

# Domestic Institutions and Global Value Chains: Offshoring in Germany's Core Industrial Sectors

Ferdi De Ville  
Ghent University

## Abstract

Do domestic institutions affect industrialised countries' positions in global value chains? A key insight from literature on global value chains is that a firm's decision to offshore depends on the trade-off between price competitive gains and coordination costs. The role of domestic institutions in this decision has largely been neglected in global value chains analyses. However, a core insight from literature on varieties of capitalism is that the outcome of this trade-off differs depending on the national institutions in which firms are embedded. National economies vary in terms of the importance of non-market institutions for firms' production decisions. This article integrates insights from both literatures, resulting in the hypotheses that for firms in coordinated market economies offshoring has lower gains and higher costs than for firms in liberal market economies and that this will translate in a different importance and/or geography of global value chains. We empirically test these hypotheses by focusing on Germany. We find that Germany is intensively integrated in international value chains, but that its core sectors have made relatively more use of 'near shoring', as this allows them to retain comparative institutional advantages. This has permitted Germany to maintain and even expand output and employment in industry.

It is well known that globalisation has transformed the world economy over the past decades. But globalisation itself has also changed. Until the 1980s, globalisation involved the rapid growth of trade in final products. Trade followed the pattern predicted by the logic of comparative advantage where countries exchanged different types of products. This changed as the consequence of two trends. A revolution occurred in business management where firms started to focus on their core activities while outsourcing others. China and other emerging economies opened up their economies allowing firms in the industrialised world to offshore their non-core activities to remote places where they could profit from much lower labour and other production costs. The combination of both trends gave rise to a new pattern of world trade, no longer primarily characterised by the international exchange of finished goods but rather by the exchange of parts, tasks or value added. This evolution has been captured by the concept of 'global value chains' (GVCs). GVCs became a new reference point in different academic disciplines studying international economics (see Gereffi and Korzeniewicz, 1994; Feenstra and Hanson, 1999; Gereffi, 1999; Gereffi 2014; Baldwin and Lopez-Gonzalez, J. (2015), including in international political economy (IPE; see the introduction to the Special Issue).

Around the same time of the ascendance of GVCs, in the final decade of the 20th century, a new theory was being developed within comparative political economy (CPE) that would become seminal within the discipline. The 'varieties of capitalism' (VoC) perspective was the response of comparative political economists to the 'convergence hypothesis'

that stated that globalisation coerces states to adopt similar political-economic institutions such as deregulated labour and capital markets in order to attract 'footloose investors' (see Hall and Soskice, 2001). VoC scholars opposed this view and argued that a globalised economy still allows for different institutional pathways to economic success. As long as political-economic institutions are complementary, firms are able to be competitive.

Surprisingly, the burgeoning literature on GVCs has paid little attention to how domestic institutions condition the response of firms to incentives offered by the new patterns of international trade and production, thereby neglecting insights from the VoC literature. This article will fill this academic hiatus by developing and testing hypotheses about how domestic institutions affect firms' international restructuring decisions. In doing so, the focus will be on 'coordinated market economies' (CME; see below), and the empirical case that will be analysed is Germany, the CME *par excellence* according to the VoC literature. Today more than ever, Germany is viewed, in some corners with envy, as a model for how industrialised countries can retain a high share of employment in manufacturing in the era of global restructuring and deindustrialisation in the developed world. We trace to what extent the effects domestic institutions have on German firms' offshoring decisions can help shed light on this puzzle.

The remainder of this article is structured as follows. In the next section, we briefly introduce the literatures on GVCs and VoC. Section three integrates their key insights,

resulting in the hypotheses that domestic institutions have different effects on the importance and/or geography of GVCs for different types of developed economies. The next section tests these hypotheses through an empirical analysis of Germany. We end with summarising our main conclusions and contributions.

### A brief introduction to GVCs and VoC

In the most basic definition GVCs are value chains – ‘the process by which technology is combined with material and labor inputs, and then processed inputs are assembled, marketed and distributed’ (Kogut, 1985, p. 15) – gone global. This simple definition illustrates that with GVCs we refer to a combination of two transformations to business practices. First, the ‘unbundling of supply chains into finer stages of production’, (Baldwin, 2013, p. 27), which became prevalent when companies began to focus on their core activities and outsource the rest. Second, the ‘geographic unbundling of stages’ after offshoring production to lower-cost countries had become more attractive thanks to the ICT revolution, trade and investment liberalisation and decreasing transport costs (Baldwin, 2013, p. 27). The expectation in the literature was that this would lead to an accelerated dispersion of parts of value chains to different countries (Baldwin, 2013, p. 35). In sum, the rise of GVCs is explained as the combined effect of lower coordination costs and higher specialisation gains.

The study of these GVCs has led to the development of research projects in different disciplines. The main questions the GVCs literature focuses on are: when and why do firms disintegrate their activities in a geographically dispersed way?; whereto do they offshore?; and how are GVCs governed? More precisely, GVCs have had the most profound impact on those academic subfields studying: international trade and competitiveness indicators (see e.g. Feenstra and Hanson, 1999; Koopman et al., 2010; Timmer et al., 2015); the governance of international business relations (Gereffi, 1999; Gereffi and Korzeniewicz, 1994; Gereffi et al., 2005); and economic development strategies (Baldwin & Lopez-Gonzalez, J. (2015); Gereffi et al., 2005). The focus in these projects has been mainly on how to better measure trade and competitiveness characteristics of countries, on how firms in different sectors govern value chains and on how developing countries can use value chain integration as a development strategy. As argued in the introduction to this Special Issue, little attention has gone into how institutions constitute and are constituted by GVCs. This contribution will analyse how domestic institutions affect firms’ decisions to restructure their activities along GVCs. To arrive at meaningful and testable hypotheses on this causal relationship, we link the IPE literature on GVCs with the CPE literature on VoC.

The main motive for the VoC approach was to ‘call into question the presumption that increasing international economic integration will force the institutions and regulatory regimes of diverse nations into convergence on a common model’ (Hall and Soskice, 2001, p. vi). VoC argues that

national economies can be characterised and differentiated according to the institutions they provide to allow firms to resolve coordination problems (Hall and Soskice, 2001). The original framework distinguished between two ideal types of political economies as the poles of a spectrum along which nations can be classified: ‘liberal market economies’ (LMEs), where firms coordinate activities primarily via the market and ‘coordinated market economies’ (CMEs), where coordination happens to a larger extent outside of the market.

In CMEs, for which Germany was considered the prototype, firms are expected to finance themselves mainly via bank credit, engage in consensual relationships with employees through negotiated agreements with trade unions, set up vocational training systems to provide their workers with specific skills and engage in close networks with each other to share knowledge and ensure stable supply chains. In LMEs, for which the United States and United Kingdom were considered the model examples, firms fund themselves mainly through short-term capital, management has much freedom to hire and fire employees, who gain skills through formal training outside the firm, and innovation is distributed between firms through licensing, mergers or takeovers. These different institutional configurations lead firms to specialise in different types of activities (Hall and Soskice, 2001). LMEs specialise in *radical innovation*, the invention of new products or major shifts in production processes. Firms with radically new ideas can quickly attract (venture) capital, hire employees with transferable skills and acquire or sell new technologies. Sectors characterised by radical innovation include information technology, biotechnology or finance. Firms in CMEs excel in *incremental innovation*, small and continuous improvements to existing products and processes. Incremental innovation requires a skilled workforce that is endowed with sufficient work autonomy, has product-specific expertise and is secure enough to risk suggesting product or process improvements. Sectors characterised by incremental innovation include machinery and transport equipment.

Hall and Soskice’s original volume has led to a plethora of studies applying, extending and amending their framework (e.g. De Ville and Vermeiren, 2016; Hall, 2014; Hancké et al., 2007; Johnston and Regan, 2016; Molina and Rhodes, 2007; Nölke, 2016; Nölke and Vliegenthart, 2009; Streeck and Thelen, 2005). Especially relevant for this article is the development of a new type of market economy called ‘dependent market economy’ (DME), to account for the institutional configuration emerging in the former communist countries of the Czech Republic, Hungary, Poland and Slovakia. After the implosion of the Soviet Union, these countries attracted a lot of foreign direct investment, especially from Western Europe. In combination with institutional legacies from their communist past and with their integration into the European Union, this resulted in a specific type of market economy, where coordination is not ensured by the market or strong and cooperative social partners but by (Western) multinational corporations.

Varieties of capitalism not only led to many applications but also received a fair amount of criticism. It has been portrayed as static and overly functionalist, prioritising the role of firms and neglecting the role of governments and (activist) trade unions, and has been accused of 'methodological nationalism' by disregarding international processes (for an overview of these criticisms with references, see Hancké et al., 2007). The original authors and others have responded to these criticisms, either by refuting them or by modifying the original framework, without hollowing it out (see Hancké et al., 2007 or Hall and Thelen, 2008). We concur with the latter approach, and try to contribute to the argument that the VoC framework allows for international influences and can explain change, by integrating it with a perspective focused on international restructuring processes.

The next section explains how integrating the key insights from the GVCs and VoC literature leads to hypotheses about how domestic institutions affect the importance and/or geography of GVCs for different types of market economies.

### Integrating GVCs and VoC insights

The GVCs and VoC approaches have a number of commonalities. Both perspectives have seen the daylight in the 1990s as a response to the rapidly changing global economy of that decade, where traditional trade theories could insufficiently account for. Both start from the micro-level in studying the international political economy and both take a relational view of the firm. They also differ on a number of points. Although both respond to the transformation of globalisation in the final decades of the 20th century, their expectations and explanations for this transformation differ. VoC explains why economic activities cluster, and why they cluster in a particular country. GVCs, on the other hand, explains the rise of trade in parts or tasks as the consequence of international de-concentration rather than national clustering. Most importantly for his article, they differ in their explanatory variables for firms' production decisions.

In GVCs, these are international processes, in VoC domestic institutions. This article argues that both perspectives should not be considered as necessarily competing, but can be integrated.

That there was untapped potential for integrating GVCs and VoC insights had been recognised by Gary Gereffi, one of the authorities in the GVCs literature: 'notwithstanding the potential complementarities between institutional and organisation perspectives on the global economy, there has been virtually no dialogue between the two literatures' (Gereffi et al. 2005, p. 170). This dialogue is still absent, with the notable exceptions of books and articles by Lane and Probert (2006, 2009) and by Herrigel (2010; with Herrigel and Wittke, 2005). However, these studies are based on anecdotal firm-level evidence. In the remainder of this article, we try to offer a more systematic theoretical integration and quantitative empirical analysis, using aggregate data on the state and sector rather than firm level.

Following from the preceding discussion of the main insights of GVCs and VoC, we can put forward two hypotheses about how the rise of GVCs interacts with the existence of VoC. We will thereby focus on coordinated market economies, because it is here that VoC expects (global) market forces to be mitigated by domestic institutions, while using liberal market economies as benchmarks in the background, where domestic institutions are expected to align with (global) market processes.

When combining VoC with GVCs insights, one expectation is that firms in CMEs will be less involved in GVCs. This follows from integrating the key insight from GVCs that the decision of a firm to offshore production internationally is based on a 'coordination cost – specialisation benefit analysis' with the key insight from VoC that the comparative institutional advantage of firms in CMEs is significantly built on coordinated, non-market relationships:

- *First, international fragmentation might be more costly for firms in CMEs.* Incremental innovation in which CMEs specialise involves continuous improvement along the value chain. This means that product development and design on the one hand and product manufacturing on the other are less separable than is the case for goods characterised by radical innovation in which LMEs have a comparative advantage. Design and product improvement often coincide with the production process. Firms in CMEs gain comparative institutional advantage from close coordination with suppliers and buyers and with workers endowed with specific skills through vocational training. Offshoring holds the risk that firms in CMEs lose the ability of continuous improvement throughout the supply chain by abandoning control over skill-formation of employees or close relationships with supplier firms. Formulated differently, in contrast to 'switchable assets' that are central in LMEs, 'specific or co-specific assets' prevalent in CMEs are more difficult to separate and disperse internationally (cfr. Gereffi et al., 2005). In sum, coordination costs are higher for firms in CMEs when offshoring.
- *Second, international fragmentation might be less rewarding for firms in CMEs.* As CMEs specialise in 'quality-differentiated production' (Streeck, 1992) rather than in goods that compete on price, they are less pressured to engage in offshoring to remain cost competitive. In other words, specialisation benefits for them are lower. Hence, differences in wage levels are less of an incentive for their firms to offshore to developing or emerging economies.
- *Third, international fragmentation might be more easily vetoed in firms in CMEs.* As trade unions in CMEs have greater institutionalised power, they are more able to veto outsourcing of tasks than weaker trade unions in LMEs.

Firms in LMEs, on the other hand, tend to specialise in high-technology consumer products that partly involve unsophisticated, labour-intensive tasks (e.g. mobile phone assembly). Hence, a clear spatial separation between design and production is possible. These products compete significantly on price. Therefore, in the coordination costs – specialisation gains trade-off they feel more pressure to

offshore to stay cost competitive and this comes with lower coordination costs as tasks are more easily separable. Finally, trade unions in LMEs lack the power to veto offshoring.

Hypothesis 1: Firms in CMEs will engage less in GVCs

Domestic institutions can be expected to not just present firms with the choice to engage in offshoring or not (and if so, to what extent), but to also affect the geography of their offshoring decisions. In the international management literature, the interplay between coordination and distance is highlighted (see e.g. Ceci and Prencipe, 2013). Coordination costs are expected to increase with distance, because distance, *ceteris paribus*, amplifies differences in occupational or cultural knowledge and practices and because communication among actors becomes more problematic due to logistical and time-related constraints. Analogous to the causal mechanism developed for hypothesis 1, firms in CMEs for which close coordination with creditors, employees and other firms is important can be expected to offshore to countries at a closer distance (or 'nearshoring' in short) to limit coordination costs.

Moreover, for firms in Germany, on which we will focus our empirical analysis in the next section, offshoring to the near abroad, has been facilitated by the transformation of its eastern neighbouring countries into capitalist democracies in the 1990s. As elaborated in the previous section, a model of 'dependent market economies' has emerged there, allowing German firms to offshore parts of their production with minimal coordination costs. It allowed them to easily supervise subsidiaries and integrate them in their company networks. The establishment of subsidiaries of German banks in Central and Eastern Europe allowed German manufacturing firms to rely on their traditional financing source. Hence, offshoring to Central and Eastern Europe could allow German firms to profit from cost reductions while maintaining advantages of non-market coordination.

Hypothesis 2: Firms in CMEs will engage in GVCs in a way that is compatible with their comparative institutional advantage by pursuing nearshoring

## Empirical analysis of Germany

Our empirical focus is on Germany as the prototypical CME. But to be able to put the analysis of Germany in perspective, we will compare it with the United States and the United Kingdom as benchmarks. This implies that our discussion will be primarily focused on Germany, and our analysis of the US and the UK will be much shallower. In terms of sectors, we concentrate on Germany's core industries characterised by incremental innovation: cars and machinery. It is here that we expect firms to be confronted most starkly with the offshoring trade-off between profiting from cost reductions and losing advantages from close, non-market coordination.

Germany has been seen as a special case in the world economy since the end of the Second World War. An

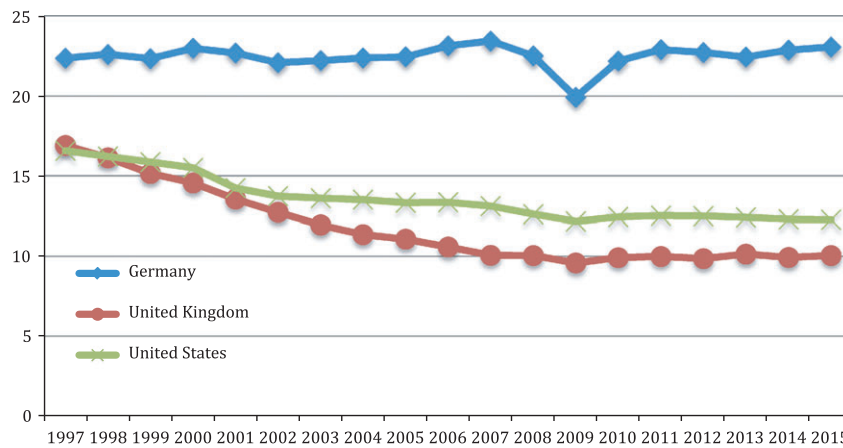
extensive literature has emerged about the German model (see below). For some time, and since then repeatedly, its sustainability in the era of intensified globalisation has been questioned. (Streeck, 1997) published a seminal article about Germany in 1997, arguing how its external competitiveness as a high-wage country could be explained through its distinctive set of socioeconomic institutions. However, he predicted that the German model would run into problems due to globalisation (as well as secular exhaustion and reunification). In the meantime, evaluations of the German economy have become more upbeat. While it was depicted as the 'sick man of Europe' in 1999 (The Economist 1999), 10 years later Germany was labelled 'Powerhouse Deutschland' by the same magazine (The Economist 2010). Germany's fate has impressed in this period of not only the financial-economic and euro crisis, but also the rise of GVCs and deindustrialisation in developed countries as well. We will analyse, along the hypotheses put forward in the previous section, if there is anything peculiar in how German firms have engaged in GVCs that can help explain this puzzle.

It is well known that Germany stands out for the continued importance of manufacturing in its economy. As can be seen in Figure 1, the share of manufacturing value added in the total GDP of Germany has remained constant in the period 1997–2015. It stands significantly above the OECD average, more than 10 percentage points (p.p.) above the figure for the US, and more than 12 p.p. above the share in the UK. Germany remains particularly strong in exports of mid-technology (MT) products (machinery, transport equipment and process industries). In Germany, MT products remained responsible for almost half of total goods exports between 1990 and 2011 (Foders and Vogelsang, 2014). That is significantly above the share of MT products in the total goods exports in the US (about one-third) and still far above the level in China, although it is on the rise there (a quarter in 2011). Germany has, on the other hand, one of the lowest shares of high technology (HT) exports. These were higher in LMEs such as the United States and grew spectacularly in emerging economies such as China.

The continued success of German industry, particularly in mid-technology products, is in line with arguments from the VoC literature. Apparently, the intensification of globalisation and the rise of GVCs have not undermined Germany's economic performance in these sectors. Can this be explained by our Hypothesis 1, namely that German firms have, constrained by their domestic institutions, offshored a smaller share of their industrial activities than firms in the UK and the US? If we look at an aggregate measure of trade in value added (see Figure 2), namely the foreign value added share of gross exports, the answer is no. We find that Germany is actually relatively highly integrated into international value chains. The foreign content of Germany's exports was 25.5 per cent in 2011 (the latest year for which trade in value added data are available), an increase of 10.6 percentage points since 1995. It is slightly above the share for the UK and more than 10 p.p. above the one of the US.

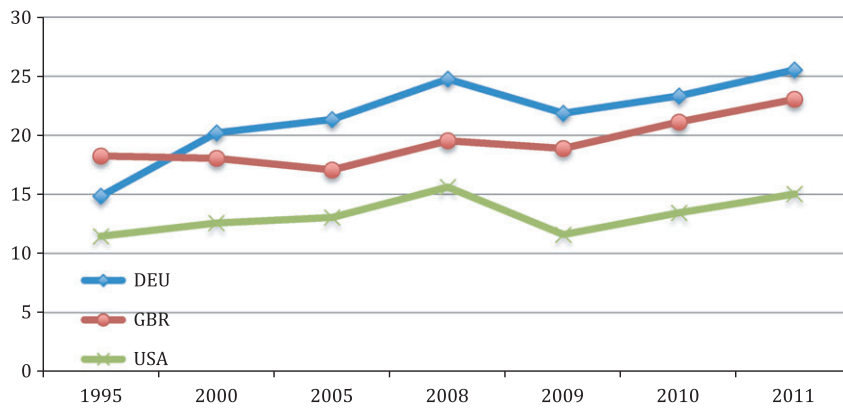
Based on this aggregate measure, we could falsify our first hypothesis. But we need to qualify this finding. It has to

Figure 1. Share of manufacturing in total value added (% of GDP)



Source: World Bank

Figure 2. Foreign value added as a share of total value added in gross exports



Source: OECD, Trade in Value Added Database

be taken into account – as is the case with other trade statistics – that the share of foreign value added is inversely related to the size of one’s economy. Logically, the more ‘abroad’ there is for a country, *ceteris paribus*, the more foreign value added will be included in its exports. This helps explain the difference between Germany and the US. This bias can be overcome by comparing regional and extra-regional rather than domestic and foreign value added. Moreover, disaggregating the source of inputs in a country’s exports beyond the ‘domestic-foreign’ dichotomy highlights the geographical way in which firms offshore, necessary to test our hypothesis 2. When we compare the origin of value added in country’s exports on the basis of regional circumscriptions of similar size, we see that the figures for Germany, the United Kingdom and the United States for 2011 are in fact almost identical (see Table 1).<sup>1</sup> All three countries source their intermediate inputs embodied in gross exports of the total economy to a very large extent regionally (see bold values in Tables 1-3).<sup>2</sup>

	DEU	US	UK
NAFTA	2.51%	<b>88.49%</b>	3.31%
Europe	<b>89.91%</b>	3.71%	<b>89.99%</b>
East and South East Asia	3.28%	3.88%	3.12%
South and Central America	0.59%	0.74%	0.34%
Other	3.71%	3.18%	3.24%

Source: OECD, Trade in Value Added Database

But these data still result in a partly misleading comparison. Not only the size of one’s domestic economy, but also the sectoral composition of a country’s exports affects the share of foreign value added in its total exports. Sectors differ on average in terms of the importance of foreign value added, with some (mostly manufacturing) sectors on average being characterised by higher foreign value added than other (mostly services) sectors. In other words, a country

**Table 2.** Origin of value added in gross exports, transport equipment (2011)

	DEU	US	UK
NAFTA	2.89%	<b>72.86%</b>	4.85%
Europe	<b>88.86%</b>	8.75%	<b>82.52%</b>
East and South East Asia	4.01%	12.76%	7.04%
South and Central America	0.62%	1.27%	0.50%
Other	3.62%	4.36%	5.08%
Domestic	68.57%	64.59%	55.58%

Source: OECD, Trade in Value Added Database.

**Table 3.** Origin of value added in gross exports, machinery (2011)

	DEU	US	UK
NAFTA	2.39%	<b>83.22%</b>	4.83%
Europe	<b>89.86%</b>	5.34%	<b>83.97%</b>
East and South East Asia	4.14%	6.18%	6.31%
South and Central America	0.50%	1.33%	0.42%
Other	3.12%	3.93%	4.47%
Domestic	73.32%	77.61%	64.62%

Source: OECD, Trade in Value Added Database

where industry is relatively more important than services will have a higher foreign value added of its total exports than a country where services are relatively more important. The most important export sector in Germany (in domestic value added terms) is motor vehicles (9.9%), followed by machinery (8.4%), wholesale, retail and hotels (8.1%) and chemicals (6.9%). Apart from wholesale, retail and hotels, the other three top sectors are (industrial) sectors characterised by relatively high shares of foreign value added everywhere. In the UK, on the other hand, business services generated the greatest source of domestic value added of total exports at 13.9 per cent, followed by finance and insurance (11.1%), wholesale, retail and hotels (9.3%) and chemicals (6.2%). Apart from chemicals, the top sectors are services sectors characterised by relatively low shares of foreign value added on average. The same applies for the US. There, exports by the wholesale, retail and hotels industry generated the greatest source of domestic value added in 2011 at 11.0 per cent, followed by business services (10.1%), transport and telecoms (7.6%) and chemicals (7.1%). Again, apart from chemicals, the top sectors are (services) sectors characterised by relatively low shares of foreign value added everywhere.

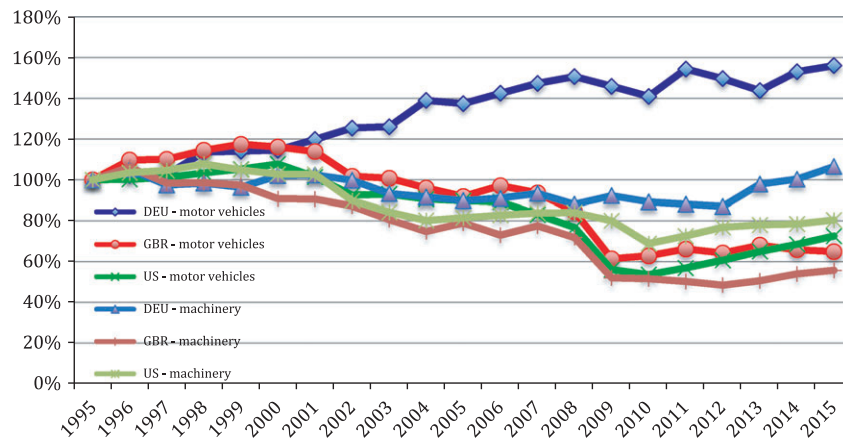
To control for not only the size of one's economy but also differences in export structures, we will concentrate in the following tables on the two sectors in which Germany has a comparative institutional advantage: transport equipment and machinery. We find in Tables 2 and 3 that in 2011 Germany sources inputs as intermediates for gross exports in transport equipment and machinery significantly more

regionally than is the case for the US and the UK. East and South East Asia are much less important in German value chains of transport equipment and machinery than is the case for the US and the UK.

In sum, German firms have not shied away from offshoring and integrating in 'global' value chains. But especially in the economy's core sectors of transport equipment and machinery, German firms have chosen more for 'regional' sourcing than their counterparts in the US or the UK. While our Hypothesis 1 can be refuted, supporting evidence has been found for Hypothesis 2. Domestic institutions have not precluded German firms from engaging in offshoring, but have led them to choose more for *regional* value chains than for true *global* value chains. This allows them to profit from cost reductions while maintaining comparative institutional advantages to the maximum.

This article has mainly focused on the causal relationship flowing from domestic institutions to GVCs. To end this section, I will, necessarily briefly and mainly based on secondary literature, reflect on the reverse relationship by discussing the evolution of the German model in the era of GVCs. How have German firms' offshoring decisions discussed above affected its domestic institutional configuration?

The offshoring of value added tasks, mostly those requiring lower skills, to its neighbouring countries, Central and Eastern European countries in particular, has been seen as part of a modification of the political-economic model of Germany. These changes have been extensively debated. Some argue that they should be seen as of a systemic nature and as having 'eroded' the German model (e.g. Streeck, 2009). Others agree that significant changes have occurred, but qualify this more modestly as a 'reconfiguration', characterised by 'dualisation' and 'decentralisation' (e.g. Hassel, 2014; Kwon 2012; Palier and Thelen, 2010). Several authors in the final group argue that reorganising value chains across the eastern border has been crucial in maintaining industrial competitiveness and the viability of the German model. This has allowed German firms to keep their comparative advantage in incremental innovation and quality-differentiated production while also keeping costs down (e.g. Krzywdzinski, 2014). Rather than vetoing the internationalisation of production, German trade unions in core sectors have supported nearshoring as an instrument to retain competitiveness and employment. As Figure 3 shows, nearshoring by German firms has indeed not *replaced* domestic production and jobs but has rather *expanded* German capacities to service increasing demand for (high-end) transport equipment and for machinery products in emerging economies. Germany succeeded in keeping its employment in machinery stable and in expanding it by almost 60 per cent in motor vehicles. In the same period, employment decreased in these sectors by between 20 and 45 per cent in the US and the UK. While maintaining and even expanding employment in Germany's core sectors, offshoring lower value-added task to neighbouring countries has led to a change in the (skill) composition of domestic employment and has increased cost competitive pressure on sourcing firms of core firms at home. Our account should hence not

**Figure 3.** Employment in motor vehicles and machinery in Germany, the United Kingdom and the United States (1995 = 100)

Source: Eurostat and US Bureau of Labor Statistics

be read as an unqualified 'success story': maintaining industrial employment in core sectors through strategic nearshoring has not benefited every section of German society equally.

## Conclusions

This article has integrated insights from two relatively recent approaches that quickly came to dominate international political economy and comparative political economy, respectively GVCs and VoC. We have shown that they share some roots and assumptions but also have some differences. Most importantly, we formulated two hypotheses that result from integrating their insights. A first is that firms in coordinated market economies are expected to engage less in offshoring because their comparative institutional advantages offer fewer incentives and more constraints to do so. A second is that firms in CMEs, when engaging in GVCs, will prefer nearshoring as this allows them better to maintain institutional advantages in an international context.

We have then engaged in an empirical analysis of Germany, with data for the UK and the US as benchmarks. It was found that Germany remains a peculiar country among developed economies. To the envy of politicians in other countries, the share of manufacturing in total output and employment in Germany has remained at high levels. Also when measured in value added statistics, the specialisation structure of Germany remains distinctive when compared with that of the US and the UK, with transport equipment and machinery as the most important sectors. Nevertheless, Germany's institutional configuration has not precluded its firms from engaging in global value chain integration. In aggregate terms, Germany is intensively engaged in GVCs. We have nuanced this finding by explaining it as partly the consequence of the relative size of Germany's domestic economy and of its specialisation structure dominated by sectors where outsourcing is

prevalent worldwide. When looking at regional sourcing strategies and at Germany's two core sectors, where incremental innovation is the main mode of product and process development and coordination is supposed to be essential, we found that German firms source their inputs more regionally than is the case for the US and the UK, as expected in our second hypothesis.

The German politico-institutional model has changed in recent decades and years. There is a wide consensus that these changes can be captured by the concept of 'dualisation' and that they are partly the result of intensified globalisation. Observers differ in their evaluation of these changes as erosion or adaptation. In this article, we have shown that integration in GVCs has not affected Germany's high share of manufacturing in total value added and employment or the importance of its key sectors transport equipment and machinery. Rather than decreasing German industrial employment and value added, German firms in the core sectors seem to have, in concert with trade unions, offshored parts of their production in a way that allowed them to keep output and jobs at home by increasing their global sales overall. GVCs, more regionally oriented than their American and British counterparts, allowed them to maintain their advantages in quality-differentiated production while also improving in cost-competitive terms. This has put pressure on workers beyond firms in the core sectors, however.

Our findings are relevant for current societal as well as academic debates (see Eckhardt and Poletti, 2018). In a political climate where globalisation and offshoring are often seen as indiscriminately having resulted in a loss of manufacturing jobs in developed economies, we have shown that this does not apply to Germany. As has been described in other accounts, the integration of China and Central and Eastern Europe in the global economy can even be seen as a double positive shock for Germany (cf. Dauth et al., 2014). While the former provided a huge

export market for its key sectors, the latter allowed it to build regional value chains that resulted in increased cost competitiveness while maintaining its institutionally supported quality competitiveness. This shows, in line with the key assumption of the VoC perspective, that globalisation still allows for different choices about the structure of one's economy and workforce. For the Trump Administration in the US, whose Director of Trade and Industrial Policy Peter Navarro has declared to 'envision a more German-style economy, where 20 percent of our workforce is in manufacturing' (Guo, 2017), a lesson of our analysis should be that Germany has been able to maintain this high share of employment in manufacturing partly through regional trade integration, something the Trump Administration's trade policies go directly against. However, policy makers should not be overly voluntaristic in copying the German success story elsewhere. Germany's industrial success is the product of both a domestic institutional configuration that has developed over decades and more recently of the ability of its firms to restructure their activities across the (eastern) border to countries that provided a very convenient context. Neither is readily available elsewhere.

Academically, we contribute to international and comparative political economy by bringing key insights from both disciplines into dialogue with each other. To the literature on GVCs, we demonstrate how domestic institutions affect firms' responses to incentives flowing from the rise of GVCs. Firms in similar sectors in countries with similar factor endowments can still face different incentives to offshore production based on their different institutional environment. To the literature on VoC, we show how its arguments can be adapted to the context of intensified globalisation without losing relevance and explanatory power. In that way, our analysis responds to a criticism on VoC that it has a static bias and does not allow for (international economic) change. Clearly, the case of Germany shows that a coordinated market economy is able to dynamically adjust to a changing international economic context while maintaining, and capitalising on, its institutional advantages.

Our analysis naturally has its limitations as well. We have concentrated on a single case study, while using data for two other countries as benchmarks. Further research could test our hypotheses for other countries and other sectors, and in a more explicit comparative analysis. This would also help to understand to what extent our findings are dependent on the 'unique' circumstances of Germany, the prototypical coordinated market economy whose firms were suddenly given the opportunity to offshore to receptive neighbouring countries where they could largely maintain their comparative institutional advantages.

## Notes

This article has benefited from feedback on various occasions. The author would like to thank the editors of this Special Issue, Jappe Eckhardt and Arlo Poletti, for their outstanding guidance throughout the process, participants at the Workshop 'The Politics of Global Value Chains: The Globalization of Production and the Challenge of

Governance' at the 2017 ECPR Joint Sessions in Nottingham and at the Workshop 'New Perspectives on Global Value Chains and Global Production Networks: Bringing Institutions Back' in York later that year for their input, as well as two anonymous reviewers for *Global Policy* for their excellent comments and suggestions.

1. While in the figures in the rest of this empirical section, we present time series that allow to compare evolutions over time between Germany, the UK and the US, in the next three tables we only present data for the final year for which data are available (2011). The reason for this is mainly pragmatic. Including in one table or graph data for three exporting countries and five or six source regions in a times series would make the table or graph very convoluted. Moreover, substantially, we are especially interested in where firms source their inputs in the most recent year for which data are available, after the rise of GVCs. That, for example, the importance of Europe in sourcing of inputs for German car manufacturers has increased steadily over the 2000–2011 period is less significant.
2. Domestic value added for Germany and the United Kingdom is part of the region 'Europe'. Domestic value added for the United States is part of the region NAFTA.

## References

- Baldwin, R. (2013) 'Global supply chains: Why they emerged, why they matter, and where they are going', in D. K. Elms and P. Low (eds.) *Global value chains in a changing world*. Geneva: WTO, pp. 13–60.
- Baldwin, R. and Lopez-Gonzalez, J. (2015) 'Supply-chain Trade: A Portrait of Global Patterns and Several Testable Hypotheses', *The World Economy*, 38 (11), pp. 1682–1721.
- Ceci, F. and Prencipe, A. (2013) 'Does distance hinder coordination? Identifying and bridging boundaries of offshored work', *Journal of International Management*, 19, pp. 324–332.
- Dauth, W., Findeisen, S. and Suedekum, J. (2014) 'The rise of the East and the Far East: German labor markets and trade integration', *Journal of the European Economic Association*, 12(6), pp. 1643–1675.
- De Ville, F. and Vermeiren, M. (2016) *Rising powers and economic crisis in the Euro area*. London: Palgrave.
- Eckhardt, J. and Poletti, A. (2018) 'Introduction: Bringing Institutions Back in the Study of Global Value Chains', *Global Policy*, 9 (S2), pp. 5–11.
- Feenstra, R. C. and Hanson, G. H. (1999) 'The impact of outsourcing and high-technology capital on wages: Estimates for the United States, 1979–1990', *The Quarterly Journal of Economics*, 114 (3), pp. 907–940.
- Foders, F. and Vogelsang, M. M. (2014) *Why is Germany's manufacturing industry so competitive?* Kiel: IFW, Policy Brief No. 69.
- Gereffi, G. (1999) 'International trade and industrial upgrading in the apparel commodity chain', *Journal of International Economics*, 48 (1), pp. 37–70.
- Gereffi, G. (2014) 'Global value chains in a post-Washington consensus world', *Review of International Political Economy*, 21 (1), pp. 9–37.
- Gereffi, G. and Korzeniewicz, M. (1994) *Commodity Chains and Global Capitalism*. Westport (CT): Praeger.
- Gereffi, G., Humphrey, J. and Sturgeon, T. (2005) 'The governance of global value chains', *Review of International Political Economy*, 12(1), pp. 78–104.
- Gereffi, G. and Korzeniewicz, M. (1994) *Commodity chains and global capitalism*. Westport (CT): Praeger.
- Guo, J. (2017) 'Why the White House seems a little jealous of Germany'. *The Washington Post*, 2 February, available from: [https://www.washingtonpost.com/news/wonk/wp/2017/02/02/how-germany-was-able-to-win-globalization-but-the-united-states-was-not/?utm\\_term=.bac7afbc53ae](https://www.washingtonpost.com/news/wonk/wp/2017/02/02/how-germany-was-able-to-win-globalization-but-the-united-states-was-not/?utm_term=.bac7afbc53ae) [Accessed 22 October 2018].



- Hall, P. A. (2014) 'Varieties of capitalism and the Euro crisis', *West European Politics*, 37 (6), pp. 1223–1243.
- Hall, P. A. and Soskice, D. (eds.) (2001) *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford: Oxford University Press.
- Hall, P. A. and Thelen, K. (2008) 'Institutional change in varieties of capitalism', *Socio-Economic Review*, 7 (1), pp. 7–34.
- Hancké, B., Rhodes, M. and Thatcher, M. (2007) *Beyond varieties of capitalism: Conflict, contradictions, and complementarities in the European economy*. Oxford: Oxford University Press.
- Hassel, A. (2014) 'The paradox of liberalization – understanding dualism and the recovery of the German political economy', *British Journal of Industrial Relations*, 52 (1), pp. 57–81.
- Herrigel, G. (2010) *Creative action and industrial recomposition in the United States, Germany and Japan*. Oxford: Oxford University Press.
- Herrigel, G. and Wittke, V. (2005) 'Varieties of vertical disintegration: The global trend toward heterogeneous supply relations and the reproduction of difference in US and German manufacturing', in G. Morgan, R. Whitley, and E. Moen, (eds.), *Changing capitalisms? internationalization, institutional change, and systems of economic organization*. Oxford: Oxford University Press, pp. 312–351.
- Johnston, A. and Regan, A. (2016) 'European monetary integration and the incompatibility of national varieties of capitalism', *Journal of Common Market Studies*, 54 (2), pp. 318–336.
- Kogut, B. (1985) 'Designing global strategies: Comparative and competitive value-added chains', *Sloan Management Review*, 26 (4), pp. 15–28.
- Koopman, R., Powers, W., Wang, Z. and Wei, S. J. (2010) *Give credit where credit is due: Tracing value added in global production chains*. Cambridge, MA: National Bureau of Economic Research, Working Paper No. 16426. <https://doi.org/10.3386/w16426>
- Krzywdzinski, M. (2014) 'How the EU's eastern enlargement changed the German productive model. The case of the automotive industry', *Revue de la Régulation. Capitalisme, Institutions, Pouvoirs*, (15). Available from: <https://journals.openedition.org/regulation/10663> [Accessed 22 October 2018].
- Kwon, H. K. (2012) 'Politics of globalization and national economy: The German experience compared with the United States', *Politics & Society*, 40 (4), pp. 581–607.
- Lane, C. and Probert, J. (2006) 'Domestic capabilities and global production networks in the clothing industry: A comparison of German and UK firms' Strategies', *Socio-Economic Review*, 4 (1), pp. 35–67.
- Lane, C. and Probert, J. (2009) *National capitalisms, global production networks: Fashioning the value chain in the UK, US, and Germany*. Oxford: Oxford University Press.
- Lopez-Gonzalez, J. (2015) 'Supply-chain Trade: A Portrait of Global Patterns and Several Testable Hypotheses', *The World Economy*, 38 (11), 1682–1721.
- Molina, O. and Rhodes, M. (2007) 'The political economy of adjustment in mixed market economies: A study of Spain and Italy', in B. Hancké, M. Rhodes, and M. Thatcher, (eds.), *Beyond varieties of capitalism: Conflict, contradictions, and complementarities in the European economy*. Oxford: Oxford University Press, pp. 223–252.
- Nölke, A. (2016) 'Economic causes of the Eurozone crisis: The analytical contribution of comparative capitalism', *Socio-Economic Review*, 14 (1), pp. 141–161.
- Nölke, A. and Vliegthart, A. (2009) 'Enlarging the varieties of capitalism: The emergence of dependent market economies in East Central Europe', *World politics*, 61 (4), pp. 670–702.
- Palier, B. and Thelen, K. (2010) 'Institutionalizing dualism: Complementarities and change in France and Germany', *Politics & Society*, 38 (1), pp. 119–148.
- Streeck, W. (1992) 'Productive constraints: On the institutional conditions of diversified quality production', in W. Streeck, (ed.), *Social institutions and economic performance: Studies of industrial relations in advanced capitalist economies*. London: Sage, pp. 1–40.
- Streeck, W. (1997) 'German capitalism: Does it exist? Can it survive?', *New Political Economy*, 2 (2), pp. 237–256.
- Streeck, W. (2009) *Re-forming capitalism. Institutional change in the German political economy*. Oxford: Oxford University Press.
- Streeck, W. and Thelen, K. (2005) *Institutional change in advanced political economies*. Oxford: Oxford University Press.
- The Economist (1999) The Sick Man of Europe. *The Economist*, 3 June. Available from <https://www.economist.com/special/1999/06/03/the-sick-man-of-the-euro> [Accessed 22 October 2018].
- The Economist (2010) 'Powerhouse Deutschlandh'. *The Economist*, 22 November. Available from <https://www.economist.com/news/2010/11/22/powerhouse-deutschland> [Accessed 22 October 2018].
- Timmer, M. P., Dietzenbacher, E., Los, B., Stehrer, R. and Vries, G. J. (2015) 'An illustrated user guide to the world input–output database: The case of global automotive production', *Review of International Economics*, 23 (3), pp. 575–605.

## Author Information

**Ferdi De Ville** is assistant professor in European Union Studies at Ghent University. His research is situated in European political economy, with focus on EU trade policy. He is the author of *TTIP: The truth about the Transatlantic Trade and Investment Partnership* (Polity Press, with Gabriel Siles-Brügge) and *Rising powers and economic crisis in the Euro area* (Palgrave, with Mattias Vermeiren).