Global Economic Dynamics

GED Study

Challenge and Opportunity

Chinese Direct Investment in Germany

BertelsmannStiftung

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Contents

Eight key results concerning Chinese direct investment in Germany

1. Germany is the third largest host country in the European Union (EU) for foreign direct investment (FDI) from China. Access to the German and European market, qualified workers, and the quality guarantee "Made in Germany" are important reasons for Chinese businesses to invest in Germany. As a highly developed country with a large number of so-called "hidden champions", i.e. companies that are world market leaders in their respective technological niche, Germany is also in the focus of the Going Global Strategy launched by the Chinese government in 2000, which promotes FDI of Chinese businesses.
2. Despite high growth in the past few years, China's relative share of FDI stock in Germany continues to be low. According to the figures of the German Federal Bank, in 2014 China held only 0.3 percent of German FDI stock. Vice versa, according to Chinese figures, in 2015 Germany took around 0.5 percent of China's global FDI stock. In 2015 the Chinese FDI flows to Germany suffered a sharp decline, amounting to only 409.6 million US dollars. In 2014 this figure was 1.4 billion US dollars. Nevertheless, there is further potential for Chinese FDI in Germany in the future. According to our projections, Chinese companies might invest up to 4.3 billion US dollars in Germany in 2025.
3. Chinese FDI projects are intensifying the economic interrelationship between Germany and China. In the form of greenfield investment as well as mergers and acquisitions (M&A) they are bringing fresh capital into the country and creating and sustaining jobs. A whole range of German businesses that have changed over to Chinese ownership in the last few years have had good experiences with their new owners. These include a long-term commitment to the location, employment guarantees and improved access to the Chinese market. However, due to the specific background of Chinese FDI and particularly of M&A, they are also accompanied by challenges, which go beyond mere economic effects.
4. Since the new Chinese government took office in 2013, the quality of Chinese investments in Germany has changed. On the one hand a clear increase in M&A can be seen, particularly in technology-intensive areas. On the other hand there has been an increase in the engagement of state-owned enterprises that are directly under the control of the central government (so-called Yangqi). According to our research, between 2014 and 2016 ten M&A transactions in Germany could be traced back to the Yangqi. By contrast, in the entire period between 2003 and 2013 there were also ten. Regardless of the type of ownership, we observe that at least 51 out of the 99 Chinese M&A transactions in Germany we looked at in our study are compatible with China's industrial policy strategy "Made in China 2025". Also, the pharmaceutical and health sector, which is part of the strategy and previously tended to play a subordinate role, is now gaining in significance. Often Chinese M&A in Germany are accompanied by the acquisition of key technologies which have been allocated a central role by China to support its intended advancement within global value chains.
5. Even the formal ownership structures of Chinese businesses lack transparency and are a black box to outsiders. In addition there are a number of informal interrelationships between the state and the economy in China. Hence even Chinese private businesses cannot be considered solely economic players who are exclusively pursuing economic motives. In this context it is difficult to determine the actual extent of state influence on Chinese FDI and the potential distortions of competition accompanying it. This provides a major challenge for future dealings with Chinese FDI, which need to be discussed carefully at both the German and the European level.
6. A further key challenge related to Chinese FDI is the lack of reciprocity. Germany is offering Chinese investors free market access and has no general protection mechanism for key technologies. In contrast, the Chinese government deliberately protects strategic industries from foreign access. This means that German businesses in China encounter numerous barriers, both formal and

informal, and in comparison to domestic businesses continue to be discriminated against. Since Xi Jinping came to power this situation has not improved as much as had been hoped because the reforms announced in 2013 have not kept pace with (Western) expectations. Even 15 years after China's WTO accession in 2001 there still is no level playing field in German-Chinese economic relationships.

7. In principle, both sides can profit from FDI. Prerequisites for this to happen are open markets and fair competition. If China, as one of the most important global economic players, systematically contravenes them, a fundamental solution needs to be found. One possibility available is the bilateral investment agreement that the EU and China have been negotiating since 2013. Another option that makes sense would be to consider an extension of the existing instruments for FDI control and, if appropriate, to consider new instruments at the EU level. Potential new FDI regulations would however need to be independent of the country of origin. A formal or informal "Lex Sinica", i.e. a distinct treatment of Chinese investments, would be contrary to the principle of non-discrimination. The key lies in finding a path between a naïve sellout of German and/or European interests, and protectionist actionism. Germany and the EU still need to find this path.
8. Germany and China both benefit considerably from their bilateral investment and trade relations. It is in the interests of both countries to promote reciprocal investments and to support investors from their respective countries in the best possible way. Therefore China also has a responsibility to iron out concerns about Chinese FDI. In this respect, on the one hand more openness and greater transparency from the Chinese side in relation to state participation in FDI would be desirable. On the other hand, China should finally ensure that the prerequisites from which Chinese businesses in Germany profit, i.e. equal access to the market, a transparent investment promotion and a non-discriminatory investment environment, also apply to German and other foreign businesses in China.

1. A controversial topic: Chinese direct investment in Germany

On August 8, 2016, it was announced that German robot maker Kuka is becoming Chinese. Chinese consumer goods manufacturer Midea was able to acquire 94.55 percent of Kuka shares with a voluntary takeover bid made to its shareholders (Midea, 8.8.2016). And Kuka is not the only case: In the past fifteen years, an increasing number of Chinese investors have been buying up German companies (Jungbluth 2013: 13; Table 1). This trend has been amplified in the three years since the new Chinese government under the leadership of Xi Jinping took office (EY 2016: 7). The acquisitions focus is on small and medium-sized German companies that own key technologies. A large portion of the acquisitions are taking place in the machine tool, automotive, and environmental technology. Since 2015, Chinese investors' attention has also turned to the German pharmaceutical and healthcare industries (Table 1). The media and the public are following these activities with mixed feelings. On the one hand, there has been an increase in reports of positive experiences with Chinese investors in Germany, especially when they keep or even create new jobs after the acquisitions are complete (cf. Wirtschaftswoche, 6.3.2016: 18; Tageszeitung, 25.4.2013: 8). On the other hand, there is a concern that jobs and technology eventually be transferred to China. There is also suspicion for the Chinese government to buy into German companies and thus gain (greater) influence on economic activity in Germany. Headlines fueling such fears are not uncommon: "Shopping spree: how China is gobbling up small and medium-sized German enterprises" ("Auf Einkaufstour: Wie China den deutschen Mittelstand frisst," Handelsblatt, 4.1.2016), "The China Invasion" ("Die China-Invasion," Bild, 23.6.2011) or simply "The Chinese are coming" ("Die Chinesen kommen", Frankfurter Allgemeine Zeitung, 22. 5.2008; Handelsblatt, 21.12.2015) are just a few examples.

The discussion about the acquisition of Kuka was no exception. What was new, however, was the intervention of the German government, triggered by the key role played by the robot maker in the fourth industrial revolution, i.e. the digitalization of the industry ("Industry 4.0"). There were reports that Sigmar Gabriel, Federal Minister for Economic Affairs and Energy, who was still explicitly welcoming Chinese investment in Germany in 2014 (Reuters, 16.1.2014), tried to woo German and European companies to buy Kuka to prevent the planned Chinese investment (cf. Süddeutsche Zeitung, 6.1.2016; Wirtschaftswoche, 6.1.2016). In an open letter entitled "Victim of open markets" ("Opfer offener Märkte"), Gabriel (2016) went a step further and called for stronger instruments within Germany and Europe to protect themselves against corporate takeovers suspected of being sponsored by certain countries. The proposed acquisition was also discussed at the EU level. There were reports that Günther Oettinger, European Commissioner for the Digital Economy and Society, was also concerned about the strategic importance of Kuka and pleaded for European investors to intervene (cf. Frankfurter Allgemeine Zeitung, 30.5.2016). Reactions in the media and among political and business leaders ranged fromclear objections to a state intervention in the economy to an unequivocal allegation given the possibility that the Chinese buyers were doing precisely this (cf. Süddeutsche Zeitung, 11.6.2016: 26; Frankfurter Allgemeine Zeitung, 11.6.2016).

Gabriel went even a step further in October, according to media reports which indicated that he had submitted a paper with "key points for a proposal to introduce EU-level review of investments," not yet available when this study was completed (26.10.2016). The aim of Gabriel's proposal apparently is to better protect European and German industries "of particular importance for continued industrial progress" from foreign takeovers (Handelsblatt, 17.10.2016: 15). The debate over Chinese acquisitions in Germany reached a climax on October 24, 2016 when the Federal Ministry for Economic Affairs and Energy revoked for further review the approval it had given in early September for Chinese investment fund Fujian Grand Chip's acquisition of equipment manufacturer Aixtron (Aixtron Ad Hoc Mitteilungen, 24.10.2016). The Frankfurter Allgemeine Zeitung

Tabelle 1: **M & A transactions by Chinese investors in Germany, 2014–2016**

Target company	Sector	Chinese investor	Majority ownership and control rights of the investor	Share acquired (in percent)	Transaction/ company value (€ million)
2016 (29 until October; *announced by the company or in press reports)					
AMK	Automotive	Zhongding Sealing Parts	private	100.00	130.00–147.61
Metalsa Automotive Hainichen	Automotive	SinoMach	state-owned (SASAC)	100.00	n/a
Technisat Digital (Automotive)	Automotive	Joyson Electronics	private	100.00	236.00
Bilfinger Water Technology	Energy and Environmental Technology	Chengdu Techcent Environment Group	private	100.00	223.00
EEW Energy	Energy and Environmental Technology	Beijing Enterprises Holding	state-owned	100.00	1,594.00
Osram / Ledvance (Lighting products division)*	Energy and Environmental Technology	IDG Capital Partners / MLS / Yiwu State-Owned Assets Operation Center	private/state-owned	100.00 *	400.00 *
Osram*	Energy and Environmental Technology	San'an Optoelectronics	private	100.00 *	n/a
Scholz Holding	Energy and Environmental Technology	Chiho-Tiande Group	private	n/a	n/a
WindMW	Energy and Environmental Technology	China Three Gorges	state-owned (SASAC)	80.00	1,700.00
Number26	Finance	Horizons Ventures (Hong Kong)	private	n/a	n/a
Aixtron*	Industry equipment and machinery	Fujian Grand Chip Investmentfonds	private	100.00 *	670.00 *
Bochumer Verein*	Industry equipment and machinery	n/a	n/a	> 50.00 *	n/a
CIDEON Engineering	Industry equipment and machinery	China Railway Construction	state-owned (SASAC)	100.00	n/a
Dürr (Cleaning division)	Industry equipment and machinery	Shenyang Blue Silver Group	private	85.00	120.00
Göbler-Hirthmotoren	Industry equipment and machinery	DEA General Aviation Holding	private	100.00	4.50–5.03
High Lux / Weier Antriebe und Energietechnik	Industry equipment and machinery	Jiangxi Special Electric Motor	private	n/a	2.75
Industrial Acoustics	Industry equipment and machinery	Beijing Greentec Acoustic	private	n/a	n/a
KraussMaffei	Industry equipment and machinery	ChemChina	state-owned (SASAC)	100.00	1,012.00
Kuka	Industry equipment and machinery	Midea	private	94.50	4,663.00
Manz	Industry equipment and machinery	Shanghai Electric Group	state-owned	29.90	93.00 – 102.00
WITA Wilhelm Taake	Industry equipment and machinery	Shimge Pump Industry Group	private	100.00	9.00
Smaato	Information and Communication Technology (ICT)	Spearhead	private	100.00	135.00
Compo Consumer	Consumer goods	Kingenta	private	100.00	116.00–132.16
Schimmel	Consumer goods	Guangzhou Pearl River Piano	state-owned	90.00	24.00
Axiogenesis	Pharmaceutical industry, Biotechnology and Health	Sino-German High-Tech Fund / Donghai Securities	private	n/a	n/a
Crelux	Pharmaceutical industry, Biotechnology and Health	WuXi AppTec	private	100.00	n/a
Fiagon	Pharmaceutical industry, Biotechnology and Health	Sino-German High-Tech Fund / Donghai Securities	private	n/a	n/a
Bigpoint	Technology, Media, Telecommunications (TMT)	Youzu Interactive	private	100.00	80.00
Nordic Yards Shipyards	Transport and Logistics	Genting Hongkong	private	n/a	250.00

Target company	Sector	Chinese investor	Majority ownership and control rights of the investor	Share acquired (in percent)	Transaction/ company value (€ million)
		2015 (38)			
WEGU Holding	Automotive	Zhongding Sealing Parts	private	100.00	95.00
Waldaschaff Automotive	Automotive	North Lingyun Industrial Goup	state-owned	100.00	7.00
Lamberet Deutschland	Automotive	AVIC / Xinfei Group	state-owned (SASAC)	100.00	n/a
Ziegler	Automotive	China Fire Safety Enterprise Group	private	40.00	56.00–140.00
Whitesell Germany	Automotive	Nedschroef B.V. (Shanghai Prime Machinery)	state-owned	n/a	n/a
EFA-S	Automotive	Beijing Zhonghuan Investment Management	n/a	75.00	n/a
MBVG (Vertriebstochter Ostdeutschland Daimler AG)	Automotive	Lei Shing Hong (Hongkong)	private	n/a	n/a
Quin	Automotive	Joyson Electronics	private	75.00	90.00
Jobspotting	e-Commerce	Horizons Ventures (Hong Kong)	private	n/a	0.50
Metz Werke	Electronics	Skyworth Holdings	private	100.00	n/a
Hauck & Aufhäuser Privatbankiers	Finance	Fosun International	private	80.00	210.00–262.50
Nordic Hotels	Hotel and Catering	Louvre Hotels (Jin Jing International)	state-owned	n/a	n/a
Vincenz Wiederholt	Industry equipment and machinery	Zhongding Sealing Parts	private	100.00	n/a
OHE Mining Technology	Industry equipment and machinery	Beijing Huahai Machinery Corporation	private	100.00	n/a
Apt Hiller	Industry equipment and machinery	Sedant Group	private	75.00	n/a
FFG Werke	Industry equipment and machinery	Good Friend International Holding	private	26.00	2.30
Stoll	Industry equipment and machinery	SGSB Group	state-owned	26.00	28.50–109.60
Berkenhoff	Industry equipment and machinery	Powerway	private	100.00	n/a
HAWE Inline Hydraulik	Industry equipment and machinery	Jiangsu Hengli Highpressure Oil Cylinder	private	100.00	n/a
KTG Agrar	Industry equipment and machinery	Fosun International	private	n/a	99.70
Beltco Systems	Industry equipment and machinery	Shanghai Yongli Belting	private	45.00	0.50
Krauth Technology	Industry equipment and machinery	DuTech Holdings / Tri Star Holding	n/a	n/a	n/a
LuraTech Imaging	Information and Communication Technology (ICT)	Foxit Software	private	100.00	4.00
Baden Baden Cosmetics Group	Consumer goods	DY Affluent Fund Management	n/a	100.00	n/a
Xtremeair	Aviation	DEA General Aviation Holding	private	100.00	3.60
Cardionovum	Pharma, Biotechnologie und Gesundheit	Grand Pharma & Healthcare / Shanghai Muyi Investment	private	73.00	67.80
Lyomark Pharma	Pharmaceutical industry, Biotechnology and Health	Hainan Shuangcheng Pharma	private	75.00	28.00
Bendalis	Pharmaceutical industry, Biotechnology and Health	Hainan Shuangcheng Pharma	private	75.00	
Rheintal Klinik	Pharmaceutical industry, Biotechnology and Health	Huapont Life Sciences	private	100.00	6.00
IMD Natural Solutions GmbH	Pharmaceutical industry, Biotechnology and Health	Zhejiang Hisun Pharmaceutical	state-owned	2.00	4.00–9.00
KTB Tumorforschungs-gesellschaft	Pharmaceutical industry, Biotechnology and Health	China Equity Group	private	100.00	n/a

Target company	Sector	Chinese investor	Majority ownership and control rights of the investor	Share acquired (in percent)	Transaction/ company value (€ million)
Medisana	Pharmaceutical industry, Biotechnology and Health	Xiamen Comfort Science & Technology Group	private	n/a	26.20
High Tech Gründerfonds	Venture capital	Donghai Securities	private	n/a	300.00 **
Corsina Europe	Textile industry	Hop Lun (Hongkong)	private	100.00	n/a
Triumph (Dorina)	Textile industry	Hop Lun (Hongkong)	private	n/a	n/a
HG Sales	Textile industry	Royal Spirit (Hongkong)	n/a	n/a	n/a
HAT Hauser Trucks	Transport and Logistics	TIP Trailer Services Germany / HNA Group	private	100.00	n/a
Lloyd Werft Bremerhaven / Lloyd Investitions- und Verwaltungsgesellschaft	Transport and Logistics	Genting Hongkong	private	70.00 / 50.00	18.00
2014 (32)					
Hilite International (Teil der Hydraulik-Sparte von Siemens)	Automotive	AVIC	state-owned (SASAC)	n/a	473.00
KACO	Automotive	Zhongding Sealing Parts	private	80.00	64.00
Kokinetics	Automotive	AVIC	state-owned (SASAC)	100.00	n/a
IMA Automation Amberg	Automotive	Joyson Electronics	private	100.00	20.00
Koki Techni Transmission Systems	Automotive	AVIC	state-owned (SASAC)	100.00	n/a
Boge Elastmetall	Automotive	Zhuzhou Times New Material Technology	n/a	100.00	315.00
Alterprodia	Automotive	Ningbo Huaxiang Electronic	private	75.00	1.00
KS Aluminium-Technologie	Automotive	Huayu Automotive Systems / SAIC	state-owned	n/a	n/a
Cybex	Retail	Goodbaby International Holding (Hong Kong)	private	100.00	82.00
Renesas Electronics Europe (Display division)	Electronics	Tianma Microelectronics	n/a	100.00	n/a
Solutronic	Energy and Environmental Technology	Shanghai ChuRui Energy Technology	private	100.00	n/a
Avancis	Energy and Environmental Technology	China National Building Group (CNBM)	state-owned (SASAC)	100.00	n/a
S.A.G. Solarstrom	Energy and Environmental Technology	Shunfeng Photovoltaik International	private	100.00	65.00–153.00
Sunways AG (Solar Inverter und BIPV Sparte)	Energy and Environmental Technology	Shunfeng International Clean Energy	private	n/a	n/a
BHF Bank	Finance	Fosun International	private	n/a	513.60
DuTech Holdings / Tri Star Holding	Hotel and Catering	New World China Land (Hong Kong)	private	100.00	13.50
Wilbert Turmkrane	Industry equipment and machinery	Nanyang Guoyu Seal Development	n/a	100.00	n/a
ZF Friedrichshafen (Rubber and Adhesives division)	Industry equipment and machinery	Zhuzhou Times New Material Technology	n/a	n/a	n/a
TLT-Turbo (part of Siemens' Ventilators division)	Industry equipment and machinery	Power Construction Corporation of China	state-owned (SASAC)	100.00	n/a
Schumag	Industry equipment and machinery	Meibah International	private	54.60	2.80
Deutsche Mechatronics	Industry equipment and machinery	Tri Star Holding	n/a	54.50	n/a
Zenith Maschinenfabrik	Industry equipment and machinery	Fujian Quangong Maschinery	private	100.00	n/a
M-Tec Mathis Technik	Industry equipment and machinery	Zoomlion Heavy Industry	state-owned	n/a	41.00
Künkel-Wagner Prozesstechnologie	Industry equipment and machinery	QME Qingdao Machinery Industry	state-owned	100.00	n/a

** Funds are supposed to flow over the next five years.

Target company	Sector	Chinese investor	Majority ownership and control rights of the investor	Share acquired (in percent)	Transaction/ company value (€ million)
WACO	Industry equipment and machinery	Jiangsu Hengli Highpressure Oil Cylinder	private	51.00	0.25
Heidelberger Druck (Postpress Packaging Sparte)	Industry equipment and machinery	Masterwork Machinery	private	100.00	17.00
Columbus Holding	Consumer goods	Goodbaby International Holding (Hong Kong)	private	100.00	70.70
Weingut Diehl-Blees	Agriculture	Jiangsu GPRO Group	private	100.00	n/a
Peine	Textiles and clothing	Shandong Ruyi Sciences & Technology	private	51.00	n/a
Tom Tailor Holding	Textiles and clothing	Fosun International	private	23.16	87.50
Falcom Wireless Communications	TMT	Maestro Wireless Solutions Ltd (Hong Kong)	private	n/a	n/a
Lübeck Airport	Transport and Logistics	Puren Group	private	100.00	n/a

Note: Alphabetic order by sector of the target company. SASAC: State-owned Assets Supervision and Administration Commission.
SASAC is responsible for the 103 state-owned enterprises which are directly controlled by the Chinese central government ("Yangqi").
For an in-depth explanation of the ownership and control rights of Chinese enterprises please see Szepan 2016: 198–222. Heading of column 4 according to ibid.: 199.
The list is not exhaustive and the accuracy of the data published by third parties and used in this list is not warranted.
Source: Own research and compilation based on Ginkgo Tree Advisors 2014, 2015; EY 2016 and PwC 2016 among others. For more detailed explanations please see Appendix.

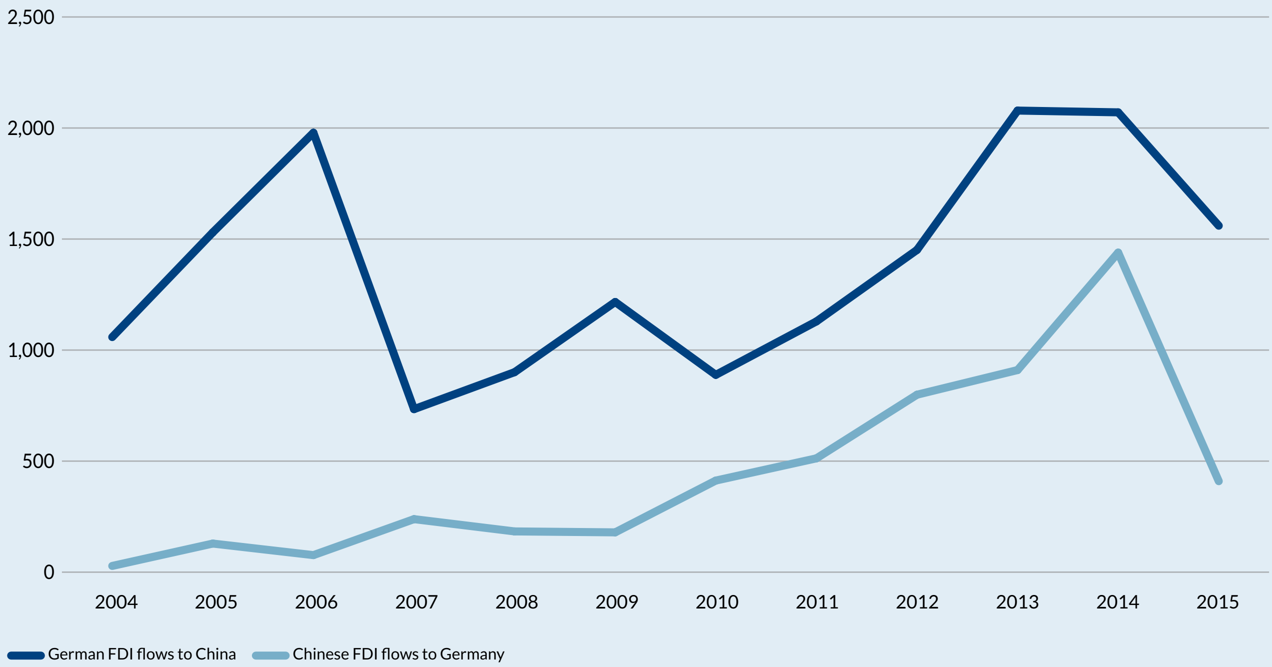
(24.10.2016) reacted with this headline: "Shareholders victims of a new wave of protectionism" ("Aktionäre als Opfer eines neuen Protektionismus"). Other media also began to address the growing protectionist attitude in Germany towards Chinese investments (cf. Welt, 24.10.2016). In fact, the whole debate on this topic and the responses to Sigmar Gabriel's recent attempts to push back is taking place as international institutions like the World Trade Organization (WTO) and the World Economic Forum (WEF) have issued repeated warnings of late against a resurgent global protectionism and the consequent negative impact on the world economy (WTO, 27.9.2016; Schwab 2016: 3, 10).

In principle, Germany is a firm believer in open markets and is skeptical of protectionist measures, especially since these can lead to a vicious cycle of action and reaction, which ultimately causes economic harm to everyone involved. Thus far, Germany has done well by taking this position, having benefited from global economic integration unlike almost any other country. The Globalization Report 2016 issued by Bertelsmann Stiftung and Prognos AG concludes that the real per capita gross domestic product (GDP) in Germany would have been €1,130 lower each year on average between 1990 and 2014 if globalization had not increased as it did (Bertelsmann Stiftung 2016). Reciprocal trade and investment flows are an important basis for Germany's economic success, with China once again playing an important role. With a trade volume of €163.1 billion, China is Germany's largest trading partner in Asia and the fourth largest worldwide (Statistisches Bundesamt, 22.9.2016). Germany is China's sixth largest trading partner and its largest in Europe (Economic and Commercial Section of the Embassy of the People's Republic of China in the Federal Republic of Germany, 29.2.2016).

While bilateral trade relations have been similarly important for both countries, German foreign direct investment (FDI) in China has to date been greater than the other way around, with German companies investing in China since the early 1980s. For example, Volkswagen began building the first Chinese-German joint venture in Shanghai in 1982 (Volkswagen AG, 8.6.2007). German companies' FDI stock in China amounted to about €60 billion in 2014, making China one of the main targets for German FDI. As a recipient of FDI from Germany, China ranks fourth in the world, after the United States, the United Kingdom and Luxembourg, and has the highest amount of German FDI in Asia (Deutsche Bundesbank 2016). For China, Germany was the seventh-largest source of FDI and its largest European investor (MOFCOM, 20.1.2016). Without the considerable sums of foreign capital that have flowed into China over the last three decades, the country would not have become the "factory of the world" and what it is today: currently the world's second largest economy and one of the main economic powers in the 21st century. Without a doubt, China has greatly benefited from direct investment from Germany and other countries (Jungbluth 2014a: 77-85).

By contrast, Chinese investment in Germany, particularly in the form of mergers and acquisitions (M&A), is a relatively

Figure 1: **FDI flows between China and Germany, 2000 – 2015 (US $million)**



Source: Statistical Yearbook of China, various years; MOFCOM, 20.1.2016; MOFCOM et al. 2005, 2016

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new phenomenon. The increase of Chinese FDI in Germany contributes to balancing bilateral investment flows between the two countries, although there was a sharp decline in 2015 (Fig. 1). However, the Chinese Ministry of Commerce (MOFCOM) has reported a rapid increase of 200.6 percent year-over-year in Chinese FDI in Germany for the period between January and July 2016 (MOFCOM, 17.8.2016). As discussed above, this development has triggered a series of ambivalent reactions in Germany, mainly due to uncertainty regarding the role of the Chinese state. This has caused questions to be raised about how to deal with Chinese investment, especially acquisitions of companies in promising key sectors. This study consequently seeks to analyze the development of Chinese FDI worldwide and in particular in Germany on the basis of existing international and national statistics and, wherever possible, to evaluate its economic significance for Germany as well as the challenges and opportunities it represents. This will provide a basis to examine the question of whether Chinese investment in Germany should be a cause for concern or even a trigger for protectionist measures. Since the available data on Chinese FDI is heterogeneous, the Appendix contains detailed explanations of the data sets used. For better readability, in the discussion that follows, we have opted not to include such details. Thematically, this study is linked to three previous studies by the Bertelsmann Stiftung on the issue of Chinese investment in Germany with different foci.[1]

1 These are: Sohms, Linke und Klossek 2009; Xu, Petersen and Wang 2012; and Jungbluth 2013.

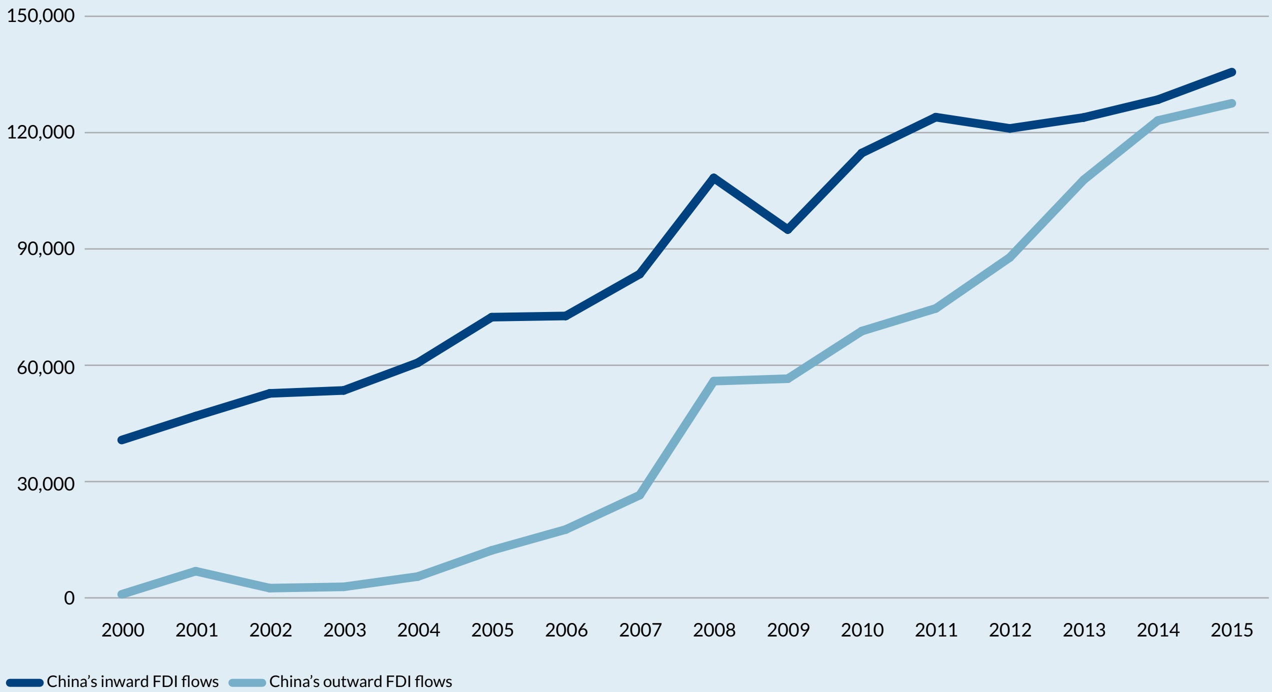
2. Political and business interests go hand in hand: China's rise as outward investor

After China proclaimed its policy of reform and opening in the late 1970s, it first positioned itself as a significant host country for foreign direct investment (FDI). Only since the beginning of the 21st century did China's rise as a major outward investor begin. Based on the statistics by the United Nations Conference on Trade and Development (UNCTAD), it is expected that China's annual FDI inflows and outflows will be balanced within a few years (Fig. 2). MOFCOM, however, has already reported that FDI outflows from China totaled US $145.7 billion in 2015, more than the US $135.6 billion that flowed in (MOFCOM et al. 2016: 7). The differences in the data may be due to different data collection and reporting methods, but may also be due to their different dates of publication (UNCTAD: June 2016; MOFCOM: September 2016; see also Appendix). It will, however, take China much longer to catch up on its outward FDI stock (Fig. 3).

There are economic, business, and political factors behind the rapid increase in Chinese outward FDI.[2] First, more and more Chinese companies are pursuing a strategy of internationalization: like companies from other countries, they too want to open up foreign markets, access technologies and know-how, build international brands, and increase

2 For the data that follows, cf. Jungbluth 2014a: 75–186.

Figure 2: **China's inward and outward FDI flows, 2000 – 2015 (US $million)**



Source: UNCTAD 2016a

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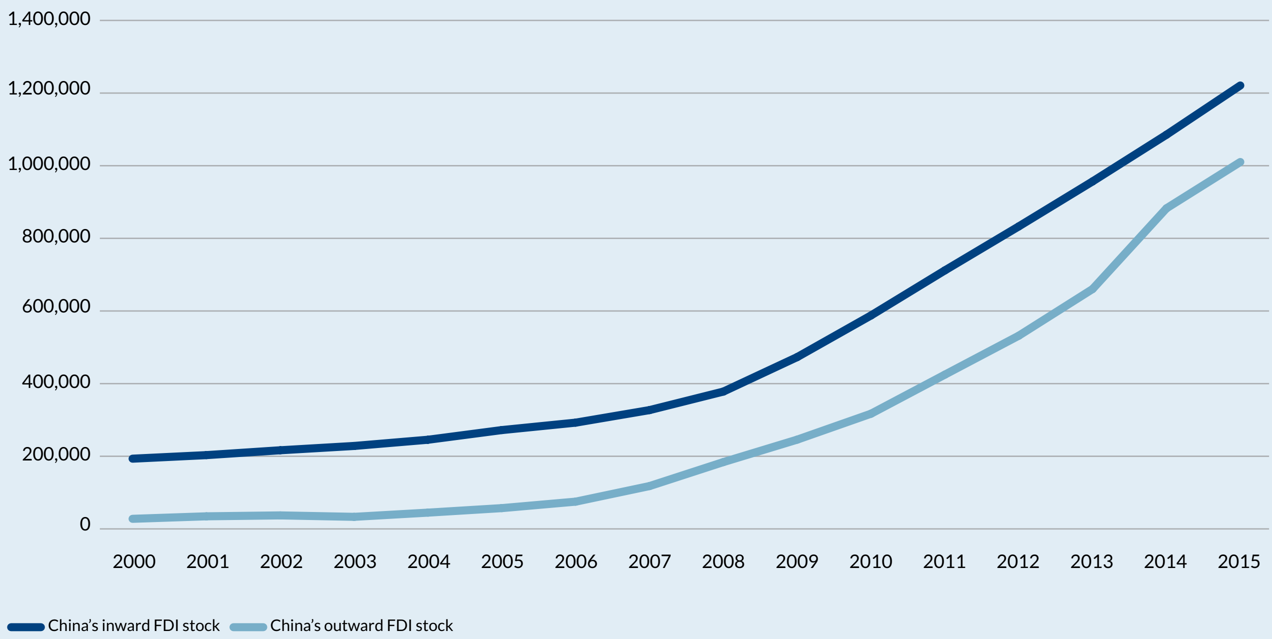
Figure 3: **China's inward and outward FDI stock, 2000 – 2015 (US $million)**



Source: UNCTAD 2016a

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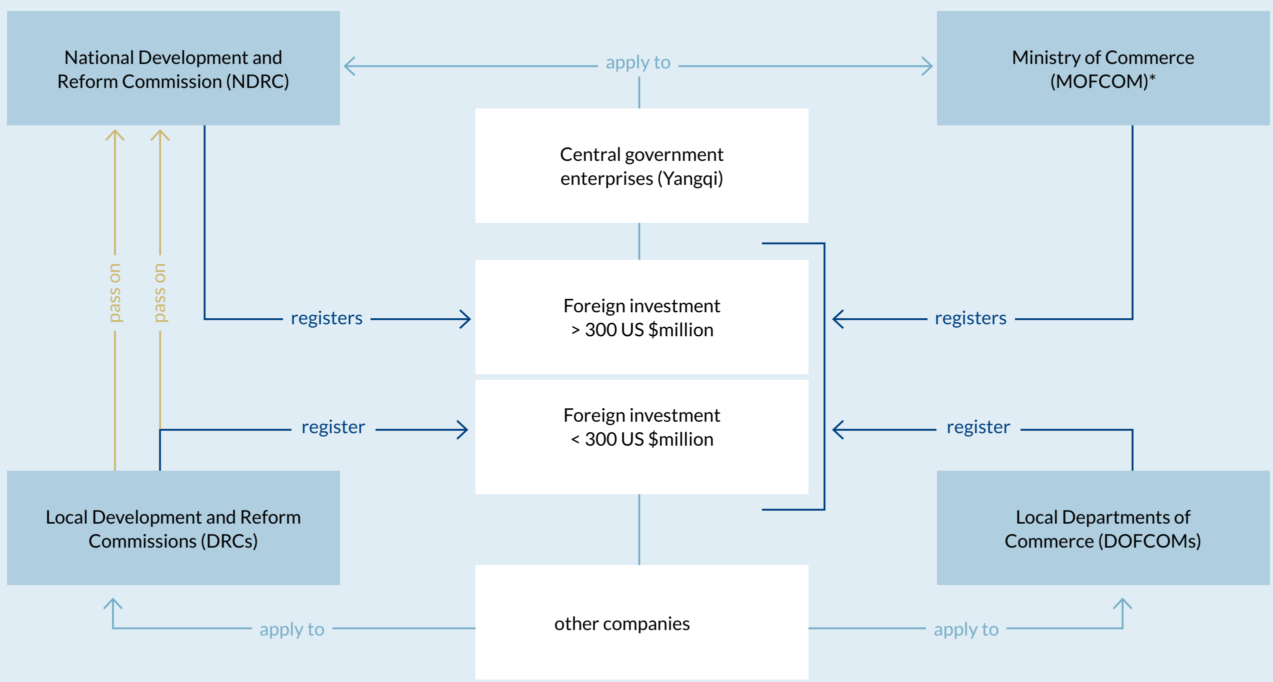
Figure 4: **Registration procedures for foreign investments by Chinese enterprises**



* For foreign investment by an enterprise from the People's Republic of China which leads to the investing enterprise owning a non-financial enterprise in the host country of the investment due to greenfield projects, M & A transactions etc., or acquiring ownership, control or management rights in a non-financial enterprise in the host country.

Source: Adapted from Jungbluth 2014a: 150

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production efficiency. In addition, Chinese companies are striving to move up the global value chains and move away from serving as suppliers to Western companies. In some industries, the Chinese market is already oversaturated. In addition, there has been a deterioration of the economic situation in China in recent years. Both factors also ensure that Chinese companies are looking abroad for new expansion and growth opportunities.

Secondly, the Chinese central government's Going Global Strategy, introduced in 2000, has made outward FDI an essential part of its reform policy. Since then it has been an integral part of China's five-year plans, including the current (13th) five-year plan for 2016–2020.[3] One important reason for this is the government's preferred model of "market access in exchange for technology," i.e. transfer of technology through FDI in China is no longer delivering the desired results.[4] Key objectives of the Going Global Strategy include China's building its own "global players," i.e. transnational companies, ensuring the supply of raw materials and energy sources, promoting indigenous innovation through research and development abroad and the acquisition of advanced technology. In the 21st century, China no longer wants to be the "world's factory," but instead the "world's research laboratory." The Chinese government sees FDI in developed countries as an important first step towards meeting this goal, with FDI in Europe and North America a focus of the Going Global Strategy. In implementing this strategy, the government significantly liberalized the rules for Chinese investment in foreign companies, including the gradual simplification of what was once a complex approval process before such investments could be made. This process culminated in 2014 in the introduction of a registration procedure for Chinese FDI of less than US $300 million (Fig. 4), based on the reforms announced by Xi Jinping's government at the end of the previous year. Thus, the conditions for Chinese FDI were significantly improved with bureaucratic restrictions lifted. Previously, for example, Chinese enterprises were at a disadvantage over other bidders in transnational acquisitions because they had to wait for Chinese government approval.

Companies whose FDI projects fit into the Going Global Strategy also obtain access to various forms of political support, such as easier access to credit. In addition, MOFCOM has set up a website to bundle together all of the information and services related to foreign investment. The "Going

3 Concerning the following section, cf. Jungbluth 2014a: 108–111, 136–156.
4 Current research results also show that FDI is not necessarily a significant contribution to the increase of technological progress in developing and emerging countries (Ashraf, Herzer and Nunnenkamp 2014).

Figure 5: **Screenshot of the "Going Global" public service platform of MOFCOM**

Source: http://fec.mofcom.gov.cn/ (as at: 2.8.2016)

Global" Public Service Platform provides companies and other actors involved in international investment activities with country-specific investment guidelines, legal documents, and policy guidelines for download. It is also possible to initiate certain administrative steps online (Fig. 5).

Since its introduction, the Going Global Strategy has become a comprehensive international strategy that goes beyond the mere promotion of foreign investment. MOFCOM explains it as follows on the "Going Global" Public Service Platform:

"'Going Global' in the broad sense includes the transnational activities of a nation in the fields of politics, military, economy, culture, education, and media. In a narrower sense, 'Going Global' refers to 'international investment and cooperation' at the economic level […]."

The Going Global Strategy thus also includes other international projects of the Chinese government, such as the "One Belt, One Road" (OBOR) initiative announced in 2013.[5] Its goal is to promote the regional economic integration, including the development of a comprehensive network of infrastructure in Eurasia, under China's financial and institutional leadership (Grieger 2016). The official Chinese FDI statistics now list investments associated with the OBOR separately (e.g. MOFCOM et al. 2016: 19). The Going Global Strategy thus forms the central policy framework for all international activities pursued by Chinese companies. Nevertheless, it is not some blueprint produced by China's government to centrally coordinate the overseas investment of Chinese companies. The strategy links political and entrepreneurial interests, provided that they are congruent. Chinese companies whose FDI projects align with the government's political interests are free to take advantage of these favorable policies and profit from them.

In May 2015, the Chinese government proclaimed the "Made in China 2025" industrial policy strategy, which supplements the Going Global Strategy in regard to the promotion of outward FDI. "Made in China 2025" is designed to push the restructuring of China's economy and accelerate China's ascent to the top of global value chains. To this end, the Chinese government defined ten key industries which China wants to lead globally and be a manufacturer on its own. These include new information technologies, premium CNC machines and industrial robots, energy-saving cars and cars with alternative drive technologies, biomedicine and premium medical equipment. The Chinese government's policy document setting out the details for "Made in China 2025" expressly mentions transnational M&A as a means for implementing

5 "One Belt" refers to the "Silk Road Economic Belt (sichou zhi lu jingjidai)", which connects Europe and Asia by land. "One Road" refers to the "Maritime Silk Road of the 21st century (21 shiji haishang sichou zhi lu)" (Grieger 2016: 3).

Tabelle 2: **Top 5 countries / regions of origin of global outward FDI flows, 2000 and 2015 (US $million and percent)**

2000				2015			
Rank	Country/region	Outward FDI flows (US $million)	Share in global outward FDI flows (percent)	Rank	Country/region	Outward FDI flows (US $million)	Share in global outward FDI flows (percent)
1.	United Kingdom	232,744.4	20.0	1.	United States	299,969.0	20.3
2.	France	161,947.7	13.9	2.	Japan	128,653.8	8.7
3.	United States	142,626.0	12.3	3.	China	127,560.0	8.7
4.	Netherlands	75,634.4	6.5	4.	Netherlands	113,429.5	7.7
5.	Spain	58,213.3	5.0	5.	Ireland	101,616.0	6.9
Memorandum				Memorandum			
6.	Germany	56,557.0	4.9	6.	Germany	94,312.8	6.4
32.	China	915.8	0.1				
	Developed countries	1,071,257.3	92.1		Developed countries	1,065,192.3	72.3
	Developing countries	88,639.4	7.6		Developing countries	377,938.1	25.6

Source: UNCTAD 2016a; own calculations

Tabelle 3: **Top 5 countries / regions of origin of global outward FDI stock, 2000 and 2015 (US $million and percent)**

2000				2015			
Rank	Country/region	Outward FDI stock (US $million)	Share in global outward FDI stock (percent)	Rank	Country/region	Outward FDI stock (US $million)	Share in global outward FDI stock (percent)
1.	United States	2,694,014.0	36.2	1.	United States	5,982,787.0	23.9
2.	United Kingdom	923,366.5	12.4	2.	Germany	1,812,469.4	7.2
3.	Germany	483,946.1	6.5	3.	United Kingdom	1,538,133.0	6.1
4.	Canada	442,623.0	6.0	4.	Hong Kong	1,485,663.4	5.9
5.	Hong Kong	379,284.8	5.1	5.	France	1,314,158.1	5.2
Memorandum				Memorandum			
22.	China	27,768.4	0.4	10.	China	1,010,22.4	4.0
	Developed countries	6,682,413.3	89.9		Developed countries	19,440,805.3	77.6
	Developing countries	734,811.0	9.9		Developing countries	5,296,346.0	21.1

Source: UNCTAD 2016a; own calculations

the strategy and generally encourages Chinese companies to invest in those ten industries (State Council, 8.5.2015).

These developments have helped China's FDI to catch up significantly with that of the developed countries that have dominated global FDI in recent decades. This can be seen by comparing UNCTAD data from 2000 showing China in just 32nd place (0.1% of the global FDI outflows) and data from 2015 showing China in third place with 8.7 percent, outpacing important outward investors such as Germany. Data from MOFCOM et al. (2016) even puts China in second place in 2015. The absolute volume of Chinese FDI outflows has skyrocketed by a factor of 140 from US $915.8 million in 2000 to US $127.6 billion in 2015 (Table 2).

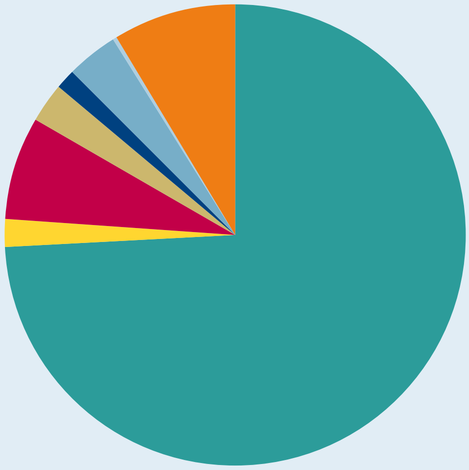
China has also caught up in outward FDI stock. At 4 percent in 2015, it was in tenth place (2000: 0.4% and 22nd place), but still clearly behind the United States, Germany, and the United Kingdom which have cumulated the highest FDI stock over time. In recent years, China has thus risen from being a minor player to an important source of FDI. It has the greatest FDI among the developing and emerging countries. Compared to the size of the Chinese economy, however, FDI still plays a relatively minor role compared to other major investor countries. In 2015, China's outward FDI stock was equal to just 9.2 percent of its GDP. In the United States, this figure stood at 33.3 percent and was 54 percent in both Germany and the United Kingdom (UNCTAD 2016). China thus has the potential to continue catching up in FDI outflows in the years to come, for economic, business, and political reasons.

2.1 Asia leads, Europe is catching up: Regional distribution of Chinese direct investment abroad

The lion's share of China's outward FDI flows (74.4%) in 2015 were invested in its Asian neighborhood, according to MOFCOM's Statistical Bulletin of China's Outward Foreign Direct Investment (SBCOFDI). This region has traditionally had an important economic significance for China (Fig. 6). 61.7 percent was invested in Hong Kong alone (MOFCOM et al. 2016: 26). Hong Kong has a special role thanks to its geographical position and historical development. However, so-called "round-tripping," where investment by Chinese companies in Hong Kong flows back to the mainland, is reason enough to believe that the data on Chinese FDI in Hong Kong is distorted. In addition, Chinese enterprises are using Hong Kong subsidiaries for FDI in other countries, which is not shown in national statistics (see Appendix).

While the developed countries are playing an increasingly important role for Chinese FDI outflows, Chinese investment in the EU declined by 44 percent in 2015. This came after a 116.3 percent increase in year-over-year Chinese FDI in the EU in 2014 (MOFCOM et al. 2015: 29; 2016: 27). This could be the result of the slow recovery in the EU. It might also mean that Chinese companies are choosing to invest in the EU through Hong Kong or offshore centers like the Cayman Islands, both of which are not shown by China's national FDI statistics. It is striking that Hong Kong's share of Chinese FDI outflows rose another 21.1 percent year-over-year in 2015, while Cayman Islands' FDI outflows jumped 59 percent in the same period (MOFCOM et

Figure 6: **Regional distribution of China's outward FDI flows, 2015 (in percent)**



Asia	74.4 %
Africa	2.0 %
North America	7.4 %
Oceania	2.7 %
Europe	4.9 %
of which EU	3.8 %
of which Germany	0.3 %
Latin America	8.6 %

Source: MOFCOM et al. 2016; own calculations | BertelsmannStiftung

al. 2016: 43, 46). Despite what may be distorted statistics, as explained in more detail in the Appendix, China's national statistics show a clear increase in Chinese FDI outflows to developed countries between 2004 and 2015. While Australia and the United States were the only two developed countries in the top ten recipients of Chinese investment in 2004, developed countries made up five of the Chinese top ten FDI targets in 2015 (Table 4). Germany is in 22nd place, having received just US $409.6 million in Chinese investment in 2015. A year earlier, it had received US $1.4 billion from China, putting it in ninth place (MOFCOM et al. 2015: 14). Nevertheless, in 2015, Germany remained the third-largest recipient of Chinese FDI in the EU after the Netherlands and the United Kingdom.

A look at the regional distribution of China's outward FDI stock delivers a similar picture (Fig. 7): At 70 percent, Asia has received a dominant portion of China's FDI over time, even while that share has dropped from 75 percent back in 2004. This is mainly attributable to the steady growth in China's outward FDI stock in the developed regions of the world. While the EU had received only 0.9 percent of Chinese cumulative FDI in 2004 (and North America only 2.0 %), by 2015 these figures had risen significantly to 5.9 percent and 4.8 percent, respectively (Fig. 7). This trend is also

Tabelle 4: **Top 10 host countries / regions of China's outward FDI flows, 2004 and 2015 (US $million and percent)**

2004				2015			
Rank	Country/region	FDI flows from China (US $million)	Share (percent)	Rank	Country/region	FDI flows from China (US $million)	Share in China's outward FDI flows (percent)
1.	Hong Kong	2,628.4	47.8	1.	Hong Kong	89,789.8	61.6
2.	Cayman Islands	1,286.1	23.4	2.	Netherlands*	13,462.84	9.2
3.	Virgin Islands	385.5	7.0	3.	Cayman Islands	10,452.48	7.2
4.	Sudan	146.7	2.7	4.	Kaimaninseln	10,213.0	7.0
5.	Australia	125.0	2.3	5.	United States	8,028.7	5.5
6.	United States	119.9	2.2	6.	Australia	3,401.3	2.3
7.	Russia	77.3	1.4	7.	Russia	2,960.9	2.0
8.	Indonesia	62.0	1.1	8.	Virgin Islands	1,849.0	1.3
9.	Singapore	48.0	0.9	9.	United Kingdom	1,848.2	1.3
10.	Nigeria	45.5	0.8	10.	Canada	1,562.8	1.1
Memorandum				Memorandum			
16.	Germany	27.5	0.5	22.	Germany	409.63	0.3

* The high percentage of Chinese FDI flows to the Netherlands in 2015 compared with the previous years is due to the fact that Chinese enterprises have withdrawn some of their FDI from Luxembourg and transferred it to the Netherlands. Therefore, divestments of USD 11,453.2 million are shown for Luxembourg in 2015 (MOFCOM et al. 2016: 45).
Source: MOFCOM et al. 2005, 2016; own calculations

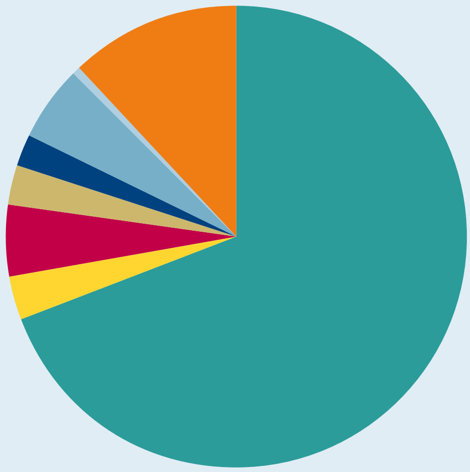
reflected in the list of the top ten target countries: in 2004 the United States and Australia were included, but not a single EU country. By 2015, five developed countries, including two EU countries, were among China's top ten recipients of FDI. Germany, having received just 0.5 percent of Chinese FDI over time, was ranked 13th in 2015. Compared with 2004, Hong Kong has lost some of its significance as a host country for Chinese FDI, but keeps its dominant role, with almost 60 percent of China's outward FDI stock in 2015 (Table 5).

2.2 Services and financial sector are ahead: Distribution of Chinese foreign direct investment by industry

Chinese FDI has diversified in recent years to include all business sectors and a wide range of industries, including various types of services, information and communications technology, and even culture and education. However, there is a clear focus on the top five sectors: in 2015, almost 76 percent of all Chinese FDI flowed into leasing and business services, the financial sector, and the manufacturing sectors. 41.5 percent of this was invested in the first three (Fig. 8).

There was a regional variance in the industries invested in. Investments in Southeast Asian developing countries

Figure 7: **Regional distribution of China's outward FDI stock, 2015 (in percent)**



Asia	70.0 %
Africa	3.2 %
North America	4.8 %
Oceania	2.9 %
Europe	7.6 %
of which EU	5.9 %
of which Germany	0.5 %
Latin America	12.0 %

Source: MOFCOM et al. 2016; own calculations | BertelsmannStiftung

Tabelle 5: **Top 10 host countries / regions of China's outward FDI stock, 2004 and 2015 (US $million and percent)**

2004				2015			
Rank	Country/region	FDI stock from China (US $million)	Share in China's outward FDI stock (percent)	Rank	Country/region	FDI stock from China (US $million)	Share in China's outward FDI stock (percent)
1.	Hong Kong	30,392.9	67.9	1.	Hong Kong	656,855.25	59.8
2.	Cayman Islands	6,659.9	14.9	2.	Cayman Islands	62,404.1	5.7
3.	Virgin Islands	1,089.4	2.4	3.	Virgin Islands	51,672.1	4.7
4.	United States	625.2	1.5	4.	United States	40,802.0	3.7
5.	Macao	624.8	1.4	5.	Singapore	31,984.9	2.9
6.	South Korea	561.9	1.3	6.	Australia	28,373.9	2.6
7.	Australia	494.6	1.1	7.	Netherlands	20,067.1	1.8
8.	Singapore	233.1	0.5	8.	United Kingdom	16,632.5	1.5
9.	Bermuda Islands	185.2	0.4	9.	Russia	14,019.6	1.3
10.	Thailand	182.9	0.4	10.	Canada	8,516.3	0.8
Memorandum				Memorandum			
16.	Germany	129.2	0.3	13.	Germany	5,881.8	0. 5

Source: MOFCOM et al. 2005, 2016; own calculations like Indonesia were primarily in the manufacturing sector (due to cheaper production conditions) as well as agriculture, mining, and raw materials, as available. In countries such as Singapore and Japan, it was business services and the financial sector that played an important role. In North America, Chinese companies invest mainly in manufacturing and the financial sector (MOFCOM et al. 2016: 22, 29). In the EU, mining topped the list of industries attracting Chinese investors in 2015, followed by the manufacturing and financial sectors. By contrast, there was considerable disinvestment in the fields of leasing and business services in the EU. The three most important target countries were the Netherlands, the United Kingdom, and Germany (MOFCOM et al. 2016: 27–28).

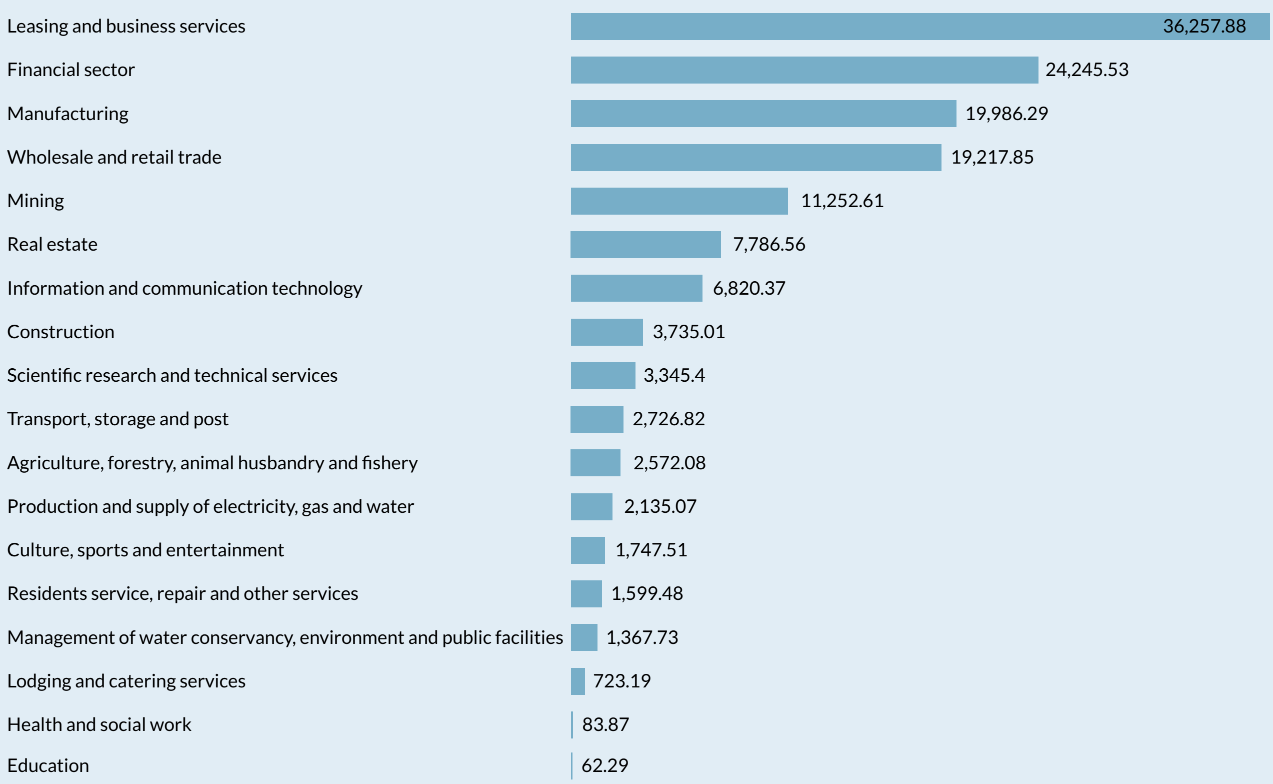
2.3 State-owned enterprises dominate: China's foreign direct investment by type of ownership

Chinese FDI remains dominated by state-owned enterprises (SOEs). In 2015, they held 50.4 percent of China's outward FDI stock, a significant decline from the more than 80 percent they held in 2006 (MOFCOM et al. 2007: 13). Private Chinese companies' share in FDI increased to 2.2 percent between 2007 and 2012, dropped back to 1.6 percent by 2014, and then climbed back to 2.1 percent the following year (MOFCOM et al. 2015: 26; 2016: 24). The situation is different when measuring the number of companies that invested abroad in 2015: 13,612 of the 20,207 (67.4 %) Chinese companies that invested abroad were limited liability companies. 1,879 (9.3 %) were private companies and only 1,165 (5.8 %) were SOEs (MOFCOM et al. 2016: 35). The bulk of the Chinese capital invested abroad has come from a relatively small number of state-owned companies.

It should, however, be noted that the types of ownership listed in official Chinese statistics are predominantly mixed forms of ownership, with varying degrees of state-owned and private shares.[6] For example, large Chinese state-owned enterprises may have subsidiaries in China that are

6 For a detailed explanation of the ownership and control of Chinese companies, cf. Szepan 2016: 198-222.

Figure 8: **Sectoral distribution of Chinese FDI flows, 2015 (US $million)**



Source: MOFCOM et al. 2016

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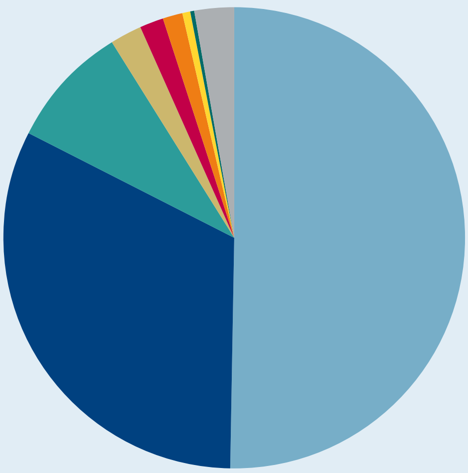
registered as limited liability companies. Moreover, both state actors and also private investors may hold shares in incorporated companies. A clear distinction between state-owned and private capital cannot be made based on Chinese official statistics. In addition to formal forms of ownership, there are also a variety of informal interrelationships between the state and companies, as for example reflected by party membership or party positions held by senior management. In the course of the restructuring reforms in China's state sector, there were cases in which the managers acquired the company from the state and then continued to operate it privately (cf. Jungbluth 2014a: 198–206). One can assume that informal relations between state and business remain close in such situations.

2.4 Varying share of M&A: Chinese foreign direct investment by type of investment

Only 25.6 percent of China's FDI in 2015 was in the form of mergers and acquisitions. By contrast, more than half of the FDI in 2004 and 2008 was M&A activity (MOFCOM et al. 2016: 10). In 2004, this was most likely affected by a few larger acquisitions, for example, in the German machine tool sector, and the still low overall FDI volume (Jungbluth 2013: 13). In 2008, bargains in the aftermath of the financial crisis proved to be irresistible to Chinese buyers (Schüler-Zhou et al. 2010). Chinese FDI has since increased rapidly while the proportion of investment volume due to M&A transactions has fluctuated wildly, and since 2010 has even declined. Instead, greenfield projects continue to dominate Chinese global FDI (MOFCOM et al. 2016: 10).

There are distinct differences between the sectors targeted by Chinese transnational M&A activity and the sectors targeted by Chinese FDI in general. Manufacturing and information and communication technology (ICT) companies represented over 40 percent percent of China's foreign M&A volume in 2015, compared to about 18 percent of the total FDI volume (MOFCOM et al. 2016: 8). These two sectors fit the "Made in China 2025" strategy announced by the Chinese government in 2015 with the stated aim of buying foreign high-tech companies (State Council, 8.5.2015).

Figure 9: **Distribution of China's outward FDI stock by type of ownership, 2015 (in percent)**



State-owned enterprises	50.4 %
Limited liability companies	32.2 %
Incorporated companies	8.7 %
Private enterprises	2.1 %
joint-stock cooperative enterprises	1.7 %
Foreign-invested enterprises	1.5 %
Hong Kong-/Macao-/ Taiwan-invested enterprises	0.4 %
Collective enterprises	0.3 %
Others	2.7 %

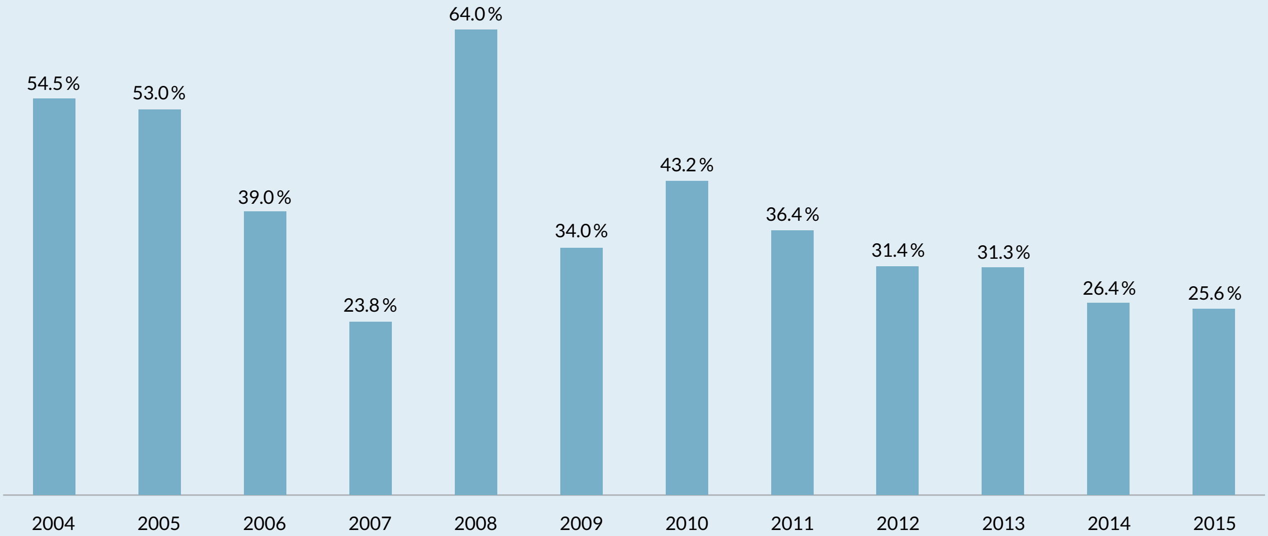
Source: MOFCOM et al. 2016 | BertelsmannStiftung

Tabelle 6: **Chinese foreign investors by type of ownership, 2015 (number and percent)**

Type of ownership	Number	Share (percent)
Limited liability companies	13,612	67.4
Private enterprises	1,879	9.3
Incorporated companies	1,559	7.7
State-owned enterprises	1,165	5.8
Foreign-invested enterprises	562	2.8
Joint-stock cooperative enterprises	458	2.3
Hong Kong-/Macao-/ Taiwan-invested enterprises	385	1.9
Collective enterprises	88	0.4
Others	498	2.4
Total	20,207	100.0

Source: MOFCOM et al. 2016

Figure 10: **Share of M & A transactions in the total annual volume of China's outward FDI flows, 2004 – 2015 (in percent)**



Source: MOFCOM et al. 2016

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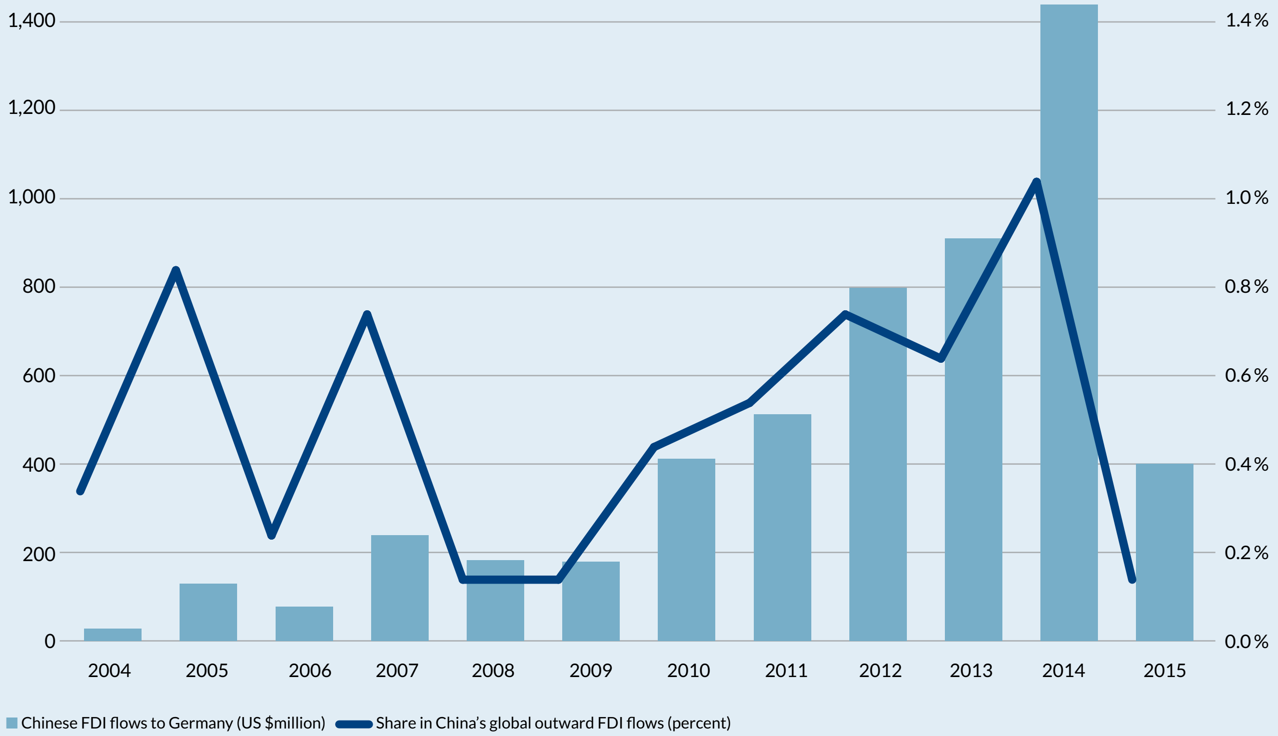
Particularly striking is the growth in Chinese M & A of foreign ICT companies, in fourth place in 2015 with US $3.6 billion in transaction volume, 6.3 percent of the total. By 2015, this had grown to the second-largest sector for Chinese transnational M & A, valued at US $8.4 billion. The focus of Chinese transnational M & A activity has therefore been on the developed countries, making up six of the top ten target regions by transaction volume in 2015, including three EU countries: Italy, the Netherlands, and the United Kingdom.

In 2014, Germany was still in eighth place, attracting US $2 billion in Chinese M & A investment activity, with Italy being the only EU member state which attracted more investment volume (MOFCOM et al. 2015: 9). In the following year however, Germany was no longer among the top ten. This change is consistent with the analysis published by auditing firm EY (formerly Ernst & Young), which showed a marked decline in Chinese M & A transaction volume in Germany in 2015, only to bounce back in the first half of 2016 (EY 2016: 8) .

3. Development of Chinese direct investment in Germany: Strong growth and further potential

According to the official Chinese statistics released by MOFCOM, Chinese direct investment in Germany grew continuously in the period between 2009 and 2014, unabated by the euro crisis. The annual inflows of Chinese FDI into Germany suffered from strong fluctuations in the years between 2004 and 2008, which may partly reflect the larger value of the M&A transactions in the context of overall investment volumes that were still small. Overall, however, Germany has become more important as a target for Chinese FDI in terms of absolute volume, growing almost by the factor of 50 in this period from US $28 million in 2004 to US $1.4 billion in 2014 (Fig. 11). In 2015, MOFCOM data indicates a dramatic break in Chinese FDI outflows to Germany, which dropped to just US $409.6 million; no detailed explanation is provided (MOFCOM et al. 2016: 27). This could be the result of the slow recovery in the EU, since overall Chinese investment in Europe dropped in that year as well. But an increase in Chinese investments in Germany via Hong Kong or other offshore centers not shown in national statistics may also play a role. For the period from January to July 2016, MOFCOM has reported a rapid return of Chinese FDI in Germany, up 200.6 percent over the pre-

Figure 11: **Chinese FDI flows to Germany and their share in China's global outward FDI flows, 2004 – 2015 (US $million and percent)**



Source: MOFCOM et al. 2016; own calculations

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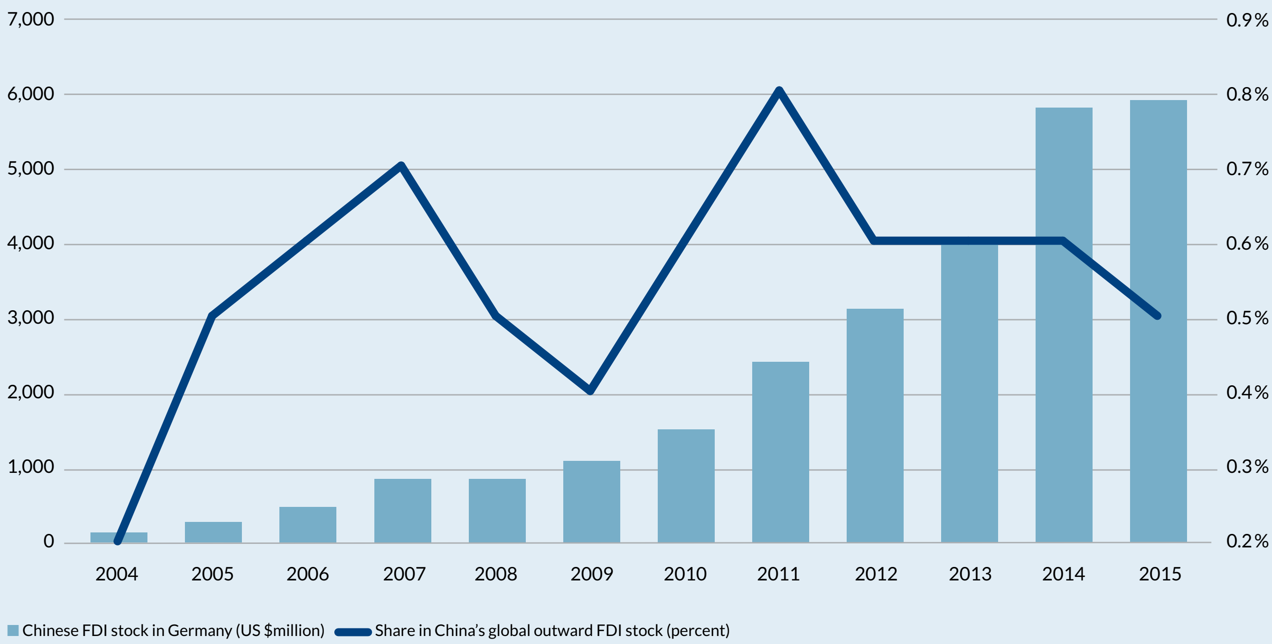
Figure 12: **Chinese FDI stock in Germany and its share in China's global outward FDI stock, 2004 – 2015 (US $million and percent)**



Source: MOFCOM et al. 2016; own calculations

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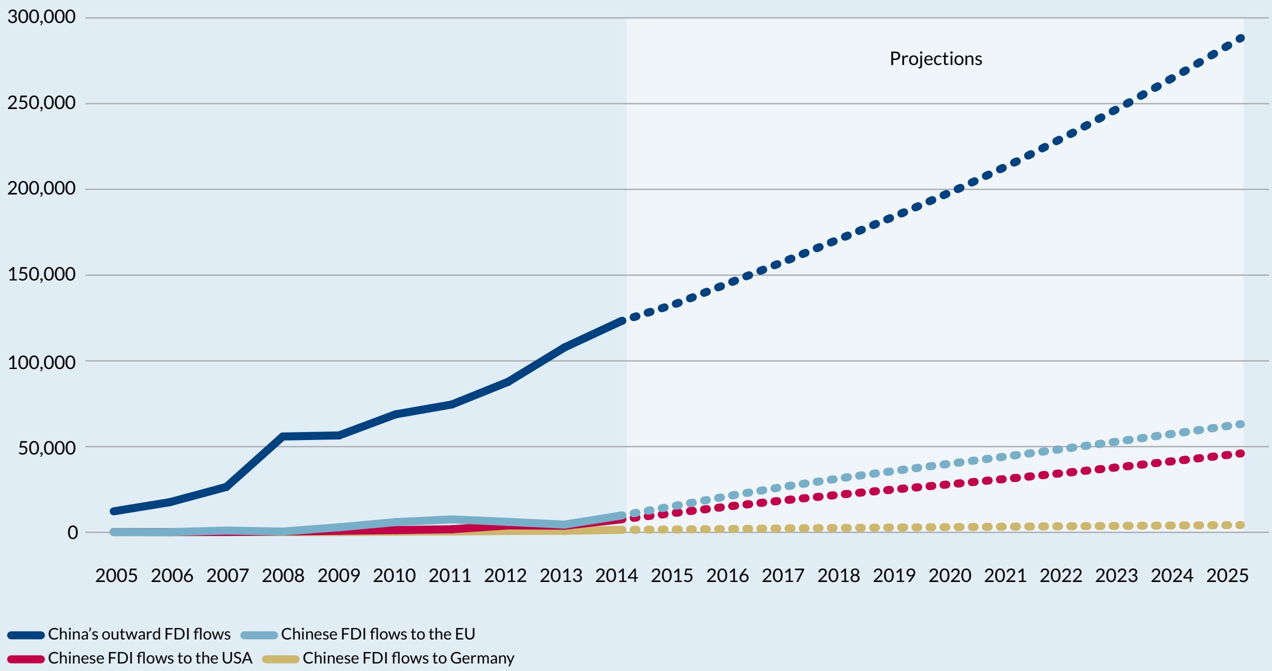
Figure 13: **Chinese FDI flows to the EU, USA and Germany, 2005 – 2025 (US $million)**



Source: MOFCOM et al. 2010, 2015; from 2015: Projection by Prognos AG commissioned by Bertelsmann Stiftung on the basis of MOFCOM data
Note: When the projection was made, the MOFCOM data for 2015 was not yet available and is therefore not taken into account.
The projection is based on a relatively mechanical method and can therefore only be regarded as a trend. It is based on historical values and does not take into account any current or presumed future political or economic events.

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vious year (MOFCOM, 17.8.2016). 2015 can therefore be considered a short-term slump in the overall trend. Chinese FDI stock in Germany has grown by the factor of 46 from US $129 million in 2004 to US $5.9 billion by 2015 (Fig. 12).

The spurts in growth, it should be noted, do reflect the fact that Chinese investment was very low at the start of the period. In addition, Germany's share in China's global outward FDI flows and stock still remains low compared to the shares received by other important recipient countries such as Singapore, the United States, or Australia. In 2014, Germany was the ninth-largest recipient of Chinese FDI outflows, receiving just 1.2 percent of the total. In 2015, China invested only US $409.6 in Germany, only 0.3 percent of its total outward FDI volume for the year (Table 4). This dropped Germany's position in China's outward FDI stock to 13th in the world (just 0.5 % of the total) (Table 5).

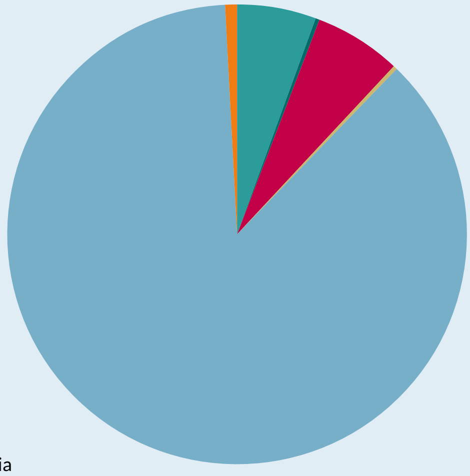
Despite the sharp drop in Chinese investment in 2015, Germany is expected to remain an important target country for Chinese FDI in the years to come and will eventually climb the ranks again. As mentioned above, the Chinese Ministry of Commerce has announced a significant recovery in Chinese investment in Germany for the period from January to July 2016. The projections prepared by Prognos AG on behalf of the Bertelsmann Stiftung expect approx. US $4.3 billion in Chinese FDI flows to Germany in the year 2025 (1.5 % of the expected total volume) (Figure Fig. 13). Generally, it can be assumed that the developed countries will remain key targets for Chinese FDI. Forecasts suggest that the EU and the US combined could make up nearly 40 percent of annual investment flows from China by 2025 (Figure Fig. 13).

3.1 Europe leads: Regional origin and sectoral distribution of foreign direct investment in Germany

The German Federal Bank reports that China holds only 0.3 percent of Germany's total FDI stock, whereas Asian countries together hold about 6 percent. Of this, Japan alone accounts for 3.8 percent percentage points. Asian investment in Germany has taken place mainly in wholesale and retail trade; repair of motor vehicles and motorcycles; manufacturing; and financial and insurance activities. In some sectors, over half of the Asian FDI stock has been cumulated by Japan, which is the only Asian country to be listed in this section separately. The German Federal Bank data therefore offer no specifics on the sectoral distribution of China's FDI stock in Germany.

The vast majority (86.8 %) of cumulative FDI in Germany has been made by other European countries (Fig. 14), with

Figure 14: **Distribution of FDI stock in Germany by region, 2014 (in percent)**



Asia	5.9 %
of which China	0.3 %
Africa	0.2 %
North America	6.0 %
Oceania and polar regions	0.3 %
Europe	86.8 %
Central and South America	0.8 %

Source: German Federal Bank 2016; own calculations;
Note: The chart is based on primary and secondary FDI stock in Germany (consolidated).

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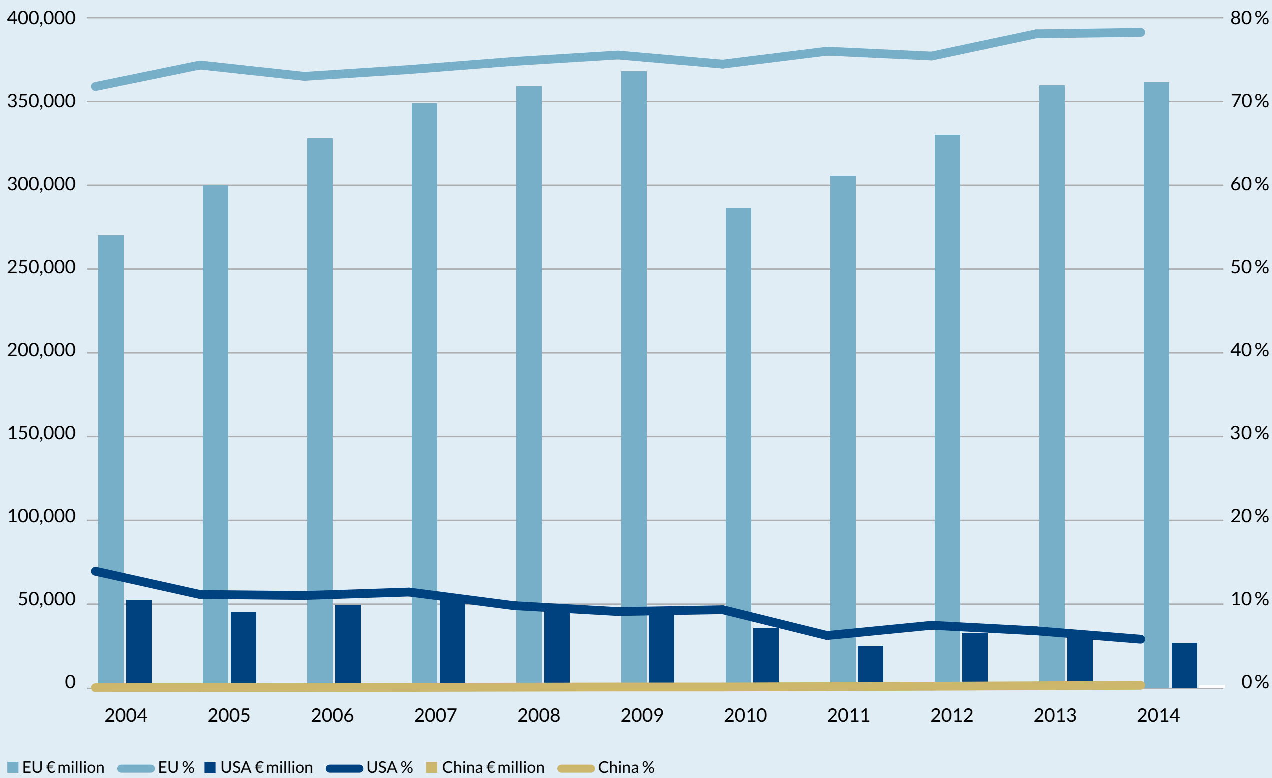
fellow EU member states accounting for 78.3 percent of FDI in Germany. This reflects the central economic importance of the European Union for Germany. As in the case of China and Asia, geographical proximity and historical ties play an important role. EU investors are represented in all of the sectors listed in the German Federal Bank data, with a clear focus on the manufacturing sector and the provision of financial and insurance services.

Over the past decade, the other EU member states have been able to increase their importance as investors in Germany in both absolute and relative terms (Fig. 15). Largely unaffected by the financial and euro crises of the past decade, Germany is an attractive location for investment by its European neighbors. The apparent decline in 2010 is, in fact, due to a change in the German Federal Bank's method of compiling FDI statistics (see Appendix).

Having started from a very low € 191 million and 0.05 percent of the total FDI in Germany in 2004, China expanded considerably in the decade that followed, investing € 1.568 billion in Germany in 2014 for a 0.3 percent share of the total FDI in Germany for that year. An average annual growth rate of about 30 percent has had its impact,

Figure 15: **FDI stock in Germany from the EU, USA and China and their share in Germany's total FDI stock, 2004 – 2014 (in € million and percent)**



Source: German Federal Bank 2016; own calculations
Note: The chart is based on primary and secondary FDI stock in Germany (consolidated).

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Tabelle 7: **Top 10 countries/regions of origin of FDI stock in Germany, 2004 and 2014 (€million and percent)**

2004				2014			
Rank	Country/Region	FDI stocks (€million)	Share (percent)	Rank	Country/Region	FDI stocks (€million)	Share (percent)
1.	Netherlands	84,371	22.4	1.	Luxembourg	105,416	22.8
2.	United States	52,450	14.0	2.	Netherlands	94,333	20.4
3.	France	43,751	11.6	3.	United Kingdom	37,928	8.2
4.	Luxembourg	40,719	10.8	4.	Italy	37,383	8.1
5.	United Kingdom	36,089	9.6	5.	Switzerland	28,713	6.2
6.	Switzerland	23,090	6.1	6.	United States	26,989	5.8
7.	Austria	11,935	3.2	7.	Austria	20,672	4.5
8.	Japan	10,371	2.8	8.	Japan	17,318	3.8
9.	Belgium	9,029	2.4	9.	Spain	10,139	2.2
10.	Italy	8,002	2.1	10.	Sweden	8,214	1.8
Memorandum				Memorandum			
31.	China	191	0.05	17.	China	1,568	0.3

Source: German Federal Bank 2016; own calculations
Note: Based on primary and secondary FDI stock in Germany (consolidated).

Tabelle 8: **Top 5 countries of origin for greenfield projects and M&A transactions in Germany, 2015**

Greenfield projects				M&A transactions			
Rank	Country	Number	Share (percent)	Rank	Country	Number	Share (percent)
1.	China	260	13.6	1.	United States	98	23.7
2.	United States	252	13.2	2.	United Kingdom	45	10.9
3.	Switzerland	203	10.6	3.	Switzerland	35	8.5
4.	United Kingdom	127	6.6	4.	France	32	7.8
5.	Netherlands	105	5.5	5.	Netherlands	23	5.6
				11.	China	8	1.9
	Total	1.912	100.0		Total	413	

Source: GTAI 2016; own calculations

moving China from 31st in FDI volume in Germany for 2004 to 17th place in 2014 (Table 7). Proportionally, Chinese investment is only a tiny fraction of Germany's total FDI stock. By 2014, China was still far behind Germany's most important investor countries such as Luxembourg, the Netherlands, and the United Kingdom. However, they have been investing in Germany for decades. Japan remains the only Asian country to crack the top ten countries of origin of Germany's FDI stock.

3.2 Project numbers are higher for greenfield investment, but investment volumes are higher for M&A

Chinese investors mostly conduct greenfield investments in Germany and not, as often suggested in the media, M&A transactions. That being said, the amounts invested in M&A transactions involving existing assets are often higher than those invested in greenfield projects that may require a relatively small initial investment, as can be seen with a look at three different sets of data. Germany Trade and Invest (GTAI), the German government's agency for promoting foreign trade and investment, listed 2,325 FDI projects underway in Germany in 2015, made up of 1,912 greenfield projects and 413 M&A transactions. Chinese companies were responsible for 13.6 percent of the greenfield projects (260), putting them in top place, with more projects than even the United States and Switzerland (Table 4). Regionally, investors from other EU member states were responsible for 41 percent of the greenfield investments in Germany. Foreign M&A transactions in Germany were dominated by the United States (98 transactions; 23.7%) and the UK (45 transactions; 10.9%). Only eight M&A transactions (1.9%) were completed by Chinese investors in 2015, according to the GTAI.

Depending on the data set, the information on the number of Chinese investment projects in Germany can, however, differ significantly. A study by the Rhodium Group (RHG) and the Mercator Institute for China Studies (MERICS), for example, showed just 30 Chinese greenfield projects for 2014 (no more recent data was available) (Hanemann and Huotari 2015: 19), whereas GTAI (2015) says that there were 190. The EY European Investment Monitor, meanwhile, counts 79 projects (EY 2015: 3) for the same year. The number of M&A transactions also varies: for 2014, GTAI counted 27 and EY 36, but RHG counted only 18 (GTAI as cited by Hempel 2015; EY 2016: 7; Hanemann and Huotari 2015: 19). The differences are probably due to different sources and collection methods (see Appendix). All three sets of data nevertheless show that the number of Chinese greenfield investments in Germany in recent years has been significantly higher than the number of Chinese M&A transactions. The RHG data also allows a breakdown by investment volume. This confirms that the amounts invested in M&A are much higher than those invested in greenfield projects. Between 2000 and 2014, M&A made up more than 80 percent of China's FDI volume in Germany (Hanemann and Huotari 2015: 21).

3.3 Industrial goods preferred target for mergers and acquisitions; greenfield projects more diversified

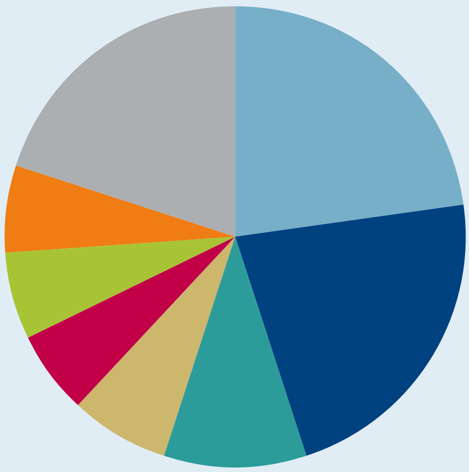
Depending on the sector, Chinese investors are choosing different methods for entering the German market. While M&A activities focus primarily on the machine tool and the automotive industry, ICT, services, consumer goods, and energy play a far greater role in Chinese greenfield investments in Germany. This can be seen in an analysis of various sets of data on Chinese M&A transactions and greenfield projects over different periods. The MERICS/RHG study provides data on both forms of market entry (Hanemann and Huotari 2015: 22), while GTAI only reports on greenfield projects (based on the commercial fDi markets database). Several sets of data about Chinese M&A activities published by corporate consulting firms and supplemented by the author's own research have resulted in a newly generated data set showing 99 Chinese M&A transactions completed in Germany from 2014 through October 2016. The available data confirms that Chinese investment in Germany is primarily being made in Germany's flagship industries. In addition, it can be said that at least 51 of the 99 Chinese M&A transactions in Germany between 2014 and October 2016 align with the "Made in China 2025" strategy. For example, investment in the pharmaceuticals and healthcare industry, as promoted in the strategy, has strengthened since 2015, after having played a largely minor role in the past (Fig. 17; Table 1; Emons 2013: 20; Wassner 2015: 5).

3.4 More investors are private companies, but the largest investors are state-owned enterprises

While the majority of Chinese M&A acquisitions in Germany through 2009 were made by Chinese state-owned enterprise (Jungbluth 2013: 13), considerably more private enterprises are now entering that market as buyers. According to PwC (2016), they were involved in 65 percent of the transactions between 2001 and 2016, while the author's own research for 2014–2016 shows an increase to almost 70 percent (Fig. 18). A look at the investment volume, however, reveals that SOEs still dominate Chinese FDI in Germany. MERICS and the RHG attribute 60 percent of China's total FDI volume in Germany between 2000 and 2014 to state-owned enterprises (Hanemann and Huotari 2015: 26). This trend in Germany thus coincides with the global trend in Chinese FDI, which shows the number of private companies involved in foreign investment to be much greater, while it is the state-owned enterprises which continue to invest the larger sums.

A more recent development in Germany is the involvement of companies controlled by the State-owned Assets Supervision and Administration Commission (SASAC), the so-called Yangqi, which means that they are owned directly by the Chinese central government (see Appendix). Between 2014 and 2016, ten of the 20 M&A transactions in Germany made by Chinese state-owned enterprises were made

Figure 16: **Chinese greenfield projects in Germany by sectors, 2008 – 2013 (in percent)**



Industrial machinery and equipment	23.0 %
Electronics and semiconductors	22.0 %
Consumer goods	10.0 %
Energy, minerals and metals	7.0 %
ICT and software	6.0 %
Business and financial services	6.0 %
Chemicals, plastics, paper	6.0 %
Other sectors	20.0 %

Source: Adapted from GTAI 2014: 12
Original source: fDi Markets, 2014
Note: Expansions and joint ventures are included, , but no M & A transactions.

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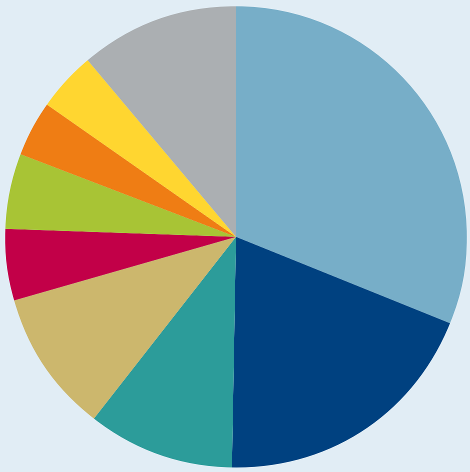
Figure 17: **M & A transactions by Chinese investors in Germany by industry sectors, 2014 – 2016 (in percent)**



Industrial equipment and machinery	31.3 %
Automotive	19.2 %
Pharmaceutical industry, Biotechnology and Health	10.1 %
Energy and Environmental Technology	10.1 %
Textiles and clothing	5.1 %
Consumer goods	5.1 %
Transport and Logistics	4.0 %
Information and Communication Technology (ICT)	4.0 %
Others	11.1 %

Source: own research; for detailed sources and notes see Table 1

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by Yangqi or their subsidiaries (Fig. 18). This represents 10.1 percent of all Chinese FDI transactions in Germany recorded during this period. Our research also indicates that another ten M&A transactions in Germany were made by Yangqi or their subsidiaries in the much longer time span of ten years since the founding of the SASAC in 2003.[7] This development is a challenge because Yangqi can be considered an arm of the Chinese central government and it is hard to refute the assumption that FDI by these companies are driven by industrial policy motives.

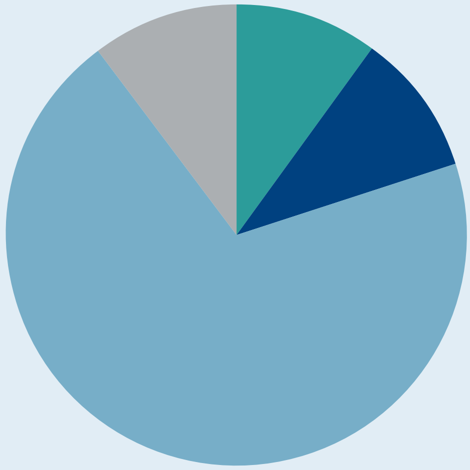
3.5 Room for growth: the economic significance of Chinese direct investment in Germany

The high growth rates of Chinese investment in Germany suggest China's growing economic importance as a source of investment capital. The economic effects of this development are still minimal due to the currently low investment volume, which, however, is slowly but steadily on the rise. This can be seen in important key indicators of Chinese companies operating in Germany, including their absolute number, their annual turnover, and their number of employees.

The German Federal Bank (2016) reported 15,818 foreign companies operating in Germany in 2014 with a total of approx. 2.9 million employees and an annual turnover of approx. € 1.496 trillion, but these statistics only considered companies with total assets of more than € 3 million. Of these, 82 companies (0.5 %) were Chinese-owned. These 82 companies had approx. 8,000 employees (0.3 %) and a turnover of € 2.9 billion (0.2 % of the total). Compared to 2004, both the number of Chinese-owned companies in Germany as well as their turnover have increased almost by factor five. The number of people they employ has increased more than eight times (Table 9). Nevertheless, Chinese companies have been present in Germany for a much shorter time span than the most important investors in Germany. Therefore, they have also created much fewer jobs. There is no systematic data available about the number of jobs that could eventually be lost due to Chinese takeovers (Jungbluth 2013: 63).

As mentioned above, the statistics released by the German Federal Bank are subject to certain restrictions. It is therefore useful to evaluate in addition datasets from other sources to get a broader picture of the impact of Chinese FDI on employment in Germany. GTAI (2014: 8), using statistics reported by the sixteen German federal states, assumes that a total of 1,300 Chinese companies are operating in Germany, employing some 16,000 people. The EY European Investment Monitor also provides insights into the potential effects of Chinese investments on the German labor market. The Monitor reports that Chinese greenfield investments in Germany have created 5,002 jobs in the years between 2004 and 2014. About 75 percent (3,766) were created in the final three years of that period, with fluctuations over the reporting decade being mainly attributed to individual major projects (EY 2015). Overall, the report's authors expect Chinese investment to continue creating jobs in Germany. Since Germany is becoming increasingly important as a target for Chinese FDI, there is certainly potential for this to be realized.

Figure 18: **M & A transactions by Chinese investors in Germany by type of ownership, 2014 – 2016 (in percent)**



state-owned	10.1 %
state-owned (SASAC)	10.1 %
private	69.7 %
n/a	10.1 %

Source: own research; for detailed sources and notes see Table 1

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Even if a systematic review of data concerning Chinese FDI in Germany proves difficult due to varying collection methods and priorities in existing statistics, the previous analysis does reveal certain trends. Certainly, Chinese investment in Germany has been on the rise in recent years. However, its growth rate has varied from year to year and continues to fluctuate. This is partly because the Chinese were recently still at a relatively low level of investment, making the annual jumps in percentage terms seem

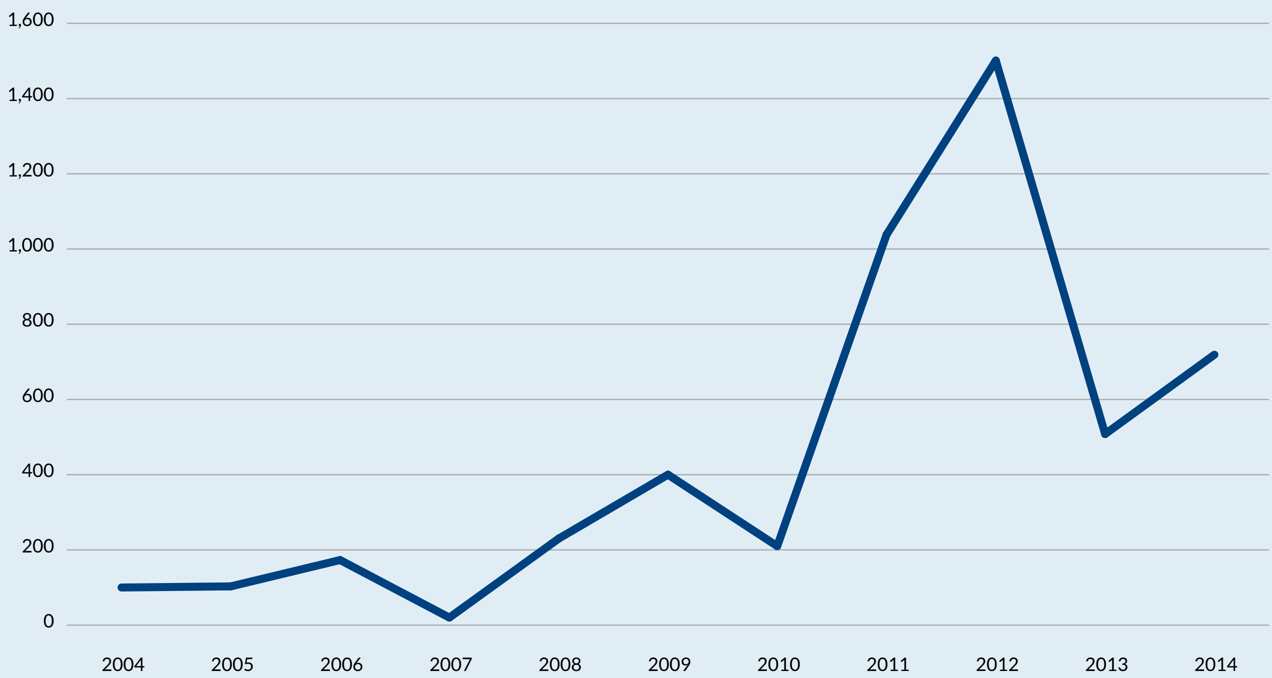
7 This information is based on a comparison of the following tables about Chinese M&A with the list of yangqi on the website of SASAC (3.8.2016): Emons 2013: 19-20; Jungbluth 2013: 13; Strack and Black 2014: 3; Wassner 2015: 5.

Tabelle 9: **Key indicators of foreign companies in Germany — China compared with the top 10 countries of origin, 2004 and 2014**

2004				2014			
Country	Number of companies	Employees (in '000)	Turnover (in € billion)	Country	Number of companies	Employees (in '000)	Turnover (in € billion)
Niederlande	1,963	525	229.3	Luxemburg	2,266	352	133.2
USA	1,278	518	187.6	Niederlande	2,916	632	298.1
Frankreich	905	278	96.0	Vereinigtes Königreich	1,373	237	227.5
Luxemburg	575	169	57.8	Italien	604	100	62.3
Vereinigtes Königreich	796	175	159.3	Schweiz	1,906	400	143.4
Schweiz	1,215	243	75.1	USA	1,372	279	138.7
Österreich	506	107	41.5	Österreich	1,143	165	64.7
Japan	366	43	36.0	Japan	442	51	36.9
Belgien	287	55	38.3	Spanien	274	90	39.8
Italien	282	42	22.7	Schweden	438	86	73.7
Memorandum				Memorandum			
China	18	0	0,6	China	82	8	2.9

Source: German Federal Bank 2016
Note: The chart is based on primary and secondary FDI stock in Germany (consolidated).Descending order of countries by amount of their FDI stocks in Germany in 2014.
See table 7 for individual countries' FDI stock in Germany.

Figure 19: **Number of jobs in Germany stated by the Chinese investor when announcing the project, 2004 – 2014**



Source: EY 2015

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more dramatic than they would be if their previous investment volume had been higher. Compared to Germany's main investors, China still plays a subordinate role. Other EU member states continue to be the top-ranking sources of FDI stock in Germany. The largest Asian investor in Germany is Japan. Contrary to the perception suggested in the media, there are more Chinese investors setting up greenfield projects than those seeking M&A transactions in the German market. Chinese investment in Germany has focused mainly on machine tools, the automotive industry, and environmental technology, with the pharmaceutical and healthcare industries gaining in importance since 2015. Chinese companies investing in Germany make a positive contribution to the employment situation in Germany. They also reduce the quantitative asymmetry in the investment relations between the two countries.

However, the analysis also shows that Chinese state-owned enterprises dominate in terms of the amount of capital invested. Yangqi, i.e. companies directly under central government control, are playing an increasingly important role in Chinese M&A activity in Germany. Germany's industrial structure fits into the framework of China's Going Global Strategy as well as its new industrial strategy "Made in China 2025". Our research indicates that at least 51 of the 99 M&A transactions completed by Chinese investors between 2014 and 2016 are associated with one of the ten key industries named in the "Made in China 2025" strategy for Chinese investment. The strategy has affected Chinese investment patterns since it was announced in 2015, with a subsequent uptick in Chinese investment in the German healthcare and pharmaceuticals industry. The partially opaque ownership structures of Chinese companies rekindle the debate over who is actually making these investments: state or business.

4. Challenges and opportunities of Chinese direct investment in Germany

The economic significance of Chinese FDI in Germany has grown in recent years and shows future potential. While greenfield investments receive less public attention, Chinese takeovers of German companies are increasingly drawing criticism from policymakers, business leaders, and the public, especially due to the rapid increase in the number of Chinese M&A transactions since 2014. During the same period, increasing involvement in Chinese FDI can be seen on the part of the Yangqi, i.e. government-controlled companies. These developments involve a number of opportunities, but also great challenges, both at the microeconomic level for the companies themselves, as well as at the macroeconomic level for Germany.

4.1 From a business perspective: More opportunities than challenges

From an entrepreneurial perspective, investing in Germany represents a great opportunity for Chinese investors to advance their access to the global markets. Germany's favorable geographic position offers Chinese investors a "gateway to Europe" and thus not only access to the German market, but also the entire EU common market. Chinese investors hope to gain better access to distribution channels within Europe and a deeper understanding of the needs of European customers (Jungbluth 2013: 37). As they internationalize, Chinese companies are also trying to climb up the global value chains and emancipate themselves from their present role as primarily suppliers to Western companies. To speed up this process, they are seeking access to technology and know-how by FDI in developed countries. In this respect, the high density in technological world market leaders (so-called "hidden champions") that are desirable M&A targets makes Germany an attractive host country for Chinese FDI (Emons 2015: 142-143). An increasing number of Chinese enterprises from entirely different sectors also want to build an international reputation and expand their own brands in order to catch up with other multinational companies. In other words, they want to become the Chinese Siemens, Samsung, or Sony. The positive reputation associated with the label "Made in Germany" could help them in this regard (Jungbluth 2013: 75-76).

At the company level, there may be spillover effects in both directions: on the one hand, Chinese companies in Germany are gaining experience in a thriving free market environment and can take the lessons learned and apply them to their business activities in China. On the other hand, German employees in Chinese companies are becoming familiar with the Chinese mindset, which further intensifies intercultural exchange. When taken over, German companies may also gain a foothold in Asia thanks to their new Chinese parent companies. Especially for small and medium-sized German companies with limited financial and human resources, this can be a great opportunity.

For German SMEs having a succession problem or who are looking for a long-term investor, joining forces with a strategically motivated Chinese investor may also make more sense than financial investors from other countries with a more short-term quarterly mindset (Jungbluth 2014b: 5-7). This has been confirmed by experiences from codetermination in acquired German subsidiaries. Chinese investors have been prepared to make some major concessions, for example, in the form of long-term location guarantees (e.g. Sany/Putzmeister through 2020; Midea/Kuka through 2023). They also frequently give their German subsidiaries operational freedom (Emons 2015: 143).

For the Chinese investors and the newly acquired German companies, having a location in Germany delivers not only important strategic opportunities, but also certain challenges. China and Germany have significantly different political, legal, and economic environments. Linguistic and intercultural barriers make it difficult for Chinese investors to enter the German market. Chinese companies are used to a culture where relationships and networks can be exploited very flexibly and profitably. In Germany, they need to adjust their attitude in this respect, since relationships play an entirely different role in Germany and can replace formal processes only in the rarest of cases (Jungbluth 2014a: 255).

Takeovers also require the integration of two very different corporate structures and cultures. Since the leadership styles, business concepts, and methods used by Chinese and German managers differ significantly, the problems here are often greater than with mergers of two companies in the same or similar cultures (Reisach 2016: 20-21, 23). This is also reflected in the media coverage of Chinese investment in Germany, which may well be described as tendentious, as seen in the sensational headlines sampled above. There is next to no comparable reporting about investors from other countries. For Chinese companies in Germany, this is a difficult situation because they are, on the one hand, not accustomed to critical press coverage and, on the other hand, they fear a negative impact on their reputations (Kunkel 2015: 3).

For the newly acquired German companies, long-term development is a challenge. It is unclear what will happen once the location guarantees expire, particularly if the growth of China's economy continues to slow down in coming years. The effects for both the Chinese parent company and its German subsidiary are therefore difficult to estimate. Add to this the fact that there is already a certain amount of technology transfer to China taking place, for example, through the exchange of personnel or patents (Emons 2015: 144). This raises the question of what this might mean in the long term for the company and what role this will play for the Chinese investor after it adopts the acquired technology in its China location.

Currently, from a business perspective, the opportunities presented by Chinese FDI in Germany appear to outweigh the challenges. This is especially true for the Chinese investors, but it also applies to the newly acquired German companies. Most of these acquisitions have taken place in the past three years. In many cases, both the locations and jobs enjoy a limited protection period. Only when this runs out will it be possible to predict long-term prospects for these investments.

4.2 From an economic perspective: More challenges than opportunities

From a macroeconomic perspective, the free flow of goods, capital, and people is a great opportunity and can contribute significantly to increasing economic prosperity. FDI injects capital into the country's economy, can create new jobs, or, in the case of M&A transactions, preserve existing jobs. Since Chinese investors in Germany are focusing on high-tech industries such as machine tools, automotive, and the ICT sector, they are helping to create and preserve high-quality jobs and are also promoting research and development in Germany through the creation and expansion of R&D centers (Jungbluth 2014a: 246-248). In general, FDI further intensifies the relations between the countries involved, not only economically, but also politically and culturally. This is true regardless of the investor's country of origin.

A particular opportunity is made possible by the increase in Chinese FDI in Germany: stronger leverage for German companies in China. A Chinese parent company can improve networking with key stakeholders in China and thus better represent the German subsidiary's interests in China. And the more Chinese companies that become active in Germany and are given an equal standing with German companies, the more equal treatment of German companies in China can be demanded in the future. These effects have yet to be systematically studied and are more likely to appear in the long term (>10 years).

On the other hand, Chinese investment in Germany brings challenges that go beyond the economic impact. First, the interwoven relationships between government and business in China are significantly more knotted than those in the West (Heilmann 2016: 220-222). The interests pursued by Chinese companies with their foreign investments are often congruent with the industrial policy goals of the Chinese government and vice versa. Formal ownership structures only give a partial glimpse of the Chinese state's participation in FDI and its financing, since state actors can also be involved in companies that are not identified as state-owned enterprises.

There are also countless informal interwoven links that affect private companies (Szepan 2016: 199-203). Private enterprises making investments in line with the Going Global Strategy are as eligible for credit concessions and other assistance as the SOEs (Jungbluth 2014a: 184-186, 261-263). This might create unfair competition if, for example, Chinese bidders in M&A transactions are able to pay higher prices because they are receiving political subsidies. Under these circumstances, it is very difficult to distinguish between the business and political motives for Chinese FDI.

A second key challenge in the investment relations between Germany/the EU and China is the lack of reciprocity. Germany, like the other EU member states, offers Chinese investors free market access and non-discriminatory investment promotion (Jungbluth 2013: 57-62). As shown in the above analysis, Germany is extremely attractive as a location for Chinese investment because of its technological edge. German companies with key technologies are lucrative takeover objects. And the Chinese government's industrial policy encourages this type of FDI and supports Chinese investors in the form of the Going Global Strategy and the "Made in China 2025" strategy.

Germany has to date given Chinese buyers free rein and, except in the still-undecided case of Aixtron, no serious steps have been taken to protect key German technologies. As Chinese companies are investing specifically in high-tech industries, however, it must be asked whether and how Germany can maintain its lead in the global value chains if China, as one of the world's major economic players, systematically hampers fair competition. This is because in the reverse case, such acquisitions would be unthinkable: the Chinese government deliberately protects strategic industries against foreign access. As a result, German and European companies in China are subject to inequality and discrimination compared to domestic companies. In certain industries, joint ventures, which may give the Chinese partner preferential access to foreign expertise, are still mandatory. Other industries are completely off-limits to foreign investors (European Chamber 2016: 25-29). This enables China to build Chinese competitors with resources that companies in free-market economies can rarely match. German companies that wish to enter the lucrative Chinese market and build a stable foothold there are discriminated against, while Chinese companies enjoy free market access in Germany. This situation has improved under Xi Jinping less than expected, as some of the economic reforms failed to meet (Western) expectations (European Chamber, 06/07/2016: 20-21). As a result, there is still no level playing field, even fifteen years after China joined the World Trade Organization.

5. Addressing Chinese direct investment in the future: Neither naive nor protectionist

The changes in Chinese FDI in the past three years reflect a new quality, which underpins the assumption of "a new era of Chinese capital" (Hanemann and Huotari 2015). The introduction of the FDI registration procedure in 2014 was a formal milestone and has helped to open the floodgates for the outflow of capital from China. The new "Made in China 2025" industrial strategy released in 2015 has been added to the existing Going Global Strategy and the current 13th Five-Year Plan (2016-2020), all of which have included policies to promote FDI in key industries. In addition, at least 51 of the 99 Chinese M&A transactions in Germany between 2014 and October 2016 align with the "Made in China 2025" strategy. Investment in the pharmaceuticals and healthcare industry, as promoted in the strategy, has strengthened since 2015, after having playing a largely minor role in the past. Chinese companies benefit significantly from the open markets and non-discriminatory FDI regimes in Germany and other European member states.

Conversely, foreign companies are still formally and informally discriminated against in China in favor of domestic companies. This situation is reflected in the fact that China suffers from the quantitative asymmetry in the investment relationship between China and Germany, while Germany clearly receives qualitatively less advantageous access.

Germany and Europe need foreign investment and can benefit from it, but the time has also come to initiate a serious debate over FDI that contradicts the principle of reciprocity. Germany has relied on on bilateral negotiations and discussions with China in the past, but the progress in terms of equal market access, for example, has not always been satisfactory. As Germany and other EU member states continue to become more important investment targets for Chinese companies, this could be used to leverage greater reciprocity. The envisaged bilateral investment agreement which the EU and China have been negotiating since 2013 would be an appropriate platform to apply this leverage and insist on a negotiated settlement. The practical implementation of the agreements should play a central role, thus avoiding the rise of a "paper tiger."

In parallel, it is useful to examine an extension of existing instruments to monitor FDI and consider new instruments at the EU level, if necessary, that would take into account current developments, particularly with regard to competitive conditions distorted by state-backed investment. Germany is a firm believer in open markets and opposes protectionism, but a certain amount of self-protection is necessary to prevent selling off German interests on the basis of unfair competition. However, the principle of non-discrimination must not be disregarded. Potential new regulations for foreign direct investment must be in place and implemented independently of the country of origin. A formal or informal "lex sinica," i.e. a distinct treatment of Chinese investments, would be contrary to the principles of a free market economy. The key is to find a way between naively selling off German interests and activist protectionism. This path has yet to be identified by Germany and the EU.

Creating greater reciprocity should also be in China's interests. This would give them the opportunity to eliminate concerns about Chinese foreign investment and allow for positive bilateral negotiations. A sore point is the ownership structure of Chinese companies, which remains opaque to outsiders. In addition to the unclear formal ownership structures, there is a multitude of informal entanglements between government and business which also affect the private sector. More openness and transparency about China's state participation in FDI would be desirable and could contribute in the long term to removing generalizing prejudices.

Germany and China benefit greatly from their bilateral investment and trade relations. It is in the interest of both countries to promote mutual investment and to assist investors from the other country as much as possible.

This includes equal access to the market, transparent investment promotion, and a non-discriminatory investment environment as already exists in Germany. China also finally ought to ensure that these conditions equally apply to foreign investors in China.

Appendix: Explanatory notes on the data sets and statistics used

The analysis of the various data sets and statistics used in this study shows that the relevant institutions focus on different aspects when compiling FDI data and therefore apply different compilation methods. In addition, some national statistics are released with a two-year time lag. There is also usually some ex-post adjustment of the statistics in the years that follow, which means that the data may differ, depending on when it is accessed. National statistics also give no information about the original source of the investing companies or their parent companies. For example, the statistics about Dutch investment in Germany may actually reflect investment by Dutch subsidiaries of US, French, or Chinese companies.

In Chinese FDI statistics, the special role of Hong Kong is significant, as will be discussed in more detail below (see section C). These limitations make it difficult to assess the extent and character of Chinese foreign investment in Germany in its entirety. Therefore, a combination of different data sets, as has been done in this study, is useful. The need for a standardized method of data compilation will become greater in the years to come. To better understand this situation, we describe the specific characteristics of the individual data sets below.

A. International and national statistics on foreign direct investment

World Investment Report (WIR)

The United Nations Conference on Trade and Development (UNCTAD) publishes the World Investment Report (WIR) each year (usually in July) on current trends in global investment flows and positions. The Annex Tables provide detailed data on global FDI inflows and outflows as well as on global FDI stock (UNCTAD 2016a). The definition of FDI underlying the WIR largely corresponds to the definition of the Organisation of Economic Co-operation and Development (OECD): cross-border investment with the objective of obtaining a lasting interest and control. A controlling interest is normally available to investors holding at least ten percent of a foreign company (UNCTAD 2016b: 3; 79). The FDI data in WIR is mainly based on national statistics produced by each country. For historical data, in particular, the report also draws on data held by other international organizations such as the International Monetary Fund or the World Bank or on estimates (cf. UNCTAD 2016b: 22). The WIR offers, among others, the advantage of having far-reaching historical data; for example, data on Chinese FDI dating back to 1982. This allows the tracing of historical developments. The WIR does not provide country-specific breakdowns, e.g. by sector. This information can be found in Chinese and German national statistics.

Statistical Bulletin of China's Outward Foreign Direct Investment (SBCOFDI)

The Chinese Ministry of Commerce (MOFCOM), the State Administration of Foreign Exchange (SAFE), and the National Bureau of Statistics (NBS) have been publishing a comprehensive set of official statistics on Chinese FDI flows and stock each year since 2003, usually in late September. The Statistical Bulletin of China's Outward Foreign Direct Investment (SBCOFDI) is based on the FDI Statistics System introduced on 01.01.2003. Companies are required to disclose their foreign investment activities for statistical purposes (MOFERT and SAFE 2002). It includes foreign investments with which a Chinese company uses cash, fixed assets, or intangible assets to start a new venture or take over another company abroad by acquiring at least ten percent of its shares and with the right to control its management activities. For some years, the data listed in SBCOFDI differs from that in UNCTAD, since financial and non-financial FDI are not always listed together (MOFCOM et al. 2016: 6). The data for the SBCOFDI is initially aggregated by MOFCOM from the reports of local Departments of Commerce (DOFCOMs). This ensures that companies regularly provide information for statistics (MOFCOM et al. 2016: 73-74). The SBCOFDI provides detailed information about Chinese FDI flows and stock. It provides data broken down by region and country, sector, ownership structure of the investing companies, and the type of investment.

However, the SBCOFDI provides country-specific details for the last four categories only for certain key countries, such as the United States. The EU is listed separately as an economic region, while the data is not drilled down for Germany alone (MOFCOM et al. 2016: 26-31). The information provided in SBCOFDI does not remain consistent from one year to the next. Sometimes, certain details are given in one year on the basis of FDI stock (for example, ownership forms) and then in the following year based on FDI flows or vice versa, or they might not be reported. This study has tried to rely on the most current data.

Special Statistical Publication 10: “Foreign Direct Investment Stock Statistics”

The German Federal Bank publishes its report Foreign Direct Investment Stock Statistics annually, usually in late April. These statistics only cover FDI stock, including greenfield investments, M&A transactions, lines of credits, and bonds. The data are broken down by country of origin and economic sector. The publication also provides important key indicators on foreign companies in Germany, such as their number, annual turnover, and their number of employees. For investor countries with significant holdings, there is an additional breakdown of their FDI by industry. Due to its low FDI stocks, China is not one of these countries.

The Foreign Trade and Payments Ordinance (Außenwirtschaftsverordnung) requires all domestic companies with a balance sheet total greater than € 3 million to report any foreign investors holding a greater than 10 percent ownership interest (German Federal Bank 2012: 65-66). The € 3 million threshold excludes smaller enterprises from the Bundesbank’s data. However, as these play an important role especially in regard to Chinese FDI, additional data, for example, from investment promotion agencies were consulted.

In 2015, the methodology underlying the calculation of FDI stock data was adjusted to meet the recently harmonized international standards published in the OECD Benchmark Definition of Foreign Direct Investment, 4th edition, and Balance of Payments Manual, Sixth edition (BPM6) (German Federal Bank 2015). The main changes are as follows: “Divergent from the gross figures used prior to this, capital links within multinational groups are netted, loans to investors are deducted and cross-border sister company loans are allocated according to the country of domicile of the group’s headquarters. Thus, if the group’s headquarters are domiciled in Germany, the affiliated credit relationships of the enterprises in Germany are counted as positive (in the case of lending) or negative (in the case of borrowing) German foreign direct investment abroad, which is referred to as outward foreign direct investment. If the group’s headquarters are domiciled abroad, the loans of the sister companies of the enterprises in Germany are recorded as positive (borrowing) or negative (lending) foreign direct investment in Germany, which is also called inward foreign direct investment. The inclusion of cross-border, intragroup claims of investment enterprises, in particular, causes foreign direct investment stocks to decline significantly” (Deutsche Bundesbank 2015).

B. Supplementary sources of data about Chinese direct investment in Germany

Germany Trade and Invest (GTAI)

Germany Trade and Invest (GTAI) publishes its FDI Reporting each year, containing data about foreign investors in Germany broken down by various aspects, including country and sector of investment (GTAI 2016). The Special: FDI source countries compared also provides detailed information on a total of 23 FDI source countries, including China (GTAI 2014). GTAI also considers foreign companies with total assets of less than € 3 million. This distinguishes GTAI’s figures concerning the number of foreign companies in Germany and their employees from those released by the German Federal Bank. GTAI has traditionally focused on collecting data on greenfield investments, reflecting its primary interest to promote Germany as a business location (e.g. GTAI 2014: 11-13). It has since begun to publish data on M&A transactions based on the Zephyr database produced by Bureau van Dijk Electronic Publishing (GTAI 2016). The GTAI data is generally based on the absolute number of investment projects, not the amount invested.

EY European Investment Monitor

The European Investment Monitor (EIM) published by auditing firm EY (formerly Ernst & Young) in cooperation with Oxford Intelligence contains data on foreign direct investment in Europe. According to its website, the EIM contains data on more than 50,000 investment projects since 1997 based on 28,000 different sources that are checked daily (European Investment Monitor). It takes into account foreign direct investment that "has created new operations and/or jobs (no mergers and acquisitions, no portfolio investments)" (EY 2015: 2). EIM published a special analytical report in 2015 about Chinese FDI in Europe and Germany. This includes data on the number of jobs created by Chinese FDI. The data collected is supplied by the investors. The report does not trace whether jobs survive or more jobs are added in the course of the investment project (EY 2015: 7).

Rhodium Group (RHG)

The Rhodium Group (RHG) is a private research firm that tracks Chinese FDI mainly in the US and publishes its report as the China Investment Monitor (CIM). But it does also have some publications that refer to Europe. These include the study Chinese FDI in Europe and Germany. Preparing for a new era of Chinese capital, published in 2015 together with the Mercator Institute for China Studies (MERCIS) (Hanemann and Huotari 2015). The study uses data collected by RHG "on Chinese direct investment transactions in Europe […]. It covers acquisitions and greenfield projects by ultimately Chinese-owned companies in the 28 member states of the European Union" (ibid. 52). The minimum value of the transactions contained in the database is €1 million. The data can be broken down by "industry, modes of entry, geographical spread, and ownership" (ibid.). The data collected is based on commercial databases, newspaper reports, reports filed with regulatory agencies, other publicly available information, and reports provided by industry contacts. The definition of FDI aligns with that used by the OECD, as discussed above. However, the RHG data cannot be compared with national FDI statistics due to the divergent data collection methods used.

Consulting firm data on Chinese M&A in Germany

In addition to the European Investment Monitor listed above, EY also regularly publishes analyses of Chinese M&A transactions in Europe. For Germany, the transactions are broken down by number, volume, and industry. For selected investments, the German target company, the Chinese investor, and the transaction value are listed. The data is collected from commercial databases, corporate information, and in-house research at EY. It also takes into account "Companies headquartered in China and Hong Kong and their subsidiaries" (EY 2016: 2). This represents an essential difference from national FDI statistics which list China and Hong Kong separately.

Gingko Tree Advisor, a consulting firm specializing in China, published short studies on Chinese M&A transactions in Germany in 2014 and 2015. This included spreadsheets that break down the transactions by target enterprise, sector, announcement of the project, buyer company, ownership share, and transaction value. The information on M&A transactions comes from commercial databases, press databases, and in-house research (Gingko Tree Advisors 2014, 2015).

The auditing firm PricewaterhouseCoopers (PwC) also publishes analyses of Chinese M&A in Germany. A short study published in 2016 contains the usual information about each transaction as well as a detailed overview of the top ten transactions by Chinese investors in Germany between 2010 and 2016, broken down by target company, industry, buyer, seller's ownership structure, and company value (PwC 2016: 26-31). The data presented there is based on PwC's in-house research and commercial databases.

The author's own data set on Chinese M&A in Germany

Table 1 in this study is based on a data set generated by the author regarding Chinese M&A transactions in Germany. The data is based on that published by EY, Ginkgo Tree Advisors, and PwC as described above, plus our own research. We recorded a total of 99 companies in which Chinese investors acquired an ownership interest between 2014 and October 2016, as verified with publicly available information such as business, industry, or press releases. In addition to aspects such as target company, buying organization, industry, level of participation, and company value, we checked the ownership and control rights given to the Chinese investors. (For a detailed explanation of the ownership and control rights of Chinese enterprises, cf. Szepan 2016: 198-222.)

However, it was not always easy to classify transactions clearly in terms of ownership type. The underlying definition of "state" or "private" refers to companies in which state (jingnei guoyou faren) or non-state investors (feiguoyou faren) hold more than 50 percent of the ownership and control rights. This can be seen in listed companies on the basis of annual reports, some of which are only available in Chinese. Chinese private companies sometimes refer to themselves as such (minying qiye). Each year, the All-China Federation of Industry and Commerce (ACFIC) also publishes China Top 500 Private Enterprises (ACFIC, 25.8.2016). There are also special awards for private enterprises and private entrepreneurs in China. This publicly available information helps to determine who actually owns and controls the Chinese investors. However, state-owned enterprises may have ownership interests in majority-private companies; it can therefore be assumed that there is at least some state capital in play in their investments, too. A separate category named "state-owned (SASAC)" includes companies and their subsidiaries that are controlled by the State-owned Assets Supervision and Administration Commission (SASAC), which means that they are owned directly by the Chinese central government (so-called Yangqi). The SASAC lists these companies on its website. There were a total of 103 Yangqi in August 2016 (SASAC, 3.8.2016). Our research was unable to turn up any information about the ownership structures of some Chinese investors, however. These fall into the "n/a" category.

C. The "Hong Kong factor" in statistics on foreign direct investment from China

Due to its special economic status, Hong Kong is listed separately in economic statistics. As a special administrative region (SAR), it plays a special role in China's investment and trade flows. Chinese companies sometimes engage in FDI through their Hong Kong subsidiaries, making China's real FDI in some countries and regions higher than that reported in the national statistics. This type of off-shoring applies not only to investments from Hong Kong, but also from the British Virgin Islands and the Cayman Islands (Garcia-Herrero et al. 2015: 3). National FDI statistics do not provide enough detail to identify Chinese investment taking place through off-shore subsidiaries.

Hong Kong is also home to the phenomenon of "round-tripping", which involves circular investment by Chinese companies in Hong Kong, which is counted as Chinese FDI. The Hong Kong company then reinvests in China, where it is considered a foreign investor and could potentially benefit from certain privileges (Schüler-Zhou and Schüller, 2009: 26; Jungbluth 2014: 52-53). This distorts the investment volume in both directions.

One of the few attempts to estimate the effects of "round-tripping" and "off-shoring" assumes that Chinese FDI flows and stock were about a quarter lower than reported in the official Chinese statistics for 2013 (Garcia-Herrero et al. 2015: 7). Adjusted for the combined effects of "round-tripping" and "off-shoring," the percentage of Chinese FDI in Europe is actually more than twice as high as revealed in the national statistics (8 % of China's outward FDI stock and 6 % of China's outward FDI flows vs. 19 % and 17 % respectively). This once again demonstrates the limitations of international and national FDI statistics.

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List of Abbreviations

ACFIC	All-China Federation of Industry and Commerce
CIM	China Investment Monitor
DOFCOM	Department of Commerce
DRC	Development and Reform Commission
EIM	European Investment Monitor
EU	European Union
EY	Ernst & Young
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GTAI	Germany Trade and Invest
ICT	Information and Communications Technology
M&A	Mergers and Acquisitions
MERICS	Mercator Institute for China Studies
MOFCOM	Ministry of Commerce
NBS	National Bureau of Statistics
NDRC	National Development and Reform Commission
OBOR	One Belt, One Road
OECD	Organization for Economic Cooperation and Development
PwC	PricewaterhouseCoopers
RHG	Rhodium Group
SAFE	State Administration of Foreign Exchange
SASAC	State-owned Assets Supervision and Administration Commission
SBCOFDI	Statistical Bulletin of China's Outward Foreign Direct Investment
UNCTAD	United Nations Conference of Trade and Development
WEF	World Economic Forum
WIR	World Investment Report
WTO	World Trade Organization

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