

- Continental Drift –

Germany and China's Inroads in the "German Central Eastern European Manufacturing Core:"

Geopolitical Chances and Risks for Europe¹

by Dr. Jacopo Maria Pepe

Paper presented at the ISA International Conference, Hong Kong, 15-18 June 2017

Introduction

Protectionist trends and increasing tensions between the EU, the United States, and China are emerging amid an era of potential fragmentation of the global economy and new challenges for the global order. As a greater isolationist posture seems to evolve in the United States, both the EU and China could become increasingly interested in further deepening their interaction. As a joint commercial, economic, and infrastructure platform, the Chinese initiative One Belt One Road seems to be the perfect plan to serve this purpose.

In this evolving transcontinental relationship, Germany plays an increasingly crucial role as both China's largest trade partner in Europe and Europe's economic powerhouse. Both the German and the Chinese economies show astonishing trade complementarities and Berlin profits from its central role in the OBOR initiative. The Chinese variable in an increasingly complex Eurasian equation could very well offer a valuable and much needed strategic option to Europe and Germany, both in commercial and geo-strategic terms, but it also bears consistent geo-economic and geo-political risks.

¹ This is a shortened and modified version of a non-commercial small run academic research sponsored and published by the Edwin O Reischauer Center for East Asian Studies, SAIS Johns Hopkins University in 2017. The paper has not appeared in a generally distributed publication, nor it has been presented at meeting of a non-ISA organization.

Conversely to what generally assumed, these risks are less exclusively related to China's greater engagement in Europe *per se* and more to the combined effect of China's action and intra-European geo-economic transformations of the past decade, with intra-European economic and commercial performance increasingly diverging and a shift in the EU's economic and manufacturing centre of gravity to the East. In this scenario, Germany plays a crucial role both in the transformation of Europe's geoeconomic landscape and as main target of China's greater engagement in Europe..

Since the 2004 EU expansion to accept former socialist countries from the East, a slow eastward shift in Europe's economic and manufacturing production base has taken place, one which particularly links Germany with four Central-Eastern European countries (Poland, Czech Republic, Slovakia, and Hungary) and further with the developing economies of Southeastern Europe. The diverging performances among the European economies after the 2008 economic and financial crisis can be considered – among other factors – the result of a greater synchronization of the Central-Eastern European economies located at Germany's eastern border with the German economic and manufacturing core. This has led to the emergence of a 'German-Central Eastern European manufacturing core'²

Meanwhile, as the manufacturing base of Europe has moved closer to its Eurasian border, China has moved closer to Europe across Eurasia, with an unprecedented, greater direct engagement in trade, transportation links, and FDI. China's engagement has become more visible in the broader Central-Eastern European region which stretches from the Baltics to the Black Sea across the eastern Mediterranean, serving as gateway to this new Germany-centred manufacturing core.

This paper will examine whether the combined effect of changes in Europe's economic geography and China's rising engagement in both Germany and Central-Eastern Europe will prevent Sino-

² In this study we refer to the concept of the "German Central Eastern European Manufacturing Core." (GCEMC) This concept has been originally developed by the Vienna Institute for International Economic Studies (WIIW), on the basis of the IMF-Report "German-Central European supply chain," published in 2013. In the present study, the original name has been modified in order to better highlight the distinctive role of Germany and of the four 'new' EU-Eastern European members Czech Republic, Poland, Hungary, and Slovakia. Converse to the WIIW report, this study does not include Austria. The argument presented, however, owes largely to the findings of different research papers from the Vienna Institute for International Economic Studies. We refer particularly to: Robert Stehrer and Roman Stöllinger, "The Central European Manufacturing Core: What is Driving Regional Production Sharing", FIW-Research Reports 2014/15 N° 02, February 2015.

European ties across Eurasia to further develop or, conversely, accelerate them and what implications this has for intra-European ties.

Accordingly, this paper is organized in three parts: in the first part it will critically discuss the concept of the “German Central Eastern European Manufacturing Core” (GCEMC) first developed by the Vienna Institute for International Economic Studies on the basis of an IMF-report.³ It will explain how more pronounced paths of manufacturing have fostered the gradual shift in Europe’s economic center of gravity from Atlantic and Mediterranean Europe to Central-Eastern Europe, accelerating the economic imbalances across the continent, and will focus on the role of the German economic-industrial model for the establishment of the GCEMC. As Central-Eastern Europe is a varied and non-homogeneous region, this part will particularly focus on the four most economically powerful Central-Eastern European countries directly bordering Germany, Poland, Hungary, the Czech Republic, and Slovakia. These are also Germany’s largest economic partners in this geographic space. The paper will refer to them as the Visegrad countries (V4).

In the second part, it will first briefly discuss how the political-economic divide emerging between this new manufacturing core and the rest of Europe has been accelerated by an increased dependence on emerging Eurasian, Asian, and, particularly, the Chinese final market. Furthermore by comparing FDI in Germany in key manufacturing sectors directly involved in the GCEMC with China’s action and projects in Central-Eastern Europe and particularly in the four countries of the Czech Republic, Slovakia, Poland, and Hungary, this part will discuss how a greater Chinese active involvement in the German-Central-Eastern European production network is targeting those sectors crucial for the realization of China’s “fourth industrial revolution.” This simultaneous engagement is indeed paving the way for the creation of a Chinese value and supply chain radiating from Europe’s most advanced economy

The third part will conclusively argue that the described transformation in trade and manufacturing geography would have less geostrategic relevance if the transport dimension is not included in the equation and discuss how China’s infrastructure plans in the GCEMC and across Eurasia will

³ See Footnote 2.

change Europe's transport geography. In the conclusion, the geopolitical implications from these transformations for both Europe and Germany will be discussed.

1. Shifting East: Germany, Central-Eastern Europe, and EU's New Manufacturing Center of Gravity

1.1 Diverging Intra-European Economic Performances

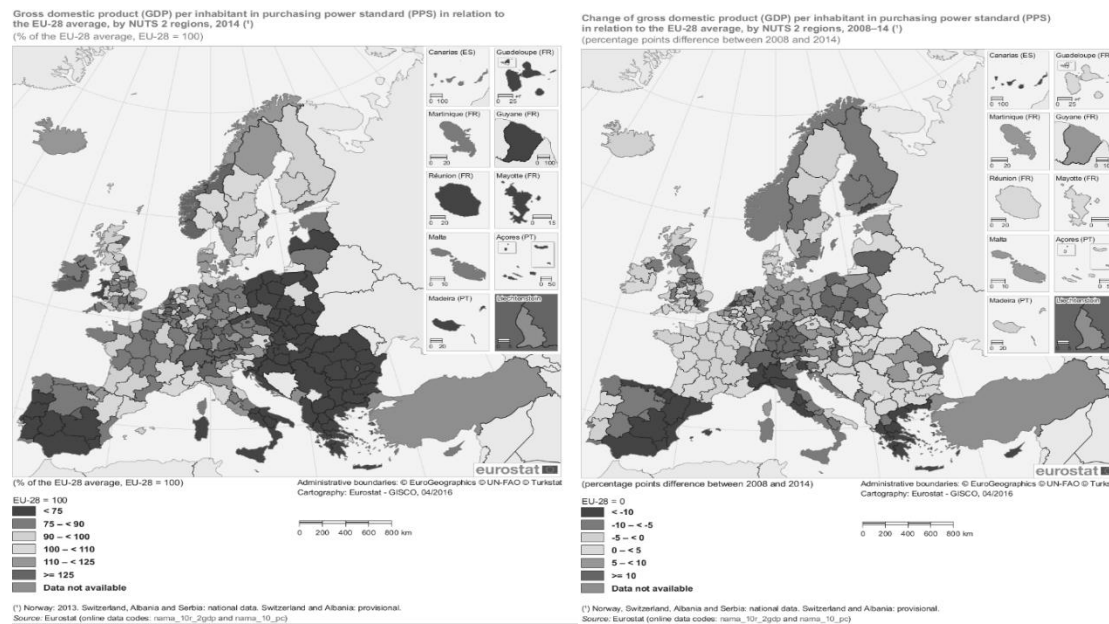
Almost 10 years after the outbreak of the economic and financial crisis, its effects are still well visible across Europe. By 2014 (latest available year), the EU's GDP per capita (PPS) has declined in the majority of the regions of the Western European countries (Figure 1).

Eurostat points out that an east-west divide still exists, and Western Europe GDP per capita still lies significantly above that of the new members in the East. The gap between new and old members was much less pronounced in 2014 than in 2004 when the 10 Eastern European countries became EU members. The conclusion is that the more pronounced effect of the crisis in the West, matched by rapid growth in the East, led to a converging economic performance between new and old members.

While this is certainly true, the decline in GDP per capita in Western Europe is not evenly distributed across regions and countries. In fact, the German over-performance is apparent, highlighting an increasing *divergence* between Germany and the rest of the other EU's advanced economies. Accordingly the majority of Germany's regions (7 out of 13) had a per capita GDP above the EU's average.⁴ Conversely, for instance, in Italy only Lombardia and Emilia Romagna's GDP per capita was above the EU average, while in France, Spain, and the UK, higher GDP per capita were largely limited to the regions around the national capitals (Figure 1(l)). Everywhere in the remaining regions of Western, Southwestern, and Eastern Europe, the GDP per capita was significantly below the EU average.

⁴ Eurostat- Statistics explained, GDP at Regional Level, at: http://ec.europa.eu/eurostat/statistics-explained/index.php/GDP_at_regional_level, (accessed: 01/05/2017).

Figure 1: GDP per inhabitant in purchasing power standards in relation to EU28 average, 2014(left) and change 2008-2014 (right)



Source: Eurostat, <http://ec.europa.eu/eurostat/web/main/home>, © European Union, 1995 -present

A further factor should be included in this: from 2008 to 2014, GDP per capita in purchasing power standards had grown comparably stronger in both Central-Eastern Europe and Germany than in the stagnating economies of Atlantic and Mediterranean Europe, even though Central-Eastern Europe starts from a considerably lower GDP level. In fact, this could point to a converging path between Western and Eastern Europe. However, the catching-up process of the Central-Eastern European economies together with diverging growth paths between Germany and the rest of the Western European advanced economies might instead point to the emergence of a different phenomenon: a greater synchronization of the Central-Eastern European economies with the German economic core and a contemporary desynchronization and divergence of economic paths between the latter and the rest of the Western European EU-members. To be sure, the traditional rich “banana blue” macroregion⁵ stretching from southern England to northwestern Italy via the Benelux, the Rhine-Ruhr Region, and the Paris region retain its relevance in terms of

⁵Roger, Brunet, “Les villes européennes: Rapport pour la DATAR” (in French), Montpellier, 1989.

consumption strength, GDP-per capita, demographic concentration, and economic activity as Figure 1 shows.

This notwithstanding, the changes occurred inside Europe's economic and manufacturing geography in the past 10 to 15 years, driven by the spread of global production networks and accelerated by the 2008 crisis strongly affected both the rich regions of the “banana blue” and the more peripheral regions of Atlantic and Mediterranean Europe. Conversely, they have led to the emergence of a Central-Eastern European pole of growth and manufacturing production. Thanks to its manufacturing specialization, this new “core” has particularly profited from trade with extra-European, Eurasian, and Asian developing markets, as we shall see further in this paper. A shift in the economic geography of the continent is hence emerging, one which – for extension, industrial specialization, and complementarities among its members – is deemed to be the most affected by China's inroads into Europe across Eurasia. To properly understand how the internationalization of production has benefited Germany and some of the strongest Central-Eastern European countries and widened the gap with the rest of (Western) Europe eventually re-shaping the intra-European geo-economic balance, we need to briefly discuss the origin and evolution of this integrated geo-economic core centered in Germany which predates the outbreak of the 2008 economic and financial crisis.

1.2 The Emergence of the ‘German Central Eastern European Manufacturing Core’ and the ‘German Modell’

Europe's new geo-economic core is emerging in sharp contrast with its historical, more “geo-political” core that used to be the base of the European integration process. This revolved around Germany, France, Italy, and the Benelux countries. Most notably the French-German political axis and commercial relations, particularly after Brexit, will continue to play a crucial role for the EU and the Eurozone. However, the rising gap in post-crisis trade performances, unemployment, and growth rates between Germany on the one side and France, Italy, and other advanced economies in the West is dangerously affecting the economic and political cohesion of the Union. Among other relevant factors like diverging wage dynamics, different levels of productivity, and public debt, the role of the manufacturing sector in Germany's economy as compared to other EU-members has been a major factor contributing to the widening the intra-European gap. This became

more apparent only after the crisis in 2008 but its roots lies in the decades before its outbreak. Indeed, EU countries have reacted differently to the fragmentation of production and the decline in manufacturing which has been common to all advanced Western economies, at least since the so-called “second unbundling” in the mid-80s. Western European countries on the one side and Germany on the other side show divergent paths out of manufacturing and different strategies developed to cope with its decline. As Stoellinger et al. write: “Rather, nurtured by the observation that within the EU, countries that have maintained a larger manufacturing base fared better during and after the crisis, a dynamic manufacturing sector is again considered to be a prerequisite for an innovative and fast-growing economy.”⁶

A large consensus can be found on the role of the manufacturing sector as a major source of technological progress and innovation which for its part leads in all advanced industrial economies to a relative decline of value added generated by this sector as compared to the service sector.⁷ Traditionally, advanced economies show a structural shift away from manufacturing and towards services, with the EU not being an exception. However, a notable exception seems to be Germany. This country, while sharing with other advanced Western Economies a general downward trend, shows a much less pronounced decline and notably, a stable, above-the-average GDP share of manufacturing value added⁸

This is the most astonishing as more than other western advanced economies, German companies have internationalized their production and profited from the spread of Global Value Chains (GVC) i.e. the decentralization, fragmentation, and granularization of production activities (offshoring & outsourcing) to developing economies. In fact, Germany is one of the most integrated countries in the global economy with one of the highest trade to GDP ratio in the world.⁹ In the case of Germany, however, active integration in global trade and production chains since the early 2000’s has not led to a dramatic loss of domestic manufacturing value added as in other

⁶ Roman Stoellinger, Neil Foster-McGregor, Mario Holzner, Michael Landesmann, Johannes Pöschl and Robert Stehrer, “‘Manufacturing Imperative’ in the EU –Europe’s Position in Global Manufacturing and the Role of Industrial Policy”, Research Reports, 391, Vienna Institute for International Economic Studies October 2013.

⁷ Stoellinger and Stehrer, 2015, p.4-5.

⁸ World Bank, “World Development Indicator- Manufacturing value added as share of GDP (selected countries), 1990-2015, <http://data.worldbank.org/indicator/NV.IND.MANF.ZS?locations=DE-HU-SK-CZ-PL-XC-IT-EU-US-GB-FR> (accessed 05/01/2017).

⁹ World Bank, “Trade Indicator”, <http://data.worldbank.org/indicator/NE.TRD.GNFS.ZS?locations=DE> (accessed: 05/01/2017).

Western advanced economies has been the case. For their part, the strongest Central-Eastern European economies of Poland, the Czech Republic, Slovakia, and Hungary (V4) all show astonishingly a similar, less pronounced path out of manufacturing as compared to other European and Western Countries. In 2015, for example, the manufacturing value added of Germany, Slovakia, Hungary, the Czech Republic, and Poland lies significantly above the EU-average (between 23% of Germany and 28% of the Czech Republic) as well above those of France, Italy, the US, and Japan.¹⁰ The four V4's high manufacturing share is clearly related to the relatively high level of labor-intensive production activities and points to a different level of integration in GVC. Since receiving access to the EU in 2004, the new eleven members, particularly the V4 countries, have been able to attract a large number of foreign direct investments owing to the low labor costs.

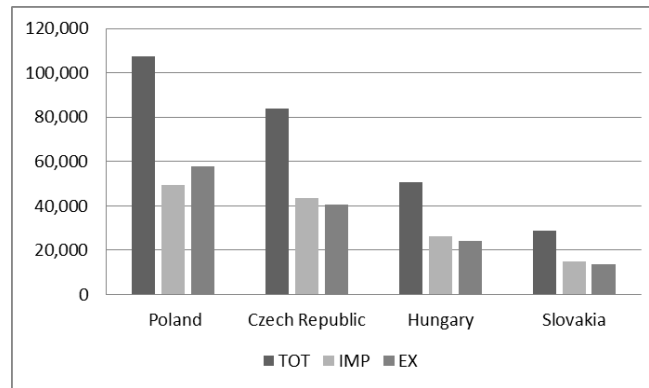
According to two studies from the International Monetary Fund and the Vienna Institute for International Economics, there is indeed increasing evidence for the emergence of a “German Central Eastern European Manufacturing Core” (GCEMC), a joint geo-economic production platform with Germany (and part of Austria) at its center and the four Visegrad countries Poland Czech Republic, Hungary and Slovakia (the V4) highly integrated with the German core.¹¹ It is argued, that in this German Central Eastern European Manufacturing Core, integration in the regional value chains and trade openness that followed the EU's expansion in 2004 has helped the V4 maintain high manufacturing shares of GDP while giving Germany an unprecedented strategic advantage.

Looking at bilateral aggregated data for imports and exports between Germany and the V4, as well as at the role German FDI in the V4, there is rising evidence for the emergence of a trans-regional production cluster between Germany and the V4 countries on its eastern border. In terms of bilateral trade, Germany's trade turnover with these countries has increased rapidly since 2005 and reached 260 billion Euro (300 billion USD) in 2015 (Figure 2) outpacing the country's trade with each of the “Big Three” (France, UK, and Italy) (Figure 4). Moreover, Germany's trade with the V4 countries also outpaced the V4 countries' trade with the “Big Three” cumulated (Figure 3).

¹⁰ See footnote 8.

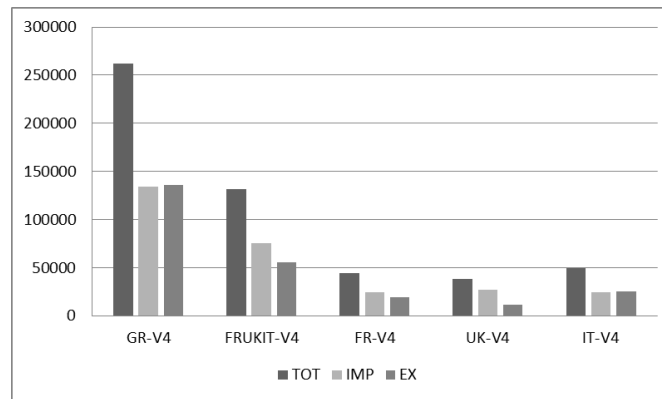
¹¹ See Footnote 2.

Figure 2: Germany's trade with V4, by country, 2015, in million USD



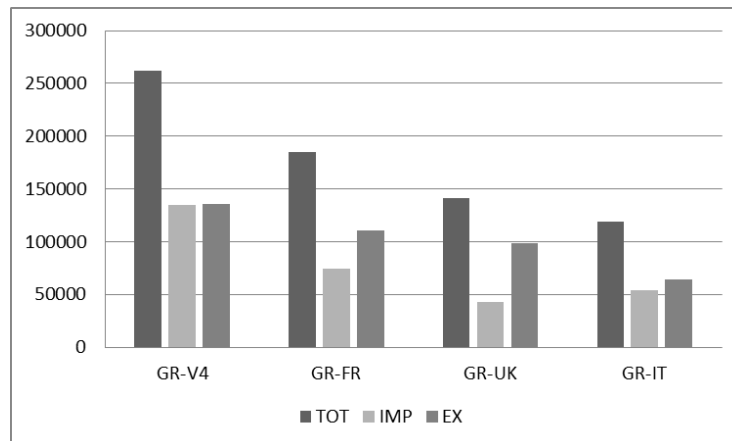
Source: Author's graph and calculation, based on United Nations Commodity Trade Statistics, 2017

Figure 3: Germany-V4 trade compared to Big 3-V4 trade, bilateral and cumulated, 2015, in million USD



Source: Author's graph and calculation, based on United Nations Commodity Trade Statistics, 2017.

Figure 4: Germany-V4 trade compared to Germany-Big-3 trade, bilateral and cumulated, 2015, in million USD



Source: Author's graph and calculations, based on United Nations Commodity Trade Statistics, 2017

These different paths in trade can be explained by the nature of the traded goods: while Germany's trade with other advanced economies – with the UK being the exception – is largely trade of finished consumer goods and capital goods, Germany's trade with the V4's member states is rather concentrated in intra-industrial, intermediate assembled goods, and re-exported goods (cars, parts and components of vehicles, electrical machinery, general machinery, and mechanical tools). Trade in intermediate goods is strong between the V4 and other EU members as well, but France, Italy and the UK's exports to the V4 are significantly lower than German exports. As Stoellinger points out the much higher level of trade turnover between Germany and the V4 and Germany's high volumes of manufacturing export to these countries points to a higher participation of Germany, rather than other EU members, in the so-called “forward production integration” (domestic value added in exports with trading partners) with these four countries.¹² His conclusion is that a general positive effect for both Germany and the V4 has been generated by a stronger participation in GVC. As Stoellinger points out “Germany and Austria are relatively more involved in the export of inputs that are then processed and re-exported, than the V4 countries. The V4 countries in turn are relatively more involved in the onward processing and assembling of inputs purchased from other countries.”¹³

A high level of foreign value-added inputs and high domestic value added in exported input generally points to positive synergistic effects from integration in GVC. Indeed, while usually no significant difference can be found in the level of the EU countries' integration in GVC, the Vienna Institute for International Economic Studies concludes that there is evidence for “a differentiated impact of the integration into GVC on member states' economic structure...the members of the CE Manufacturing Core [*i.e. Germany + the four Visegrad(V4) countries*] have experienced a strengthening of the manufacturing sector due to this development...while for the other EU member states, it accelerates the ‘deindustrialization’ process.”¹⁴

This conclusion does not explain, however, why the integration in GVC has so differently impacted Germany and the other countries in the “core” as opposed to other EU members. One answer is certainly Germany's unique, diversified manufacturing base, distinctive industrial

¹² Stoellinger, 2015, p.20-21.

¹³ Ibid., p.20.

¹⁴ Stoellinger, 2015, p.21.

specialization and innovation, corporate organization, and synergistic strategies which have enabled Germany's industrial core to survive. This is crucial to understanding the Chinese engagement in the GCEMC.

Indeed, Germany seems to have found a balance that successfully combines the advantages of retaining both a strong export-oriented, advanced manufacturing sector and skilled manufacturing jobs, particularly those for the production of intermediate industrial goods, capital goods and cars, and chemical products and those related to the fragmentation of production (offshoring and outsourcing) in the automotive, electronic, and chemical sector. This is the core of the so called "Geschaeftsmodell Deutschland."¹⁵ This model is strongly oriented toward production and export of both intermediate and final high-quality goods, produced by a skilled and continuously trained labor force. As the world's most advanced logistic sector, large German companies are successfully integrated in global and regional value chains, especially in the automotive, electronic, and chemical industries. These all have the highest share of production outsourcing, 17% on average.¹⁶ Third party and fourth party logistics providers like DHL, DB Schenker Logistics, or Kuehne&Nagel, offer tailored solutions combining logistics services in Germany with a large global network which largely follows the activities of German companies.

These companies operate and produce globally, but from a strong domestic base. Aside from these large companies, however, the real hidden champion of Germany's manufacturing system is the Mittelstand, the plethora of small to mid-sized producers. They specialize in the production of intermediate goods (i.e. automotive supplies), final technologically complex goods (i.e. cars, chemical products, and pharmaceuticals) and capital goods (i.e. industrial machinery and tools). The Mittelstand, largely tied together with and dependent on the international activities of large German companies, is indirectly integrated in the global markets as it serves as supplier for these companies. Consequently, while it builds up the backbone of the German domestic industrial base, it is less directly involved in production abroad (only between 3% and 16% of companies with less

¹⁵ Verband der Bayerischen Wirtschaft, Institut der deutschen Wirtschaft, "Industrienetzwerke Europa", 2013, p.1-2, at: http://www.iwconsult.de/fileadmin/user_upload/downloads/public/pdfs/studie_industrienetzwerke-europa.pdf (accessed: 05/02/2017).

¹⁶ Fraunhofer Institute, Global aus einer starken Heimbasis 2013, p.6

than 250 employees had production facilities abroad in 2013),¹⁷ but is highly export-oriented, particularly in emerging Eurasian and Asian countries.

Doubtless, for both the Mittelstand and the big companies from the automotive, electronic, and chemical industries, the creation of integrated supply and value chains in developing countries like China has proved crucial to diversify their markets. It is in the emerging Central-Eastern European Manufacturing Core, however, where German companies have been able to find the perfect balance between domestic production, expansion of production activities abroad, short supply and logistics chains, and the emergence of potential new local final markets. This has been possible in three different ways: first, the V4 countries are part of a network of subcontractors and suppliers which still largely complement more than they compete with similar German suppliers. This is especially true in the automotive sector, as some have followed the carmakers into the V4 countries and opened plants there while keeping their main production (and R&D) in Germany.

Second, the expansion of the production capacity with new plants abroad, specifically in the V4, has not been detrimental for domestic production, as it was not just driven by the need for labor cost reduction. Rather outsourcing has been increasingly driven by market-seeking strategies and by the demand created by an increasing lack of skilled labor in Germany. In fact, by expanding their production activities to take full advantage of new markets and synergies in the production process, German companies did not simply relocate production away from home (offshoring), but simultaneously strengthened domestic R&D activities, workforce re-training practices, and productivity.¹⁸ By doing so, German companies involved in the GCEMC have experimented with new forms of decentralized management and intra-plant, cross-border competition. This has been made possible by the distinctive advantage of the geographic proximity to the V4, which has made for quick, flexible responses to changes in economic or market trends. By the mid-2000s the relationship with the V4 has undoubtedly been leveraged by the German trade unions' requests for higher wages. However since then the coordinated-cooperative industrial system in Germany, which actively involves the German trade unions and workers' representatives in strategic

¹⁷ Ibid.

¹⁸ Fraunhofer Institut fuer System und Innovationsforschung, "Global aus einer starken Heimatbasis heraus" March 2013, at: <http://www.isi.fraunhofer.de/isi-wAssets/docs/i/de/pi-mitteilungen/PI-63.pdf> (accessed 11/20/2016).

planning and restructuring processes, has proven to be a reliable instrument to negotiate job-saving guarantees, domestic investments in R&D, and re-training measures.¹⁹

Third, the intra-industrial trade generated by cross-regional flows has created a market for the Mittelstand as the demand for capital, industrial goods in the V4 countries has increased, reinforcing mutual dependencies and cross-sector synergies yet unknown in other Western European countries.²⁰ As a result, even for the traditionally less internationalized Mittelstand, the V4, particularly the Czech Republic and Slovakia, have become an attractive location for production expansion.

It seems that the integration in the GVC does not explain *per se* the competitive advantage of the GCEMC as a whole. It is the combined effect of Germany's distinctive manufacturing structure and its integration with the emerging economies at its eastern periphery which have facilitated the creation of the GCEMC as the EU's new center of manufacturing activity and growth. We will now discuss how China is silently penetrating this core, trying to take advantage of its distinctive characteristics, and how this is impacting the development of trans-Eurasian trade and transport ties.

2. Going West: China Inroads into the “German Central Eastern European Manufacturing Core”

2.1 The GCEMC's rising dependence on trade with China

China's impact on the GCEMC is twofold: first, its expanding domestic market has so far served as a powerful force in attracting exports from the GCEMC. This has helped strengthen intra-Eurasian ties while simultaneously decreasing the GCEMC's dependence on intra-European trade. Second, in more recent times, China has slowly become an active, though silent actor in the

¹⁹ Martin Krzywdzinski, “How the EU's Eastern Enlargement Changed the German Productive Model. The Case of the Automotive Industry” in: *Revue de la Regulation-Capitalisme, Institutions, Pouvoirs*, Nr 15/2014, at: <https://regulation.revues.org/10663> (accessed 04/15/2017).

²⁰ Verband Deutscher Maschinenbauer; McKinsey Company, “Zukunftsperspektive deutscher Maschinenbau Erfolgreich in einem dynamischen Umfeld agieren”, 2016, at: http://www.vdma.org/documents/105628/4408117/Zukunftsperspektive+Maschinenbau_Brosch%C3%BCre_DE.pdf/fed72f6c-1add-40c1-91ee-1d5c9167fed4 (accessed 04/15/2017).

GCEMC's supply and value chains. We will first discuss China's major role in the GCEMC external trade before proceeding to analyze China's evolving role and its direct involvement in this region.

From a European perspective, the emergence of the GCEMC at the center of continental Europe has direct geo-economic implications. It has not only accelerated the desynchronization of Europe's major economy, Germany, with the rest of the EU members at its Atlantic and Mediterranean periphery, but it has also accelerated Germany's dependence on extra-EU trade, particularly trade with China. This fact has far-reaching consequences for both Europe's cohesion, and its relationship with China across Eurasia. It becomes most visible when the evolution of Germany and of the GCEMC trade with emerging markets in Asia is considered and compared to the evolution of intra-EU trade. During the 2008-2009 crisis, Germany was less affected by the intra-European and domestic demand shocks than it was by the general contraction of the extra-European demand, and particularly that of China. For their part, the V4, just like Germany, have proven relatively less vulnerable to shocks in both European and German final domestic demand.²¹ Specifically, the main determinant of the V4's exports to Germany is Germany's demand for intermediate industrial goods rather than final consumer goods. As the V4's exports to Germany consist largely of intermediate goods that are incorporated in Germany's final products, the V4 economies are synchronized with the performance, evolution, and direction of German exports.

This triangular relationship between Germany, the V4, and the global markets becomes distinctively "Eurasian" when looking at the increasing role of Asia and China in the geographic diversification of Germany's trade flows away from intra-EU trade (and hence, indirectly, those of the V4 countries).

Certainly trade of both Germany as single country and the GCEMC as a whole is still largely dependent on the EU and Europe.²² From a longer-term perspective, however, a slightly different

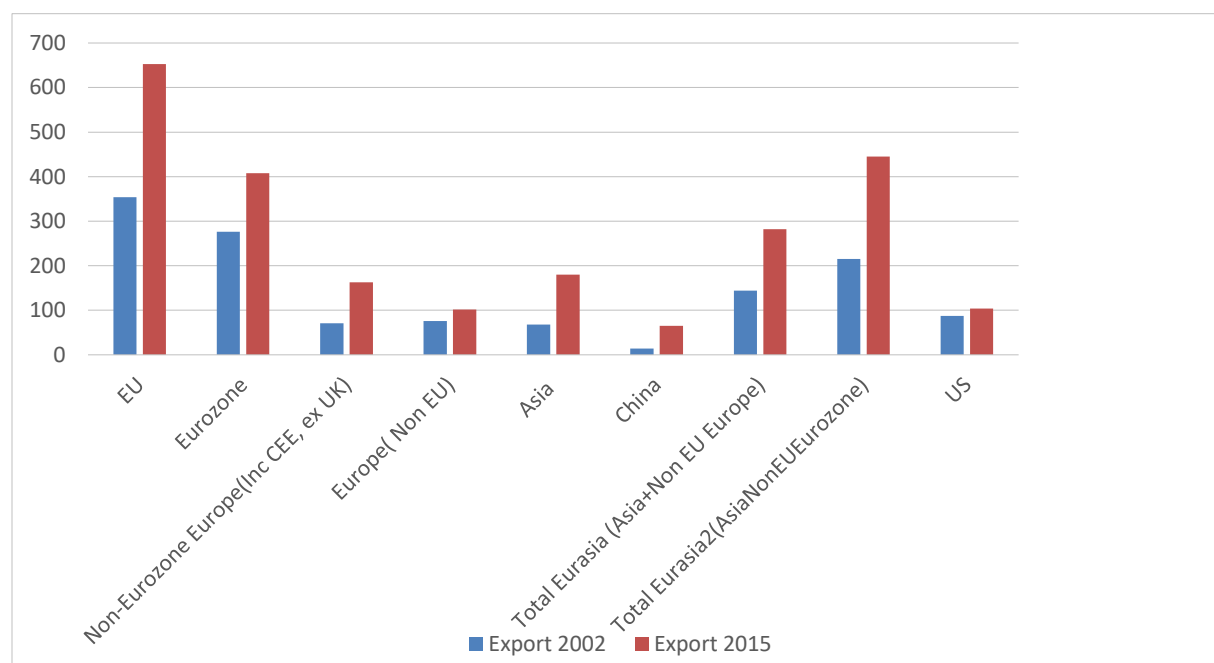
²¹ International Monetary Fund, 2013, p.11-12.

²² Statistisches Bundesamt, "Außenhandel Zusammenfassende Übersichten für den Außenhandel", 2016, p.28

https://www.destatis.de/DE/Publikationen/Thematisch/Aussenhandel/Gesamtentwicklung/ZusammenfassendeUebersichtenM2070100161114.pdf?__blob=publicationFile. (accessed 02/05/2017). EU-Commission, Euostat-Statistics Explained-Intra-EU trade in goods, at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Intra-EU_trade_in_goods_-_recent_trends. (accessed 04/01/2017).

picture emerges: the EU's share in Germany's export and import has been constantly declining since 1995, falling from 65% and 63% respectively in 1995 to 58% and 57.2% in 2015. Looking at the share of trade with the Eurozone, this has declined even more sharply, from 47% (export) and 47.2% (import) in 1995 to 36.4% and 37.6% in 2015. Meanwhile, in 2015, the share of total exports to Asia had reached 20% of total exports. Considering the cumulated export to Asia, non-EU Europe (Turkey and Russia) and non-Eurozone EU (including the V4 countries and UK), this share climbs up to 47%.²³ The value of trade turnover with the EU and the Eurozone is still overwhelmingly high, adding up to almost 700 billion Euros in value. This said, since 2002 exports to both have increased much less dynamically than exports to developing countries, and specifically to China, Asia, Central-Eastern Europe (including the V4), and other Eurasian countries like Russia and Turkey.

Figure 5: Germany's export to selected countries and regions, 2015, in Euro (billions)



Source: German Statistics Office, various years, author's calculation

In 2015, the level of cumulated exports to Asia, non-EU Europe, and non-Eurozone EU was already higher than the level of exports to the Eurozone-countries (Figure 5). Trade with other

²³ Ibid., p.13.

non-western, non-European countries like Russia or Turkey has suffered due to the Ukraine Crisis and uncertainties over further developments in Turkey. Conversely China's demand for German final and capital goods (particularly cars, industrial machinery, and, increasingly, consumer goods), while growing slower, has proven resilient and robust. China's automotive market has been deemed to become the biggest and fastest growing automotive market in the world, while China's demand for capital industrial goods from Germany remains high. China is still the largest market for Germany's industrial machinery.²⁴ This rapidly rising dependence on Germany from exports to China emerges when looking at the dramatic increase in the value of German exports to China between 2002 and 2015 as compared to other countries, including both the EU and the United States, a historically strong trade partner for Germany (Figure 6).

Figure 6: Change in Germany's export and trade turnover with selected countries and regions, 2002-2015 in %

	Change Trade 2002-2015	Change Export 2002-2015
EU	32%	84%
Eurozone	49%	48%
Non-Eurozone (Inc. CEE, ex UK)	122%	130%
UK	17%	34%
Europe (Non-EU)	38%	34%
Russia	109%	67%
Asia	143%	165%
China	326%	364%
Total Eurasia (Asia + Non-EU Europe)	90%	96%
Total Eurasia (Asia + Non-EU Europe + Non-Eurozone Europe)	100%	107%
US	29%	20%

Source: German Statistics Office, various years, author's calculation

Between 2002 and 2015 German exports to China increased by 364%: with almost 70 billion Euros in revenue. They made up 6.6% of the country's total exports in 2015 and almost 40% of the entire

²⁴ Verband Deutscher Maschinen-und Anlagenbau, "Maschinenbau kann Exporte in schwierigem Umfeld leicht steigern", <https://www.vdma.org/article/-/articleview/12174612> (last modified 02/22/2016, accessed 10/22/2016).

EU exports to China (170 billion Euros). China's share in German exports is the highest among the EU members. In comparison, in 2015, China's share in the total export of France, Italy, and UK reached 4%, 2.8%, and 6.5% respectively²⁵ In 2016 China became Germany's largest source of import²⁶ with bilateral trade reaching almost 180 billion Euro, increasing Germany's dependence on extra-EU trade the highest in the EU.

China's high demand for German goods has had two direct consequences. First, it reinforced Germany's dependence on the vast Chinese market and, therefore, heightened German interest in deepening bilateral ties with China while acting as a catalyst for increased participation in of the V4 in the GCEMC regional supply chains. The extra-EU's export share of the V4 is indeed still relatively low, between 30% (Poland) and under 25% (Czech Republic, Hungary, and Slovakia). Consequently the share of intra-EU trade is over-proportionally high, between 70% and 87%.²⁷ As this high share is largely a result of their intra-industrial trade with Germany, their participation in the GCEMC increases their dependence on the German-Chinese trade, but also reinforces their participation in global trade as discussed.

Second, as the GCEMC has emerged as the productive core of the continent, Europe-China trade has largely profited from it. As a result, the shift of the economic center inside the EU, the over-proportionately strong ties between this Germany-centered manufacturing sub-region and China have augmented and potentially widened the gap with other EU-members in Western and Southern Europe, less connected to the GCEMC and to China.

2.2 The China-Germany-V4 triangle

So far, China has played a positive, though largely indirect, role in the GCEMC. The V4's emerging economies have profited from Germany's sustained exports to China which are largely manufactured in the GCEMC. For its part, Germany has, therefore, largely benefited from its extra-

²⁵ Observatory of Economic Complexity, based on UNCOMTRADE data, author's calculation

²⁶ Statistisches Bundesamt, 2016, p.40.

²⁷ Andrea Éltető, Ágnes Szunomár, "Ties of Visegrád countries with East Asia – trade and investment, Centre for Economic and Regional Studies HAS Institute of World Economics Working Paper Nr. 214 (2015) 1–31. August 2015, 2015, p.4-5, at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2720805. (accessed 04/20/2017).

European trade ties with developing countries and specifically with China. This has contributed to the country's high trade surplus in a time when trade with Europe and the United States has grown more slowly.

Since 2012-2013, however, China's increasingly direct engagement in Europe has been profoundly changing the strategic relevance of what was originally a primarily trade-driven relationship into what is now moving toward a more complex stage. More specifically the surge of China's FDI in the European Union since 2013, which peaked at more than 35 billion Euros in 2016,²⁸ showed that China, while building up a continent-wide network of transport corridors across Eurasia, is increasingly interested in a deeper integration with Europe's economy and in the acquisition of its technological assets. As a result, the mutual beneficially trade relationship is evolving into a more controversial one, where China's unprecedented attempt to become an active player inside one of world's biggest economic pole, is gaining a quintessential geopolitical relevance. So far, China's engagement in Europe has been generally discussed on a country-by-country basis or at the supranational EU level. As a consequence, China's action in Germany and Central-Eastern Europe has never been jointly assessed. In fact, the emerging China-Germany-Central-Eastern Europe triangle is now at the core of the evolving Europe-China relationship, and Germany and the GCEMC are at its forefront.

To be sure, since 2012 China has silently tried to increase its bilateral engagement in the Central-Eastern European markets, a largely unexplored and underestimated region for China's foreign economic policy until that time. Accordingly, in 2012 China established a new cooperation framework with 16 Central-Eastern and South-Eastern European countries known as the "16+1 Cooperation Framework." The forum consists of China plus 16 Central-Eastern and South-Eastern European countries, both EU members and non-members and includes a much broader region than the V4 countries, stretching from the Baltics to the Black Sea. The V4 play a crucial role in this

²⁸ Thilo Hanemann, Mikko Huotari, "Record Flows and growing imbalances Chinese Investment in Europe in 2016", Merics Institute, 2017, https://www.merics.org/fileadmin/user_upload/downloads/MPOC/COFDI_2017/MPOC_03_Update_COFDI_Web.pdf. (accessed 02/02/2016).

framework. It developed relatively rapidly into a loosely institutionalized form, with a secretariat, national coordinators, and regular meetings.²⁹

Doubtless, in terms of trade, while the original target to increase total two-way trade to US\$100 billion by 2015 has largely failed, trade between the 16 countries and China has boomed and reached more than 45 billion Euro (roughly 50 billion USD) in 2015 from almost non-existing in 2004.³⁰ The level of China's FDI in CEE has also increased rapidly since the EU expansion in 2004. It accelerated during the crisis in 2008, particularly with green field investments in energy, transportation, and manufacturing, which will be discussed. Between 2000 and 2016, cumulative Chinese FDI in the 11 CEE countries that are now EU member states reached 4.9 billion euros.³¹

However, both trade and FDI are still relatively low if compared to other European advanced economies. Much more, as both were on the rise before the launch of the 16+1 initiative, the question of the effectiveness and the logic of the initiative arises.

The 16+1 framework much like the OBOR initiative across Eurasia serves more as coordinating mechanism for different Chinese goals than as “kick-starting” initiative. A coordinated approach to the heterogeneous region targeted by the “16+1” which clearly defines priorities in investments by countries and sectors is essential for China to succeed as a comparatively “late comer” in this space. Hence, with the 16+1 set as a coordinating mechanism of a multi-country, multi-sector engagement, China's goals in the Eastern European periphery seem to be twofold, largely functional to the country's broader plans for transforming both its domestic economy and the continent at large. The first goal is more short-term: to further accelerate its presence and gain access to an emerging regional market of roughly 120 million people. The second goal which lurks behind China's FDI activity in this space is more complex and ambitious and is likely not yet fully formulated by China itself. It is more the indirect result of the ‘Made in China 2025’ strategy which

²⁹The 16 countries are Albania, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, the Slovak Republic, and Slovenia. See the 16+1 website, Cooperation between China and Central Eastern European Countries (China-CEEC) <<http://www.china-ceec.org/eng/>> (accessed 07/02/2017).

³⁰ Author's calculation based on Eurostat Database data.

³¹ Thilo Hanemann, Mikko Huotari, “Record Flows and growing imbalances Chinese Investment in Europe in 2016”, Merics Institute, 2017, https://www.merics.org/fileadmin/user_upload/downloads/MPOC/COFDI_2017/MPOC_03_Update_COFDI_Web.pdf. (accessed 02/02/2016).

aims at transforming China in an advanced industrial country by focusing on the acquisition and development of seven crucial sectors (Automotive, aviation, machinery, robotics, high-tech maritime and railway equipment, energy-saving vehicles, information technology).³² The consequences for the Central-Eastern European space are far deeper: transforming this large region into a production platform with direct access to both Western European economies *and* to new emerging markets along the Eurasian rim stretching from the Eastern Mediterranean to the Middle East and further to India. This large space can indeed be easily accessed from the Eastern European region “connecting” bridge. To this scope, the expansion and modernization of the regional transportation and logistics network is one instrument that has become the major focus of the 16+1 framework as we shall see later in this study. The creation of a regional production platform for its companies, mainly centered on the V4 countries and on the South-Eastern European countries of Romania and Bulgaria, is the second crucial instrument. As will be later argued at length, a Chinese production network at the door of Europe aims to duplicate the German-Central-Eastern European supply and value chains.

To succeed in both goals, China has clearly prioritized the geographic core of this space: the V4 countries Poland, the Czech Republic, Hungary and Slovakia. In addition, Bulgaria and Romania, like the Baltics and the Western Balkans, seem to play a complementary role as transport gateways to and from the core as low value-added production locations tied to the core. Indeed, almost half of China’s trade turnover with the region and half of its FDI investment are directed toward these countries.³³ Besides the interest in the V4 as final markets, as these are the most advanced among the Central Eastern European countries, their relevance for China is related to their participation in the German Central Eastern European Manufacturing Core. Certainly, cheap and skilled labor forces and less regulation make the Central-Eastern European markets attractive for Chinese companies to move production there. However, the second goal can only be achieved if China is able to create and sustain a functioning production network in this region, together with the modernization and expansion of its regional transportation linkages. However, a stronger presence in the regional production chain can only happen step-by-step as China’s “forward integration” in

³² Jost Wübbecke, Mirjam Meissner, Max J. Zenglein, Jaqueline Ives | Björn Conrad, “Made in China 2025 The making of a high-tech superpower and consequences for industrial countries”, Merics, December 2016, p. 6, https://www.merics.org/fileadmin/user_upload/downloads/MPOC/MPOC_Made_in_China_2025/MPOC_No.2_MadeinChina_2025.pdf, (accessed 04/30/2017).

³³ Hannemann, Huotari, 2017; Eurostat.

GVC is still too low to allow China to follow the path of other European or East Asian companies, expanding and outsourcing production in this space. This becomes clear when looking at the low level of foreign value-added input coming from the V4 and included in China's exports and to the low level of domestic value-added input in China's export in intermediate goods to this region. Doubtless, the share of parts and components and in capital goods from China has increased dramatically in the past decade but Chinese exports to the V4 are mainly concentrated in final goods like electronic devices and computers.³⁴

It is hence tentatively possible to conclude that, for China to reach its second goal in the region to create a larger production network for its companies, an exclusive bilateral engagement in this space cannot be successful in the short-to-mid-term. China requires a technological level which Chinese suppliers are not yet able to provide. Therefore they need to acquire the necessary technological edge in the manufacturing sectors at the core of the regional production network's specialization. There is, however, increasing evidence that China has found a way to indirectly increase its participation in the regional production network. To explain this move, FDI activities in the V4 and other Central-Eastern European countries should not be considered *per se*, but seen as complementary to China's engagement in Germany's advanced manufacturing sector. Therefore, Germany needs to be included in this equation and the GCEMC must be jointly considered as the main target of China's action.

It is fairly difficult to establish a direct and distinct correlation between China's investments in both the V4 and Germany as this process is only just beginning and information on intra- and inter-industrial production linkages are difficult to publicly obtain and evaluate. Therefore it is prudent to first try to find a sectorial correlation between regional Chinese FDI investments (Greenfield and M&A) in Germany and the V4. Second, it is imperative to compare companies with Chinese investments located in Germany that have main production plants in the V4 with China's acquisitions in the V4 and Central-Eastern Europe which serve as subcontractors to German companies. In a case-by-case comparison, it should be possible to tentatively evaluate the grade, level, and quality of China's participation in the German Central Eastern European Manufacturing Core.

³⁴ Authors calculations based on Uncomtrade database, 2017, accessible at: <https://comtrade.un.org/db/ce/ceSearch.aspx>

As we discussed, China's FDI in the European Union have increased since the crisis but have reached a peak in 2016, rising rapidly since 2015 in those sectors targeted by the "Made in China 2025." Since 2011 China's investments have been largely in the form of merger and acquisition (82%), but green field investments have concentrated in the manufacturing sector as well. Since 2015 we can even observe a stronger re-direction of Chinese investments in the advanced economies of Western Europe as a result of a much higher focus on the high technology industrial sectors of these countries.³⁵ The role of Germany as receiver of China's FDI stands out though: Germany is the second biggest receiver of China's FDI in Europe, but the level of annual investments has stayed stable at around 1-2 billion Euro/year.³⁶ Germany is however, the biggest receiver of Chinese FDI in three big high technology sectors: industrial machinery, automotive, and information technology. As Merics reports, especially in the automotive industry, China's acquisitions reflect a higher grade of sophistication, particularly in the Mittelstand, with access to technology and know-how as the most important drivers. The increase in FDI inflows in these three sectors has been distinctively pronounced in Germany, which accounted for 30% of all new investment in Europe in 2016. If we now compare Chinese FDI by sector in Germany with those in the V4 a certain complementary path seems to emerge in merger and acquisitions (M&A) and green field investments in Germany and green field investments in V4. To be sure, Chinese foreign direct investments both in Central-Eastern Europe as a whole, and in the V4, are still modest. China's FDI in the V4 accounted for just 8% of total investment value in the EU from 2000-2016. Southern European countries, for example, have attracted a higher volume of Chinese FDI in the same period. In Southern Europe, China has clearly taken advantage of a vast range of privatization of state-owned enterprises that followed the public debt crisis.

Here China has invested in a variety of sectors, from automotive to chemical, from transportation to tourism, and real estate to the luxury sector. In contrast, in Central-Eastern Europe, China's increase in FDI has been much more concentrated in a few sectors: automotive, electronics, transportation, and, increasingly, finance.

³⁵ Hannemann, Huotari, 2017.

³⁶ Thilo Hanemann, Mikko Huotari, "A New Record Year for Chinese Outbound Investment in Europe", 2016, <https://www.merics.org/en/press-contact/press-releases/a-new-record-year-for-chinese-outbound-investment-in-europe/>, (04/20/2017).

As Figure 7 shows, it is interesting to note, that part of China's FDI in V4 countries is directed toward a similar range of manufacturing sectors and subsectors potentially complementary to Chinese acquisition in Germany: automotive, electrical and industrial machinery, transportation, and information technology. Furthermore, while in the rest of Europe, and in particular Germany, investments have been channeled mainly through M&A and green field investments, green field investments have been the most diffused form of investment in the V4 countries. Green field investments leave the investing company with a greater degree of autonomy in a foreign regulatory framework, and it is more diffused in relatively less advanced economies like the V4 countries. Conversely M&A of existing companies make know-how transfer easier, and it is, therefore, more diffused in advanced economies.

Figure 7 China's FDI (Including contracts, M&A, GF) Investments in Germany and V4 by sector, 2005-2016

	Germany	Poland	Hungary	Czech	Slovakia
Technology (Different Industries)	4		1	1	
Auto/Automotive	10	2	2	3	2
Energy	3	4		1	
Construction/Industrial Machinery	7	1	1	1	
Industry (Electric Machinery/Chemicals)	3	1	3	2	1
Finance	5			3	
Transport (Rail, Shipping)	2		2	1	
IT/ITC	2		1		2

Source: The Heritage Foundation (2016), Merics (2015), Deloitte (2011), Elteto & Szunomar, 2016, various sources

Comparing green field investments in the V4 and M&A in Germany by sectors, a tentative conclusion can be drawn, one with far-reaching geo-economic and geopolitical implications: the involvement in the V4 has to be related particularly with China's activities in Germany's high-technology and high-value added sectors.

Indeed, a more detailed analysis of acquisitions on company-by-company basis shows that, given the high dependence of the V4's suppliers from the activity of German companies, particularly in the automotive industry, a clearer picture of the implications of China's acquisition activities in the GCEMC emerge.

Figure 8: China's acquisition's in advanced manufacturing technologies in Germany, V4 countries and Central-Eastern Europe at large

Chinese Investor	German Company (share)	Subsidiary/Major Plant in V4 or CEE	V4 Company (share)	Sector/Specialization	Year	Type
Jifeng	Grammer (10%, option 50%)	CZ: 4; PL: 2, BL:1		Automotive (Supplier)	2017.00	M&A
Avicem	Kokinetics (100%)	CZ: 3		Automotive (Supplier)	2015.00	M&A
Joyson Automotive	Preh GmbH (75%)	RO:1		Automotive (Supplier)	2011.00	M&A
Wafongdian Bearing group	KRW (90%)	no		Automotive (Supplier)	2013.00	M&A
COLT	SAARGUMMI (100%)	1 CZ 1 SLK		Automotive (Supplier)	2010.00	M&A
Times New Material Tech	Boge Rubber (100)	1 SLK		Automotive (Supplier)	2012.00	M&A
Dematic	Kion (38%)	CZ: 3		Transport/Supply chain	2016.00	M&A
Midea	KUKA Roboter GmbH (100%)	CZ:1, SLK:1, HU:1		Automotive/Robot Ma	2017.00	M&A
Hebei	Kiekert (100%)	CZ:1, SLK:1, HU:1		Automotive (Supplier)	2012.00	M&A
Gtaicang	Schumag(100%)	1: RO		Automotive (Engine Pa	2016.00	M&A
Dare Group	Hillite	no		Automotive(Supplier/P	2015.00	M&A
CITIC Wheel	KSM Casting	CZ:1		Automotive(Supplier)	2017.00	M&A
Ningbo Electronic	Sellner	no		Automotive (Supplier)	2017.00	M&A
Lenovo	Lenovo R&D High Performance Computing (HPC) innovation centre	1: PL (Production Plant)		IT	2007-15	GF
Beqi Foton Motor	Borgward	no		Automotive (Borgward	2014.00	GF
Chemchina	Kraussmaffei	1:SLK		Industrial Machineries	2016.00	M&A
Great Wall Motors		1: BL		Automotive (Car Produ	2012.00	GF
Huawei	R&D Center	1: PL (Business Plant) 1: CZ (Production) 1: HU (Spare Parts)		IT	2014.00	GF
SANI	putzmeister	no		Heavy Industry	2016.00	M&A
TSB Bearings group		1:SLK	ZVL (SLK)	Automotive (Bearings)	2016.00	M&A
Hainachuan of China		1:SLK	Inalfa (SLK)	Automotive (Roof Syst	2016.00	M&A
MESNAC		1:SLK		Automotive (Rubber/P	2014.00	GF
Liu Gong Machinery		1:PL		Machine Tools	2016.00	GF
Dalian Xiangsu		1: CZ	Buzuluka a.s	Machine and Automitv	2015.00	M&A

Source: Author's research based on Internet research, Merics and Heritage Foundation

As Figure 8 shows, China's main M&A in the V4 are concentrated in the automotive industry and in industrial machineries. China has acquired a few domestic automotive suppliers in Czech Republic and in Slovakia one chemical manufacturer with activities related to the automotive industry in Slovakia. Aside from the V4, in the broader Central-Eastern European region, China's biggest green field investment in the automotive industry so far is the Great Wall Motor and Car

Company plant in Bulgaria. The still relatively low level of Chinese M&A in the V4 countries reflects the still relatively low level of domestic manufacturing sophistication, with the exception of in the Czech Republic.

However, this picture changes when comparing Chinese M&A activities in German automotive and industrial machineries with major plants in the V4. While the main focus is on German technology, a by-product of these acquisitions is an increased Chinese presence in the V4 that is not shown in a country-by-country analysis. Most of these Chinese acquisitions target the *Mittelstand*, middle-sized specialized companies in the automotive industry and in advanced industrial machineries with major production plants in one or more of the V4. These companies are generally internationalized and also have production plants in China. However they have main production plants in Germany and other major production plants and distribution centers in the V4-countries. As discussed, they are the backbone of the German Model. Their acquisitions give Chinese companies the chance to acquire technological know-how while exploiting the advantages of short supply chains and of a well-integrated production network.

In this way, they indirectly become part of the regional supply chain of the large German companies, with two major consequences: in the short-to-mid-term, a combination of M&A and green field investments across the GCEMC supply and value chains silently establishes the Chinese companies as subcontractors of the German automotive industry and as capital goods producers. This is, however, not the only advantage China is getting from its participation in the GCEMC. In the mid-to-long term, China might be able to replicate the specific characteristics of the GCEMC production network and create their “own” supply and value chains. Some of the acquired automotive companies are specialized in a wide range of different activities, including the production of body parts, bumpers, tires, interiors and electric engines.

Meanwhile at least two other recent Chinese acquisitions can be considered complementary to those in the automotive industry: in the industrial machinery sector, the most spectacular Chinese acquisition, the robotic manufacturer Kuka. It is one of the world’s leading suppliers of intelligent automation solutions for the automotive and other industries, and at the forefront of the digitization of the production processes. While internationally present, Kuka Industries and Robotics plants

are particularly concentrated in Hungary, the Czech Republic, and Slovakia. For instance, Kuka is one of the main suppliers of industrial robotics at Hungary's Mercedes plant.

A second recent acquisition is Kraussmaffei. Kraussmaffei is a traditional middle-sized company and a world-leader in the production of industrial machineries (linear and industrial robotic automated tools like the sprue picker). It is also related to the manufacturing of chemical products, specifically plastics. Most notably Kraussmaffei specializes in the development of gripper solutions for the design and production of 3D printers and 3D parts and components.

In the telecommunications sector, China has already reached a relatively strong technological edge, and its activities in the V4 and Germany have been largely driven by green field investments. In this case, certain complementarities emerge between FDI in Germany and in the V4 countries: in particular, the Lenovo and Huawei production and distribution centers are now located in Poland, the Czech Republic, Slovakia, and Hungary while Germany hosts the Lenovo R&D Center for high performance computing and the Huawei Business Center. While their activities are largely related to production and retail of computer and mobile phones devices, both Lenovo and Huawei are two of the world's leading IT technology companies that will play a crucial role in the development of the digitalization of production processes.

While all these cross-regional and cross-sector acquisitions are seemingly little related to each other, there is increasing evidence that collectively they all contribute to the end goal of the "Made in China 2025" strategy. As discussed, this strategy targets specifically and prioritizes sectors like automotive, electric-mobility, and advanced "smart" production.³⁷ To be clear, this development is only in a very early stage, therefore these activities point more to an ongoing trend than to a well-established reality. However, while China's FDI activities is global in scope, from a European and German perspective there is a distinctive geo-economic connotation in China's acquisitions in the GCEMC: targeting Germany's hidden champions in more classical sectors like automotive and more advanced sectors like industrial machineries and robotics, China takes over part of the European supply chain located in the V4 and, in conjunction, complements them with green field investments in the IT sector, energy, finance, and specifically transport in the Central-Eastern

³⁷ Wübbeke, Meissner, Max J. Zenglein, Jaqueline Ives | Björn Conrad, 2016.

European region. This establishes Chinese investments right in the center of Europe's new manufacturing core.

Recognizing that the long-term goal of an integrated "Chinese" value chain depends on the development of logistic services and the modernization of the trans-regional transportation network investments in Central-Eastern Europe's transportation sector are therefore vital to complete and strengthen China's inroads in the GCEMC.

3. Continental Drift: OBOR, the GCEMC, and the Shift in Europe's Transport Network

China's inroads in the GCEMC gain more distinctive geo-strategic relevance when China's engagement in the development of regional transport and logistic connections in Central-Eastern Europe is considered.

In Central-Eastern Europe, the "16+1" forum has become China's crucial instrument to engage with the EU in the transportation sector, particularly after the creation of the EU-China Connectivity Platform in 2015, which was supposed to become the first European response to China's OBOR Initiative.³⁸ Accordingly, since 2015 the focus of the 16+1 Initiative has decisively shifted toward cooperation in transportation and logistics. The harmonization of regional and national transportation projects in the Central-Eastern European region with both European initiatives like the Pan-European Corridors and the overland and intermodal corridors sponsored by China has become a crucial instrument to transform Central-Eastern Europe into a point of entry into Western Europe, where trans-European and trans-Eurasian corridors intersect. A closer look at Germany's paramount role in Europe's transport geography makes apparent the implications of Beijing's regional transportation for the GCEMC.

³⁸ Francesco Saverio Montesano, Maaïke Okano-Heijmans, "Economic Diplomacy in EU–China Relations: Why Europe Needs its Own 'OBOR'", Clingendael Policy Brief, June 2016, at: (<https://www.clingendael.nl/sites/default/files/Policy%20Brief%20Economic%20Diplomacy%20in%20EU%E2%80%93China%20relations%20-%20June%202016.pdf>) (accessed 04/30/2017).

Germany's economy and industry has not only profited from its proximity with Central-Eastern Europe and the V4 countries, but from its central geographic position. This has turned the country into the main European transit hub. The intricate network of highways, railways, terminals, and waterways across German territory are particularly important to some of the V4's countries to access global markets.

This regional network is also relevant for intra-regional connections inside the GCEMC and for those between Germany, the broader Central-Eastern European region targeted by the 16+1, and the rest of Europe. Six of the nine EU-backed core TEN-T³⁹ corridors cross Germany, while three of them (North Sea-Baltic, Orient-Mediterranean, Rheine-Danube) are crucial to linking Germany with the Central-Eastern European region.⁴⁰

The shift in the economic geography of Europe with a large production base now located in a vast space stretching from Central-Southern Germany to the V4 countries, and further expanding to the low-wage countries of the Eastern and Western Balkans, has helped change the dynamic of Europe's economic geography. However, it is China's decision to actively exploit this advantage as part of OBOR and 16+1 which now opens new unexpected opportunities for members of the V4 like Poland and Hungary, for some of the eastern Mediterranean ports and their hinterlands, and for emerging continental hubs like Duisburg in Germany.

China's main goal is to increase rail services across Eurasia to 5,000 trains/year along 23 existing and 28 planned new routes by this date. The overland Eurasian corridors are already attracting traffic, with the main focus being on streamlining logistics services. As a result, Beijing's infrastructure investments have mostly targeted the South-Eastern Europe and the eastern Mediterranean, particularly Eastern and Western Balkans, as China is keen to open up new south-

³⁹Federal Ministry for Transport and Digital Infrastructure, "An overview of the trans-European transport network (TEN-T)", at: <http://www.bmvi.de/SharedDocs/EN/Artikel/G/an-overview-of-the-trans-european-transport-network-ten-t.html>. (Accessed 04/20/2017). The Trans-European Transport Networks (TEN-T) are a planned set of road, rail, air, and water transport networks in the EU officially adopted by the European Commission as part of a wider system of Trans-European Networks (TENs), including telecommunications and energy.

⁴⁰ European Commission, The Nine Ten-T Corridors, available at: <https://ec.europa.eu/transport/sites/transport/files/themes/infrastructure/ten-t-guidelines/corridors/doc/ten-t-corridor-map-2013.pdf> (accessed 04/30/2017).

eastern routes to gain access to the GCEMC and link it with the planned maritime component of the OBOR.

Against the backdrop of these goals, the real “game changer” has been China’s take-over of the Greek port of Piraeus. Between 2009 and 2016 Piraeus Port has turned from an underdeveloped small port plagued by strikes and poor infrastructure into a major transshipment hub, handling more than 3.5 Million TEU in 2016. Piraeus is now one of the Top 15 ports in Europe and one of the TOP 50 worldwide. In 2016, China’s biggest shipping company, COSCO, finalized the acquisition of the controlling stake of the port. With the Piraeus becoming China’s first port of call in the Mediterranean for westbound traffic via the Suez Canal, the entire transport geography of the Central-Eastern European portion of the continent is shifting and adjusting to both China’s engagement in the region and the discussed eastward shift in Europe’s manufacturing. At present the main obstacle preventing the Piraeus from becoming a “gateway” port, and thus a serious competitor to the northern ports, is the missing hinterland connections.

Delays at the border crossing points in Romania and Bulgaria, underdeveloped infrastructure, operational bottlenecks, and some missing links still reduce the impact of both the ports and Corridor 7 (Orient/Mediterranean) and Corridor 9 (Rheine-Danube) in intra-European container and bulk traffic.⁴¹ These two corridors will not be finalized and operative until 2018. China’s investments are, however, set to help overcome this bottleneck: China considers Hungary (like Poland, along the northern overland route from China) a transshipment continental hub as part of the intermodal corridors from Central Asia (via the Black Sea) and the Suez Canal (via the Balkans through the Piraeus). To this end, China is financing the construction of the high-speed railway connection between Serbia and Hungary (the so-called Europe-China Land-Sea Express Line). The high level of FDI in Hungary is in fact determined by the investment contract signed with the Hungarian Rail Operator MAV for the completion of this crucial project.⁴² Once in place, the line will transform Piraeus into a gateway, free up volumes for freight traffic, and speed up operability

⁴¹On bottlenecks, see Aleksander Bauranov, “The Port of Piraeus: Opportunity for Railways in South East Europe?” in: European Railway Review, at: <http://www.europeanrailwayreview.com/29672/railway-extra/port-piraeus-railways-south-east-europe/> (last modified 09/08/2016 accessed 02/07/2017).

⁴² On Chinese investment, see “China Wins \$1.6 bn Contract to Support Hungary-Serbia High-speed Rail,” in: Railway Technology, at: <http://www.railway-technology.com/news/newschina-wins-16bn-contract-to-support-hungary-serbia-high-speed-rail-4738236>, (last modified 11/26/2015, accessed 02/07/2017).

of the corridors to access the southern countries of the GCEMC (Hungary and Slovakia).⁴³ This line will potentially reach out as far as the Czech Republic and Bavaria. As a result the southern and central German manufacturing heartland (Baden Wurttemberg, and Bavaria), as well as Hungary, Slovakia, the Czech Republic, and Poland, could then be served either by the Hamburg Port, or by direct overland connections from China via Duisburg (for high-value-added goods) or by competitive port-hinterland services and intermodal corridors in South-Eastern Europe.

All in all, these projects are, in the short-term, aimed at penetrating the European markets along multiple and complementing routes from Suez, Turkey, and Central Asia/the Caucasus across to Central Europe and the Baltics. This will reduce China's dependence on the northern European ports such as Hamburg, Rotterdam, and Antwerp by creating alternative access certain countries. For China, there is also significant incentive to create integrated logistics services and their own logistics chain operated by Chinese companies like COSCO.

However, in the mid-to-long term, these services will create the necessary logistical support for China's increasing direct engagement in the advanced manufacturing sector inside Europe's new center of economic gravity. Once a Chinese-controlled supply and value chain emerges in this region, this could be easily reversed and used for outbound-traffic. It will profit from the proximity of the GCEMC to the new emerging markets located at its Eurasian border, stretching from the rich Western part of Russia to Turkey, Iran, and further to Central Asia and India.

Conclusion: Geopolitical Implications for Germany and Europe

This research has shown that, in evaluating how China's engagement in Europe will impact the European-Chinese relationship, a more differentiated analysis of both China's actions and Europe's geo-economic transformations is needed. In Europe, the role of Germany, China's largest trade partner and the main target of Chinese acquisitions in advanced manufacturing, is of particular relevance. This study shows that rather than acting deliberately as a divisive factor in Europe, China is strategically acting to profit from a shift inside Europe's own changing economic

⁴³ CCTV, "China-Europe Land-Sea Fast Transport Route Opens," February 8, 2017 <http://english.cctv.com/2017/02/08/ARTIG9baSlrmjBhzWicECgsi170208.shtml>, (accessed March 6, 2017).

geography. Here, Germany and four Central-Eastern European countries Poland, Hungary, the Czech Republic, and Slovakia (the Visegrad countries or V4) have emerged in the past decade as the new manufacturing center. China's engagement in Central-Eastern Europe is hence not simply aimed at gaining greater access to Western Europe. It is much more functional action to become an active player in Germany's supply and value chain. Therefore, China's actions in Germany need to be linked with China's engagement in the eastern part of the continent.

The synchronization of the economies of Central-Eastern Europe with Germany's export-oriented manufacturing economy has accelerated a desynchronization in the performance of Germany compared to other EU-members like France and Italy. Accelerated by the economic and financial crisis in the past few years, this desynchronization has turned into greater political tensions and potentially permanent geopolitical divisions. The emergence of this 'German Central Eastern European Manufacturing Core' (GCEMC) is due to different manufacturing paths among the EU-members. Specifically, strong vertical integration of the four Central-Eastern European countries into Germany's supply and value chains has led to the creation of a regional production cluster. Germany has profited more than other EU advanced economies from geographic proximity, production outsourcing, a strong domestic manufacturing sector, export orientation, and a distinctive business model. As a result, German companies transformed the Central-Eastern European region into their geo-economic hinterland. So far, the V4 countries have indirectly profited from their "backward" integration in Germany's value chains, which has accelerated their catch-up process.

In addition to this success, as part of the GCEMC, both Germany and the V4 countries have greatly profited from Germany's increased trade with China. There is increasingly evidence, that Germany has grown less dependent on intra-European ties and more resilient to domestic demand shocks, as exports and trade with extra-European developing economies have accelerated over-proportionately. In particular the increase in German exports to China (automotive, electronic machinery, and capital goods) along with increased export volumes to other developing economies has proven crucial for Germany's sustained trade surpluses. Indirectly, the V4 have benefited from their sustained exports in intermediate goods input into Germany's products. Conversely, other EU members have profited comparatively less from their ties with Beijing. Their different economic specialization and the effects of the 2008 crisis on their performances have contributed

to increasing their trade unbalances with China. This has deepened the gap between the export-driven Germany economy at the center of the GCEMC and the countries in Atlantic and Mediterranean Europe.

Against this backdrop, the implications from deepening ties between Europe and China across Eurasia will largely depend on how Europe and, particularly Germany, will react to China's evolving role in the 'German Central Eastern European Manufacturing Core'

In the short-to-mid term, China could serve both Germany's and Europe's interests as a geopolitical counter-balance to Russia. Hence, strengthening economic and transportation ties along different corridors in Eastern Europe and across Eurasia is conducive to German, European, and Chinese interests. Geoeconomically, however, deeper EU-China relations will over-proportionately give advantage to the GCEMC over other EU members. Germany and the V4 will be keen to further deepen their "continental drift" and expand their exports to China as demand for cars and capital goods is still high in the country. Germany will be less concerned over rising imports from China as its trade with Beijing is less unbalanced than other EU-members. Furthermore, direct connections between Asia and Europe, both overland and at sea, will improve access to emerging markets located between Central Eurasia and the Eurasian southern shores, like Iran, Turkey, North Africa, and India. But this will also create new and better connections to more remote regions like Central Asia, where German capital goods and cars might further strengthen their position. Meanwhile, the V4's trade with China is highly unbalanced. However, they will further indirectly profit from Germany's ties with China, from access to new markets, from upgraded regional infrastructure and from their role as transit countries.

In this scenario, intra-European geopolitical divisions could be augmented. After Brexit, the traditional Western European core gravitating around the German-French axis could regain centrality, particularly after the election of the liberal and pro-European Macron in France. This won't lead however to a re-alignment between Paris and Berlin, if substantial differences will remain on the political-economic architecture of the EU. These will only but deepened by Germany's decreasing dependence on intra-European demand shocks

Conversely, a slightly different scenario emerges if we consider the mid-to-long term impact of China's new direct engagement in the GCEMC. In the mid-to-long term if the relationship between the GCEMC and China develops beyond bilateral trade, and Beijing becomes more directly involved in the regional production network, this could result in less complementarities and greater competition than is now the case. In fact, the increasing direct role China is playing in the German Central Eastern European Manufacturing Core could prove particularly dangerous for Germany. So far Berlin has balanced between its economic integration in the GCEMC and in the EU and the relevance of its ties with Beijing. But, for Germany, China's attempt to move up along the manufacturing value chain and take advantage of the "digital revolution" could turn Beijing into a powerful competitor on the global markets. Most concerning, by acquiring German companies with production activities in Central-Eastern Europe, Chinese silent and under-the-radar penetration in the GCEMC could turn the region into a contested geo-economic region between German and Chinese companies. This would erode Germany's competitive advantage in the GCEMC. In fact, Beijing might try to turn the GCEMC into its own production platform, reversing the logistic chains it is creating to reach out to new markets located in close geographic proximity to the GCEMC.

In this setting, Germany will need to carefully balance national interests, European responsibilities, and advantageous ties with China and might be forced to seek a stronger realignment with other western European partners. Therefore, in the mid-to-long term, if China intends to further increase its engagement in Europe beyond traditional trade ties, this presents more risks for Germany and the GCEMC than for other EU members. However, this could be a wake-up call for Europe. Stronger joint European coordination toward China will prevent further intra-European divisions while fostering mutually advantageous integration across Eurasia. All in all, whether China's inroads in the GCEMC will positively or negatively impact bilateral ties and intra-European relations will depend not only on China's actions, but also on the strategy Europe, and most importantly Germany, chooses to adopt