
*Saltmining and the Salt-trade:
a State-Monopoly in the XVIth-XVIIth
Centuries. A Case-Study
in Public Enterprise and Development
in Austria and the South German States **

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1. INTRODUCTION

In the Alps salt was produced in four neighbouring but politically independent countries: in *Austria* and *Bavaria*, and in the two smaller territories of *Salzburg* and *Berchtesgaden*. Salt production and the salt trade were sovereign monopolies.¹ In the eyes of the mercantilists the salt monopoly was the "brightest jewel in the possession of the Hofkammer".² Everything was done to promote domestic production and to protect the home market from the threat of rival salt from outside. The markets

* Dedicated to Professor Alfred Hoffmann in Vienna. The slightly modified German version with some additional relevant to Austria details will appear in the Festschrift in Honour of the 75th Birthday of Alfred Hoffmann, Vienna 1979.

¹ For Austria see ALFRED HOFFMANN, *Wirtschaftsgeschichte des Landes Oberösterreich*. Vol. 1: Werden, Wachsen, Reifen. Von der Frühzeit bis zum Jahre 1848; 1952, pp. 39, 114 ff., 212 ff. For Bavaria see ECKART SCHREMMER, *Die Wirtschaft Bayerns. Vom hohen Mittelalter bis zum Beginn der Industrialisierung*. Bergbau, Gewerbe, Handel; 1970, pp. 48 ff., 55 ff.

² GUSTAV OTRUBA, *Quantitative Aspekte der Salzproduktion in der österreichischen Reichshälfte unter besonderer Berücksichtigung der alpinen Salinen im 19. Jahrhundert*; in: Michael Mitterauer (ed.), *Österreichisches Montanwesen*. Produktion, Verteilung, Sozialformen, 1974, p. 29.

in foreign countries were the subject both of fierce disputes and of cartel agreements, all of which resulted in a complex network of reciprocal relations between the countries which underwent a number of changes in the passage of time. Among these relations, the Bohemian salt market and the year 1706 play an important role. In a certain way this year was a turning point from a defensive mercantilist tariff policy to protect the home markets towards a offensive marketing strategy in a more modern sense.

2. THE SITUATION IN AUSTRIA BEFORE 1706

The main competitors that Austrian (Habsburger) salt from Gmund had to face up to on the Austrian markets around the river Enns, in Upper Austria north of the Danube (Mühlviertel), and in Bohemia in the early 16th century were Salzburg salt from Hallein and Bavarian (Wittelsbacher) salt from Reichenhall.³ Gmunden was the main reshipment centre for salt from the Salzkammergut where production was concentrated in Hallstatt and (since 1563) Ischl.⁴

As production increased in the three Habsburg salt manufacturing centres Aussee, Hall in Tirol and Hallstatt-Ischl, Austria made correspondingly greater efforts to exclude foreign salt from her territories. In 1508 the sale of foreign salt in the area around the river Enns was prohibited,⁵ and following the election of Ferdinand of Habsburg as King of Bohemia,⁶ the market in

³ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, pp. 114 f., 212.

⁴ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, p. 212; the production of salt dates back to the middle of the 13th century at least; cf. MICHAEL MITTERAUER, *Produktionsweise, Siedlungsstruktur und Sozialformen in österreichischen Montanwesen des Mittelalters und der frühen Neuzeit*; in: Michael Mitterauer (ed.), *Österreichisches Montanwesen*, p. 242, fn. 30.

⁵ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, p. 214. In more detail HERBERT KNITTLER, *Salz- und Eisenniederlagen. Rechtliche Grundlagen und wirtschaftliche Funktionen*; in: Michael Mitterauer (ed.), *Österreichisches Montanwesen*, pp. 210, 210, 212 f., 227.

⁶ The Bavarian point of view: HEINRICH LUTZ, *Das konfessionelle Zeitalter. Erster Teil, Die Herzöge Wilhelm IV. und Albrecht V.*; in: Max Spindler (ed.), *Handbuch der bayerischen Geschichte*, Vol. II, 2nd ed., 1977, p. 318.

Bohemia was reserved to an increasing extent by Austria as an outlet for her own salt from Gmunden. In 1530 and 1535 agreements were signed by Austria, Salzburg and Bavaria to the effect that Salzburg should henceforth only be entitled to export her Hallein salt to Bohemia via the Passau-Wegscheid route; the area north of the Enns became the exclusive preserve of salt from Gmunden in Austria.⁷ There followed, in 1544, the prohibition of the sale of Salzburg salt from Schellenberg on the Mühlviertel markets Neufelden, Hofkirchen and Rohrbach.⁸ But laws and agreements alone were not enough to prevent contraband salt entering the country.

1563 saw the opening of a new Austrian salina in Ischl, and it was soon after this that the distribution of salt passed into the hands of the Austrian sovereign himself. Salt "chambers" were established in Bohemia. These were answerable to the "Deputiertenamt" (chamber of Deputies) established in Prague in 1548. In the 1560's, the Habsburg emperors Ferdinand I. and Maximilian II. tried to extricate themselves from the agreements with Salzburg and Bavaria of 1530 and 1535.⁹ As of 1564, only Habsburg salt from Gmund could be delivered to Prague from Linz and Mauthausen via Budweis. "Ever since then the Austrian salt monopoly has appeared to be safe".¹⁰

Negotiations in Vienna in 1566 concerning salt trading between Austria and Bavaria did nothing concrete to change the situation.¹¹ Austria was determined to keep foreign salt at bay, all it needed was to find the method most likely to succeed. For this it had to wait until the War of the Spanish Succession (1701-1714) which found Austria and Bavaria on opposite sides.

⁷ JOHANN GEORG LORI, *Sammlung des Baierschen Bergrechts mit einer Einleitung in die bairische Bergrechtsgeschichte*, 1764, p. LIII.

⁸ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, pp. 214 f.

⁹ ECKART SCHREMMER, *Die Wirtschaft Bayerns*, p. 53.

¹⁰ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, p. 215.

¹¹ JOHANN GEORG LORI, *Sammlung*, pp. LVI f.

Bavaria's temporary power of restraint over Upper Austrian territory and Austrian salinas could only be exploited between 1629 and 1639 or thereabouts.¹² After that, negotiations between Austria and Bavaria extended through until the end of the century without reaching a satisfactory conclusion for either party. Bavaria found herself exposed to the same nationalist-cum-mercantilist trade and commercial policy of protective tariffs at the hands of Austria as she herself was accustomed to practising in her relations with her trading partners.¹³ Even the journey undertaken by the renowned mercantilist Johann Heinrich Becher to Vienna with a view to reducing salt import tariffs for Bohemia on the behalf of the Bavarian government remained fruitless.

Despite this, Bohemia still represented an outlet for Bavarian salt (almost exclusively Hallein salt bought from Salzburg). The probable reason for this was that Austria was interested in the sale of Hungarian copper to Bavaria, and trouble-free transit through the latter country was also necessary.¹⁴ Furthermore, Bavaria was fully capable of threatening to impose an import ban on Tirolean wine from time to time. In spite of all this, 1692 saw Leopold I. depriving the Bohemian towns of the right of storage for foreign salt; categorically forbidding the crossing of the Moldau and the Elbe and raising import duties.¹⁵ The first years of the XVIIIth century found Austria making salt importation even more difficult until finally she was able to capitalise on her strong political and military position vis-à-vis Bavaria during the war of Spanish Succession, and in 1706 declared Bohemia out of bounds for foreign salt on pain of corporal and

¹² See DIETER ALBRECHT, *Das konfessionelle Zeitalter. 2. Teil: Die Herzöge Wilhelm V. und Maximilian I.*; in: Max Spindler (ed.) *Handbuch*, vol. 2, 2nd ed., 1977, pp. 384 ff., 387. See also ECKART SCHREMMER, *Wirtschaftsgeschichte*, p. 273.

¹³ For more detail see HEINRICH VON SRBIR, *Studien zur Geschichte des österreichischen Salzwesens* (Forschungen zur inneren Geschichte Österreichs, 12), 1917, pp. 178 ff.

¹⁴ HANS NUSSER, *Kurbayerns Maut- und Zollpolitik im Spiegel der Gesetzgebung*; dissertation Munich, 1943, p. 24.

¹⁵ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, p. 215.

capital punishment. Salzburg salt thus became a "seizable commodity".¹⁶ This meant that Bavaria — and with her Salzburg — had lost her most important outlet for Hallein salt. Bohemia, like Moravia and Upper and Lower Austria, was supplied with salt from the Austrian Salzkammergut.¹⁷

There was nothing left for Bavaria but to resign herself to a hopeless situation. The loss of Bohemia as an outlet was to be of decisive influence in the trends of the Bavarian salt trade and salt production policy until well into the last quarter of the XVIIIth century.

3. THE SITUATION IN BAVARIA BEFORE 1706

By 1509 the Bavarian dukes had put themselves in complete possession of the salt exploitation rights for the Reichenhall salina. They were thus in a position to set up a sovereign salt production monopoly. In 1587 the Bavarian Crown had succeeded in setting up a sovereign salt trading monopoly as well. Foreign salt could no longer be imported into Bavaria.¹⁸

Although this meant that Bavaria had consolidated her position in the Alpine salt market, her production capacity was still well below that of the Habsburg salinas. Indeed she could not even match the production capacity of the third major Alpine salt producer, the small territories of Salzburg and Berchtesgaden (taken together). The statistics are as follows: ¹⁹

¹⁶ JOHANN GEORG LORI, *Sammlung*, p. LXXVIII.

¹⁷ Cf. HEINRICH VON SRBIK, *Studien*, pp. 182 ff.; also CARL SCHRAML, *Das oberösterreichische Salinenwesen vom Beginne des 16. bis zur Mitte des 18. Jahrhunderts*, 1932, pp. 334 ff.

¹⁸ For more detail see HANS OCKEL, *Die Entstehung des landesherrlichen Salzmonopols in Bayern und seine Verwaltung im 17. Jahrhundert*, (*Forschungen zur Geschichte Bayerns*, 7), 1899; FRANZ XAVER EBERLE, *Die Organisation des Reichenhaller Salzwesens unter dem herzoglichen und kurfürstlichen Produktions- und Handelsmonopol*, dissertation Munich, 1910.

¹⁹ OTMAR PICKEL, *Salzproduktion*, p. 26.

SALT PRODUCTION OF THE THREE MAJOR ALPINE SALT PRODUCERS
(in centners 50 kg)

Year	Habsburg salinas	Salzburg salinas	Bavarian salinas	Total
1520	531,900	445,860	269,640	1,247,400
1550	681,060	615,920	309,480	1,606,460
1628	1,024,480	441,280	268,720	1,734,480

If Bavaria was to become a "salt power" comparable to Austria then the only way open to her was to gain control over the salt production of Salzburg and Berchtesgaden. Attempts to achieve this at a political-diplomatic and then at a military level having failed, Bavaria resorted to agreements. This process was made up of a number of stages.²⁰ It proved very much to Bavaria's advantage that Salzburg and Berchtesgaden were geographically small and thus had little in the way of a home market for their salt production. Given their salt manufacturing capacity, they were obviously dependent to a high degree on exports. Here, however they were hemmed in geographically by their own major competitors, Austria and Bavaria. Both the latter were politically and economically immeasurably more powerful; each had extensive home markets and were also in a position to block the outlet routes for Salzburg and Berchtesgaden salt. Wedged in between these two blocs, Salzburg and Berchtesgaden had little hope of being able to impose a nationalist-cum-mercantilist foreign trade policy of their own vis-à-vis Austria and Bavaria. Nor would joining together to form a salt union have greatly enhanced the likelihood of success.

Berchtesgaden was first to abandon independent salt exports. In 1387 and 1409 it pledged its Schellenberg saltmine to Salzburg.

²⁰ See HERBERT KLEIN, *Zur älteren Geschichte der Salinen Hallein und Reichenhall*; in: *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 38, 1951; and JOHANN GEORG LORI, *Sammlung*; and HERMANN VIETZEN, *Der Münchner Salzhandel im Mittelalter*, 1936.

No later than the beginning of the XVIth century, the Berchtesgaden-Schellenberg rock salt crystallised at Salzburg-Hallein came on to the market together with the Hallein salt under the name of Salzburg-Hallein (poor) salt. When in 1554 Berchtesgaden discovered a new high-potential source of salt near Frauenreuth Bavaria was ready to pounce. In agreements dating from 1555 and 1564 Berchtesgaden sold its Frauenreuth salt to Bavaria "for all time".²¹ It was delivered to Reichenhall and sold together with the salt from there as Bavarian Reichenhall (rich) salt. Berchtesgaden no longer figured on the Alpine salt market as an independent power. Its former share fell to Salzburg and Bavaria.

As Austria began guarding the Bohemian market more and more jealously against rival salt producers, *Salzburg* in her turn became increasingly hard pressed to sell her Hallein salt on this traditional market. Whereas Austria attempted to rid herself of Salzburg as a competitor by forcing Hallein salt out of her territory, Bavaria pursued the same essential objective by striving to gain control of Salzburg salt. This non-coordinated pressure from both sides at once was in the long run too much for the small and politically weak bishopric of Salzburg. She found the going in salt marketing so heavy that she became discouraged and finally gave up the salt (export) trade altogether: she too threw in the towel. In agreements concluded in 1594 and 1611, Salzburg passed what amounted to the totality of its export salt production in Hallein to neighbouring Bavaria for distribution.²² Bavaria undertook to buy an annual 26,400 Fuder of salt (about 304,000 centner) at a fixed price. Salzburg kept back only enough salt for her home market. Thus, in the end, the goal that had eluded Bavaria's diplomatic and military power politics was achieved

²¹ Both agreements are copied in JOHANN GEORG LORI, *Sammlung*, pp. 285 f., 290 ff.; see also JOSEF E. VON KOCH-STERNEELD, *Die teutschen, insbes. die bayerischen und österreichischen Salzwerke, zunächst im Mittelalter*, 1837, pp. 80 ff.

²² Copy of both agreements in JOHANN GEORG LORI, *Sammlung*, pp. 359 ff., 385 ff.

thanks to the Habsburgs' autarky policy. It drove Salzburg's salt into Bavaria's arms.

In this way, Salzburg followed Berchtesgaden into retirement as an independent salt-trading power. From then on, the Salzburg-Hallein salt was put on to the market together with the Berchtesgaden-Schellenberg salt as Bavarian (poor) salt. Bavaria produced only the "rich" salt, but she marketed both her own "rich" and the foreign "poor" salt side by side. This led to problems, the point being that Bavaria had not only taken the Hallein salt off Salzburg's hands but the problem of Bohemia as a trade outlet as well. Bavaria was, however, confident of being in a much stronger political and economic position vis-à-vis the Habsburgs than Salzburg had been and did not trouble to consider the loss of the Bohemian market. As late as 1597, Bavaria reasoned, she had been able to sell as much as 193,000 centner of Hallein salt on that very market.²³ It soon transpired, however, that Bavaria had been over-optimistic with regard to the resoluteness of the Habsburgs' defence strategy.

The situation on Bavaria's second large export market — *Switzerland* — was shaken as well. There the pressure of competition increased when Austria sold more salt from Tirol in Switzerland, rapidly proving more than a match for Bavaria's own export efforts. The northern Swiss cantons played the two competitors off against each other; the upshot of this was a cartel agreement between Austria and Bavaria in 1649 on the provision of the Swiss markets (Rosenheimer Salt Trade Agreement).²⁴ This covenant fell apart around 1690 when Bavaria, in some distress, tried to increase its share of the Swiss market through price reductions.

When finally in 1706, the Habsburgs closed the Bohemian

²³ ECKART SCHREMMER, *Wirtschaftsgeschichte*, p. 273.

²⁴ Copy of the Rosenheimer Salt Trade Agreement in JAKOB STRIEDER, *Studien zur Geschichte kapitalistischer Organisationsformen*, 2nd ed. 1925, pp. 406 ff.; supplement p. 196 fn. 2; the new agreement of 1659, pp. 411 ff.

market to all foreign salt, the situation had become precarious for Bavaria. Her position was aggravated by the fact that during and after the War of Spanish Succession Austria had been able to entrench herself more firmly in the Upper Swabian part of Austria and now possessed salt stores all round Lake Constance (Bregenz, Radolfzell, Stockach, Wasserburg).²⁵

The market for Bavarian salt in Switzerland shrank and seemed on the point of being lost for good. The same was true to a lesser extent of Upper Swabia.

This prompted Bavaria to elaborate a long-term, comprehensive salt-trading strategy westwards rather than eastwards and she pursued this aim with astonishing tenacity, acumen and, in the end, success.²⁶

The conquest and defence of salt export markets depended to a large extent on the degree to which Bavaria was willing to enter into reciprocal business with the target countries. The decisive export commodity involved in this case was wine from Württemberg and Franken. Strong interdependent links were forged between the Bavarian, Austrian and French (Lorrainian) salt markets, between the Austrian (Tirolean), Frankish, Württembergish and French wine markets and between both market groups. Consummate diplomatic skill was needed here to manoeuvre to the best advantage, to deploy the Bavarians' own Reichenhall salt and the foreign Salzburg-Hallein salt as the situation demanded, to win round individual markets inside and outside Bavaria to particular kinds of salt and to distribute the reciprocal business wisely. The salt trading policy became the very centrepiece of Bavarian foreign trade policy as a whole.

²⁵ See fn. 26.

²⁶ The most comprehensive contemporary description of the Bavarian salt trade including the volume of trade, costs and profits in: Eckart Schremmer (ed.), *Handelsstrategie und betriebswirtschaftliche Kalkulation im ausgehenden 18. Jahrhundert. Der süddeutsche Salzmarkt. Zeitgenössische quantitative Untersuchungen u. a. von Mathias Flurl und Joseph Ludwig Wolf (Deutsche Handelsakten des Mittelalters und der Neuzeit, vol. XIV), 1971.*

Indeed, the unyielding attitude of the Habsburgs in Bohemia meant that Bavaria had very little choice in the matter.

4. BAVARIAN SALT-TRADING STRATEGY IN THE XVIIIITH CENTURY

4.1. *The first problem: Bohemia and the Salzburg (Hallein) salt*

Bavaria had resigned herself to the loss of Bohemia as a trade outlet. This clear-cut situation at least had the advantage that Bavaria no longer needed to waste any effort on this particular market. In future she could write off the prospects to the east and concentrate all the more effectively on trade with the west. This was the only way that promised a solution of the problem of finding an outlet for the Salzburg salt which Bavaria had to sell.

Deprived as she was of Bohemia, Bavaria first of all drastically reduced her purchases of Salzburg-Hallein salt. Instead of the 26,400 fuder agreed on, only about 7,000 - 10,000 fuder (83,000 - 110,000 centner) were bought annually.²⁷ This together with the price of salt and other issues was the main cause of the decades of embittered dispute between Salzburg and Bavaria that followed.²⁸ Neither the Reichskammer Court in Wetzlar with its meticulously thorough methods of procedure nor renewed direct negotiations in 1759 and 1766 were able to bring about an agreement between the two parties. One of Salzburg's threats was the withholding of wood from its large pine forests for the Bavarian salina. The threat of an interruption of energy supply was a very real one given the constant shortage of wood, although

²⁷ MICHAEL DOEBERL, *Innere Regierung Bayerns nach dem 30-jährigen Krieg*, (Forschungen zur Geschichte Bayerns, 12), 1904, p. 53; and by the same author: *Das Projekt einer Einigung Deutschlands auf wirtschaftlicher Grundlage und die sich daran anschließenden wirtschaftspolitischen Verhandlungen zwischen Bayern und Österreich* (Forschungen zur Geschichte Bayerns, 6), 1898.

²⁸ From the Salzburg point of view see: N. N., *Actenmäßige Geschichtserzählung, von der Beschaffenheit des alten halleinischen SalzweSENS im Erzstift Salzburg etc. etc.*, Fol. Salzburg, 1761; see also JOHANN GEORG LORI, *Sammlung*, pp. CIX ff.

it remains an open question how Salzburg could have exploited its forests otherwise and to greater effect. Bavaria, for her part, announced a total stoppage of purchasing Salzburg salt in 1779. There was even talk of a salt war. Bavaria began preparations to increase her own salt production in Reichenhall and Reichenhall's offshoot-salina, Traunstein, set up in 1616 in response to a shortage of wood. The motive for this was to ensure a replacement if Salzburg salt should suddenly no longer be forthcoming. A direct salt route from Berchtesgaden via Ramsau to Bavaria was built so as to skirt Salzburg territory.²⁹ But such a dispute would not have brought either side any advantages. After all, both of them were under pressure due to Austria's policies, each in their different way.

After further talks both territories reached a new formal agreement in 1781, replacing a contingency agreement concluded in 1766.³⁰ The minimum obligatory purchase amount for Bavaria was reduced from 26,400 fuder to 21,600 fuder (about 234,000 centner) of Hallein salt and the salt price was fixed anew. Bavaria paid compensation to Salzburg for not having kept to the agreements over a number of decades.

4.2. *The second problem: Regrouping the trade outlets*

Independently of the purchasing agreements between herself and Salzburg, Bavaria was forced to go in search of new export markets. These were found in the cantons of north Switzerland. This turn of events however put Bavaria in a somewhat peculiar situation in that Switzerland (for reasons of local demand and

²⁹ The larger context is in HILDEGARD WEISS, *Über die Verlagerung von Transit-Handelswegen zwischen Süddeutschland und Oberitalien um die Mitte des 18. Jahrhunderts*; in: Wilhelm Abel et al. (ed.), *Wirtschaft, Geschichte und Wirtschaftsgeschichte. Festschrift zum 65. Geburtstag von Friedrich Lütge*, 1966, pp. 206 ff.

³⁰ For more details see Eckart Schremmer (ed.), *Handelsstrategie*, pp. 19 ff.

transport) represented a market for Bavarian salt which was transported over land but not for the Salzburg salt that came to Bavaria via the waterways Salzach, Inn and Danube. And Bavaria had, if anything, too much Salzburg salt and too little salt of her own production. Thus, immediate expansion of the Swiss market would not have solved the Salzburg problem on its own.

The two kinds of salt sold by Bavaria, her own and Salzburg's salt, had rather to be re-distributed on the existing markets. Salzburg salt, which reached Bavaria via the waterways and was diverted towards the west by Bohemia, had to be delivered to the existing outlets for Bavarian salt as these could be easily reached from the Danube. These markets were situated in northern Swabia, Württemberg, Frankish and Main-Frankish areas and the Upper Palatinate; further, but to a lesser extent, in Upper and Lower Bavaria. To the extent that Salzburg salt could be sold on these markets, replacing Bavarian salt, the amount of the latter which thus became available could be rerouted to Switzerland.

In this long-drawn-out process of re-priming export markets, Württemberg played a central, indeed pivotal role. It is not known when the first Salzburg salt deliveries reached Württemberg to start replacing Bavarian salt there. The year 1672 may perhaps be taken as a pointer as it was in this year that the salt storage centre Donauwörth, Württemberg's main salt supplier, is on record as having first delivered Salzburg salt. Before 1672 Donauwörth had only been sent Bavarian salt for resale.³¹ However, Württemberg also continued to import salt from third countries. About half of the Ämter (administrative districts) in Württemberg were using Habsburg-Tirolean and Lorraine salt in 1738.³²

³¹ By the same editor p. 27.

³² MORITZ VON RAUCH, *Der Salz- und Weinhandel zwischen Bayerns und Württemberg im 18. Jahrhundert*: in: *Württembergische Vierteljahrschrift für Landesgeschichte*, N. F. 33, 1927, p. 213.

Württemberg's efforts to export its wine tied in neatly with Bavaria's plans, the latter being only too willing to enter into a wine-salt compensation transaction. There was little point in exporting wine to Lorraine and Tirol. The foreign trade goods specific to Bavaria made this channel a more promising prospect. In 1753, Württemberg issued a general import ban on all foreign salts except those from Bavaria.³³ No precise provision was included as to whether it should be Bavarian or Salzburg salt. It seems obvious that demand in Württemberg was not so much for a specific kind of salt as it was in the Swiss market. There were, however, internal political reasons which forced Württemberg to ease the salt import ban. Nevertheless, 1781 saw the conclusion of an extended wine-salt agreement between the two territories, Württemberg now prohibiting retail trade with all salt of non-Bavarian provenance and allowing Bavarian salt into the country duty-free while Bavaria by the same token allowed wine from Württemberg to enter Upper and Lower Bavaria, the Upper Palatinate and other areas, particularly Neuburg and Sulzbach duty free. The agreement was renewed in 1802 and played a certain role in the Bavaria-Württemberg customs union agreement of 1828 which is generally regarded as the forerunner of the all-German Customs Union of 1833/34. Thus, Württemberg had not only been switched over to Salzburg salt but had also granted Bavaria what amounted to a salt import monopoly. This meant a double success, the "conversion" of Württemberg and a boost in sales of Bavarian (Salzburg) salt.

With this and the safe and extensive Upper Palatinate salt market and the outlets in Franken, particularly Würzburg, Bamberg, Eichstätt and Bayreuth, all of which sold Frankish wine to Bavaria,³⁴ the latter had finally put the sale of Salzburg salt

³³ KARL FLAIG, *Der württembergische Salzhandel bis zum Jahre 1867*, dissertation Frankfurt, 1932, p. 64.

³⁴ See GOTTFRIED ZOEFFERL, *Fränkische Handelspolitik im Zeitalter der Aufklärung*, 1894, p. 28.

on a solid footing. The 1781 salt agreement with Salzburg was sustained; indeed on occasion more salt was purchased than had been agreed.

4.3. *The third problem: Capturing a greater share of existing markets, particularly in Switzerland*

Thanks to the sovereign salt monopoly, Bavarian salt had always been assured a market within Bavaria. Its traditional foreign markets were Upper Swabia and Württemberg where it had to cede its place to Salzburg salt so that the salt from Bavaria could be rerouted into Switzerland. At the same time, every opportunity had to be taken to oust Habsburg-Tirolean salt on that market and thus increase Bavaria's share of it. The salt cartel with Austria had broken down in 1690 and proved beyond recovery. The Swiss markets captured in the XVIIth century were largely forfeited again during the War of Spanish Succession (1701-1714).

Bavaria's new forays into Switzerland brought her of necessity up against the interests of the Habsburgs in the Swabian-Austrian regions. If Bavaria did not want to lose her toehold in Switzerland entirely, she was going to have to follow Austria's example and ensure a "dominion" of her own around Lake Constance (see above p. 299). The ports of Lake Constance were the gateway to Switzerland and soon a race for Lake Constance developed between Bavaria and Austria. Despite the considerable resistance offered by Constance and initially by Lindau, Bavaria was able to conclude an agreement with Buchhorn (Friedrichshafen) in 1755, Buchhorn being in debt to Austria.³⁵ This agreement permitted the foundation of a Bavarian salt office in the town representing the decisive basis for the supply of salt to Switzerland. Bavarian attempts to set up a salt store in Langenargen as well,

³⁵ In more detail Eckart Schremmer (ed.), *Handelsstrategie*, pp. 149 ff.

failed on account of Vienna's intervention with the Counts of Montfort. Finally in 1772, Bavaria set up its second salt office on Lake Constance, this time in Lindau. The prospect of high financial revenues had put an end to the town's initial resistance. Once Bavaria had concluded a transport agreement with Ravensburg and had extended the shiploading facilities in Buchhorn and Lindau, the way was paved for the Convention of 1777 between Austria and Bavaria. Austria was given favourable transit rights for her copper through Bavaria and Bavaria corresponding privileges for salt transit through Upper Swabia to Lake Constance. Bavaria's fear of possessing storage points at Lake Constance but not being able to get at them owing to high Austrian transit rates was a thing of the past.

As a parallel to these successes, Bavaria succeeded in the second half of the XVIIIth century in persuading the northern Swiss cantons to enter into long-term supply agreements for Bavarian (Reichenhall) salt.³⁶ Bavaria was forced to accommodate the wishes of her potential customer to a very large degree without, however, enjoying any guarantee of security for the Swiss market. Habsburg-Tirolean salt continued to be bought in Switzerland just as before.

In Upper Swabia, too, there was still marked rivalry between the Habsburg and the Bavarian salinas. Since 1785 Austria had been supplying her possessions in the Swabian part of Austria to an increased extent via Günzburg. From there her influence spread to neighbouring regions. In only a few years, Austria was able to raise the sale of her salt in this area from 15,000 to 86,000 centner.³⁷

Neither in Swabia nor in Switzerland was it possible to draw a clear dividing line between the markets belonging to the two countries. It was just as impossible to distinguish areas consuming

³⁶ A complete list of all salt contracts with Switzerland up to the year 1799; in: Eckart Schremmer (ed.), *Handelsstrategie*, pp. 139 to 199; cf. pp. 316 ff.

³⁷ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, p. 460.

Tirolean salt from those using Gmunden salt, and the same was true of Hallein and Reichenhall salt.

A clear consolidation and expansion of Bavaria's position on the important Swiss market was not possible before the 1780's, after Bavaria — once again indirectly prompted by Austria — had thoroughly modernised its salinas in Reichenhall and Traunstein. In this way Bavaria was obviously able to attain a clear competitive advantage in price and quality over the Habsburg salts. Switzerland became Bavaria's most important export market. About two-thirds of the profits from the elector's monopoly trade with Reichenhall salt at the end of the century came from exports to Switzerland.

4.4. *The fourth problem: The increase of production capacity in the Bavarian salinas*

Once it was seen to be possible (in the second half of the XVIIIth century) to create agreements to find secure markets for Salzburg salt and also to enjoy success on the Swiss market, Munich's interest in expanding the Reichenhall and Traunstein salinas grew. It seem likely that the initial interest centred round rationalisation investments with a view to increasing competitiveness through the reduction of production costs. In 1759/60 the following prize question was set at the Bavarian Academy of Science: "What is the most economic design for furnaces and pans in salt works?". This question illustrates the problem of constant shortages of wood.

It was in this climate of general open-mindedness towards rationalisation and productive investment that the decisive incentive for a comprehensive redesign of the Bavarian salinas in general and of crystallisation methods in particular offered itself. In 1777, the salt office in Munich received a letter of complaint from the

³⁸ LORENZ VON WESTENRIEDER, *Geschichte der bayerischen Akademie der Wissenschaften, auf Verlangen derselben fertigigt*. Teil 1: 1759-1777, p. 495.

canton of Berne. The letter deplores the "poor quality" of the Bavarian salt and observes that this was the reason why Berne "had entertained salt agreements for innumerable years with Tirol" (Austria). The letter went on to threaten a reduction in the purchase of Bavarian salt "by half" if the quality of Bavarian salt did not improve.³⁹ The canton of Berne was the biggest buyer of Bavarian salt in Switzerland.⁴⁰

Bavaria recognised the danger that such a rehearsal of defects could signify for her salt trade with Switzerland, particularly as the Habsburg rival with its Tirolean salt was willing and able, at least in the eyes of the Bavarians, to move in on Bavarian markets in Switzerland at a moment's notice. In the very same year, the Bavarian government inquired into the reasons for the complaint from Berne, ordered the examination of various kinds of salt from at home and abroad and learned, no doubt to its surprise, that Reichenhall salt was "the impurest of all and thus even inferior to Hallein salt".⁴¹

As Bavaria had no experienced salt specialist at her disposal and all her efforts to find such a specialist remained fruitless, she immediately accepted Berne's suggestion in 1781 that the Swiss expert in the field, Johann Sebastian Claiss, be entrusted with the elaboration of recommendations concerning the construction of new salt pans etc. in Reichenhall. Furthermore, in the course of the subsequent salt agreement negotiations, Bavaria assured the representative of Berne in a separate article that in accordance with Berne's wishes, an "improved crystallisation method [would] be introduced" in Reichenhall.⁴²

In 1782, Claiss submitted the recommendations he had been asked for. The primary and central innovation he proposed was the reorganisation of the whole salt crystallisation process with

³⁹ See fn. 26, p. 316.

⁴⁰ See fn. 26, pp. 162 ff.

⁴¹ See fn. 26, p. 317.

⁴² See fn. 26, p. 317.

a view to improving quality and lessening wood fuel consumption. The cost of this he estimated at just under 50,000 gulden "as the building is no doubt supposed to be a lasting construction".⁴³ At the end of May the Elector's Hofkammer adopted the proposals *in plena sessione*. Claiss entered Bavarian service and received, "together with the pledge of appropriate remuneration," for himself and his secretary "8 gulden 30 kreutzer daily as well as post allowance and other current expenses as emoluments."⁴⁴

Seventeen years later, Claiss reached the end of his labours. The building costs for the modernisation of the Reichenhall and Traunstein salinas between 1782 and 1798 under his supervision amounted to 1,155,106 gulden 56 kreutzer 3 pfennig.⁴⁵ Thus, from an estimate of approx. 50,000 gulden the project had turned into the greatest single investment package undertaken by mercantilist Bavaria, comprising innovation, expansion and rationalisation investment.

This surge of investment ushered in numerous technical, organisational and administrative innovations and gave the growing Bavarian salt trade a solid and forward-looking foundation from the production angle as well. The striking financial success of the investments is mirrored in the following figures which compare periods thirteen years before and thirteen years after the innovations.⁴⁶

a) Salt production in Reichenhall and Traunstein in centner (50 kg)

Period (13 years)	Production	Annual average
1770 - 1782	3,746,022	288,155
1786 - 1798	5,103,082	392,944
increase	by 36.22% to 136.22%	

⁴³ See fn. 26, p. 318.

⁴⁴ See fn. 26, p. 319.

⁴⁵ More details in: Eckart Schremmer (ed.), *Handelsstrategie*, pp. 366 ff.

⁴⁶ The tables a) - d) are drawn from Eckart Schremmer (ed.), *Handelsstrategie*, pp. 352 to 418.

b) Wood consumption in Reichenhall and Traunstein in klafter (3m³)

Period (13 years)	Consumption	Consumption in klafter per 100 ctr. salt
1770 - 1782	409,901	10.94
1786 - 1798	344,737	6.76
decline	by 38.29% to 61.71%	

c) Overall production costs at current prices per centner of open (rich) salt at the main salt offices Reichenhall and Traunstein

Period (13 years)	annual average production costs
1770 - 1782	53 2/8 kr
1786 - 1798	48 1/8 kr
decline	by 9.6% to 90.37%

d) Profits of the Bavarian Kammer from the sale of salt produced in Reichenhall and Traunstein, including Frauenreuth salt, expressed in gulden (fl)

Period (13 years)	Revenues	Outlay	Profit *	Annual average profit *
1770 - 1782	6,829,333	4,089,740	2,739,593	210,737.92
1786 - 1798	11,683,482	6,684,081	4,999,401	384,569.30
increase	by 71.07% to 171.07%	by 63.43% to 163.43%	by 82% to 182%	

* Salt profits as paid into the Elector's Treasury.

Note: In contemporary studies, the periods between 1763 and 1780 and 1781 and 1798 (18 years) are used for comparison. An even higher rate of increase in the profits is the result:

increase of revenues:	to 169%
increase of outlay:	to 146%
increase of profit:	to 217%

e) Volume of trade of the Bavarian salt trade monopoly in centner (50 kg) on the annual average between 1792 and 1797 ⁴⁷

1. production of Reichenhall and Traunstein salt	415,821 ctr.
2. amount of salt taken over from Berchtesgaden	152,640 ctr.
1. + 2. volume of trade with (rich) salt	568,461 ctr.
3. amount of salt taken over from Hallein = volume of trade with "poor" salt	233,604 ctr.
1. + 2. + 3. total volume of trade	802,065 ctr.

Of this approximate total of 802,000 centner, a maximum of 277,000 centner was for home use. Of the latter figure approx. 99,000 centner were Hallein salt. The remaining amount, approx. 390,400 centner of Reichenhall salt plus 134,000 centner of Hallein salt were sold on foreign markets.

CONCLUSION

From the point of view of volume of trade as opposed to the production aspect, the end of the XVIIIth century found Bavaria able to match Austrian salt trade.

It would be idle speculation to ask oneself what would have become of Bavaria's salt production and trade without the consistent longterm mercantilist policies of Austria concerning protective duty and autarky. But this much can be said: with its domestic and foreign-trade policies, Austria continually prodded Bavaria into reactions that, in the last analysis, strengthened rather than weakened the Bavarian salt trade. The inverse of this, namely that the huge Bavarian investments in their salinas also acted as a

⁴⁷ ECKART SCHREMMER, *Bemerkungen zur Zahlungsbilanz Bayerns in der zweiten Hälfte des 18. Jahrhunderts* (Manufakturperiode); in: Wilhelm Abel et al. (eds.), *Wirtschaft, Geschichte und Wirtschaftsgeschichte*, Festschrift zum 75. Geburtstag von Friedrich Lütge, 1966, p. 243.

spur to Austria, seems a likely surmise. It is at the very least striking that immediately after the Bavarian investment spree much the same thing happened in the Habsburgs' Salzkammergut (1782 onwards) admittedly after a long period of preparation. "The improvements advancing at breakneck speed since 1790 all aimed at the objective of increasing salt production while at the same time reducing the consumption of wood: there was even a court commission formed to look into all the proposals made". "... By 1795 ... the way was clear for the new techniques".⁴⁸

It is no doubt mere idle speculation to ask why the two major Alpine salt producers only a couple of days' journey apart chose competition rather than a cartel. After all, there was a great deal in favour of a cartel, both rivals-cum-partners had the empire as a common umbrella organization, both governments had sovereign salt monopolies, and salt was a commodity for which an inelastic demand existed, in other words price increases did little to change it. In spite of all, the loosely worded and unenthusiastically applied Rosenheim cartel statute (1649 to 1690) was to remain the only one of its kind.

It seems that the government set greater store by the advantages of flexibility and retention of options than by those that adherence to comprehensive cartel agreements might bring. A government with a monopoly of a commodity is after all something different from a single firm or company with a monopoly. Naturally, both will aim at a strategy of maximum profit realisation, if one can use this term when referring to the period in question. And yet these strategies will still be different. Whereas the firm or company's monopoly profit represents its entire revenue, the monopoly profit made by a state represents only one among many forms of revenue; and the total revenues of a country's government had to be managed with optimum efficiency. This extends into the field of fiscalism. The revenue strategy of a

⁴⁸ ALFRED HOFFMANN, *Wirtschaftsgeschichte*, p. 307.

country was much more comprehensive than that of an individual undertaking. This was presumably the reason for the government's reluctance to commit a portion of their revenues to cartel obligations which might have proved detrimental to an efficient allocation of the state budget as a whole.

It is of course a truism to recall that political considerations play a role in the economic deliberations of a government — and vice versa — and that these two complexes do not necessarily lead to identical objectives and strategies but have to be balanced against each other. But this truism is still worth mentioning because it underlines the political advantages of flexibility and retention of options as against fixed commitments. Considerations of this nature seem likely to have played a role in the particular brand of mercantilism we are dealing with.

This may possibly be the reason why, in the sector under discussion, Austria and Bavaria chose competition rather than a cartel solution, quite apart from the practical difficulties of controlling inter-territorial cartel agreements in an age where customs frontiers were not identical with state frontiers. Furthermore, the alternative did not present itself so clearly in the day-to-day course of trading policies under discussion here. There were intermediate areas such as those represented by the export commodity restrictions to certain geographical regions although these were not precisely laid down.

All in all, economic competition between these states spurred on the national economies to major achievements, or at least, if we recall the smaller states such as Berchtesgaden and Salzburg, we can say "cum grano salis."