

INTEGRATION OF THE CZECH BREWING INDUSTRY INTO GLOBAL PRODUCTION NETWORKS

JAN PULEC

Charles University in Prague, Faculty of Science, Department of Social Geography and Regional Development, Czechia

ABSTRACT

This article analyzes the Czech brewing industry and its integration in transnational production networks by drawing on the perspective of global production networks (GPNs). It evaluates the geographical structure of the Czech brewing industry, the inflow of foreign direct investment after 1990, and the integration of Czech breweries into GPNs dominated by foreign transnational corporations. The article analyzes major changes the Czech brewing industry has experienced during the post-1990 economic transformation, presents the current state of the industry from the geographical perspective, and identifies four different forms of involvement of Czech breweries in brewing industry GPNs.

Keywords: brewing industry, breweries, global production networks, Czechia

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1. Introduction

This article seeks to contribute to debates about the Czech brewing industry by analyzing the key processes that have taken place during the past twenty-five years. Its aim is to analyze the Czech brewing industry by drawing on the Global Production Networks (GPN) and Global Value Chains (GVC) perspectives, which deal with the organization of economic activities in the contemporary globalizing economy.

It also evaluates the ways in which Czech breweries have integrated into GPNs since 1990. The brewing industry has been rapidly internationalized and globalized in the past few years (Dörenbächer, Gammelgaard 2013). Formerly nationally oriented brewing corporations expanded extensively to foreign markets thanks to the liberalization of foreign trade and foreign direct investment (FDI). This foreign expansion has taken place through increased exports and, more importantly, through mergers and acquisitions. As a result, the ownership within the international brewing industry has become far more concentrated among a relatively small group of Western European and North American transnational corporations (TNCs) (The Economist 2011).

According to Dicken (2004) we live in the world in which deep integration, organized primarily within and between geographically extensive and complex GPNs, is becoming increasingly pervasive. However, globalization processes and mechanisms do not take place exclusively at the global scale and interactions at regional levels continue to be fundamental.

Significant factors contributing to the growth of TNCs, such as their coordination and management, geographic flexibility, their ability to benefit from different socio-economic and institutional environment of national states, are crucial for the continuing existence and further evolution of the global economic system. We attribute the significant importance to operations of firms within regions in which they are embedded.

In Central and Eastern Europe (CEE), state socialistic governments managed the food and beverage industry in the context of centrally planned economy before 1989. The brewing industry started to attract foreign investors during the post-1990 economic transformations, a process made more complicated by restitutions and privatizations during the 1990s. Additionally, each government followed different FDI policies. Both foreign investors and states were predominantly motivated by profit and business opportunities (Dicken 2011). The brewing industry has had a great potential in CEE because of high consumption of beer and geographical and the cultural proximity to the EU (Swinnen, Van Herck 2010). Foreign corporations had started to invest in the brewing industry in post-socialistic countries by 1991. In the case of Czechia, foreign investors were attracted by a long tradition of the brewing industry, which has been an important cultural and historical phenomenon.

Four largest corporations account for more than half of the global beer production (The Economist 2011): AB Inbev (Belgium)¹, SABMiller (United Kingdom), Heineken (Netherlands) and Carlsberg (Denmark). Two of these (SABMiller and Heineken) were operating in the Czech

¹ The parent economies are mentioned in brackets.

market in 2013. In addition to these two, Molson Coors Brewing Company, a large brewing transnational company, was also operating in Czechia.

There were 237 breweries in Czechia in 2013, including 195 microbreweries and 42 big industrial breweries² (pivovary.info). The total beer production in Czechia exceeded 17 million hectoliters each year since 1993, though production has fluctuated depending on demand and economic cycles (czso.cz, ceske-pivo.cz). The Czechs are the biggest beer drinkers in the world. The average consumption was 148 liters of beer per person per year as of 2012, and the share of beer sales among alcoholic drinks was 80% (czso.cz). The production of Pilsner type of beer prevails. The share of Czechia of global beer production fluctuates around 1%.

This article addresses three main research questions: i) What are the main characteristics of the geographical structure of the brewing industry in Czechia? ii) Are Czech brewing companies integrated into GPNs and to what degree? iii) What are the impacts of foreign investment in the Czech brewing industry?

The article consists of three main sections. The first part introduces the basic information about the organization of GPNs in the brewing industry. The second section analyzes the contemporary geographical structure of the global and Czech brewing industry and the production volumes, ownership, and employment of the Czech brewing industry. It also examines changes in the geographical structure of the Czech brewing industry during and after the economic transformation. The last part analyzes the integration of Czech brewing companies into GPNs.

2. The GPN analysis

The production chain refers to a sequence of functions in the production of a particular commodity in which each step adds value through the combination of technological, organization and labor inputs (Dicken 2004). Several related analytical approaches, such as Global Commodity Chains – GCCs, GVCs and GPNs, apply this concept in order to better understand the organization and functioning of the contemporary globalizing economy. In this article, I employ the analytical approach of GPNs because of its ability “to incorporate the complex actions and interactions of variety institutions and interests groups – economic, political, social, cultural – which operate at multi-scalar levels and territorialities and through dynamic and asymmetrical power relationships to produce geographical outcomes” (Coe et al. 2008: 271). Additionally, the GPN approach goes beyond merely vertical ties between firms and tries to examine and evaluate all relevant actors’ interests in this system of production, distribution, and consumption (Coe et al. 2008).

² Critical production for this separation is 10,000 hl of beer per year (Chlachula 2001).

Unfortunately, there is a lack of studies dealing with the food or beverage industry from the GPN perspective (e.g. Gwynne 2006; Ponte 2007; 2009) as it tends to focus on more technologically sophisticated industries, such as the automotive (e.g. Humphrey, Memedovic 2003; Pavlínek, Janák 2007), aviation (Bowen 2007) and electronics industry (Sturgeon, Kawakami 2010). However, there are some studies that are indirectly drawing on the GPN approach to analyze the European and Czech brewing industry (e.g. Larimo et al. 2006; Swinnen, Van Herck 2010; Materna 2011).

These studies seek to identify the type of coordination or governance of the particular GPN based on the typology developed by Gereffi (1994; Gereffi et al. 2005) and Humphrey and Schmitz (2002). However, the application of the ideal types of governance in the brewing industry tends to be difficult because different parts of its value chain might be governed in different ways and, thus, fall into different governance categories. For example, the upstream processes (from the leading brewery to its suppliers) are coordinated differently than downstream processes (from the leading brewery to customers).

The integration of firms into GPNs improves their access to foreign markets, innovation systems, foreign capital, and the development of new competencies. It also increases demand for goods produced by suppliers. These firm level advantages are typically available only in those cases when foreign lead firms incorporate local domestic firms into their production networks. When they do not, FDI effects tend to be limited to newly created jobs. FDI effects further depend on whether the newly created jobs are high-skill jobs, which contribute to the development of skills in the host economy or low-skill jobs, which can lead to deskilling (Dicken 2011). Linkages and spillovers between firms in GPNs are complex as Pavlínek and Žížalová (2014) show on the example of the automotive industry.

This article analyzes how the Czech breweries are integrated into GPNs, how this integration affects the geographical structure of the Czech brewing industry, and also how the inflow of foreign capital and entry of TNCs on the Czech market affect individual breweries and the Czech brewing industry as a whole.

3. The contemporary structure of the global and Czech brewing industry

The increasing number of mergers and acquisitions between international beer producers leads to the consolidation in the brewing industry. Ten leading corporations dominate 74% of the global beer market; four leading firms dominate more than 50% of the global beer market and the largest one, AB InBev, controls almost 25% of the market (Dörrenbächer, Gammelgaard 2013; McCaig 2010; The Economist 2011). The comparison of the brewing industry with non-alcoholic beverages suggests that there is further

space for consolidation. Coca-Cola and PepsiCo together control around 75% of the global market with non-alcoholic beverages (The Economist 2011). It is, therefore, reasonable to expect further concentration of ownership and control in the global brewing industry in the future.

The brewing industry was much more fragmented and decentralized two to three decades ago than it is today. Even in 1998, five leading firms dominated only 22% of the global market (Dörrenbächer, Gammelgaard 2013), a result of divergence of national markets, different consumer habits and preferences, relatively high transportation costs, and also of strong regulatory mechanisms of national states. The consolidation of the brewing industry took place especially quickly in the past several years as mergers and acquisitions have become more common. The biggest transaction so far was concluded in 2008 when the American corporation Anheuser-Busch created a joint venture with the Brazilian-Belgian corporation InBev, for 52 billion dollars (The Economist 2011). Recently, InBev has attempted to take over SABMiller, the second biggest beer producer in the world.

The contemporary brewing industry has several specific characteristics (Dörrenbächer, Gammelgaard 2013): i) it has adopted similar technologies globally, ii) it offers homogenous products, iii) it is dominated by a few large TNCs, and iv) it is highly internationalized.

The reasons for the internationalization efforts by leading TNCs are simple. They want to gain footholds in new markets, such as Central and Eastern Europe (CEE), which either have the rapidly growing beer consumption or strong beer-drinking traditions. TNCs penetrate these markets by taking over the strongest local firms, sometimes through hostile takeovers. Then they introduce their global marketing campaigns tailored in these new markets and capitalize on effects of synergy, gained through upgrading processes of technologies and management, cost efficiencies through layoffs, and control over value chains and distribution channels (Dörrenbächer, Gammelgaard 2013; Larimo et al. 2006; Swinnen, Van Herck 2010).

Almost 40% of products made by breweries are sold through transnational retailers, which play significant role in GPN structures of the brewing industry (McCaig 2010). These retailers can quickly adapt to changing consumer preferences and they expect the same flexibility from transnational brewing corporations who supply their retail networks with beer.

The world production of beer has been rising for the past fifteen years, exceeding 1,9 billion of hectoliters of beer per year (Chart 1). China is the leading producer country (Table 1) while AB InBev is the leading beer-making corporation (Table 2). China also has the largest total beer consumption but the Czechs are the leaders in per capita beer consumption with more than 145 liters per year (Berkhout et al. 2013). Germans, Austrians, Canadians, Irish and Australians have also high per capita beer consumption, although the precise data from a reliable source is not available.

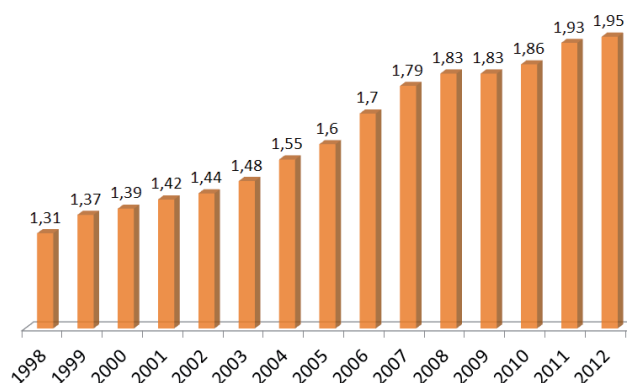


Chart 1 The world beer production (billions of hectoliters).
Source: ceskapotravina.net, Barth-Haas Group (2012), McCaig (2010).

Tab. 1 The ranking of countries by beer production in 2012

	State	(mil. hl)	(%)
1.	China	490.2	25.1
2.	USA	229.3	11.8
3.	Brazil	132.8	6.8
4.	Russia	97.4	5.0
5.	Germany	94.6	4.8
6.	Mexico	82.5	4.2
7.	Japan	55.5	2.8
8.	UK	42.0	2.2
9.	Poland	37.8	1.9
10.	Spain	33.0	1.7
24.	Czechia	18.3	0.9

Source: Barth-Haas Group (2012).

Tab. 2 The ranking of corporations by beer production in 2012.

	Corporation	Parent Economy	(mil. hl)	(%)
1.	AB InBev*	Belgium	352.9	18.1
2.	SAB Miller**	UK	190.0	9.7
3.	Heineken	Netherlands	171.7	8.8
4.	Carlsberg	Denmark	120.4	6.2
5.	CRB	China	106.2	5.4
6.	TBG	China	78.8	4.0
7.	Grupo Modelo	Mexico	55.8	2.9
8.	Molson-Coors	USA/Canada	55.1	2.8
9.	Yanjing	China	54.0	2.8
10.	Kirin	Japan	49.3	2.5

* without Grupo Modelo

** without China Resource Brewery

Source: Barth-Haas Group (2012).

Developed countries (the United States, Western Europe and Japan) represent key markets for brewing TNCs. For example, the AB InBev earns one-third of its profits in North America alone (The Economist 2011). These countries have the most efficient production with

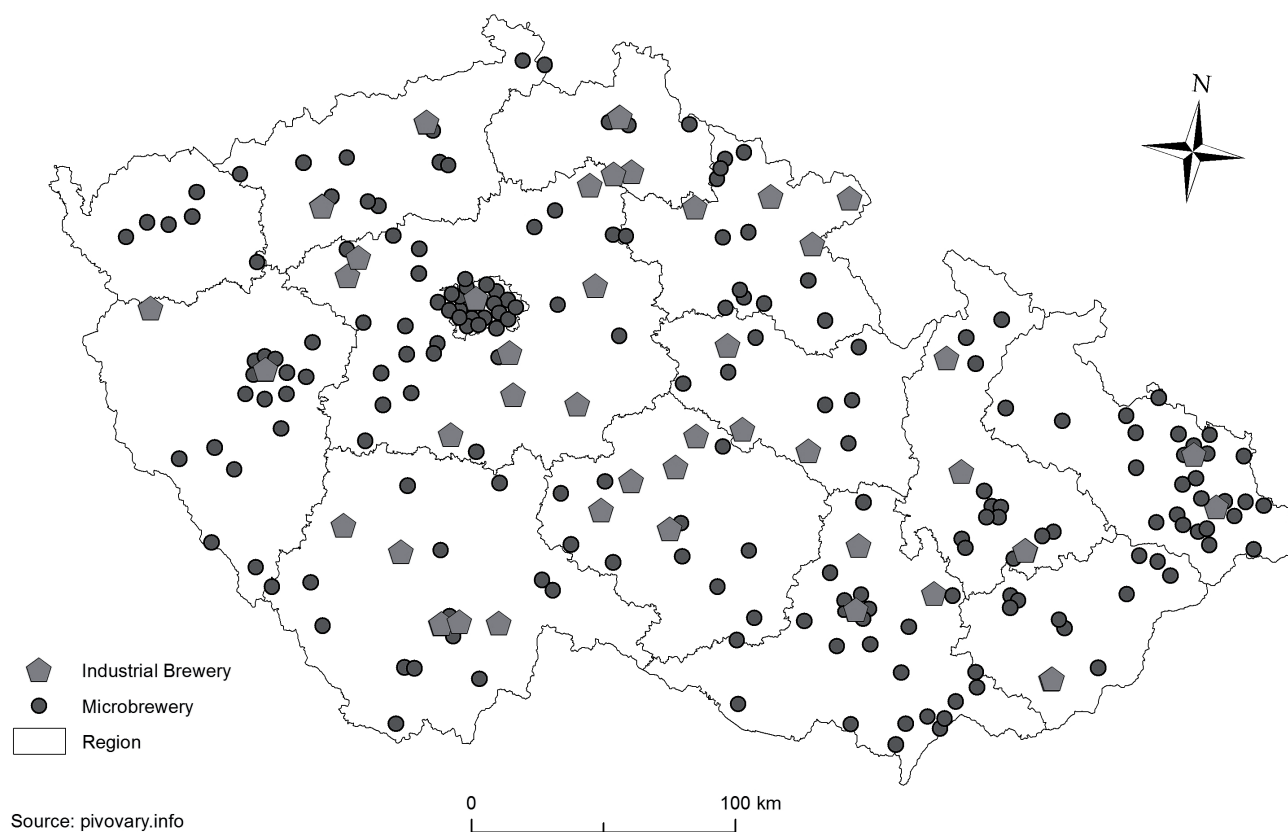


Fig. 1 The spatial distribution of Czech breweries in 2013.

the lowest costs per hectoliter. However, the majority of brewing companies still admit that it is more difficult to combine the automation of production with unique know-how, which is crucial for making unique brands of beer (ARC Group 2004).

Brewing TNCs have been expanding their activities to new markets in the past several decades, including post-socialistic countries since the 1990s, China, which is already the world's biggest producer of beer by volume, and other Asian countries with large populations that represent the greatest future potential for growth in beer consumption. The African market also has a great potential and all the biggest beer producers are starting to focus on it (sabmiller.com). This expansion often is in the form of strategic alliances, mergers and joint ventures: China Resource Brewery (the biggest Chinese beer producer) formed a strategic alliance with SABMiller, AB InBev took over Mexican Grupo Modelo (the seventh biggest producer in the world), Heineken took over Asia Pacific Breweries, and Carlsberg formed joint venture with regional leader in Thailand ThaiBev (sabmiller.com, Smith 2012). There are few exceptions among regional leaders that have not yet made any alliances with Western corporations, such as Indian United Breweries or Japanese Asahi Breweries and Sapporo Breweries.

Important changes have also taken place at the national level where small and medium-sized breweries have been growing at the expense of bigger producers because their beer is increasingly popular among consumers, even

though they produce negligible volumes of beer. Sometimes these small companies operate as “gypsy breweries”, renting a free production capacity from big industrial breweries (The Economist 2011).

Finally, there have been important changes in the individual consumption because of the growing home consumption of beer as the on-trade consumption (restaurants or bars) changes to off-trade consumption (retail corporations and then the households). According to Berkhout et al. (2013), retail stores sell almost two-thirds of produced beer and only one-third is consumed in restaurants and bars. Brewing TNCs have reacted to this trend by global marketing campaigns aimed at boosting the image of their strongest brands in order to increase their sales to households.

3.1 The geographical structure of the Czech brewing industry

Our database was constructed in 2014 and it has 237 breweries, which corresponds with 240 breweries that existed at the end 2013.³ 42 breweries produced at least 10,000 hl of beer per year. The remaining companies were microbreweries and their numbers continue to grow. The spatial distribution of all breweries in Czechia is visualized in Figure 1.

One of the aims of this article is to evaluate the fundamental characteristics of the geographical structure of the

³ By September 2015, there were more than 320 firms producing beer in Czechia (pivovary.info).

Tab. 3 Top producers of beer in Czechia in 2012.

	Ownership	Firm	Incorporated Breweries	Production (×1000 hl)	Share (%)
1.	SABMiller	Plzeňský Prazdroj	Plzeňský Prazdroj* Radegast Velké Popovice	7777	42.0
2.	Molson Coors Brewing Company	Pivovary Staropramen	Staropramen Ostravar	3140	17.0
3.	Heineken	Heineken Česká republika	Starobrno Krušovice Velké Březno	2437	13.2
4.	Czech state		Budějovický Budvar	1338	7.2
5.	Czech owners**	Pivovary Lobkowicz	Vysoký Chlumeč Černá Hora Klášteř Protivín Ryčtář Jihlava Uherský Brod	970	5.2
6.	Czech owners	LIF Group	Svijany Malý Rohozec Náchod	788	4.3
7.	Czech owner	PMS Přerov	Litovel Zubr Holba	757	4.1
8.	50% Duvel Moortgat NV. 50% Czech owners		Bernard	213	1.1
9.	Czech owner		Samson	145	0.8
10.	Czech owner		Nymburk	137	0.7

* The Gambrinus brewery is traditionally mentioned as Plzeňský Prazdroj as a whole.

** Predominantly owned by Lapasan (79.4%) owned by CEFC (China) since 2015. (HN 2015)

Source: Nádoba, Fraňková (2013), Český svaz pivovarů a sladoven.

Czech brewing industry, which is the outcome of several processes. We consider three closely related indicators: the ownership structure, volume of production, and the rate of employment in the brewing industry.

In 2012, three TNCs operating in the Czech brewing industry controlled close to three quarters of the Czech market (Table 3). The biggest brewing corporation in the world AB InBev was not among them, although it used to own the Pražské pivovary group, which had an almost 20% share of the Czech beer market until 2009. SABMiller, a South African corporation headquartered in Great Britain, was the largest beer producer in Czechia in 2012 with 42% of the total beer production. It owns Plzeňský Prazdroj a.s. (Pilsner Urquell), which controls Plzeňský Prazdroj⁴, Velké Popovice and Radegast breweries.

The Pivovary Staropramen group, owned by the North American Molson Coors Brewing Company, is the second

largest company operating in the Czech market. Two Czech breweries, Staropramen in Prague and Ostravar in Ostrava, are incorporated with this corporation. The Braník brewery also used to belong to this group but it was closed and its production was transferred to Prague to Staropramen (pivovary.info).

The group of breweries owned by Dutch Heineken accounts for another tenth of the Czech beer production. In 2008, Heineken bought the Drinks Union company, the owner of Starobrno, Krušovice and Velké Březno breweries. Additional four breweries belonging to this group were closed or transformed to distribution centers in order to optimize production. These included Kutná Hora and Znojmo (2009), Louny (2010) and Krásné Březno (2011). (pivovary.info, heinekenceskarepublika.cz)

Budějovický Budvar is the fourth biggest brewery in Czechia and it is unique because it is state-owned. It has a long-standing brand name dispute with AB InBev and the state ownership has prevented the acquisition of Budvar by AB InBev. Pivovary Lobkowicz is the fifth largest

⁴ The Gambrinus brewery is traditionally included under Plzeňský Prazdroj as a whole.

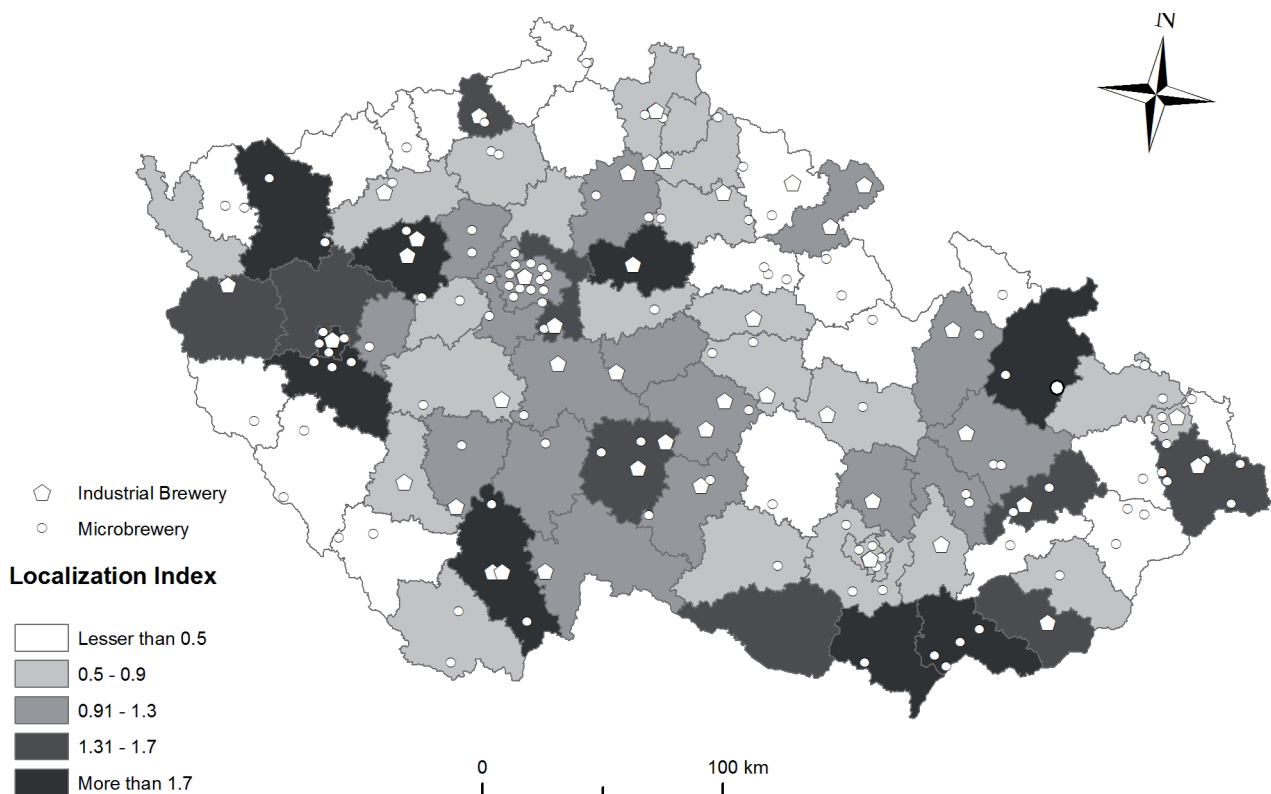


Fig. 2 Czech breweries and the localization of CZ-NACE 11 in 2011.

Note: Values of the localization index (LI) for the manufacture of beverages (CZ-NACE 11) calculated for districts of Czechia

$$LI = \frac{x_i}{y_i} : \frac{x}{y}$$

x_i – number of employees of manufacturing of beverages in region i

y_i – population of region i

x – number of employees of manufacturing of beverages in all regions

y – population of all regions

Pavlík and Kühnl (1982)

Source: czso.cz, pivovary.info, author.

brewing company in Czechia, which controls seven breweries in Bohemia and Moravia, and is now owned (from September 2015) by Chinese CEFC. This transaction was not included in my original research as well as in results and conclusions of this article.

The majority of remaining brewing companies and single breweries are Czech-owned. Several breweries and microbreweries in Czechia are also owned by Russian, British and Japanese capital. Overall, more than 72% of the beer production in Czechia was produced in breweries that were completely or partly owned by foreign capital in 2012.

In the next step, we evaluate the geographical structure of the Czech brewing industry by employment. Since the official employment data for the brewing industry (CZ-NACE 11.05) is unavailable, we had to rely on more general data for the manufacture of beverages as a whole.

As of 2013, the spatial distribution of breweries was quite uniform in Czechia (Figure 1), reflecting the historic need to supply the population uniformly in each region and be close to the market. Consequently, there are no areas of brewing industry concentrations with the

exceptions of large population concentrations around the Prague, Pilsen, and Ostrava metropolitan areas. There are no industrial breweries in border areas near Bavaria, Lower Austria, and Silesia, although some of these regions had a strong position in the brewing industry in 19th century (Likovský 2005). This is mainly because these regions became peripheral during the centrally planned economy (1948–1989) in Czechoslovakia and this situation was further reinforced during the economic transformation in Czechia in the 1990s (Likovský 2008, Kratochvíle 2005).

We have to be careful when interpreting the localization index (LI) in Figure 2 since it shows the localization not only of the brewing industry but the production of beverages as a whole, including distilling, rectifying and blending of spirits; production of soft drinks; production of mineral waters; manufacture of wine from grapes and even the production of malt. These sectors together employed more than 13,000 workers. Only three districts achieved the highest LI values thanks to breweries: Plzeň-city, České Budějovice and Rakovník. In all other cases, high LI levels reflected other beverage industries, such

as soft drinks and the production of mineral waters in the Karlovy Vary district, mineral waters and malt (Soufflet) in the Nymburk district, Kofola soft drinks in the Bruntál district and the distilling, rectifying and blending of spirits in Krnov. Furthermore, the production of wines from grapes distorts LI levels in Southern Moravia. At the same time, the LI values do not reach 0.5 or lower in any district where an industrial brewery is located. This underlines the importance of the brewing industry in the beverage industry, which, together with the manufacture of food products (CZ-NACE 10), accounts for less than 3% of Czech GDP.

3.2 Changes in the geographical structure of the brewing industry in Czechia

Since 1989, only one industrial brewery that is still in operation has been established in Czechia (Chotěboř). It shows that the processes of concentration and consolidation of the brewing industry into fewer large companies have played much more important role than the establishment of new industrial breweries after 1990. This concentration process results from the “regionally differentiated closures of breweries” (Ulrich 2006: 70) (see also Table 4).

Tab. 4 Closed breweries between 1990 and 2012.

Year	Brewery
1991	Jablonec nad Nisou
1994	Studená, Cheb
1996	Břeclav, Golčův Jeníkov, Domažlice
1997	Děčín, Vsetín, Jevíčko, Jarošov, Praha-Holešovice
1998	Most-Sedlec
1999	Hradec Králové, Karlovy Vary, Prostějov, Lanškroun
2000	Olomouc, Uherský Ostroh
2001	Brumov-Bylnice
2002	Svitavy, Litoměřice
2005	Opava
2006	Praha-Braník
2009	Kutná Hora, Znojmo
2010	Louny
2011	Krásné Březno

Source: pivovary.info

Four interrelated processes have been responsible for the restructuring of the Czech brewing industry since 1990: the post-1990 economic transformation, the break-up of Czechoslovakia, the entry of foreign capital, and the development of microbreweries. First, the former centralized organizational structure of the Czech brewing industry disintegrated during privatizations and restitutions in the 1990s. Some of newly independent breweries could not compete, which led to decreases in their output and eventual bankruptcies. For example, Pivovary Louny

used to operate ten breweries before 1990 but only four of them still produce beer today (Vratislavice nad Nisou, Svijany, Velké Březno and Žatec). Plzeňské Pivovary was negatively affected by the abolition of the zoning of production and was forced to close down breweries in Cheb, Domažlice and Karlovy Vary. Consequently, the Karlovy Vary region remained the only Czech region without an industrial brewery. (Kratochvíle 2005)

Second, the break-up of Czechoslovakia has mostly affected the Zlín region (Kovařík 2003) because its breweries largely depended on the Slovak market. After the loss of the Slovak market following the break-up, only the Uherský Brod industrial brewery survived in this region of Czechia. Third, the entry of foreign TNCs and related inflows of FDI further contributed to the consolidation and concentration of the Czech brewing industry. This process and its impacts are analyzed below. Finally, the rise of microbreweries has also significantly influenced the geographical structure of the Czech brewing industry as hundreds of microbreweries were established after 1990 and more than 190 of them have survived. The greatest growth was registered between 2011 and 2013 when 100 microbreweries were established. As of September 2015, there are more than 280 microbreweries (pividky.cz), which suggests that the de-concentration process continues. (See Pulec 2014 for details.)

3.3 The impact of FDI inflows in the Czech brewing industry

The Czech brewing industry was affected by several domestic and international mergers or acquisitions. Three foreign brewing groups owned by SABMiller, Molson Coors Brewing Company and Heineken have played the most important role (Table 5).

Table 5 indicates that foreign owners conduct similar changes in their Czech breweries after their takeover but there are important exceptions. For example, British BASS, which owned 30% of the Radegast brewery did not introduce any significant changes before selling its share to the Japanese investment group Nomura. There is a lack of information Nomura's activities in the Pilsner Urquell – Radegast – Velké Popovice Group and only two outcomes from the Nomura tenure could be identified: the personal changes on the CEO position and the decision to close the Karlovy Vary brewery, which was carried out after the takeover by SAB in 1999.

SABMiller is the largest investor in the Czech brewing industry having invested more than 14 billion Czech crowns between 1999 and 2008 mostly to strengthen the international position of Pilsner Urquell on the Canadian, U.S., Israeli, Vietnamese, South Korean, Brazilian, Macedonian and Taiwanese markets and to introduce Pilsner Urquell in new markets in South Africa, Albania, Montenegro, Argentina, Azerbaijan and Cyprus. SABMiller also invested in new production technologies, such as cylindrical-conical tanks that reduce energy, water and heat consumption, and in the expansion of production capacity.

Tab. 5 The effects of TNCs influencing the Czech brewing industry.

	Plzeňský Prazdroj (Pilsner Urquell)			Pivovary Staropramen				group of breweries today owned by Heineken		
	BASS 1995–1999	Nomura 1998–1999	SABMiller 1999–2015	BASS 1993–2000	AB InBev 2000–2009	CVC Cap. Part. 2009–2012	MCBC 2012–	Binding Gruppe* 1994–2007	BBAG 1994–2003	Heineken 2003–
a)	X	–	+	+	+	+	–	+	+	+
b)	X	–	+	–	+	+	–	+	+	+
c)	X	–	+	+	+	–	–	+	+	+
d)	X	–	+	+	+	+	–	+	+	+
e)	X	+	+	+	+	x	x	+	+	+
f)	X	+	+	+	+	x	x	x	x	+

Note: a) access to foreign capital, b) introduction of new marketing or business strategies, c) introduction of new technologies or know-how, d) access to foreign markets and distribution networks, e) personal changes in the top management f) concentration of production by the closing of the breweries; “+” yes, “x” no, “–” not proved

* later Radeberger Gruppe

Source: author's interviews, pivni.info, pivovary info, Kratochvíle (2005).

No breweries were closed, except for the Karlovy Vary brewery mentioned above.

The remaining foreign investors have followed similar strategies as SABMiller, although differences exist based on the original reasons for takeovers of Czech breweries. While SABMiller selected the Pilsner Urquell brand as its flagship brand, other brewing corporations typically buy Czech breweries mostly in order to access the Czech market. Staropramen is the only exception as its products obtained the flagship role early on when the Staropramen breweries belonged to the StarBev group, owned by CVC Capital Partners, and they have kept this position after being bought by the Molson Coors Brewing Company.

Other effects of foreign TNCs in the Czech brewing industry include: building of expedition halls, setting the modern production technologies, and creating better logistic systems and distribution networks. The majority of foreign investors also invest in the marketing of Czech brands, which is typically conducted by domestic marketing firms because of their familiarity with the domestic market. Licensing production, in which the particular brand of beer is produced outside of its traditional place of production, represents one of the most important business strategies of brewing TNCs. Examples of the license production of Czech beer include Staropramen, Radegast or Starobrno in Lithuania, Hungary, Poland, Serbia and Slovakia. In most cases, these brands are produced in breweries owned by respective TNCs.

Foreign owners of Czech breweries determine the brand portfolio. For example, German Binding Gruppe (part of Dr. Oetker TNC) has not allowed the Krušovice brewery to produce cheap brands of beer. SABMiller, AB InBev, and Heineken appoint their own top managers in Czech brewing companies while lower managerial positions are left to Czech managers whose advantage is their good knowledge of the Czech market. TNCs operating on the Czech market can potentially displace Czech suppliers from their positions in value chains although the

lack of data makes it impossible to find the evidence of this behavior.

Selective closures of Czech breweries are perhaps the most important negative effect of foreign ownership (Table 4). For example, Heineken has already closed four breweries and Interbrew has closed the Braník brewery in Prague. Since 2006 all closures of Czech breweries were based on the decisions made by TNCs. By selectively closing breweries, TNCs further the concentration processes in the Czech brewing industry. At the same time, the economic success of foreign controlled Czech breweries has been supported by corporate strategies based on profit-seeking behavior of their foreign owners. However, the potential outflow of profits abroad in the form of dividends can eventually exceed the value of invested capital (Dicken 2011).

4. The integration of Czech-based breweries into GPNs

Companies within the class of economic activities CZ-NACE 11.05 and producing more than 10,000 hl of beer every year were classified into four groups based on the following criteria: i) the inclusion in a brewing TNC ii), integration in a GPN through supplying relationships, and iii) integration in a GPN through customer relationships (Tables 6 and 7). The data was collected through

Tab. 6 The firms by integration into GPNs.

Category	Number of Companies
1 – fully integrated foreign-owned breweries	3
2 – mostly integrated domestic breweries	9
3 – partly integrated domestic breweries	6
4 – unintegrated domestic microbreweries	0
unclassified firms	9

Source: author

Tab. 7 The evaluation of integration of Czech brewing companies into GPN structures in 2013.

	Ownership	Suppliers			Customers	Export	Category
		Hops	Malt	Packages			
Plzeňský Prazdroj	SABMiller	-	+**	+	+	+	1
Radegast (Nošovice)							
Pivovar Velké Popovice							
Staropramen	Molson Coors Brew. Co.	-	+	+	+	+	1
Ostravar							
Královský pivovar Krušovice	Heineken	-	+	+	+	+	1
Starobrno							
Pivovar Velké Březno							
Budějovický Budvar	state ownership	x	+	+	+	+	2
Pivovar Protivín	Pivovary Lobkowicz	-	+**	+	+	+	2
Pivovar Černá Hora							
Pivovar Rychtář (Hlinsko)							
Pivovar Klášter							
Pivovar Vysoký Chlumec							
Pivovar Jihlava							
Pivovar Uherský Brod							
Pivovar Svijany	LIF Group	+**	+**	+	+	+	2
Pivovar Rohozec							
Pivovar Primátor (Náchod)							
Pivovar Holba (Hanušovice)	PMS Přerov	-	+	+	+	+	2
Pivovar Litovel							
Pivovar Zubr (Přerov)							
Rodinný pivovar Bernard	Duvel Moortgat + Czech owners	-	+**	+	+	+	2
Pivovar Samson (Čes. Bud.)	Czech owner	-	-**	+	+	+	?
Pivovar Nymburk	Czech owner	x	+**	+	+	+	2
Pivovar Krakonoš (Trutnov)	Czech owner	x	-	+	+	+	?
Chodovar (Chodová Planá)	Czech owner	x	x**	+	+	+	3
Měšťanský pivovar Polička	Czech owner	x	x	+	+	x	3
Měšťanský pivovar Havlíčkův Brod	Czech owners	-	-**	+	+	+	?
Pivovar Bakalář (Rakovník)	Russian owner	-	-	+	+	+	?
Pivovar Vratislavice nad Nisou	Czech owners	x	x**	+	+	+	3
Pivovar Regent (Třeboň)	Czech owner	-	-	+	+	+	?
Pivovar Pernštejn (Pardubice)	Czech owner	+	x	+	+	+	2
Měšťanský pivovar Strakonice	municipal ownership	x	x	+	+	+	3
Městský pivovar Nová Paka	Czech owners	-	x**	+	+	+	?
Pivovar Poutník Pelhřimov	cooperative own.	x	x	+	+	+	3
Žatecký pivovar	British owner	x	-	+	+	+	?
Pivovar Ferdinand (Benešov)	Czech owner	x	+**	+	+	+	2
Pivovar Vyškov	Czech owner	-	-	+	+	+	?
Pivovar Kácov	Czech owner	+	+	+	+	x	2
Pivovar Broumov	Czech owners	x	x**	+	+	+	3
Pivovar Chotěboř	?	-	-	+	+	+	?

Note: "+" yes, "x" no, "-" not proved, "?" uncategorized, ** these firms possess their own production capacities in this part of supply chain

Source: Pulec (2014).

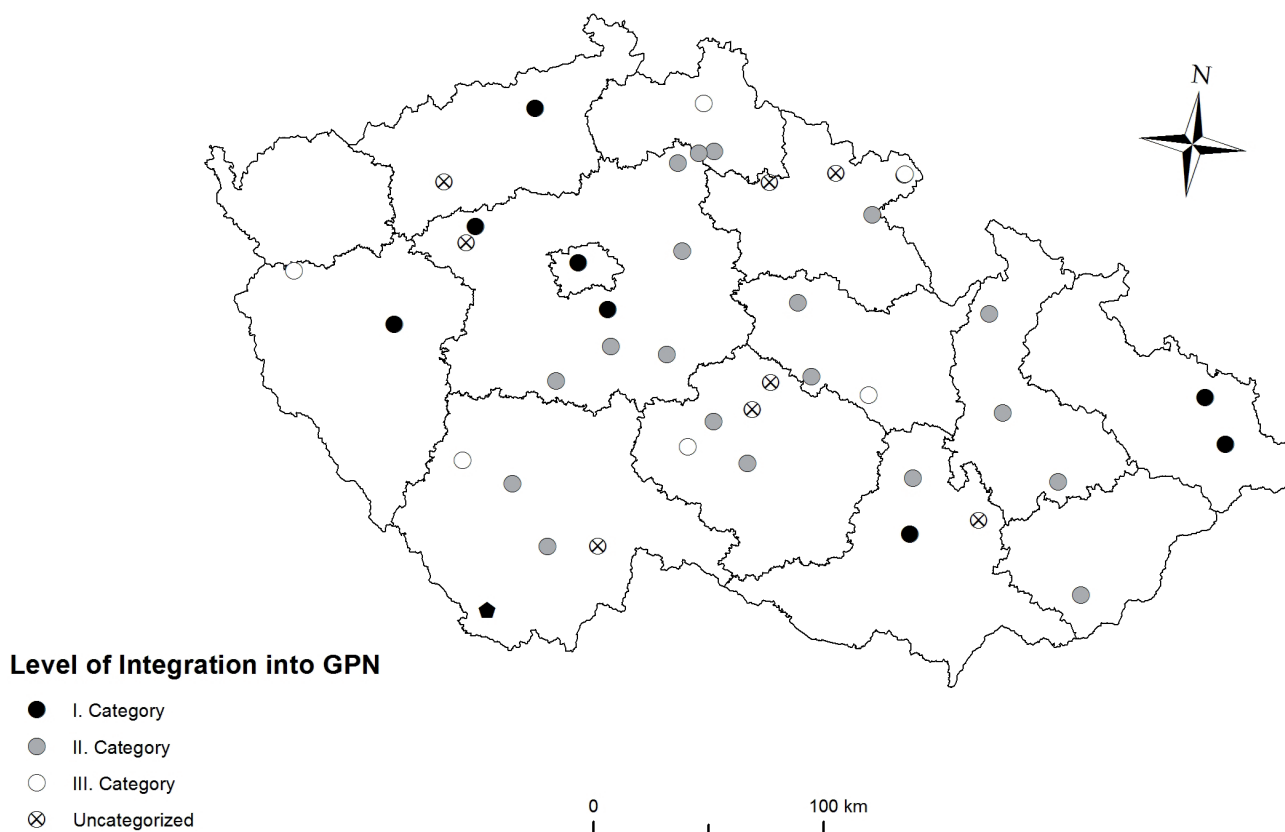


Fig. 3 The spatial differentiation of Czech breweries by their integration into GPNs.
Source: author

a survey of 42 industrial breweries, 28 supplying companies and 7 transnational retail corporations operating in Czechia and it yielded 33 returned questionnaires.

Data about supplying linkages and customer relations has been difficult to obtain. The three most important supply relationships in the beer industry include the supply of hops, the manufacture and supply of malt and the supply of packaging materials. The data about the supply of hops is most fragmented because brewing companies do not like to publish this information. Most of them claimed to use Czech hops in the traditional beer production, although 80% of hops are imported according to the Czech Hop Growers Union. I was unable to identify any TNC engaged in the production of hops in Czechia. In the manufacture of malt, more than half of malt production is carried out by malt-houses in Prostějov, Hodonice, Nymburk, Kroměříž and Litovel, which are owned by French Soufflet. In the area of packaging materials, three groups of suppliers were analyzed: glass packaging, plastic packaging, and metal packaging. The glass packaging is dominated by the U.S.-based O-I Manufacturing and Swiss-based Vetropack. Two important TNCs also dominate metal packaging: German Schäfer-Werke and Czech Imexa. Finally, Czech firms Petainer and Alfa Plastik play an important role in the plastic packaging.

The cooperation of breweries with transnational retailers is important for the beer distribution in Czechia because they control the Czech retail industry. I have only

considered retailers operating in Czechia. The basic idea of the classification above is the fact that if any supplier or customer of a particular brewery is owned by a TNC, this brewery is part of its GPN. In some cases, a brewery is involved in multiple GPNs at the same time. Some breweries cannot be classified because of the lack of data. The spatial differentiation of the Czech breweries by the integration into GPNs is presented in Figure 3.

Four types of Czech-based breweries can be recognized based on their integration into GPNs:

Fully integrated foreign-owned breweries (I. Category)

Fully integrated foreign-owned breweries include large brand-name breweries owned by foreign TNCs, such as Pilsner Urquell, Staropramen Breweries and the group of breweries owned by Heineken. These foreign TNCs rank among the biggest brewing companies in the world. Their Czech breweries are strategically distributed in Czechia, fulfilling different roles in corporate business strategies and being responsible for regionally and structurally different segments of the Czech market. Firms fully integrated into GPNs account for 20% of industrial breweries (incorporated into three brewing companies) and occupy top places in the beer production in Czechia. Most of these breweries are located in Prague, regional centers and their close vicinity. Thanks to their importance, these breweries are supplied by the biggest foreign-owned suppliers and they distribute their beer through transnational retail corporations.

Mostly integrated domestic breweries (II. Category)

Mostly integrated domestic breweries account for the largest number of firms and they primarily include small and medium-size⁵ breweries or brewing groups that are not owned by TNCs. Being usually located in regional centers or smaller cities, most of them function as regional breweries. However, they have a relatively strong position in the Czech (or foreign) market thanks to their integration into larger brewing groups and their cooperation with big foreign suppliers. Their beer is sold through transnational retail corporations. State-owned Budweiser Budvar has a specific position in this category. In terms of its size and importance, it is similar to firms classified in the first category because it is also linked to the global brewing market and it cooperates with Carlsberg (Materna 2011). However, since it is not foreign-owned, it lacks some of the business strategies and coordination that are typical for foreign-owned firms, such as top management positions occupied by foreigners, the regulation of product portfolio by a parent company, and the modernization and the purchase of modern technologies financed by foreign capital.

Partly integrated domestic breweries (III. Category)

Only six small regional industrial breweries that are located in peripheral areas of Czechia are classified into this category. These firms are specific because, except for the supply of packaging, they do not interact with companies owned by TNCs and their customer relationships are regionally based.

Unintegrated domestic microbreweries (IV. Category)

There are almost two hundred domestic microbreweries not integrated into GPNs. They use raw materials exclusively from domestic firms and domestic sources and they sell only to local pubs and restaurants. However, we can only speculate about the degree of their integration since these small breweries were not analyzed in detail.

Czech breweries can achieve a relative autonomy through the increasing level of vertical integration, which is a common strategy pursued by foreign brewing companies. Some Czech breweries own malt-houses and hop-gardens and even operate their own production lines of plastic packaging (Table 7).

5. Conclusion

By drawing on the GPN perspective, this article analyzed the Czech brewing industry, its integration in transnational production networks through FDI and how this integration affected its geographical structure. The

geographical structure of the Czech brewing industry was analyzed through three main criteria: the ownership, volume of production and employment. I have identified the contradictory processes of concentration and de-concentration of brewing activities in Czechia. The concentration processes have predominantly been represented by the ever-decreasing number of industrial breweries for three main reasons: the liberalization, privatization and restructuring of the Czech economy after 1990, the break-up of Czechoslovakia in 1993 and the optimization of production networks by TNCs.

At the same time, the processes of de-concentration have been reflected in the significant increase in the number of microbreweries (by 100% in the period of 2011–2013). These tiny firms cannot compete with big industrial breweries in production volumes, but their competitive advantage lies in satisfying various tastes and customer preferences. By September 2015, there were more than 280 microbreweries located in Czechia and more are expected to start production soon (pividky.cz).

Foreign investors affected the Czech brewing industry in many different ways by investing in new production technologies and their modernization, allowing access of Czech-based breweries to international distribution networks, and by managing operations of Czech-based breweries. In the process, TNCs have concentrated the beer production into a smaller number of breweries. Foreign investors differ in the amount of invested capital, which depends on the length of their ownership and its original intent. For example, as a “flagship” brand of SABMiller, Pilsner Urquell has received several times higher investments than other foreign-owned breweries in Czechia. Recent developments, such as the capital investment into the Pivovary Lobkowicz Group by Chinese CEFC and the takeover of SABMiller (the owner of Pilsner Urquell) by Anheuser-Busch InBev will affect the Czech brewing industry.

I have identified four types of integration of Czech breweries into GPNs: fully integrated foreign-owned breweries; mostly integrated domestic breweries, partially integrated domestic breweries and un-integrated domestic microbreweries. These four types of firms differ not only in their size but also in their localization patterns with fully integrated foreign-owned breweries being most spatially concentrated in the largest Czech cities while un-integrated domestic microbreweries are most geographically dispersed.

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⁵ The production of small industrial breweries doesn't exceed 200,000 hl of beer per year and the production of middle-size breweries is located within 200–500 thousands hl of beer per year.

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Web resources

- Czech Statistical Office: <http://www.czso.cz/>
- Česká potravinářská komory ČR: <http://www.ceskapotravina.net>
- Český svaz pivovarů a sladoven: <http://www.ceske-pivo.cz/>
- Heineken: <http://www.heinekenceskarepublika.cz>
- Pividky.cz: <http://www.pividky.cz/mapa.php>
- Pivni.info: <http://pivni.info>

Pivovary.info: <http://pivovary.info>
SABMiller: <http://www.sabmiller.com>
United Nations Conference of Trade and Development: <http://unctad.org>

RESUMÉ

Zapojení českého pivovarnického průmyslu do globálních výrobních sítí

Český pivovarnický průmysl prošel během transformace české ekonomiky mnoha změnami. Při hodnocení současné geografické struktury tohoto průmyslového odvětví byl identifikován protichůdný proces koncentrace a dekoncentrace pivovarnických aktivit zastoupený jednak stále klesajícím počtem průmyslových pivovarů a na druhé straně stále narůstajícím počtem tzv. minipivovarů. S tímto procesem úzce souvisí působení zahraničních NNS. Většina těchto společností od 90. let vykazuje obdobný přístup k českým pivovarnickým podnikům a aplikaci podobných

strategií. Liší se však především v množství investovaných prostředků. Významně pak do územního rozmístění pivovarů v Česku zasahují jejich rušením v rámci optimalizace výroby a ušetření nákladů. Právě míra zapojení českých pivovarnických podniků do nadnárodních výrobních sítí zahraničních pivovarnických společností velmi úzce souvisí s procesy, jakými tyto zahraniční společnosti mohou české pivovary ovlivňovat. Na základě analýzy dodavatelско-odběratelských vztahů byly identifikovány čtyři kategorie zapojení českých pivovarů do globálních výrobních sítí. Základní myšlenka tohoto rozdělení je taková, že pokud je dodavatel nebo odběratel pivovaru součástí nějaké NNS, je tento pivovar na území Česka součástí produkční sítě této NNS. Druhým klíčovým bodem je zahraniční vlastnictví českých podniků.

Jan Pulec

Charles University in Prague, Faculty of Science

Department of Social Geography and Regional Development

Albertov 6, 128 43 Praha 2

Czechia

E-mail: jan.pulec@natur.cuni.cz