Abstract

The work concerns the bookkeeping solutions used in Polish farms in the 17th century. On the basis of the source texts analysis three approaches to bookkeeping can be distinguished. Bookkeeping was considered to be:

- an administrative tool,
- a set of reliable solutions for recording and settling accounts with stewards,
- a system for recording and establishing money flow and financial gain.

The bookkeeping of that time had the following aims: supervision over the resources, reliable registration of quantity and price values for agricultural and animal produce; examining the accountabilities of the property administrators. People responsible for creation of the bookkeeping in 17th century were experienced farm managers. Their views on the processes taking place in the manor farms were in line with the views of the exponents of European mercantilists.

Keywords: Accounting history, economic history, Poland, mercantilism

JEL Code Classification: M41, B11, N43, N53
1. Introduction

For a the body without the spirit is dead, so also a manor without an inventory is dead, empty and neglected.¹

(Jakub Kazimierz Haur, 1679)

The 17th century farming experienced considerable growth. A manor farm can be considered a basic farming entity that existed at that time. These manor farms belonged to feudal lords. Those plots of lands were farmed by peasants, who were bound to the land and belonged to the lord. The peasants (also called “serfs”) lived in village, which were also included in the manor. The lords had exclusive rights to the farm lands and could use them for an indefinite period. They expanded the farming area by forest thinning, purchasing of small villages and including town lands. Lords also increased the size of their farms by taking over the wastelands the belonged to peasants.

Also other, bigger farming unit called “magnate estates” started to become more important, especially on the incorporated lands of Ukraine. Magnate estates consisted of several manor farms, villages and even towns. Exceptionally huge magnate estates were split into klucze (roughly translated as “flocks”) being groups of manor farms and villages that were managed together. The management, administration and judicial functions were performed by a group of clerks, usually belonging to less affluent gentry. Magnates prepared instructions for those clerks detailing their duties in property management. Administration of the magnate estates was often complicated, especially when they were located in different counties (Bardach, et. al, 1996: 191-192). If the owner did not reside at the given property he paid visits and gave orders to his inferiors and demanded reports. Appointed inspectors would supervise the properties on the lord’s behalf, visiting the individual manor farms or whole “flocks” of them. When the properties consisted of big number of “flocks”, or when the owner rarely visited them, he would appoint a steward, who was responsible for managing their business (Rutkowski, 1953: 87).

The aim of this work is to present the bookkeeping solutions applied in the Polish manor farms of 17th century. The paper is based on source text analysis. It also depicts the political and economical background, taking into the account the typical ideas and views characteristic for the economic thought of that time.

The following arguments are put forward:

• The 17th century bookkeeping was a means to manage manor farms and magnate estates

¹ This and all other translations from Polish are done by the author
• The bookkeeping was to serve the purpose of collecting necessary information for administration during the post war crisis
• The 17th century bookkeeping concepts were in line with the mercantilism approach, which was a typical trend for the economic thought of that time

The source texts were selected on the basis of the first publication date (in case of manuscripts: date of creation). According to the author's knowledge, bookkeeping solutions applied in the 17th century Polish Republic were not a subject of in-depth analysis. The relevance of these issues has been suggested in the works of Au (1889: 7), Moszczeński (1947: 22) and Bernacki (2007).

The study of the accounting history has a long tradition. In the recent years an emphasis has been put on researching and methodology. The current approach is to understand accounting history by taking into consideration the international context a wide range of social and political theories (see Napier, 1989: 237-254, 2006: 445-507; Carnegie & Napier, 1996: 7-39, 2002: 689-718; Carnegie & Rodrigues, 2007: 441-464). At the same time the accounting historians indicate a need for further research outside of the Anglo Saxon field (Carmona, 2004: 7-23; Walker, 2005: 233-259).

2. Political and Economical Situation of the Polish Republic in the 17th Century

The Republic of the first half of 17th century was in the state of prosperity. A significant growth of agricultural production needs to be noted. Poland was an important provider of grain, cattle, timber, hemp, etc. Manor farm goods were mostly exported (Jezierski & Leszczyńska, 2003: 47).

In 1648 civil war broke in the south-eastern part of the Republic. The conflict was caused by the Union of Breast in 1596, interventions of the neighbouring countries and attempt to form the state of Ukraine. In 1654 Chmielnicki surrendered himself to the protection of Grand Duchy of Moscow, which led to war between the Polish Republic and Moscow. The war ended in 1667 with truce. As a consequence Ukraine was partitioned along the middle part of the Dniester River into Polish and Russian parts. On the basis of the 1657 Treaty of Bromberg, area of Duchy of Prussia, being under the reign of Electors of Brandenburg, was released of vassalage. Shortly after that, Duchy of Prussia together with Brandenburg was transformed into the Kingdom of Prussia.

During the war with Sweden in 1655-1660, Swedish king made efforts to partition the Polish Republic, which was finally thwarted after the lost campaign. When king John Casimir abdicated in 1668 the Polish-Turkish and Polish-Tatar wars resumed and in 1672 Poland was forced to hand over a part of its south-eastern areas to Turkey. By the end of the 17th century the Republic encompassed 733 thousands km² (Jezierski & Leszczyńska, 2003: 63-64).
The wars in the mid 17th century wreaked havoc on country’s agriculture. The production decreased dramatically. Since farming efficiency plummeted, the landowners increased the workload on serfs. The extended amount of labour made the economy poorer, decreasing the number of livestock and causing hunger among peasants, which led to a significant drop in agricultural produce and export. Decrease in export resulted in lower incomes for the manor farm owners, who reacted to that, by introducing monopolies of propination\(^2\) and mills\(^3\) (Jezierski & Leszczyńska, 2003: 75). It coincided with a financial crisis, caused by the need to pay the soldiers and a tax crisis resulting from the increased tax burden, imposed after the Sejm\(^4\) (parliament) gatherings. The tax was supposed to cover the cost of maintaining the army. Due to the impoverishment of the country the tax collection was very ineffective. The poll tax was one of the introduced taxes (it was also called subsidium). The tax was highly unpopular among the gentry - the last time it was used was well over one hundred years earlier. Among other means to fund the treasury were the direct taxes: merchant tax (included into the customs from 1678), Jewish head tax, and various property taxes: quadruple tax, field tax, and increased quarter tax. Indirect taxes were also used, which were the different kinds of taxes on the sale of liquor (excise).

3. Economic Theories of Polish Gentry in the 17th Century and the Western Economic Thought

In the history of western economic thought the period between 16th and 18th century is referred to as mercantilism. States that discovered New World reaped profits from mining gold and trading the colonial commodities, and developed merchant shipping. A significant increase in the foreign exchange must be noted as well as growth of the interest in economic issues. The aforementioned factors shaped the mercantile policies of many European states: England, France, Netherlands, Iberian Peninsula countries and – to the lesser extent – Italy. In mercantilism and in the works of this trend we can distinguish the following ideas (Taylor, 1991: 30-34):

- being wealthy meant having precious metals and earning profit on them,
- trade profit was a supplementary means of gaining precious metals and a source of self-sufficiency of the state,
- industrialism,
- increasing the quality of work
- interventionism of the state.

\(^2\) Propination: serfs were only allowed to buy alcoholic beverages in the lord’s tavern.
\(^3\) Monopoly of mills: Serfs were only allowed to grind their grain in the lord’s mills.
\(^4\) The term “Sejm” refers to the entire three-chamber Polish parliament, comprising the lower house – Chamber of Envoys – the upper house – Senate – and the King
In Poland the impact of mercantilism was much weaker, which resulted from the direction of the economic policies, which can be characterised by gentry’s exclusive governing of the state and favouring farming (Taylor, 1991: 37). Nevertheless, the enlightened exponents of Polish gentry put forward the main four economic arguments:

- development of country’s crafts and industry,
- limiting import,
- increasing urbanisation,
- lowering taxes.

Among the most important exponents of the economic thought of that time there were: Stanisław Zaremba, Jan Grodwagner, Krzysztof Opaliński and Andrzej Maksymilian Fredro (Lipiński, 1981: 147-152).

Zaremba was the author of the work: “Okulary na rozchody w Koronie i z Korony, przez które jako w zwierciadle obaczyć każdy może fortele i nieznośne zyski, zdzierstwa i łupiestwa kupieckie. Przy tym śrzodki i sposoby różne jako temu zapobieżeć i one pohamować” [Spectacles through which to look at expenses in the Crown and out of the Crown, being like mirrors to view fraud, unfair profits, deception and thefts done by merchants. Different means of preventing and stopping them are also provided].” (1623). Zaremba was a keen supporter of country’s crafts, industry development, limitation of tax and significant reduction of merchants’ business activity.

Grodwagner wrote a work: “Discurs o cenie pieniędzy teraźniejszej i o niektórych skutkach jej” [Discourse on the price of the currency and some of its implications] (1632). He was against the unfair trade and supported import limitation and – like Zaremba – promoted the development of industry.

Opaliński was an author of a satire “O podniesieniu miast w Polsce” [About elevating towns in Poland] (1648). He proposed a development program for towns, crafts and trade; noted a decrease in agriculture, weakness of the industry, the gentry’s excessive consumption. Opaliński noticed low work efficiency, primitive production processes, and excessive exploitation of the peasants. The author suggested subsidizing craftsmen activity and exempting them from taxes. He also proposed replacing the serfdom with rents.

Fredro also saw the need to industrialise the country, at the same time understanding the importance of agriculture, trade and communication development. He promoted the idea of inventiveness among craftsmen (Lipiński, 1981: 151-152).

4. Jakub Kazimierz Haur’s Idea of Bookkeeping Organization

Jakub Kazimierz Haur was born in 1632 r. in the family of a Warsaw councillor. After graduating from Crakow University he was working as a servant for Lviv families:
Morikoni and Dziannotti. In the 60’ties of 17th century a noble title and a family crest were conferred on his family. Since 1670 he was a steward and clerk for castellan Stanisław Skarszowski, and among other things, he worked in castellan’s salt storehouses in Pomeranian and Livonian towns.

In that period he wrote “Ekonomika ziemiaska” [Farming Economy], first published in 1675. In the second half of 70’ties of 17th century he was involved with administration of Jan Andrzej Morsztyn’s property (who was a famous Polish poet and politician). In 1679 Haur prepared a second edition of “Farming Economy” of twice the volume of the original version (it was complemented by a translated agronomic treatise by Crescentius). After Morsztyn’s departure to France Haur decided to settle in Cracow, where he took up trade, became treasury commissioner and held the title of king’s secretary.

In 1693 he published his next treatise “Skład abo skarbiec znakomitów sekretów ekonomiej ziemiaskiej” [A storehouse or a treasury of farming economy secrets]. He also wrote a work that only survived in a manuscript titled: “Polish Courier” (Merkuriusz Polski). He died presumably in 1707 or 1709 (Kunicki–Goldfinger & Siekierska, 2010).

Haur advised to keep an inventory that should be verified on annual basis. He suggested that such report can limit losses in the property:

“Inventory for all kinds of things [...] should be adequately written down and signed, so that each possession can be later inspected and verified. It shall be observed closely: if anything increased in its number, it shall be described, similarly the losses. An investigation to reveal where these things disappeared should also be carried out [...] since in this way one may prevent impoverishing” (Haur, 1679: 3).

Haur always stressed that stewards should constantly control and verify calculations and balance sheets from a given manor farm. He warned them that in other case they will not be able to verify the authenticity of the documents:

“All calculations and summary reports belonging to each possession should be kept for perfect verification and need to be prepared without hesitation, because stewards need to believe in the documents provided by clerks” (Haur, 1679: 183).

He also proposed solutions for stewards performing inspections. An inspection should be unexpected, stewards should secure registers and keys to the grain storehouses and only after that can they start to validate calculations, crops and income:

“Stewards are to visit a property unexpectedly. Before analysing the register they should take clerk’s keys to granary and only after that can they check the crops,

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5 Because of differences in content in editions from 1675 and 1679 they were both taken into account.
income, do calculations and see if the amount of grain in the granary is in accordance with the register” (Haur, 1679: 183).

Haur warns that the inspection of the property needs to be carried out in a meticulous way, it should expose the workers negligence, which should be reported to the owners:

“All kinds of farms [...] are to be checked by the stewards, every corner needs to be inspected, also any clerks’ fault should be reported to the lord, who needs to be informed” (Haur, 1679: 5).

When calculating the gross profit he suggested to include all sources of income:

“To count the total income, one should base the profit on all that can be included: and these things need to be remembered and registered” (Haur, 1679: 185).

The author also gave guidelines with regards to the way calculations were prepared. He described what they should look like:

“All calculations are to be prepared according to your virtue, conscience and reputation: they should be orderly, clear, easy to understand by anyone; in register there should be no crossing out and scribbles [...] so that each thing is distinctly specified [...]” (Haur, 1679: 186).

He suggested that for preparing balance sheets one needs to make sure that each property income item corresponds to registers kept by the treasurer, allowing to verify the incomes: “For keeping and understanding summary reports two distinctions should be made: one should differentiate between the particular incomes and treasurer’s registers; general summary report is to have all incomes of any particular property [...]. Expenses shown in the treasurer’s register should be verified as well as the incomes to the treasury [...]” (Haur, 1679: 186).

To determine the real gain he proposed to take into account discrepancies that were found by keeping an inventory; he also suggested to compare the summary report with the registers kept by the treasurer:

“For calculation or to honestly present the profit in the general summary report to the lords or to yourself you need to make precise corrections in it. Only after calculating the stocktake, loss and surplus, can you start to study the treasurer’s registers.” (Haur, 1679: 186).

He encouraged starting calculation review from analyzing the income stocktake for the properties, which was validated by stewards or authorized people:

“You should always start the calculation for any profit from analyzing the stocktake, since this should be your basis for later calculation. It is to be signed by stewards or the lords who will perform this function.” (Haur, 1679: 187).

Haur pointed out that for checking the outcome one should determine the incomes, sorting them by their value, date, venue of trade and purpose:
“In the general summary report of profit you are to specify the sums of all things sorted according to the price, venue and value” (Haur, 1679: 187).

Especially valuable is Haur’s supplement to “Farming economy”, called: “Modelluszje Arythmetyczne Abo Tabuly Oekomiki Ziemianskiewy” [Arithmetic Models or tables used in farming economy] (1675). First modelusz (model) was used to register the amounts of the produced grain, its consumption and how much of it was sold in specific manor farms. It enabled to count the final outcome. It was based on the quantitative approach, using a few measures of volume. The second modelusz enabled to present similar information from other angles, and was focused on establishing the data required to measure the profit. The third model was used to transform the quantitative data (produced, consumed and sold grain) into value based information, enabling cross-sectional analysis for different agricultural produces. The fourth model contained a set of tables where incomes of specific agricultural produces were to be filled in. Information concerned the periods of days, weeks, months and years. It made it possible to account for the way the grain were spent (“For sowing”, “For clerk and brewer”, “Malt for vodka distilling”, “Rest for profit, meals or to cash”). It was done using quantitative approach. The fifth model was used to register in quantitative way the produce, spending and selling of specific kinds of livestock and dairy. The sixth modelusz was used to account for breweries and distilleries (using the quantitative and qualitative approach). The seventh model used the information gathered in the first, second and third modelusz and enabled to establish the money income and expenses and gave amounts being:

“What was given to the lord’s treasury with receipts” and “What remains in the stocktake at the clerk’s”.

The eighth modelusz used the information from the fourth, fifth and sixth balance sheet and presented: “The specific information concerning the deduction of expenses that led to the real annual profit”.

It included a list of specific items of sales income (e.g.: “For grain”, “For linen canvas”, “For different vegetables”, “For sold cows”, “For porker”, “From brewery”, “For vodka”, “For dairies”, “For rent collected from serfs”, “From miller”) and expenses (for ex. “To clerk”, “To house keepers”, “Payment to wenches, farmhands, cattle drovers, money spent on shepherd's shoes and sheepskin, etc”, “For different needs around household and for the craftsmen”, “For ropes, irons, pitch, carts and others”, “For porkers”, “Offerings to the servants, according to the custom”, “Christmas gifts to priests and altar boys”). In the separate fields the following amounts were indicated: “To lord’s treasury” and “Inventory for later calculation at the clerk”. As a result of the mentioned calculation, an annual profit was established. Haur also introduced a separate, not numbered register – “Modellusz Inwentarza” [Model for an inventory], including all the items that make up the estate assets.
5. Stanisław Kazimierz Bieniewski’s Idea of Bookkeeping Organization

Stanisław Kazimierz Bieniewski was a clerk of Lutsk municipality, election Sejm (parliament) deputy, appointed as Sejm commissioner to assess war losses in Zbaraż in 1653. In 1655 was nominated castellan of Wołyń region in recognition of his taking part in war with Sweden; in 1660 he fought against Moscow. In the same year he became the governor of Czernichów county, in 1655 appointed as Bohusław city prefect and in 1655 – Lutsk City prefect. In 1674 parliament appointed him to organize an estate of Zamojski and to prepare pacta conventa (contractual agreement) for the gentry and king Jan III Sobieski.

He wrote many instructions for his serfs and workers, which were given out as manuscripts: “Informacja około winnicy z 29 października 1666 r” [Information for vineyard from 29 of October 1666], “Instrukcja beresteczka p. Mrowińskiemu do gospodarstwa wydana około r. 1666” [Beresteczko farm instruction for mr Mrowiński handed around 1666], “Instrukcja uprawy roli w Więzowku z r. 1670” [Instruction on farming in Więzowek in 1670], “Powinności starszego sługi i innych sług” [Duties of the senior servant and other servants], “Memorjał gospodarstwa, dany panu Balcerowiczowi do majętności targowickiej i kraśnińskiej A. 1671 d. 4 decemba Roku pańskiego 1671 dnia 5-o decembra” [Reminder for Balcerowicz, concerning the estates in Kraśnin and Targowica on fourth of December 1671], “Informacja, panu Krzewickiemu dana d. i-ma Februari w Połonnej 1673” [Information to mr Krzewicki given in Połonna in February of 1673]. He died in 1676 (Pawlik, 1929, p.X-XI). The documents are currently kept in the Manuscript Department of the Ossoliński National Institute (files signatures: 1423/II, 1424/II, 1425/II, manuscript catalogue).

Bieniewski in his document “Duties of the senior servant and other servants” detailed the responsibilities of his inferiors, especially those concerning farming and distillery, nevertheless he also emphasised the tasks concerning bookkeeping and supervision. Senior servant had the following duties:

- supervision,
- registration of product consumption on daily and weekly basis,
- registration of weekly expenses: “Any expenses of that week should end up in the register.”

Bieniewski also indicated the tasks of equerry, who had to register the expenses on horse feed on daily and weekly basis:

“Also every week on Saturday he should make calculations about estimated expenses on oat [...] for that reason, he should keep a register for each day in order to remember it well.”

The treasurer has the following specified duties:
supervision over the money and valuables: “He is to supervise all the treasure, gold and silver [...] and everything which requires a proper registration[...]”

making payments, registering them and balancing accounts with the senior servant: “He is in charge of expenses that is why he should keep a register and he should account for the payments before senior servant [...]”.

Bieniewski obliges the steward to perform the following duties:

- managing the entrusted estates: “He should visit each manor farm once a month and monitor the situation.”
- administer the expenses made on the servants: “He should investigate [...] about the expenses on the servants and their pay.”

The clerks had to keep the register of the assets: “They are to see to the manor possessions [...] and they are to register everything.”

Bieniewski giving orders in the document “Reminder for Balcerowicz, concerning the estates in Kraśnin and Targowica on fourth of December 1671” pointed out the steward’s duties concerning the registration:

“Keep truthful inventories of all the estates, listing the peasants, sons and daughters, cattle, sheep, cows, pigs and apiaries. Also keep an inventory for manor farms and all property.”

He also appreciated inventorying procedures and investigating the exposed discrepancies with the steward:

“Working on [...] all the annual stocktaking documents [...] one should sit with the steward and make proper calculations.”

In the guidelines listed in “Beresteczko instructions from the fifth of December 1671 anno Domini”, Bieniewski stresses that it is the administrator’s duty to ensure supervision and registration of incomes and expenses:

“Morozko is to guard [...] everything [...] by keeping a decent register of incomes and expenses.”

The author also reminded about the need to present the calculation by the steward

“Morozko did not present a proper calculation for capon purchase [...] he only done it in front of the steward and this calculation is to be sent to me.”

Bieniewski demanded that his stewards send him weekly reports: “It is crucial that I get regular news every week”, which were to include the required information: “When one writes to me, he should write about all the current issues.”

He described the flow of correspondence around his properties, optimizing the distances covered by his couriers. In case of urgent problems he expected to receive the reports immediately: “When something sudden happens, then you shall not wait and inform me.”
6. Jan Hermann's Concept of Bookkeeping Organization

Jan Hermann came from West Prussia, he moved to Livonia, where he owned a farm. He is an author of a work about running farms, where he also covered the issues of registration. The work was included in the publication “Ziemianin albo gospodarz inflandzki [Landed gentry, or Lavonia property owner]”, initially published in German in 1662 in Riga by Bessemesser publishing house. The book was dedicated to governor-general, count Magnus Gabriel De la Gardie. Hermann died presumably in 1668 in Wittenberg, at the court of prince elector of Brandenburg (Pawlik, 1929: XIV-XV).

Similarly to Bieniewski, Hermann defined the duties of the workers and manor farm stewards. He payed attention to registration to be able to determine their accountabilities. Taking into consideration the widespread illiteracy, the so called karby were used: they were wooden sticks on which the worker responsible for registration would make cuts on. In the chapter “Nauka, jako starosta albo urzędnik podejrzenia i obwinienia uchodzić może” [Learning how an overseer or a clerk can remain above suspicion or blame], he proposed that the farm workers need to be sworn in:

“Those performing roles of bailiff and overseer are to be sworn in” (Hermann, 1673, 1823: 87).

He described what “sticks” should be used in the estate and who should be in charge of them: “Separate sticks should be prepared for grain kept in granary and drying room, as well as for malt, breweries and taverns. The sticks are to be kept in order, clerk should see to them, and for each thing it is wise to give one stick to the clerk and another one to the overseer.” (Hermann, 1673, 1823: 89).

Hermann indicated that the “sticks” had to be credible. This was achieved by marking them properly by the authorized workers:

“Sticks belonging to the lord, inspector or other man in service are to be marked or inscribed so that the clerk or servants cannot make false records.” (Hermann, 1673, 1823: 89).

He also paid attention to the registration of balancing accounts that concerned the serfdom: “The clerk should have a separate, bounded register, where week after week he should name those serfs who have not performed their expected labour”. The author emphasised the need to keep registration (by means of sticks) with regards to changes in livestock:

“Overseer or bailiff should have sticks to register the increases and decreases in number of cattle, to prove how many perished, were slaughtered, bought, or born.” (Hermann, 1673, 1823: 90).
In the chapter “O lidzbie urzędnikowej i o inquisitie” [About the clerk and the review calculations] Hermann presented the guidelines that concerned balancing the accounts and controlling stewards and workers in the manor farms. He insisted that a given steward cannot be laid off before he properly accounts for all calculations:

“Before [...] laying off an overseer or a clerk from his post, all [...] his calculation must be crystal clear.” (Hermann, 1673, 1823: 92).

Hermann emphasised the importance of adequate measurements and registration, documented by properly secured bookkeeping entries: “Then, the overseer is to be asked: if he measured all the seed grain himself [...] and fairly marked that on sticks. He is to present the sticks and thus prove his proper management.” (Hermann, 1673, 1823: 93).

He defined the rules for presenting proper and reliable bookkeeping entries: “Overseer or bailiff are to be asked if the granary sticks are correct. The sticks are prepared by the lord, inspector etc. Overseer and bailiff are given a half of a stick, which they need to be able to present.” (Hermann, 1673, 1823: 94).

He also suggested registering the quantity and kind of transported goods, their value and date of selling:

“Overseer, bailiff or whoever was instructed to do so, should be able to produce sticks, explaining how many transports to the town took place and how many things were carried. The manor and town measures should be compared to know at what price and date what was sold.”

Hermann also pointed out the need to register the balancing of accounts concerning the production of malt from the manor farm grain:

“Bailiff should have a separate, marked stick, to know how much grain was given to malt production plant and how much malt was produced.”

He recommended that the brewery worker would register how much beer was given out: “Brewer or whoever produced beer should be able to present a stick, showing how much beer he gave out and what amounts of ingredients were used.”

The innkeeper was expected to register and balance the account for the quantities of sold beer and the money given to the steward of the property:

“Innkeeper should also show sticks being in accordance with the clerk’s records, showing how much beer he gave out and how much money was given to the clerk.”

According to the guidelines of Hermann the innkeeper was also responsible for the bookkeeping of the vodka taken from manor and the money given for it:

“Innkeeper should present a stick showing how much vodka he took from the manor and how much money he gave the manor for it, and without a stick, this account should not be believed in.” (Hermann, 1673, 1823: 96).
Hermann also reminded of the need to collect due amounts from his serfs:

“The inventory register needs to be meticulously analyzed and it needs to be investigated if the peasants paid everything in accordance with the inventory”. (Hermann, 1673, 1823: 97).

7. Conclusion

On the basis of the presented 17th century source texts three basic approaches to bookkeeping can be distinguished:

- bookkeeping as a tool of management (represented by Bieniewski),
- bookkeeping as a reliable method for recording and settling accounts with the stewards (used by Hermann),
- bookkeeping as a system for recording and establishing money flows and financial gain (characteristic for Haur).

With regards to supervision and registration in his estates
- Bieniewski introduced the following division of duties:
  - senior servant supervised and kept record of daily and weekly product consumption and registered the weekly expenses,
  - equerry kept records of daily and weekly expenditure on horse feed,
  - treasurer supervised the money and valuables management, he made and registered expenses, comparing the records with the senior servant,
  - steward managed the entrusted estates and supervised the expenses of the servants,
  - clerk kept the records of the possessions,
  - overseer prepared inventories, including the serfs, livestock, fixed and movable properties

Additionally, Bieniewski gave guidelines with regards to sending reports, organizing his own courier service.

Hermann’s approach concentrated on the extensive registering done by means of sticks (karby). Among others he suggested the following solutions:

- workers responsible for registering had to be sworn in
- keeping the records of grain produce, consumption and selling in grain stores and drying rooms
- registration of ingredients and processed products in malt production plants and breweries
- credibility of the “sticks” had to be ensured by keeping them by the people responsible for registration or by stewards, and they had to be marked in appropriate way,
- serfdom was to be properly registered
- changes in livestock, quantities and prices of transported goods had to be registered,
• the administrators’ duties were to be accounted for
• production of breweries had to be registered
• quantities of sold alcohol and settlements with alcohol deliverer were to be registered.

Haur’s “Arithmetic models or tables for farming economy” can be deemed as an outstanding achievement in 17th century bookkeeping. These models (originally called Modellusze) are a set of interrelated tables that were used for quantitative and qualitative registration of initial states, incomes and expenses. They had several profiles: for each manor farm, each type of crops, livestock and each product of food processing. They ensured complete information on the majority of economic processes taking place in magnate estates.

The bookkeeping solutions characteristic for the second half of the 17th century concentrated on obtaining information needed to manage farms in the severe post war crisis. The aims of the bookkeeping of that time included: supervision over the resources, reliable registration of quantity and price values of agricultural and animal produce; examining the accountabilities of the property stewards. Such bookkeeping was called “cameral accountancy” (from Latin camera meaning “vault” and understood as the room for treasures) (Moszczeński, 1947: 8).

The creators of the concept of bookkeeping in the 17th century had practical experience of managing their own farms (Bieniewski) or properties that were entrusted to them (Haur and Hermann). Their perception of the processes taking place in the estates was mostly in line with the views of European mercantilists.

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