



Competitors in the Same Boat. Business Strategies of the Leading Players on the Czechoslovak and Austrian Cement Markets (1918–1938)

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The collapse of the Austro-Hungarian constitutional union marked a watershed in the political as well as the economic order of Central Europe, resulting in the disintegration of a functional economic unit — one that was beneficial for business entities supplying goods to the internal markets of the Habsburg Monarchy.¹ Among the strategic industries on which the post-1918 changes had the most profound impact was cement production, which had undergone dynamic development at the turn of the 19th and 20th centuries (the dissemination of ferro-concrete technology).² As an observer of the prestigious British weekly *The Economist* could read in November 1923: “If yesterday can be regarded as the Iron Age, tomorrow may be rightly called the cement decade.”³ Due to high transportation costs, the Austro-Hungarian cement industry focused on narrowly delineated domestic markets. With the exception of the export-oriented Dalmatian cement plants, which could transport goods at low cost by sea,⁴ foreign trade did not play a major role (in 1913, imports amounted to 3.22% and exports to 11.65% of Cisleithanian cement production).⁵ The advantages of the monarchy’s extensive internal market manifested themselves especially in contracts for the construction of large infrastructure projects (e.g. the regulation of watercourses and the construction of ports, sewage systems, the railway network or large industrial facilities). The collapse of the Austro-Hungarian constitutional union

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2 Armin Brameshuber, *Die österreichische Zementindustrie*, Graz 1950, p. 65.

3 Citation according to A. Bramusheber, *Die österreichische Zementindustrie*, p. 21.

4 Tomáš Gecko, *Úloha českých cementáren v předlitavských kartelech (1901–1918)*, *Minulostí Berounska* 17, 2014, pp. 84–85.

5 *Österreichisches Statistisches Handbuch für die im Reichsrat vertretenen Königreiche und Länder, 1882–1917*.

thus constituted a major turning point in terms of the structure of the cement markets of the newly emerging successor states.

Using the cement industry as an example, the article aims to broaden the understanding of the economic disintegration of the Central European economy following the collapse of Austria-Hungary. The successor states chosen as suitable subjects for comparative analysis were Czechoslovakia and Austria. The two states were the most developed within the Habsburg Monarchy in terms of the cement industry, they had gone through a similar development prior to World War I and their starting positions were roughly the same in 1918. Besides analysing the structural changes in cement production during the interwar period (market size, differentiation of goods, concentration of production and state interventions), another criterion used for comparison are the business strategies adopted by the leading players on the relevant markets: the Králův Dvůr⁶ concern in Czechoslovakia and the Perlmoos⁷ concern in the Austrian territory (changes in management, market share, involvement in cartels, investment etc.). The study will seek an answer to the question as to what structural changes took place on the relevant markets during the interwar years, what strategies the dominant players employed in order to face them and whether these strategies may be described as effective.

CHANGES IN THE STRUCTURE OF THE CEMENT INDUSTRY AFTER THE COLLAPSE OF AUSTRIA-HUNGARY

Cement is a homogeneous commodity, the competitiveness of which decreases quite fast as the distance grows. In the first half of the 20th century, the product could be placed within 150–200 kilometres from the factory, which resulted in the creation of narrowly defined, overlapping regional markets that were oligopolistic in nature. Foreign trade frequently became “border trade”: given the high transportation costs, imports and exports were carried out either by cement plants close to the border or by export-oriented plants by the sea (Dalmatia). The demand for the goods was elastic in terms of price, with the plants operating on the basis of degressive costs, which is why destructive “price wars” raged among cement producers during economic crises. Entry into the industry was limited by high fixed costs, long-term return on investment and a lack of sites suitable for the establishment of a factory. Investment was usually financed by means of loans, which enabled the banking sector to have a stake in the development of the cement industry.

Given its importance in relation to construction activities, cement production attracted the attention of the state, which played its part in the partial closure of the Cisleithanian market (in 1913, the general customs duty amounted to approximately 41% of the price of goods and the conventional customs duty to almost 23%). The absence of strong foreign competition facilitated the monopolisation and con-

6 Cement-Fabrik, Actiengesellschaft/Králodvorská cementárna, akciová spoločnosť.

7 Actiengesellschaft der hydraulischen Kalk- und Portland-Cementfabrik zu Perlmoos (Vormals Angelo Saullich).



centration of production, which reached high figures in the pre-WWI period — in 1911, the four largest Cisleithanian cement plants accounted for approximately 47% of the entire cement production.⁸ Extensive interventionist measures were not adopted in relation to the cement industry until World War I, when the state set out to determine the prices of the goods, establishing the war-time Economic Association for the Cement Industry (Wirtschaftsverband der Zementindustrie) to regulate the prices and transportation.⁹

In the last years prior to the Great War, Bohemia emerged as the centre of the Cisleithanian cement industry, followed by the industry's cradle in Tyrol. A significant role was also played by the export-oriented Dalmatian cement plants and the factories in Lower Austria, where the demand was stimulated by public works in Vienna (about a fourth of the cement consumption of the Alpine countries).¹⁰ A number of large cement plants were also located in Styria and Upper Austria, with others in Moravia, Silesia and Galicia. The biggest player on the Cisleithanian cement market was the Perlmoos concern with a 24% share of the entire production, followed by Králodvorská cementárna (Králov Dvůr Cement Plant) with roughly 10%.¹¹ In the last years prior to World War I, both plants played a decisive role in formulating the business strategies of the Cisleithanian cement syndicates (Perlmoos on the Austrian cement market and Králův Dvůr on the Czech market).¹² The collapse of the Habsburg Monarchy constituted a major dividing line: the above described market structure went through numerous transformations arising both from the geographical placement of the Cisleithanian cement industry and the specific political and economic development in the territories of individual successor states.

Although the newly-emerged Czechoslovakia accounted for 60–70% of Austria-Hungary's industrial capacity,¹³ cement production was among the industries the decisive share of which went to Austria — in 1913, 45% of the entire Cisleithanian cement production took place there (Chart 1). Bohemia accounted for 16% of the production, and Moravia, Silesia and Galicia for 25% (however, the majority of local cement plants were obtained by Poland following 1918). More comprehensive estimates were provided by the entrepreneur and chemist Rudolf Bárta Jr., according to whom the Czechoslovak Republic inherited almost 24% of the entire

8 Tomáš Gecko, Kartelizace cementářského průmyslu v kontextu hospodářských krizí v období let 1901–1938. In: Eduard Kubů — Jindřich Soukup — Jiří Šouša (eds.), *Fenoménn hospodářské krize v českých zemích 19. až počátku 21. století*, Prague — Ostrava 2015, pp. 205–212.

9 T. Gecko, Úloha českých cementáren v předlitavských kartelech (1901–1918), pp. 95–98.

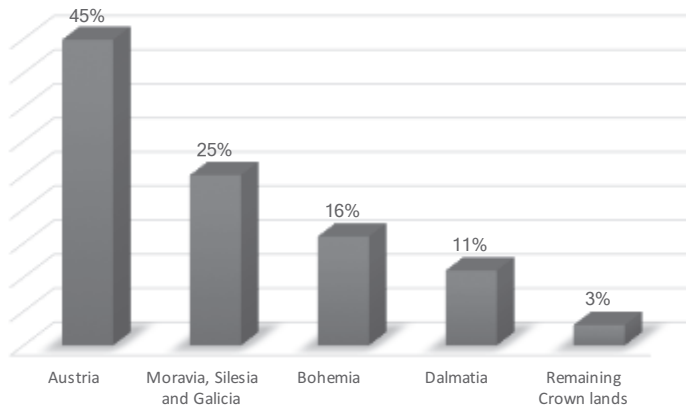
10 *Allgemeine Tonindustrie-Zeitung* 41, 1922, no. 24, p. 4.

11 *Compass. Finanzielles Jahrbuch für Österreich-Ungarn* 51, 1918, pp. 701–703 and 709–711; State District Regional Archives Beroun (hereinafter as SOkA Beroun), fond (hereinafter as f.) Prodejna cementáren Praha 1936–1946, carton (hereinafter as cart.) 7, *Gesellschaftsvertrag und Übereinkommen mit der Fabriken* 1911.

12 *Kartell-Rundschau* 8, 1910, pp. 584–586.

13 Eduard Kubů — Jaroslav Pátek (eds.), *Mýtus a realita hospodářské vyspělosti Československa mezi světovými válkami*, Prague 2000, p. 11.

Chart 1. Percentage of the selected Austro-Hungarian regions on the Cisleithanian cement production in 1913.



Source: Compass. *Finanzielles Jahrbuch für Österreich-Ungarn* 48, 1915, Bd. 2, p. 13.

cement production of Austria-Hungary, whereby the share of the Austrian Republic amounted to about 37%.¹⁴ Based on the data stated, it might seem that better starting position was occupied by the Austrian cement industry. However, this was not the case. While over 26% of the population of the Habsburg Monarchy lived in the territory of the future Czechoslovak Republic, in Austria this amounted to under 13%,¹⁵ with roughly a third living in Vienna.¹⁶ The Austrian market was not able to absorb domestic production and, given the high transportation costs and the protectionist policies of neighbouring countries, the difficulties could not have been resolved by means of export.¹⁷

In the interwar period, the Austrian cement industry underwent a process of “de-industrialisation”, which consisted of a decline in production (Table 1).¹⁸ Immediately after World War I, the development of the industry was hindered by a lack of coal (with cement plants operating only at 13% production capacity),¹⁹ later replaced by

¹⁴ Rudolf Bárta, *Rozsah a vývoj světové výroby cementu*, Prague 1935, pp. 12–15; Compass. *Finanzielles Jahrbuch für Österreich-Ungarn* 48, 1915, Bd. 2, p. 13.

¹⁵ Karl Bachinger — Vlastislav Lacina, *Wirtschaftliche Ausgangsbedingungen*. In: Alice Teichova — Herbert Matis (Eds.), *Österreich und die Tschechoslowakei 1918–1938. Die wirtschaftliche Neuordnung in Zentraleuropa in der Zwischenkriegszeit*, Wien — Köln — Weimar 1996, p. 52.

¹⁶ Hans Mayer (Ed.), *Hundert Jahre österreichischer Wirtschaftsentwicklung 1848–1948*, Wien 1949, p. 450.

¹⁷ Volker Koch, *Die Tiroler Zementindustrie*, Innsbruck 1972, pp. 17–18.

¹⁸ Alec Cairncross, *What is De-industrialization?*. In: Frank Blackaby (ed.), *De-industrialization*, London 1979, pp. 5–17.

¹⁹ A. Brameshuber, *Die österreichische Zementindustrie*, pp. 144–145; Compass. *Deutsch-Österreich* 58, 1925, Bd. 1, p. 657; Österreichisches Staatsarchiv (Austrian State Archives), Ar-



TABLE 1. Czechoslovak, Austrian and European cement production in tonnes and the index of cement production (1913 = 100).

Year	Production (thousand tons)			Index of production (1913=100)		
	CSR	Austria	Europe*	CSR	Austria	Europe*
1913	341	590	14 211	100	100	100
1922	400	335	—	117	57	—
1923	—	305	17 800	—	52	125
1924	500	425	19 900	147	72	140
1925	750	460	23 500	220	78	165
1926	1 000	460	25 550	293	78	180
1927	1 200	464	28 250	352	79	199
1928	1 300	523	30 980	381	89	218
1929	1 250	582	34 190	367	99	241
1930	1 195	602	30 150	350	102	212
1931	1 200	502	26 530	352	85	187
1932	1 081	351	24 020	317	59	169
1933	850	280	24 840	249	47	175
1934	844	314	30 000	248	53	211
1935	980	370	33 100	287	63	233
1936	1 050	369	37 030	308	63	261
1937	1 370	429	40 380	402	73	284

Source: Tomáš Gecko, *Kartely v cementárenství 1900–1938*, Prague 2013, p. 118; *Compass. Deutsch-Österreich*, Wien 1925–1940; *Compass. Finanzielles Jahrbuch für Österreich-Ungarn* 48, 1915, Bd. 2, p. 13; Rudolf Bárta, *Rozsah a vývoj světové výroby cementu*, Prague 1935, p. 12.

* Figures for Europe don't include the USSR.

low demand. It was not until 1930 that cement production in the Austrian Republic exceeded the pre-war level (1913); however, this was only by 2% and the 1930s saw another sharp decline.²⁰ The main reasons behind the de-industrialisation of the industry may be the post-WWI economic turmoil (coal crisis and hyperinflation),²¹ the continuing stagnation of construction activities in the 1920s and 1930s, the decrease in Vienna's importance as the capital of the monarchy (e.g. the nostrification of joint stock companies in Czechoslovakia)²² as well as the loss of a vast number of outlets following the economic disintegration of Central Europe.²³ This process was further

chiv der Republik, inventory number (hereinafter as inv. no.) HBbBuT BmfHuV Allg. Reihe Sekt IV 1919, 25777, Staatsamt für Handel & Gewerbe, Industrie & Bauten 25. July 1919.

²⁰ *Compass. Finanzielles Jahrbuch für Österreich-Ungarn* 46, 1913, Bd. 2, p. 11.

²¹ Felix Butschek, *Die österreichische Wirtschaft im 20. Jahrhundert*, Wien 1985, pp. 28–45; K. Bachinger — V. Lacina, *Wirtschaftliche Ausgangsbedingungen*, pp. 80–81, 86.

²² Vlastislav Lacina, *Nostrifikace podniků a bank v prvním desetiletí Československé republiky*, *Český časopis historický* 92, 1994, no. 1, p. 78.

²³ Vlastislav Lacina, *Zahraniční obchod v letech první Československé republiky*, *Český časopis historický* 95, 1997, no. 1, pp. 110, 130–131; Andreas Resch, *Kartelle in Öster-*



exacerbated by the ousting of “Roman cement”²⁴ produced in Tyrol and Lower Austria.²⁵ The general trends in the industry’s development favoured “Portland cement”, the production process of which was, on the one hand, more expensive and demanding in chemical terms (expensive machinery and the necessity to use coal during calcination), but on the other hand the resulting goods were standardised and of high quality, with lower requirements for raw materials.²⁶ Prior to World War I, “Roman cement” accounted for no more than 4% of Cisleithania’s production; however, the plants were located solely in the Alpine countries (accessibility of suitable raw materials).²⁷ In 1922, “Roman cement” represented 24% of Austria’s production and it was not until the second half of the 1920s that it experienced a sharp decrease,²⁸ leading to a gradual elimination of the former centre of Austria’s cement production in Tyrol.

The structural weaknesses of the Austrian cement industry were further exacerbated by the Great Depression.²⁹ On the one hand, it struck the industry rather late due to the completion of construction projects in Vienna (as late as 1931/1932), but on the other hand it continued for a long time and had not been overcome before Austria joined the German Reich. Cement production reached its bottom in 1933 when it accounted for 48% of the pre-crisis level (1929). Compared to the rest of the economy, the cement industry did not fare very well: while the overall industrial production dropped by 21% between 1929 and 1937, with respect to cement, the decrease amounted to 26%.³⁰ Combined with the collapse of the Habsburg Monarchy, the Great Depression significantly contributed to Austria’s cement industry experiencing a period of complete stagnation in the interwar years.³¹ On the other hand, foreign competition and low demand forced cement plants to both rationalise production and relocate production capacities so that they better corresponded with the conditions of a reduced market.³²

While, compared to the rest of Europe, Austria’s cement production recorded a below-average pace of growth, the Czechoslovak cement industry grew at astonishing

reich. Historische Entwicklungen, Wettbewerbspolitik und strukturelle Aspekte, Wien 2003, p. 9.

24 A. Brameshuber, *Die österreichische Zementindustrie*, pp. 145–146.

25 V. Koch, *Die Tiroler Zementindustrie*, pp. 52–58.

26 Ulrike Wolf, *Die Entwicklung der österreichischen Zementindustrie unter besonderer Berücksichtigung des wirtschaftlichen und finanziellen Werdegangs der Perlmooser Zementwerke AG von der Gründung bis zum Ausbruch des zweiten Weltkrieges*, Wien 1997, p. 14.

27 Compass. *Finanzielles Jahrbuch für Österreich-Ungarn* 48, 1915, Bd. 2, p. 13.

28 Compass. *Deutsch-Österreich*, Wien 1925–1940.

29 Wilhelm Weber, *Wirtschaftsfragen der Ersten und Zweiten Republik. Ein Vergleich*. In: *Wirtschaft in Politik und Recht am österreichischen Beispiel 1945–1970*, Wien 1972, pp. 196–197.

30 U. Wolf, *Die Entwicklung der österreichischen Zementindustrie*, pp. 81–83.

31 Felix Butschek — Václav Průcha, *Einkommensniveau und Wirtschaftsstruktur in der Zwischenkriegszeit*. In: A. Teichova — H. Matis (eds.), *Österreich und die Tschechoslowakei 1918–1938*, pp. 322–323.

32 A. Brameshuber, *Die österreichische Zementindustrie*, p. 146.



speed. Immediately after the collapse of the Habsburg Monarchy, the sector faced, similar to Austria, a major crisis in the construction industry (suspension of construction activities, lack of coal, increased transportation tariffs and growing workers' wages and taxes);³³ however, cement production exceeded the pre-war level as early as 1922, recording an increase of 17%. The conjuncture in the second half of the 1920s was particularly favourable, which was mainly due to a combination of three positive factors: the prices remained steadily high on account of the cartelisation of the industry (between 1924 and 1931, the year-on-year deviations in average prices amounted to no more than 5%),³⁴ the demand for the goods was growing fast (state support of the housing industry, spread of the ferro-concrete technology, production of cement goods and the implementation of hydraulic engineering projects, particularly valley dams) and a substantial role was also played by the state protectionist policy, which closed the domestic market to foreign competition. The share in the Czechoslovak market which previously belonged to the Austrian, Hungarian or German cement plants could now be divided among domestic producers. Compared to 1913, domestic cement production more than tripled by the end of the 1920s, corresponding with the growing profitability of business: between 1926 and 1929, the annual profits of joint-stock cement plants oscillated around 50% of their common equity.³⁵ In terms of the nominal amounts of dividends, the cement industry became by far the most profitable industry in the Czechoslovak market.³⁶ The cement plants used the available funds to invest, which did not only manifest itself in the growth in production capacities, but also in a more rational fuel consumption (coal) and an increase in work productivity.³⁷ Compared to neighbouring Germany, the industry, however, lagged far behind as the Czechoslovak plants often gave preference to an extensive growth in production as opposed to an increase in efficiency.³⁸

The Great Depression represented an important watershed. Similar to Austria's cement industry, the first serious difficulties did not occur until 1931/1932; the decline was not, however, as rapid or prolonged. The industry reached its bottom in 1934, when Czechoslovakia produced a mere 67.5% of cement compared to the pre-crisis level. On the one hand, the decline was roughly comparable to the rest of the economy,³⁹ but on the other hand recovery came much faster.⁴⁰ As early as

33 Tomáš Gecko, Pod bičem konkurence — vzestupy a pády krále stavebních hmot. Rudolf Barta starší (1868–1952). In: Drahomír Jančík — Barbora Štolleová (eds.), *Pivo, zbraně i tvarůžky. Podnikatelé meziválečného Československa ve víru konjunktur a krizí*, Prague 2014, p. 221.

34 *Čenové zprávy Státního úřadu statistického*, Prague 1921–1948.

35 *Compass. Tschechoslowakei, Wien — Prag 1923–1939*.

36 *Zprávy Národní banky Československé*, Prague 1926–1949.

37 R. Bárta, *Rozsah a vývoj světové výroby cementu*, p. 24.

38 A. Brameshuber, *Die österreichische Zementindustrie*, p. 98; Josef Geduldiger-Bělský — Vlad. Škoda, *Československý průmysl keramický, porculánu, stavebních hmot, maltovin*, Prague 1933, p. 17.

39 *World Production and Prices 1938/1939*, Geneva 1939, p. 39.

40 E. Kubů — J. Pátek (eds.), *Mýtus a realita*, p. 51.

1937, the amount of cement produced was 10% more than before the Great Depression (1929). The reasons for this were the gradual recovery of the entire economy as well as the creation of new outlet opportunities (construction of a fortification).⁴¹



TABLE 2. Estimates of the cement production in tonnes per thousand inhabitants in 1925–1936.

Year	USA	GER	GB	FRA	ITA	CSR	AUS	JUG	HUN	POL
1925	240	93	84	76	62	53	69	48	28	17
1926	241	94	84	97	70	70	68	50	38	21
1927	251	116	96	88	68	83	69	50	49	27
1928	252	119	96	103	75	89	78	60	50	36
1929	241	112	104	140	84	85	87	64	47	33
1930	225	88	111	119	85	81	89	62	38	26
1931	174	59	108	132	73	81	74	63	34	17
1932	105	44	93	137	75	72	52	47	22	11
1933	87	60	96	125	84	57	41	45	20	12
1934	105	99	121	116	96	56	47	46	25	22
1935	104	131	129	104	99	65	55	53	31	25
1936	152	173	142	111	90	69	55	42	24	31

Source: Tomáš Gecko, *Kartely v cementárenství 1900–1938*, Prague 2013, p. 118; *Compass. Deutsch-Österreich, Wien 1925–1940*; *Statistical Yearbook of the League of Nations*, Geneva 1926–1944.

In order to gain a deeper understanding of how the cement industry developed in Czechoslovakia and Austria during the interwar years, it is important to outline the international consumption of cement per population (Table 2). Compared to the Habsburg Monarchy's successor states (Yugoslavia, Hungary and Poland), the Czechoslovak and Austrian economies were able to absorb rather large amounts of cement. However, it needs to be emphasised that in comparison to developed Western countries (USA, Germany, France, UK) or Italy, the consumption per thousand inhabitants was much lower, namely in the 1930s. These trends may be explained by the slower recovery from the Great Depression in both the successor states, the absence of easy access to foreign markets (inability to export goods at low cost due to the inland location of the two states) or the deeper structural weaknesses of the economies — in Czechoslovakia, for example, cement was not used in constructing the modern infrastructure (roads) to such an extent as in the USA and, at first, it was not used in constructing large commercial or industrial structures either. It was primarily used in traditional consumer sectors, such as in constructing railway structures, bridges and dams, in producing cement goods, constructing dwellings and various agricultural adjustments.⁴²

In considering the structural changes of the cement industry during the interwar years, the growing level of state interventionism also merits attention. The state in-

⁴¹ Petr Klučina, *Vojenské dějiny Československa. 1918–1939*, Vol. 3, Prague 1987, p. 440.

⁴² *Obzor cementářský* 3, 1928, p. 91.



tervened in the regulation of foreign trade (rates of duties), in residential construction and in adjusting the prices of the goods. Additionally, the authorities played a major role with respect to the cartelisation of the industry.

Austria's duty rates for cement did not have an entirely prohibitive effect. Due to a lack of coal for production, cement plants were not able to satisfy the demand at first, which is why the consumers forced the state to temporarily lift duty rates to reduce the cost of import,⁴³ and in 1922 they brought about the dissolution of the Economic Association for the Cement Industry (*Wirtschaftsverband der Zementindustrie*), which had been lobbying with the government to strengthen the customs protection.⁴⁴ Contrary to the cement industry's expectations, the 1924 customs tariff (valid as of January 1925) did not close the domestic market to foreign competition entirely,⁴⁵ which came mainly from Hungary, Czechoslovakia and Germany and to a lesser extent from Yugoslavia, Italy and Poland. At the urging of the industry, the government made it impossible to apply "conventional duty rates" after 1927, with cement plants pledging not to take advantage of the situation to increase the existing prices (unless production costs rise demonstrably).⁴⁶ Between 1927 and 1937, customs protection amounted to approximately 30% of the price of cement (to this must be added the import tax in the amount of 4.6% of the product's price), which turned out to be an effective tool for excluding foreign producers.⁴⁷ Towards the end of the 1920s, imports roughly amounted to a mere 3% of the domestic production, accounting for less than 1% in the 1930s.⁴⁸

Contrary to Austria, Czechoslovakia's foreign trade in cement developed with certain deviations. Immediately after World War I, the industry was — similar to Austria — struck by a coal crisis which was not, however, as severe. The demand for cement also exceeded the supply, with consumers pushing instead for the termination of export.⁴⁹ As early as 1922, the old Austrian-Hungarian customs duties on cement were multiplied by a coefficient of 15 (from K 1.80 to Kč 27), whereby the path to a truly effective protection of the domestic market was carved by the devaluation policy adopted by the Finance Minister Alois Rašín. Towards the end of the 1920s, more favourable "conventional duty rates" were introduced with respect to cement (Kč 13.50), only to be increased at the onset of the Great Depression (to Kč 16.20 in 1931). Czechoslovakia's cement market was entirely closed to foreign competition: since the second half of the 1920s, imports accounted for less than 1% of domestic production.⁵⁰

43 Österreichisches Staatsarchiv (Austrian State Archives), Archiv der Republik, inv. no. HB bBuT BMfHuV Allg Reihe Sekt IV 1919, 23039, cart. 2898, Brief von Deutschösterreichischer Wirtschaftsverband des Baugewerbes von 14. 7. 1919; Staatsgesetzblatt no. 425/1919.

44 *Tonindustrie-Zeitung* 1922, 46, pp. 462, 610.

45 Gerhard Raffel, *Hundert Jahre Perlmooser Zementwerke A. G.*, Wien 1972, p. 29.

46 *Tonindustrie-Zeitung* 51, 1927, Bd. 1, p. 1434.

47 *Tonindustrie-Zeitung* 56, 1932, p. 162.

48 *Compass. Deutsch-Österreich, Wien 1925–1940; Statistisches Handbuch für die Republik Österreich, Wien 1920–1937.*

49 National Archives (hereinafter as NA) Prague, f. Ministerstvo Průmyslu, obchodu a živností 1919–1942 (hereinafter as MPOŽ), archival unit 19. 16520, cart. 332.

50 T. Gecko, *Kartely v cementárenství 1900–1938*, p. 127.



Following the start of the Great Depression, foreign trade was limited almost exclusively to special kinds of cement (electro-melt, bauxite etc.)⁵¹ on which high transportation costs did not have such a prohibitive effect. The Czechoslovak cement plants were thus presented with the opportunity to monopolise the domestic market, which on the one hand resulted in the production being more profitable, but on the other hand investment was directed at the increase in production capacities rather than rationalisation. The industry repeatedly faced overproduction which, during economic crises, turned into destructive “price wars”.⁵²

TABLE 3. The percentage of the customs duty and conventional duty comparing to the average prices of Czechoslovak and Austrian cement in 1922–1937.

Year	Czechoslovakia		Austria	
	Customs duty	Conventional duty	Customs duty	Conventional duty
1913*	41%	23%	41%	23%
1922	50%	—	0%	0%
1923	76%	—	0%	0%
1924	91%	—	0%	0%
1925	87%	—	28%	16%
1926	86%	—	28%	16%
1927	86%	—	28%	12%
1928	86%	43%	28%	12%
1929	86%	43%	28%	12%
1930	86%	43%	28%	12%
1931	89%	53%	28%	12%
1932	100%	60%	28%	12%
1933	109%	65%	28%	12%
1934	136%	81%	28%	12%
1935	118%	71%	30%	13%
1936	110%	66%	30%	13%
1937	113%	68%	31%	14%

Source: Tomáš Gecko, *Kartely v cementárenství 1900–1938*, Prague 2013, pp. 70, 126; *Compass. Deutsch-Österreich*, Wien 1925–1940; *Der österreichische Zolltarif nach dem Stande vom 30. November 1927*, Wien 1927.

* Customs duty and conventional duty for Austria-Hungary.

Czechoslovakia’s cement duty rates reached much higher figures than Austria’s (Table 3).⁵³ What is puzzling about this is that Czechoslovak cement enjoyed almost the highest customs protection on the European continent. In 1927, it exceeded double the cus-

51 *Zahraniční obchod republiky Československé*, Prague 1923–1938.

52 J. Geduldiger-Bělský — V. Škoda, *Československý průmysl keramický*, p. 30.

53 Z. Drabek, *Foreign Trade Performance and Policy*. In: *The Economic History of Eastern Europe 1919–1975*, Vol. 1, Oxford 1985, p. 476.



toms protection of Austria, Germany and Italy, and amounted to almost a third more compared to France. Higher tariffs were imposed only on Yugoslavian, Portuguese, Spanish, Romanian and Turkish cement. On the other side, the prices in the Czechoslovak market were among the lowest in Europe (on average, USD 0.93 per 100 kg of cement as opposed to USD 1.15 in Austria or USD 1.20 in Germany).⁵⁴ Interpreting this phenomenon is particularly difficult — the producers were either unable to fully exploit their monopoly position on the domestic market to increase prices or the average price level was below the European average, as was suggested by the contemporary economist Karel Uhlig.⁵⁵

The state's interventionist policy also played an important role in stimulating residential construction (about 10 tonnes of cement were used in constructing a four-floor house).⁵⁶ The Czechoslovak and Austrian Republics faced roughly similar housing crises, or “housing shortages” (Wohnungsnot). The problem lied in the stagnation of construction activities during World War I, the demobilisation of the Austrian-Hungarian troops following 1918 and the sharp decrease in certain age groups (the population aged during the war, with the number of the heads of families increasing) as well as in certain specific circumstances: in the case of Vienna, this comprised the arrival of Germans from other parts of the Habsburg Monarchy, while the population of Prague grew thanks to the establishment of new political and economic institutions (the parliament, diplomatic corps, companies and banks).⁵⁷ The lack of dwellings became a sensitive political issue that needed to be solved quickly. The lawmakers in both the successor states responded essentially in two ways: primarily by allocating housing and regulating the rent (the basis for this policy was the Austrian-Hungarian wartime legislation),⁵⁸ and by providing financial support for construction. The state in fact stimulated private construction activities which had been stagnating due to the “protection of tenants” (Mieterschutz).⁵⁹

The extensive, state-supported housing construction took place in Vienna (under the Sozialdemokratische Arbeiterpartei government between 1919 and 1934) and most of all in Prague.⁶⁰ Although about twice as many people lived in the capital of Austria during the 1930s as in the territory of Greater Prague. The number of dwellings constructed in Vienna during the interwar years was not even half the number in Prague. In Czechoslovakia, the state was also significantly involved in determining the prices of goods — in February 1919, the Price Associations for Building Materials were formed,⁶¹

54 League of Nations Archives Geneva, Economic and financial section, D 6957, C 2741, Cement-Report by Mr. Schüller 4. 10. 1928.

55 Karel Uhlig, Československo se opožďuje v soutěži o světový trh, *Obzor národohospodářský* 21, 1926, p. 79.

56 Rudolf Bárta, *Velká Praha a průmysl stavebních hmot*, Zprávy veřejné služby technické 1, 1919, p. 57.

57 Die Wohnungsprobleme Europas nach dem Kriege, Genf 1924, pp. 400–403, 442–443.

58 Reichsgesetzblatt no. 34/1917; Reichsgesetzblatt no. 21/1918.

59 Die Wohnungsprobleme Europas nach dem Kriege, pp. 404–407.

60 U. Wolf, *Die Entwicklung der österreichischen Zementindustrie*, pp. 77–80.

61 *Sbírka zákonů a nařízení* no. 101/1919.

to be followed in May 1921 by what were referred to as Price Courts.⁶² While it is true that both the institutions operated mainly in the context of the post-war construction industry crisis (they were dissolved after 1922), the role of state intervention grew again during the Great Depression. As of January 1936, the Czechoslovak government started to regulate the market through the Arbitration Panels for Determining the Prices of Building Materials formed on the basis of an enabling act of 1933.⁶³ It may be assumed that one of the main reasons for creating this institution was to reduce the prices of cement prior to the construction of the Czechoslovak fortification.⁶⁴ In contrast, the interventionist policy did not reach such extent in Austria's construction industry. Except for the Economic Association for the Cement Industry (Wirtschaftsverband der Zementindustrie) established in 1917 for regulating the transport of cement (discontinued in 1922),⁶⁵ the state did not play a significant role in determining prices. The only exception was the 1927 amendment to cement duty rates because of which the cement plants could not increase the prices of goods if they wanted to avoid the application of "conventional duty rates" to the import of foreign goods.



BUSINESS STRATEGIES OF THE KRÁLŮV DVŮR AND PERLMOOS CEMENT PLANTS

The history of the Perlmoos cement plants dates back to the early beginnings of cement production in the territory of the Habsburg Monarchy, to the region around Kufstein and Kirchbichl in Tyrol. The company's name comes from the word "Sperlmoor" meaning "peatland". In 1862, the Tyrolese wholesaler Angelo Saullich founded a family firm which,⁶⁶ ten years later, he transformed into a joint stock company in order to secure the necessary capital for its further development.⁶⁷ In contrast, the formation of Královská cementárna (Králov Dvůr Cement Plant) is linked to the smelting industry in the Bohemian Lands. Towards the end of the 1880s, Pražská železářská společnost (Prague Iron Company) was looking to make use of the blast furnace slag produced in melting iron, which is why it initiated the establishment of a joint-stock company engaged in the production of "slag cement" in the vicinity of Králov Dvůr (the largest shareholders being Paul Kupelwieser, Karl Wittgenstein and Isidor Weinberger).⁶⁸ In 1922, the share of the Perlmoos on the Austrian market accounted for 38%, while Králov Dvůr Cement Plant controlled 33% of the production

62 Sbírka zákonů a nařízení no. 197/1922.

63 Sbírka zákonů a nařízení no. 27/1946.

64 Stavivo 17, 1936, p. 196; NA Prague, f. Předsednictvo ministerské rady, Record of the negotiations between the Salesplace of Czechoslovak cement factories and Ministry of national defense 11. 2. 1937.

65 Staatsgesetzblatt no. 445/1922.

66 80 Jahre Perlmooser Zement, Wien 1952, pp. 4–11.

67 V. Koch, Die Tiroler Zementindustrie, pp. 52–58.

68 Jaroslav Láník, Velký příběh. 120 let Královské cementárny, Králov Dvůr — Radotín 2009, pp. 22–24.



in Czechoslovakia. Králův Dvůr also owned a small plant in Waldmühle (Rodaun) near Vienna (in 1922, it produced 3% of Austria's cement);⁶⁹ however, it gradually sold the plant on account of low profitability.⁷⁰

The outcome of World War I significantly influenced the subsequent development of the two companies. Králův Dvůr Cement Plant was affected namely by the Czechoslovak nostrification and repatriation of securities. Not only did the company move its registered office from Vienna to Prague and replaced part of the management, but the decisive share in the company's stock was held by Živnostenská banka, either directly in its hands or through participation in Česká eskomptní banka (in 1928, the two banks held 48% of all shares).⁷¹ The management board was newly led by the architect Jan Kotěra, replaced in 1923 by Jindřich Bělohříbek,⁷² one of the directors of Živnostenská banka. The continuity with the preceding period was, however, preserved thanks to Johann Blaschczik, an Austrian, who from his position of the plants' director and later vice-chairman of the management board co-designed the company's business strategies as early as the 1890s.⁷³ Not only did Blaschczik play the decisive role in transiting from the production of "slag cement" to "Portland cement" in the early 20th century, but in the 1920s he also gave the impetus for the construction of a new, modern plant in Králův Dvůr (1926–1927).⁷⁴ In contrast, the Perlmoos cement plant did not undergo such extensive changes. The company's business strategies were still formulated by Österreichische Länderbank (as of 1927 operating under the name of Zentral-Europäische Länderbank), the presidents of which stood at the head of the cement plant's management board: between 1917 and 1927 the post was held by Markus Rotter, followed by Emil Freund.⁷⁵ A number of important figures of the Cisleithanian and later Austrian cement industry held the post of the director of Perlmoos. Among these was Max Thury who,⁷⁶ following the 1905 merger with the Kaltenleutgeben cement plant, was replaced by the "cement king" (Zementkönig) Theodor Pierus.⁷⁷

69 SOkA Beroun, f. Podnikový archiv Královodvorských cementáren, Podnikové ředitelství 1889–1950 (hereinafter as PŘ 1889–1950), cart. 10, Concern enterprises.

70 Archive of the Czech National Bank (hereinafter as AČNB), f. Živnostenská banka (hereinafter as ŽB), ŽB/149/1, Report to the directorate 13. 11. 1936.

71 Jaroslav Pátek, Československo-rakouské kapitálové a kartelové vztahy v letech 1918–1938. In: Československo a střední Evropa v meziválečném období, pp. 127–129; Vlastislav Laci-na, Nostrifikace podniků a bank v prvním desetiletí Československé republiky, Český časopis historický 92, 1994, no. 1, p. 85; NA Prague, f. MPOŽ, i. no. 2. 640/35, cart. 900.

72 SOkA Beroun, f. PŘ 1889–1950, Management board 4. 5. 1923.

73 J. Láník, Velký příběh, p. 204.

74 AČNB, f. ŽB, ŽB/149/1, Report no. 26914.

75 AG Perlmoos, 55. Annual general meeting (hereinafter as AGM) 1927.

76 Max Thury, Die Oesterreichische Cement-Industrie. In: Die Grossindustrie Oesterreichs. Stein-Thon-Porzellan und Glasindustrie, Metallindustrie, Bd. 2, Wien 1898, pp. 4–13; Arbeiter Zeitung 37, 1925, no. 140, p. 3.

77 AG Perlmoos, 34. AGM 1906; 68. AGM 1940.

TABLE 4. Estimates of the production capacities of the Perlmoos and Králův Dvůr Cement Plants in thousand tonnes (1913, 1919, 1924, 1930 and 1935) and index of the production capacities (1913 =100).

Year	Perlmoos				Index
	Portland	Roman	Slag	Overall	
1913	350	150	0	500	100
1919	450	150	0	600	120
1924	450	150	0	600	120
1930	450	150	0	600	120
1935	550	0	0	550	110

Year	Králův Dvůr				Index
	Portland	Roman	Slag	Overall	
1913	200	20	40	260	100
1919	200	20	40	260	100
1924	550*	20	0	570	219
1930	800	0	0	800	308
1935	800	0	0	800	308

Source: Compass. Finanzielles Jahrbuch für Österreich-Ungarn 48, 1915, Bd. 2, pp. 309, 318; Compass. Tschechoslowakei, Wien — Prag 1923–1939; Compass. Deutsch-Österreich, Wien 1925–1940.

Prior to 1918, the Perlmoos cement plant underwent a much more dynamic development than Králův Dvůr, which is evidenced mainly by the significant share in the Cisleithanian cement market (24% as opposed to 10%). Between 1913 and 1935, however, it expanded its production capacities only by 10%, while those of Králův Dvůr more than tripled over the same period (Table 4). Following World War I, Perlmoos faced the stagnating domestic cement consumption accompanied by the impossibility to export abroad (it was not possible to achieve the pre-war level of economies of scale)⁷⁸ as well as the decreasing demand for “Roman cement”, which had been previously making a significant contribution to the profits. Further complications arose on account of the spatial distribution of plants, which was not suitable given the conditions of a reduced market. Perlmoos either had to completely discontinue the plants producing “Roman cement” in Kufstein (Tyrol), Kaltenleutgeben and Lilienfeld (both in Lower Austria), or modernise them for the production of “Portland cement”. Out of the remaining cement plants — two plants in Kirchbichl (Tyrol) and factories in Achau (Lower Austria), Mannersdorf am Leithagebirge (Lower Austria), Judendorf (Carniola) and Retznei (Styria) — the plant that emerged as the most important was Mannersdorf (favourable location near Vienna), followed by Kirchbichl and Retznei.⁷⁹

The management of the Perlmoos cement plant was aware that 1918 constituted a major turning point regarding the further development of Austria’s cement indus-

⁷⁸ George Norman, Economies of Scale in the Cement Industry, *The Journal of Industrial Economics* 27, 1979, no. 4, pp. 317–337.

⁷⁹ Compass. Deutschösterreich — Tschecho-Slowakei 53, 1920, p. 442; AG Perlmoos, 64. AGM 1936.



try. For the time being, however, the stagnation of construction activities in combination with hyperinflation discouraged substantial investment.⁸⁰ The major modernisation of plants was not commenced until the second half of the 1920s, which was related to the stabilisation of the currency (introduction of the Austrian shilling in 1924/1925) and the extended protection of the domestic market (the 1927 amendment to conventional cement duty rates),⁸¹ with an important impetus also constituted by the issuance of an investment-promoting act thanks to which entrepreneurs were exempt from taxes.⁸² Funds flowed namely to the plant in Mannersdorf close to Vienna, which was soon to become the largest cement plant in Austria (the production was doubled, rationalised and mechanised).⁸³ Although the management put further modernisation aside for the time being, the plants in Retznei and Kirchbichl saw at least partial reconstruction.⁸⁴ While the caution in conducting extensive investment activities meant that Perlmoos was not able to take advantage of the conjuncture in the second half of the 1920s, it did not run into much debt and had sufficient time to prepare for the Great Depression quite well. Although only three plants were still in operation in the 1930s (Mannersdorf, Kirchbichl and Retznei), the company generated profit and paid out rather large dividends to shareholders (5–8% of the nominal value and 3–5% of the fair value of the shares on the stock exchange). In addition, the favourable financial situation enabled the company to buy up competing undertakings. As early as 1926, the company managed to acquire the competing plant in Weißenegg (Weißenegger Portlandzementfabrik G.m.b.H.) and at the outset of the Great Depression it purchased most of the shares of Vorarlberger Zementwerke Lorüns A.-G (the Lorüns and Ludesch plants in Vorarlberg).⁸⁵

The favourable development on the Czechoslovak market in building materials enabled Králův Dvůr to significantly expand production. The process may be divided into three basic phases. The first phase took place immediately after World War I. Králův Dvůr, at the time managing “slag cement” and “Portland cement” plants in Králův Dvůr near the town of Beroun and the Waldmühle (Rodaun) plant in Lower Austria, acquired, in 1922, a decisive stake in the share capital of the Čížkovice cement plant near the town of Litoměřice (Sasko — česká továrna na portlandský cement, a. s.). In addition, it merged with Berounská akciová cementárna a vápenice (Beroun Joint-Stock Cement and Lime Manufacturing Plant).⁸⁶ As a result, its sales more than doubled between 1922 and 1924 and its participation in the Czechoslovak market in cement increased almost to 55%.⁸⁷ The position of Králův Dvůr soon weakened again, which was mainly due to the repeated entry of new players into the market. Therefore, the company’s management initiated the second phase of the expansion

80 AG Perlmoos, 51. AGM 1923; *Compass. Deutschösterreich* 58, 1925, p. 677.

81 *Staatsgesetzblatt* no. 75/1926.

82 AG Perlmoos, 54. AGM 1926.

83 100 Jahre Zement in Mannersdorf, Perlmooser 147, 1994, pp. 3, 6.

84 AG Perlmoos, 56. AGM 1928; 57. AGM 1929; 80 Jahre Perlmooser Zement, p. 4.

85 AG Perlmoos, 55. AGM 1927; 60. AGM 1931.

86 SOkA Beroun, f. PŘ 1889–1950, cart. 7, Management board 14. 12. 1922.

87 T. Gecko, *Kartely v cementárenství 1900–1938*, p. 118.

of production capacities. Between 1926 and 1927, it build a new plant near the town of Králův Dvůr and in anticipation of an impending economic decline, it kept on modernising the operation, by means of which it armed itself for the “price wars”.⁸⁸

The third great expansion of Králův Dvůr took place between 1936 and 1937. At the time, cement consumption was on the rise mainly in Slovakia,⁸⁹ which is why the management looked for a way to enter the local market. First and foremost, it bought the plant in Stupava near the capital of Bratislava (Union, továrň na portlandský cement účastinná spoločnosť or “Union, Portland Cement Plant Joint-Stock Company”, subsequently renamed to Stupavská cementárň účastinná spoločnosť or “Stupava Cement Plant Joint-Stock Company”); additionally, it tried to relocate the cement plant in Podolí near Prague (Podolská cementárň v Praze, a. s.) to eastern Slovakia.⁹⁰ It was the second step that proved the most lucrative — there was no cement plant operating in eastern Slovakia and the possibility of “spatial monopoly” was very tempting.⁹¹ The existing cement syndicate (Prodejna cementáren, s. r. o.), however, comprised an article whereby it was forbidden to invest in production capacities. There was only one exception — to relocate the Podolí cement plant the operation of which was soon to be discontinued due to the impacts of dust and noise on the closest Prague agglomeration.⁹² The risks entailed were, however, considerable as it could lead to the dissolution of the cement syndicate, which was not what Králův Dvůr wanted at the time. It started a highly complicated game, with the gradual involvement of a number of Czechoslovak cement plants as well as the Baťa company from Zlín which sought to construct its own cement plants in Grygov near the Czech town of Olomouc and in Německá Lupča in Slovakia.⁹³ The post-1938 political and military events, however, put an end to all of these initiatives.

During economic crises, cement plants usually opt for price dumping in order to maintain or strengthen their positions. Plants that operate on the basis of depressive costs can temporarily afford to “flood” the market with cheap products.⁹⁴ Once the financial resources have been used up or the goal has been achieved (usually the moment the crisis reaches its bottom), they conclude a “truce” by creating a cartel or syndicate (often with the participation of banks trying to maximise profits from their holding companies) that determines the quotas for aligning the demand

88 J. Láník, *Velký příběh*, pp. 76–77; SOKA Beroun, f. PŘ 1889–1950, cart. 10, Annual report 1929.

89 J. Láník, *Velký příběh*, p. 89.

90 AČNB, f. ŽB, ŽB/149/1Z, Management board 13. 11. 1936, 14. 6. 1937

91 Marc E. McBride, *Spatial Competition and Vertical Integration. Cement and Concrete Revisited*, *The American Economic Review* 73, 1983, no. 5, p. 1016.

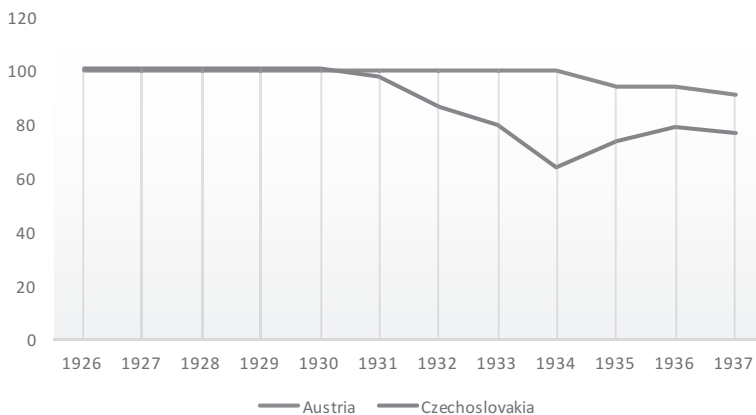
92 NA Prague, f. Kartelový rejstřík 1933–1950, cart. 73, reference no. 720, Cartel agreement 13. 12. 1935.

93 AČNB, f. ŽB, ŽB/149/1, *Zprávy pro ředitelství* 13. 11. 1936, 18. 10. 1937; AČNB, f. ŽB/775/3, Letter of 19. 2. 1938; State District Archives Zlín, f. Baťa Zlín, sign. XV, cart. 1692, inv. no. 48, Report of the negotiations between Čipera and Charvát 12. 12. 1939; Report of the negotiations with Králův Dvůr Cement Plant 12. 12. 1939.

94 V. Koch, *Die Tiroler Zementindustrie*, pp. 110–111.



CHART 2. Nominal price index of cement in Austria and Czechoslovakia in 1926–1937 (1925 = 100).



Source: Compass. *Deutsch-Österreich*, Wien 1925–1940; *Cenové zprávy státního úřadu statistického*, Prague 1921–1948.

with the supply, distributes sales across regions so that transportation costs can be reduced and increases prices.⁹⁵ A similar development took place in Czechoslovakia and Austria during the interwar years.

While the cartelisation of the Czechoslovak cement industry started in relation to the consolidation of the industry following the deflation crisis (1924/1925),⁹⁶ Austria exhibited continuity with the pre-war period. Between 1917 and 1922, the Economic Association for the Cement Industry operated in Austria (*Wirtschaftsverband der Zementindustrie*), which was a cartel de facto managed by the state and led by the director of the Perlmoos cement plant, Theodor Pierus.⁹⁷ As soon as it was dissolved at the insistence of consumers, the Austrian cement plants created a new cartel organisation that concluded,⁹⁸ under the leadership of Perlmoos, international agreements as well.⁹⁹ The Great Depression constituted the only intermezzo, whereby the Waldmühle plant (owned by Králův Dvůr) decided to leave the Austrian cartel with the view of acquiring a larger production contingent.¹⁰⁰ In 1932/1933, a short price war took place which was, given the general exhaustion of the industry, soon terminated and a new arrangement ensued.¹⁰¹ Czechoslovakia saw the dissolution of the existing “cartel of four cement plants” in 1932; however, it differed in the way the resulting “price war” proceeded. During the 1920s, the Cze-

⁹⁵ T. Gecko, *Kartelizace cementářského průmyslu v kontextu hospodářských krizí v období let 1901–1938*, p. 217.

⁹⁶ NA Prague, f. MPOŽ, i. no. 66. 826/27, cart. 642, Report on the cartel agreements 1927–1932.

⁹⁷ *Österreichische Tonindustrie-Zeitung* 37, 1918, p. 105.

⁹⁸ *Tagblatt* 27, 1923, no. 157, p. 3.

⁹⁹ *Wiener Zeitung* 226, 1929, no. 12, p. 8.

¹⁰⁰ *Linzer Tages-Post* 68, 1932, no. 301, p. 12.

¹⁰¹ *Der österreichische Volkswirt* 25, 1933, no. 20, p. 30.

choslovak cement plants significantly strengthened their financial positions and substantially extended their production capacities; therefore, the crisis was a welcome opportunity to re-distribute the market. Regardless of the rapidly decreasing profits, a number of cement plants saw their ambitions unsatisfied for a long time. The “price wars” continued well into 1935/1936 when a nationwide syndicate was formed (Prodejna cementáren s. r. o.), with a dominant position taken up by Králův Dvůr.¹⁰² The state, however, stepped in: it created the Arbitration Panels for Determining the Prices of Building Materials and prevented the syndicate from increasing the prices of goods again (Chart 2). Although the cartelised plants repeatedly filed suits against the state with the Constitutional Court,¹⁰³ Králův Dvůr welcomed the intervention of the Arbitration Panels as it caused damage mainly to small enterprises with high production costs.¹⁰⁴



TABLE 5. Profitability, debt and coverage ratio of fixed assets by equity (percentage) of the Králův Dvůr and Perlmoos Cement Plants in 1925–1937.

Year	Profitability (%)		Debt (%)		Coverage ratio (%)	
	Perlmoos	Králův Dvůr	Perlmoos	Králův Dvůr	Perlmoos	Králův Dvůr
1925	10	52	4	28	140	162
1926	8	67	7	29	134	126
1927	16	62	8	21	148	70
1928	23	60	12	17	170	78
1929	23	59	13	20	153	94
1930	7	59	14	10	127	103
1931	7	47	10	7	129	111
1932	7	29	10	6	144	120
1933	6	11	9	6	153	128
1934	7	-63	10	9	148	143
1935	9	0	11	18	151	115
1936	9	10	11	12	166	167
1937	7	19	16	15	157	162

Source: Compass. Tschechoslowakei, Wien — Prag 1923–1939; Compass. Deutsch-Österreich, Wien 1925–1940.

In order to assess the effectivity of the business strategies of Perlmoos and Králův Dvůr, a financial analysis will be used, focusing on the analysis of profitability, debt and the level to which fixed assets were covered by equity. The first years following the war were a period of consolidation for both cement plants, whereby they gradu-

¹⁰² SOKA Beroun, f. PŘ 1889–1950, cart. 8, Výkonný výbor 13. 1. 1933; SOKA Beroun, f. PŘ 1889–1950, cart. 13a, Výkonný výbor 12. 2. 1935, Die Lage der Tschechoslovakische Zementindustrie.

¹⁰³ Stavivo 19, 1938, s. 238.

¹⁰⁴ AČNB, f. ŽB, ŽB/149/1, Report to the directorate 23. 11. 1937.



ally coped with the impacts of the economic disintegration of Central Europe. Inflation was particularly high in Austria, with Perlmoos reporting a profit of over K 70 billion in 1924, while the prices of cement reached a thousand times the pre-war values. In contrast, the conjuncture of the second half of the 1920s had a relatively positive effect (Table 5). It needs to be noted, however, that the management of the Perlmoos cement plant invested the money it made into the modernisation of operations and it paid only modest dividends to shareholders (Table 6). The strategy paid off for the company namely during the Great Depression: as production became more effective, the profits during the 1930s remained stable between 6–9% of the common equity, with shareholders receiving higher dividends than during the preceding conjuncture. Curiously, the cement plant reported only a low level of debt during the entire interwar period (the percentage ratio of liabilities to all of the assets). On the one hand, this fact can be assessed as positive because Perlmoos was able to cover its investment well, but on the other hand the distrust toward bank loans impeded the company's growth in the long term. The company was thus bordering on overcapitalisation, namely in the second half of the 1920s and towards the end of the 1930s. It needs to be taken in account, however, that the structural changes of Austria's post-1918 cement market did not create favourable conditions for substantial investment (stagnating domestic demand and the impossibility to export). Between 1918 and 1938, the production of the Perlmoos cement plant was rationalised, specialised for "Portland cement" and geographically better distributed, yet it was not significantly extended.

TABLE 6. Stock dividends per nominal and fair value of shares of the Perlmoos and Králův Dvůr Cement Plants in 1925–1937.

Year	Stock dividend per nominal value of shares (%)		Stock dividend per fair value of shares (%)	
	Perlmoos	Králův Dvůr	Perlmoos	Králův Dvůr
1925	0	6	5	40
1926	0	5	5	50
1927	3	3	5	50
1928	3	3	5	50
1929	3	5	5	50
1930	4	7	5	50
1931	4	7	5	40
1932	5	5	5	25
1933	5	2	5	10
1934	5	1	6	5
1935	5	1	8	5
1936	4	1	8	7
1937	3	2	4	15

Source: Compass. Tschechoslowakei, Wien — Prague 1923–1939; Compass. Deutsch-Österreich, Wien 1925–1940.

Králův Dvůr Cement Plant strengthened its positions through strategies different to Perlmoos. It did not have to deal with transiting to “Portland cement” because it had made this step thanks to Johann Blaschczik prior to World War I. On the contrary, the expansion of the domestic market motivated it at first to expand production capacities by building its own concern. The company showed greater willingness to run into debt than Perlmoos, but the bank loan never reached exceptionally high figures and, what is more, it was used mainly for investment. Besides, the management of Králův Dvůr would acquire finances by regularly increasing the share capital. While the common equity of Perlmoos roughly doubled between 1919 and 1937, that of Králův Dvůr increased almost sevenfold. Corresponding to this was the weaker coverage of fixed assets through equity: at the end of the 1920s, the company was bordering on undercapitalisation due to substantial investment; given the growing demand and high prices of goods, however, the company could afford it (the annual profit oscillated around 60% of the share capital). Contrary to Perlmoos, which allocated a substantial part of profits to creating special investment funds, Králův Dvůr Cement Plant distributed profits by paying generous dividends. The reason for this may be the growing profitability of the Czechoslovak cement industry as well as the fast growth of shares on the stock exchange (in 1927, they were sold at twenty times their nominal value). The management board of Králův Dvůr did not want to discourage investors, which is why it tried to pay at least a 3% dividend of their fair value. Change was brought about by the Great Depression, which sparked “price wars” in the Czechoslovak market in cement. Although the industry recovered from the Great Depression as early as 1937, the company was not able to attain such prosperity as in the second half of the 1920s because of the state’s intervention in pricing. Nevertheless, Králův Dvůr remained by far the strongest player on the market, which is evidenced by the growing share it had in Czechoslovak production as well as by the ambitious plans to expand into eastern Slovakia.

CONCLUSION

As both the cement plants selected suitable business strategies, they were able to extend their share in their respective markets by about 10% between 1922 and 1937 (Perlmoos to 48% and Králův Dvůr to 44%).¹⁰⁵ In the context of the development of the Austrian and Czechoslovakian cement industries both results seem very favourable. However, the comparative study focusing on the two companies’ business strategies in the context of the structural changes affecting the interwar market in cement showed a number of deviations. The economy of the newly emerged Czechoslovak Republic gave rise to a number of favourable prerequisites for the development of the cement industry: the adoption of high duty rates made it possible to push back foreign competition entirely, Rašín’s deflation policy prevented hyperin-

105 T. Gecko, *Kartely v cementárenství 1918–1938*, p. 118; U. Wolf, *Die Entwicklung der österreichischen Zementindustrie*, pp. 53, 85; *Compass. Deutsches Reich: Land Österreich, Sudetenland*, 1940, p. 416.



flation and the state stimulated demand for the goods through large infrastructure projects as well as residential construction. Králův Dvůr took advantage of the situation. It started building its own concern and expanded the production capacities of its plants. In contrast, Perlmoos had to deal with stagnating consumption, inadequate protection of the domestic market, hyperinflation as well as deeper changes affecting the structure of production (transition from “Roman cement” to “Portland cement”). This is why the company’s management was cautious about making substantial investment. Instead, it tried to make production more effective and, more importantly, relocate it geographically without increasing the production capacities of the entire concern to a considerable degree.

Although a number of divergences may be observed, Králův Dvůr took the path of “extensive” growth during the interwar years, while Perlmoos opted for “intensive” means of development. Both strategies corresponded with the developments on the domestic market or, to be precise, with its expansion in Czechoslovakia and stagnation in Austria. Therefore, given the growing profitability, they proved to be comparably successful in the short time frame delineated by the two world wars. However, the extensive changes in the structure of the Central European cement industry following the incorporation of Austria and Czechoslovakia into the German large-space economy make it impossible to assess whether these business strategies would pay off for the companies in the long term.