



# Tender Contracts, Speculation, and Monopoly: Venice and Hungarian Cattle Supply between the Fifteenth and Sixteenth Centuries

Andrea Fara

*Sapienza University of Rome*

*andrea.fara@uniroma1.it*

The livestock production and trade structures that connected the Italian peninsula and, in particular, the city of Venice with the vast Hungarian lands have been the subject of various inquiries in the secondary literature. Nevertheless, many questions remain. In this essay, I analyze the meat market in Venice (where the complex supply chain and slaughterhouse activities had considerable economic and social importance) in relation to the production and exchange structures of meat in the Hungarian lands (where the breeding of livestock and, in particular, cattle underwent considerable growth and specialization over the course of the centuries). I contend that Venice was an important end market for Hungarian beef exports. In other words, growing Venetian demand and the similarly growing Hungarian export of beef met and connected with mutual satisfaction, although not always in an entirely efficient way, giving rise to several cases of shortage and sometimes starvation and famine on the lagoon city markets. And this is a second point to investigate. If the individual and institutional Italian and Hungarian intermediaries that were interested in beef as an item of commerce can in a large part be identified, many questions still surround the involvement of these economic operators in food crisis phenomena and economic practices aimed to give rise to famines in order to obtain greater profits (such as hoarding, raising prices, speculation, and export to more profitable markets). In this sense, I seek to clarify the link between the activities of operators and companies involved in the cattle trade from Hungarian territories and the famines (understood as “high price phenomena”) created in part by the lack of beef on the Venetian markets. I also examine the causes and functions of legislation and practices adopted in response to (and to prevent) starvation and/or famine and the roles of the attitudes of specific groups and economic actors involved in the meat market. Ultimately, I seek to further a more nuanced assessment of the connections between the Hungarian markets and the Italian markets between the late Middle Ages and early modern period.

Keywords: cattle trade, market, speculation, crisis, famine, Hungary, Venice

The livestock production and trade structures that reached the Italian peninsula and, in particular, the city of Venice from the vast Hungarian lands have

been the subject of several inquiries in the secondary literature.<sup>1</sup> Nonetheless, very little information is available to clarify the link between the activities of operators and societies involved in this trade and the famines which were caused in part by a lack of beef on the Venetian markets, perhaps in part as a deliberate strategy to drive up prices. At the current state of research, many questions remain. While the individual and institutional intermediaries (both Italian and Hungarian) involved in these trades have been identified, their involvement in food crises and economic practices aimed at creating famines (such as hoarding, price gouging, speculation, and diversion to more profitable markets) remains largely in the shadows. Similarly, legislation and practices intended to prevent famine (*contra caristiam*) that were intended to exert an influence on the activities of specific groups and economic actors involved in the meat market remain to be investigated. Fabien Faugeron's recent in-depth work offers important information and insights from the Venetian point of view, with a careful analysis of food market structures and sites in Venice. As Faugeron notes, there is no specific research on slaughterhouse activities in the complex chain in Venice, despite the economic and social importance of this sector for the survival of one of the largest urban centers in Europe, with an estimated population of 110,000 in 1338, 85,000 in 1442, and 150,000 in 1548.<sup>2</sup>

The inquiry I offer here, therefore, is an analysis of the specific meat market in Venice in relation to the production and exchange structures of this commodity in Hungary, where livestock breeding and in particular cattle breeding grew and became increasingly specialized over the centuries, finding an important end market in the Venice. In other words, it is a question of describing a market, that of meat, in which the growing Venetian demand and the equally growing Hungarian supply met, to their mutual satisfaction, although not always in an entirely efficient way, giving rise to cases of shortage and sometimes outright famine on the lagoon city markets. In order to examine the ways in which the interrelationships between the supplier (Hungary) and the consumer (Venice) influenced both the price and availability of this export (meat), I jump back and forth at times between sources originating in Venice and sources originating

---

1 Pickl, "Der Handel Wiens und Wiener Neustadts"; Mákkai, "Der ungarische Viehhandel"; Zimányi, "Esportazione di bovini ungheresi"; Tucci, "L'Ungheria e gli approvvigionamenti"; Pickl, "Der Viehhandel von Ungarn"; Blanchard, "The Continental European Cattle Trades"; Pickl, "Die Handelsbeziehungen"; Fara, "Il commercio di bestiame ungherese"; Fara, "An Outline of Livestock Production and Cattle Trade."

2 Faugeron, "Nourrir la ville. L'exemple," 53–70; Faugeron, *Nourrir la ville. Ravitaillement*, 440–49.

in Hungary. In order to do this, it is necessary to move “on the fly” between Hungary and Venice several times.

I offer first a brief overview of the economic structure of the Kingdom of Hungary between the late Middle Ages and the early modern period. By virtue of a rather favorable geographical position, the Kingdom of Hungary maintained profitable trade relations with a large part of Europe, from Venice to Florence, from Vienna to Nuremberg, from Krakow to Lviv, from Wallachia and Moldavia to the Black Sea ports, up to the Near East. Hungarian lands were described as rich in opportunities to make easy profits through the exchange of Western luxury products (especially textiles, which always represented one of the kingdom’s primary imports) for local raw materials (first and foremost, cattle), as well as spices and other items of Levantine origin. Specifically, the low population density and the available pastures and lands always made extensive farming easy and profitable, especially on the so-called Great Plain.<sup>3</sup>

The sources offer countless references to the ease of breeding and the abundance and affordability of cattle in Hungarian lands, as well as the existence of trade routes for beef, whether over short, medium or longer distances. In the thirteenth century, there was a well-organized butchers’ guild in Buda engaged both in live cattle trafficking and in the meat trade. In 1305, sources from Nuremberg record the expression *corria hungarica*, and in 1358 a merchant from Nuremberg bought cattle in Buda. In 1327, Hungarian oxen were mentioned in the Wrocław (Breslau) customs tariff, and in 1473 and 1492 it was possible to find Hungarian cattle on the markets in Basel and Cologne markets, if in a somewhat unusual way.<sup>4</sup> In the mid-fourteenth century, in his Chronicle, Matteo Villani also highlighted the importance of cattle breeding and exploitation in the Hungarian economy, noting the great multitude of oxen and cows, which did not work the land and, as they had large pasture on which to graze, fattened quickly, offering more potential for exports of leather and fat.<sup>5</sup> It was also during this century that the Hungarian cattle trade towards the Italian peninsula, in particular towards Venice, seems to have undergone notable growth but the information in the

3 For an in-depth bibliography, see the recent *The Economy of Medieval Hungary*, and before *Gazdaság és gazdálkodás a középkori Magyarországon*.

4 Pickl, “Der Viehhandel von Ungarn,” 40; Kiss, “Die Bedeutung,” 105; Stromer, “Zur Organisation,” 173, 188; Vilfan, “L’approvisionnement,” 61, 64; Carter, *Trade and urban development*, 241–51.

5 Villani, *Cronaca*, c. VI, 773–77: “n Ungheria cresce grande moltitudine di buoi e vacche, i quali no lavorano la terra, e avendo larga pastura, crescono e ingrassano tosto, i quali elli uccidono per avere il cuoio, e il grasso che ne fanno grande mercatantia”; cf. Miskulin, *Magyar művelődéstörténeti mozzanatok*, 72–73.

available sources remains scarce.<sup>6</sup> In 1433, the Burgundian knight Bertrandon de la Broquière noticed that on the Hungarian markets, a fine Italian textile roll cost about 45 gold florins, which was the price of ten to 15 cattle, and thus a head of cattle was between three and four and a half gold florins.<sup>7</sup>

I turn now to a discussion of the main characteristics of the meat market in Venice between the late Middle Ages and the early modern period. The Venetian authorities were constantly striving to organize efficient supply structures in the lagoon city, both for grain and meat. As was the case in any sector, for the meat market, this involved arriving at a compromise between the many public and private actors involved, from merchants to butchers and retailers up to the many administrative offices, and balancing their often conflicting interests. The supply system was further complicated by the fact that the Venetian lands were unable to ensure the meat requirements for Venice, and the lands closest to the lagoon city were not large enough for the breeding of large livestock. Therefore, the meat supplies had to come from distant places, mostly from Romagna, Lombardy, Dalmatia, and to an increasing extent from the fourteenth century, from Hungary.<sup>8</sup>

Fabien Faugeron has shown that, to guarantee adequate meat on the city market in Venice or to encourage an increase in the meat supplies in times of difficulty, the Venetian authorities put in place a real “arsenal de mesures”: centralization of supplies, stimulation of import prices, bonuses or a donations system, tax relief, price controls, direct sales by foreign operators, and particular tax concessions. In the fifteenth century, more often than not, it was preferred to resort to an increase in consumer prices rather than to lower customs tariffs (though at times customs were lowered, though only under exceptional circumstances). Difficulties related to supply therefore weighed on the consumer rather than on public finances.<sup>9</sup> The first piece of relevant information about this in the sources is dated to 1283, when, to remedy a lack of meat on the city markets, the authorities established a price increase of 7 *denari* per pound for beef and 13 *denari* per pound for pork.<sup>10</sup> In August 1367, there was a great shortage of mutton, and the authorities argued that this shortage had been caused by the high price of beef, because butchers had failed to supply mutton

---

6 Vilfan, “L’approvisionnement,” 64.

7 Broquière, *Voyage d’Outremer*, 233.

8 Tucci, “L’Ungheria e gli approvvigionamenti,” 156–57.

9 Faugeron, “Nourrir la ville. L’exemple,” 56–57.

10 *Deliberazioni del Maggior Consiglio di Venezia*, vol. 3, 52.

“propter magnum lucrum quod ipsi consequantur ex carnibus manziniis.”<sup>11</sup> In 1370, meats of every variety were in short supply on the Venice markets. This time, the *Consiglio dei Quaranta* pointed the finger at the higher prices that were being charged at the nearby fairs, in particular in Mestre, Murano, and Mazzorbo, which drew sellers to these markets instead of Venice. A recommendation was made to limit the sale price in these markets in order to encourage sellers to bring meat to the markets in Venice. On August 1440, the Senate prohibited Venetian butchers and “mercatores cranium” from selling meat and livestock on markets other than those of Venice.<sup>12</sup> But, as mentioned, in order to cope with a shortage situation, the city authorities most often focused on increasing the margin of butchers and other importers through an increase in consumer prices. This happened, for example, in May 1371 (with all meats) and in April 1407 (in particular with mutton and lamb) and again in the following years.<sup>13</sup>

The data collected by Faugeron also show how in the fifteenth century the meat market in Venice was strongly segmented. The trade involving the meats that were most in demand (oxen, calves, and castrates) was mainly in the hands of major operators, such as butchers-entrepreneurs (who were later replaced by customs duty tenants). When it came to trade in pork and lamb, in contrast, these operators gave way to a multitude of occasional players, small and medium, who ensured the market in a timely manner and for specific products, after having practiced slaughter domestically and in more or less clandestine way, or by resorting to the *macellum* services when it came to the production of particular cured meats (in winter, for instance, or for the supplies of lamb during the Easter period).<sup>14</sup> In 1436, the *Provveditori alla Beccaria* estimated that 12,000 head of cattle were coming in from “de partibus Sclavoniae” (that is, Croatia, Bosnia, and Serbia, lands part or all of which were under the influence of the Hungarian Crown) without bills (*bolletta*): the continuous complaints made by the Venetian butchers show the importance of supply lines created with Bosnian, Kosovar, and Montenegrin breeders and cattle merchants.<sup>15</sup> But Venice constantly had to fight against the diversion of herds destined for its markets. Treviso, for instance, which lay at the confluence of many trade routes towards the lagoon

11 *Le deliberazioni del consiglio dei XL della Repubblica di Venezia*, vol. 3, 120.

12 Faugeron, “Nourrir la ville. L'exemple,” 68.

13 Faugeron, *Nourrir la ville. Ravitaillement*, 238–39. In the sixteenth century, the preference was to reduce import duties rather than increase consumer prices. See the disc on the following pages.

14 *Ibid.*, 449.

15 *Bilanci generali della Repubblica di Venezia*, vol. 1/1, 85; cf. Faugeron, “Nourrir la ville. L'exemple,” 58; Tucci, “L'Ungheria e gli approvvigionamenti,” 157.

city, periodically tried to take part of supplies destined for Venice, even after its submission to the Republic in 1339. On the far shore of the Adriatic, Zadar also claimed to stop a quarter of animals passing through its territory.<sup>16</sup> On other occasions, such as in the 1440s, the Venetian authorities had little success in their attempts to secure meat supplies at a time of severe shortage on the city markets, since Morlach breeders preferred to transport the animals to other ports which were more profitable.<sup>17</sup> It therefore became necessary better to organize the meat supply sector, essential to economic and social life in Venice. And when, during the fifteenth century, the demographic growth in Venice put increasing demands on the city's meat supply, a search for new and safer markets began, and the local authorities turned with increasing attention to sources of meat in Central and Eastern Europe, including Styria, Carinthia, Tyrol, Bavaria, and Hungary in particular.<sup>18</sup>

As the sketches offered above make clear, Hungarian cattle breeding and trade, intensely practiced in the vast domains of the Kingdom of Hungary, were not only able easily to satisfy the internal demand for meat on the Hungarian market but also allowed a large export of meat to Western Europe, including Venice, where demand was growing. Likewise, the rich Venetian market was an important market for Hungarian production.

The 1457–1458 Bratislava (Pressburg, Pozsony) customs registers are the first to provide interesting information on this trade. Undoubtedly, these registers do not take into account the Kingdom of Hungary as a whole, but they provide clear proof that as early as the mid-fifteenth century, the city represented one of the major export centers of Hungary for any type of livestock, primarily bovine. In that year, about 55 percent of Hungarian exports through these customs on the western borders of the kingdom consisted of livestock, mainly cattle and sheep, for a total amount of about 11,000 gold florins on just over 8,000 heads of various kinds of livestock. Similarly, about 75 percent of imports consisted of textiles, especially cheap ones from Bohemia, Moravia, England, Italy, and German and Flemish regions, for more than 130,000 gold florins. The surplus of imports (89 percent of the total value, against the 11 percent brought in by exports) was offset by the release of gold and silver in the form of money.<sup>19</sup>

---

16 Faugeron, *Nourrir la ville. Ravitaillement*, 386 (for Zara), 368 (for Treviso).

17 *Ibid.*, 386.

18 *Ibid.*, 370.

19 Other exported items, after cattle, were wine (roughly 23 percent), copper (just under 4 percent, though the transfers of copper were much more considerable and took place through other customs), and

From the second half of the fifteenth century, some 75 percent of Hungarian exports consisted of live cattle (mainly bovine) and animal products (various hides), and a similar percentage of trade consisted of imports in textile articles. This exchange was so profitable that even nobles and prelates trafficked directly with the Italian peninsula, and above all with Venice, through their own intermediaries. This was the case, for example, of Bishop Zsigmond Ernuszt of Pécs (1473–1501), who, according to Ludovico Tubero, “ita quaestui deditus erat, ut ne a mercatura quidem abstineret. Emebat enim institorum suorum opere magnam vim boum, quod genus pecoris leui pretio in Hungária paratum, apud Ianios Venetos magno venibat.”<sup>20</sup> In 1488, Matthias Corvinus commissioned Mathias Harber, *civis* of Buda and one of the major city merchants, to transfer and sell livestock from the royal lands to Venice. He then used the proceeds from this trade to buy valuable goods for the crown on the markets in Venice.<sup>21</sup>

The advances of the Ottoman Empire did not nullify the importance of Hungarian exports, nor did they dramatically transform the characteristics of the Hungarian economy. On the contrary, they accentuated some of the features of this economy and made some aspects of the export trade more important. In the period between the fall of the Kingdom of Hungary following the battle of Mohács in 1526 and the final partition of what had been the Hungarian domains among the Habsburgs, the Ottoman Empire, and the Principality of Transylvania in 1541, there was a temporary decline in population. Although there were considerable differences between one territory and another, this favored the further expansion of grazing and cattle breeding in the Great Plain, while in the western regions of the former kingdom, wine production and trade

---

other agricultural and animal products in varying, smaller percentages. In imports, after textiles, German and Austrian knives and iron objects followed for 10 percent, spices and Levantine articles for just under 5 percent, and other goods in varying and smaller percentages. The source is published in Kováts, *Nyugat-Magyarország áruforgalma*; for an analysis, see Pach, “The Role of the East-Central Europe”; cf. Nagy, “Magyarország külkereskedelme,” 253–76; Nagy, “The Problem of the Financial Balance,” 13–20; Nagy, “The Study of Medieval Foreign Trade,” 65–76.

20 Information about the economic involvement of Bishop Zsigmond Ernuszt of Pécs in the livestock trade can be found in *Ludovici Tuberonis*, 81. The work of Ludovico Cerva Tubero, also known as Cervarius (1459–1527), offers a vivid and contemporary testimony of political, economic, and social characters and events that involved the Kingdom of Hungary from the death of King Matthias Corvinus (1490) until the death of Pope Leo X (1521), first published in 1603: cf. Kubinyi, “Budai kereskedők udvari szállításai,” 104; Teke, “Rapporti commerciali,” 150–52.

21 See again Kubinyi, “Budai kereskedők udvari szállításai,” 104; Teke, “Rapporti commerciali,” 150–52.

played a greater role.<sup>22</sup> The population growth that was occurring simultaneously in much of Western Europe stimulated the strong specialization of Hungarian production structures, which in the course of the sixteenth century became even more oriented towards the export of livestock (particularly cattle) to meet the growing demand for meat. Prices in this sector tended to increase in the Hungarian lands as well, but they remained lower than in the West. Thus, in spite of almost endemic wars, cattle breeding and trade were able to attract considerable capital and investment, with large guaranteed profit margins.<sup>23</sup> In this context, it is not surprising that the breed was carefully selected, as can be seen in the appearance of references to the well-known “*magnus cornuotes boves Hungaricos*” in sixteenth-century documents.<sup>24</sup> There are essentially two hypotheses that attempt to explain the origins of the Hungarian great gray ox. According to the first, the breed was the result of cross-breeding with wild oxen. According to the second, it was related to an archaic breed originating from the eastern steppes that arrived in the Carpathian basin around the thirteenth century in connection with the Cumans settlement in these lands. There is no conclusive evidence in favor of either of these theories. Drawing on extensive archaeological investigations, László Bartosiewicz has shown that in the period between the tenth and twelfth centuries, Hungarian cattle lacked the traits of the Hungarian cattle of the sixteenth century, i.e., their large size and wide horns, so it is likely that these elements are the result of a long and careful process of species selection for commercial purposes, further enhanced by the recognized taste and quality of the meat. One thing that is quite certain is that in the mid-sixteenth century, a Hungarian ox weighed on average between 300 and 350

---

22 An overview in Engel, *The Realm of St. Stephen*, 345–71; Engel et al., *Histoire de la Hongrie médiévale*, 369–400; cf. next note.

23 With further bibliography, from an archaeological and environmental point of view: Bartosiewicz, “Animal husbandry”; Bartosiewicz, “Turkish Period Bone Finds”; Bartosiewicz and Gál, “Animal Exploitation”; Csippán, “Meat Supplies”; Rácz, “The Price of Survival”; cf. *Hungarian Archaeology*, 60–64; 405–13: 411; from an economic point of view: Zimányi, “Esportazione di bovini ungheresi”; Blanchard, “The Continental European Cattle Trades”; Ágoston, “The Costs of the Ottoman Fortress-System”; Fara, “Crisi e carestia.” Looking at the northern regions of historical Hungary (present-day Slovakia), Zimányi, “Esportazione di bovini ungheresi,” 148–49 recalls that: “before the ‘price revolution’ in the 1520s, for the price of an ox it was possible to have Moravian cloth [of average quality and largely accessible] sufficient for an item or an item and a half of clothing; after the differentiating effects of the ‘price revolution’ around the 1580s, in exchange for an ox, it was possible to buy cloth sufficient for two and a half items of clothing, and, in the 1600s, for three and one third. [...] Livestock breeding, therefore, involved, temporarily, greater advantages than cloth production.”

24 Milhoffer, *Magyarország közgazdasága*, 74.



kilograms, and this figure went up to 450–500 kilograms by the early seventeenth century, while the European standard was 200 kilograms.<sup>25</sup>

Sources that were created in the sixteenth century and later contain more precise quantitative data on the Hungarian cattle exports to the Venetian markets. In this context, while in Venice there was an increasingly dominant monopoly organization in order to avoid any lack of meat on the city markets (though there were still difficulties and it was ultimately impossible to ensure that there would never be famines),<sup>26</sup> from the Hungarian point of view, interest in the Venetian market always remained strong, and indeed it increased, leading to a further specialization of cattle breeding and trade infrastructure towards the lagoon city.<sup>27</sup> Approximately 100,000 cattle were exported annually from Hungary, with peaks of up to 200,000 cattle in exceptional years. A further 10,000 cattle could be added, exempt from customs duties, which the authorities (especially the Habsburg authorities) often granted to individual merchants as payment for an outstanding loan. In times of high demand, additional cattle arrived from Moldavia and/or Wallachia via Transylvania.<sup>28</sup> Roughly 80 percent (on average between 80 and 85 thousand) were destined for the Austrian, German, Moravian, and Hanseatic markets (in particular the cities of Vienna, Augsburg, Nuremberg, Munich, Württemberg, Ulm, and Strasbourg). Roughly 20 percent (on average between 15 and 20 thousand) reached Venice. A small share was destined for the Ottoman Empire.<sup>29</sup> Sales and transfers of herds to the central and northern

---

25 Mákkai, “Economic landscapes”; Kiss, “Agricultural and Livestock Production”; Topolski, “A model of East-Central European continental commerce”; Blanchard, “The Continental European Cattle Trades”; Bartosiewicz, “Cattle Trade”; Bartosiewicz, “The Hungarian Grey Cattle”; Bartosiewicz, “Animal husbandry”; Bartosiewicz, “Turkish Period Bone Finds”; Hoffmann, “Frontier Foods”; Bartosiewicz and Gál, “Animal Exploitation”; Bartosiewicz, “Animal Bones”; Rácz, “The Price of Survival.”

26 Faugeron, *Nourrir la ville. Ravitaillement*, 171–292.

27 Fara, “Il commercio di bestiame ungherese.”

28 Sixteenth-century sources record numerous commercial enterprises engaged in livestock trade between the two sides of Carpathians and also managed or participated in by operators of Italian origin. For example, between 1520 and 1521, the Italian Vincenzo di Giacomo and his Moldovan partner Drăghici were involved in buying and selling cattle between Moldova and Transylvania. *Documente privitoare la istoria românilor*, vol. 15/1, nr. 447 (10 September 1520); *Quellen zur Geschichte der Stadt Kronstadt*, vol. 1, nr. 367 (26 November 1521), 368 (5 December 1521); see Goldenberg, “Notizie del commercio italiano,” 255–88: 262. On the cattle registered as “Hungarian” but coming from the Romanian Principalities (Wallachia and Moldavia) see: Murgescu, “Der Anteil der rumänischen Fürstentümer,” 61–91; Murgescu, “Balances of Trade and Payments,” 961–80; Murgescu, “Participarea Țărilor Române la comerțul,” 207–26: 210–16. Finally, a case study in Luca, “Un tentativo d’importazione,” 303–22.

29 On the basis of historical analyses and archaeological data, it is estimated that in 1580, the total number of herds was about three million, which means that, at least for that year, exports did not exceed

European markets were carried out through individual contracts between western traders and major Hungarian owners and traders, who as a rule used skilled labor for each individual stage of cattle breeding and transfer.<sup>30</sup> This was not the case for Venice, where trade was regulated on the basis of a single contract in favor of a merchant operating on his own or in partnership, who undertook before the city authorities “à far la carne.” Thanks to the import of between 15 and 20 thousand Hungarian cattle, Venice organized an almost constant supply and ensured about two thirds of its domestic needs.<sup>31</sup> The merchant or company holding the privative contract had to conclude appropriate commercial agreements with the authorities from the other countries who might be interested in the trade. This included the part of the Holy Roman Empire that was ruled by the Habsburg dynasty (which wanted to concentrate business on the Vienna market place), the Principality of Transylvania (through the territories of which cattle from non-Carpathian regions passed), and the Ottoman Empire (which was affected by the passage of the herds); a tribute was due to each customs, of course. Once contracts had been signed, livestock could be obtained in the major markets in Buda and Pest, in the agricultural centers on the Great Plain or at the fairs along the western borders of the former Hungarian dominions. By the end of the sixteenth century, most of the herds were bought or concentrated in Győr. Once collected, the Hungarian herds reached Venice after a journey of more than a month if they came from the Great Plain and about twice as

---

6 percent of the available livestock. Mákkai, “Der ungarische Viehhandel”; Pickl, “Die Auswirkungen der Türkenkriege”; Zimányi, “Esportazione di bovini ungheresi”; Tucci, “L’Ungheria e gli approvvigionamenti”; Vilfan, “L’approvisionnement”; Żytkowicz, “Trends of Agrarian Economy”; Kiss, “Agricultural and Livestock Production”; Blanchard, “The Continental European Cattle Trades”; Sárközy, “Mercanti di bovini”; Rădvan, “On the Medieval Urban Economy”; cf. Carter, *Trade and urban development*, 241–51.

30 In 1518, an anonymous Nuremberg resident claimed that all of Germany is supplied with meat from Hungary (“tutta la Germania è rifornita di carne”): Lütge, *Strukturwandlungen*, 6, and Blanchard, “The Continental European Cattle Trades,” 435 note 37.

31 In 1569, an anonymous Venetian cattle trader apologized to the Venetian authorities for not being able to supply the city with the necessary meat, because on the Dalmatian route it was not possible to bring 7,000 or 8,000 animals a year, as was customary (“per la via di Dalmatia non si è potuto condur li anemali si come per avanti se faceva, quali erano al numero de 7 in 8 miliar all’anno”); moreover, Charles of Habsburg had forbidden the transit of Hungarian cattle through Austria. The same person recalled that Hungarian livestock was in the highest demand on the Venetian meat market, and for a good part of the year, since the animals that could be bought for the subjects of the Serenissima were barely enough to satisfy the city markets for only a third of the year (“detti animali della Ongheria li quali erano quelli che mantenivano le beccarie di carne per il piu, et la maggior parte dell’anno, se donche li animali che si comprano nelli mercati et lochi suditi alla vestra serenita non sono bastanti per il terzo del tempo dell’anno a mantener dette beccarie”). Zimányi, “Esportazione di bovini ungheresi,” 154–55.

long if they arrived from outside the Carpathian region, crossing Transylvania, then the regions under Turkish control, the Hungarian royal territory and the Habsburg domains, and finally reaching the lands surrounding Venice. Routes already in use since the fifteenth century were followed, marked by pastures and fountains which were maintained with care, sometimes by the central authorities though more often by the merchant or the company that had been contracted to purchase and sell the livestock. This was all part of the work necessary to keep the animals healthy.<sup>32</sup> The trade routes crossed the Great Plain and southern Transdanubia, passing the Danube River and then the Mura or the Drava River, depending on the chosen route, going towards Ptuj (Pettau, Pettovia, in present-day Slovenia). Two routes to Gorizia started from here: 1) the “strada di sopra” (the upper road), which passed through Celje (Cilli), Ljubljana (Lubiana), Vrhnika (Vernich), Logatec (Longatico), Planina, Postojna (Postumia), Hrenovice (Crenovizza), Razdrto (Resderta), Vipava (Vipacco) and 2) the “strada di sotto” (the lower road), which passed through Novo Mesto, Krka, Lož, and Planina and then rejoined the first route. From Gorizia, the route continued onward to Udine and finally Portogruaro, and then went by sea to Venice or by land, to take further advantage of pastures, crossing the Piave near Maserada and then heading for Marghera and Venice. Another route involved moving from Ptuj to Bakar (Buccari, on the coast of present-day Croatia), from where the cattle were shipped to Venice. This made it possible to avoid Habsburg customs duties by passing through lands belonging to the noble Zrinyi family, whose estates stretched from the Croatian coast to the confluence of the Mura and Drava Rivers (where, around 1610, a weekly market was organized in the nearby center of Légrád (today Legrad, Croatia), where cattle bred on the Hungarian plains under Turkish rule were concentrated, ready to be easily transferred to Venice).<sup>33</sup>

Thus, the transfer of Hungarian cattle to Venice and to central and northern Europe could yield large profits, but it required a high availability and a large advance of capital. Likewise, as mentioned, in order to meet the supply needs and avoid a lack of meat on the city market, the Venice authorities were constantly

32 Hungarian cattle were so sought after that even when an animal was injured and required excessive care and was therefore unable to continue the long journey, it could be easily exchanged for local cattle; so much so that many accidents were deliberately caused by the cattlemen in order to speculate on replacement. Tucci, “L’Ungheria e gli approvvigionamenti,” 165–66.

33 For a description of possible routes and the duties that were due at individual customs, from Moldova to Venice, see Pickl, “Die Auswirkungen der Türkenkriege,” 88; Zimányi, “Esportazione di bovini ungheresi”; Teke, “Rapporti commerciali”; Tucci, “L’Ungheria e gli approvvigionamenti,” 160–61, 164–65, 171; Vilfan, “L’approvisionnement,” 62–63; Blanchard, “The Continental European Cattle Trades.”

engaged in the organization of this sector, which was essential for the city's economic and social life.<sup>34</sup>

In 1529, Marin Sanudo estimated the annual meat needs in Venice at 14,000 cattle, 13,000 calves, and 70,000 “anemali menudi” (pigs, rams, lambs) for a population estimated at around 120,000.<sup>35</sup> The meat retail price was capped, and the city authorities endeavored to maintain this cap for long periods. As early as the fifteenth century, prices remained essentially stable, with the exception of brief periods of increase in connection with particular war events or the spread of foot-and-mouth disease.<sup>36</sup> Over the next century, the price of beef remained stable at three *soldi* per pound, rising to four *soldi* in 1586 and five in 1594. Prices generally rose by one *soldo* per pound during Lent. But the failure to adjust prices to market levels often discouraged meat imports into the Venetian marketplace because operators preferred to divert meat to more profitable markets.<sup>37</sup> Compared to the previous century, in the sixteenth century, there was a preference for lowering import duties rather than increasing consumer prices. The meat supply had become a real obsession for the Venetian authorities, and the *dazio delle beccherie* was increasingly granted not to the highest bidder in money, but to the one who undertook to bring the largest quantity of livestock into the city.<sup>38</sup> In 1507, the *dazio* was contracted out for 141,000 *lire* and in 1508 for 152,000 *lire*. In 1509 and 1510, there were no operators willing to take on the contract. In 1511, it was possible to conclude a discount contract for 101,300 *lire*. In 1512, there was a moderate increase to 116,000 *lire*, and in order to combat the meat high price, there were also plans to abolish the tithe on contracts, but with little success.<sup>39</sup> In 1513, the Hungarian cattle supply to the Venetian markets was further jeopardized by the strong friction between the Venetian Republic and Emperor Maximilian,<sup>40</sup> to which was added the following year the reigning insecurity in the Hungarian lands due to the peasants' revolt led by György Dózsa.<sup>41</sup> It was in response to this possible crisis that, in 1513, Johannes Pastor (Zuan Pastor, Jan Pasztor, or Sowan Pastoir), a Florentine merchant active at

---

34 Faugeron, *Nourrir la ville. Ravitaillement*, 171–292.

35 *I Diarii di Marino Sanuto*, vol. 50, 65.

36 Faugeron, “Nourrir la ville. L'exemple,” 56.

37 Tucci, “L'Ungheria e gli approvvigionamenti,” 156.

38 Faugeron, “Nourrir la ville. L'exemple,” 70.

39 *Bilanci generali della Repubblica di Venezia*, vol. 1/1, 182; cf. Tucci, “L'Ungheria e gli approvvigionamenti,” 155.

40 And this forced transport by sea: *ibid.*

41 Recently, with bibliography: Péter, “The Other Way”; and other papers on the topic in *Armed Memory*.

the time in Zagreb, promised to supply the Republic of Venice 7,000 cattle by transporting them by sea along the Dalmatian routes, avoiding Habsburg customs. So, in 1515, using the Bakar (Buccari) route, Pastor supplied the Venetian markets with some 5,000 head of cattle, albeit at considerable loss. Although crisis had been averted, the following year, the venture was abandoned, as peace between Venice and the emperor allowed the reopening of usual and safer overland livestock transfer routes.<sup>42</sup>

The Venetian markets experienced a new meat shortage on the eve of Easter in 1526, when, following the Battle of Mohács, the Kingdom of Hungary fell to the Ottoman Turks. The transport across the border of cattle that had already been purchased was blocked, causing a sudden increase in prices in Venice. The city authorities immediately intervened. They summoned the merchants and butchers and decided to impose severe penalties on those who failed to supply the markets, evidently engaging in illegal hoarding, speculation, and diversion of meat, causing increases in prices.<sup>43</sup> The shortages persisted in 1527, and so an attempt was made to encourage the importation of livestock through the premium system. The following year, there was also a reduction in customs duties, and eventually a total exemption was granted.<sup>44</sup> But new difficulties related to the so-called Little Hungarian War from 1529 onwards<sup>45</sup> triggered a prolonged meat famine in Venice. The authorities required the Venetian mainland to supply just under 15,000 cattle a year, but the provinces were completely unable to meet this demand, especially given the technical backwardness of local breeding practices. Difficulties continued in the following years. At the beginning of 1532, the import of meat was finally liberalized and exempted from customs duties, provided that the meats were sold only in public markets. This expedient measure had the desired effect, and Venetian markets began to be better supplied. This was repeated in 1535, 1537, and 1541, and it led to a marked improvement in the situation in Venice, despite the new and increasing insecurity and floods in the Hungarian lands in 1533. In 1536, it was even possible to draw up a new contract for the *dazio delle beccherie*, albeit at a price of only 110,000 *lire*, with a clause to

---

42 Pickl, “Die Auswirkungen der Türkenkriege,” 85–86; Tucci, “L’Ungheria e gli approvvigionamenti,” 155; Budak, “I fiorentini nella Slavonia,” 694–95; Faugeton, *Nourrir la ville. Ravitaillement*, 370.

43 *I Diarii di Marino Sanuto*, vol. 41, 165; cf. Tucci, “L’Ungheria e gli approvvigionamenti,” 155.

44 *Ibid.*

45 See the overview in Bérenger, *La Hongrie des Habsbourgs*, 85–104.

terminate the contract in favor of the assignor in of the roads were to be closed by any authority.<sup>46</sup>

1542 was a year of particular political and military difficulties. The Hungarian dominions were finally definitively divided between the Habsburgs and the Ottoman Empire, with the Principality of Transylvania largely managing to retain its independence. Customs records of some Hungarian cities on the western borders attest that while textiles continued to account for just under 69 percent of imports, at a value of around 100,000 gold florins, livestock alone now made up about 93 percent of exports, for a total of 300,000 gold florins. About 275,000 gold florins came from the bovine cattle trade, calculated for that year at just over 27,000 heads. And if in 1457–1458 in Bratislava (Pressburg, Pozsony) the export tax on an ox was 2.83 gold florins, in 1542 it had risen to about 10 gold florins per head, while the import tax of a medium quality textile piece dropped from 6.57 gold florins in 1457–1458 to 5.33 gold florins in 1542. Obviously, the customs values do not allow one to calculate the exact market price of a single commodity, much as the sixteenth-century increase in prices and the inflation trend must also be taken into consideration. But these data allow us to imagine the interests and opportunities associated with these transactions.<sup>47</sup> In this period, between 1544 and 1564, Peter Valentin, in the sources often identified as Pietro l'Italiano, *civis* of Ptuj (Pettau), traded Hungarian cattle on the Venetian market for various articles of Western origin, in particular textiles. At the end of this period, he declared that he had paid taxes for a total of 360,000 gold florins, valued at 340,000 by the Vienna Chamber.<sup>48</sup>

However, despite the numerous precautions taken, it is clear that the Venetian meat market was highly unstable on the supply side. Many heads of cattle arrived exhausted from the long journey, and others did not survive the trip. Furthermore, particular meteorological events, political conflicts, and war clashes could make it difficult to move or keep the animals. All this could lead to shortages, rising prices, and possibly meat famines on the end markets. Indeed, some of the moments of greatest difficulty in procuring meat on the

---

46 See Tucci, “L’Ungheria e gli approvvigionamenti,” 156–57.

47 In imports, after textiles, came German and Austrian knives and iron objects at nine percent, followed by spices and Levantine articles at just under four percent. In exports, after livestock, there was wine, which fell to just under two percent (perhaps because it was exempt, at that time, from the border tax due to the political vicissitudes in the kingdom), and copper, at just 0.33 percent (again because it was mostly transferred via other customs). Pach, “The Role of the East-Central Europe.”

48 Pickl, “Die Auswirkungen der Türkenkriege,” 96–98; Zimányi, “Il ruolo degli Italiani,” 176–77; Vilfan, “L’approvisionnement,” 64–65.

Venetian market are related to the Turkish military campaigns, the consequent insecurity of the trade routes, and the confiscation of animals for war reasons (with repercussions, as seen, in 1526, 1529, 1532, and 1552). Similarly, floods in the Hungarian lands (for example in 1533) could also lead to increases in prices and to famines, as could diseases, such as the cattle diseases that spread in 1566 (with negative impacts in 1569–1571).<sup>49</sup>

One of the initial responses from the Venetian authorities was the election of two *Provveditori alle Beccherie* in 1545, who were charged with the task of ensuring that the city remained adequately supplied with meat, even if this required the use of force, on the basis of the model adopted in 1529, albeit with the reduction of requests to 8,000 heads of cattle a year. However, this policy could not have been successful, because in stark contrast to the specialization in the Venetian territories, which were oriented towards the more profitable crops of cereals, rice, and mulberry (useful for the silkworm) or towards sheep breeding (which, moreover, provided the wool necessary for production of clothing and textiles). On the contrary, meat from the Hungarian lands remained cheaper and more practical.<sup>50</sup>

The next step, therefore, was to encourage the creation of a real monopoly on meat in Venice that would be held in private hands,<sup>51</sup> both the merchants interested in this sector and the Venetian authorities, whose objective remained ensuring a safe supply of meat to the city. More often than not, Venetian operators tended to organize themselves into companies to ensure the necessary advances of capital and share the numerous risks associated with the business. To facilitate trade, someone also decided to settle and become *civis* in main centers along the cattle transit routes between the Hungarian lands and Venice, in particular Ptuj (Pettau) and Ljubljana (Lubiana). In this way, thanks to greater liquidity and economic capacity, not to mention citizenship (after it had been obtained), which also meant the commercial privileges guaranteed to the city and its residents (among all the *ius stapuli*), these operators were able to monopolize the purchase of cattle on the Hungarian markets, buying up the best animals, outperforming the Austrian and German merchants, and thus obtaining enormous profits.

Around 1566, new unknowns weighed on the Venetian markets meat supply. The first of these unknowns was livestock diseases, which, as noted earlier, spread

49 Tucci, "L'Ungheria e gli approvvigionamenti," 157–58, 162–63.

50 Ibid., 158–59.

51 Faugeron, *Nourrir la ville. Ravitaillement*, 171–292.

that year.<sup>52</sup> The second was the prospect of a new clash between the Habsburgs and the Turks on Hungarian lands.<sup>53</sup> Fearing a decline in meat supplies, the Venetian authorities favored the creation of the *Compagnia del partito della beccaria*, a special office the sole objective of which was to guarantee a continuous supply of meat. This office was contracted out for periods of five or six years to a single operator or, more often, to companies of several operators who were interested in finding new investment opportunities and an adequate return on their capital. Thanks to an immediate and considerable availability of capital, the *Compagnia* was able to implement a very aggressive commercial policy. This involved, first, hoarding the best animals available on the various Hungarian fairs and, second, the creation of obstacles to the purchase of animals by other merchants. Furthermore, in 1572, the members of the *Compagnia* obtained from the Archduke Charles of Habsburg the privilege of buying cattle directly on the Hungarian markets, despite *ius stapuli* privileges enjoyed by Ptuj (Pettau) and Ljubljana (Lubiana). This skillful political and economic strategy greatly benefited the merchants coming from the lands around the Serenissima, and in a short time, it led the *Compagnia* to dictate prices on the market and even secure a monopoly position in the trade of cattle among the Hungarian lands, Venice, and the Italian peninsula. Between 1566 and 1572, Iseppo de Francesco was in charge of the *Compagnia*. Between 1572 and 1577, the office was contracted out by Francesco Cicogna, together with and supported by the capital of a dozen wealthy merchants. In this period, the *Compagnia* definitively affirmed its monopoly position. From 1577 to 1583, the *Compagnia* was contracted out to the society of Lucas Bazin, a Venetian who had become *civis* of Ptuj (Pettau). In this period of six years, it was possible to bring roughly 120,000 bovines to Venice. Lucas Bazin himself maintained a leading role in the cattle trade until 1587 and again between 1593 and 1597.<sup>54</sup> To achieve its goal, the *Compagnia* resorted to every means. When, for example, in 1583–1584 the Habsburg authorities increased the duty from four *soldi* to 48 per head in the Gorizia transit station, Venetian operators and Hungarian breeders made an agreement with the Buda pasha. Using an old route, they were able to lead the herds through

---

52 See note 49.

53 Again Bérenger, *La Hongrie des Habsbourgs*, 85–104.

54 Pickl, “Die Auswirkungen der Türkenkriege,” 98–104; Tucci, “L’Ungheria e gli approvvigionamenti,” 159–63, 168–71; Zimányi, “Il ruolo degli Italiani,” 177–78, with a detailed description of these and many other contracts; see Pakucs-Willcocks, *Sibiu—Hermannstadt*, 104–39; Ciure, *Relațiile dintre Veneția și Transilvania*, 143–211.



the Turkish territory as far as Zadar, from where the cattle were shipped to Venice, with a considerable reduction in customs and transport costs. The pasha also ensured an armed escort, while Venice guaranteed the maintenance of the roads and also pledged to cut the woods near Zadar to create a vast grazing area. 9,000 animals were brought to the markets in Venice in this way. The attempt, however, was short-lived, mainly due to the loss of livestock due to transport by sea, and already in 1586–1587, the normal route through the Habsburg customs was resumed. Nonetheless, this and many other episodes clearly show that commercial relations with the Turks were not excluded a priori and indeed could prove very advantageous.<sup>55</sup>

The *Compagnia del partito della beccaria* organization and its acquisition of a monopoly position did not completely solve the problems with the supply of meat and, therefore, meat famine in Venice. Political conflicts, war events, and various kinds of calamities were always possible, and they threatened totally or partially to compromise the transport of animals, thus triggering meat shortages, price increases, and famine on the Venetian markets. In this sense, new difficulties arose in 1569 and again between 1570 and 1573 in relation to new clashes between the Habsburgs and the Ottomans, which made the roads unsafe and led to the confiscation of animals for war reasons.<sup>56</sup> In 1599, similar problems were caused by a new Hungarian cattle infection.<sup>57</sup> But certainly the *Compagnia's* office was of mutual benefit both to the Republic of Venice and the merchants involved. The Serenissima succeeded in assuring itself a more reliable supply of meat (except, of course, in the case of some unforeseeable

---

55 See Pach, "The Role of the East-Central Europe." The Hungarian and Italian merchants' agreement with the pasha of Buda is described and analyzed in Pickl, "Die Auswirkungen der Türkenkriege," 117; Zimányi, "Esportazione di bovini ungheresi," 151; Zimányi, "Il ruolo degli Italiani," 177–78; Tucci, "L'Ungheria e gli approvvigionamenti," 166–67. A similar use of Dalmatian routes was attempted in the early sixteenth century by Johannes Pastor, a Florentine nation merchant working in Zagreb: see note 42. On the organization and management of the Hungarian borderlands occupied by the Turks through the implementation of a careful policy of controlling costs and the settlement and taxation of the population favorably engaged in agriculture and livestock breeding for commercial purposes, see Ágoston, "The Costs of the Ottoman Fortress-System." The Adriatic Sea economic and commercial vitality, with particular reference to the Dalmatian coasts and the Balkan area, is the subject of a vast literature; with further bibliography, see: Raukar, "I fiorentini in Dalmazia"; Budak, "I fiorentini nella Slavonia"; Moroni, "Le Marche e la penisola balcanica," 199–220; Moroni, "Mercanti e fiere"; Moroni, *Tra le due sponde dell'Adriatico*, 1–54; Moroni, *L'impero di San Biagio*.

56 See note 31.

57 Tucci, "L'Ungheria e gli approvvigionamenti," 170–71; on the difficulties of procuring Hungarian meat for the Venetian market between the end of the sixteenth century and the beginning of the seventeenth (with an interesting French point of view), see also Sahin-Tóth, "A velencei magyar marhaexport."

event), and the Venetian merchants found in this contract a further opportunity for investment and profit, protecting themselves from the risk (always present and linked to uncontrollable factors) through complex forms of economic and financial collaboration, as well as personal collaboration, with operators who were able to support Venice's long-term needs. The position of the Hungarian operators, however, was less favorable, and in the long run, they returned for the most part to carry out the sole breeders' function.<sup>58</sup>

The roles of individual operators and companies active in the meat trade between Venice and the Hungarian lands in the problems of scarcity or shortages of beef and/or the consequential famines in Venice are still unclear. If Venetian demand and Hungarian supply met to generate a coherent market, this did not completely protect Venice from a crisis and/or a famine in meat, despite the countless and diversified efforts put in place by the city authorities over time. And in this sense, albeit briefly, the sources highlight the most "usual" economic practices aimed at developing famine and possibly hunger, from hoarding to high prices, speculation, and shifts to more profitable markets. Nonetheless, the available data highlight the relevance of Hungarian livestock to the Venice market, as well as, vice versa, the importance of the market in Venice as an outlet for the growing and increasingly specialized Hungarian production. They also offer some insight into how, in all this, the individual and institutional intermediaries participating in this trade maintained political and economic interests of absolute importance.

It is worth recalling the words of two great intellectuals of the Venetian Republic. In 1525, the Venetian Vincenzo Guidotti described the Kingdom of Hungary as one of the most beautiful kingdoms in the world ("tra i regni del mondo bellissimo"), where it was easy to get not only gold, silver, marcasite, rock salt, and cereals, but also animals large and small, of all kinds, and in large numbers ("animali grossi e minuti d'ogni sorta in numero grandissimo").<sup>59</sup> In 1598, in his *Geografia*, the Paduan Giovanni Antonio Magini (1555–1617) celebrated the now well-known and renowned Hungarian cattle, recalling that the Kingdom of Hungary was most abundant in all the goods that nature offered, because it gave an infinite quantity of excellent products. It was so rich in domestic animals, such as sheep and oxen, that with great wonder it sent them to other countries, and especially to Italy and Germany. Moreover, a single farmer could keep a

---

58 Fara, "Il commercio di bestiame ungherese."

59 Document in Tucci, "L'Ungheria e gli approvvigionamenti," 153, note 4.

hundred oxen grazing for several years, seeing them grow up to three times their original size. Almost the whole of Europe, Guidotti claimed, could be fed with meat from this region alone.<sup>60</sup>

And yet, despite crises which lasted for shorter and longer periods of time, this finally testifies to the deep integration of the Hungarian market into the European context between the late Middle Ages and the early modern period.

### *Bibliography*

#### Printed sources

- Bilanci generali della Repubblica di Venezia*. Vol. 1/1. Edited by Fabio Besta. Venezia: Visentini, 1912.
- De la Broquière, Bertrand. *Voyage d'Outremer*. Vol. 12 of *Recueil de voyages et de documents pour servir à l'histoire de la géographie*, edited by Charles Schefer. Paris: Leroux, 1892.
- Deliberazioni del Maggior Consiglio di Venezia*. Vol. 3. Edited by Roberto Cessi. Bologna: Zanichelli, 1950.
- Documente privitoare la istoria românilor*. Vol. 15/1, 1358–1600. *Acte și scrisori din Arhivele orașelor ardeleni (Bisritra, Brașov, Sibiu)*. Edited by Eudoxiu Hurmuzaki, and Nicolae Iorga. București: Editura Academiei Române, 1911.
- I Diarii di Marino Sanuto*. Vol. 41. Edited by Federico Stefani, Guglielmo Berchet, and Nicolò Barozzi. Venezia: Visentini, 1894.
- I Diarii di Marino Sanuto*. Vol. 50. Edited by Federico Stefani, Guglielmo Berchet, and Nicolò Barozzi. Venezia: Visentini, 1898.
- Le deliberazioni del consiglio dei XL della Repubblica di Venezia*. Vol. 3. Edited by Antonino Lombardo. Venezia: Deputazione di Storia Patria per le Venezie, 1967.
- Ludovici Tyberonis Dalmatae Abbatis &c. Commentariorvm de rebus, quae temporibus eius in illa Evropaee parte, quam Pannonii & Turcae eorumque finitimi incolunt, gestae*

60 Magini, *Geografia*, vol. 1, 112: “Ella [Hungary] è abundantissima di tutte le più prestanti cose, che può far natura, perché dà infinita copia d’ottimi frutti [...]. È tanto ricca d’animali domestici, come di pecore, e di buoi, che negli esterni paesi, e specialmente nell’Italia, e nella Germania, manda tante, e sì gran schiere di buoi, e di pecore, che è un stupore. Percioche si come riferisce un certo, spesse volte un villano solo alquanti anni mantiene cento buoi à paschi, dove li vede à tre doppi cresciuti. Perché quasi tutta l’Europa potrebbe da questa sola Regione essere nudrita di carni.” Cf. Tucci, “L’Ungheria e gli approvvigionamenti,” 153, note 5.

*sunt, Libri Vndecim*. Francofurti: Imp[ensi]s Claudij Marnij [& h]aeredum Ioannis Aubrij, 1603.

Magini, Giovanni Antonio. *Geografia, cioè Descrittione Universale della Terra Partita in due volumni*. Venetia: Giovanni Battista & Giorgio Galignani, 1597–1598.

*Quellen zur Geschichte der Stadt Kronstadt in Siebenbürgen*. Vol. 1, *Rechnungen aus 1503–1526*. Kronstadt: Zeidner, 1886.

Villani, Matteo. *Cronaca*. Edited by Giuseppe Porta. Parma: Guanda, 1995.

### Secondary literature

Ágoston, Gábor. “The Costs of the Ottoman Fortress–System in Hungary in the Sixteenth and Seventeenth Centuries.” In *Ottomans, Hungarians and Habsburg in Central Europe: The Military Confines in the Era of Ottoman Conquest*, edited by Géza Dávid and Pál Fodor, 196–228. Leiden–Boston–Cologne: Brill, 2000.

*Armed Memory: Agency and Peasant Revolts in Central and Southern Europe (1450–1700)*.

Edited by Gabriella Erdélyi. Göttingen: Vandenhoeck & Ruprecht 2016.

Bartosiewicz, László. “Cattle Trade across the Danube at Vác (Hungary).” *Anthropozoologica* 21 (1995): 189–96.

Bartosiewicz, László. “The Hungarian Grey Cattle: A Traditional European Breed.” *Animal Genetic Resources Information* 21 (1997): 49–60.

Bartosiewicz, László. “Animal husbandry and medieval settlement in Hungary: A review.” *Beiträge zur Mittelalterarchäologie in Österreich* 15 (1999): 139–55.

Bartosiewicz, László. “Turkish Period Bone Finds and Cattle Trade in South-Western Hungary.” In *Historia animalium ex ossibus. Beiträge zur Paläoanatomie, Archäologie, Ägyptologie, Ethnologie und Geschichte der Tiermedizin*, edited by Cornelia Becker, Henriette Manhart, Joris Peters, and Jörg Schibler, 47–56. Rahden/Westf.: Leidorf, 1999.

Bartosiewicz, László. “Animal Bones from the Medieval Settlement Otok (Gutenwerth) Near Dobrava pri Škocjanu, Slovenia.” *Arheološki vestnik* 57 (2006): 457–78.

Bartosiewicz, László, and Erika Gál. “Animal Exploitation in Hungary during the Ottoman Era.” In *Archeology of the Ottoman Period in Hungary*, edited by Ibolya Gerelyes, and Gyöngyi Kovács, 365–76. Budapest: Hungarian National Museum, 2003.

Bartosiewicz, László, et al. “Animal Exploitation in Medieval Hungary.” In *The Economy of Medieval Hungary*, edited by József Laszlovszky, Balázs Nagy, Péter Szabó, and András Vadas, 113–65. Leiden–Boston: Brill, 2018.

- Bérenger, Jean. *La Hongrie des Habsbourgs*. Vol. 1, *De 1526 à 1790*. Rennes: PUR, 2010.
- Blanchard, Ian. “The Continental European Cattle Trades, 1400–1600.” *The Economic History Review* 39 (1986): 427–60.
- Budak, Neven. “I fiorentini nella Slavonia e nella Croazia nei secoli XIV e XV.” *Archivio Storico Italiano* 153 (1995): 681–95.
- Carter, Francis William. *Trade and urban development in Poland: An economic geography of Cracow from its origins to 1795*. Cambridge: Cambridge University Press, 1994.
- Ciure, Florina. *Relațiile dintre Veneția și Transilvania în secolele al XVI–XVII*. [The Venetian-Transylvanian relations in the 16th and 17th centuries]. Brăila–Oradea: Istros, 2013.
- Csippán, Péter. “Meat Supplies of the Markets of Medieval and Early Modern Age Debrecen (NE Hungary).” *Archeometriai Műhely* 10, no. 4 (2013): 249–58.
- Engel, Pál. *The Realm of St. Stephen: A History of Medieval Hungary (895–1526)*. London–New York: Tauris, 2001.
- Engel, Pál, Gyula Kristó, and András Kubinyi, eds. *Histoire de la Hongrie médiévale*. Vol. 2, *Des Angevins aux Habsbourgs*. Rennes: PUR, 2008.
- Fara, Andrea. “Crisi e carestia nell’Europa centro–orientale in epoca medievale. Alcune osservazioni.” In *Crisis alimentarias en la Edad Media. Modelos, explicaciones y representaciones*, edited by Pere Benito i Monclús, 251–81. Lleida: Milenio, 2013.
- Fara, Andrea. “Il commercio di bestiame ungherese verso la Penisola italiana tra tardo Medioevo e prima Età moderna (XIV–XVI secolo).” *Mélanges de l’École française de Rome – Moyen Âge* 127, no. 2 (2015). doi: 10.4000/mefrm.2709
- Fara, Andrea. “An Outline of Livestock Production and Cattle Trade from Hungary to Western Europe in the Late Middle Ages and Early Modern Period (14th–16th Centuries).” *Crisis* 45 (2015): 87–95.
- Faugeron, Fabien. “Nourrir la ville. L’exemple de la boucherie vénitienne à la fin du Moyen Âge.” *Histoire urbaine* 16, no. 2 (2006): 53–70.
- Faugeron, Fabien. *Nourrir la ville. Ravitaillement, marchés et métiers de l’alimentation à Venise dans les derniers siècles du Moyen Âge*. Bibliothèque des Écoles Françaises d’Athènes et de Rome 362. Rome: École Française de Rome, 2014.

- Gazdaság és gazdálkodás a középkori Magyarországon: gazdaságtörténet, anyagi kultúra, régészet* [Economy and management in medieval Hungary: Economic history, material culture, archeology]. Edited by András Kubinyi, József Laszlovszky, and Péter Szabó. Budapest: Martin Opitz, 2008.
- Goldenberg, Samuil. “Notizie del commercio italiano in Transilvania nel secolo XVI.” *Archivio Storico Italiano* 121, no. 2 (1963): 255–88.
- Hoffmann, Richard C. “Frontier Foods for Late Medieval Consumers: Culture, Economy, Ecology.” *Environment and History* 7, no. 2 (2001): 131–67. doi: 10.3197/096734001129342432
- Hungarian Archaeology at the Turn of the Millennium*. Edited by Zsolt Visy et al. Budapest: Ministry of National Cultural Heritage–Teleki László Foundation, 2003.
- Kiss, István N. “Die Bedeutung der ungarischen Viehzucht für Ungarn und Mitteleuropa vom 16. bis zum 18. Jahrhundert.” In *Internationaler Ochsenbandel (1350–1750). Akten des 7th International Economic History Congress Edinburgh 1978*, edited by Ekkehard Westermann, 83–123. Stuttgart: Klett–Cotta, 1979.
- Kiss, István N. “Agricultural and Livestock Production: Wine and Oxen. The Case of Hungary.” In *East–Central Europe in Transition from the Fourteenth to the Seventeenth Century*, edited by Antoni Maćszak, Henryk Samsonowicz, and Peter Burke, 84–96. Cambridge: Cambridge University Press; Paris: Éditions de la Maison des Sciences de l’Homme, 1985.
- Kováts, Ferenc. *Nyugat-Magyarország áruforgalma a XV. században a pozsonyi harminczadkönyv alapján* [Trade in western Hungary in the fifteenth century based on the Book of Thirtieth from Pozsony]. Budapest: Politzer, 1902.
- Kubinyi, András. “Budai kereskedők udvari szállításai a Jagelló-korban” [The court deliveries of the merchants of Buda during the Jagiellonian Era]. *Budapest Régiségei* 19 (1959): 99–119.
- Luca, Cristian. “Un tentativo d’importazione dalla Moldavia di bovini destinati al mercato fiorentino all’epoca di Cosimo I de’ Medici.” In *Italia ed Europa centro–orientale tra Medioevo ed Età moderna: Economia, Società, Cultura*, edited by Andrea Fara, 303–22. Rome–Heidelberg: DHI–HUP, 2022. doi: 10.17885/HEIUP.832.C13896
- Lütge, Friedrich. *Strukturwandlungen in ostdeutschen und osteuropäischen Fernhandel des 14. bis 16. Jahrhunderts*. Munich: BAV, 1964.
- Mákkai, László. “Der ungarische Viehhandel, 1550–1650.” In *Der Außenhandel Ostmitteleuropas, 1450–1650. Die ostmitteleuropäischen Volkswirtschaften*

- in ihren Beziehungen zu Mitteleuropa*, edited by Ingomar Bog, 483–506. Cologne–Vienna: Böhlau, 1971.
- Mákkai, László. “Economic landscapes: historical Hungary from the fourteenth to the seventeenth century.” In *East–Central Europe in Transition from the Fourteenth to the Seventeenth Century*, edited by Antoni Maćszak, Henryk Samsonowicz, and Peter Burke, 24–35. Cambridge: Cambridge University Press; Paris: Éditions de la Maison des Sciences de l’Homme, 1985.
- Milhoffer, Sándor. *Magyarország közgazdasága* [The economy of Hungary]. Vol. 1. Budapest: Franklin Társulat, 1904.
- Miskulin, Alajos. *Magyar művelődéstörténeti mozzanatok Giovanni és Matteo Villani krónikái alapján* [Hungarian cultural historical phases according to the Chronicle of Giovanni and Matteo Villani]. Budapest: Hornyánszky nyomda, 1905.
- Moroni, Marco. “Le Marche e la penisola balcanica tra economia e cultura.” In *Munus Amicitiae. Scritti per il 70° Genetliaco di Floriano Grimaldi*, edited by Gianfranco Paci, Maria Luisa Polichetti, and Mario Sensi, 199–220. Loreto: Edizioni Tecnostampa, 2001.
- Moroni, Marco. “Mercanti e fiere tra le due sponde dell’Adriatico nel basso Medioevo e in età moderna.” In *La pratica dello scambio. Sistemi di fiere, mercanti e città in Europa (1400–1700)*, edited by Paola Lanaro, 53–79. Venice: Marsilio, 2003.
- Moroni, Marco. *Tra le due sponde dell’Adriatico. Rapporti economici, culturali e devozionali in Età moderna*. Napoli–Rome: Edizioni Scientifiche Italiane, 2010.
- Moroni, Marco. *L’impero di San Biagio. Ragusa e i commerci balcanici dopo la conquista turca (1521–1620)*. Bologna: il Mulino, 2012.
- Murgescu, Bogdan. “Der Anteil der rumänischen Fürstentümer am europäischen Viehhandel vom 16. bis zum 18. Jahrhundert. Regelmäßigkeiten und konjunkturelle Schwankungen.” *Scripta Mercaturae* 33, no. 2 (1999): 61–91.
- Murgescu, Bogdan. “Balances of Trade and Payments between the Ottoman Empire and Central Europe (16th–18th Centuries).” In *Relazioni economiche tra Europa e mondo islamico. Secc. XIII–XVIII – Europe’s economic relations with the Islamic world 13th–18th Centuries. Atti della XXXVIII Settimana di Studio dell’Istituto internazionale di Storia economica “F. Datini” di Prato, Prato 1–5 maggio 2006*, edited by Simonetta Cavaciocchi, 961–80. Florence: Le Monnier, 2007.
- Murgescu, Bogdan. “Participarea Țărilor Române la comerțul european cu vite în secolele XVI–XVIII. Regularități și fluctuații conjuncturale”

- [The participation of the Romanian countries in the European cattle trade in the sixteenth–eighteenth centuries: Conjunctural regularities and fluctuations]. In *Țările Române între Imperiul Otoman și Europa creștină* [The Romanian countries between the Ottoman Empire and Christian Europe], edited by Bogdan Murgescu, 207–26. Iași: Polirom, 2012.
- Nagy, Balázs. “Magyarország külkereskedelme a középkorban” [Hungary’s foreign trade in the Middle Ages]. In *Gazdaság és gazdálkodás a középkori Magyarországon: gazdaságtörténet, anyagi kultúra, régészet* [Economy and farming in medieval Hungary: Economic history, material culture, archaeology], edited by András Kubinyi, József Laszlovszky, and Péter Szabó, 253–76. Budapest: Martin Opitz, 2008.
- Nagy, Balázs. “The Problem of the Financial Balance in the Foreign Trade of Late Medieval Hungary: A Century-Long Historiographical Debate.” *Transylvanian Review* 3 (2009): 13–20.
- Nagy, Balázs. “The Study of Medieval Foreign Trade of Hungary: A Historiographical Overview.” In *Cities – Coins – Commerce: Essays presented to Ian Blanchard on the Occasion of his 70th Birthday*, edited by Philipp Robinson Rössner, 65–76. Stuttgart: Franz Steiner, 2012.
- Pach, Zsigmond Pál. “The Role of the East-Central Europe in International Trade, 16th and 17th Centuries.” *Studia Historica Academiae Scientiarum Hungaricae*, 70 (1970): 217–64.
- Pakucs-Willcocks, Mária. *Sibiu–Hermannstadt. Oriental Trade in Sixteenth Century Transylvania*. Cologne–Weimar–Vienna: Böhlau, 2007.
- Péter, Katalin. “The Other Way. Negotiating Freedom in a Gutsherrschaft Country, the Kingdom of Hungary, in the Sixteenth and Seventeenth Centuries.” In *Armed Memory: Agency and Peasant Revolts in Central and Southern Europe (1450–1700)*, edited by Gabriella Erdélyi, 59–82. Göttingen: Vandenhoeck & Ruprecht 2016.
- Pickl, Othmar. “Die Auswirkungen der Türkenkriege auf dem Handel zwischen Ungarn und Italien im 16. Jahrhundert.” In *Die wirtschaftlichen Auswirkungen der Türkenkriege*, edited by Othmar Pickl, 71–129. Graz: UG, 1971.
- Pickl, Othmar. “Der Handel Wiens und Wiener Neustadts mit Böhmen, Mähren, Schlesien und Ungarn in der 1. Hälfte des 16. Jahrhunderts (mit einem Exkurs über den Ochsenhandel von Ungarn nach Venedig im letzten Viertel des 16. Jahrhunderts).” In *Der Außenhandel Ostmitteleuropas, 1450–1650. Die ostmitteleuropäischen Volkswirtschaften in ihren Beziehungen zu*



- Mitteleuropa*, edited by Ingomar Bog, 320–41. Cologne–Vienna: Böhlau, 1971.
- Pickl, Othmar. “Der Viehhandel von Ungarn nach Oberitalien vom 14. bis zum 17. Jahrhundert.” In *Internationaler Ochsenhandel (1350–1750). Akten des 7th International Economic History Congress Edinburgh 1978*, edited by Ekkehard Westermann, 39–81. Stuttgart: Klett-Cotta, 1979.
- Pickl, Othmar. “Die Handelsbeziehungen zwischen Ungarn, Österreich, Süddeutschland bzw. Venedig während des Fünfzehnjährigen Krieges.” *Sonderbände der Zeitschrift des Historischen Vereines für Steiermark* 25 (2000): 557–63.
- Rácz, Lajos. “The Price of Survival: Transformations in Environmental Conditions and Subsistence Systems in Hungary in the Age of Ottoman Occupation.” *Hungarian Studies* 24, no. 1 (2010): 21–39.
- Rădvan, Laurențiu. “On the Medieval Urban Economy in Wallachia.” *Analele Științifice ale Universității “Alexandru Ioan Cuza” din Iași* 56 (2009): 489–501.
- Raukar, Tomislav. “I fiorentini in Dalmazia nel secolo XIV.” *Archivio Storico Italiano* 153 (1995): 657–80.
- Sahin-Tóth, Péter. “A velencei magyar marhaexport válsága a XVI–XVII. század fordulóján egy francia forrás tükrében” [The crisis of the Hungarian cattle export to Venice at the turn of the 16th and 17th centuries in the light of a French source]. *Fons – Forráskutatás és Történelmi Segédtudományok* 9, no. 1–3 (2002): 75–106.
- Sárközy, Péter. “Mercanti di bovini – collezionisti di libri fra Italia e Ungheria.” In *Cultura e società in Ungheria tra Medioevo ed Età moderna*, edited by Péter Sárközy, 31–39. Rome: Lithos, 2003.
- Stromer, Wolfgang von. “Zur Organisation des transkontinentalen Ochsen- und Textilhandels im Spätmittelalter. Der Ochsenhandel des Reichserbkämmerers Konrad von Weinsberg anno 1422.” In *Internationaler Ochsenhandel (1350–1750). Akten des 7th International Economic History Congress Edinburgh 1978*, edited by Ekkehard Westermann, 171–95. Stuttgart: Klett-Cotta, 1979.
- Teke, Zsuzsa. “Rapporti commerciali tra Ungheria e Venezia nel secolo XV.” In *Rapporti veneto-ungheresi all’epoca del Rinascimento*, edited by Tibor Klaniczay, 143–52. Budapest: Akadémiai Kiadó, 1975.
- The Economy of Medieval Hungary*. Edited by József Laszlovszky, Balázs Nagy, Péter Szabó, and András Vadas. Leiden–Boston: Brill, 2018.

- Topolski, Jerzy. “A model of East-Central European continental commerce in the sixteenth and the first half of seventeenth century.” In *East-Central Europe in Transition from the Fourteenth to the Seventeenth Century*, edited by Antoni Mączak, Henryk Samsonowicz, and Peter Burke, 128–39. Cambridge: Cambridge University Press; Paris: Éditions de la Maison des Sciences de l’Homme, 1985.
- Tucci, Ugo. “L’Ungheria e gli approvvigionamenti veneziani di bovini nel Cinquecento.” In *Rapporti veneto–ungheresi all’epoca del Rinascimento*, edited by Tibor Klaniczay, 153–71. Budapest: Akadémiai Kiadó, 1975.
- Vilfan, Sergij. “L’approvisionnement des villes dans les confins germano-italo-slaves du XIV<sup>e</sup> au XVII<sup>e</sup> siècle.” In *L’approvisionnement des villes de l’Europe occidentale au Moyen Âge et aux Temps Modernes*, edited by Centre culturel de l’Abbaye de Flaran, 53–74. Auch: PUM, 1985.
- Zimányi, Vera. “Esportazione di bovini ungheresi a Venezia nella seconda metà del secolo XVI.” In *Venezia e Ungheria nel Rinascimento*, edited by Vittore Branca, 145–56. Florence: Olschki, 1973.
- Zimányi, Vera. “Il ruolo degli Italiani tra i capitalisti stranieri che svolsero la loro attività in Ungheria nella seconda metà del secolo XVI.” In *Rapporti veneto-ungheresi all’epoca del Rinascimento*, edited by Tibor Klaniczay, 173–79. Budapest: Akadémiai Kiadó, 1975.
- Żytkowicz, Leonid. “Trends of Agrarian Economy in Poland, Bohemia and Hungary from the Middle of the Fifteenth to the Middle of the Seventeenth Century.” In *East-Central Europe in Transition from the Fourteenth to the Seventeenth Century*, edited by Antoni Mączak, Henryk Samsonowicz, and Peter Burke, 59–83. Cambridge: Cambridge University Press; Paris: Éditions de la Maison des Sciences de l’Homme, 1985.