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# Bonsai Global Players: The Impact of Geopolitics on Germany's Mittelstand

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## Introduction

Since the reconstruction of Europe after World War II and the implementation of the Marshall Plan, Germany's greatest strength on the international stage has been its economic prowess. Germany has positioned itself perfectly to leverage its economic power in international affairs, both globally and within the European Union. The country's influence and leadership have a substantial impact on EU policies, and help shape how other member states push policy goals within the system—French president Emmanuel Macron's ambitions to reform the Eurozone, for example, hinge completely on collaboration with Germany.<sup>1</sup>

Germany's reluctance to engage in global conflicts militarily also makes trade an appealing geopolitical tool. In the coalition agreement Chancellor Angela Merkel's Christian Democratic Union (CDU) struck with the Social Democrats (SPD), the government laid out foreign policy goals that emphasize multilateralism and establishing the country's international presence through the EU, an organization whose strongest policy tools are trade and economic policy. As long as defense spending and traditional hard power remain third rail topics politically—only 15 percent of Germans believe that their country should reach the 2 percent NATO spending goal by 2024—German leaders will likely continue to build up the country's global power primarily by strengthening its economic competitiveness and taking steps to spur innovation.<sup>2</sup>

Germany's economic success comes not only from long-established large companies like the well-known international car manufacturers, but also from what is referred to as the "Mittelstand," the collective term for the small and medium-sized enterprises that often fill specialized niches in advanced manufacturing processes. As of 2017, 30.9 million people were employed by businesses in the Mittelstand, an increase over the previous year and a continuation of an enormous growth spurt that began in 2016.<sup>3</sup>

This foundation of Germany's economic strength, however, is currently grappling with three significant threats: the country's lackluster progress on digitalization, Chinese foreign direct investment, and abundant vulnerabilities to cyberattacks. These threats not only endanger the country's economic fortunes, but also the foundation of its security and foreign policy. The economy is not just about the economy.

## The Mittelstand, Darling of the German Economy

Companies in the Mittelstand are often unassuming. They are spread across the country, in small villages and large cities, employing anywhere from two to 500 people. Their business model is based on fulfilling the niche needs of other firms; they embed themselves in supply chains and make products better than what their customers could get elsewhere.

In conversations had as part of the research for this report, Germans in government, business, and civil society expressed a common view of Germany's core strength: "We are best at perfecting." The German approach to problem solving is long and slow, but produces a precise and thoughtful solution. German companies often produce only one highly specific product that they have developed for fifty years, in some cases even declining to expand their

businesses in order to maintain this laser-like focus. Take PWM, a manufacturer in North Rhine-Westphalia: The 200-year-old company produces nothing but the electronic price displays for gas stations, employing around 100 people. By specializing so deeply, companies are able to deeply embed themselves into supply chains and markets so that only the largest economic shocks can impact their business.<sup>4</sup>

Germany's Mittelstand companies are also deeply intertwined with another model uniquely prevalent in the country: family-owned businesses. These companies, passed down from generation to generation, are not only small and medium-sized enterprises; many of Germany's hard hitters are family-owned as well. Aldi, one of the largest grocery chains in the world, is a family-owned business. Ninety-five percent of private-sector businesses in Germany are family-owned, and have often existed for decades, managed by multiple generations.<sup>5</sup> This is in contrast to the United States, where hefty inheritance taxes, intended to discourage hereditary wealth, often pressure family members to sell off firms that prior generations founded. In smaller businesses, liquid assets or cash are typically in short supply, which becomes problematic when the owner dies and the business is taxed based on its overall value.

This tradition of keeping businesses in the family is about to experience seismic change, however. In the next five years 840,000 Mittelstand business owners will reach retirement age, forcing firms to make a tough decision between finding a buyer or keeping the current owner working longer than intended until their children are qualified to take over.<sup>6</sup> Thanks to their decades of consistent growth and the market share they've amassed, Mittelstand companies are often extremely attractive investments for outsiders, a factor that is also important when discussing foreign investment, particularly from China.

While succession planning and long-term business strategy remain fundamental challenges, this report aims to provide a geopolitical context for the macro-economic challenges that impact these firms. The topics discussed here—digitalization and technological adaptation, Chinese foreign direct investment, and cybersecurity—are some of the most significant international economic forces at play today, and their impact on the domestic economy in turn influences, and is influenced by, foreign and security policy.

## I. Digitalization and Internet Regulation

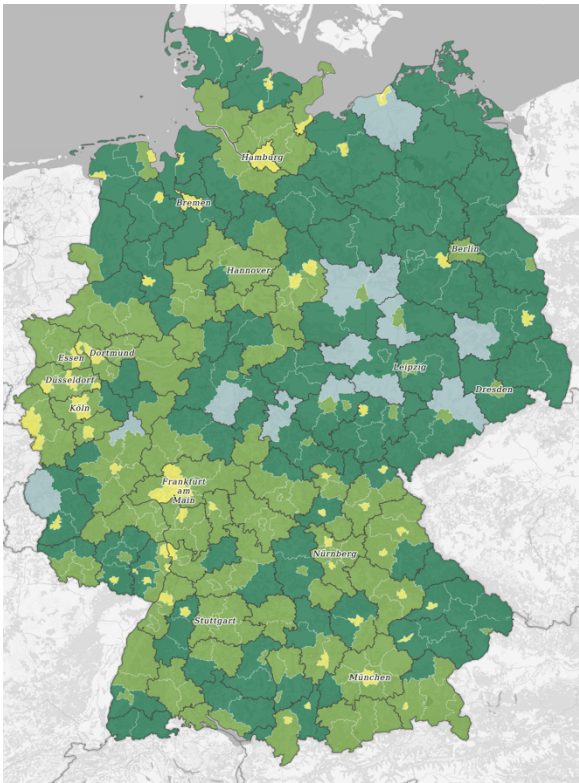
The advent of the internet has changed how companies operate and the regulations they are subject to, both domestically and internationally. Within Germany, internet connectivity and penetration have a huge impact on Mittelstand businesses, and strong privacy laws make providers responsible for actions taken on their networks, containing criminal activity but also stifling access. Meanwhile, a decidedly un-German lack of policy clarity on what "digitalization" actually entails makes progress in the area a slog.

Mittelstand companies are located primarily in rural or suburban areas, where internet speeds are abysmal. For large swathes of the country, particularly in the former East, broadband speeds over 50 MB are only available to 50-75 percent of residents; for comparison, fiber optic connections—the fastest currently available—can be as fast as twenty times that. When

Germans can't load websites built in other countries (where developers assume high-speed connections are the norm), they miss out on opportunities.

Estonia, one of Europe's digital success stories, aims to have 98 percent of companies and households within 1.5 kilometers of a fiber optic internet connection point by 2020.<sup>7</sup> This universal access will allow businesses, communities, and the public sector to grow and develop, and in time fully harness the benefits of internet-based business tools. Germany, on the other hand, will face a chicken-or-the-egg dilemma: Companies and individuals won't adopt new internet practices and tools because their internet is too slow, so neither private companies nor public institutions will be able to show off the potential of the digital economy—rendering future improvements even less likely.

### Broadband in Germany



Broadband coverage in % of Households:

- Yellow >95
- Light Green > 75-95
- Dark Green >50-75
- Light Blue > 10-50
- Dark Blue 0-10

Source: [Federal Ministry of Transport and Digital Infrastructure](#), 9/2018

Interestingly, 88.9 percent of German companies have websites, one of the highest rates in the OECD (with an average of 77 percent). But while German businesses clearly understand the importance of the internet to their success, they struggle to integrate digital tools any further into their business practices<sup>8</sup>; serious and widespread concern about data gathering and the surveillance state present an obstacle to this kind of data utilization. State surveillance was a constant fear in East Germany, and the scars of this government intrusion into private life make Germans uniquely sensitive to privacy and personal data usage issues, particularly compared to the United States.

This issue came to the forefront after the Merkel cell phone tapping scandal in 2013, when a Wikileaks cable dump revealed that the NSA had been monitoring the chancellor’s communications on an unsecured cell phone. In response to the scandal, as well as broader privacy concerns, the European Union proposed (and, in 2018, completed the implementation of) the General Data Protection Regulation, or GDPR, a strict set of guidelines on how companies and websites are allowed to use people’s personal data and how individuals are to be informed when their data is captured. GDPR provides sweeping consumer protections that require extensive legal warnings and strict protocols regarding how data is processed, handled, and stored by companies.

For small businesses like those in the Mittelstand, GDPR is so strict, and can result in such severe penalties, that CEOs might think twice before attempting to use data to improve their products and services. Furthermore, in companies without large legal and compliance departments, GDPR is difficult, if not impossible, to fully implement and maintain. This problem will be particularly pronounced for German Mittelstand companies, which typically have significant international business and often transmit large amounts of data across national borders and in and out of the EU.

Finally, the vocabulary used to talk about internet innovation is too vague to pinpoint what the problem is—and defining a problem is a critical step in the German cultural process of crafting a solution. As recently as 2015, 56 percent of German workers polled couldn’t define digitalization or industry 4.0.<sup>9</sup> In the United States, digitalization simply refers to making physical records into computer files—not exactly the thrilling, life-altering economic transition that the word often indicates in the German context.<sup>10</sup>

If politicians can’t be specific about what digitalization means for the economy, and what specific policy steps they are taking to help make it happen, then German industry will maintain its status quo, adopt new business practices in a haphazard way that could make for more costly transitions down the line, and remain sluggish in its efforts to compete in the internet-focused economy of the future.

## II. Political Economy and China’s Investments

One can’t talk about global economics without mentioning China, and the future of Germany’s Mittelstand is no exception.

China has gone on a European spending spree since the early 2000s, going from almost zero European investment spending in 2000 to €30 billion in 2017.<sup>11</sup> Germany’s highly globalized economy is no stranger to FDI, and since 2016 a larger and larger percentage of FDI in the country has come from China. In 2018, the total FDI in Germany could be divided roughly into thirds, with a little more than a third coming from the United States (the EU’s largest trading partner), a little under a third coming from China, and the remainder from the rest of the world.

China’s “Made in China 2025” plan to become a world industrial leader has spurred massive increases in FDI as the country builds up its capacities. Often backed by the government, either directly or indirectly, Chinese firms are investing in companies of all sizes in a variety of

sectors, including the German Mittelstand businesses. While larger deals like the recent purchase of a portion of Daimler AG do occur, and investment often comes in waves for certain types of companies (such as those producing semiconductors, or, in 2018, satellite communication equipment), Chinese FDI has focused largely on Mittelstand companies. In one example, German pump manufacturer Putzmeister was purchased by its Chinese competitor in 2012. Controversy and protests surrounded the initial deal and operating in a foreign business culture has been difficult for both sides, but the takeover has seen success from a purely economic standpoint.<sup>12</sup>

The consequences of the increased Chinese presence in German markets may not be clear in the immediate future; as many national security experts have said in discussing security in the Pacific and the U.S.-Chinese relationship, in matters of national security China often plays a long game. This is likely to be just as much the case economically, and Western politicians would be wise to look at Chinese FDI patterns within the framework of China's larger geopolitical and security strategy.

Faced with a country operating on such a grand scale both politically and economically, it will be critical that there is no room for sunlight between Germany's economic and security position regarding China and the positions of its European partners. Comprising a third of the global economy, the European Union offers member states, including Germany, their only chance to play a counterweight to China in the global economy. One possible silver lining to Brexit might be a reduction in discrepancy among member states on this issue.

As recently as Spring 2017, 41 percent of Germans surveyed said they saw China as the world's top economic power, with only 21 percent identifying the United States as such.<sup>13</sup> This does not, however, accurately reflect Germany's own close economic ties with the United States: The U.S. asset base in Germany of \$794 billion is double the value of American assets in China. While affordable labor and growing consumer markets eager for Western goods present an economic opportunity for Europe and the United States in both India and China, the German economic relationship with China should be made to complement the existing transatlantic supply chains and trade and investment relationships that form the bedrock of the global economy. In a period of upheaval from the American side, Germany's trade policies should continue to act as promoters of Western economic values, including open markets and fair competition, and treat transatlantic cooperation as a key stabilizer in the more volatile global economic environment.

Germany's FDI regulations are narrow in scope in terms of which deals require government approval, and apply only to industries and sales touching on public order or security. Companies outside this scope can make deals freely, with the understanding that they can be audited later, and are also allowed to proactively seek the blessing of the German Ministry for Economy and Energy (BMWi) before signing any final paperwork. Germany tends to turn a blind eye to greater strategic questions when it comes to economic opportunity, as in the geopolitical debate playing out around the Nordstream 2 pipeline project.

Concern within the German government about the strategic value of Chinese investments is low, in part because the implementation of foreign investment can be so random: There is no pattern to how purchases are made or in what sectors, aside from a general alignment with



the broader goals of China 2025. However, the increase in Chinese FDI is still new, up a third in 2016 alone. Germany is enthusiastic about improving its economic relations with China and gaining better market access for German firms in a tightly controlled and difficult to access economy.

China's increased presence in the Mittelstand raises concerns about intellectual property theft and industrial espionage, however, as Chinese state-owned firms infiltrate German industries. Since German industry is often focused on quality over diversity of products, this could pose a greater threat than it would in other nations where firms may be more diversified in terms of production, and also more ready to innovate their way out of increased competition.

In 2019 the European Union enacted a European-wide framework that will allow member states to better monitor FDI with national security implications. Support among member states is generally high, although the UK is pushing for narrower legislation, with an eye toward Chinese investment as a critical piece of their post-Brexit economic plans. Although the EU can set a general direction for FDI regulation, the most sensitive national security concerns are left to member states to decide, and Germany generally has some of the most liberal FDI regulations within the EU.

### III. Cybersecurity

The increasing use of cyber weapons by both state and non-state actors is an existential threat to German economic success as a whole, including the Mittelstand. A cyberattack that took out an electrical grid could bring manufacturing to a halt or ruin a batch of temperature-sensitive chemicals, not to mention the possibility of an attack that takes down widely used business and accounting software programs. Even as companies struggle to integrate technology into their business, those who have are often unfamiliar with the risks associated with using software, and may not know how to gauge the security requirements of their business or industry. A hack that releases personal data collected by a company, for example, can result in costs that go on and on—including lawyers if users decide to sue, ransoms paid to hackers to keep data private, and database maintenance afterward. The time and money wasted on recovering from a cyberattack can distract a company from its primary business, and devalue the firm in the eyes of potential investors.

Companies are also at risk of landing in the crossfire of global cyber warfare and espionage. Russia and China should be highlighted as particularly concerning actors. Chinese hackers successfully stole blueprints for the U.S. F-35 fighter jet from a defense contractor, and were able to breach a law firm's database in the Hague while the Permanent Court of Arbitration was working on rulings concerning Chinese claims to the South China Sea.<sup>14</sup> Even if Germany continues to push for multilateral cooperation, policies that implicitly support Western values and the liberal order can be enough to incite cyber aggression.

This is just as true when it comes to Russia, particularly as Germany works to hold together European Union support for sanctions imposed after the illegal annexation of Crimea in 2014. The Russian approach to cyber warfare is not limited to governments or official targets, and in fact follows the country's approach to information warfare: They believe they are fighting a



broad battle of ideals, one best won by sowing discord and disrupting free and open societies.<sup>15</sup>

Small and medium-sized companies are sensitive to these threats because they do not have the stability or “defensive” capabilities that a larger firm can create around its digital infrastructure. Maintaining secure computer systems is an added expense for SMEs, and to be effective systems need to be updated and upgraded regularly. This is exacerbated in Germany by an e-policy climate that isn’t fully utilizing the latest developments in technology, leaving German companies behind their competitors in other countries.

Mittelstand companies have already seen the effect of international cyber attacks on their operations. In 2017, a telecommunications company called Netcom BW in Baden-Württemberg was hacked, but was luckily able to identify the breach before any serious damage was done. While attacks on critical infrastructures like telecommunications are particularly concerning, major damage is also possible in traditional industry: In 2014 a steel plant fell victim to a successful phishing scheme that manipulated the plant’s software to force furnaces to shut down unexpectedly, damaging the equipment.<sup>16</sup>

## Recommendations

The Mittelstand is not only Germany’s economic backbone, but also a critical piece of its power structure and security positioning on the global stage. And while Germany isn’t a planned economy, there are big opportunities for government action to boost the Mittelstand, thereby shoring up Germany’s ability to project power internationally.

## Encouraging Entrepreneurship and Empowering Equality

The perfectionism that has made Mittelstand companies successful, in some cases for centuries, can be a roadblock to the creation of new enterprises and the development of new ideas. Policymakers and business owners who want to see new enterprises can help make the culture around entrepreneurship more positive and do more to reward the risk-taking that comes with the development of something new.

Particularly in the technology industry, rewarding risk-taking means a major psychological shift away from perfecting products before they hit the market. This shift could be encouraged through Germany’s extraordinary system of *Bildung*, or education, which allows individuals to develop specific areas of focus from a young age.

Germany has a long history of research and scientific discovery, which could also be oriented toward finding new market opportunities. Germany’s spending on R&D is among the highest in the EU at 3.02 percent of GDP in 2019.<sup>17</sup> Re-orienting this huge R&D apparatus toward a more entrepreneurial mindset might help sustain Germany’s economic success.

Finally, it’s almost a given to mention this in a policy paper, but that’s because it’s proven to work: increasing gender equality and women’s participation makes businesses and economies stronger. This applies just as much to the Mittelstand. At present, just one-third of German companies are led by women, and that percentage drops significantly when narrowed to the tech industry. In 2014 the Federal Ministry of Economics began an initiative called “FRAUEN

Unternehmen,” or Women Doing Business, that holds events for female entrepreneurs and practical trainings on the nuts and bolts of running a business. Initiatives like this help increase the visibility of female entrepreneurs and the number of women in leadership roles.

## Forward into the Internet Age

One of the best moves Germany could make to improve opportunities for Mittelstand companies—and the population more broadly—would be to invest deeply at a federal level in extensive and reliable broadband internet infrastructure. The Estonian model shows that providing people and businesses with the best connection possible can provide a broad lift to the general economy. In a data-driven technology economy, the speed of access to data is a big factor in companies’ ability to compete with Silicon Valley. Federal investment in fast access would be a good first step toward equipping companies and individuals for the unknowability of the internet economy of tomorrow.

For companies still working with outdated processes, digitalization can seem overwhelming. The German Ministry for Economics and Environment (BMWi) has a promising initiative that involves the establishment of “Competency Centers” that provide resources and showrooms where SMEs can see how digitalization can improve their business. These centers could also provide building-block guides to help firms improve digitalization so that even small businesses with few resources to invest can take concrete steps to implement changes, such as moving billing to online platforms or implementing industry-specific e-standards.

On the data protection front, policymakers could push the EU to clarify GDPR regulations, and to make exceptions for small businesses unable to accommodate the burden of complete implementation. One study found that SMEs could be burdened with costs associated with compliance of up to €7,200 annually due to the complex legal requirements included in the directive.<sup>18</sup> Allowing exemptions from portions of the strict regulations contained in GDPR would remove a barrier to innovators and entrepreneurs hoping to start new companies that work with user data or new technological developments.

Due to the EU’s regulatory might and the huge swathe of the international market it is able to influence on this issue, GDPR has had a haphazard effect in the United States, sometimes even causing U.S. internet companies or websites to stop providing services in the EU altogether while they decide how to continue doing business in Europe. One of the most pronounced examples is the LA Times, a major newspaper from California that is no longer accessible in Europe due to GDPR restrictions.

However, the Mittelstand can be brought to water, but cannot be made to drink. Government and industry association offerings for SMEs abound, but in the end innovation and progress in the digital age must come from within the economy to be most effective, not from regulators. This is particularly difficult when it comes to the Mittelstand—such comparatively small companies are focused more on hyper-localized problems.

## Research and Development and the Broader Security Environment

All of these suggestions could also be applied to the politically explosive topic mentioned earlier: defense. German policymakers would be smart to examine the robust research and development relationship that exists between private firms and the defense community in the

United States, which contributes to the development of many dual-use technologies. Government-funded R&D innovations are a freebie for private businesses, which can leverage those developments to improve their own products. This could be especially significant for SMEs, which often don't have the capital or infrastructure to explore new ideas and expensive problems.

Dual-use technology investment can also be packaged so that it doesn't look (and in fact isn't) exclusively defense spending, ideally improving its palatability for voters. A strong R&D mechanism would help keep Germany secure, and framing dual-use technologies as part of broader spending increases to foster innovation could garner more political support.

### At the European Level

EU partners should also be an element of a new German economic strategy. Despite the controversy surrounding bailout packages for Greece, Spain, and other member states during the euro crisis, it is clear that stronger economies in Germany's fellow member states make for a stronger economic position for Germany itself. Reducing the substantive inequality within the Eurozone and EU more broadly will require more investment from richer countries within the single market to poorer ones, especially from Germany.<sup>19</sup> Continued integration will be a slog, as it always has been, but the benefits are long-lasting, and will contribute to a more stable EU in the long term.

One area where the EU can do more is in improving labor mobility. While people are technically allowed to work and move freely around the EU, anti-immigration sentiments remain strong, and there is little sense of a shared European identity that allows migrants from EU member states to integrate seamlessly into other parts of the Union. The difficulty in labor mobility is compounded by large disparities in wages across the Union, and some in poorer member states fear that they may never catch up to the prosperity Germany enjoys as an EU member.

### Coordinating Digital Developments Across the Government

One idea that has floated around Berlin policy circles recently is the creation of a digital ministry. In the current government, a single coordinator for digital policy in the chancellery, Dorothee Bär, works to connect the dots between ministries on digital topics. A role dedicated to monitoring Germany's digital developments could prevent duplication and steer government policy in as cohesive a direction as possible where there is overlap, particularly when it comes to dual-use technology and cybersecurity. In the future, this position may also entail cleaning up the "digital mess" left over from the transition to an internet-focused world. Although not glamorous work, creating digital standards and identifying where they are needed as early as possible could prevent huge costs down the line, much like the transition to standardized rail lines as train networks expanded across Europe.<sup>20</sup>

The best approach for policymakers is pushing for high global standards. This is one geostrategic argument for many of the European Union's trade deals, and (until recently) for the United States as well. It could be helpful to look at elements of the dead-and-buried Transatlantic Trade and Investment Partnership (TTIP) in this regard. For the richer party in a trade deal, part of the incentive to negotiate is the chance to have a positive impact on production and operational standards in the partner country or set of countries. In the case of

TTIP, joint U.S.-EU standards set at a high level would have required this level of quality within an extraordinarily large chunk of the global economy—one third of global GDP. When such a large share of the market adheres to a set of standards, there is great economic incentive to match those standards to access the market that adheres to them, creating a ripple effect throughout the global economy that increases the quality of production and allows larger economies to exert pressure in a roundabout way on their smaller counterparts. Germany is uniquely poised to utilize this tool in geopolitics, not only through its own economic power and integration into the global economy, but also through its influence in the European Union.

The market itself has already begun to develop its own set of standards. In the United States, the government sets few industry standards, and often leaves decisions up to industries to hash out, or to the demands of the market. Europe tends to have a stricter regulatory environment than the U.S., but maintaining strong dialogue with industry leaders would help regulators make the best decisions possible to help businesses succeed.

A smaller-scale example of this is the U.S. state of California and its environmental regulations. If California were its own country, it would be the fifth largest economy in the world<sup>21</sup>; with a decidedly Democratic bent to its politics, the state tends to be a leader in green policies and environmental protections. It was actually the California State Environmental Protection Agency that first discovered discrepancies in the reported emissions and actual emissions from Volkswagen automobiles, prompting an international business scandal that resulted in losses for VW of \$25 billion in fines and restitution for vehicle owners of 580,000 units sold in the United States.<sup>22</sup> Standards could be simultaneously implemented at a federal level for external actors through trade policy, and at local and industry-specific levels in ways that address operations and processes.

### A Strategy Toward China

China's 2025 plan should serve as a general wake-up call for European domestic policymakers, forcing them to re-examine their own innovation practices. If German policymakers don't want foreign investors buying up the country's R&D resources, they will need to make it more appealing for those business owners to build their futures within Germany. Germany needs to adopt policies that encourage domestic innovation, a tough transition from the highly cautious and quality-oriented business culture that made Germany the success story it is today. If Germany could harness the immense amount of knowledge and expertise it has in key industries that are currently in transition, changes underway within the global economic order could render it stronger, rather than weaker; in the automotive industry, for example, Germany could work to become a leading producer and innovator of electric vehicles and sustainable transportation.

Germany should leverage upheaval in global trade to carve out a better deal for itself when it comes to FDI opportunities in China. While the EU implemented Union-wide FDI screening mechanisms in early 2019, increasing trade tensions with China could leave the economic relationship between the West and China more open to change than it has been previously. This may entail major risks, but the chaos of President Trump's trade policies also presents an opportunity. Germany can simultaneously be a partner in negotiating with China on behalf of the United States and Europe, and push to open up Chinese markets further for German investment (activity that has previously been much more difficult for German firms in China

than Chinese firms in Germany). This could have major benefits beyond SMEs, as German banks also look to invest in foreign markets.

China's increased investments in Germany could be used a bargaining chip to gain better market access for German firms that can provide higher quality inputs and knowledge transfers to Chinese firms. In some mutually beneficial past purchases of German companies by Chinese investors, German input helped to improve product quality, both within the acquired company itself and at sister companies. Since German pump manufacturer Putzmeister was purchased by Sany in 2012, for example, the two companies have acted as resources for each other, bringing German know-how to China and utilizing the Chinese firm's capacities to provide parts for its German counterpart. The deep German knowledge base is highly desirable for Chinese firms going global, and could be a bargaining chip to persuade China to allow more outside investment domestically. In an increasingly unpredictable trade negotiating environment, highlighting the positive aspects of global trade would be a move in line with Germany's commitment to multilateralism and international cooperation.

In its response to China's economic challenge to Europe, the EU could also find an unlikely ally in President Donald Trump if the two parties can resolve their ongoing dispute concerning American steel and aluminum tariffs. The U.S. president is eager (in some cases over-eager) to tackle what he perceives as trade injustices against the United States; Germany could leverage the transactional style of Trump's foreign policy to find common ground vis-à-vis China.

## Conclusion

Germany's power on the global stage is achieved primarily through its strong economic performance. The Mittelstand is the cornerstone of the German economy; but while the companies that comprise it continue to produce world-class goods and services, global trends in digitalization, Chinese FDI, and cybersecurity threaten the status quo.

Policymakers can help address these pressure points by

- Accelerating efforts to provide high-speed internet access across Germany, including in rural areas;
- Establishing e-standards that stabilize industry expectations and pushing for high standards in trade agreements and negotiations;
- Taking advantage of an unstable global trade environment to address inequality in investment opportunities for German firms in the Chinese market;
- Continuing to invest in nation-wide cyber security capabilities and encouraging best practices in terms of data and system security through existing close ties between government and industry.

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<sup>1</sup> Mehreen Khan and Victor Mallet, “France and Germany agree on steps to create eurozone budget,” *The Financial Times*, 22 February 2019, <<https://www.ft.com/content/1dc45d1c-36bf-11e9-bb0c-42459962a812>> (13 March 2019).

<sup>2</sup> “Deutsche sind klar gegen Erhöhung von Militärausgaben,” *Welt*, 7 November 2018, <<https://www.welt.de/politik/deutschland/article179144290/Umfrage-Deutsche-sind-klar-gegen-Erhoehung-von-Militaerausgaben.html>> (13 March 2019).

<sup>3</sup> KfW Bankengruppe, “Mittelstandspanel 2017, Rekordjagd im Inland geht ungebremst weiter – neue Herausforderungen durch sektoralen Wandel,” KfW Bankengruppe, October 2017, <<https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-KfW-Mittelstandspanel/KfW-Mittelstandspanel-2017.pdf>>, (13 March 2019).

<sup>4</sup> Leigh Buchanan, “How to Build a Company That Lasts Forever,” *Inc. Magazine*, February 2014, <<https://www.inc.com/magazine/201402/leigh-buchanan/business-lessons-from-german-mittelstand.html>>, (13 March 2019).

<sup>5</sup> “German Mittelstand: Motor der deutschen Wirtschaft,” Bundesministerium für Wirtschaft und Technologie <[http://www.midasgruppe.de/uploads/media/German Mittelstand Motor der deutschen Wirtschaft - BMWl.pdf](http://www.midasgruppe.de/uploads/media/German_Mittelstand_Motor_der_deutschen_Wirtschaft_-_BMWl.pdf)>, (4/17/2019).

<sup>6</sup> Olaf Storbeck, “German Mittelstand faces generational crisis” *The Financial Times*, 21 March 2018, <<https://www.ft.com/content/739b698e-292c-11e8-b27e-cc62a39d57a0>>, (13 March 2019).

<sup>7</sup> “Digital Single Market Country Information - Estonia,” European Commission <<https://ec.europa.eu/digital-single-market/en/country-information-estonia>>, (13 March 2019).

<sup>8</sup> “OECD Digital Economy Outlook 2017,” OECD, 9 September 2017, <<http://dx.doi.org/10.1787/888933585438>>, (13 March 2019).

<sup>9</sup> Digitalisierung? Nicht mein Ding!,” *Frankfurter Allgemeine Zeitung*, 7 October 2015, <<http://www.faz.net/aktuell/beruf-chance/beruf/digitalisierung-industrie-4-0-in-der-modernen-arbeitswelt-13694605.html>>, (13 March 2019).

<sup>10</sup> Andreas Kluth, “German 'Digitalisierung' versus American innovation,” *Handelsblatt*, 23 February 2018, <<https://www.handelsblatt.com/today/opinion/10-kinds-of-people-german-digitalisierung-versus-american-innovation/23581228.html>>, (13 March 2019).

<sup>11</sup> Thilo Hanemann and Mikko Huotari, “Chinese FDI in Europe in 2017,” Rhodium Group and the Mercator Institute for China Studies, 17 April 2018, <<https://www.merics.org/en/papers-on-china/chinese-fdi-in-europe>>, (13 March 2019).

<sup>12</sup> Caroline Copley, “As China shops for German firms, one early example reassures,” *Reuters*, 2 June 2016, <<https://www.reuters.com/article/us-putzmeister-sany-insight-idUSKCN0Y02IA>>, (13 March 2019).

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<sup>13</sup> Abby Budiman and Dorothy Manevich, “Few see EU as world’s top economic power despite its relative might,” Pew Research Center, 9 August 2017, <<https://www.pewresearch.org/fact-tank/2017/08/09/few-see-eu-as-worlds-top-economic-power-despite-its-relative-might/>>, (17 April 2019).

<sup>14</sup> Bill Gertz, “Report: China's Military Is Growing Super Powerful by Stealing America's Defense Secrets (Like the F-35),” *The National Interest*, 8 December 2016, <<https://nationalinterest.org/blog/the-buzz/report-chinas-military-growing-super-powerful-by-stealing-18677>>, (13 March 2019).

<sup>15</sup> Michael Connell and Sarah Vogler, “Russia’s Approach to Cyber Warfare,” CNA Analysis and Solutions, March 2017, <[https://www.cna.org/cna\\_files/pdf/DOP-2016-U-014231-1Rev.pdf](https://www.cna.org/cna_files/pdf/DOP-2016-U-014231-1Rev.pdf)>, (13 March 2019).

<sup>16</sup> Sumi Somaskanda, “Cyberattacks Are 'Ticking Time Bombs' for Germany,” *The Atlantic*, 4 June 2018, <<https://www.theatlantic.com/international/archive/2018/06/germany-cyberattacks/561914/>>, (13 March 2019).

<sup>17</sup> Myklebust, Jan Petter, “New data show great disparity in growth in R&D spending,” University World News, 18 January 2019, <<https://www.universityworldnews.com/post.php?story=20190117082309111>>, (24 April 2019).

<sup>18</sup> Nick Wallace et al., “How Canada, the EU, and the U.S. Can Work Together to Promote ICT Development and Use,” Information Technology and Innovation Foundation, 11 June 2018. <<https://itif.org/publications/2018/06/11/how-canada-eu-and-us-can-work-together-promote-ict-development-and-use>> 13 March 2019.

<sup>19</sup> Josh Raisher, Europe by Numbers: Trading Figures, *Berlin Policy Journal*, 28 June 2018, <<https://berlinpolicyjournal.com/europe-by-numbers-trading-figures/>>, 13 March 2019.

<sup>20</sup> “The future of digital government: cleaning spreadsheets,” APOLITICAL, 28 June 2018, <[https://apolitical.co/solution\\_article/the-future-of-digital-government-cleaning-spreadsheets/](https://apolitical.co/solution_article/the-future-of-digital-government-cleaning-spreadsheets/)>, 13 March 2019.

<sup>21</sup> “California is now the world's fifth-largest economy, surpassing United Kingdom,” *The LA Times*, 4 May 2018, <[www.latimes.com/business/la-fi-california-economy-gdp-20180504-story.html](http://www.latimes.com/business/la-fi-california-economy-gdp-20180504-story.html)>, 13 March 2019.

<sup>22</sup> Roger Parloff, “How VW Paid \$25 Billion for 'Dieselgate' — and Got Off Easy,” *Fortune*, 6 February 2018, <<http://fortune.com/2018/02/06/volkswagen-vw-emissions-scandal-penalties/>> 13 March 2019.