

# The University Brewery of Frankfurt an der Oder in the early modern period

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## Introduction

This article analyses the account books of one early modern brewery, the university brewery of Frankfurt an der Oder (known as the Carthaus brewery), over a three-year period (January 1690 to December 1692) to shed light on beer production in late seventeenth-century Brandenburg. The article also describes the distribution of the Carthaus brewery's beer, relying on the account books' records as well as an analysis of the legal framework for beer wholesaling in Brandenburg. The Carthaus brewery's account books give insight into many different aspects of the brewery's activity. They track the brewery's finances in numerous different ways (e.g. through cash flow, records of assets, etc), which taken together give details on the brewery's activity as a producer of beer, and as a wholesaler of beer to inn-keepers and other retailers.

To do justice to these two issues, production and wholesale, this paper is divided into two parts, wherein each issue is discussed in turn. The first section attempts to reconstruct the brewery's activities as a beer producer. It focuses on detailing

how much it cost to make beer, and how much money the brewery made from the sale of beer. It gauges the scale of production and the flow of money in and out of the brewery. If the first portion follows the money earned by selling beer, the second part follows the beer after its production and after it left the Carthaus gate. It will therefore look into the identities of the beer's purchasers and how Carthaus beer reached beer drinkers. This part stresses the importance of the system of tied markets to brewers in early modern Brandenburg.

## The Carthaus: beer producer

As mentioned above, the focus of this article is on the beer producing activities of the university brewery of Frankfurt an der Oder. This brewery was also known as the Carthaus brewery (therefore its product was known as Carthaus beer), because it occupied a former Carthusian monastery, which was secularized during the Reformation. It is worth pointing out that the university brewery was unlike the ordinary, more numerous burgher breweries in more ways than just its history. It brewed wheat or white beer, as

opposed to the more common barley malt brewed by the typical burgher brewery. It was also part of a large institution (i.e. the university) rather than a part of a family or an individual business. Still, it is worth investigating the Carthaus brewery's operations because of the good, detailed source material available. The account books, kept on a monthly basis from January 1690 to December 1692, give details on the brewery's operations.

These account books reveal details of the Carthaus brewery's brewing operations through financial records that were maintained in the following four forms:

- i. monthly lists of assets in cash, beer, wheat and other ingredients which constitute a series of snapshots of the brewery's activity;
- ii 'cash-flow' records tracing expenditures such as personnel costs and purchases of ingredients, and income through the sale of beer;
- iii. 'malt-flow' records of malt, grist and beer, which allow the measurement of the brewery's scale of beer production and which taken together illustrate the rate of production and sales; and
- iv. 'profit and loss accounts' for the 36-month period that shows whether the brewery made money or not.

Together these data provide an overview of the university brewery's business.

Naturally the figures are incomplete and there are anomalies. For example, the monthly list of assets cannot be called

balance sheets as such, since there are too many uncertainties regarding the brewery's total assets and liabilities. In particular, the value of the brewery's fixed and movable assets and the total short- and long-term debts owed to and owed by the brewery cannot be calculated with precision. The flaws in the sources mean that no claim can be made about accounting accuracies and some of the comments in this study must remain somewhat speculative in nature. The possibility that this three-year period of data contains certain anomalous financial trends cannot be totally discounted. These caveats notwithstanding, the data taken as a whole provide a solid basis for investigation.<sup>1</sup>

### **Monthly List of Assets**

The best way to gain a general understanding of the Carthaus brewery as a beer producer, is to examine the brewery's monthly list of assets. The Carthaus' account books listed the brewery's assets at the end of each month between January 1690 and December 1692 (Table 1).

The monthly list of assets below gives a series of snapshots of the brewery's cash and stock at the end of each month. As is apparent from the above table, the brewery's major assets at the end of each month consisted of cash, beer, wheat, malt and wood. Keeping in mind the potential pitfalls mentioned above relating to the accounts books' accuracy,

	Cash	Wheat	Malt	Hops	Beer	Cash	Wheat	Malt	Hops	Beer
Jan 1690	/18-7	586.00	719.75	433.00	15.00	30/14/-5	325.25	239.50	472.00	38.50
Feb 1690	433/-1/-5	809.00	647.50	421.00	34.50	18/23/-6	307.25	252.00	608.00	23.00
Mar 1690	55/23/--	545.00	719.50	408.00	23.00	70/-5/-5	304.75	306.00	590.00	39.00
Apr 1690	4/-7/-6	329.00	719.50	384.00	12.00	19/21/-5	253.75	426.00	578.00	33.35
May 1690	1/--/-1	113.00	655.50	372.00	21.50	/-2/-4	330.75	546.00	566.00	37.50
Jun 1690	15/-1/-6	5.00	491.50	350.00	28.50	15/-1/-7	422.75	406.00	556.00	29.50
Jul 1690	3/11/-3	0.50	341.50	326.00	35.00	3/--/--	358.75	382.00	544.00	41.50
Aug 1690	25/18/-3	3.50	277.50	306.00	34.00	40/13/--	298.75	430.00	530.00	20.50
Sep 1690	39/-6/-6	63.50	373.50	658.00	44.50	26/--/11	305.75	522.00	522.00	29.50
Oct 1690	14/-1/10	7.50	537.50	634.00	14.50	31/11/10	10.75	590.00	508.00	7.50
Nov 1690	3/-2/10	304.00	537.50	628.00	16.50	4/-6/-3	157.75	626.00	490.00	30.00
Dec 1690	6/18/-8	467.00	465.50	612.00	24.50	6/12/-6	27.00	548.75	474.00	18.50
Jan 1691	1/-5/-9	719.00	489.50	599.00	32.25	8/20/-1	6.00	386.75	456.00	28.50
Feb 1691	69/10/-1	1089.25	451.50	588.00	36.25	/-9/-6	0.00	374.75	617.00	34.00
Mar 1691	20/-4/-5	1001.25	531.50	572.00	40.75	2/-8/-1	17.50	425.75	603.00	21.00
Apr 1691	34/-5/-7	937.25	441.50	554.00	33.75	4/-9/-7	13.50	505.75	587.00	28.00
May 1691	5/22/-1	757.25	397.50	534.00	49.25	42/11/-3	140.50	467.75	573.00	26.00
Jun 1691	2/-3/--	757.25	379.50	516.00	32.00					
Jul 1691	5/22/11	517.25	307.50	492.00	28.00	<b>Mean</b>	<b>340.90</b>	<b>469.99</b>	<b>518.36</b>	<b>29.93</b>

Table 1. Monthly list of assets (Cash in Taler, Groschen and Pfennige; beer in Tonnen and the dry mass in Scheffel).

the brewery's lists of assets highlight a certain number of interesting points about the brewery's production priorities.

One striking observation drawn from the list of assets is that, generally, there was relatively little cash left at the end of each month. The mean amount of cash recorded at the end of each month was slightly over 30 *Taler*. This figure is somewhat misleading as it is skewed by the exceptional figure of 433 *Taler* 1 *Groschen* 5 *Pfennige* recorded for February 1690. This extraordinary figure was the result of the brewery receiving 403 *Taler* 21 *Groschen* from the professors to purchase wheat and hops: the brewery later paid back the professors in beer. Excluding this figure, the 35-month mean was slightly above 18 *Taler* 2 *Groschen* 7 *Pfennige*. This sum was a small beer compared to the money the brewery handled each month. The small amount of cash assets is unsurprising given the large proportion of beer that was sold on credit and the ubiquity of credit and debt in early modern Europe. Liquidity in cash was not an important concern for the brewery's operations. These issues of cash, credit and debt will be discussed further when cash flow is examined.

If the Carthaus brewery was not rich in cash at hand, a large part of its liquid assets comprised of beer and ingredients necessary for brewing. Naturally beer, as a perishable item, could not be kept in storage indefinitely and the brewery had to sell beer within a certain period of time. Nevertheless, the brewery always had

some beer in stock. The mean stock at the end of the month for the 36 months between January 1690 and December 1692 was 29 *Tonnen* rounded to the nearest *Tonne*. The lowest stock was recorded in May 1692 at 7½ *Tonnen*, though the brewery's stocks rarely fell below 20 *Tonnen*. The fact that the brewery was able to maintain a relatively stable inventory in stock demonstrates a number of things about the brewery. First, it produced beer regularly. Second, it was in a position to plan its production and meet sudden spikes in demand. Third, it could cope with disruptions in production.

Carthaus beer could not be produced without wheat, the Carthaus beer's main ingredient. Unlike the brewery's relatively steady stock of beer, there were huge fluctuations in the amount of wheat the brewery kept in stock at the end of the month. For example, no wheat was registered as an asset in September 1692, whereas a figure of 1,069¼ *Scheffel* was recorded in February 1691. The variation probably stems from the fact that the brewery purchased wheat depending on its availability. Typically, the brewery bought large quantities of wheat in the months between October and February, combining purchases in cash and on credit. There were other spikes in the supply of wheat. Large wheat purchases were recorded for August 1690 and June 1692. These purchases were probably triggered by the brewery's low stocks of wheat (which were close to nought at the time) and the lower than average stocks of malt. Storage did not seem to be a

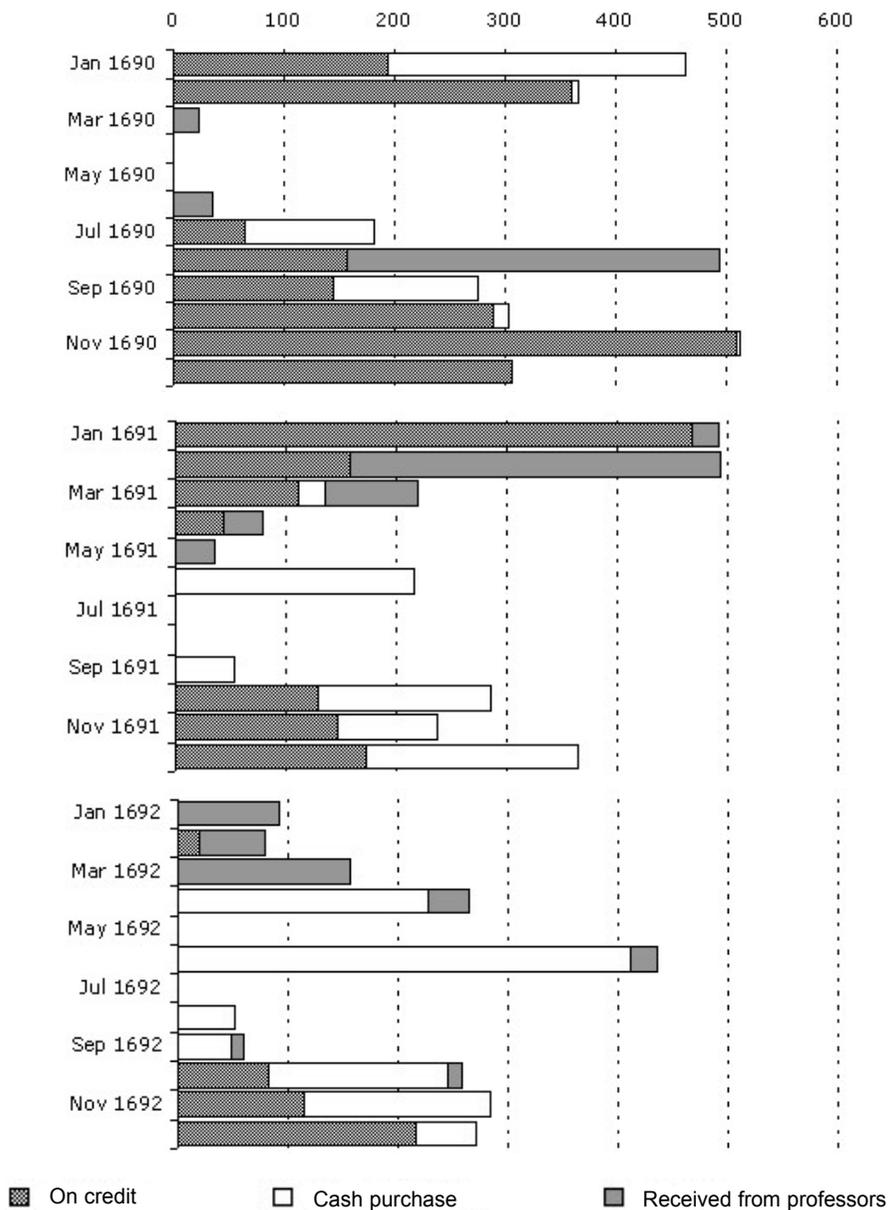


Figure 1. Monthly wheat intake (in Scheffel).

problem for the brewery, as there are no recorded instances of spoiled wheat. This did not mean there were no disruptions in production. In January 1692, for example, no wheat malted because of the extreme cold.

More crucial than wheat, for a steady production of beer and proper storage of the finished product, was the amount of malt in stock. Unlike wheat, there was less fluctuation in the malt in stock. The 36-month mean of the Carthus brewery's malt in stock was 470 *Scheffel* to the nearest quarter. The 239½ *Scheffel* of malt in stock recorded in August 1691 was the lowest figure of malt in stock for this time period and the 719¼ *Scheffel* in January 1690, the highest. The brewery kept a substantial amount of malt in stock that was sufficient to allow it to sustain production for a full month without malting wheat, as the example of January 1692 showed.

To summarize the conclusions drawn from the brewery's financial data as represented in a series of balance sheets, at the end of each month, the brewery usually: (i) had some cash in hand; (ii) had quite a lot of malt; (iii) had a steady amount of beer to sell; and (iv) purchased wheat when necessary or available. Without comparative burgher accounts, it is difficult to assert with certainty, however, that the brewery must have possessed good facilities for the storage for beer, wheat and malt, and was therefore in a comparatively stronger competitive position than many urban brewers whose beer may have been

liable to spoil sooner or faced problems in storage. As mentioned earlier, these numbers are snapshots, which by nature are static and hide any fluctuations within each month.

### **'Cash-Flow' records and 'Malt-Flow' records**

For a more dynamic picture of the brewery's operations, it is necessary to follow its monthly cash flow. Such analyses of the accounts establish the brewery's main sources of income and expenditure. More precisely, (i) how much and from whom did the brewery receive money, and (ii) how much, to whom and for what did the brewery pay money? However, since the object of the investigation is a brewery, and much of its assets were in the form of beer and its ingredients, it makes sense not only to follow the movement of cash but also the beer production in malt-flow. To elaborate, malt-flow follows the various stages of brewing from the purchase of the ingredients to the barrelling of the beer: the accounts show (i) the quantity of ingredients bought; (ii) how much wheat was malted; and (iii) how much grist was brewed. By looking into cash-flow and malt-flow together, it will be possible to gauge the dynamic and the scale of the brewery's operations.

As mentioned earlier, the brewery had relatively little cash at the beginning of the month, but this did not mean there were no transactions. The brewery received money throughout the month by

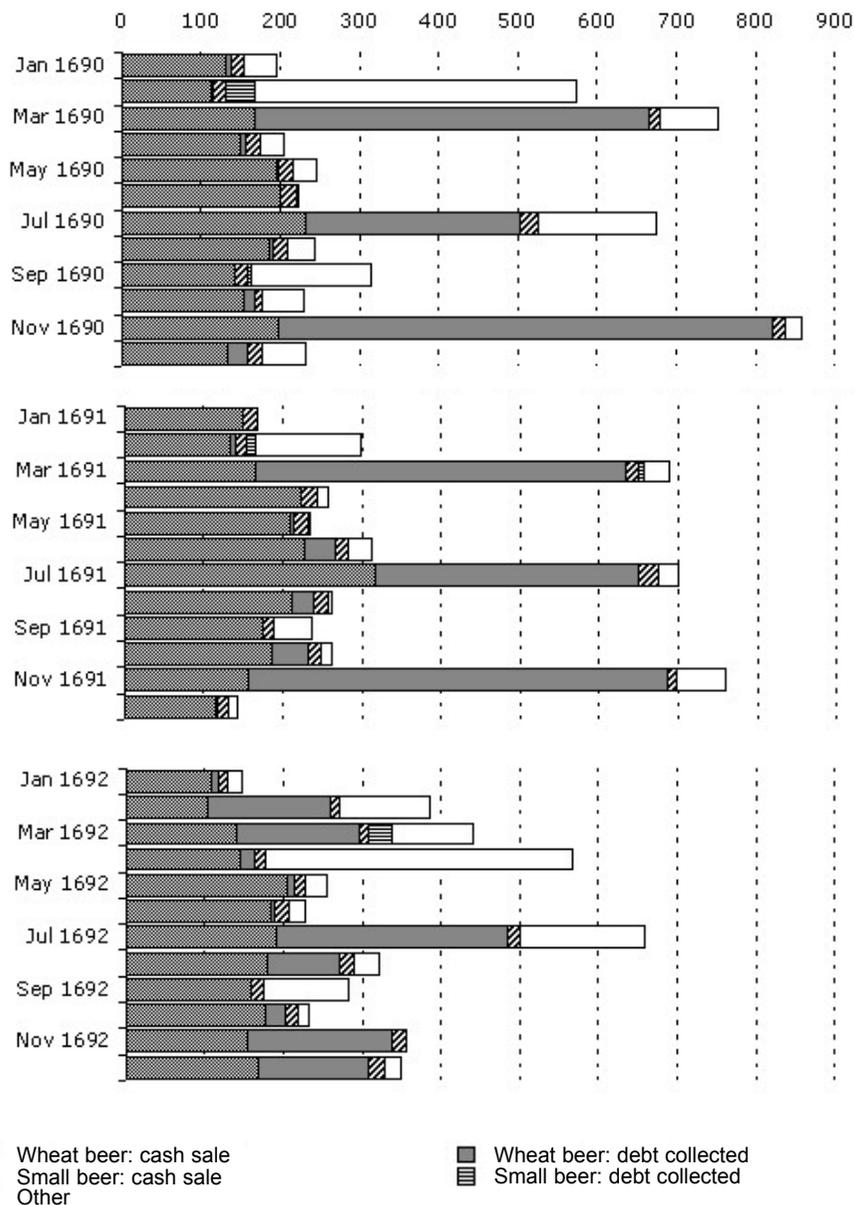


Figure 2. Monthly income (in Taler).

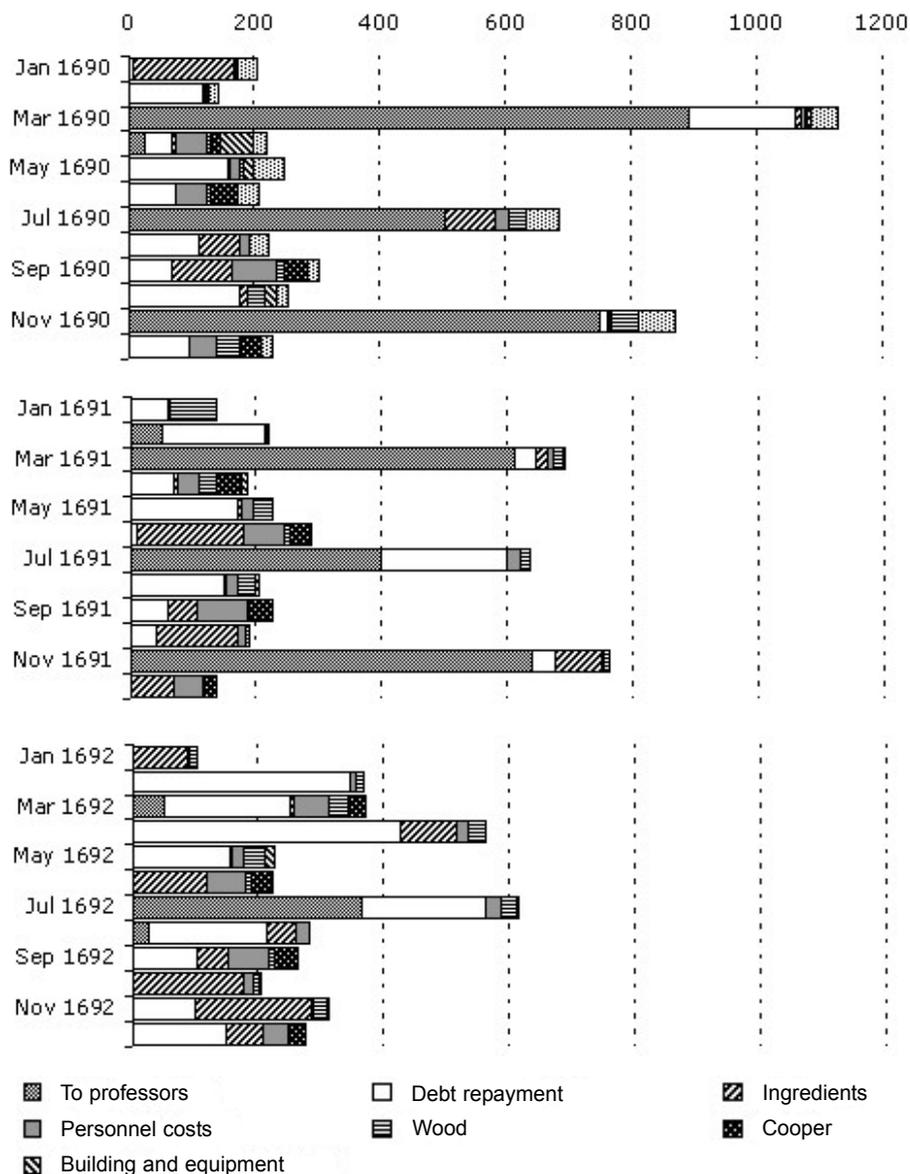


Figure 3. Monthly expenditure (in Taler).

selling beer and collecting debts owed to it. The brewery also paid out money throughout the month, as it purchased materials, labour and serviced its debts. The following observations refer to the volume and source of the brewery's income.

Over the 36-month period, the mean monthly income for the brewery was just below 370 *Taler*. However, this figure is misleading, since the amount of money the brewery generated or received in any particular given month fluctuated widely. This was not caused by the amount of cash that the brewery made from selling beer. Rather, these large differences were the result of settlements of debt in specific months, usually March, July and November. It has not been possible to establish how much debt was owed to the brewery at any given time from these accounts. However, as the sales of beer on credit will later show a substantial amount of beer was sold on credit.

On what did brewery spend the money it earned through the sale of beer spent? The size of the brewery's monthly expenditure must have mirrored that of the monthly income, as demonstrated by the relatively small sum of cash in hand at the end of each the month. Naturally, expenditure could not be larger than the total of: (i) the amount carried over from the previous month; (ii) income generated; and (iii) any borrowings. Large payments were made to the professors at the university, and the brewery serviced its debts, when money was available, espe-

cially when they corresponded to the time when the brewery collected the beer debts owed to it. The first element, the payments to professors, remains somewhat of a mystery, as will be observed later. The account books do not show how much the brewery was owed, and they do not show how much, to whom and why the brewery owed money. However there are some clues in the accounts: repayment of debt will be explored in conjunction with the purchases of wheat in the following paragraph. For the production of beer, the major identifiable costs were the purchase of ingredients, fuel, cooperage, personnel costs, and the repair or purchase of equipment. These expenses were typical for any brewery's operation, and there were no large items of capital investment recorded during the three-year period. There was one item, conspicuous by its absence from the Carthaus accounts, that may have been expected in a burgher's account book: taxes. The brewery seems to have been legally exempt from beer taxes. How much of a financial advantage this exemption represented for the university brewery will be discussed later in this paper, as will the overall financial picture derived from the analysis of the brewery's income and expenses.

As mentioned above, 'malt-flow' follows how much (i) wheat was malted, (ii) grist was brewed and (iii) how much grist was still in stock. This is a fair measure to assess the dynamic of the brewery's beer production.

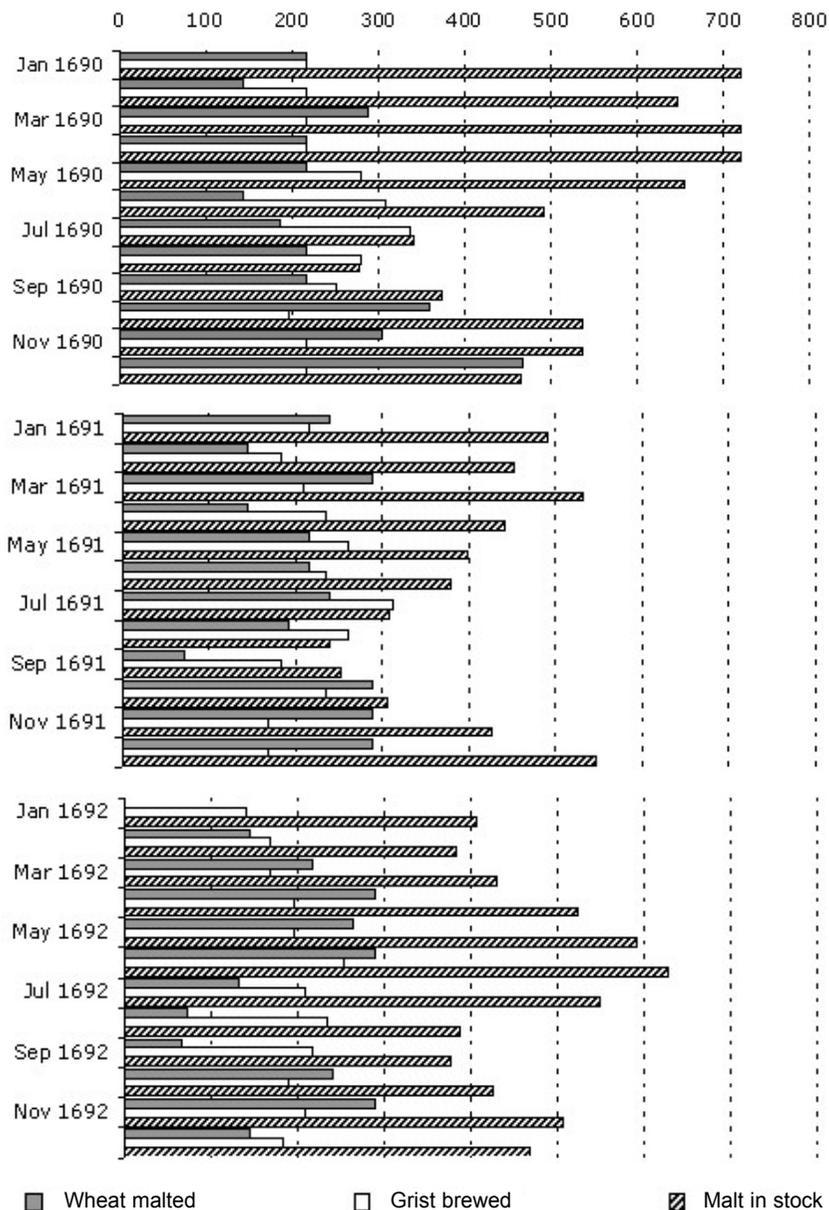


Figure 4. Malt-flow (in Scheffel).

The most striking aspect of the malt-flow records is the brewery's constant year-round brewing activity. As mentioned earlier, the brewery sometimes did not have much wheat left in stock at the end of the month. However, it always had a healthy stock of malt and was therefore able to consistently brew beer month after month. As the example of January 1692 stated above demonstrates, the brewery was still able to continue brewing, even when it was too cold to turn any wheat into malt, by dipping into its stocks and using 140 *Scheffel* out of the 546 it had in storage at the end of December 1691 to produce 120 *Tonnen* of beer. As the above graph demonstrates, the amount of wheat malted fluctuated but, as noted earlier, there was sufficient stock of malt to make up for these variations.

The amount of grist brewed remained relatively constant. The mean for the 36-

month period was 221 *Scheffel*. The lowest figure was 140 *Scheffel* in January 1692 and the highest was 336 in July 1690. A better picture of the supplies of grist emerges, if the year is divided into 3 periods: January to April, May to August, and September to December. The greatest quantities of grist were brewed in the summer months. Of the 7,963 *Scheffel* of grist brewed into beer, just below 40% or 3,164 *Scheffel* were brewed in the period between May and August. This busy period of brewing also corresponded to the time of year when the most beer was sold (2,682 out of 6,970 *Tonnen*).

### Profit and Loss Account

Finally in this section, a profit and loss account, allowing an assessment of the brewery's production as a whole, will be presented for the 36-month period under

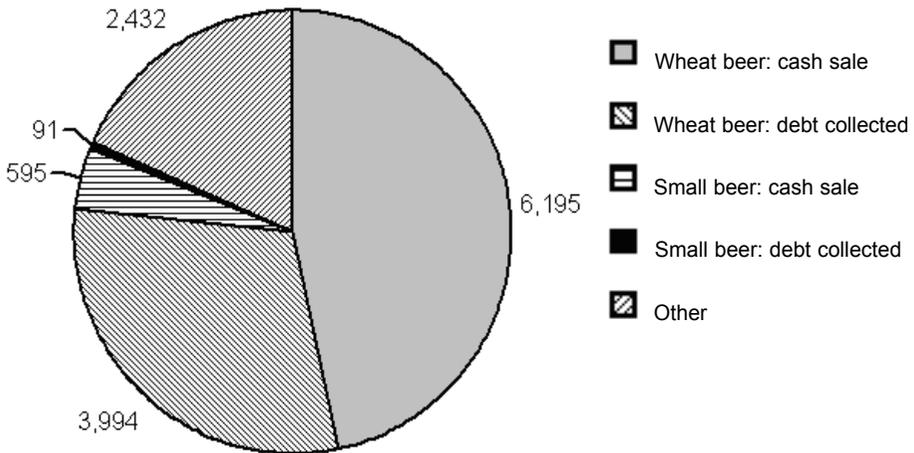


Figure 5. Total income (in Taler).

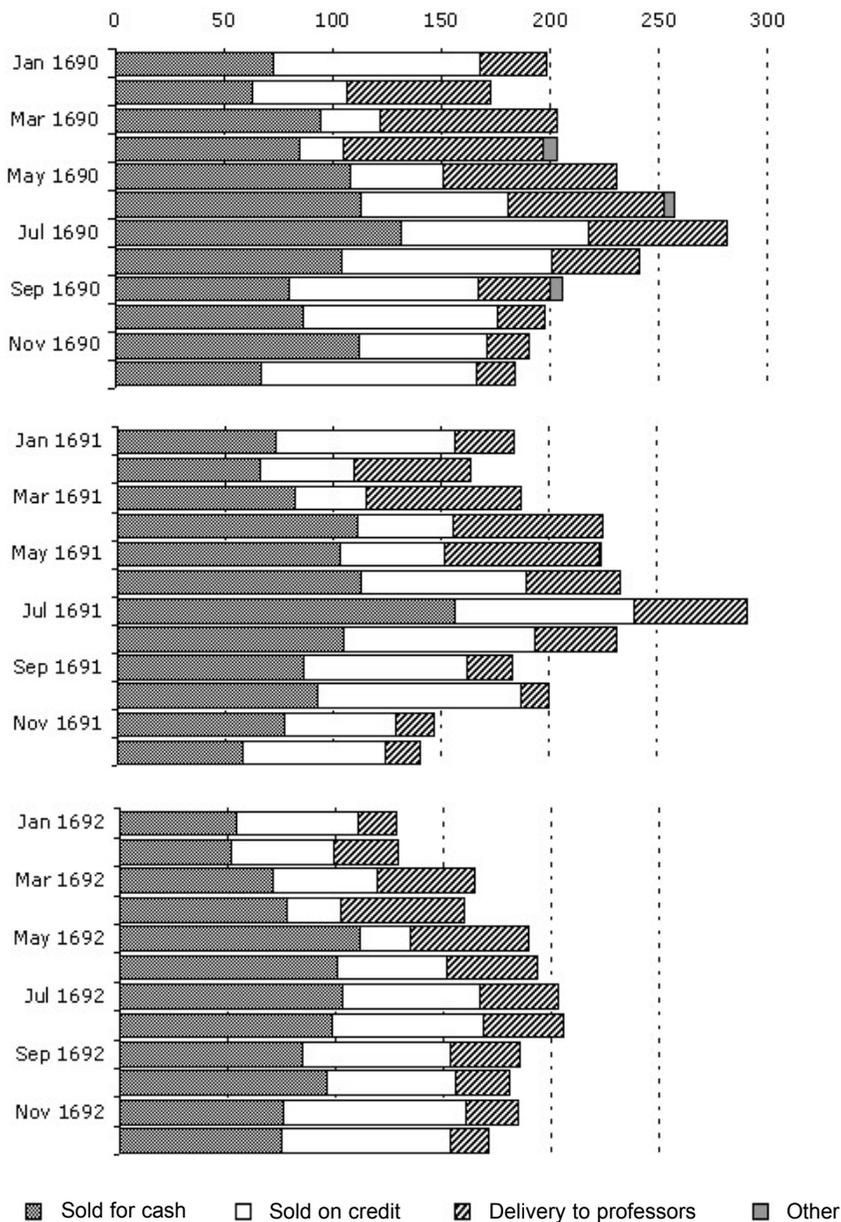


Figure 6. Monthly beer output (in Tonnen).

consideration. As indicated earlier, the brewery kept little cash at the end of the month. The brewery had 42 *Taler* 11 *Groschen* 3 *Pfennige* at the end of December 1692. But this figure does not reflect well the actual size of the brewery's operations. The monthly figures showed that there were large amounts of activity hidden behind the end-of-the-month figures. By aggregating the brewery's monthly activities, the scale of beer production will emerge.

The brewery's total income for the 36-month period amounted to 13,306 *Taler* 21 *Groschen* 1 *Pfennig*, of which, 10,189 *Taler* 3 *Groschen* 3 *Pfennige* or 76.6% of income was directly related to the brewery's core business (i.e. selling wheat beer for cash and receiving accounts for beer previously supplied on credit). Add the figure for small beer (*Becherbier*), 685 *Taler* 21 *Groschen* 5 *Pfennig* for sale and accounts received, and the brewery's total turnover from the beer trade was 10,875 *Taler* 8 *Pfennige*. In other words, nearly 82% of the brewery's income derived from selling wheat and small beer.

From the above chart, it is clear that the Carthaus brewery sold, on average, just below 200 *Tonnen* of beer each month for the 36-month period under consideration. Of the 200 *Tonnen*, around 45.6% was sold for cash and 32.8% on credit. A Tonne of Carthaus beer was sold usually at 2 *Taler* or 2 *Taler* 6 *Groschen*. The professors received in beer what they delivered in wheat and hops, and this accounted for 21.5% of the total beer

shipped by the brewery. As can be seen from the spikes in the graph, June, July and August were the busiest months and the winter months were less busy.

Excluding beer delivered to professors in return for wheat or its cash equivalents, the brewery sold a total of 5,523 *Tonnen* of beer for cash and on credit. If the brewery sold a *Tonne* of wheat beer for 2 *Taler*, a sale of 5,523 *Tonnen* would have yielded 11,046 *Taler* in cash and on credit in the 36-month period. This hypothetical figure is quite close to the brewery's actual income figure of 10,189 *Taler* from the sale of beer and collection of accounts, which included debts collected for beer sold before January 1690 but excluded beer sold on credit and accounts not collected before December 1692. Unfortunately, the brewery did not keep a detailed record of how much small beer it produced. The only information available is how much small beer the brewery sold for cash and how much money the brewery collected for small beer sold on credit. One noticeable feature is that, unlike wheat beer, most small beer was purchased in cash. Admittedly an imperfect exercise, these calculations allow a reasonable supposition that the beer debts were short- to medium-term.

The brewery's account books show that the four villages (Jacobsdorf, Wriesig, Lindow and Briesen) habitually bought nearly half of the wheat beer sold in cash by the Carthaus. For example in 1692, the village inn-keepers bought 470

*Tonnen* of beer in cash for 875 *Taler* 10 *Groschen*, and also paid 97 *Taler* 12 *Groschen* of debt. These four villages will feature more prominently in the next section describing the distribution of Carthaus beer. In addition to sales to these four villages, the brewery sold beer wholesale to nobles and office-holders. Another constant purchaser of Carthaus beer was the toll-collector on the Oder bridge, just outside Frankfurt. In the same year (1692), the toll-collector purchased 125 *Tonnen* of beer and paid 220 *Taler* 16 *Groschen*, and he did not repay any debt, which may well have meant that he was a cash purchaser. The brewery also sold a substantial amount of its beer directly from the brewery.

Other sources of income for the brewery varied over the 36-month period. As mentioned earlier, the professors at the university sometimes paid cash to the brewery, which the brewery repaid in beer. These prepayments were accounted for under distinct headings by the brewery. The university brewery also traded in stones and roof tiles. However, such activities did not generate much money in the period under consideration, even if the financial records for these products were kept meticulously.

As the pie chart below illustrates, the brewery's three largest expenses were (i) payments to professors; (ii) debt repayment and (iii) purchases of ingredients. These three headings accounted for around 75% of the brewery's expenses. The brewery often made substantial pay-

ments to the professors, and it is unclear whether this comprised part of the professorial salary or a return on investments made in the brewery. As mentioned earlier, there were transactions between the brewery and the professors that involved ingredients, money and beer. The amounts involved were pretty substantial, though they do not shed much light on the brewery's operation costs.

Another aspect of the brewery's finances that is difficult to elucidate is the size and nature of the debts that the brewery was continuously repaying. Since the brewery purchased its main ingredient, wheat, often on credit, it seems a fair assumption to state that a substantial part of its debt was incurred to purchase wheat. But it remains unclear exactly how much debt the brewery assumed to purchase ingredients and fuel. These 'known unknowns' are rather frustrating since, based on an educated guess, they probably accounted for a large proportion of the brewery's expenses.

Wheat comprised a large proportion of the brewery's production costs. Expenditure on ingredients (wheat, and small quantities of rye and hops) accounted for just over 1,778 *Taler*, which was substantially lower than the amount the brewery paid to the professors or spent on servicing the debt. However, there is good reason to suppose that the brewery incurred quite a large proportion of the debt for purchasing wheat, since over the 36-month period under consideration, the brewery bought almost exactly half of all

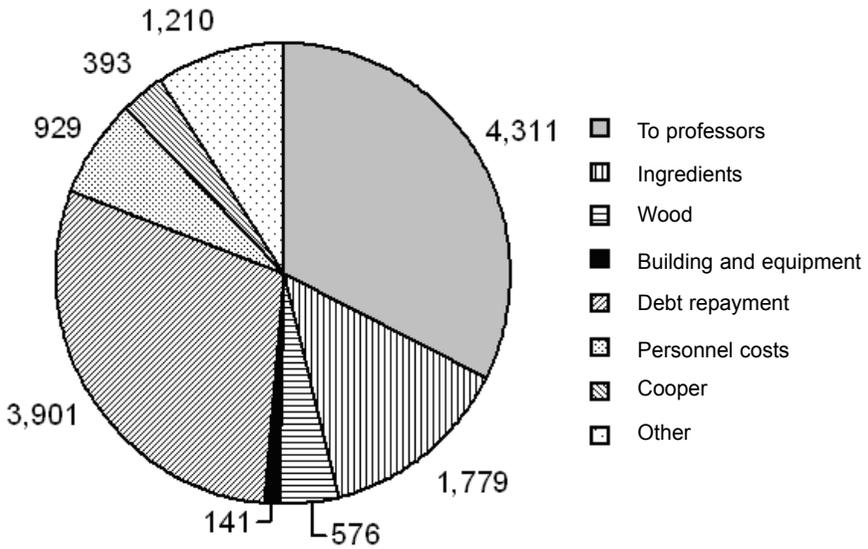


Figure 7. Total expenditure (in Taler).

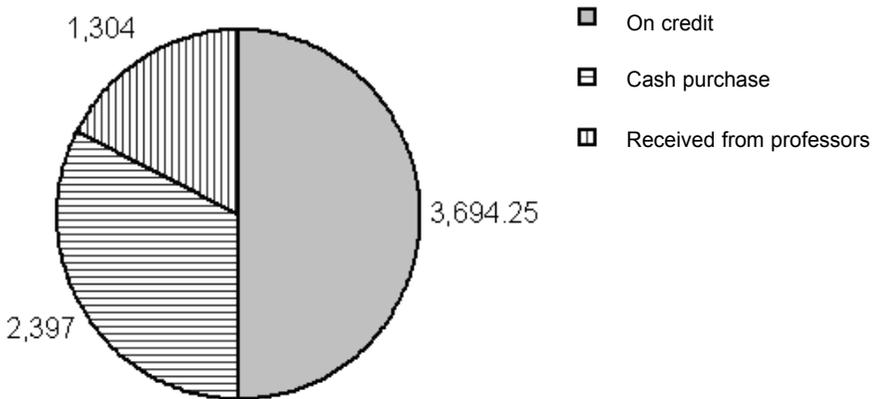


Figure 8. Total wheat intake (in Scheffel).

its wheat on credit (3,694¼ *Scheffel* out of 7,395¼).

The above figures speak volumes about the brewery's production, but who supplied the university brewery? The accounts recorded how much wheat the brewery bought and from whom. As the monthly wheat intake has shown, Carthaus typically bought wheat during certain periods of the year. In 1692, the brewery bought wheat in April, June, August, September, October, November and December. Small transactions were often settled in cash. Sellers were sometimes only identified by a name (often recorded simply as a farmer (*Pauer*) or a person (*Mann*)) and a location. For example, Martin Paulitz of Podelzig, who supplied 6 *Scheffel* of wheat for 6 *Taler* 6 *Groschen* in November 1692. The brewery purchased wheat on credit as well, though some of the details are difficult to discern, since they were not recorded under the expenses but listed as wheat received. In purchasing wheat, one name stands out. The brewery bought a large amount of wheat from a certain Frau Obristin von der Marwitz: 8 *Winspel* (192 *Scheffel*) in April and 16 *Winspel* (384 *Scheffel*) in June 1692 for the total of 417 *Taler*. The brewery paid 99 *Taler* in cash for her wheat and the rest on credit. Given the volume of wheat purchased and the fact it was purchased on credit, it may be assumed that there was a long-standing commercial relationship between Marwitz and the brewery.

The brewing process was quite energy-

intensive, and in early modern Brandenburg, as with most other areas of Europe, the primary source of energy was wood. Carthaus purchased wood regularly throughout the year. For example, in 1692, the brewery purchased wood every month except December. In 1692, the brewery paid 195 *Taler* 13 *Groschen* for wood. This sum was equivalent to roughly a third of the brewery's three-year total expenditure on wood and included the cost of felling and transport. It is unclear how much, if any, of the wood bought by the brewery was purchased on credit. There is no account of how much wood the brewery stored at the end of the month, though the ready availability of wood probably meant that this was not a pressing issue.

The Carthaus brewery could not operate without brewers and worker and personnel costs were not negligible. There were four members of the brewery who were paid regular salaries: the administrator (*Verwalter*) who was paid 56 *Taler* 12 *Groschen* in 1692; the brewer (*Brauer*) who received 67 *Taler* 9 *Groschen* in the same year in cash and he also was paid partially in beer and peas; the brewer's assistant (*Helfer*) made 40 *Taler* 6 *Groschen* and who was also remunerated in peas; and the old brewster (*alte Brauerin*), to whom the brewery paid 20 *Taler*. It is doubtful that the administrator was deeply involved in the day-to-day production of beer. The actual brewing process most likely involved the three brewers, and a number of day-labourers.

Additionally, the brewery employed brick-makers (*Ziegelstreicher*) who were referred to in the account books. The brewery also employed tile makers to manufacture roof tiles (*Dachstein*) even though the profit from selling these roof tiles was not particularly significant for the three-year period under consideration. Otherwise, the brewery employed day-labourers to whom it paid 4 *Pfennige* a day.<sup>2</sup> There were usually around 75 man-days of work available for these day-labourers at the brewery. There were also workers who were employed to carry malt to and from the mill. They were listed separately from other members of the salaried staff of the brewery and the day-labourers.

There were other items of expenditure that offer a tantalizing view into the brewery's operation. The brewery made regular payments to coopers, presumably for beer barrels. It would be difficult to determine from this sample whether the recorded costs to maintain the building and the brewing equipment were ordinary expenditures for the brewery's upkeep, or whether they were related to any substantial new acquisitions or extraordinary repairs. Over the 36-month period under consideration, these costs were not significant compared to other items such as payments for the cooper, ingredients, wood or personnel. Among other operating costs, milling fees were relatively small, and were similar in size to the payments made to the labourers who carried malt.

The account books indicate that the Carthaus brewery was exempt from the

*Bierziese*, since the accounts do not make any reference to payments to the tax authorities. The amount of tax that the Carthaus brewery might have been liable to pay had it not been tax exempt can be understood by examining the typical tax burden of a burgher brewer. The tax burden of the Brandenburg brewer can be approximated relying on a report that the elector commissioned from an office-holder (*Landrentmeister*) in 1691 to investigate the state of brewing. The office-holder reported that a typical town brewer paid 11 *Taler* 3 *Groschen* 6 *Pfennige* in taxes, compared to 4 *Taler* 16 *Groschen* 4 *Pfennige* for the typical rural brewer. The difference between the tax burdens on urban and rural brewers is mostly due to the fact that the town brewers had to pay the excise, whereas the rural population paid direct taxes and were not liable to the excise. The amount of tax would have been zero, in cases where rural brewers made beer illicitly and thereby evaded paying taxes altogether. Naturally, barrelled beer was also taxed when transported from one place to another.<sup>3</sup>

The tax exemption of the Carthaus brewery, like the payments that the brewery made to the professors, distinguishes the university brewery's operations from other brewers. The payments made to professors are still difficult to categorize. These payments certainly were not part of the brewery's operating costs. Neither can they be considered as personnel cost. Perhaps these payments were something akin to taxes.

By subtracting the payments described above from the brewery's total expenditure, and assuming most of the brewery's debts were incurred when purchasing wheat on credit, the brewery's operating costs can be calculated as amounting to 8,929 *Taler* 9 *Groschen* 7 *Pfennige*. If this figure is subtracted from the income from the core business (10,875 *Taler* 8 *Pfennige*), the brewery's operating profit can be calculated as amounting to 1,945 *Taler* 14 *Groschen* 1 *Pfennig* over the 36-month period before payment to professors. If the university brewery had been under the obligation to pay the same taxes as burgher brewers, then it would have been liable to pay around 1,380 *Taler*. Had the university brewer paid this sum in taxes, its operating profit figure quoted in the previous section (1,945 *Taler* 14 *Groschen* 1 *Pfennig*) would have been substantially reduced. Instead no tax payments are documented in the university brewery's accounts. These figures entail quite a number of assumptions listed above and should be seen as indicative rather than exact.

This section has told a story of an uncommon brewery in early modern Brandenburg. The Carthaus brewery probably enjoyed more favourable conditions than other brewers, especially the town burghers, because of its tax exemption, and its financial strength. Carthaus produced beer regularly and sold a relatively large amount of beer every month. Without comparable accounts, it is impossible to state whether its activities were a major success or not. However, the fact that the

brewery generated a constant revenue over such a long period indicates a reasonable success, and shows that it was a good going concern.

### **The Carthaus: beer wholesaler**

As the preceding section made clear, the Carthaus earned most of its money from selling its wheat beer and collecting beer debts. This section of the paper follows the beer after it has left the former monastery in one sample year, 1692. It describes both details on the beer's distribution found in the account books. It also sets forth the legal framework governing these sales and the numerous conflicts that arose around these regulations of the beer trade.

The brewery did a brisk trade in selling beer at its gate. It sold 197 *Tonnen* of beer at 372 *Taler* 12 *Groschen* in 1692, and the purchasers are lumped together in one line of the account books. As such, the identities of individual buyers remain unknown. Certain names and places however reappear a number of times in the sales ledger. The inn-keepers of Jacobsdorf, Wriesig, Lindow and Briesen as mentioned earlier, were regular purchasers of Carthaus beer. In 1692, they accounted for 470 *Tonnen* out of 997 of cash sales. The following few paragraphs explain, in some detail, how these villages were tied to the university brewery, and the fact that they were compelled by the law to buy beer from Carthaus. There was also another constant buyer of

Carthaus beer worth mentioning: the toll-collector on the bridge over the Oder, just outside Frankfurt. He bought 125 *Tonnen* in the same year. He bought and then sold Carthaus beer to, among others, students. Unlike the inn-keepers, the toll-collector chose to buy Carthaus beer. Taken together, the villages and the toll-collector bought more than half of the beer sold in 1692 in exchange for cash.

As previously stated, the Carthaus brewery was not and cannot be considered a typical brewery in early modern Brandenburg. However, it operated within a regulatory framework, which governed the rights to brew of all brewers and wholesalers in late seventeenth century Brandenburg, except those who brewed and supplied beer illegally. Beer rights, as will become clear, were intended to create the conditions necessary for:

- i. brewers and wholesalers to make money to sustain their social existence (*Nahrung*);
- ii. the government to raise taxes; and
- iii. the provision of beer-drinkers with a steady supply of beer of a reasonable price and quality.

The next few paragraphs place Carthaus within this rights-based beer economy.

The beer trade during this period was primarily regulated through four separate beer rights, namely the rights to (i) brew (*Braurecht*); (ii) supply beer wholesale, in most cases exclusively (*Verlagsrecht*); (iii) sell beer in retail (*Schankrecht*) and

(iv) import foreign beer (*Einfuhrrecht*).<sup>4</sup> Possession of at least one of these rights was necessary if someone wished to earn money from participating in the beer industry. Only right-holders could engage in the specific beer-related activity governed by the rights and those who did not possess a beer right were expected to refrain from participating in the beer trade. The right-holders made representations to the authorities, and sometimes took it into their own hands to protect their rights.<sup>5</sup>

In most cases, brewers were also wholesale suppliers who enjoyed an exclusive access to certain markets. In this case, Carthaus had the right to brew and had exclusive market relationships with and was the wholesale supplier to four villages (i.e. Jacobsdorf, Wriesig, Lindow and Briesen). Like the Carthaus, the other major purchaser of Carthaus beer, the toll-collector held a combination of beer rights. He held the rights of an importer and a retailer, that is to say he possessed the right to import beer into an area normally tied to another group of brewers, and he also could sell beer to customers for profit, not merely for his own household consumption. This paper will discuss the wholesale supply of beer by the Carthaus brewery first and then will examine the supply of beer by the toll-collector.

Like any other brewery, the university brewery required markets where it could sell its beer. Principal among them were the tied villages: Jacobsdorf, Wriesig,

Lindow and Briesen. The inn-keepers in these villages were legally required to purchase Carthaus beer, as will be explained further below. In selling its beer in these villages and to retain the right to do so, the university and its brewery became embroiled in a long-running series of disputes with the town council and burgher brewers of Fürstenwalde in the 1660s and 1670s. The conflicts arose, because the burgher brewers in Fürstenwalde also claimed an exclusive right to supply beer over these four villages from themselves. The disputes boiled down to: who had the stronger claim to the right to supply these four villages exclusively? Both the university brewery and the town claimed the exclusive right to supply beer to the villages, and there could be only one legitimate, rightful supplier. This was a conflict both sides could ill afford to lose, because the early modern beer market was not a sellers' market, in the sense that product quality, innovation, and improvement did not translate into increased beer sales. Instead, the legal right and actual exercise of supplying the market was the deciding factor in ensuring continued beer sales.

The town of Fürstenwalde was famed for its beer and traditionally had a large number of tied inns and villages in the area between Berlin and Frankfurt an der Oder. However, the town was suffering encroachment onto its tied villages, inns and taverns from illegitimate brewer-suppliers. It remains unclear when exactly the university brewery started to supply

these villages. However evidence indicates that the university brewery began its sales to the villages some time in the 1660s. This is borne out in a report composed in 1673 by Christian Gottlieb Rhewald, who was tasked to investigate Fürstenwalde's tied market by the elector. His report painted a bleak picture for the town. Of the four villages, three inn-keepers were mentioned by name: Jacob König, inn-keeper in Jacobsdorf, Martin Anders inn-keeper in Lindow and Jürge Grundt inn-keeper in Briesen. All three inn-keepers claimed that five or six years previously, they were forced (*gezwungen*) by the university brewery to take the Carthaus beer. They said that Fürstenwalde had supplied them since time immemorial before they were forced to change their suppliers. They also claimed that the Carthaus beer was so awful and bad that even travellers would not touch it, suggesting that it was not the quality but force that led to the switch.<sup>6</sup> It is difficult ascertain whether the Carthaus beer was truly awful, since the Carthaus brewery sold beer to willing customers, as evidenced below by the significant purchases of Carthaus beer made by toll-collector. Instead, the inn-keepers' statements may suggest that the Fürstenwalde beer was more popular than Carthaus beer and the inn-keepers would have chosen, if they had been able, to sell the town beer, rather than the Carthaus beer.

The university brewery was not the only competitor Fürstenwalde faced at that time, and Rhewald's report substantiates

the town's claim that the illegal brewer-suppliers were threatening its economic prosperity. The report noted that one of the three inns in Müllrose was leased to a toll collector who was illegally selling beer from Biegen in the inn. At the same time, the inn-keeper in Pillgram had been ordered by Biegen's local office-holder (*Amtsschreiber*), Wolfgang Hanow, to purchase Hanow's beer in contravention of Fürstenwalde's right to supply. In Wulkow, a Dr. Bergius was brewing beer and selling it illegally to the villagers. In Lebus, Jacob Arndt's widow was brewing and retailing beer locally but it was unclear whether her activities were illegal, as her deceased husband had obtained a concession from the elector. In Friedersdorf, Major-General Görtzke leased the inn and the attached right to brew to Andreas Dorneberg for 12 *Taler* per annum. The Major-General sought to clarify his rights with respect to the town and requested a written assurance from Fürstenwalde that it would not force Friedersdorf to take beer from the town to the detriment of his inn. The council refused to make any such statement. The Major-General then forbade Dorneberg to sell Fürstenwalde beer in his inn on pain of a 10 *Taler* fine. Even nobles brewed and supplied their own beer in competition with Fürstenwalde. The widowed sisters of Hohendorf in Falkenhagen were brewing and supplying beer to the local inns. Georg Adam von Schlieben in Liezen was also supplying to the surrounding villages. These instances show that brewing was profitable, so long as there were exclusive outlets for the product.

It is unclear when the illicit brewing and supplying started in the cases mentioned above. However, the brewers in Fürstenwalde had been trying to shore up their position against competition from others, including the Carthaus brewery, by seeking support from the Brandenburg government. Over the course of 17<sup>th</sup> century, the town council petitioned the elector for confirmation of their legal rights to supply beer to its tied villages, inns and taverns on at least seven occasions: 1620, 1628, 1648, 1662, 1673, 1680 and 1694.<sup>7</sup> What the town faced was a war of attrition, which required the council to be ever vigilant to fight against actual and perceived threats to its tied market. As has been mentioned earlier, these four villages comprised an important market for the Carthaus brewery. As such, the loss of these four villages, and others as exemplified above, as protected markets for the town of Fürstenwalde must have been keenly felt.

For the town brewers, who believed and argued that brewing was an urban, burgher means of making a living, it was illegitimate for the non-urban population to brew beer for profit. The town brewers argued that brewing was one of the main pillars of the urban economy and also accounted for a substantial part of the beer taxes the government received. This was a persuasive argument, since the excise was levied only in the towns. There was an added fiscal incentive why the Brandenburg ruler would have been more amenable to Fürstenwalde's argu-

ment relating to the intrinsically urban nature of brewing. Usually a body under the supervision of the estates collected the *Bierziese*, however, Fürstenwalde paid this tax to the electoral *Hofrenter*.<sup>8</sup> This fiscal situation should be contrasted with the fact that the Carthaus brewery appeared to be exempt from beer taxes.

However, non-urban brewers, among them the Carthaus brewery, too could argue that they were legitimate players in the beer industry. Their claim was usually based on the argument that they possessed the necessary beer rights. Typically, they claimed they had obtained their rights to brew beer or supply beer to certain inns and villages in a legally rightful manner. There were three principle ways in which a beer right could be acquired legitimately. The first was through custom or tradition. If someone possessed the right to brew and supply since time immemorial, then such a situation was considered as a strong claim. The second was through prescription. An individual, by virtue of exercising the specific activity, such as brewing or supply beer, for a prescribed period of time without interruption and without challenge could claim that he or she had acquired the *de jure* beer right as a consequence of *de facto* exercise of the right. The third method to acquire a beer right was by grant of the right as a privilege from the ruler. These different sources could contradict each other as to who the rightful possessors of rights were.

In cases involving conflicting claims of rights, such as the case of the university brewery and the town of Fürstenwalde, where both parties claimed and believed in good faith that they possessed the exclusive right to supply beer over specific areas, a mechanism for adjudication was necessary to decide who was in the right, or had a better claim to the right. Brandenburg's ruler, the elector, and the privy council played the role of arbiter. The elector and privy council functioned as courts of equity, rather than courts of law. Courts of equity passed judgment based on the arbitrary or discretionary powers that the judge, in this case the territorial ruler, possessed. The arbiter assessed the merits of each party's argument.

There were other reasons why this court of equity handed down decisions on matters relating to beer rights. For instance, the normal law courts, as opposed to the courts of equity, often did not have jurisdiction over matters relating to the beer industry in many cases. A key part of the gamut of regulations that governed the beer industry, known as *Policey*, was often not justiciable by courts of law. Furthermore, Brandenburg electors, who issued statutes relating to beer, such as the confirmation of Fürstenwalde's rights to supply certain inns and villages exclusively, often reserved the right to abolish, augment and amend the statutes as he saw fit and necessary. It was not for the courts of law to interpret what the elector, the legislator, intended. Furthermore, in

many disputes over beer rights the government was also an interested party since its fiscal income and public order were at stake. Cases involving the government could only be brought before the courts of equity.<sup>9</sup>

The arbitration procedure was flexible and often the decisions were passed reasonably quickly. Usually one side initiated a case by submitting a complaint against a named or unnamed, general, party in a petition or supplication addressed to the arbiter. The initial complaint could be formulated in many different ways, such as a request for a positive affirmation of the party's right, a request for concrete actions to be taken against named individuals or a request for an ordinance addressed to all and sundry to refrain from injuring the party's rights. Fürstenwalde's attempts to secure and reconfirm its right to supply beer to numerous villages and inns were an example of such a move. Once a case was presented before the arbiter, the other party usually got wind of the matter and submitted a counter-petition setting out its case, or the arbiter demanded the other party to explain its position. The arbiter could decide the dispute without waiting for the counter-petition but usually gave any interested parties the opportunity to make representations prior to issuing the decision. The burden of proof did not seem to be established to lie with either the initiating or the responding party, but depended instead on the particulars of the case.

In the dispute between the Carthaus brewery and Fürstenwalde over the right to supply beer to the four villages, the initiating party was the town. The town council complained quite regularly that rural breweries were illegally supplying beer to its tied markets, as examples mentioned by Rhewald attested. The elector usually replied by listing all the villages, inns and taverns that were tied to Fürstenwalde. He explicitly ordered those villagers and retailers, including the four villages in question, to purchase their beer from Fürstenwalde, and forbade anyone else from supplying beer to those areas.

There were limits to the actual degree of enforcement of beer rights that the town or the authorities could bring to bear on illegal brewer-suppliers. In the case of the university brewery, the university submitted a document dated 21<sup>st</sup> May 1658 in reply to the town's petition, in which the elector had granted the university a privilege to supply beer to the four villages.<sup>10</sup> As mentioned earlier, the Carthaus had 'forced' the inn-keepers to take its beer, some time in the 1660s. If the inn-keepers' recollection is correct, then there was a gap between the official grant of the right, and the actual exercise of the right. There would also have been a conflict between the elector's grant to the university in 1658 and the elector's reconfirmation of Fürstenwalde's area of exclusive supply in 1662. This is another instance where it is difficult to establish exactly who had supplied these villages.

But in the case between the university and the town, the Carthaus brewery was in a much stronger position. Not only did the Carthaus brewery have a documented privilege, it was actually exercising that power. *De facto* exercise of a right often led to possession by positive prescription, and conversely non-exercise led to negative prescription and loss of the right. The university brewery was in a strong position not only to assert that it had acquired the right to supply the four villages legally from the elector but that it had strengthened the right by exercising it. In fact, the elector decided that the university had the stronger claim. In the subsequent orders issued, the names of Jacobsdorf, Wriesig, Lindow and Briesen were removed from the list of villages and inns that were tied to Fürstenwalde. The university had its right to supply these four villages confirmed, and was in a much more secure legal position.<sup>11</sup>

The toll-collector, Christoph Sigmund Schultze, the other example in this section, must have been a good customer for Carthaus. He bought beer every month except February in 1692, and he seems to have paid in cash for his beer. For the burghers of Frankfurt, the existence of a toll-collector selling imported beer just outside their jurisdiction must have been galling in many respects. Worse, the Frankfurt burghers could do nothing about the toll-collector's activities because he fell completely outside of the town's jurisdiction. The tolls were collected on the bridge that linked both sides of the river Oder. As a part of the regalia, the

toll revenue went to the elector and the town council had little authority over the toll-collector. Additionally, the toll-collector sold his beer to another group of people over whom the town council had little authority: students. As with any other university town, town-gown relations were not always cordial in Frankfurt.

The presence of students in Frankfurt should have been good news to the town's brewers: students were (and are) usually a steady and substantial group of consumers of alcohol. The Frankfurt town brewers would have profited substantially from their business, had they managed to tie the lucrative market to themselves. However, there were importers who broke the town burghers' grip on the Frankfurt beer market. Frankfurt professors had the right to import any beer they wished, including naturally the Carthaus beer, and entertained their students with their imported beer. This conflict between the town brewers and the toll-collector, rather like the claim over the right to supply the four villages, festered for at least three generations. Successive toll-collectors claimed that selling foreign, that is to say non-Frankfurt, beer was part of their salary, and attempted and succeeded in expanding the quantity and types of beer they could sell. The town council and the brewers had a good reason to be vigilant.

The steady purchases of Carthaus beer month after month indicated that the toll-collector had a large clientele. He may have sold it on further in wholesale, how-

ever it is likely he sold most of his beer in retail. It can be reasonably suggested, that the toll-collector was able to undercut the price of town beer within the town gates because of the lower rates of tax his imported beer attracted, or he made a large profit from the beer he sold, or both. The main proof for such a conclusion is that the toll-collector was liable to pay little, if any, of the taxes usually imposed on beer. As a purchaser, he was not liable to taxes levied during the production of beer. The Carthaus brewery did not pay taxes, even if it paid a lot of money to professors. Also, since he sold his beer outside the town gates, he did not pay the excise and it is also unlikely that he paid the toll, since the beer did not pass the bridge, and more importantly he was meant to collect the toll.

There was unsurprisingly a long-term tension between the town and the toll-collector. As his predecessors had before him, the toll-collector Christoph Sigmund Schulze, sought an electoral confirmation of his right to import beer for retail in 1686, so as to safeguard it from the jealous town authorities and brewers. He petitioned the *Neumärkische Kammer*, his immediate superiors, to intercede on his behalf and petition the elector to grant him the right to import wheat beer without paying normal duties. He supported his claim to the right by stating that this privilege actually formed a part of his salary necessary to maintain his standing. The *Neumärkische Kammer* presented Schulze's case to the elector, and was not only successful in obtaining

confirmation of Schulze's requested right, but also obtained a further concession from the elector. The elector granted Schulze the right to import beer into Frankfurt an der Oder without limitation as to the type of beer.<sup>12</sup>

Neither the town council nor the Frankfurt brewers were content with the elector's generous concession to the toll-collector. The town council took action and submitted a plea to the elector arguing against permitting Schulze to import wheat beer of any description. The town supported its submission by arguing that an uncontrolled influx of foreign beers into Frankfurt would have major adverse effects on the livelihoods of Frankfurt brewers. Such a wave of beer imports would leave the town's brewers facing ruin and as the brewers, together with the merchants, contributed most to the town coffers, the preservation of the brewers' livelihood was absolutely vital to the common good and the elector's interests in revenue.

In the end, the privy council sought to strike a balance between the interests of the importer Schulze, the common good of the town and the fiscal revenue. It decided that Schulze was to be allowed to import whatever type of beer he chose so long as the volume of the imported beer did not exceed the 2 *Fäße* or 4 *Tonnen* stated in the original 1634 grant of the privilege.<sup>13</sup> There may have been another undocumented dispute in the long-running conflict. The town accused a toll-collector, who may well have been

Christoph Sigmund Schulze, of frequently purchasing more than the permitted 4 *Tonnen* per month from the university brewery. Indeed, the toll-collector was regularly purchasing double and sometimes more than triple that amount from Carthaus each month. For the Carthaus, the toll-collector was a good customer, who enjoyed a legal right to import beer, stretched the limits, and who chose to buy Carthaus beer. Why he chose Carthaus beer over others is not documented: perhaps he had a connection with the university, or the Carthaus beer was popular among beer drinkers (though evidence is equivocal as the innkeepers' accounts suggest), but it could also be that proximity between the town and the brewery meant little expenses on transport, as well as a lower tax burden on it, which translated into a larger profit margin for him while undercutting the local brew.

## Conclusion

This paper has firstly presented the Carthaus brewery's accounts to show how a brewery in late 17<sup>th</sup> century Brandenburg produced beer and organized its finances. Crucial to the Carthaus brewery's operations was enough malt in stock, which enabled it to adjust its production and accommodate the fluctuations in the availability of wheat and demand. In the finances, the prevalence of credit and debt is noteworthy. The university brewery bought ingredients for brewing and sold beer on credit.

The second part of this paper examined Carthaus's role as a beer wholesaler, in the context of a rights-based economy in early modern Brandenburg, and how it relied on different types of customers. Four villages were tied to Carthaus, which was the source of much revenue, and the toll-collector was, for whatever reason, a willing purchaser of its beer. Thus, beer is an interesting example of a commodity and an industry in early modern Brandenburg, where the brewer-suppliers and importer-retailers operated in a supposedly restricted market system. The example showed that instead of a closed and well-regulated market that only right-holders certain in their possession of their rights enjoyed to make profit on their activities such as supplying villages exclusively, the beer rights were rarely ever secure once granted. Instead, the rights had to be fought for, exercised and protected. This piece is a small contribution, which suggests a close examination of early modern accounts and breweries can shed light on the larger patterns of early modern socio-economic structure.

## References

1. Carthaus brewery's accounts, Potsdam, Brandenburgisches Landeshauptarchiv, Pr. Br. Rep. 86, Nr. 406: Universität Frankfurt, Carthaus-Rechnung. All figures quoted in this study are found at this location, and this section is entirely based on these figures. Most documents at Brandenburgisches Landeshauptarchiv and Geheimes Staatsarchiv

Preußischer Kulturbesitz are not foliated.

2. To put this salary in context, in order for a day-labourer to purchase a Tonne of Carthaus beer at 2 *Taler* on his salary, he would have had to work 144 days.

3. *Landrentmeister* Adolph Wiltthuedt's report, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 12a: undated [1691].

4. In the 17th century Brandenburg sources, the terms *Braurecht* and *Braugerechtigkeit* were used widely. Other terms are derivatives from the verbs used to describe each activity: *verlegen* for supply, *schenken* for retail and *einführen* for import. On beer rights, see for example Eschenmayer, D.E. (1809) *Lehrbuch über das Staats-Oeconomie-Recht* vol. 1, Frankfurt: Main: F. Esslinger, 662-74 (§552-61)

5. This is borne out by a large number of ordinances and edicts issued by the Brandenburg electors prohibiting non-right-holders from brewing beer for sale. For example, Electoral patent against nobles to brew beer unless they possess the right to do so (*Patent, daß die von Adel, so nicht Brau-Gerechtigkeit haben, sich Brauens und Krug=Verlegens enthalten sollen*), *Corpus Constitutionum Marchicarum*, Theil 4, Abth. 4, Nr. xxviii: 1 July 1688.

6. Report on the state of Fürstenwalde's tied market, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 21, Nr. 47, Fasz. 16: undated [1673].

7. Electoral ordinances, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 8, Fasz. 6 and I. HA, Rep. 21, Nr. 47, Fasz. 16. In 1680, the Fürstenwalde council complained to the elector that 'neighbouring nobles, the university and the council of Frankfurt' had been encroaching on its tied

inns and villages. Electoral resolution, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 8, Fasz. 6: 30 July 1680.

8. In a document from the Amtskammer to the elector, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 3b: 13 November 1678

9. For justiciability of *Policey* matters in courts of law, and the distinction between *Policeysache* and *Justizsache* see Seeger, T. (1992) *Die Extrajudizialappellation*. Böhlau: Köln, 81; Sailer, R. (1999) *Untertanenprozesse vor dem Reichskammergericht*. Böhlau: Köln, 430-40. These two works look at the cases brought to the imperial courts however the distinction between the *Policeysache* and *Justizsache* is instructive.

10. Copy of the electoral concession to the University regarding the right to supply the four villages, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 51, Nr. 39: 21 May 1658

11. Electoral resolution, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 8, Fasz. 6: 30 July 1680.

12. The toll-collector's petition to the Neumärkische Kammer, the Kammer forwards his petition supporting his case and the elector's decision, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 13, Fasz. 16: 12 March, 18 March and 23 June 1686. Christoph Sigmund Schultze is mentioned as the toll-collector in the relevant documents between 1686 and 1692.

13. The original grant allowing the toll-collector to sell beer, Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz, I. HA, Rep. 20, Nr. 13, Fasz. 6: 18 June 1634. Subsequently confirmed in *ibid.* 4 August 1655 and 10 January 1666.