environmental impact, whilst still prioritizing military effectiveness. The European Defense Agency already fosters such practices.<sup>85</sup> While EU ministers have merely loosened restrictions on EIB investments in dual use items,<sup>86</sup> it is crucial that they go a step further and enable the EIB to invest in the defense sector. That would reorient the EIB in accordance with changed EU geopolitical priorities including security (top 3) and set an example for national governments to reshape their own policies in this strategic light.

Ukraine's fight for freedom has shown the decisive importance of innovation.<sup>87</sup> Therefore, the EIB should also significantly extend the scope and breadth of targeted programs such as the EU's Defense Equity Facility which supports private equity and VC funds investing in defense dual use technology by mobilizing EUR 500 million over four years for this purpose.<sup>88</sup> More will, of course, be needed and should ideally be contributed through EU-wide public-private funding schemes. Policymakers should build on the recent cooperation agreement between the investment funds of NATO and the EU that aims at mobilizing private capital for the benefit of defense sector SMEs and mid-caps.<sup>89</sup>

From a broad, strategic view, it is clear that capital markets have an enormous impact on national security and competitiveness. German and European policymakers should keep this in mind and assess the opportunity costs, should they fail to undertake ultimately rewarding if politically tricky reforms. While the mobilization of Europe's vast private capital cannot replace public investment,<sup>90</sup> the growth effects

engendered – the cheapest stimulus package the EU can get – will lead to increased governments revenues. Capital markets reform would allow Germany and Europe to develop innovative and sustainable technologies, resilient societies, and competitive economies and militaries. All of that will help Germany and Europe prevail in the intensifying geopolitical competition.

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87 Seth C. Jones et al., "Ukrainian Innovation in a War of Attrition," CSIS (February 27, 2023): <https://www.csis.org/analysis/ukrainian-innovation-war-attrition> (accessed August 2, 2024).

88 European Commission, "The European Commission and the European Investment Fund join forces to boost investment in defence innovation through the Defence Equity Facility" (January 12, 2024): [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_24\\_145](https://ec.europa.eu/commission/presscorner/detail/en/ip_24_145) (accessed April 12, 2024).

89 European Investment Bank, "EIF and NATO Innovation Fund join forces to unlock private capital for Europe's defence and security future" (July 2, 2024): <https://www.eib.org/en/press/all/2024-241-eif-and-nato-innovation-fund-join-forces-to-unlock-private-capital-for-europe-s-defence-and-security-future> (accessed August 2, 2024).

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