

Monthly Prices of Grains in Gdańsk in the 18th Century

Mikołaj Malinowski

m.malinowski@uu.nl

Basic Information

The file contains monthly information on the lowest and the highest prices of the four grains – wheat, rye, barley and oats – in Gdańsk between 1703 and 1793. The information was obtained from Tadeusz Furtak's *Ceny w Gdańsku w latach 1701-1815*, published in Lwów in 1938. The importance of this file, in comparison with the already available annual data for this period, is the fact that it shows monthly observations. In addition, most of the observations present both the minimum and the maximum price for a commodity at a given point in time. Those two features of the new dataset are crucial for any future quantitative research, as it not only provides 12 times more information, but also allows for study of seasonality and short-term price fluctuations.

In his seminal work, Tadeusz Furtak gathered prices of a vast amount of commodities traded in Gdańsk. In his research in The National Archive of Gdańsk and the Gdańsk city library he found appropriate material in various sources, such as: bills of the city council; bills of hospitals and prisons; journals like "*Exchange Warsaw Journal*" (*Dziennik Handlowy Warszawski*) and "*Thornische Nachrichten*". The bills were however the main source for his work, which poses several problems. According to Furtak himself, the material he used was disorganized; prices were often indicated in different currencies; they represented not only different values of different volumes of the same good, but even different kinds of the same commodity. In addition to that, the edition presents retail prices for goods rather than wholesale prices important for international trade. This is a potential benefit for those scholars who are, for example, interested in constructing a Consumer Price Index for 18th century Gdańsk. Researchers who wish to study international trade relations need to have in mind a possible overestimation of the prices, however.

Currency and exchange

The prices in the Furtak's original edition were presented in *florin/dukat/złoty*, the Polish unit of account. Poland, like the rest of Europe, was using the bimetal system. There were two types of *złoty*: the *red złoty* (*czerwony złoty*) and the normal Polish *złoty*; the former was made of gold and the latter of silver. The name *red złoty* comes from the characteristic reddish color of the used gold, as *złoty* itself in Polish means nothing more than golden. Both coins had an official fixed exchange rate with *grosze* (silver coins), dating back to the 15th century, namely 30 *grosze* for one *złoty*. However, due to various reasons, this relation was not entirely sustained. This relation was reestablished in the 18th century due to a monetary reform. The strong golden currency still worth 30 *grosze* was used for the international trade by the merchants of Gdańsk, but most of the population was forced to use weaker silver currency, which was worth a lot less in practice. The latter coins were called *tynfs*. To blur the picture even further, stronger silver types of *złoty*, called *ort* and *talar*, also circulated on the market. On the top of that, the silver content of one *grosz*, a reference point for the value of one *złoty* was very volatile. All this information is of crucial importance for the researcher interested in the comparison of Polish prices, not only with the foreign ones but also within the country. In this edition all the values are presented in silver *grosze*.

In order to allow for international comparisons of prices, exchange rates were computed. They were based mainly on the prices of bills of exchange from Gdańsk noted in Amsterdam available in the file: *Weekly prices in Amsterdam in the 18th century*. Those were prices of bills of exchange with 40 day maturity period, representing how many Polish *grosze* were paid for one *pound Flemish*. This type of payment was often used in international trade in that period. Merchants traded with each other by buying a bill in their own country and paying a sum in their own money of account. The file gives us information about those weekly prices of bills of exchange. However, it does not cover the whole 18th century. Before 1721 and after 1772 there are no, or very little, data on the price of a bill in the file. In order to cope with this problem, I used the Posthumus edition to fill in the gaps for the beginning of the century. I computed yearly averages of exchange rates, as the Posthumus data did not allow for monthly ones. It was required to allow for a consistent comparison of the prices. Standard deviation of annual prices was twice as high as that of monthly ones (10.2 and 5.2), which fortunately means that more vital changes accrued on the annual rather than the monthly level.

In fact, important changes in prices were related mostly to change in the mint rate in Poland. For various reasons the value of *Gulden* was “extremely stable”.¹ On 25 September 1681 an edict of the States of Holland fixed the *guilder* as 200 "azen" i.e. 9.61 grams of pure silver. Furthermore, an edict of the States General of 17 December 1694 extended this to the whole Republic.² This state of affairs remained unchanged throughout the whole of the 18th century and even beyond. Even in 1816 the coinage-law reassured it.³ The amount of silver in Polish currency, as it was already stated, was subject to fiscal policy and change of a mint rate. In addition, old coins were often still in use making trade even more complicated.

In trying to compute the exchange rate for the period after 1772, for which I lacked information on prices of the Amsterdam bills of exchange, I used Furtak’s research. When trying to convert prices represented in *Florins* into silver, Furtak could either gather original coins from the whole century and analyze the content of silver in them, or compare known exchange rates with other currencies, in which the amount of silver was stable. The second method, which consisted of a comparison of Polish *Grosz* with Russian *Rubel* and Prussian *Talar*, gave good results. Unfortunately, the results of this procedure are only available for the period since 1761. Furthermore, the values obtained with this method vary up to 16%.

The price of bills of exchange rises when there is less silver in one *grosz*. When we correlate known prices of bills of exchange with both of Furtak’s methods of computing the amount of silver in one *grosz*, having in mind that *pound Flemish* has been always worthwhile a constant amount of silver (57.66 grams)⁴, we can see which method is more appropriate. The correlation with Prussian *talar* for the period 1762-1771 shows very good correlation (-0.8). It is therefore justifiable to use results of Furtak’s research regarding this currency to compute hypothetical exchange rates between *grosz* and *pound Flemish* after 1772. The percentage change of amount of silver in *grosz* should cause the opposite change in the exchange rate. Correlation between values known from the source and values created in this way is significant (0.7).

1 M.C. 't Hart & J.Jonker & J.L.van Zanden (eds.), *A Financial History of the Netherlands* (Cambridge, 1997) p. 40.

2 N.W. Posthumus, *Inquiry Into the History of Prices in Holland*, vol. 1 (Leiden 1946) p. LV.

3 Ibid.

4 J.J. MacCusker, *Money and Exchange in Europe and America, 1600-1775: A Handbook* (Williamsburg 1992) p. 44.

Measure of volume

Furtak in his edition converted all values into *lasts*. As the *last* was a measurement of volume, it has a different weight for every kind of grain due to the physical differences in density. Czesław Biernat provided us with estimates of the weight of one *last*. This can be used to compare the difference between various lasts used throughout Europe. Luckily, according to Furtak, the *last* in Gdansk was unified with the more popular Dutch one. In this edition all prices are presented in grams of silver for one kilogram of grain.

Table 1: the difference in weight of one last between various grains.

Grain	1 last in kilograms
Wheat	2400
Rye	2190
Barley	1780
Oats	1440

Source: C.Biernat, *Statystyka obrotu towarowego Gdańska w latach 1651-1815* (Warszawa 1962) p. 62