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Chinese Direct Investments in Germany

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Abstract: This paper uses current literature and statistics to examine Chinese FDI in Germany in the last decade under the Chinese strategies OBOR and Made in China 2025. First, the general significance and idea of FDIs is laid out. Then worldwide Chinese foreign investment strategies are analyzed and linked to geographic regions and specific goals. A more in-depth analysis follows the Chinese capital flow into Europe and Germany in particular, followed by a spotlight discussion of single investment cases. The overall legislative reaction to China's investment behavior in Europe and Germany is lined out. Finally, the current situation is discussed in the light of other macroeconomic factors to conclude the possible future investment behavior of China in Germany. The paper concludes with a summary of the results.

Keywords: China, Germany, Foreign direct investments (FDI), MandA, Greenfield project

1. Introduction

Foreign Direct Investments (FDI) are cross-border investments in companies (e.g., the establishment of a new company, an investment in another company, or the expansion of an existing company abroad) to influence their business activities in the long term significantly. Significant influence is deemed to exist if the investor holds at least 10% of shares or voting rights. This means a lasting relationship exists between the direct investor and the company, and the investor exerts a significant influence on the company's business policy. The long-term strategic orientation distinguishes direct investments from portfolio investments (Deutsche Bundesbank, no date).

FDI is an important source of growth and employment (European Commission, 2024). It is considered an essential indicator of a location's economic attractiveness from a foreign investor's perspective (Statista, 2024).

In general, the motives for direct investments can be categorized as market-oriented (opening up new sales markets, compensating for weaknesses in the domestic market, reducing exchange rate risks, increasing exports through direct investment, e.g., in the case of trade barriers) and cost- or resource-oriented (lower labor costs, utilization of exchange rate differences, investment incentives and lower taxes, lower material costs and more accessible procurement, less stringent government regulations) (Sure, 2017, p.16).

2. China's Foreign Investment Strategies

China's foreign investment activities are bundled under the 2013 officially announced One Belt, One Road initiative (OBOR) and the 2015 drafted Made in China 2025 strategy.

OBOR has a clear focus on infrastructure projects to source raw materials and agricultural products as well as long-term sales market access around the globe. Examples here are copious, and all share a relatively clear advantageous picture for the overall Chinese economy when looking closely at the involved countries' lists of infrastructure projects, goods traded with China, and their foreign trade balance with China. There is a group of countries China mainly seeks to source minerals, metals, and fuels from, such as the Democratic Republic of Congo in Africa (79.12% of all exports to China in 2021), Peru in South America (87.91% of all exports to China in 2021) or Mongolia in Asia (94.24 % of all exports to China in 2021), for example. Another group stands for importing agricultural goods and food security in

China: 88.35% of all exports to China from Argentina and 73.61% from New Zealand, i.e. are vegetables, animal products, and other food products (World Bank, 2021). A third group of countries, admittedly the largest one, entertains a somewhat more diversified trade with China as raw products from both groups and intermediate products are exported to China. These countries are now primarily found across Asia, Africa, and South America. They have become a sales market for Chinese consumer electronics and, depending on various other parameters such as the currently steep prices for raw materials, either now entertain a largely positive trade balance with China, such as Brazil (+ 48.34 billion US$ in 2023) or a strongly negative one such as Kenya (-3.6 billion US$ in 2022), for example (United Nations Comtrade Data Base, 2022). There are two aspects that all of the abovementioned countries, however, do share (World Bank, 2021):

- China has become their by far largest trade partner.
- The trade balance with their second largest trade partner in the world, the US, is a negative one in contrast to the one with China (except Kenya and here, not mentioned countries with often so-called white elephant projects such as Sri Lanka).

This naturally involves growing mutual dependencies between China and these countries. This may lead to a higher readiness to consume more sophisticated Chinese products shortly instead of those of other countries long established in such markets.

On the other hand, the strategy Made in China 2025 aims to source knowledge to produce more sophisticated products. Other Chinese strategic moves, such as the Young Thousand Talents strategy, flank it.

Out of the ten key industries to be targeted (see Figure 1), next-generation IT and high-end computerized machines and robots are the key to successful future high-tech export products as the know-how in these fields is decisive for the performance of cyber-physical systems in research, production, and logistics.

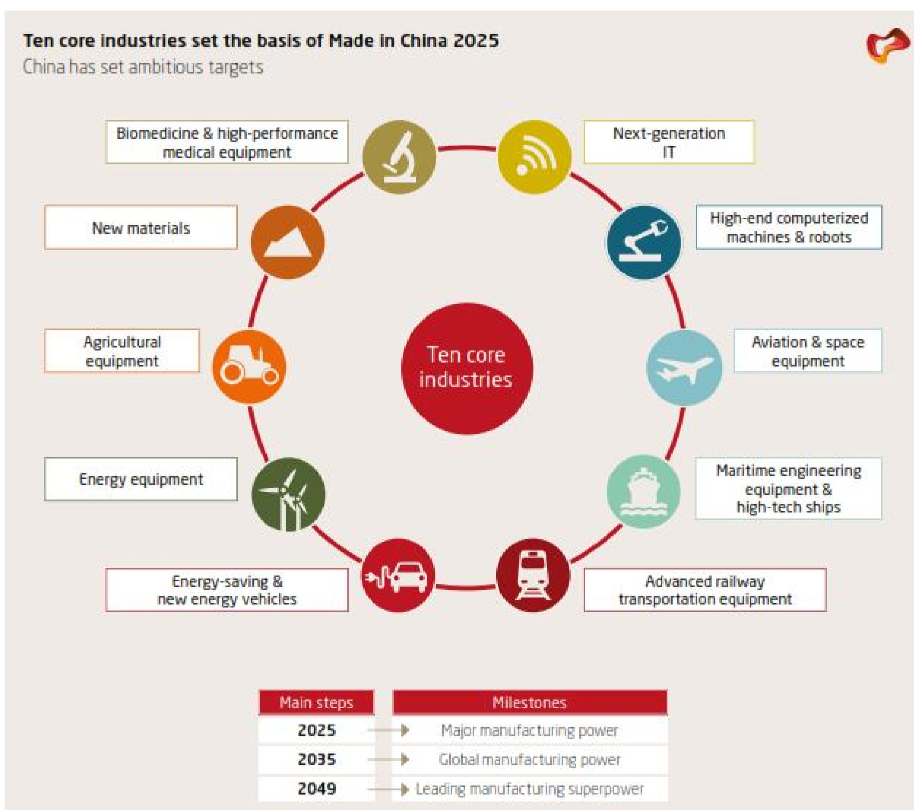

Figure 1: Ten core industries set the basis of Made in China 2025 (Zenglein/Holzmann, 2019)

Made in China 2025 aims at Western developed countries instead of countries in South America, Africa, and Asia (Japan due to historical reasons not being an option for closer cooperation). Among the Western countries, however, the US has started a trade war with China already in 2018 (Erber, 2021). Having been entangled in this trade war with the US for many years now, it is no surprise that Europe remained the number one candidate for China to continue sourcing knowledge from. After the 2008 world financial crisis, China benefitted from a weak European economy and started to invest in infrastructure projects and companies in Europe, accumulating to the amount shown in Figure 2 by 2023.

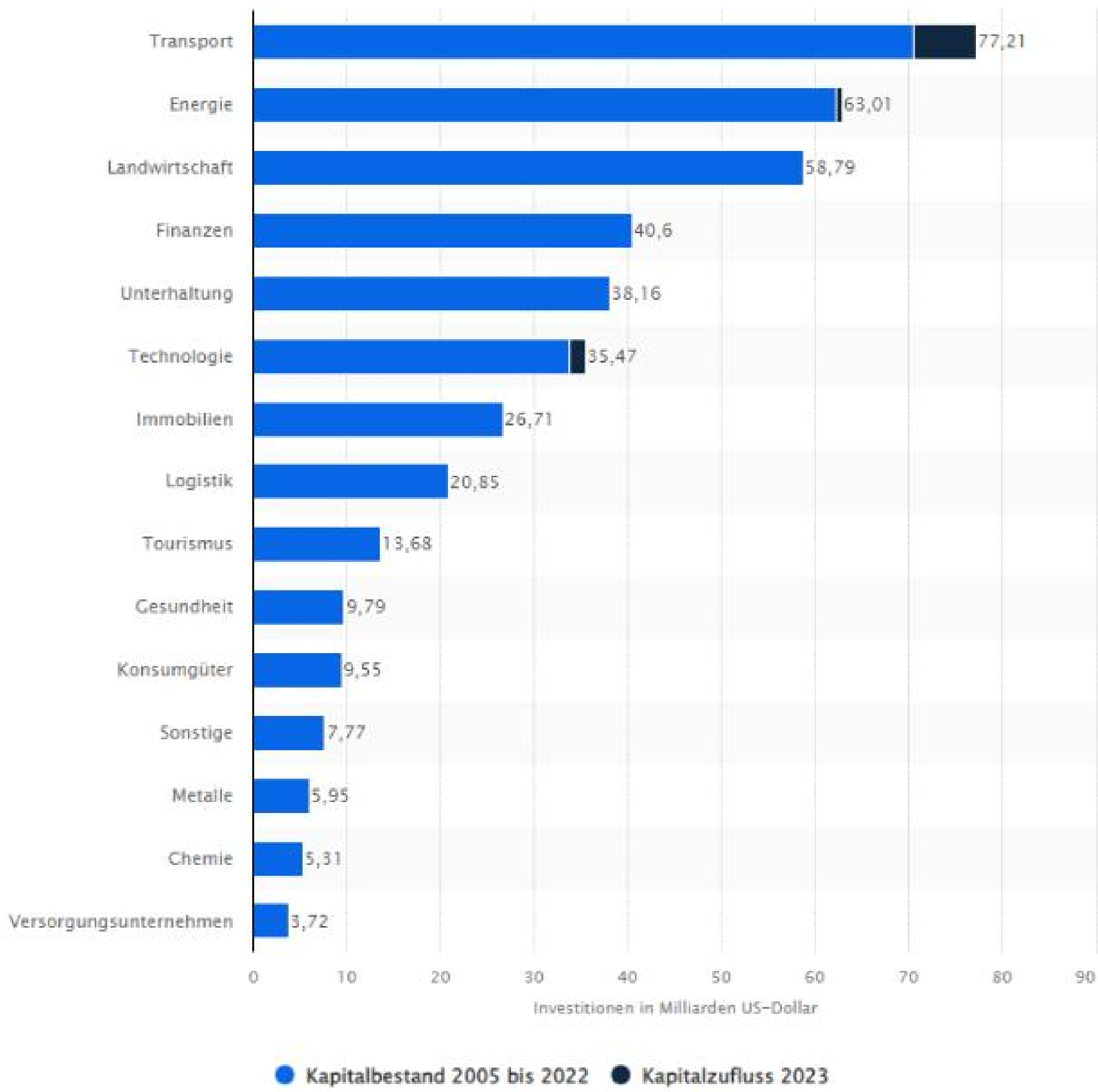

Figure 2: FDI from China to Europe according to industry, 2005 -2023 (as of 17 January 2024, in billion US dollars) (Statista, 2024)

The primary financing institution behind all these activities is the state-owned China Investment Corporation (CIC), which is not only a financing vehicle but also a means of risk diversification (Emons, 2019) for reinvestment of the continuously high Chinese trade balance surplus, having reached an all-high record of +877.6 billion US$ in 2022 (Statista, 2023). The institution itself has 11 managers (currently thereof, only 2 with abroad study experience) on its board of directors, and 8 of them are non-executive. It thus remains to be seen by the outsider who is making the main investment decisions on the executive committee after all (China Investment Corporation, 2022). The organization is top-down organized (see Figure 3) and its members' vita shows clear connections to the Central Government.

Figure 3: Investment Decision-Making Chart (China Investment Corporation, 2022)

What can be discerned from the few figures that are revealed by the CICs reports is a downward trend of public equity investment away from Europe (non-US advanced economies) towards more investment in the US between 2016 - 2022 in terms of their investment volume (see Table 1). CIC explains this shift in particular for 2022 as follows: " The macro environment for outbound investment changed materially as the 'trilemma' of high-interest rates, high inflation, and high volatility set in..." (China Investment Corporation, 2022). Indeed, the rising profitability of the US energy sector after the Russian war on Ukraine had started is another reason for such a shift, but concurrently, later chapters of this paper will also show that legal and political action in Europe made public equity in Europe more difficult for China to materialize.

Region	US	Non-US developed markets	Emerging markets and others
2016	51.37%	37.61%	11.02%
2017	52%	33.8%	14.02%
2018	53.5%	33.2%	13.3%
2019	55.2%	32.7%	12.1%
2020	57%	31%	12%
2021	61.48%	25.39%	13.13%
2022	59.18%	26.81%	14.01%

Table 1: Annual Public equity investment of CIC 2016 - 2022 (CIC, 2016-2022)

3. Reasons for Chinese Investments in Europe

Europe is of further interest to China in several ways (Winter, 2019, p. 102f): (1) It is a prosperous market where Chinese goods and services can be sold profitably. (2) It is a region with great industrial experience and technological excellence, which China relies on for its development. (3) Europe has a world-class research and education landscape. (4) Without Europe, the "New Silk Road" project would hardly make sense economically, but above all, politically.
Until 2015, Chinese investors occasionally appeared somewhat erratic. They poured their money not only into promising companies but also into property, vineyards, for example, in Bordeaux, or renowned football clubs.

Since 2016, the investment approach has changed and become more focused: Chinese investments in Germany are now following a strategic agenda targeting the expertise of German companies (Reiche, 2018). One indication of this is that Chinese investors have paid twice the average takeover premium for takeovers and investments in recent years. This indicates that political-strategic intentions play a more significant role in investment decisions than yield considerations (Wang, 2018).

The concentration on key technology and infrastructure sectors (Winter, 2019, p.104) has put Chinese direct investments on the political agenda in the target countries (Rusche, 2022). The fear of foreign investors in general is not new: in 2017, the then Federal Minister of Economics, Ms. Zypries, warned of a "technological plundering of the European economy," and calls were made to amend the Foreign Trade and Payments Act (Deutsche High-Tech-Industrie aus China: Der Fall KUKA, 2023).

4. Capital Flow and Capital Stock

The capital stock of Chinese direct investment in Germany (FDI) up to and including 2023 has grown to around USD 52.1 billion (Figure 4). The years with the highest investments to date of more than twelve billion euros were 2016 and 2018. At around USD 150 million, Chinese companies invested significantly less in 2023 than in 2022 (USD 1.15 billion) (Statista, 2024, p. 8).

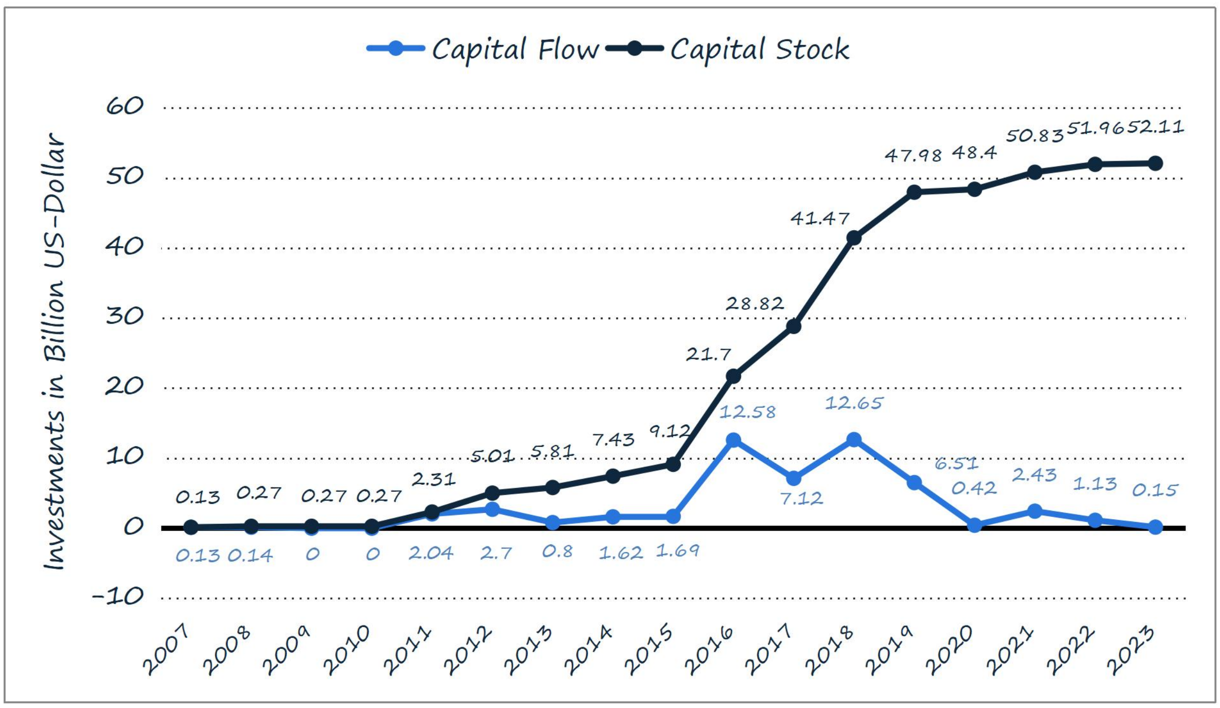

Figure 4: Capital flow and capital stock of Chinese direct investments in Germany from 2007 to 2023 (as of 24 July 2023, in billion US dollars) (Statista, 2024, p. 3)

This trend can also be observed in the "company takeovers and participations" subset of FDI. The highest growth in corporate investments and takeovers in Europe was recorded in 2016, with 309 transactions totaling around USD 85 billion. Germany accounted for 68 transactions with a volume of around US$ 12.6 billion. Regarding volume, Chinese investments in Germany reached their highest level to date, with around US$ 13.7 billion in 54 transactions in 2017 (Sun, 2022). Since then, transaction counts and invested volumes have been trending downward.

5. Chinese M andA Activity in Germany in 2022 and 2023 in a European Context

Number and volume of transactions in 2022: EY registered 139 transactions with a total volume of US$ 4.3 billion in Europe, thereof 26 transactions with a volume of US$ 289 million in Germany. Chinese investors in Europe only carried out more transactions in the UK (27). In terms of invested volume, Germany was in fourth place, behind the Netherlands (invested volume: US$ 2.2 billion), the UK (US$ 1.2 billion) and France (US$ 366 million) (Sun, 2023).

Concerning the information on the volume invested, it should be noted that the terms of many transactions are not disclosed and, therefore, cannot be included in the statistics. The volume invested will, therefore, be higher than recorded.

In addition, not all transactions are recognized and made public. Experts estimate that not even half of the transactions by Chinese investors in Germany are publicized because they are below the statutory reporting thresholds (Wang, 2018). While merger control by the German Federal Cartel Office ensures competition within individual sectors and prevents excessive concentration of market shares among a few market participants (Bundeskartellamt, 2004), the EU's inbound screening process aims to control investments in critical areas.

Transactions that are either reportable to the German Federal Cartel Office or subject to screening under EU rules are publicly known. Transactions below the Federal Cartel Office's detection thresholds and outside the EU screening sectors are often only recorded if the buyer or seller publicizes the completion of the transaction.

No	Announced Date	Target Company	Sector Target Company	Bidder Company	Type of Investment	Acquired share
1	25.12.2022	SchmitterGroup GmbH	Pipe System Developer / Plastics	Anhui Zhongding Sealing Parts Co Ltd	Strategic	100%
2	01.12.2022	Total E&P Dunga GmbH	Oilfield Operator / Energy	Oriental Sunrise Corp Ltd	Strategic	100%
3	30.11.2022	ATEC Pharmatechnik GmbH	Industrial Products and Services	AGIC Capital	Financial	100%
4	20.11.2022	Ebmeyer Werkzeugbau GmbH	Automotive Components	VT Industrial Technology Co., Ltd.	Strategic	100%
5	22.10.2022	ONTEC Automation GmbH	Battery Maker / Industrial Electronics	Wuxi Lead Intelligent Equipment Co Ltd	Strategic	100%
6	20.10.2022	Undisclosed Target	n.a.	Hiru Corp	Strategic	100%
7	17.10.2022	TEXPA GmbH	Sewing Equipment Maker / Industrial Products	Hangzhou Honghua Digital Technology Co Ltd	Strategic	100%
8	31.08.2022	Jenavalve Technology Inc	Medical	Peijia Medical Limited in a consortium	Financial	n.a.
9	22.08.2022	EuRec Environmental Technology GmbH	Industrial Products and Services	WELLE Environmental Group Co Ltd	Strategic	100%
10	19.08.2022	Krüger & Sohn GmbH; Alfred Krüger e.K.	Chemicals and Materials	Sinoseal Holding Co Ltd; Sinoseal GmbH	Strategic	100%
11	04.07.2022	Allgaier Werke GmbH	Mechanical Engineering	Westron Group	Strategic	89%
12	30.06.2022	management consult Dr Eisele & Dr Noll GmbH	Consulting Services	Rhein Management BV; Private Investor	Strategic	100%
13	15.06.2022	OSRAM (digital system unit of lighting components)	Industrial Electronis	Inventronics (Hangzhou), Inc.	Strategic	100%
14	18.05.2022	j-fiber GmbH	Electronics / Cable Equipment	Hengtong Optic-Electric Co Ltd	Strategic	100%
15	26.04.2022	GritWorld GmbH	Software-Apps / Computer Services	CCB Trust Co., Ltd.; Baidu Ventures; Everest Capital Ltd	Financial	n.a.
16	31.03.2022	Composable Finance	Software / Blockchain Developer	Fundamental Labs in a consortium	Financial	n.a.
17	26.03.2022	KUKA AG	Robotics / Industrial Automation	Midea Group Co Ltd	Strategic	5%
18	14.03.2022	AyoxxA Biosystems GmbH	Biotechnology	Prosnav Capital Co Ltd in a consortium	Financial	n.a.
19	27.02.2022	Heidelberg Pharma AG	Biotechnology Pharmaceuticals	Huadong Medicine Co Ltd	Strategic	8%
20	16.02.2022	ITM Isotope Technologies Munich SE	Medical / Pharmaceuticals	Wuhan Grand Pharmaceutical Group Company Limited	Strategic	n.a.
21	07.02.2022	MGB Endoskopische Geräte GmbH	MedTech	Hunan Vathin Medical Instrument Co., Ltd	Strategic	n.a.
22	01.02.2022	Glycotope GmbH / FyoniBio GmbH	Biotechnology	Canton Biologics Co. Ltd.	Strategic	100%
23	27.01.2022	BOHAI TRIMET Automotive Holding GmbH	Automotive Components	Bohai Automotive Systems Co Ltd	Strategic	25%
24	21.01.2022	Lifeshield Medical	Medical	Guotai Junan International Holdings Limited; Shanghai Proxima Investment Management Co., Ltd. in a consortium	Financial	n.a.

Table 2: Selected Transactions in 2022 (Merger Market, 2024; Majunke, 2024)

Number and volume of transactions in 2023: In 2023, 119 transactions with a total volume of US$ 2 billion were completed in Europe. With 28 registered transactions in Germany, there was a slight increase compared to the previous year (26 transactions). Germany has thus become the most important destination for Chinese direct investment in Europe, displacing the UK with 17 transactions from the first position. However, the volume invested fell to USD 202 million (the previous year: USD 289 million). This meant that only the Netherlands (US$ 1.2 billion) experienced a higher inflow of funds in Europe (Sun, 2024).Strategic vs. financial investments: In Table 2 and Table 3, a distinction is made between strategic and purely financial transactions.

Strategic investors are usually active in the same or at least a similar industry as the target company. This allows the buyer to benefit strategically from the takeover of the company. The possible objectives are the expansion of parts of its value creation, access to new markets, or access to relevant intellectual property of the target company. Synergy effects, reflected in expected increased sales or lower costs, can also be realized. These strategic reasons for a takeover justify a strategic premium that raises the enterprise value above the company's stand-alone value. Strategic buyers generally pursue long-term goals (CFMB, 2024) and favor the complete (100%) takeover of target companies, as seen in the tables. In 2022 and 2023, strategic transactions predominate.

No	Announced Date	Target Company	Sector Target Company	Bidder Company	Type of Investment	Acquired share
1	11.12.2023	Eisenbau Kraemer GmbH	Producer of longitudinally welded steel pipes	Zhejiang Jiuli Hi-tech Metals Co., Ltd.	Strategic	100%
2	10.11.2023	Corning Laser Technologies GmbH	Provider of laser glass cutting and drilling technologies	Suzhou Delphi Laser Co Ltd	Strategic	100%
3	14.09.2023	Terrot GmbH	Knitting Maschinery	Santoni Shanghai Knitting Machinery Co., Ltd	Strategic	100%
4	13.09.2023	KLEO Connect GmbH	satellite technology firm/ Defence	Shanghai Spacecom Satellite Technology	Strategic	45%
5	05.09.2023	Oncgnostics GmbH	Testing services for the healthcare industry	Grande Bio-tech Co., Ltd in a consortium	Financial	n.a.
6	26.08.2023	ficonTec Service Gmbh, Achim (6.97% Stake); ficonTEC Automation Gmbh, Achim (6.97% Stake); Suzhou Feikong Tech Technology Co., Ltd. (81.18% Stake)	supplier of semi-automatic and fully automated production and testing systems	RoboTechnik Intelligent Technology Co., Ltd	Strategic	n.a.
7	02.08.2023	Radio Frequency Systems GmbH; Radio Frequency Systems (Suzhou) Co Ltd	development and production of power cables including radiofrequency cable, leaky cable and hybrid cable	Yangtze Optical Fibre & Cable Joint Stock Co., Ltd	Strategic	100%
8	31.07.2023	DiaSys Diagnostic Systems GmbH & Co KG	Medical Equipment	Shenzhen Mindray Bio-Medical Electronics Co., Ltd	Strategic	75%
9	14.07.2023	Nyonic GmbH	IT / Artificial Intelligence	Lenovo Capital & Incubator Group	Financial	n.a.
10	21.06.2023	Visable GmbH	IT / B2B e-commerce platforms	Alibaba Group Holding Ltd	Strategic	n.a.
11	20.06.2023	MAN Energy Solutions SE (gas turbine business)	Industrial Products and services	CSIC Longjiang GH Gas Turbine Co	Strategic	100%
12	19.06.2023	HHLA Container Terminal Tollerort GmbH	Logistic	COSCO Shipping Ports Ltd	Strategic	25%
13	18.05.2023	DEKEMA Dental-Keramikoefen GmbH	dental digital intelligent sintering furnaces,	Shandong Sinocera Functional Material Co., Ltd.; Sinocera (Singapore) Pte Ltd	Strategic	75%
14	03.05.2023	Sonotronic Nagel GmbH	Industrial Products and services	Shang Gong Group Co., Ltd via Duerkopp Adler AG	Strategic	100%
15	21.03.2023	Flughafen Dusseldorf Cargo GmbH	handling airport cargo	Hainan Traffic Control Holding Co., Ltd via Swissport Internatior	Strategic	75%
16	20.03.2023	Hirschmann Car Communication GmbH	Automotive, Communication hardware	Universal Scientific Industrial (Shanghai) Co Ltd in a consortium	Strategic	100%
17	03.03.2023	Prophete GmbH & Co KG	Bicycle manufacturing	Dutech Holdings Limited	Strategic	100%
18	24.02.2023	SACLAB Verwaltungs GmbH	e-commerce / online marketplace for preowned handbags	Gfund Management Co., Ltd.; Trind Ventures OU	Financial	n.a.
19	25.01.2023	Co.don AG (operating assets)	Biotechnology	ReLive Biotechnologies Ltd	Strategic	100%
20	11.01.2023	Assyst GmbH	3D fashion design software	Zhejiang Linctex Digital Technology Ltd.	Strategic	100%
21	04.01.2023	ASAP GmbH DE	Medical	Shanghai Legend Medical Technology Co Ltd | Lange Medtech	Strategic	100%

Table 3: Selected Transactions in 2023 (Merger Market, 2024; Majunke, 2024)

On the other hand, financial investors are temporary owners who focus on the return on their investment upon resale. As financial investors (private equity or venture capital investors) are usually structured as temporary funds, the sale of their investments is an integral part of their business model. They rarely intend to integrate into an existing company unless the new acquisition is made to realize a buy-and-build strategy (CFMB, 2024). Financial investors determine the company value primarily based on the forecast development of the company and sector (venture capital) or the cash flow forecast (private equity).

Direct and indirect transactions: If company takeovers do not occur directly but via a subsidiary, they are more difficult to recognize. In 2023, two transactions were registered - the takeovers of Flughafen Düsseldorf Cargo GmbH and Sonotronic Nagel GmbH (see Table 3) - which took place via a subsidiary.

6. Spotlight on Selected Transactions

In recent years, in addition to the Chinese conglomerate HNA's investment in Deutsche Bank and the takeover of ista by Cheung Property Holding (Orth, 2018), other transactions and takeover attempts have attracted attention:
KUKA AG / Midea Group Co., Ltd. (2016): KUKA is a leading supplier of intelligent automation solutions and offers robots, cells, fully automated systems, and their connectivity. The Augsburg-based company was founded in 1898 and generates around 4 billion euros in sales with around 15,000 employees (KUKA, 2024).

After Midea had already bought shares on the stock exchange in 2015, a voluntary public takeover bid for KUKA for 115.00 euros per share was made via Midea's investment vehicle, MECCA, in May 2016. This valued KUKA at 4.6 billion euros. Midea acquired almost 95% of the shares. Through further share purchases in 2020 and 2021, Midea exceeded the 95% threshold that entitles minority shareholders to be excluded. This squeeze-out was realized in 2022 (see Table 2), meaning Midea now wholly owns KUKA (KUKA, 2022).

Before the acquisition, Midea was known as a manufacturer of household appliance brands. As a result of further company acquisitions, the Midea Group is now one of the world's leading technology groups in the fields of consumer electronics and air conditioning, robotics, industrial automation, and logistics, with annual sales revenues of almost 40 billion euros and more than 150,000 employees worldwide in over 200 locations (Deutsche High-Tech-Industrie aus China: Der Fall KUKA, 2023).

The transaction is also seen as a decisive moment for further developing the Chinese industrial sector. China's reliance on low-cost, labor-intensive manufacturing is considered no longer attractive, mainly due to the rise in labor and other costs. Therefore, the acquisition supports the search for innovation on the way to "Industry 4.0" and "Made in China 2025" (Tse, 2016). From a Chinese perspective, the transaction is described as a prime example of successful cooperation between companies from both countries (Wu, 2023).

Biotest AG / CREAT Group Corporation (2018): Dreieich-based Biotest AG (founded in 1946) supplies plasma protein products and biotherapeutic drugs. Founded in 1992, the investment company Creat Group invests in healthcare, financial services, property, industry, and mining (Creat übernimmt Biotest, 2018). Initially, due to national security concerns of the US authorities, conditions imposed by the responsible committee of the US government, the Committee on Foreign Investment in the United States (CFIUS), had to be fulfilled. As a result, Biotest had to sell some subsidiaries in the USA before the transaction. Biotest hoped the Chinese investor would provide financial support for its expansion. However, in 2021, around three and a half years after the takeover, it was announced that Creat Group was examining strategic options for exiting Biotest, which has not managed to break even since the takeover due to the high expansion costs (Chinesischer Großaktionär prüft Trennung von Biotest, 2021). A strategic partner was found in Grifols SA (Barcelona/Spain). Grifols is a healthcare company that develops plasma-derived medicines and other innovative biopharmaceutical solutions. The Spaniards paid 773 million euros for Creat's stake in Biotest and are also taking over a shareholder loan of 313 million euros (Backhaus, 2021). The investment paid off for Creat: When they invested in Biotest, the company was valued at 1.3 billion euros including debt. Today, it is almost half that amount more (Spanier bieten Milliarden für Plasma-Spezialist Biotest, 2021). The German Cartel Office approved the transaction at the beginning of March 2022 (Hollstein, 2022). In 2022, Biotest generated sales of around 516 million euros and EBIT of -16.6 million euros with more than 2,300 employees. Grifols currently holds 96.2 % of the ordinary shares (Biotest, 2024).

Container Terminal Tollerot / Cosco (2023): In mid-2021, China Ocean Shipping Company (COSCO) reached an agreement with the Hamburg port company Hamburger Hafen und Logistik AG (HHLA) for COSCO to acquire a 35% stake in one of Hamburg's terminals - the Container Terminal Tollerort (CTT). The CTT is the smallest of four container terminals in the harbor. The Federal Chancellery and several ministries initially had differing views on the planned partial shareholding. The German government then gave the green light for a compromise: instead of the planned 35%, COSCO was only given a share of 24.9%. This prevented - at least formally - COSCO from having a say in strategic matters (Kompromiss zum COSCO-Einstieg in Hamburger Hafen, 2022). In May 2023, the government finally confirmed its decision, and in June 2023 - after almost two years of discussions and negotiations - Cosco and HHLA signed the contracts.

European maritime infrastructure is an area in which China is developing a large number of projects: A study identifies 24 Chinese acquisitions, and 13 announced greenfield investment projects in European maritime infrastructure from 2004 to 2021. Acquisitions accounted for the majority of invested capital with a value of around EUR 9.1 billion, while the value of capital pledged in greenfield projects was around EUR 1.1 billion (European Parliament, 2023).

However, not all acquisition endeavors by Chinese companies have been successful. After rumors emerged in 2018 that the Chinese state-owned grid operator State Grid Corporation of China (SGCC) wanted to enter the German electricity grid via 50Hertz Transmission GmbH, the Belgian electricity grid operator Elia, which already held 60% of the parent company of the north German grid operator 50Hertz, exercised its right of first refusal and increased its stake in 50Hertz to 80% and SGCC did not come into play (Reiche, 2018). 50Hertz Transmission GmbH operates the extra-high-voltage electricity grid throughout eastern Germany, in Berlin, and in the Hamburg area with a circuit length of around 10,200 kilometers, on which around 18 million households depend (Wagner, 2018).

With the increasing sensitivity towards foreign investors in critical areas from a political perspective, planned takeovers were not approved. One example is the Federal Cabinet's prohibition of selling Elmos AG's wafer production to the Chinese-controlled Silex Microsystems AB in November 2022 (Elmos, 2022). Another example: Shanghai Spacecom Satellite Technology (SSST) wanted to increase its 53% stake by 45% but did not receive approval in September 2023 (Olk, 2023).

7. Changing Legal Framework

The possibility of reviewing and possibly prohibiting company takeovers is due to an EU regulation focusing on inbound investments as a part of the European Economic Security Strategy. From a European Commission point of view, foreign investment, particularly in a fundamentally open investment regime, can pose a risk to security or public order if a foreign investor seeks to gain direct or indirect control over companies that provide vital inputs for critical technologies or infrastructure or have access to sensitive information (European Commission, 2024). Germany is embedded in these initiatives at the EU level, where the EU framework for inbound investment screening fully applied since 11 October 2020.

Critical infrastructures are – according to the definition of the German Federal Office of Civil Protection and Disaster Assistance (BBK, no date): "organizations or facilities that are important for the state community, the failure or impairment of which would result in lasting supply bottlenecks, significant disruptions to public safety or other dramatic consequences."

Since certain foreign investments may present risks to the EU's security and public order, the Commission has reviewed over 1,200 foreign direct investment transactions notified by Member States over three years under the existing FDI Screening Regulation. The guideline was revised based on this experience to improve the system's efficiency (European Commission, 2024a). In addition to inbound investments, outbound investments and exports of dual-use products will also be analyzed more closely. Overall, the regulations currently being discussed by some politicians are regarded as the "bare minimum" (Diesteldorf, 2024).

Regarding Chinese investments in critical infrastructure, the greatest threat is seen in the fact that China could shut down these critical infrastructures in a conflict situation or that China could at least threaten to shut down the critical infrastructure, thus creating or increasing dependencies (Grobe/Chadwick, 2022).

8. Critical Assessment of Legal Framework In The Light of Current Macroeconomic And Socio-Political Developments

Seemingly, at the moment, some authors label the fear of loss of know-how to China using company takeovers in Germany as somewhat exaggerated (Erber, 2021; Rusche, 2022 Handelsblatt, 06.09.2023). However, many future public equity activities will probably operate below the public and government radar as the companies China may acquire a substantial share of from now on often may be smaller component suppliers. However, this is where the backbone and value of the German car and machine manufacturing industry lies to a substantial part. These hidden champions and their valuable skilled labor force may better not be lost to foreign control (Emons, 2019). Many of these from the automotive and machine building industry have already been purchased in the period 2005 - 2016 by large Chinese companies who bought several SMEs in Germany in close succession (Hans Böckler Stiftung, 2017). Also, from a legal perspective, share acquisitions below 10% are not screened by the German government unless it is a significant enterprise, such as in the case of Geely's 9,7% acquisition of Daimler in 2018 (Rusche, 2020).

Concurrently, the ongoing recession in Germany caused by high energy costs and inflation may soon lead to a higher need for foreign liquidity and insolvencies (Rusche, 2022), leveling out the path to Chinese investors who have proven in recent years to even overpay for desired assets (Emons, 2019). From 2021 - 2023, Germany lost almost 320 billion Euro in capital instead of acquiring more FDI (IWD, 25.03.2024). China, by contrast, has again attained a trade balance surplus beyond 800 billion US$ in 2023 and experienced a record high investment by German companies into the Chinese market with 11,9 billion Euro in 2023 (Matthes, 2024) while starting to sell its electric vehicles surplus production from government-subsidized companies at dumping prices on the European market (NTV, 16.04.2024). Germany, on the other hand, is stuck in a negative trade balance with China, still having had a trade deficit of 58,4 billion Euro in 2023 (Statista, 14.02.2024) after the record high deficit in 2022 with 86,1 billion Euro (Statista, 2023). Overall, the trade volume with China in 2023 decreased by 15.5% compared to 2022 (Statista, 14.02.2024). However, the size of its trade volume does not allow a sudden withdrawal from existing trade patterns at all.

Similar to the situation after 2008, when China managed to buy itself into a substantial part of Europe's port infrastructure due to financial restraints in the south of Europe, China may now get more of a foot into the door of small, valuable companies in Germany. The sums of investment will not be as large as in the period before 2023. However, there will surely be a more explicit focus on the Chinese side on how far the acquired companies can be another strategic asset to improve in the four industries targeted in Germany in Made in China 2025 already. Strains in the liquidity of target companies, as well as succession problems in family-owned enterprises (EY, 2016), will deliver opportunities to this end.

With a verified trend of Chinese companies to shift the purchased European companies' RandD activities to mainland China (Emons, 2019), the question, however, is to what long-term economic output this will lead in the end when the actual research environment is less stimulating as it was in the country of origin. This conclusion lies near as studies regarding the Chinese efforts of a reverse brain drain reveal the following: Most scholars who return to China from abroad to continue their research at Chinese Universities deteriorate in terms of the quality of their research, measured ie, by producing fewer quotations of their publications (only very few excel and there seems to be virtually none who stay at the same level of research output). As the authors suggest, this decline in productivity is most likely a result of a less open research environment with a majority of people who are less used to expressing their minds and thoughts openly. The same may prove true for industrial research if the majority of people in place are unwilling to take risks and take on personal responsibility for their actions in an environment with solid hierarchies and less space for personal opinion (Marini/Yang, 2021).

Finally, even though China currently entertains a historic trade surplus, the success of its worldwide direct investments does not necessarily pay off in the long run if the current key technology fails to be successfully developed. The semiconductor industry, vital for developing cyber-physical production systems in logistics, communication, renewable energy production, and electric cars, is still lagging years behind the three leading countries in this industry, namely Taiwan, Korea, and the US (Erber, 2021). Meanwhile, Europe is also making a joint effort to catch up in this industry (Europäisches Parlament, 11.07.2023).

Until now, China still consumes more than 60% of the world's semiconductor output (Erber, 2021) and can only gain a substantial, risk-free competitive advantage if it does not catch up in this decisive field. Till then all know-how derived from other sectors, including those from Germany, are icing on a cake not yet baked. The majority of Chinese FDI, therefore, has to go into this field, or a vivid RandD scene must be successfully developed within China to catch up in this field that is so relevant for all its industries to make it out of the middle-income gap.

9. Conclusion And Outlook

Three phases of Chinese investment activity in Germany can be distinguished:

1) Shopping sprees often did not have a strategic objective until 2015.
2) Strategic investments to promote the China 2025 strategy unnoticed in the buyer region.
3) Increased political attention in Germany leads to Chinese direct investments being scrutinized more closely and even prohibited (since 2020)

Transaction numbers and transaction volumes have been trending downwards in Germany and Europe as a whole since 2017. One reason for the decline is the current economic situation in China itself - the property crisis and slower growth, for example. Chinese companies are, therefore, probably less keen to expand abroad themselves. If growth is sought abroad, this is achieved through greenfield projects in which Chinese companies themselves establish subsidiaries in Europe to expand their own business (EY, 2024).

It should finally be once more noted that the significance of Chinese investors in Germany is rather negligible in terms of mere volume when compared to FDI accounted for by the USA, the UK, and France (Rusche, 2022).

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