Business History

ISSN: 0007-6791 (Print) 1743-7938 (Online) Journal homepage: www.tandfonline.com/journals/fbsh20

Survival through globalisation: Innovation, internationalisation, and the endurance of big business in Central Europe

Milan Balaban, Mária Hidvégi & Tamás Vonyó

To cite this article: Milan Balaban, Mária Hidvégi & Tamás Vonyó (15 Oct 2025): Survival through globalisation: Innovation, internationalisation, and the endurance of big business in Central Europe, Business History, DOI: 10.1080/00076791.2025.2566483

To link to this article: https://doi.org/10.1080/00076791.2025.2566483

Published online: 15 Oct 2025.

BUSINESS HISTORY
https://doi.org/10.1080/00076791.2025.2566483

Survival through globalisation: Innovation, internationalisation, and the endurance of big business in Central Europe

Milan Balaban[a], Mária Hidvégi[b] and Tamás Vonyó[c]

[a]Bata Information Centre, Tomas Bata University, Zlin, Czech Republic; [b]Dondena Centre, Bocconi University, Milan, Italy; [c]Department of Social and Political Sciences and Dondena Centre, Bocconi University, Milan, Italy

ABSTRACT
We present a comparative case study of two richly documented manufacturing firms in Central Europe to examine how economic nationalism and rising trade barriers shaped their global business strategies in the interwar period and how they managed to re-establish their global presence after 1945. From a provincial shoemaker in Moravia, Bata grew into the world's largest footwear exporter by the 1930s with a global production and sales network that continued to grow until the 1980s. Tungsram was the seminal producer of lightbulbs and radio valves in Hungary and founding member of international cartels. It remained a prominent exporter to both socialist and market economies during the Cold War. Both cases highlight technological and organisational innovation and strategic-capabilities accumulation as key determinants of successful internationalisation.

ARTICLE HISTORY
Received 4 November 2024
Accepted 19 September 2025

ACCEPTED BY:
Roman Köster

KEYWORDS
Globalisation; economic nationalism; internationalisation of firms; big business; Central Europe

1. Introduction

The interwar period was a paradoxical episode of economic history. The unravelling of globalisation prompted a dramatic decline of international trade, mass migration and global capital flows (Kindleberger, 1973; James, 2002). 'Globalization backlash' belongs to the stylised facts of the 1920s and especially the 1930s (Feinstein et al., 2008; Findlay & O'Rourke, 2009). Organisations such as the League of Nations and the Bank of International Settlements were painfully aware that international relations were inimical to economic integration (Arndt, 1944). Populism turned against globalisation (Zahra, 2023). Economic nationalism reflected a global shift from cosmopolitan cultural attitudes towards ethno-nationalism (Suesse, 2024), and the disintegration of the liberal geopolitical order into a 'patchwork world order' (Tooze, 2014). Yet, business historians documented the continued growth of global enterprise (Fitzgerald, 2016; Jones, 2005), the global spread of industrial knowhow and ideology (Link, 2020), and the rise of global business strategies (Cerretano, 2018; Lubinski, 2022).

Western trade liberalisation after 1945 could not fully reverse the globalisation backlash. Dependency theory (Prebisch, 1950; Singer, 1949) justified import-substitution industrialisation and caused a populist globalisation backlash in Latin America and other peripheries.

CONTACT Tamás Vonyó tamas.vonyo@unibocconi.it

National development remained the key policy framework even in the West and economic nationalism aligned with the socialist reorganisation of both Eastern Europe and parts of the post-colonial world (Suesse, 2024). Yet, global business enjoyed a golden age with the dynamic growth of intra-industry trade inducing a surge in foreign direct investment and technology transfers.

Economic nationalism was often associated with East Central Europe after 1918 (Berend & Ránki, 1969; Hertz, 1947; Paslovsky, 1928), but the region has featured little in the recent business history of globalisation. Contemporaries and historians described the Habsburg Empire as a 'centripetal force' (Jászi, 1929) of integration and argued that its collapse harmed trade and economic development. More recent studies demonstrate no dramatic discontinuity. Trade in Central Europe was as modest before World War I as in the 1920s and declined from the 1930s. Industrial autarky after the Great Depression deepened during World War II and even more after 1948 in the era of Stalinist central planning. Central Europe turned from a weakly globalised to a deglobalizing world.

Yet, economic nationalism proved more flexible than traditionally claimed and was not necessarily detrimental to the global business adventures of Central European firms. The disintegration of Austria-Hungary did present significant challenges, but growth could be sustained with innovative global business strategies. Successful globalisation in the 1930s nurtured capabilities that would ensure the endurance of these globalising firms even after 1945. Postcolonial development opened new markets. East-South cooperation replaced East-West trade (Lorenzini, 2014), and manufacturers who had engaged with late-industrializing countries before 1939 benefitted the most. Socialist industrialisation was not completely autarkic, and the Cold War paved new avenues of globalisation for Eastern European firms with the necessary managerial and technological capabilities (Lorenzini, 2019; Sanchez-Sibony, 2014).

We exploit recent evidence to re-examine the impact of economic nationalism and globalisation on business performance from an understudied regional perspective. We build a comparative case study of two prominent firms whose enduring global success in the treacherous twentieth century is richly documented in archival and secondary sources. ***Bata*** was the ultimate global enterprise of the 1930s and the prime footwear exporter in the world. Its transcontinental network of factory towns and sales organisations survived the Nazi occupation of Czechoslovakia during and communism after World War II. Eastern European operations were nationalised, but the Western Bata Organisation lived on to become the world's largest shoe manufacturer. ***Tungsram*** was the leading Hungarian producer of low-current electrical equipment as a member of international cartels. By the late 1930s, it had subsidiaries across Europe. The disruption of transnational business networks and made its global business model untenable after 1945, yet Tungsram revived as a global exporter with innovative and differentiated market strategies.

In Section 2, we offer a brief assessment of the international economic performance and the standard model of big business in Central Europe. In Section 3, we discuss the development of Bata and Tungsram until the 1930s and the historical sources that we can exploit. Section 4 describes how both firms responded to the challenges and opportunities of imperial disintegration and economic nationalism after 1918. Section 5 examines what strategies they developed to conquer international markets from the 1920s and to fend off global trade restrictions in the 1930s. Section 6 explains how the legacy of these strategic capabilities ensured the revival of both firms in global markets during the Cold War, and how they adapted to changing economic and geopolitical conditions. Section 7 concludes and draws reflections beyond the historical and regional context.

2. A deglobalizing world: Central Europe after 1918

In the *Economic Consequences of the Peace*, Keynes argued that in Central Europe 'the miseries of life and the disintegration of society are too notorious to require analysis …' (Keynes, 1919, p. 249). The fragmented world left behind the demolished Habsburg Empire alarmed prominent contemporaries (Hodza, 1942; Jászi, 1929). Political disintegration was considered economically detrimental by economists (Hertz, 1947; Paslovsky, 1928) and by future historians (Berend, 1998; Berend & Ránki, 1969; Teichova, 1988). Disrupted production networks and trade relations thwarted industrial development, while economic nationalism undermined regional cooperation (Drabek, 1985; Teichova, 1985). Revisionist studies have since critically reassessed the economic performance of Central Europe both before and after World War I.

Austria-Hungary captivated generations of economic historians. The liberal empire promoted internal market integration (Komlos, 1983), bolstered modern industries and modern banks, and supported international trade (Good, 1984). More recent comparative research revised these seminal accounts. East Central Europe remained backward relative to western industrial economies and continued to fall behind until World War I (Kopsidis & Schulze, 2021). Integration with the global economy grew modestly. Austria-Hungary was the least open economy in Europe after Russia. In 1913, exports plus imports equalled only 22% of national income, compared to the European average of 37%, and much larger ratios in Western Europe and Scandinavia (Daudin et al., 2010, p. 8).

The Habsburg Empire itself was economically weakly integrated (Schulze & Wolf, 2012); thus, its downfall did not dramatically disrupt regional trade (Wolf et al., 2011). Late industrialisation and weak exposure to western markets delayed the business revolution in Central Europe. Historical studies of big business before 1914 (Kulikov, 2017; Kulikov & Kragh, 2019; Shaw, 1983; Wardley, 1999), and over time (Cassis, 1999; Cassis et al., 2016; Gospel & Fiedler, 2013) defined large firms having more than five or ten thousand workers. Austria-Hungary had very few such firms. Despite the vast intenal market and the concentration of finance in the capitals, Vienna and Budapest, the model of 'imperial enterprise' remained elusive to most firms. The few exceptions belonged to strategic industries nurtured in Gerschenkronian cradles, developing imperial champions. The Hungarian State Iron & Machine Works (MÁVAG), Ganz & Danobius, and the Austro-Hungarian Siemens-Schuckert Works profited most from railway machinery procurement and electrification and built diffused production networks (Hidvégi, 2016; Mathis, 1990). Munition companies Skoda in Pilsen, Manfred Weiss in Budapest, and Austrian Weapons Manufacturing Corporation (OEWG) each had almost ten thousand workers by 1914. Most remaining big firms were mining and metallurgical corporations that supplied these imperial champions with iron and steel (Compass, 1914). The Viennese Rothschilds founded and bankrolled the empire's largest industrial enterprise, the Witkowitz Ironworks, but the Creditanstalt funded Ganz and Skoda, too.

The growth of these metal, machinery, and munitions titans until 1918 and their survival thereafter hung on the state. They comprised the largest contractors of the imperial army in the Great War (K.u.k. Kriegsministerium, 1917). Arms manufacturers multiplied in size but faced crises flloing the defeat of Austria-Hungary. Manfred Weiss and OEWG (renamed Steyr in 1926) shifted to civilian products after the peace treaties reduced the armed forces and weapons production in both Hungary and Austria. Imperial business networks aided this reorganisation. Manfred Weiss began producing metal tubes jointly with the Witkowitz Ironworks before it acquired foreign licences to launch aircraft and bicycle manufacturing (Dombrády & Kovács, 2016). Steyr grew into a prominent automaker after Ferdinand Porsche became technical director in 1929, prompting an eventual merger with Daimler and Puch (Pfunder, 2007). As competitors converted to civilian production, Skoda could dominate arms trade in Central and Southeast Europe by the 1930, but in 1919 it could only escape bankruptcy by accepting an initially hostile takeover by the French munitions giant Schneider in 1919 (Grant, 2018).

Like Ringhoffer in Czechoslovakia (Hlavačka & Hořejš, 2021), MÁVAG and Ganz were favourites of national industrialisation in Hungary, with monopoly positions in railway procurement and motorisation projects and close ties to governments (Hidvégi, 2019). MÁVAG was a state enterprise to equip the Hungarian state railways. Ringhoffer and Ganz enjoyed privileges in Czechoslovakia and Hungary respectively akin to public corporations. Their expansion owed much to state-approved mergers with and takeovers of smaller machine producing firms. The conversion of imperial into national champions fostered the old narrative of state-sponsored industrial development in Central Europe and suggested that imperial disintegration forced big business to depend on government support in consolidating both national and international market positions.

Quantitative economic history has recently offered much-improved assessments of Central European economies in the interwar period. Both Czechoslovakia and Hungary experienced faster growth of national income between the wars than their respective territories in Austria-Hungary achieved before 1914. Between 1913 and 1938, they narrowed the development gap with advanced western economies (Morys, 2021, pp. 167–176). Industrial output grew even faster than GDP; it nearly doubled in both countries (Klein et al., 2017, p. 86).

Despite faster economic growth, Central Europe did not become more dependent on foreign trade. Trade openness remained modest in international comparison, especially given the small size of the new national markets. The ratio of exports plus imports to GDP in Hungary never surpassed 30% before 1929 and fell below 20% after 1930. With her more advanced industrial base, Czechoslovakia traded more in the 1920s but became even more autarchic in the 1930s (Eloranta et al., 2021). Relative to small countries in Western and Southern Europe, Central Europe remained weakly globalised. Trade between the Habsburg successor states was limited. Western Europe and Germany became their main markets for exports and their main source of imports. The coexistence of faster growth and protectionist trade policies points to the resilience of Central European economies and the viability of economic nationalism. The pursuit of greater economic independence from Austria and Germany supported import substitution in industries such as machinery and electrical engineering, where firms benefitted from prioritising domestic suppliers in public investment projects (Klein et al., 2017).

3. Globalising firms in a fragmenting world: Bata and Tungsram

Bata and Tungsram rank among the most illustrious cases of entrepreneurial success from Central Europe. Yet, they did not fit the ideal type of 'imperial' enterprise before and only demonstrated selective features of national champions after World War I. They pursued internationalisation from early on and depended much more on global markets than on national industrial policy in the interwar period. Their case suggests that the history of big business in Central and Eastern Europe was not as idiosyncratic and not so much disrupted by imperial disintegration and deglobalization as often claimed.

From a provincial shoemaker founded in 1894 Bata became one of the largest footwear companies of Central Europe before 1914. Wartime contracts worth 140 million crowns boosted the workforce to almost four thousand (Bata, 1992, pp. 22–25). After the war, Bata founded ten subsidiaries abroad, opened factories in Poland and the U.S., and began to develop a distinctive socio-economic model that would become its hallmark.

The Bata System combined mass production with a functionalist social vision. The blueprint factory town in Zlín was replicated in over two dozen locations worldwide. The enigmatic founder Tomáš Bata drew inspiration from American industrialists Henry Ford and George F. Johnson, the legendary executive of the Endicot-Johnson Shoe Company and a seminal advocate of welfare capitalism (Doleshal, 2021, p. 57). The influence of the German Garden City Movement was also evident in the Bata towns. A Bata Social Fund and Support Fund established before the Great Depression provided resources for recreational and cultural activities in Zlín (Balaban et al., 2023, pp. 18–19).

Between 1922 and 1927, Bata raised its yearly output from less than two million to fifteen million pairs of shoes, quintupled its workforce, and made 80% of Czechoslovak shoe exports (Bata Company, n.d., 'Statistical overview'). The Great Depression did not halt this globalisation drive but made it even more important as the Czechoslovak economy nosedived in the early 1930s (Klein et al., 2017). Between 1929 and 1937, Bata forged a global network of factories, retailers, and subsidiaries, positioning itself as a global leader in the footwear industry. From 1927 until 1932, it opened nine new factories, tripled the workforce, and doubled production. Employment and output then doubled again by 1937.

Bata sales became more global in the global depression. In 1928, still 84% of Bata products were sold in Europe, 2% in Asia and Australia, 6% in Africa, and 8% in the Americas (Bata Company, 1938). Until 1935, exports shifted dramatically: the share of Europe dropped to 32%, while exports to Asia and Australia reached 15%, to Africa 24%, and to the Americas 29% (Perutka et al., 2018, p. 50). When the German annexation of the Sudetenland and the occupation of Bohemia and Moravia closed Bata's first golden age, the company had more than 30 factories and over four thousand stores in more than 60 countries (Figure 1).

Since the 1990s, scholarly interest in Bata has surged. Recent studies explored the global impact and legacy of the Bata System (Doleshal, 2021; Gatti, 2004; Zahra, 2023). Much attention has focused on company towns (Balaban et al., 2023; Muñoz, 2015; Ševeček & Jemelka, 2013). Research across countries contributed to a growing global history of Bata (Balaban, 2018; Jacquot et al. 2023). Limited access to internal company archives frustrated researchers. Decentralisation after World War II scattered documents across global archives. The main collections are at the State District Archive in Zlín, the Thomas Fisher Rare Book Library in Toronto, the Centre des Archives Industrielles et Techniques de la Moselle in St. Avold, France, and the Bata Factory Archive in Batanagar, India. Smaller archives in East Tilbury in England, Mohlin in Switzerland, and Best in the Netherlands have been explored recently. The Archive of Ministry of Foreign Affairs in Prague holds additional documents about Bata's international activities in the 1930s.

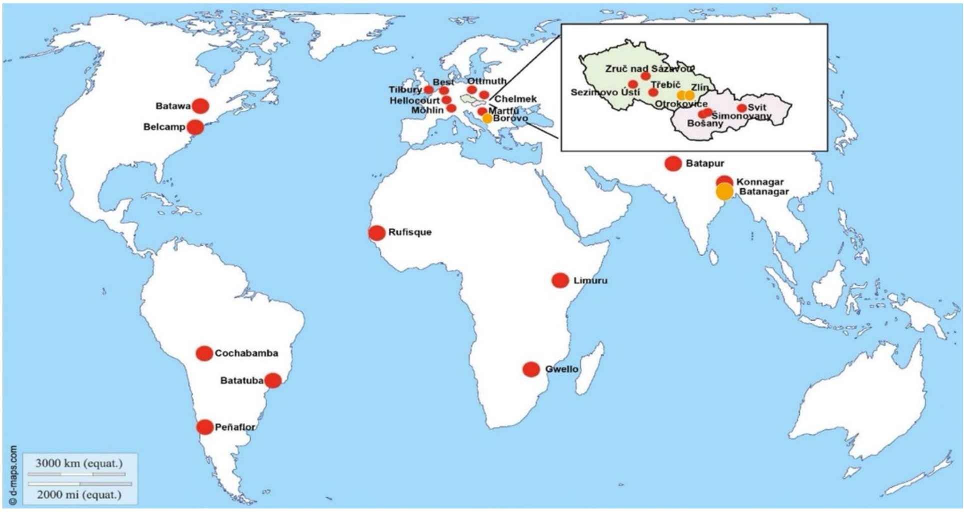

Figure 1. Bata company towns in Czechoslovakia and around the world.
Source: Balaban et al. (2023), p. 14.

Table 1. The growth of Bata, 1895–1937.

Year	Employees	**Production** (million shoe pairs)	Stores	Factories	Foreign countries with Bata operations
1895	50			1	0
1922	2,632	1.8	60	2	6
1927	9,459	15.2	373	1	9
1932	31,000	36.3	2,491	10	54
1937	59,489	76.8	4,365	32	60+

Source: Pokluda et al. (2022), p. 286.

From a small telegraph workshop founded in 1872, Tungsram grew into the largest Hungarian producer of low-current electrical equipment before 1914. It profited from the late development of modern communications, transport, and electricity supply networks in Hungary. It made telegraph and telephone equipment, lightbulbs and railway security equipment and installed power stations using licences from European and American firms (J. Berliner, Western Electric, Westinghouse, General Electric). The electro-technical factories in Budapest and Vienna formed a joint stock company in 1896 with the help of the Hungarian Commercial Bank. In 1899, the Viennese branch producing high-current instruments became a separate company VEAG (Koroknai, 2004, p. 14). Specialisation and market sharing agreements consolidated Tungsram early on as a Hungarian, rather than imperial, enterprise and narrowed its product profile. From 1906, the official name of the company was United Incandescent Lamps and Electrical Co., but it was soon known by its trademark Tungsram for lightbulbs using tungsten wire.

Already before World War I, it exported light bulbs *via* sales offices worldwide, while it sold telephone, telegraph, and railway security equipment within the empire and in the Balkans (Magyar Királyi Központi Statisztikai Hivatal, 1909, pp. 754–765; Tungsram, 1902). Export orientation and a strong market position in Southeast Europe together enabled Tungsram to become founding member of the first international lamp cartel. Wartime army contracts consolidated product specialisation. The delivery of the first radio valves for radio sets to the imperial army (using a licence by Telefunken, the subsidiary of AEG and Siemens) proved to be strategic as the radio was becoming the cutting-edge telecommunication technology (Griset, 1995). Wartime profits invested into vertical production capacity strengthened Tungsram's post-war market positions. Table 2 reports key measures of growth. Output remained at close to prewar record levels in the early 1920s, from where lamp production tripled until 1930, and these gains were retained even during and after the Great Depression.

Tungsram mastered the challenges of imperial disintegration and global trade disruptions. Long-time general director Leopold Aschner oversaw the reorganisation that we discuss in Section 4, including membership in Phoebus, the second international lamp cartel (Reich, 1992). During the Great Depression, Tungsram belonged to the few Hungarian industrial firms able to maintain exports in convertible currencies and pay dividends to foreign shareholders. It considerably extended its network of production facilities and subsidiaries abroad. By 1938 it had become the third lamp and radio-valve producer in continental Europe. It made five percent of incandescent lamps in the world, had glass, lamp or radio-valve factories in nine European states outside Hungary and exported to 65 countries. Data from internal reports in Table 3 show that globalisation was critical to Tungsram's growth in the 1920s and for its survival in the 1930s. Exports were not simply a part, but the core, of its business.

The Hungarian National Archives and the Budapest City Archives store a thousand running metres of primary sources on Tungsram, including management correspondence, minutes of board meetings, yearly reports, and marketing studies. They include documentation from the Historical Collection of Tungsram that remained in company possession until 2022. The global oligopoly in the electrotechnical industry had a useful legacy. Frequent reports by the key competitors Osram and Telefunken survived in German archives (Siemens Corporate Archives; archives of Osram in Landesarchiv Berlin; documents on AEG in Deutsches

Table 2. The growth of Tungsram, 1896–1938.

		Financial performance*		Lamp production	Valve production
	No. of workers	Capital	Dividends	Thousand pieces	
1896		1,000,000 C		1,554**	
1914	1,800	6,500,000 C	24 C	8,616	
1916	1,800	8,000,000 C	24 C	n.d.	
1920	4,000	20,000,000 C	40 C	8,066***	
1930	4,000	16,500,000 P	16 P	23,429	1,123
1938	5,000	21,000,000 P	5 P	24,685	2,421

*In Hungarian currency. The gold crown (C) was introduced in 1892. Following post-war hyperinflation and monetary stabilisation in 1924, the pengő (P) replaced the crown and remained in use until 1945.
**1897/1898.
***1921.
Sources: Yearly editions of *Nagy Magyar Compass*. Koroknai (2004), p. 13.

Table 3. Tungsram lamp and radio-valve sales, 1928–1939.

	1928/29		1936/37		1938/39	
	pieces	%	pieces	%	pieces	%
Lamps	16.473.997		20.521.323		21.945.334	
Hungary	2.226.891	13.5	2.200.788	10.7	2.672.876	12.1
Abroad	14.247.106	86.5	18.320.535	89.3	19.272.458	87.9
Radio valves	279.763		2.574.353		2.604.493	
Hungary	65.298	23.3	298.927	11.6	448.126	17.2
Abroad	214.465	76.6	2.275.426	88.4	2.156.367	82.8

Source: Tungsram (1939).

Technikmuseum, Berlin) and enable a more nuanced assessment of Tungsram's international market position and strategies.

Aside traditional company histories (Harkay, 1990; Koroknai, 2004), few studies tapped into these historical sources. More recent detailed accounts on Tungsram in the context of global competition from its foundation to 1949 (Hidvégi, 2016) and as a state enterprise in socialist Hungary (Hidvégi, 2024) support more analytical assessments. The western literature discussed Tungsram in the context of international cartels (Reich, 1992; Resch, 2002); its subsidiary in Vienna featured in the encyclopaedic history of the largest Austrian companies by Mathis (1987, 1990).

4. Innovation and growth after 1918

Bata forged its global triumph with technological and organisational innovations in the 1920s that placed it ahead of competitors. The adoption of the conveyer belt from American assembly lines in 1927 scaled up production and increased productivity tremendously (Doleshal, 2021). Building a large factory town supported diversification as Bata sought to minimise costs and neutralise trade restrictions through self-sufficiency in intermediary inputs. Vertically integrated production using local resources and labour was realised in Czechoslovakia and, to a lesser extent, in the largest foreign operations in India and Yugoslavia (Balaban, 2018; Balaban et al., 2021). In many ways, the transformation of Bata anticipated the autarkic industrial policies introduced in both Central and Southern Europe a decade later and made the company more resilient in the 1930s.

The first steps towards self-sufficiency were taken before World War I, launching machine tool production in 1903 and an in-house printing press in 1909. Bata did not belong to the largest and most strategic army contractors during the war, but the future-oriented investment of war profits consolidated its vertically integrated production model. Between 1916 and 1918, it built a tannery and woodworking workshop; acquired a power plant and farms to feed the workforce, opened retail stores and a brickyard. A paper mill was constructed in 1919 and a rubber factory in 1924 (Jacquot et al. 2023, p. 46). By the late 1930s, Bata was active in forty different industries (Pokluda et al., 2022, p. 28). Several research departments opened within the firm, for agriculture (1921), engineering (1924), construction and chemistry (1927). Medical research in the Bata hospital began receiving institutional support in 1929 (Pokluda, 2015, p. 36).

The Bata Company was the largest corporate taxpayer in Czechoslovakia and a major asset for the national economy. Yet, relations with the state were ambiguous highlighting the complex and evolving character of economic nationalism. In the 1920s, Bata could rely on the extensive Czechoslovak diplomatic network to enter new markets, particularly overseas, and to collect critical information on changing market conditions and regulatory loopholes (Anonymous, 1928; Consul Nellmapius, 1929). In the 1930s, after Czechoslovak industrial policy shifted from export promotion to import substitution and autarky, it became more averse to Bata's internationalisation. The government refused to arrange meetings for Tomas Bata at the Yugoslav Minister of Industry during his visit to Czechoslovakia in 1931 and did not encourage the foundation of the Bata factory in Borovo (Czechoslovak Legation, 1931a, 1931b). Outsourcing production was seen as endangering the welfare of Czechoslovak workers during the depression when industrial unemployment spiked. This ambivalence characterised state-company relations throughout the 1930s. The government lauded Bata's socioeconomic enterprise and growing exports but did not actively encourage the foundation of new factories abroad. The privileges that Skoda or Ringhoffer achieved as champions of Czechoslovak industrial policy Bata never enjoyed – and arguably never needed.

Innovation was also critical for the global success of Tungsram. Already before 1914, the capital and knowledge intensity of the electrotechnical industry made the company too small to compete globally in the full range of low-current products. After World War I, its portfolio comprised primarily two vacuum-technology mass products: incandescent lamps and radio valves. Just like Bata, it developed vertical production facilities through acquisitions of smaller specialised firms and by modernising the main factory in a northern suburb of Budapest. Wartime takeovers of two glassmakers, paper and gas factories were followed by the acquisition of a radio equipment company and, in 1936, the purchase of a coal mine and construction of a power station to supply the new Tungsram factory producing krypton gas (Hidvégi, 2016, pp. 119–121, 161, 193–195).

Tungsram's international business model consolidated in the 1920s. Renewed licence contracts with Western Electric, part of International Telephone & Telegraph Corporation/International Standard Electric (IT&T/ISEC), helped Tungsram build rotary telephone exchange centres developed by Bell Co. This secured poll position in the modernisation of Hungarian telephone networks in the 1920s, making the telephone and telegraph department the most profitable. (Koroknai, 2004, p. 27). It provides the best example on how management coordinated domestic and regional business strategy within the global industry. Respecting the demands of the main licenser, IT&T/ISEC, the department was reorganised as an autonomous company, Hungarian Standard, in 1928 (Aschner, 1931). However, until 1934, Tungsram kept 49% of its shares and Aschner, general director of Tungsram, served as CEO. Railway security equipment was outsourced to the Telephone Factory in 1925, but Tungsram remained the majority owner. In 1928, the Telephone Factory was transferred to Hungarian Standard. Tungsram adapted to the corporate standards of industry leaders but maintained strategic agency (Hidvégi, 2016, pp. 172–173; Koroknai, 2004, pp. 28–29).

Competing in one the most high-tech industries of the time required independent innovation capabilities. As with Bata, wartime decisions mattered, but differently. Thanks to substantial raw-material repositories, Tungsram did not experience wartime shortages of key production inputs. However, the spurt of technological advancement in electrical instruments convinced management that inhouse R&D would be essential to keep pace with post-war global competition (Aschner, 1916). With Aschner's foresight, Tungsram invested wartime profits in a research laboratory during the hyperinflation years of 1921–1922 and continuously secured funds for its further development, even when some board members sought to cut funding during the Great Depression (Egger, 1933). World-class research staff could track new developments in the electrotechnical industry (Griset, 1995) and supported Tungsram within international licence and technical exchange agreements with ISEC, GE, Philips, Osram, and Telefunken.

The international success of Tungsram reflected considerable agency and strategic independence, but it also benefitted from import substitution and other government policies aimed at enhancing national economic autonomy. Hungarian industrial policy helped the company with public procurement contracts and 15-year tax exemptions for developing new products, previously not manufactured in Hungary, while increased tariff protection fended off foreign competition. However, when Tungsram could influence Hungarian economic policy, it did so primarily to consolidate its international market position, as with the

Hungarian cartel law of 1931, which facilitated its continued successful participation in Phoebus (Hidvégi, 2022).

5. Going global: Internationalisation strategies after 1918

The technological and organisational reforms that Bata and Tungsram implemented in the 1920s empowered them to go global in the 1930s. As international trade became increasingly restricted and industrial policies advocated import substitution worldwide, both companies faced two main challenges: (i) how to maintain market access for their exports and reach customers more hostile towards foreign goods and (ii) how to neutralise trade barriers altogether by investing in new production capacities abroad.

5.1. International market strategies

Bata followed what has become known as the 'Uppsala model of internationalisation', one of the most discussed dynamic theories in international business studies. Seminal works of Johanson and Vahlne (1977, 1990) and Andersen (1993) postulate that there is a dynamic relationship between market knowledge and market commitment and that, therefore, firms typically go through sequential steps in their internationalisation process. Companies start growing domestically where they have enhanced market knowledge and more control of resources. As they become more experienced and acquire export capabilities, they expand to markets that are more distant in geographical, cultural, and legal dimensions. As internationalisation is scale and resource intensive, firms typically start exporting through independent wholesalers before launching their own international sales organisation and, finally, move production abroad.

Until the late 1920s, the growth of Bata depended on one factory and a small retail network, notably within Czechoslovakia and Central Europe. Exports grew dramatically, but until 1928 about 90% were conducted *via* wholesalers. By 1935, 60% of foreign sales took place in the retail outlets of the company. Between 1929 and 1932, Bata shifted gear vigorously to bolster its global sales organisation, establishing 24 subsidiaries across four continents. In 1932, it operated almost 2,500 stores in 54 countries globally (see Table 1). Throughout the 1930s, the global retail network continued to expand, as did Bata's share of Czechoslovak shoe exports (Bata Company, n.d., 'Breakdown').

Bata's globalisation during the Great Depression was not surprising. Declining purchasing power worldwide shifted consumer demand towards affordable footwear. But it faced frequent hostility from 'buy local' consumer nationalism, as imports threatened the livelihood of local shoemakers (Doleshal, 2021). In the 1930s, economic nationalism was also manifested in ethnic campaigns against 'Slavic shoes' and in antisemitism as Bata was erroneously identified with global Jewish capital (see Le Bot, 2005).

Anticipating global market consolidation in a new cartel, Tungsram transformed its foreign sales organisation already in the 1920s. It reinforced its market share in Central Europe to secure a strong position in cartel negotiations and enhanced its presence in Western Europe, the largest potential market at an advanced stage of electrification (see Hausmann et al., 2008). Threatened by the animosity of western customers against the former Central Powers, Tungsram actively disguised product origin through sales offices under the ownership of its subsidiary in Zurich. This approach supported the remarkable growth of exports reported in Table 2, but it also induced a new capability in differentiated market strategies that would become part of Tungsram's DNA.

Cartels remained at the core of Tungsram's international business model. As the reorganisation of sales was a strategic choice, cartel membership demonstrated strategic adaptation. In contrast with Bata, operating in a localised consumer industry, electrical engineering was highly capital intensive and, hence, developed an oligopolistic market structure. The only way for big business to succeed was being part of the global oligopoly. The lamp cartel Phoebus (1924–1940), dominated by General Electric, controlled three-quarters of global output (Reich, 1992). It featured both in contemporary (Board of Trade, 1976; Meinhardt, 1933; Stocking & Watkins, 1946) and historical accounts of international cartels (Fellman & Shanahan, 2018; Schröter, 1996) and the electrotechnical industry (Luxbacher, 2003; Schröter, 1986). It offered its members diverse benefits: shared sales centres and merchandise stocks, standardised regulations in servicing specific market segments, or solvency checks on customers. Phoebus created rules to safeguard the original hierarchy of members and against outside competitors (Hidvégi, 2016, pp. 191–195, 234–237; Luxbacher, 2003, pp. 384–390; Phoebus S.A., 1924). Tungsram implemented cartel regulations in Southeast Europe. In 1931, it acquired controlling interest in the incandescent lamp, radio-valve and set producer Kremenezky Co., taking over its factories in Vienna and Budapest, the Orion trademark, and its shares in Phoebus. This raised Tungsram's cartel quota to over 10% (Hidvégi, 2016, p. 189, 222) and made it the sole lamp maker and the largest radio valve producer in Hungary.

Independent from Phoebus but in a similar framework, Aschner established another cartel with Philips and Telefunken, the European market leaders in radio valves. Even as a junior partner, archival sources document Tungsram as a critical member of IRAVCO (1934/1936–1944) thanks to its prominent regional market position and the quality of its products (Aschner, 1934a; Steimel, 1937; Tungsram, 1934). Tungsram consolidated this position forging a national oligopoly with the Hungarian subsidiaries of its cartel partners, as Hungarian Standard did in radio sets (Koroknai, 2004, p. 46; Telefunken, 1936).

The international market strategies that both Bata and Tungsram adopted did not result from historical imperatives or national industrial policy. They reflected considerable agency and highlight the benefits from an early start in internationalisation and forward-looking wartime investments in strategic capabilities. This concurs with knowledge-based theories that predict an association between earlier initiation of internationalisation and faster international growth. The early pursuit of international market opportunities confirms a growth advantage (Autio et al., 2000). This helped Bata and Tungsram out-perform the initially much larger national champions that depended more profoundly on imperial markets before and protectionist industry policies after World War I.

5.2. International investment strategies

During the Great Depression, export-oriented firms had to adapt their business strategy not just to growing hostility from local producers and competitors but even more so to prohibitive restrictions on international trade.

Bata had to circumvent foremost rising tariff barriers. India, the fastest growing market in leather footwear, introduced customs duties ranging from 15% to 25% in January 1932. At the 1933 Ottawa Conference, tariffs on imports from outside the British Commonwealth and Empire were raised by 30%. France introduced quotas and a new tariff on imports: 30%

for leather footwear and 40% for rubber shoes. Tariffs in the Netherlands were set at 10%, and quotas on imported footwear introduced in 1932 (Bata Company, n.d. 'Tariffs'). Tariffs prompted Bata to shift from exports to outsourcing production to export markets. Factories abroad could import shoe parts and machinery from Czechoslovakia, which were subject to reduced or zero tariffs, and assemble them into finished products sold in the fast-growing retail networks of the company.

As with wartime innovation and restructuring, Bata management again acted with remarkable foresight. Already before the depression, it recognised the limitations of the Zlín region with its finite resources and workforce. Bata began searching for land plots elsewhere in Czechoslovakia, Poland, and Germany. Thanks to this early move, Bata was ready to shift production abroad when tariff barriers in export markets began to rise. The factories in Ottmuth in German Silesia and Borovo in Yugoslavia opened in 1931. New plants were founded in Möhlin (Switzerland), Chelmek (Poland), and Hellocourt (France) in 1932, in Konnagar (India) and Tilbury (England) in 1933 (Pokluda et al., 2022).

Bata made the strategic decision to export not just its production but its corporate model, raising company towns complete with advanced worker housing and social, recreational, and cultural facilities in over two dozen locations. By 1935, it was building eight sites abroad and six in Czechoslovakia (Muñoz, 2015, p. 220). They became both centres of production and instruments of public relations, enabling Bata to appear as a national, not foreign, company in potentially hostile markets. This experience highlights critical caveats of the 'Uppsala model' in explaining the industrialisation of firms. It does not sufficiently acknowledge that (i) different forms of market entry need not follow in sequential steps but can be reinforcing and (ii) that market commitment may not just depend on market knowledge but equally on exogenous conditions of market access. This corresponds to more nuanced views on multinational strategy in historical perspective that recognise nationality as ambiguous and thus a strategic choice (Reckendrees et al., 2022). Lubinski and Wadhwani (2020) argue that in the context of economic nationalism, multinationals often engage in 'geopolitical jockeying', positioning themselves 'as complementary to the economic and political goals of the host nation'.

Table 4 lists Bata company towns outside of Czechoslovakia established during the 1930s. The data collected from archival sources demonstrates that factories abroad made a very significant contribution to production and generated more than half of the growth of Bata's global output between 1934 and 1937. However, the figures reveal the limits of this internationalisation drive, since more than 60% of Bata shoes were still manufactured in Czechoslovakia, and most of the growth abroad was achieved in Borovo (Yugoslavia) and Batanagar (India). Both ventures became market leaders in their respective countries. Key to their success was the establishment of extensive retail networks and integrated production processes with in-house tanneries and leather factories, ensuring vertically controlled supply chains (Balaban, 2018; Balaban et al., 2021).

By contrast, in markets with protected local industries, such as Switzerland and France, Bata could not achieve dominance and had limited growth potential (Ehrenbold, 2012; Le Bot, 2005). Documents from the Bata Archive in Mohlin report on boycotts against the company during the depression years (Bata Company, 1934). In Hungary and Bulgaria, government decrees delayed the opening of Bata factories until World War II (Marek, 2017; Ševeček & Jemelka, 2013). Bata was never allowed to enter Turkey and Greece through retail outlets or subsidiaries (Bata Company, 1939). This illustrates how Bata's

Table 4. Production in Bata factories in Czechoslovakia and abroad (mill. shoe pairs).

	1932	1934	1937
Czechoslovakia	36,291,000	37,693,000	49,052,000
Factories abroad	–	15,171,500	29,784,000
1931 Ottmuth (Germany)		3,343,000	3,529,500
1931 Borovo (Yugoslavia)		3,591,000	6,265,200
1932 Chelmek (Poland)		1,523,400	2,066,600
1932 Hellocourt (France)		2,571,400	3,840,700
1932 Mohlin (Switzerland)		562,200	1,084,800
1933 Konnagar/Batanagar (India)		1,872,500	8,018,400
1933 Tilbury (Great Britain)		1,230,400	2,972,000
1933 Bejrút (Syria-Lebanon)		29,300	61,600
1934 Best (Netherlands)		448,300	1,674,600
1934 Baghdad (Iraq)		–	–
1936 Kalibata (Dutch East Indies)		–	62,200
1937 Klang (Malaysia)		–	208,400
1938 Alexandria (Egypt)		–	–
1938 Brussels (Belgium)		–	–

Source: Bata Company (2004 n.d.). Statistical Overviews, 1932–1938.

global strategy depended on the regulatory environment of host countries. It also highlights the limitations of the Bata System, which could not be easily replicated globally, or at least not yet. It faced antagonism in countries which criticised the firm for 'developing industrial feudalism, where the company controls all the needs of its employed workers, completely separating them from any contact with other workers' (Czechoslovak Legation, 1931c). Labour organisations condemned the prohibition of workers' associations, the rationalisation and mechanisation of production, and the isolation that factory towns far from urban centres imposed on Bata workers. Labour protests within Bata were very rare. The most serious occurred in India, where the strike of the Indian workforce in January 1939 turned into violent clashes with police resulting in multiple deaths and injuries. After the strike ended, housing conditions improved significantly (Consulate of the Czechoslovak Republic, 1939).

In principle, trade barriers after the Great Depression could have been even more detrimental for Tungsram. For big business in technology intensive industries, economic nationalism was manifested in myriad ways. Tariffs were aggravated by quotas, boycotts became more frequent, and industrial policies more autarkic as governments tried to protect local industry and reduce unemployment. Growing hostility between Hungary and its Entente neighbours made it difficult for Hungarian firms to maintain exports to Czechoslovakia, Romania, and Yugoslavia. In 1931, Tungsram and Hungarian Standard were left out of the largest investment project in the Romanian telephone network of the interwar period. Although Tungsram had prepared the contract on behalf of IT&T, the Romanian government refused to accept it after a press campaign stamped Tungsram as the 'the precursor of Hungarian irredentism' (Hidvégi, 2016, p. 211–214). The London house of ISEC took over servicing Yugoslavia and, through a new subsidiary, Romania. Similarly, Tungsram had difficulties selling its cartel quota in the Romanian and Yugoslavian lamp market (Tungsram, 1938). Membership in Phoebus did not prevent geopolitical risks, but it helped manage them, as highlighted by business historians in the context of foreign direct investment in high-risk environments (Casson & Lopes, 2013).

The rise of German economic imperialism in Central and Southeast Europe (Gross, 2015; Ránki, 1983) created both threats and opportunities. Tungsram had to fight off a hostile takeover by Osram and Philips during the Great Depression and by Osram and

Telefunken in the late 1930s. Both were prevented with the support of its American shareholders, GE, and IT&T (Aschner, 1933; 1934b; Hidvégi, 2016, pp. 161–164; Tungsram, 1933). Tungsram negotiated terms to protect the Hungarian market within the framework of Phoebus and IRAVCO (MKK, 1938; Siemens, 1938). It could capitalise on economic imperialism, or more precisely on the threat they posed in Central Europe. Polish radio set makers were reluctant to sign exclusive supply contracts for radio valves with Philips and Telefunken. Thanks to its high-quality barium radio valves, Tungsram was a credible alternative supplier not aiming to bind and 'enslave' the Polish set makers (Raab, 1934). Just as Lubinski and Wadhwani (2020) theorised, economic nationalism offered growth opportunities for global firms capitalising on the national aspirations of countries they invested in.

Economic nationalism in Europe turned against minorities, manifested in boycotts against 'Jewish companies' and their products. Like Bata, Tungsram became a target but with more painful consequences. The racial laws enacted in Hungary from 1938 restricted the share of Jewish employees to 12%, and later to 6% of any company's workforce, obligating Tungsram to lay off prominent research staff and administrators well-versed in cartel relations. German competitors exploited the Jewish label on Tungsram and representatives of the company were soon receiving life threats at cartel meetings, as evidenced by archival records (Anonymous, 1950).

Phoebus helped members circumvent trade barriers *via* mutual deliveries or intervening with their respective governments to apply protectionism in a form that would exclude only or at least primarily outside competitors. Cooperation within Phoebus could thwart national cartels and help members acquire new assets. Tungsram, backed by financial assistance from Osram and Philips, took over two lamp factories in Yugoslavia (TEZ Zagreb and Tesla, Pancova) after an indigenous company broke their quasi-national cartel. In step with competitors, Tungsram founded factories abroad, starting with a radio-valve plant in London in 1932 (Aschner, 1932). These plants produced mostly general service lamps and simpler types of valves, supplied with components from Hungary. The international reorganisation of production enabled Tungsram to minimise tariff exposure while still guarding its reputation as a quality producer. A differentiated strategy helped overcome political hostility in neighbouring countries. Tungsram claimed to represent western capital and, as a member of Phoebus, could credibly guarantee technical assistance for new factories in Romania and Yugoslavia, and help them export to Turkey and Albania respectively. Bucharest and Belgrade were more interested in the high-valued radio valves, which Tungsram was more reluctant to transfer as a strategic product. Tungsram adopted a forestalling tactic in response, starting with lamp production in the respective countries, offering to support local industrial policy to develop autarchic supplies of high-quality electrical instruments (Hidvégi, 2016, pp. 236–237).

As in the case of Bata, globalisation had its limits. Establishing production abroad was one thing, scaling up to match the capacities of the main factory in Hungary was another. Table 5 shows that even in the late 1930s, two thirds of Tungsram lamps and more than half of the more recently developed radio valves were made in Újpest. The strategic capabilities acquired in managing a global sales and production network and in differentiated market strategies was more significant than the imminent gains, and both Bata and Tungsram would build on them during the Cold War.

Table 5. Tungsram factories and their production capacity in 1938/39 ('000 pieces).

Country	City	Official company name	Foundation/ acquisition	Production 1938/39	
				Lamps	Valves
Hungary	Újpest	Egyesült izzólámpa- és villamossági rt.	1896	30,000	2,500
	Budapest	Magyar Wolframlámpagyár Kremenezky János Rt.	1917/1931	1,200	
Austria	Vienna	Elektrische Glühlampenfabriken Johann Kremenezky A.G.*	1899/1931	5,000	200
Netherlands	Tilburg	N. V. Gloeilampenfabriek "Radium"	1931	500	100
Poland	Warsaw	Spółki Akcyjnej Fabryki Lamp Elektrycznych "Cyrkon" Zjednoczona Fabryka Żarówek, S.A.	1921	2,500	200
Italy	Milan	Tungsram Fabbrica di Lampade ad Incandescenza ed Impese Elettrica**	1910	2,000	
Romania	Bucharest	Fabrica Românească de Becuri TUNGSRAM SAR	1936	1,800	
Czechoslovakia	Bratislava	Tungsram Společnost pre Výrobu Elektrických Žiarovek SPO, Továreň	1937	1,500	200
	Utekač	"Klara" Glashüttenwerke A.G.	1910/1916		
UK	London	British Tungsram Radio Works Ltd.	1932		700
France	Paris	Tungsram S.A. (L' Usine Française de Tungsram à Genevilliers)	1937	500	600
Yugoslavia	Zagreb	Tvornica Elektrichnih Zarulje D.D. (T. E. Z. Glühlampenfabrik)***	1938	500	
Total				45,500	4,500

*Watt AG, Vienna founded in 1893, agreement with Tungsram in 1917, in 1931 merged with Kremenezky Vienna.
**From 1919 Tungsram S. A. Elettrica; from 1930 Tungsram Elettrica Italiana S.A.
***Acquisition gave Tungsram control over Tesla Glühlampenfabrik, Pancova.
Sources: Hidvégi (2016), p. 358.

5.3. Ownership and internationalisation

Despite operating in technologically different industries with different global market structures, the two companies adopted remarkably similar international business strategies during the 1930s and achieved similar global market success. This becomes even more intriguing when we consider that they also differed in ownership form. Tungrsam had been a publicly traded corporation. Bata was a family firm and surviving sources do not suggest that management ever seriously contemplated transforming into a joint-stock company. The historical role of family firms in international business is well established (Colli, 2002; Fernández Pérez & Colli 2013; Lubinski et al., 2013) and Bata has been acknowledged in this literature (Hilger et al., 2013).

It is a convention in international business studies that ownership form affects internationalisation strategies, and it is often argued that corporate ownership promotes internationalisation more (Fernández & Nieto, 2006). The evidence we have discussed in this section supports a more nuanced view. In the deglobalizing world of the 1930s, managers with strategic foresight (whether owners or executives) were a more critical factor in successful internationalisation. Inspirational directors independent of shareholder control like Tomáš Bata could propel their companies to be more global against global 'anti-globalism' (Zahra, 2023).

The case of Tungsram demonstrates that in an unfavourable geopolitical environment, corporate structure was a mixed blessing. Ownership by Austrian and Hungarian banks as well as western industry leaders provided access to capital and cutting-edge technology but also constrained the company, having to respect the interests of shareholders who were also competitors. To prevent a hostile takeover by Osram and Philips during the depression, Aschner took aggressive steps to reduce dependence on these shareholders. Tungsram used a credit from GE, the leader in Phoebus, to secure a commanding stake in the company through newly issued shares, formally owned by individuals close to management (4.8%) and by Kremenezky (21.6%), the company in which Tungsram had acquired a controlling stake in 1931 (see footnote 25). Strategic independence was the key factor of success in the global oligopoly that facilitated Tungrsam's globalisation in the first place.

6. Legacies: Survival through globalisation

World War II disrupted the Bata System, but management used the ownership structure of the company to endure the 1940s. The family emigrated after the Nazi occupation of Czechoslovakia. Thomas J. Bata relocated to Canada and founded the Batawa factory near Toronto. Jan A. Bata moved to Maryland and built a new production facility in Belkamp. In 1941, having been blacklisted by the Allies, he fled to Brazil (Jacquot et al. 2023). On the eve of the war, ownership of the company was nominally divided between heads of the family and senior executives. As German occupying authorities mandated that majority shareholders be physically present to maintain control of the company, Marie Batová, the widow of Tomáš Bata, with a 35% stake returned from the U.S. in 1940 (Kolumber, 2016). This strategy enabled Bata to retain control of the main factories in occupied Europe while continuing to supply the Allies to avoid sequestration of their global assets. In anticipation of post-war nationalisation, the owners sought to secure a commitment for future compensation from the Czechoslovak government in exile, notably from foreign minister Masaryk (Masaryk, 1943). Even though these efforts could not avert the eventual loss of factories in Central and Southeast Europe after the communist takeovers, they helped senior management emigrate West and aid Thomas J. Bata in reorganising most company assets in the rest of the world into the Western Bata Organisation (WBO).

The WBO diverged from the interwar business strategy in two components: it narrowed the product portfolio and adopted a decentralised organisation, which aimed to make factory towns around the world more independent. Though by compulsion, not by choice, the WBO implemented the vision that Bata in the 1930s had preached more than pursued. Subsidiaries across the world came closer to, and in some cases were, national companies under a transnational brand and corporate ideology. By the late 1950s, the WBO surpassed the interwar production record of Bata, and its network grew with the foundation of new enterprises, mainly in South America and former colonies in Africa and Asia (Bata, 1959). The renewed globalisation of the company called for further organisational reforms. The WBO was renamed Bata Shoe Organisation (BSO), dividing the firm into continental organisations, and moving the headquarters from London to Toronto, where the Bata family had relocated earlier (Bata, 1962).

Changing names reflected adoption to changing realities. The BSO became a truly global company with a large retail network in Europe, but the bulk of global production and global sales came from Latin America and the subcontinent. India became home to a quarter of Bata employees and retail points worldwide. New markets demanded new footwear. Bata focused on shoe production in most countries but varied its product mix between rubber, leather and (from the 1960s) plastic shoes (Bata, 1967). Tanneries were built in many countries, rubber plantations were managed in Sri Lanka and Malaysia (ITGLWF, 1977). Following large investments in the U.S. and Latin America, two dozen new plants opened in postcolonial Africa. In Asia, more factories were established in Bangladesh, Thailand, Iran, Indonesia, and as part of a joint venture in Japan (Bata, 1968).

In the 1970s, Bata became the world's largest shoe manufacturer. When Thomas J. Bata retired in 1984, the BSO produced a quarter billion pairs of shoes in a hundred factories with almost ninety thousand workers. Organisational and technological reforms and the introduction of simpler designs using synthetic materials yielded substantial productivity advances. Bata had a second golden age in the 1960s and 1970s mainly because the global business model it had invented was uniquely suitable to promoting national economic and political aspirations in the postcolonial world. It offered technical and financial support but developed 'national' products and production capabilities, supporting import-substitution policies. Never an imperial champion, Bata eventually became a 'post-imperial' global champion (Table 6).

Anti-Jewish legislation urged Tungsram to replace board and management members and lay off critical research staff, though Aschner remained general director until the Nazi occupation of Hungary in March 1944. Efforts of management to safeguard the lives of their employees could not prevent the invaluable loss of human capital in the Holocaust and both pre- and post-war emigration. The war brought dramatic destruction in physical assets, too. The Red Army dismounted the main factory in the spring of 1945. Plants in Central and Southeast Europe were either destroyed during or nationalised after the war. Western subsidiaries that Tungsram had placed under the auspices of Swiss holding companies in anticipation of the war were sequestered by the Allies and, when peace returned, transferred to a new company with headquarters in Paris (Koroknai, 2004, p. 68, 85). Nationalisation and central planning transformed the ownership and management of Tungsram but not completely. Even as a state-owned enterprise, it remained a joint stock company, which would prove helpful in recovering lost assets and founding new joint ventures in western markets. But the dissolution of transnational market sharing and innovation networks in the electro-technical industry and the disruption of East-West trade relations after World War II made its interwar strategy untenable.

It was thanks to a global electrification drive from the 1960s, which increased the demand for light sources and radio valves, that helped Tungsram regain much of its old standing with a 'close-follower' strategy. In essence, it reignited the old approach, only with state investment. With a revived R&D department, it developed new products, but once again with extensive vertical production facilities. Socialist Hungary had to import advanced western machinery to modernise its industries, so the government prioritised investments

Table 6. The growth of Bata, 1946–1992.

Year	Employees (thousand)	Production (million shoe pairs)	Stores	Factories	Productivity (pairs per worker)
1946	34	34	2,168	38	1,000
1950	43	50	2,843	47	1,160
1960	57	120	3,886	64	2,097
1970	83	220	4,863	83	2,663
1981	87	243	5,154	99	2,793
1992	64	160		70	2,500

Source: Pokluda et al. (2022), p. 286.

developing products exportable to convertible currency areas. Tungsram thus benefitted from public funding to build new capacities in advanced halogen car lamps and HID lamps. The intensification of trade within the COMECON created an unprecedented growth opportunity. Tungsram became the sole socialist supplier of light-source production equipment within the bloc and delivered a range of vacuum-technology instruments (Tungsram, 1976, pp. 12–13).

For the very first time in its history, Tungsram was an 'imperial' champion. Internal company statistics reported in Table 7 show that exports to COMECON markets doubled between 1976 and 1985, driven by the staggering growth of demand in the Soviet Union. Tungsram became one of the largest Hungarian exporters in convertible currency (Koroknai, 2004, p. 143; Kuti, 1983, p. 16), primarily in late-developing markets from the 1970s. Middle Eastern countries friendly towards the socialist bloc enriched by high oil prices (Iraq, Iran, and Syria) ranked among the main importers of Tungsram. Its innovation capacity and differentiated market strategies were capabilities that Tungsram inherited from its interwar experience.

In advanced western markets, it exported light sources by reconstituting its sales organisation. Quite uncharacteristically for a firm from the socialist bloc, Tungsram did not only recover its factory in Vienna; in 1977, it opened a new plant in East Brunswick, Pennsylvania in joint venture with Action Industries. Tungsram once again supplied almost 5% of the world's light sources, held a 6–7% share in the Western European lamp market, and 12–13% of the technologically more demanding car lamp market (Tungsram, 1983). To countries where, after 1945, competitors owned the Tungsram trademark, it exported under the Orion trademark, which it had acquired in the 1930s as a member of Phoebus. In France and Italy, it took until the mid to late 1980s to recover the Tungsram trademark through agreements with Sylvana and Philips respectively (Wohl, 2020).

In emerging markets of the postcolonial world, Tungsram benefitted from its role in electrification projects in interwar Southeast Europe. For late-industrializing countries aiming at economic independence through import substitution, Tungsram offered a complex range of services instead of the traditional export model. It designed and delivered production equipment, oversaw the construction of light-source factories, transferred know-how, supplied components and factory management services. As a state-owned enterprise advancing

Table 7. The value and composition of Tungsram exports, 1976–1985.

		COMECON exports (%)			
Country	1976	1978	1980	1982	1985
Soviet Union	49.6	45.0	47.2	62.0	68.3
Czechoslovakia	12.4	10.3	9.2	7.1	10.1
Germany (East)	19.5	13.2	10.1	11.8	4.8
Poland	3.4	8.2	13.4	4.2	6.0
Bulgaria	7.6	6.7	9.9	8.2	2.8
Romania	6.0	11.5	4.0	3.1	4.1
Others	1.5	5.1	6.2	3.6	3.9
Net returns in Rubel	**45.8**	**63.5**	**71.6**	**88.2**	**107.7**
Convertible currency exports (%)					
Country	1976	1978	1980	1982	1985
Germany (West)	15.5	21.1	10.2	9.7	12.7
USA	9.6	8.9	9.7	12,5	26.1
UK	8.1	9.3	6.6	7.6	5.3
Italy	7.4	5.4	9.0	5.4	4.5
Others	59.4	55.3	64.5	64.8	51.4
Net returns in USD	**47.9**	**72.5**	**88.5**	**82.7**	**73.0**

Source: *Tungsram Statistical Pocketbook* (1986), vol. 1, pp. 39–40.

the geopolitical interests of the socialist bloc, it was open to provide quality equipment and ready-to-licence production technology without seeking partial or full ownership in the new factories, which would have been the case with western industry leaders, GE, Philips, and Osram (Tungsram, 1976, pp. 22–23). Echoing episodes from the 1930s that we have examined (where Tungsram likewise positioned itself against western economic imperialism), these investment projects highlight the future-orientation of economic nationalism, which benefitted globalising firms willing to support the economic and political aspirations of host nations (Lubinski & Wadhwani, 2020).

The global market success of Tungrsam as a socialist state enterprise aligns with recent research on the global history of the Cold War arguing that centrally planned economies were not as prone to autarky as traditionally believed (Lorenzini, 2019; Pula, 2018). Across the 'nylon curtain' (Péteri, 2004) in the 'Bretton-Woods Cold War' (Sanchez-Sibony, 2014), economic and political elites in Eastern and Central Europe were well aware of and seriously considered alternative pathways to global economic integration, and the return of socialist command economies to economic globalisation was a gradual rather than an abrupt process that preceded (not followed) the collapse of communism (De Groot, 2024; Germuska, 2019).

7. Conclusions

This article developed a comparative case study of two richly documented industrial firms in Central Europe to examine how economic nationalism and rising international trade barriers shaped global business strategies in the interwar period. We explain how the capabilities thus acquired helped both firms endure World War II and remain globally successful during the Cold War. Bata became the largest footwear exporter in the world by the 1930s with a global production and sales network that expanded until the 1980s. Tungsram was the seminal producer of lightbulbs and radio valves in Hungary and a prominent member of international cartels. Specialisation in technologically advanced products and differentiated market strategies made it globally successful in the interwar period. The same capabilities supported its revival as a major exporter of electrotechnical instruments in both socialist and market economies until the 1970s.

Economic nationalism and international market fragmentation, often associated with interwar Central Europe, were not detrimental to the global expansion of businesses if these structural conditions were accounted for in their business strategies. Moreover, both import-substituting industrialisation and national development in the post-colonial world and global economic relations during the Cold War in general aligned with these business strategies. The history of Bata and Tungsram demonstrate convincingly that successful growth strategies developed in the interwar period became foundations of viable survival strategies in the post-war era.

We can draw three main conclusions from both cases examined that have general relevance for business history. First, neither dynamic theories of internationalisation, nor the concept of state-led development advanced by older economic historians of Central Europe suffice to explain the experience of globalising firms from this weakly globalised region and especially the endurance of their global business strategies. Both Bata and Tungsram exhibited a great deal of agency in strategic decisions on how to enter foreign markets and strategic adaptation to changing conditions in their respective industries both before and after World War II.

Second, the foundations of their global market success were technological and organisational reforms that Bata and Tungsram implemented before going global. This concurs with theories of capabilities accumulation in industrial development (Chang, 1996; Cimolli et al., 2009). Firms in late-industrializing countries must build sufficient production, investment, and innovation capabilities before they can succeed in exports. The experience from export orientation, in turn, has positive feedback in enhancing these 'knowledge-based assets' (Amsden, 2001). Knowledge-based theories also associate greater knowledge intensity and early start in internationalisation with faster international business growth (Autio et al., 2000). Our historical perspective suggests that these associations may have been even more critical in periods with dramatically changing global economic and political conditions.

Third, contrary to popular views in international business (Fernández & Nieto, 2006), our case study calls for a more nuanced understanding of the role of ownership in internationalisation. Corporate ownership does not promote faster internationalisation than family ownership necessarily if managers develop global business strategies that can exploit benefits from the ownership structures of their firms. In the face of globalisation backlash, inspirational and forward-looking managers (whether owners or just executives) were a more vital factor in internationalisation than ownership. The history of Bata and Tungsram demonstrates that different forms of ownership both before and after World War II mattered more for the model than the degree of internationalisation.

Acknowledgements

We are grateful for the insight and recommendations of two anonymous reviewers and of the associate editors who have commented on our manuscript. We are indebted to participants of recent conferences in Milan and Vienna, and discussants at the European Business History Association Congress in Lisbon in 2024. We extend special thanks to Daniel Raff and Valeria Giacomin who helped develop our ideas.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Mária Hidvégi and Tamás Vonyó acknowledge the support of the European Research Council H2020 Starting Grant 'Spoils*of*WAR' (GA 803644) and the Dondena Centre at Bocconi University in Milan. Milan Balaban benefitted from the RVO Excellent grant 'Města, kulturní dědictví a místní kultura a změny paradigmat jejich managementu a transformace' and support from the Bata Information Centre.

Notes on contributors

Dr ***Milan Balaban*** works as researcher-historian at the Bata Information Centre of Tomas Bata University in Zlin, Czech Republic. He received his PhD in History from Masaryk University in Brno. He has published extensively on the global history of the Bata Company and on Yugoslav-Czechoslovak economic relations.

Dr ***Mária Hidvégi*** is research fellow of the Dondena Centre at Bocconi University in Milan, Italy. She received her PhD in Comparative Cultural and Social History from the University of Leipzig.

She was corporate historian at Tungsram, in Budapest, Hungary. Her research has focused on firms and cartels in the electrotechnical and machinery industry and the history of electrification in Central Europe.

Prof. ***Tamás Vonyó*** is Associate Professor of Economic History at Bocconi University in Milan, Italy. He received his PhD in Economic and Social History at Oxford. He is fellow of the Centre for Economic Policy Research and the Dondena Centre. He has published on the economic history of the world wars and the history of economic growth and industrialisation in Germany and East Central Europe.

References

Amsden, A. H. (2001). *The rise of the rest: Challenges to the West from late-industrializing economies*. Oxford University Press.

Andersen, O. (1993). On the internationalization process of firms: A critical analysis. *Journal of International Business Studies*, *24*(2), 209–231. https://doi.org/10.1057/palgrave.jibs.8490230

Anonymous. (1928). *Customs interventions in favor of the company T. A. Baa in Zlín*. Dated 18 November. Ministry of Foreign Affairs Archive, Prague (hereafter AMZV) f. IV sekce, k. 1080

Anonymous. (1950). *Philips contra Telefunken. Arbeitsnotizen zur Philips-Replik: Zweite Ergänzung zu Ziffer 2*. NS-Herrschaftstheorie. Deutsches Technikmuseum, Berlin (hereafter DTMB) Telefunken I.2.060 C 7310/18218.

Arndt, H. W. (1944). *The economic lessons of the nineteen-thirties*. Oxford University Press.

Aschner, L. (1916). *Die ungarische elektrotechnische Industrie und die Annäherung*. Wirtschaftszeitung der Zentralmächte, Band 29.

Aschner, L. (1931). Letter to a director of the Hungarian Commercial Bank of Pest. Újpest, 18 September, Hungarian National Archives (hereafter HNA) Z42/20.

Aschner, L. (1932). Letter to Dir. Ernst Egger, VEAG. Újpest. 15 March, HNA Z42/20.

Aschner, L. (1933). Letter to Heinrich Schlüpmann. Osram. Újpest, 4 November, HNA Z601/3/31.

Aschner, L. (1934a). Letter to Dr. Ing. Heinrich v. Buol, Siemens & Halske. Újpest, 8 March Siemens Corporate Archives. (hereafter SCA) 8414 ZAV 3.

Aschner, L. (1934b). Letter to C.H. Minor, president of IGEC. Újpest. 22 May, HNA Z42/20.

Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, *43*(5), 909–924. https://doi.org/10.2307/1556419

Balaban, M. (2018). *Podnikání firmy Baťa v Jugoslávii [The business of the Bata Company in Yugoslavia]*. Tomas Bata University.

Balaban, M., Herman, J., & Savić, D. (2021). The early decades of the Bata Shoe Company in India: From establishment to economic and social integration. *The Indian Economic & Social History Review*, *58*(3), 297–332. https://doi.org/10.1177/00194646211002973

Balaban, M., Perutka, L., Paye, S., Savić, D., & Herman, J. (2023). The social welfare system in Bata company towns (1920s–1950s): Between transnational vision and local settings. *International Review of Social History*, *68*(1), 13–40. https://doi.org/10.1017/S002085902200048X

Bata Company. (1934). Anti-Bata boycott. Bata Archive Mohlin. 841112.1-16

Bata Company. (1938). Bata a.s. shipments from Zlín, 1928–1938. Dated 29 July, SOkA Zlín Baťa X, kart 1541, i č 118.

Bata Company. (1939). Bata stores abroad [as of 1939/1]. SOkA Zlín f. Exico, kart. 1, i. č. 5.

Bata Company. (n.d.). Statistical overviews, 1932–1938. SOkA Zlín Baťa. I/13, kart. 908, i. č. 119.

Bata Company. (n.d.). Tariffs' [untitled document]. SOkA Zlín Baťa, XXVI, i č 70, k 1835.

Bata Company. (n.d.). Breakdown of Bata's sales abroad. State District Archive Zlín (hereafter SOkA Zlín) Baťa I/3, kart. 36, i. č. 63.

Bata Company. (n.d.). Statistical overview until 1 May. SOkA Zlín Baťa II/3, kart. 1155, i. č. 32–33.

Bata, T. (1992). *Knowledge in action: The Bata system of management*. Tomas Bata reflections and speeches, introduction by T. J. Bata. IOS Press.

Bata, T. J. (1959, January 14). Confidential circular letter no. 901. Toronto. Thomas Fisher Rare Book Library (hereafter TFRBL) MS Coll 00686 Box 214.

Bata, T. J. (1962, November 23). Confidential circular letter no. 203. Toronto, TFRBL MS Coll 00686, Box 214.

Bata, T. J. (1967, February 16). Confidential circular letter no. 10. Toronto. TFRBL MS Coll 00386, Box 214.

Bata, T. J. (1968, March 16). Confidential circular letter no. 47. Toronto. TFRBL MS Coll 00386 Box 214.

Berend, I. T. (1998). *Decades of crisis: Central and Eastern Europe before World War II*. University of California Press.

Berend, I. T., & Ránki, G. (1969). The economic problems of the Danube region at the break-up of the Austro-Hungarian Monarchy. *Journal of Contemporary History*, *4*(3), 169–185. https://doi.org/10.1177/002200946900400031

Board of Trade, Department of Trade U.K. (1976). *Survey of international cartels and internal cartels, 1944, 1946* (Vol. 1).

Cassis, Y. (1999). *Big business: The European experience in the twentieth century*. Oxford University Press.

Cassis, Y., Colli, A. & Schroeter, H. (Eds.). (2016). *The performance of European business in the twentieth century*. Oxford University Press.

Casson, M., & Lopes, T. D. S. (2013). Foreign direct investment in high-risk environments: An historical perspective. *Business History*, *55*(3), 375–404. https://doi.org/10.1080/00076791.2013.771343

Cerretano, V. (2018). Multinational business and host countries in times of crisis: Courtaulds, Glanzstoff, and Italy in the interwar period. *The Economic History Review*, *71*(2), 540–566. https://doi.org/10.1111/ehr.12469

Chang, H.-J. (1996). *The political economy of industrial policy*. Palgrave Macmillan.

Cimolli, M., Giovanni D., & J. A. Stiglitz (Eds.). (2009). *Industrial policy and development: The political economy of capabilities accumulation*. Oxford University Press.

Colli, A. (2002). *The history of family business, 1850-2000*. Cambridge University Press.

Compass. (1914). *Finanzielles Jahrbuch für Österreich-Ungarn, vol. 4: Verzeichnis der Industrie-, Handels- und Exportunternehmen Österreich-Ungarns*.

Consul Nellmapius, A. P. (1929). *Footwear imports to South Africa*. Dated 12 October. AMZV f IV sekce, k 1080, č j 137194.

Consulate of the Czechoslovak Republic. (1939). *Labor unrest at the Bata factory in Batanagar*. Calcutta, 11 January, AMZV f IV sekce, kart 1082, č 3/dův 39.

Czechoslovak Legation. (1931a). *Bata Company – Establishment in Yugoslavia. Belgrade, 27 June*. AMZV f IV sekce, kart 1081, č j 621/důvěrné/31.

Czechoslovak Legation. (1931b). *Founding of Bata's factory in Yugoslavia. Belgrade, October*. AMZV f. IV sekce, kart. 1081, č. j. 106665.

Czechoslovak Legation. (1931c). *Founding of Bata's factory in Yugoslavia – Counteractions*. Belgrade AMZV f. IV sekce, kart. 1081, č. 8250/31.

Daudin, G., Morys, M., & O'Rourke, K. H. (2010). Globalization, 1870-1914. In S. Broadberry & K. H. O'Rourke (Ed.), *The Cambridge economic history of modern Europe* (Vol. 2, pp. 6–30). Cambridge University Press.

De Groot, M. (2024). *Disruption: The global economic shocks of the 1970s and the end of the Cold War*. Cornell University Press.

Doleshal, Z. A. (2021). *In the kingdom of shoes: Bata, Zlín, globalization, 1894-1945*. University of Toronto Press.

Dombrády, L., & Kovács, V (2016). A magyar hadiipar a trianoni békediktátumtól a második világháború végéig 1919-1945 [The Hungarian arms industry from the Diktat of Trianon to the end of World War II]. In *A magyar hadiipar története a kezdetektől napjainkig, 1880-2015*. Zrínyi.

Drabek, Z. (1985). Foreign trade performance and policy. In M. C. Kaser & E. A. Radice (Eds.), *The economic history of Eastern Europe 1919-1975* (Vol. 1, pp. 379-531). Oxford University Press.

Egger, E. (1933). Letter to L. Aschner. VEAG, Vienna, 23 October, copy for Philipp Weiss, president of HCBP, HNA Z42/123.

Ehrenbold, T. (2012). *Bata: Schuhe für die Welt, Geschichten aus der Schweiz*. hier + jetzt.

Eloranta, J., Nikolic, S., & Macher, F. (2021). Between disintegration and convergence, 1918-1939: Flows of capital, goods, and labour. In M. Morys (Ed), *The economic history of Central, East and South-East Europe: 1800 to the present* (pp. 216–242). Routledge.

Feinstein, C., Temin, P., & Toniolo, G. (2008). *The world economy between the world wars*. Oxford University Press.
Fellman, S., & Shanahan, M. (2018). Sectoral influence on competition legislation: Evidence from the cartel registers, 1920-2000. *Business History Review*, *92*(4), 633–660. https://doi.org/10.1017/S0007680518001058
Fernández Pérez, P. & Colli, A. (Eds.). (2013). *The endurance of family business: A global overview*. Cambridge University Press.
Fernández, Z., & Nieto, M. J. (2006). Impact of ownership on the international involvement of SMEs. *Journal of International Business Studies*, *37*(3), 340–351. https://doi.org/10.1057/palgrave.jibs.8400196
Findlay, R., & O'Rourke, K. H. (2009). *Power and plenty: Trade, war, and the world economy in the second millennium*. Princeton University Press.
Fitzgerald, R. (2016). *The rise of the global company: Multinationals and the making of the modern world*. Cambridge University Press.
Gatti, A. (2004). *Chausser les hommes qui vont pieds nus: Bata-Hellocourt, 1931-2001: Enquete sur la memoire industrielle et sociale*. Serpenoise.
Germuska, P. (2019). Balancing between the COMECON and the EEC: Hungarian elite debates on European integration during the long 1970s. *Cold War History*, *19*(3), 401–420. https://doi.org/10.1080/14682745.2018.1544972
Good, D. F. (1984). *The economic rise of the Habsburg Empire, 1790-1914*. University of California Press.
Gospel, H., & Fiedler, M. (2013). The long-run dynamics of big firms: The 100 largest employers from the United States. In G. Dosi & L. Galambos (Eds.), *The third industrial revolution in global business* (pp. 68–90). Harvard University Press.
Grant, J. A. (2018). *Between depression and disarmament: The international armaments business, 1919-1939*. Cambridge University Press.
Griset, P. (1995). Innovation and radio industry in Europe during the interwar period. In F. Caron, P. Erker & W. Fischer (Eds.), *Innovations in the European economy between the wars* (pp. 37–63). De Gruyter.
Gross, S. (2015). *Export empire: German soft power in southeastern Europe, 1890-1945*. Cambridge University Press.
Harkay, I. (Ed.). (1990). *The history of Tungsram 1896-1945*. History Committee of Tungsram.
Hausman, W. J., Hertner, P., & Wilkins, M. (2008). *Global electrification: Multinational enterprise and international finance in the history of light and power, 1878–2007*. Cambridge University Press.
Hertz, F. O. (1947). *The economic problem of the Danubian states: A study of economic nationalism*. Gollanz.
Hidvégi, M. (2016). *Anschluss an den Weltmarkt: Ungarns elektrotechnische Leitunternehmen 1867-1949*. Vandenhoeck & Ruprecht.
Hidvégi, M. (2019). Crises and responses: Government policies and the cartels of the machine building industry in Hungary, 1919– 1949. *Enterprise and Society*, *20*(1), 89–131. https://doi.org/10.1017/eso.2018.4
Hidvégi, M. (2022). International cartels and national legislation: Cartels of the electro-technical and machine-building industry in Hungary. In M. Shanahan and S. Fellman (Eds.), *A history of business cartels: International politics, national policies, and anti-competitive behavior* (pp. 122–146). Routledge.
Hidvégi, M. (2024). Globalization and industrial development in East Central Europe: The example of Tungsram 1945-1989. *Comparativ: Zeitschrift Für Globalgeschichte Und Vergleichende Gesellschaftsforschung*, *34*(1–2), 25–54. https://doi.org/10.26014/j.comp.2024.01-02.02
Hilger, S. (2013). Family capitalism and internationalization: The case of the Czech family firm Bat'a up to the early 1940s. In Family multinationals (pp. 55–70). Routledge.
Hlavačka, M., & Hořejš, M. (2021). *Fenomén Ringhoffer: Rodina, podnikání, politika* [The Ringhoffer phenomenon: Family, business, politics] (2nd ed.). Národní technické museum.
Hodza, M. (1942). *Federation in Central Europe: Reflections and reminiscences*. Jarrolds.

International Leather, Textile and Garment Workers Federation. (1977). *Report of the Bata Seminar. 28 November – 7 December*. International Institute of Social History.

Jacquot, B., Monier, M., Paindorge., & S., Paye. (Eds.). (2023). *Bataville, 1931-2001: Ville-usine de la chaussure*. PUG.

James, H. (2002). *The end of globalization: Lessons from the Great Depression*. Harvard University Press.

Jászi, O. (1929). *The dissolution of the Habsburg monarchy*. University of Chicago Phoenix Books.

Johanson, J., & Vahlne, J.-E. (1977). The internationalization process of the firm: A model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, *8*(1), 23–32. https://doi.org/10.1057/palgrave.jibs.8490676

Johanson, J., & Vahlne, J.-E. (1990). The mechanism of internationalization. *International Marketing Review*, *7*(1), 11–23. https://doi.org/10.1108/02651339010137414

Keynes, J. M. (1919). *The economic consequences of the peace*. Macmillan.

Klein, A., Schulze, M. S., & Vonyó, T. (2017). How peripheral was the periphery? Industrialization in East-Central Europe since 1870. In K. H. O'Rourke & J. G. Williamson (Ed), *The spread of modern industry to the periphery since 1871* (pp. 63–90). Oxford University Press.

Kolumber, D. (2016). *Spory o Baťův odkaz* [Disputes over Bata's legacy]. Key Publishing.

Komlos, J. (1983). *The Habsburg Empire as a customs union: Economic development in Austria-Hungary in the nineteenth century*. Princeton University Press.

Kopsidis, M., & Schulze, M. S. (2021). Economic growth and sectoral developments, 1800-1914. In M. Morys (Ed.), *The economic history of Central, East and South- East Europe: 1800 to the present* (pp. 39–68). Routledge.

Koroknai, Á. (Ed.). (2004). *A Tungsram Rt. története 1896-1996* [The history of the Tungsram Co. 1896-1996]. Aschner Lipót Alapítvány.

Kriegsministerium, K. (1917). *Personalstatistik der für die k.u.k. Heeresverwaltung tätigen Industrie-, Handels-, und Transportunternehmungen* [as of November 1916], 2 volumes, Technik im Weltkrieg, 162-163, Österreichisches Staatsarchiv, Kriegsarchiv.

Kulikov, V. (2017). The hundred largest employers in the Russian Empire, circa 1913. *Business History Review*, *91*(4), 735–765. https://doi.org/10.1017/S0007680517001362

Kulikov, V., & Kragh, M. (2019). Big business in the Russian Empire: A European perspective. *Business History*, *61*(2), 299–321. https://doi.org/10.1080/00076791.2017.1374369

Kuti, A. (1983). *Az Egyesült Izzó külpiaci politikája, értékesítési szervezete [The foreign market policy and sales network of Tungsram]* [Thesis]. Karl Marx University of Economic Sciences.

Le Bot, F. (2005). La "famille" du cuir contre Bata: Malthusianisme, corporatisme, xénophobie et antisémitisme dans le monde de la chaussure en France, 1930–1950. *Revue D'histoire Moderne & Contemporaine*, *n o 52-4*(4), 131–151. https://doi.org/10.3917/rhmc.524.0131

Link, S. (2020). *Forging global Fordism: Nazi Germany, Soviet Russia, and the contest over the industrial order*. Princeton University Press.

Lorenzini, A. (2019). *Global development: A cold war history*. Princeton University Press.

Lorenzini, S. (2014). Comecon and the South in the years of Détente: A study on East-South economic relations. *European Review of History: Revue Européenne D'histoire*, *21*(2), 183–199. https://doi.org/10.1080/13507486.2014.888708

Lubinski, C. (2022). *Navigating nationalism in global enterprise: A century of Indo-German business relations*. Cambridge University Press.

Lubinski, C., & Wadhwani, R. D. (2020). Geopolitical jockeying: Economic nationalism and multinational strategy in historical perspective. *Strategic Management Journal*, *41*(3), 400–421. https://doi.org/10.1002/smj.3022

Lubinski, C., Fear, J., & Fernández Pérez, P. (Eds.). (2013). *Family multinationals: Entrepreneurship, governance, and pathways to internationalization*. Routledge.

Luxbacher, G. (2003). *Massenproduktion im globalen Kartell: Glühlampen. Radioröhren und die Rationalisierung der Elektroindustrie bis 1945*. GNT-Verlag.

Magyar Királyi Központi Statisztikai Hivatal. (1909). *A magyar szent korona országainak 1909. évi külkereskedelmi forgalma* [Foreign trade of the Hungarian crown lands in 1909]. Athenauem.

Magyar Királyi Külügyminisztérium. (1938). Confidential minutes of the meeting of the joint committee of the Hungarian and the German governments. No. 10. Berlin, 27 January – 4 February, HNA K69/691.

Masaryk, J. (1943). *Meeting in Waldorf-Astoria*. TFRBL MS Coll 00686, Box 214.

Mathis, F. (1987). *Big Business in Österreich. vol. 1: österreichische Großunternehmen in Kurzdarstellungen*. Verlag für Geschichte und Politik.

Mathis, F. (1990). *Big Business in Österreich. vol 2: Wachstum und Eigentumsstruktur der österreichischen Großunternehmen im 19. und 20. Jahrhundert. Analyse und Interpretation*. Verlag für Geschichte und Politik.

Meinhardt, W. (1933). *Entwicklung und Aufbau der Glühlampenindustrie*. C. Heymann.

Morys, M. (2021). Economic growth and structural change in Central, East and Southeast Europe, 1918-1939. In M. Morys (Ed), *The economic history of Central, East and South-East Europe: 1800 to the present* (pp. 161–187). Routledge.

Muñoz, S. V. (2015). *Networked utopia: The architecture and urbanism of the Bata shoe company satellite cities* [Ph.D. dissertation]. Universidad Politécnica de Madrid.).

Paslovsky, L. (1928). *Economic nationalism of the Danubian states*. Allen & Unwin.

Perutka, L., Balaban, M., & Herman, J. (2018). The presence of the Baťa shoe company in Central America and the Caribbean in the interwar period (1920-1930). *América Latina en la Historia Económica*, *25*(2), 42–76. https://doi.org/10.18232/alhe.v25i1.1008

Pfunder, M. (2007). *Austro-Daimler und Steyr, Rivalen bis zur Fusion: Die frühen Jahre des Ferdinand Porsche*. Böhlau.

Phoebus, S. A. (1924, December). *Phoebus patent and business development agreement*. Section 6, HNA Z609/296/1069.

Pokluda, Z. (2015). *Člověk a práce: Z ekonomických principů a vizí Tomáše Bati = Man and work: The vision and principles of economics of Tomas Bata*. Nadace Tomáše Bati. Tomas Bata University.

Pokluda, Z., Herman, J., & Balaban, M. (2022). *Bata: Across continents*. Tomas Bata University.

Prebisch, R. (1950). *The economic development of Latin America and its principal problems*. United Nations Economic Commission for Latin America.

Pula, B. (2018). *Globalization under and after socialism: The evolution of transnational capital in Central and Eastern Europe*. Stanford University Press.

Raab, A. (1934, July 4). Letter to Tungsram export department. Zjednoczona Fabryka Zarowek S. A. HNA Z604/4/4.

Ránki, G. (1983). *Economic and foreign policy: The struggle of the great powers for hegemony in the Danube valley, 1919-1939*. Cambridge University Press.

Reckendrees, A., Gehlen, B., & Marx, C. (2022). International business, multinational enterprises, and nationality of the company: A constructive review of literature. *Business History*, *64*(9), 1567–1599. https://doi.org/10.1080/00076791.2022.2118718

Reich, L. S. (1992). Lighting the path to profit: GE's control of the electric lamp industry, 1892–1941. *Business History Review*, *66*(2), 305–334. https://doi.org/10.2307/3116940

Resch, A. (2002). *Industriekartelle in Österreich vor dem Ersten Weltkrieg: Markstrukturen, Organisationstendenzen und Wirtschaftsentwicklung von 1900 bis 1913*. Duncker & Humblot.

Sanchez-Sibony, O. (2014). *Red globalization: The political economy of the Soviet cold war from Stalin to Khrushchev*. Cambridge University Press.

Schröter, H. G. (1986). A typical factor of German international market strategy: Agreements between the US and German electrotechnical industries up to 1939. In A. Teichova, M. Lévy-Leboyer & H. Nussbaum (Eds.), *Multinational enterprise in historical perspective* (pp. 160–170). Cambridge University Press.

Schröter, H. G. (1996). Cartelization and decartelization in Europe, 1870–1995. Rise and decline of an economic institution. *Journal of European Economic History*, *25*(1), 129–153.

Schulze, M. S., & Wolf, N. (2012). Economic nationalism and economic integration: The Austro-Hungarian Empire in the late nineteenth century. *Economic History Review*, *65*(2), 652–673. https://doi.org/10.1111/j.1468-0289.2010.00587.x

Ševeček, O., & Jemelka, M. (Eds.). (2013). *Company towns of the Bata concern*. Steiner.

Shaw, C. (1983). The largest manufacturing employers of 1907. *Business History*, *25*(1), 42–60. https://doi.org/10.1080/00076798300000004
Siemens. (1938, August 8). *Study about the South-Eastern European market* (Vol. 1). Economic Policy Department, SCA 9345 B Nr. 2831.
Singer, H. (1949). *Relative prices of exports and imports of under-developed countries: A study of post-war terms of trade between under-developed and industrialized countries*. United Nations Department of Economic Affairs.
Steimel, H. (1937). Protokoll der Besprechung zwischen Philips, Tungsram und Telefunken am 10. 3. 37 betr. Röhrenprogramm 1938/39. Berlin, 11 March, DTMB Telefunken I.2.060 C 6223/11040.
Stocking, G. W. & Watkins, M. W. (Eds.). (1946). *Cartels in action: Case studies in international business diplomacy*. The Twentieth Century Fund.
Suesse, M. (2024). *The nationalist dilemma: A global history of economic nationalism, 1776-present*. Cambridge University Press.
Teichova, A. (1985). Industry. In M. C. Kaser & E. A. Radice (Eds.), *The economic history of Eastern Europe 1919-1975* (Vol. 1). Oxford University Press.
Teichova, A. (1988). *The Czechoslovak economy 1918-1980*. Routledge.
Telefunken. (1936). Ungarisches Apparate-Kontingent, Orion-Standard/Philips-Telefunken. 24–29 February, 29 April, 9 June, DTMB Telefunken I.2.060 C 3412/147.
Tooze, A. (2014). *The deluge: The Great War, America, and the remaking of the global order, 1916-1931*. Penguin Books.
Tungsram, general directorate. (1933). Gedächtnisprotokoll [Pro memoria sign. Dr. Neményi]. Újpest, 10 May and 20 July, HNA Z601/3/31.
Tungsram, general directorate. (1934). Ardenner Vertrag zwischen Telefunken, Philips and Tungsram. Újpest, 4 August, HNA Z609/161/103.
Tungsram, general directorate. (1938). Interner Kontingentierungs-Vertrag. Újpest, 24 November, HNA Z601/221/894.
Tungsram, general directorate. (1939). Summary for General Director Aschner. Újpest, 29 March, HNA Z601/27/188.
Tungsram. (1902). Minutes of Tungsram board meeting, 29 February, Budapest and 16 June, Vienna. HNA Z600/1.
Tungsram. (1976). Vacuum technological machine building development and reconstruction program. Part 1. Budapest, May, Historical Collection 1-380-76001/No. 004-382, HNA Z XXIX/F/378.
Tungsram. (1983). Annex to the proposal prepared for the State Planning Commission No. 1011/1983, pp. 8–13. HNA Z XXIX/F/378.
Wardley, P. (1999). The emergence of big business: The largest corporate employers of labour in the United Kingdom, Germany, and the United States c. 1907. *Business History*, *41*(4), 88–116. https://doi.org/10.1080/00076799900000346
Wohl, P. (2020). *Visszaszerzett márkajogok* [Regained trademark rights]. https://tungsram-tortenetek.webnode.hu/l/visszaszerzett-markajogok
Wolf, N., Schulze, M. S., & Heinemeyer, H.-C. (2011). On the economic consequences of the peace: Trade and borders after Versailles. *The Journal of Economic History*, *71*(4), 915–949. https://doi.org/10.1017/S0022050711002191
Zahra, T. (2023). *Against the world: Anti-globalism and mass politics between the world wars*. WW Norton & Co.