

The structural dilemma of value-chain upgrading: Hungarian suppliers' integration into the world economy

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ABSTRACT

In the following paper, I examine the considerable impact of the recent world-economic shift that has determined the circumstances of Hungarian suppliers' value-chain integration. I argue that as a result of the specialized positions they occupied in the value-chain after the collapse of the Comecon market, Hungarian enterprises in export-oriented industries faced a dilemma—a trade-off between obtaining the most advanced technologies (and thus access to world-market niches) and retaining ownership in the hands of domestic capital. When company managers opted to protect ownership with the help of the state, they exposed themselves to greater risk of downgrading their position in the value chain. If they managed to get access to advanced technologies (and the requisite funding), they were more likely to lose control over their company's assets, either as a result of a hostile takeover or becoming part of the larger partner's merger-and-acquisition plans. This paper is a discussion of some of the particular characteristics of this dilemma, as well as a comparison with the experience of Hungarian service providers who implemented a different strategy. This paper is also a critical assessment of some of the chief characteristics of the world-economic evolution that has been underway since 2009, such as German automotive value chains' expansion in the CEE region and the growing role of Chinese capital in regional infrastructural projects.

KEYWORDS

GVC, semi-periphery, supplier chain, trade-off, world-economy, China

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1. INTRODUCTION

Hungary's position in the world economy shifted radically after the Council for Mutual Economic Assistance (Comecon) disintegrated in 1991. When the country's state-socialist regime collapsed, its economy was reintegrated into the European common market, though the precursors of this process stretch back to the 1970s (Geröcs – Pinkasz 2018). Hungary's economic specialization within the regional division of labor had been established by the 2000s, but then went through another set of changes as a new geopolitical environment arose in the wake of the world-economic crisis of 2009 (Bohle – Greskovits 2012; Bruszt – Langbein 2020). The following study is an analysis of the effects these important changes in the international environment have had on the strategic dilemma that Hungarian enterprises have faced as a result of the reconfiguration of the world economy.

As I will demonstrate in the following discussion, German and Chinese capital, operating through multilateral commercial and investment institutions, has become increasingly influential on the international stage. Such institutions have played a crucial role in configuring and managing the regional production networks that serve as the business environment in which Hungarian enterprises operate. Hungarian enterprises have typically specialized in export sectors in which the so-called global overproduction crisis (which has afflicted numerous sectors of the world economy, particularly producers of automobiles and electronics) has driven down corporate profits worldwide (Sturgeon – Biesebroeck 2010; Gereffi 2014), thus forcing firms to outsource at least part of their production networks to the global semi-periphery in order to maintain their profit margins (Bernaciak – Šćepanović 2010; Barta 2012). German and Chinese manufacturers have been driven to reorganize their production networks and to establish new governance structures to manage their regionally linked production networks.

The resultant value-chain specializations of Hungarian firms have been determined by their positions in these regional production networks, and in this context, they are confronted by a strategic dilemma characteristic of the semi-periphery, namely whether to maintain ownership or to seek access to the most advanced technologies available on the world market. This means that Hungarian companies—since the system change of 1989—have been faced with a mutually exclusive substitution or trade-off between retaining ownership of domestic enterprises and acquiring cutting-edge technology, particularly in sectors which produce tradable products and services globally (and are thus able to export directly onto the world market). The present study is thus an attempt to determine whether changes in world-economic circumstances, such as the growth in Chinese capital investments, have altered Hungarian enterprises' strategic approaches to this structural dilemma in the export sectors. I will also shed light on the differing strategies domestic service providers pursued, some of which made them more resilient to the structural challenges that export manufacturers faced.

This analysis consists of five parts. In the first section, I will evaluate the evolution of the German neo-mercantilist economic model and its effects on European integration, with a particular focus on the role of the euro and the function of the EMU. In the second part, I will examine the circumstances of Hungary's reintegration into the European division of labor after the collapse of Comecon. In the third section, I will use the post-1989 experiences of four Hungarian enterprises, two in the manufacturing-export sector and two service providers, as the basis of a discussion of this trade-off between maintaining domestic ownership and acquiring advanced technology. In the fourth part, I will evaluate strategic changes in Hungarian industrial



policy since 2010, and finally, I will analyze Hungary's current economic circumstances with an emphasis on the growing role of Chinese capital there, before concluding with a brief summary.

2. THE GERMAN ECONOMIC MODEL IN THE EUROPEAN DIVISION OF LABOR

After the 1990 reunification of Germany, the country's economy continued to function in accordance with the neo-mercantilist model—also known as “Rhine capitalism”—built around the competitiveness of post-war West Germany's manufacturing enterprises.¹ As I have noted elsewhere, the international influence of the German neo-mercantilist model was an important catalyst for the development of Europe's Economic and Monetary Union (Gerócs 2015). The institutions of the EMU, such as the euro and the European Central Bank (ECB), would become important sources of support for German manufacturing enterprises as they adapted to international economic conditions in the wake of the reunification.

The reason for this adaptation was that these enterprises needed to revise their global strategies because much of the German manufacturing sector had stagnated by the 1990s, partly as a result of economic uncertainties associated with the reunification and partly as a consequence of the profitability crises which affected manufacturing enterprises worldwide. For these reasons, the architects of the German model froze wages after the reunification.²

In addition, Germany's labor-market reforms helped German exporters maintain—or even enhance—their competitiveness within the EU's single market, thanks to these firms' high levels of productivity (technological endowments) and suppressed real wages. As Neményi and Oblath (2012) demonstrated in their analysis of the introduction of the euro, the real effective exchange rate³ for German exports was too low, meaning that real-wage growth in Germany lagged significantly behind increases in productivity. This real effective exchange rate meant that German goods were undervalued relative to the products of Southern European member-states of the monetary union (see Fig. 1).

This adaptive strategy worked for a brief period, though it would require adjustments even before the explosion of the world-economic crisis of 2009 (cf. Becker – Jäger 2010). The expansion of German foreign trade resulted in the saturation of the European single market established by the Maastricht Treaty of 1992, which problem was temporarily addressed by financial mechanisms created by regional policies (Raviv 2008; Szent-Iványi – Lightfoot 2015).

¹The so-called “social partnership” of labor and management laid the foundations of this neo-mercantilist model in the collective-bargaining system of Germany's social-market economy in the wake of World War II and consolidated this system during the reconstruction process which put the West German economy back on its feet between 1949 and 1955; analysts of the “varieties of capitalism” school have dubbed this model “Rhine capitalism.” See Nölke – Vliegenthart (2009); Drahoukupil (2009); Greskovits (2014). This model has played an important role in German enterprises' ability to adapt to world-market conditions.

²This wage suppression was facilitated by the fact that average wages in the eastern regions of post-reunification Germany were substantially lower than those in the west. The German state allowed this wage gap to shrink gradually, closely monitoring the process by which it did so.

³The real effective exchange rate is the nominal exchange rate corrected for inflation; this index is an important indicator of competitiveness, insofar as it tracks changes in real wages (nominal wages minus inflation).



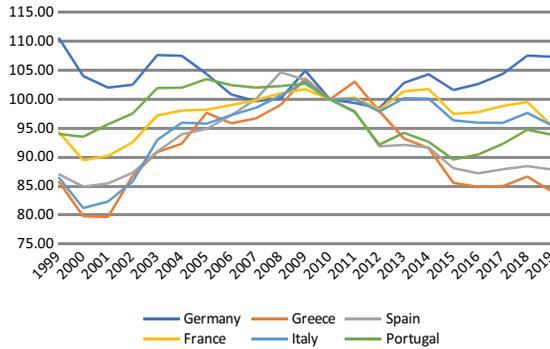


Fig. 1. Annual Change in Real Effective Exchange Rates (Relative to the Preceding Year) in Germany and Southern Europe (2010 = 100%).

Source: Eurostat.

As a result of this rapid process of market saturation, European exporters, and in particular German firms, have been increasingly compelled since the 2000s to expand their non-EU markets, primarily in East Asia and North America (Petersen et al. 2019). Even so, it does not follow that the institutional structure of the EMU has lost its utility for the German neo-mercantilist model.⁴ At the same time, the world-economic crisis changed the international business environment in ways that have forced German enterprises to adapt again, and this process has continued to affect the evolution of Europe's economic integration since 2009 (Vliegenthart 2010; Becker 2016). Given that the purchasing power of the Southern European countries has diminished as a result of the associated debt crises, the EU's internal market has lost some of its significance for exporters. One consequence of this phenomenon is that the EMU's functions as a market-protection authority and enforcer of competition law have been partly supplanted by other industrial-policy priorities including infrastructure-development and tax-related, educational, and labor-market reforms of significance to the evolving neo-mercantilist model (Wigger 2019).

Partly as a result of these changing world-market conditions (which also influence the process of integration), the countries of Central and Eastern Europe have found it easier to use intergovernmental decision-making to try to protect their jurisdiction over industrial policy, rather than promoting the objectives of a federalized Europe, which would otherwise require them to cede a significant portion of their industrial-policy competencies to supranational institutions. In this respect, the political interests of the governments of Central and Eastern Europe coincide with German industry's need to adapt to world-economic conditions (Panyi 2020). This is among the reasons German industrial strategists have prioritized moving production into this region.

⁴For example, the ECB's quantitative easing that spurred liquidity in the Eurozone bond markets was carefully designed to avoid any tension with German industrial interests; however German taxpayers were reluctant to contribute to the rescue package (Benczes –Benczes 2018).



3. HUNGARY'S POSITION IN THE EUROPEAN DIVISION OF LABOR

Gross foreign-trade statistics demonstrate that Hungary has been firmly integrated into the production networks of the European Union especially since the 2000s when German automotive companies accelerated the relocation of their production processes into the region (see Table 1). Over the course of nearly twenty years, Hungary's exports as a proportion of GDP grew by more than 50 percentage points, and by 2016 had exceeded 90%—the fifth-highest share in the EU, and second only to Slovakia's in the Central and Eastern European region (Vakhal 2017: 41). Manufacturing enterprises account for close to half of Hungary's exports; in 2018, this sector's total exports reached 49% of GDP, and transportation equipment made up the largest share of manufacturing exports (31%). This sector exported ca. 21 billion euro (6.2 trillion forints) worth of goods, thus accounting for about 15% of the country's GDP.

In addition to using the gross foreign-trade statistics recorded in national-accounts data to gauge foreign-trade relationships, one can also measure them by comparing value-added trade

Table 1. The auto industry's share of Hungarian manufacturing exports, overall foreign-trade volume, and GDP

	2000	2015	2018
manufacturing exports/total Hungarian exports	76.60%	51.50%	48.80%
manufacturing exports/Hungarian GDP	57.90%	51.40%	48.00%
automotive exports/Hungarian manufacturing exports	18.90%	34.20%	30.60%
automotive exports (in billions of EUR)	5.61	19.63	19.41
automotive exports/Hungarian GDP	10.90%	17.60%	14.70%
Foreign-Trade Volume			
	in billions of EUR	in billions of EUR	in billions of EUR
Total	30.55	90.95	104.73
Manufacturing	29.66	57.37	63.36
Transportation Equipment	5.61	19.63	19.41
Motor Vehicles	5.46	19.30	18.72
<i>International Trade in Services</i>			
Total	8.11	20.52	25.14
<i>National Accounts</i>			
GDP	51.25	111.62	131.89

Source: Hungarian Central Statistical Office; author's research.



within particular value chains. These statistics are organized into trade-in-value-added (TiVA) tables in which sectoral breakdowns make it possible to assess exchanges of added value between various sectors and countries (see Fig. 3). In calculating these figures, the value-added content of imports is subtracted from the value of gross exports, thus yielding statistical indicators of the proportion of the value produced within a given export sector that was actually added domestically and the proportion that represented imported inputs (cf. Halmosi 2021). TiVA tables merely supplement the gross foreign-trade statistics derived from national-accounts data, and in most cases lend nuance to the patterns which show up there. TiVA tables do not break commerce down into product categories, but rather track inter-sectoral exchanges of added value, which information is important in evaluating a country's specialization within a value chain.

When one compares gross foreign-trade data and trade-in-value-added numbers, it becomes clear that Hungary's position in these global value chains is characterized by so-called backward linkages (Cieřlik 2014; Pavlínek 2015; Vakhai 2017). This means that the production which takes place in the country (including its export sectors) relies largely on inputs produced in other countries, and thus the locally generated proportion of added value within the overall value of exported goods is low by international standards. Thus while Hungary's trade surplus with the rest of the EU has been significant since 2006 (according to Central Statistical Office data, Hungary's 2018 trade surplus with the rest of Europe amounted to 10.1 billion euros, including a 2.8 billion-euro surplus with Germany), the domestic value-added content of its exports is low and trending downward (see Fig. 2).

Beblavý et al. (2012) indicates that the specialized position most Central and Eastern European countries occupy in these value chains is characterized by these backward linkages (that is, imported value-added content represents a relatively high proportion of the value of their exports). In contrast, the economies of Western Europe are generally characterized by forward linkages, meaning that the proportion of domestically produced value-added content is significantly higher than the value of imported inputs.

The OECD's TiVA database indicates that between 2010 and 2016, domestically produced value-added content made up about 50% of the value of Hungary's gross exports—that is,

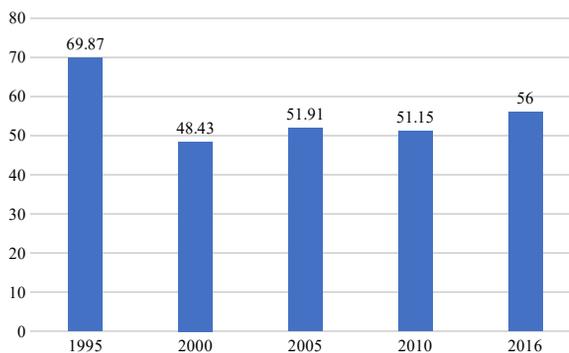


Fig. 2. The percentage of domestic value-added content in Hungary's gross exports, 1995–2016.

Source: author's research, based on the OECD's TiVA database and Vakhai (2017: 144).



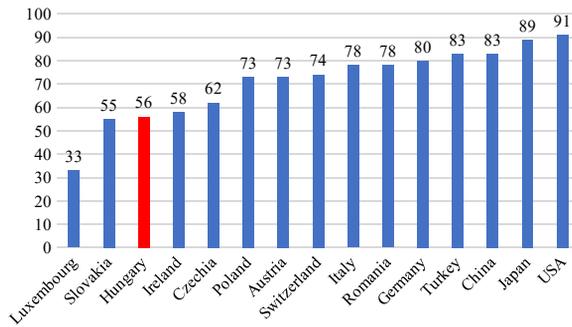


Fig. 3. Domestically produced value-added content as a percentage of gross exports (2016).
 Source: the OECD's TiVA database.

roughly half the value of Hungary’s exports was derived from foreign inputs. According to Vakhil (2017), this relatively low proportion was at least partly the result of the fact that when multinational firms (including large automakers) established operations in Hungary, they could not find suitable domestic suppliers and were thus forced to import the intermediate goods they needed for production, or to bring foreign suppliers with them.

The export statistics in Fig. 4 for the transportation-equipment and machine-production sectors are particularly striking; given the nature of these industries, they rely more on foreign inputs, and thus their shares of domestic value-added content are lower than in any other sector of Hungary’s economy. The proportion of domestic value-added content is also below average in the rubber and plastics industries, which sectors are largely export-oriented and generally consist of suppliers for the auto industry. These figures suggest that the more exports a sector produces, the lower its proportion of domestic value-added content, as is typical of production networks characterized by backward linkages.

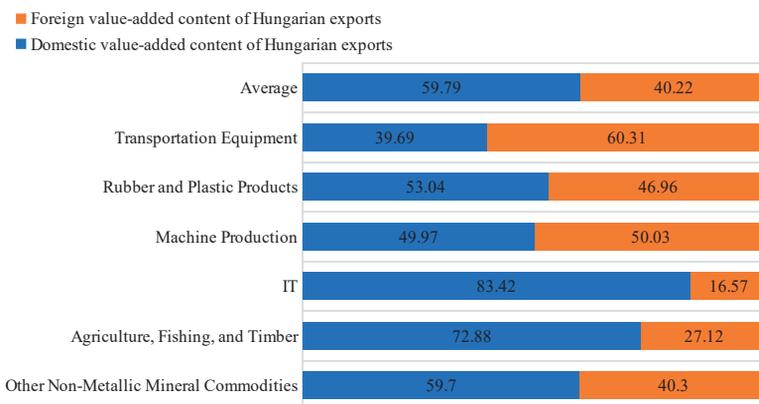


Fig. 4. The Composition of Hungary's 2015 Gross Exports, based on the Origins of Value-Added Content (percentages of domestic and foreign value-added content).
 Source: Stubnya (2019).



In the three most important sectors of the Hungarian economy (transportation equipment, machinery, and rubber-and-plastic, which account for more than half of the country's gross exports), the proportion of domestic value-added content is just over a third of the total value of the country's exports. Thus more than 60% of the value of Hungary's three largest export sectors comes from re-exporting foreign value-added content (cf. Vakhil 2017; Halmosi 2021). Germany is the largest supplier of the foreign value-added content found in Hungarian exports, a consequence of the fact that the auto industry accounts for a relatively large share of Hungary's export economy.

A study produced by the Bertelsmann Foundation (Petersen et al. 2019) also used trade-in-value-added data to calculate the value of intermediate goods in German automotive imports. Hungary, for example, delivered 6.6 billion dollars' worth of components to German automakers in 2014, which made it the sixth-largest supplier of intermediate goods for the final demand of the German automotive industry (Fig. 5). Even so, Hungary's added-value contribution to these German automotive exports amounted to only 1.9 billion euros, putting it in sixteenth place on the list of countries that contributed added value to German exports (Fig. 6).

Moreover, as demonstrated by Fig. 7, Hungary had the lowest ratio of automotive-industry added value relative to gross exports of intermediate goods (0.3), followed by the Czech Republic (0.4) and Poland (0.6). These low proportions are indicators of these countries' intermediate positions in regional production networks and their backward linkages within the value chain. Most of the countries of Central and Eastern Europe are essentially "transit economies" for exchanges of added value, rather than primary sources of the value-added content produced within the German automotive value chains. As I have noted, the intermediary nature of the role played by "transit economies" like Hungary and the Czech Republic is demonstrated by the fact that the added value of the content these countries produce is substantially lower than the gross commercial value of the automotive components they export (see Fig. 7).

I should supplement these comparative statistics with the theoretical observation that the distribution of value within a value chain is also a function of the embeddedness of multinational enterprises in the given economy, which is influenced by the interaction of numerous

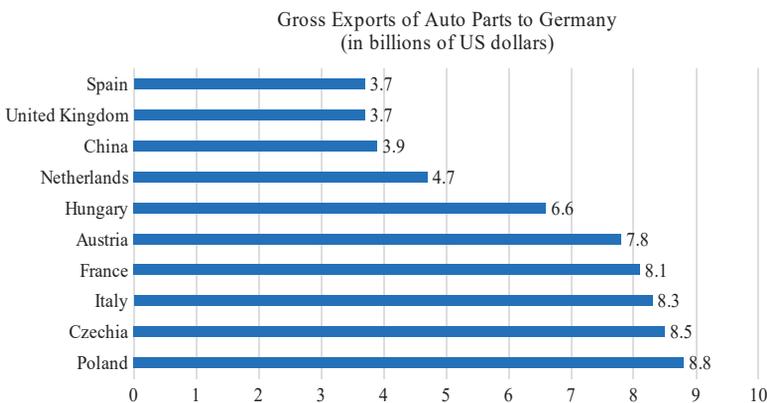


Fig. 5. The value of gross exports of auto parts to Germany.

Source: Petersen et al. (2019: 3).



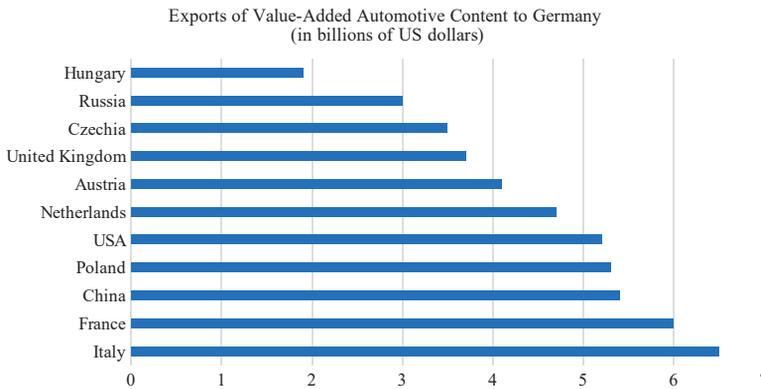


Fig. 6. The value of exports of value-added automotive content to Germany. Source: Petersen et al. (2019: 3).

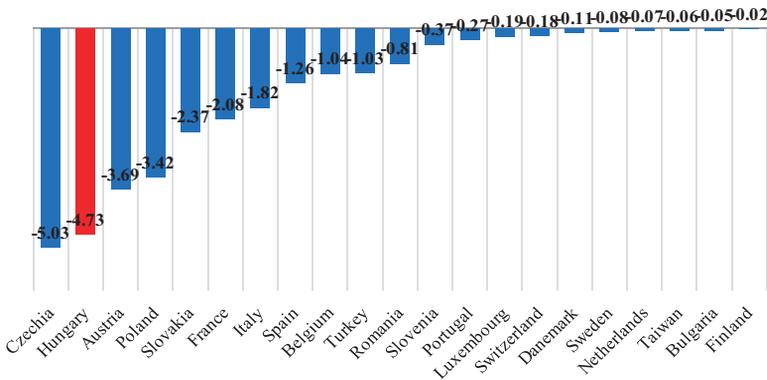


Fig. 7. Differences between added-value contributions and the value of gross exports of automotive components to Germany (2014, in billions of US dollars). Source: Petersen et al. (2019: 4).

economic and social institutions (see Barta 2012; Rechnitzer – Smahó 2013; Józsa 2019). Given that embeddedness and the appropriation of value within the value-chain system are not monodirectional processes, there is no guarantee that locally produced value will be utilized in the local economy. For instance, Mészáros (2004: 11) concluded that the Hungarian automotive industry is characterized by operations typical of an island-like “export enclave,” which has led to the development of a dual economic structure. This reading suggests that foreign companies had assumed such a dominant position in Hungary’s leading export sectors that they were able to shift a substantial proportion of the costs associated with global restructuring and adaptation onto suppliers there, which had profound consequences for Hungarian industrial policies, which process I will discuss in greater detail in section IV.



As a result of this dual system, Hungarian firms of domestic origin have been marginalized within the German value chains or pushed to the bottom of their hierarchies, subordinated to foreign enterprises (see [Molnár et al. 2015](#); [Szalavetz 2019](#)). Firms which had well-known brands, long histories, significant positions in the world market, and expert personnel—including the automaker Rába and the bus manufacturer Ikarus—were reduced to acting as subordinate suppliers within the electronics and automotive value chains that have expanded their operations into Hungary. On the other hand, in domestic service sectors, the involvement of foreign capital has made it possible for Hungarian firms to maintain their competitiveness on the world market, though the decision to borrow capital has caused several Hungarian owners and managers to lose control of their companies too.⁵

4. LARGE HUNGARIAN ENTERPRISES' STRATEGIES AFTER THE SYSTEM CHANGE OF 1989

The following is an analysis of the performance of two Hungarian export-oriented manufacturers, Rába and Ikarus, and two service-providers, MOL Group and OTP Bank, during the economic transition after 1989. Given their relative lack of competitiveness on the international stage, the two exporters' privatization resulted in their being downgraded to the position of subordinate suppliers within the European automotive value chain while the service-providers achieved more success and became Hungary's flagship companies (see [Sadler – Swain 1994: 396–400](#); [Bartlett – Seleny 1998: 324–329](#)). I will use these case studies to examine the effects of the privatization process on the mutually exclusive substitution which determines semi-peripheral firms' international specialization—that is, the trade-off between maintaining ownership and acquiring cutting-edge technology. As I will demonstrate, if the manager-owners of an enterprise prioritize retaining ownership, they risk sinking to the lower end of the value chain's supplier network in the export sectors; however, service-providers have made more effective use of such strategies. If managers prioritized upgrading their position within the manufacturing value chains, they risked losing control of their enterprises, while service-providers had more to gain from listing their companies on the stock exchange, which could help them navigate the dilemma of retaining control while accessing the funds they needed to survive.

Rába's privatization began in 1997, after the firm completed its internal restructuring process and stabilized its financial situation under the supervision of the Hungarian Development Bank. A year earlier, Škoda and Daewoo had shown an interest in acquiring the Hungarian government's majority stake, but Rába's management prevented the Hungarian State Privatization and Holding Company (ÁPV Rt.) from dismantling the enterprise and selling off its pieces (i.e., transforming its various factories and units into separate companies); Rába's managers later prevented the Hungarian government's majority share from falling into the hands of interested strategic investors. The firm was eventually privatized in two stages. In the first round, 25–30% of its shares were privately offered to financial institutions and strategic investors, though no one was allowed to acquire more than a 10% stake. Rába Management LLC acquired 9.8% of the

⁵See, for example, the relationship between the Hungarian tire manufacturer Taurus and the German firm Continental AG, or between the Csepel Automobile Factory and ZF Friedrichshafen AG.



company, as did the Malaysian-Singaporean automotive manufacturer DRB-Hicom, the Hungarian plastics producer Graboplast, the European Bank for Reconstruction and Development (EBRD), and the First Hungary Fund (EMA). In the second round of privatization, Rába was listed on the Hungarian stock exchange, allowing small retail investors to get involved and thus—in accordance with the original intentions of Rába’s management and the State Privatization and Holding Company—70% of the company’s stock remained in domestic hands. This two-step privatization process resulted in a shared ownership structure in which management, foreign financial institutions, and strategic investors could all participate. However, the relationships between these groups would eventually be transformed. Rába Management LLC had used loans to acquire its 9.8% share, but was unable to convince its lender, the Hungarian Foreign-Trade Bank (MKB), to grant it an extension of its terms; one of the conditions of the original loan was that Rába Management had to attract further strategic investors, and when no such investors stepped up, management’s shares—their collateral in the deal—were forfeited to MKB. The First Hungary Fund gradually sold off its equity, while DRB-Hicom increased its stake to 10.8%. Some retail investors’ shares ended up in private pension funds. The 2009 world-economic crisis had a serious effect on Rába’s operations (its revenues were cut in half in 2009), and the coalition which took over the Hungarian government in 2010 took advantage of these market conditions to buy back DRB’s shares; it also nationalized the 16.15% of Rába’s shares which had been in private pension funds, assigning their ownership to Hungary’s Pension-Reform and Debt-Reduction Fund. Acting on behalf of the state, the Hungarian National Trust (MNV Zrt.) subsequently issued a mandatory takeover bid and purchased all the shares which were still in private hands; by 2011, 74.5% of Rába’s shares were in the portfolio of the state-run MNV.

The privatization of the Ikarus Body and Vehicle Factory also took several dramatic turns. Comecon’s largest bus-manufacturer, Ikarus suffered a great deal from its insolvent Comecon clients’ inability to pay in hard currency; by the late 1980s, it had been forced to restructure in order to avoid downsizing, and was thus converted into a joint-stock company. Ikarus’ privatization was announced in 1991; serious strategic investors indicated their interest relatively early in the game, including Mercedes in 1993. Ikarus’ managers considered the German automotive giant’s offer to be a hostile takeover bid, and continued to believe that market conditions would stabilize in the Commonwealth of Independent States (CIS), the intergovernmental body that replaced Comecon; they thus made efforts to thwart Mercedes’ attempt to acquire the company. With the help of trade unions, Ikarus organized demonstrations in 1993, whereupon Mercedes withdrew its offer. A similar situation took place in 1997, when another foreign strategic investor, Volvo, attempted to acquire a majority stake in Ikarus. The Swedish manufacturer’s tender indicated that its directors wanted to improve their access to Eastern European markets and outsource some of their production capacity to the region. Volvo’s offer also elicited a demonstration, but observers assumed that it had been organized by Gábor Széles, a government-connected Hungarian businessman who had taken control of Ikarus in 1996 and wanted to keep its shares in management’s hands. Though Széles denied that he was behind the demonstration, he nevertheless sharply criticized Volvo’s offer in an interview published at the time. Volvo ultimately withdrew its offer as well, and a consortium led by Széles then negotiated a set of conditions with the Hungarian government that allowed them to take full ownership of Ikarus. The terms of this agreement featured a number of incentives, including government offers to cancel outstanding debts, guarantee loans, and provide a line of credit at the Hungarian



Export-Import Bank. Széles and his partners hoped that the Eastern European market disruptions caused by the collapse of Comecon were only temporary, and that the resumption of exports to Russia (and possibly Asia) would soon restabilize the bus-manufacturer's situation. These hopes were dashed by the Russian financial crisis of 1998, and thus Széles was unable to fulfill the commitments he had made to ÁPV, including promises to retain the company's workforce and pay off its external debt. In 1999, Ikarus' management was forced into a distressed sale; the Italian firm Irisbus acquired Széles' stake, though he was later able to use his government connections to renegotiate his deal with ÁPV and buy back his shares. Széles has maintained control of Ikarus ever since, and though the company has not managed to expand its bus production, it has attempted—through intense lobbying efforts with public-procurement authorities—to preserve its role as a domestic supplier of urban and intercity buses.

As these examples demonstrate, the fate of most large Hungarian export manufacturers was sealed by Comecon's 1991 collapse. Few survived the loss of their Eastern European markets, either because they lacked the technology and financial resources to adapt to global competition or because they were targeted for acquisition by foreign competitors (Hunya – Sass 2013). As the example of Ikarus demonstrates, their relatively advanced infrastructure and fairly significant Eastern European market shares made them attractive to foreign buyers. In cases where firms managed to maintain ownership of their brands, their management typically used political connections and state intervention to derail foreign acquisition efforts, which they portrayed as hostile takeovers (Voszka 2000). However, as a result of their relative lack of technology and capital, they lost the comparative advantage that had previously assured them of their world-market positions, and were thus reintegrated into the global electronics and automotive value chains as tier-2 and tier-3 suppliers. Sass and Szanyi (2004) drew attention to the fact that the majority of Hungarian enterprises were relegated to the lower end of these global value chains partly because they lacked their own robust supplier networks,⁶ which would have allowed them to produce cheaper components with greater flexibility. Furthermore, most Hungarian enterprises were broken up in the course of privatization, which exacerbated their disadvantages in dealing with larger foreign competitors, especially in terms of economies of scale; for example, Hungarian firms' successor companies were often unable to supply their foreign partners with the expected quantities of product in a timely fashion. As a result, it was easy to force them out of their own markets, or—in their best-case scenario—to incorporate them into a foreign exporter's supplier network (Nagy et al. 2013; Vakhil 2017). These firms' production capacities dropped off significantly in comparison with their average output in the 1980s, and by the 1990s their workforces had been cut in half (Klauber 2008; Czabán – Henderson 2003: 179). These manufacturers' operations continued to be characterized by a form of vulnerability typical of a dual economy: they were heavily dependent on orders from their larger foreign partners, and thus extremely susceptible to the business cycles that affected them. Given their financial dependence on these orders, they were exposed to the intense price competition and low profit margins characteristic of the lower levels of the supply-chain hierarchy that is also responsible for the host country's backward linkages into the value chain (Sass – Szalavetz 2014).

⁶Comecon's planning authorities did not surround their enormous centralized enterprises with the sort of innovative, capital-intensive supplier networks that Far Eastern producers developed in the 1970s and 1980s.



At the same time, several Hungarian service-providers have succeeded in maintaining their shares of the domestic market. These firms are not generally rooted in export-oriented manufacturing sectors, but are tightly integrated into the domestic service industries and domestic infrastructure, and have inherited foreign connections that have allowed them to become regional service-providers—in the banking and energy sectors, for instance (Gerócs 2021).

Examples of successful adaptation to the world market following the system change of 1989 include the stories of the oil-and-gas company MOL and the bank OTP. These firms were both characterized by shared ownership and management headquartered in Hungary (Gál 2014). After the system change, these firms attempted to expand to regional or even global dimensions, and are now multinational companies based in Hungary—the so-called “flagships” of the Hungarian economy.

These domestic service-providers were in relatively good shape at the time of the system change, and were operated by well-connected managers⁷ who were able to restructure their businesses so as to prepare them for listing on the Hungarian stock exchange (Laki – Szalai 2004). Favorable regulation which protected them from hostile takeovers was at least as important as the ambitions and political connections of these firms’ managers. However, this combination of conditions was relatively rare at the time of the post-socialist transition; most state-run enterprises, particularly those in export-oriented manufacturing sectors, had no such luck and were rapidly privatized before there was any possibility of a public stock offering. The stock exchange proved to be an optimal solution insofar as it allowed management to maintain control of these enterprises while raising funds on international money markets; in many cases, they were able to retain managerial control. At the same time, these firms’ stock-exchange listings also highlighted the conflicts associated with their ownership and business strategies. In the cases of these two domestic service-providers, public stock offerings necessarily transformed their ownership structures, though special regulations and the considerable bargaining power of their managers made it possible for them to maintain control of their enterprises. In MOL’s case, it is unlikely that the Hungarian National Trust would have acquired 21.1% of its shares from its Austrian rival ÖMV—with the mediation of the Russian firm Surgutneftegas—without active state intervention (for the details of this deal, see Kalotay 2010).

OTP Bank’s president and CEO Sándor Csányi also skillfully juggled the interests of his shareholders, the Hungarian ministry of finance, and potential foreign strategic investors. The ministry of finance, for example, wanted to sell OTP’s entire operation to a foreign strategic investor, while Csányi, who took over as the bank’s president in 1992, preferred a distributed ownership structure. The finance minister at the time wanted to strip Csányi of his presidential title, which contemporaneous press accounts suggested would have led to his dismissal. Csányi managed to convince the State Privatization and Holding Company to transfer 10% ownership stakes to the bank’s trade union and Hungary’s Social Insurance Funds, both of

⁷The sociological origin of Hungary’s nascent managerial class dates back to the 1980s, either in the informal second economy or among the managerial elites of large public enterprises (Stark 1996). A small number of well-connected individuals profited from the transition period largely due to their exceptional managerial skills, experience accumulated during the spontaneous privatizations of the late 1980s, and/or political connections that helped them secure and renew loans from state-owned banks.



which voted against the finance ministry's plan at the general assembly which would determine the course of the bank's privatization process.⁸ The Hungarian government attempted to regain control of OTP in 1998 as well, when it nationalized the Social Insurance Funds; with those Funds' share of OTP ownership, the state would have controlled more than 20% of the bank. However, before the parliamentary vote, Csányi managed to convince the Funds' leadership to sell their shares on the stock market, which OTP bought back, thus preventing the state from expanding its stake. Since then OTP's balance sheet has remained the largest in the Hungarian banking sector.

The apparent lesson to be learned from this comparison of manufacturers in tradable sectors and service-providers in non-tradable sectors is that multinational corporations prioritized global mergers and acquisitions in areas in which the overproduction-and-profitability crisis forced them to reorganize their production networks in order to maintain their profit margins (Szalavetz 2019). The experience of manufacturers who exported their products onto world markets reinforced the significance of economies of scale, one consequence of which was the expansion of mass production, leading to mergers, the development of oligopolistic market conditions, and extraordinarily standardized—though simultaneously more flexible—production processes (see, for example Sturgeon – Biesebroeck 2010). According to Mihályi (2013), by the 1990s, competition determined by economies of scale⁹ had put the export-oriented enterprises of the former state-socialist countries at an irremediable disadvantage. This situation was exacerbated by the fact that numerous concerns were broken up in the course of privatization, which substantially reduced their chances of maintaining ownership of their brands as market competition intensified. From the beginning, the Hungarian state's industrial policies were minimally effective in providing support for its export-oriented enterprises, insofar as the firms which operated in this sector were directly exposed to the effects of international business cycles, which the regulators of semi-peripheral states have almost no ability to influence. However, state regulators had a much wider array of tools with which to affect their domestic service sectors, which gave them significantly greater bargaining power in these areas; even so, as a result of the transformational crisis that followed the collapse of Comecon and the extraordinarily serious debt burdens it faced, the Hungarian state was not entirely successful in asserting itself in this arena, either. At the same time, Hungarian firms' prospects might have improved if their managers had maintained the good relationships they had built up with their former foreign partners, or if they had succeeded in stabilizing their firms' financial situations—by means of public stock offerings, for instance. In these sectors, such as the banking and energy industries, intense competition developed between domestic companies and better-capitalized foreign firms. Despite OTP's success, foreign firms had taken over 70% of Hungary's domestic banking sector by the 2000s (based on the aggregated balance-sheet totals for the entire sector).

⁸In addition, the ministry's representatives were excluded from the vote “for technical reasons,” thus management ultimately did not need the votes of its employees and small investors to determine the firm's ownership structure.

⁹The advantage of economies of scale is that the unit cost of production drops as the size of a production run increases—up to a point. Furthermore, mass production requires larger outlays of capital, and the more capital (including sources of credit) an enterprise has, the greater its competitive advantages in the area of research and development. Moreover, most large enterprises in the West have their own established brands, and thus a stable share of the world market.



5. THE INFLUENCE OF THE HUNGARIAN GOVERNMENT'S ECONOMIC POLICIES

As I have noted, in the wake of the 2009 world-economic crisis, the German automotive industry accelerated the relocation of its production networks to Central and Eastern Europe. From that point onward, German capital began to play a more important role in the Hungarian automotive sector; with the passing of the 2009 crisis, particularly after 2010, the stock of German investment (FDI) in the sector has gradually increased (see Fig. 8), the influence of which was reflected in the industrial policies of Hungary's Fidesz government, which had by then achieved a parliamentary supermajority.

In its efforts to adapt to the effects of the 2009 crisis, the Hungarian government demonstrated a willingness to change the regulatory environment in the sectors relevant to the German industrial model. As a result, Hungary has introduced the European Union's lowest corporate tax rate (9%, with various incentives lowering the effective marginal tax rate for companies to 4.7% in 2020)¹⁰; Hungary has also introduced a dual-track vocational training system reminiscent of the German model, and in 2012, reduced the upper age limit for compulsory school attendance from 18 to 16. Related steps include the implementation of a new set of labor laws in 2012 and the modification of this labor code in 2018, which significantly expanded employers' rights, allowing them greater flexibility in dictating labor conditions.

Other important subsidies include the increasingly valuable incentives the Hungarian government provides directly to individual firms. According to data published by the Hungarian Ministry of Trade and Foreign Affairs, from the time of Hungary's accession to the European Union in 2004 until 2010, it provided direct subsidies to individual firms totaling 130 billion forints, and the volume of this support quadrupled to 523.6 billion forints between 2011 and 2020 (see Fig. 9). An analysis by Bucsky (2021) indicates that German enterprises took home 36% of the subsidies the Hungarian government provided directly to individual firms between

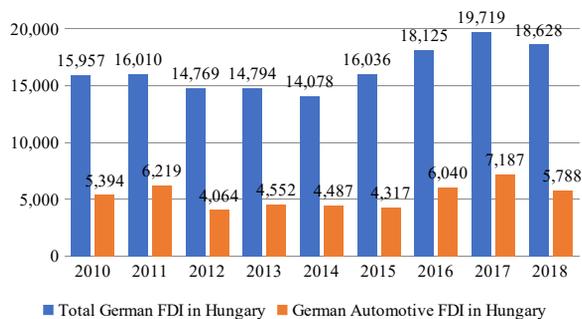


Fig. 8. German foreign direct investment in the Hungarian automotive industry; annual capital stock data in millions of Euros (2010–2018).

Source: Deutsche Bundesbank (2020).

¹⁰This data was compiled by a comparative country research by the OECD (2021).



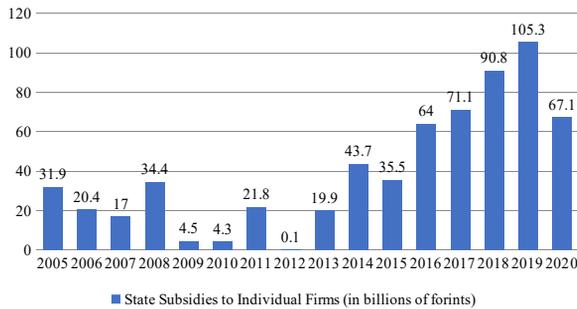


Fig. 9. Hungarian government subsidies to individual firms, 2005–2020 (in billions of forints).

Source: Hungarian Ministry of Trade and Foreign Affairs.

2010 and 2019, even though these companies generated only 13.5% of the added value produced in Hungary and employed only 9% of Hungary’s active workforce in 2018.

It is important to note that Hungarian enterprises have also been the recipients of a growing volume of direct subsidies. As [Scheiring \(2020\)](#) has observed, the Hungarian government gave multinational corporations 127.3 billion forints’ worth of direct subsidies between 2004 and 2010, while Hungarian firms received a mere 2.9 billion forints in that period, or barely 2% of the total outlay. And thus while the Hungarian government’s investment support to multinational corporations quadrupled from 2011 to 2020, its support for domestic firms grew by a factor of 29 in that period—that is, Hungarian firms’ share of these subsidies grew from 2% of the 2004–2010 outlay to 30% of the 2011–2020 total. And by way of comparison, firms headquartered in Hungary produced 53% of the country’s added value and employed 70% of its employees in 2018.

These statistics demonstrate that the Hungarian economy has become increasingly dependent on the German auto industry since the 2009 crisis, and that the Hungarian government has lost a significant degree of its ability to control the situation. At the same time, the Hungarian government has attempted to reduce its dependence on European capital by finding sources of investment outside the EU ([Gagyi – Gerőcs 2021](#)). Geopolitical changes resulting from the 2009 crisis have been conducive to Hungary’s efforts to diversify its sources of external financing. Several other countries in Central and Eastern Europe expect Chinese—and other outside—sources of capital investment to increase their financial flexibility. Given the geostrategic positioning of the countries of Central and Eastern Europe, Chinese investors hope to use them to gain access to the EU’s internal market and its industrial technologies ([Pepe 2017](#)).

6. CHINESE CAPITAL INVESTMENT IN HUNGARY

Given Hungary’s geopolitical position, its government has sought since 2014 to supplement its specialization within the EU by means of a program known as “the Opening to the East,” the primary element of which has been support for initiatives involving Chinese firms ([Szunomár 2020](#); [Matura 2020](#)). In addition to German FDI, investments by Chinese banks and enterprises have become another important source of capital; with the support of the Chinese government,



these investors have actively expanded their presence in the CEE region since the crisis of 2009 (see Fig. 10).

The geopolitical position of the Eastern member-states of the European Union has made them particularly valuable to Chinese investors. Hungarian officials have attempted to use their country's location in this region to diversify its sources of financing from western capital (particularly German) and increase its economic-policy flexibility. The Hungarian government's economic-policy aspirations are clearly in harmony with Chinese investment authorities' interest in using their capital to penetrate the EU market, which has allowed Hungarian officials to position their country as the "gateway" to the EU in their dealings with Chinese investors. Hungary has thus assumed a key role in the construction of the 336-km high-speed rail line connecting Budapest and Belgrade (Rogers 2019). 85% of this project's 3.8 billion-dollar cost has been financed by the Export-Import Bank of China; Hungarian suppliers will do 50% of the work, with the China Railway Engineering Corporation responsible for the other half.

In addition to these forms of lending, it is also worth examining foreign direct investment. Chinese enterprises have invested roughly 6 billion US dollars in Hungary since 2010 (see Table 2 and Fig. 9). However, the Hungarian government's relationships with Western and Chinese investors are characterized by significant differences.

The first main difference is related to privatization; successive Fidesz governments have generally preferred FDI in greenfield, rather than brownfield projects, particularly in sectors dominated by exports onto world markets, such as auto manufacturing. For this reason, it is striking that the single largest brownfield investment in Hungary during the first Fidesz government (1998–2002) was made in a sector with significant exposure to the world market; the privatization of the country's second-largest chemical company, BorsodChem, began in 2001 (though the transaction was not finalized until 2006).¹¹ In 2011, during the second Fidesz government, BorsodChem changed hands again, purchased by the Wanhua Industrial Group of China; this acquisition, one of the largest chemical-industry transactions in the history of the

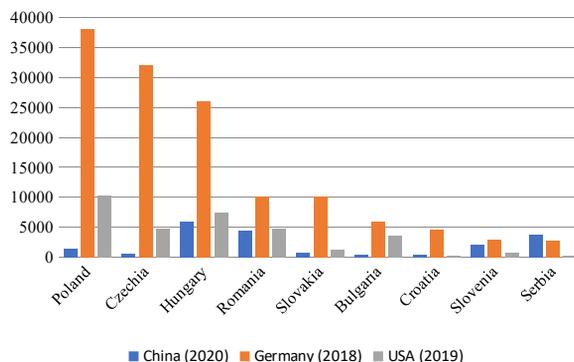


Fig. 10. Chinese, German and American FDI stock in the CEE region (million EUR).
Source: CEECAS (2021).

¹¹BorsodChem was initially listed on the Hungarian stock exchange in 1996.



Table 2. China's most significant foreign direct investments in Hungary, 2010–2020 (in millions of US dollars)

Announcement		Investor	Sector	Value	Partner	Site
2010	February	Wanhua Industrial	Chemical	\$190	BorsodChem	Kazincbarcika
2011	February	Wanhua Industrial	Chemical	\$1,660	BorsodChem	Kazincbarcika
2011	October	Wanhua Industrial	Chemical	\$260	greenfield	Kazincbarcika
2012	May	Huawei Technologies	Telecom	\$1,200	greenfield	Biatorbágy
2017	January	Ex-Im Bank	Financial	\$210	Invitel Group	Budapest
2019	June	CNC (Genertec)	electrical power	\$110	greenfield	Kaposvár
2019	June	China Railway Engineering	rail development	\$1,040	greenfield	n.a.
2020	April	China Railway Engineering	rail development	\$1,040	Opus Global	n.a.
2020	October	Huawei Technologies	Telecom	\$300	greenfield	Budapest
				Total		
				\$6,010		

Source: Author's research, based on the China Global Investment Tracker database.

region, increased BorsodChem's market capitalization by 1.7 billion US dollars. The most important market outlet for the resultant conglomerate, Wanhua-BorsodChem, was the region's expanding automotive industry. Another interesting aspect of this transaction was that Wanhua did not acquire BorsodChem by means of a public tender offer; BorsodChem's British owners initially preferred internal restructuring, but the Bank of China's Hungarian subsidiary secretly bought up several tranches of BorsodChem's debt before exercising a call option to acquire the company outright (Bryant 2011; Jacoby – Korkut 2016: 507).

It is also worth discussing two more of China's largest greenfield investments in Hungary, both of which were made in sensitive sectors, namely telecommunications and electricity. Huawei Technologies set up a Hungarian subsidiary in 2005, then established its first European Distribution Center in Biatorbágy in 2009; this operation is the telecommunications company's largest logistics and service center outside China, though it is also involved in manufacturing. In 2020, Huawei announced a relatively large investment in research and development at its local headquarters in Budapest (Szunomár 2020: 71), which will bring the total value of its capital investment in Hungary to 1.5 billion US dollars. The Hungarian government selected Huawei and two Western communications companies to build up the country's 5G network, which project Huawei hopes to use as a calling card in its efforts to expand its share of the European telecommunications market. During the recent period of global economic reorganization, Huawei has grown into one of the world's largest manufacturers of telecommunications equipment. However, the United States has cited national-security concerns in banning Huawei from its domestic market, and similar concerns—along with the intense competition over contracts to build up Europe's 5G networks—have led several countries there to exclude Huawei from their telecommunications and IT tenders as well.

Similar tensions have affected another market for Chinese FDI. The China National Machinery Import & Export Corporation (CMC) recently built the region's largest solar-power



plant near Kaposvár in southern Hungary; the photovoltaic-cell market is another battlefield in the trade war between Western and Chinese firms, and thus the Kaposvár facility has given China a valuable opportunity to demonstrate its capabilities within the EU. Moreover, it will feed electricity directly to the Hungarian grid at a fixed price, thus providing German auto-makers' Hungarian subsidiaries with a cheap source of power.

Banks have played an indispensable role in Chinese enterprises' expansion into Hungary. Hungary has aspirations to serve as a regional clearing hub for the Chinese financial system, and has thus created the infrastructure necessary to process investments denominated in Chinese currency (the renminbi). Within this framework, Hungary has launched the so-called "Budapest Renminbi Initiative," which has helped convince three of China's four largest lending institutions (the China Construction Bank, the Bank of China, and the Agricultural Bank of China) to open regional headquarters in Budapest since 2015. The central banks of Hungary and China signed a currency-swap agreement in 2013, whereupon the National Bank of Hungary (MNB) began stockpiling reserves of Chinese currency, though because the renminbi is still not fully convertible, it is not listed among Hungary's official foreign-exchange reserves. 2013 was also the year Hungary's Exim Bank signed a deal with the Export-Import Bank of China to provide roughly 100 million euros' worth of financing for Hungarian enterprises' efforts to export to China. Hungary was the first countries in the Central and Eastern European region to issue renminbi-dominated government bonds in 2016, though their denominations were so small, they were essentially just a test of investors' appetites (cf. Geröcs 2017).¹²

7. CONCLUSION

This study was an analysis of some of the major challenges Hungarian enterprises have faced as a result of the reconfiguration of the world economy. The manner in which a country is integrated into the world-system is determined by the joint action of several external and internal political and economic factors; the primary determinants for Hungarian suppliers have been the changes in world trade which have affected the value chains of the German auto industry, though because Hungarian firms have attempted to diversify their sources of capital investment, their strategies are also increasingly influenced by the growing global role of Chinese multinational companies as well. German companies have had to reorganize their production networks to remain competitive on the world market. After the debt crises in Southern Europe, German car exporters' primary destination shifted from the European Union to markets outside of Europe, above all China. In order to enhance their competitiveness, German companies relocated segments of their production processes to Central and Eastern Europe, keeping high-value-added activities in their industrial centers while moving lower-value-added production to Central and Eastern Europe, which has resulted in those countries' backward linkages in the value chain integration.

As I have demonstrated, this has had significant consequences for Hungary's industrial policies, including education, taxation, and the labor regime that has evolved since 2010.

¹²Because Chinese currency is not fully convertible, securities denominated in it are traded simultaneously on domestic ("onshore") and foreign ("offshore") markets. Hungary's bond issue was thus an important test of international money markets.



Moreover, in their efforts to integrate themselves into the regionally expanding value-chains, Hungarian-owned manufacturers have faced a structural dilemma which I have characterized as a trade-off between protecting companies' (i.e., management's) ownership rights and accessing the advanced technologies and financial resources that they needed to upgrade their position in the value chain. In the former case, companies risked being downgraded by the expansion of the host chain, while in the latter, foreign competitors might target them for a hostile takeover.

This trade-off, however, has led domestic service-providers to pursue a somewhat different strategy: a few managers in non-tradable sectors managed to steer their companies through periods of economic hardship by listing company shares on the stock market, and—with the help of state subsidies and the benefit of Chinese and EU infrastructure projects—integrated them into the new production networks that evolved after the world economic crises of 2009. Finally, I have attempted to gauge the growing global influence of German and Chinese capital operating through multilateral commercial and investment institutions, arguing that these institutions have played a crucial role in configuring and managing the regional production networks that serve as the business environment in which Hungarian enterprises operate. The European Union's Economic and Monetary Union (EMU) provides the regulatory framework for the regional dissemination of German capital, while outlays of Chinese capital are determined by international agreements signed in the context of the multilateral investment programs of the Chinese state, such as the Belt and Road Initiative. Chinese investments under the aegis of the BRI framework have fit neatly into the Hungarian government's plans to increase the share of national capital in domestic service industries.

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