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SOME PRODUCTS IN THE MARKET OF THE *BYZANTINE EMPIRE*: SILK, WINE AND OIL*

ALGUNOS PRODUCTOS EN EL MERCADO DEL IMPERIO BIZANTINO: SEDA, VINO Y ACEITE

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ABSTRACT

This document raises the importance of three products during the *BE*. It is sought above all to be able to establish with quantitative data the importance of silk, wine and oil in the production of the empire, in the economic and currency context of the empire under the Emperor Justinian I (527-565).

Key words: silk, oil, wine, money, Justinian.

RESUMEN

Este documento plantea la importancia de tres productos durante el Imperio Bizantino. Se busca sobre todo poder establecer con datos cuantitativos la importancia de la seda, el vino y el aceite en el contexto económico y monetario del imperio bajo el emperador Justiniano I (527-565).

Palabras clave: seda, aceite, vino, dinero, Justiniano.

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1. INTRODUCTION

One of the most complex explanations about the importance of currency in the transition from pre-capitalist Economies to capitalists is in Marx's principles (1974, 1997), theory that is subsidiary to commercial activity; in others words Commercial activity is essential for the development of the currency. Nevertheless, Pirenne (1983) and Pounds (1987) have stated the importance of the trade activity previously to the Marxist explanation, emphasizing in the decrease of the commerce that was generated mainly from the excision of the Roman Empire in the 4th century of our era and the capital event that meant the transfer of the Roman Empire to the city of Byzantium. With this background, this text intends to make a brief historical analysis of the development of three products (silk, wine and oil), in the period between the arrival to the power of Justinian I (527-565) and his decline[1]. The approach is quantitative.

This paper has been divided into five parts. Firstly, this text will try to establish a causal link between the reforms, which were carried out by Justinian in terms of the conclusive consolidation, and its bond with the currency and commerce. After that, this document will provide a preliminary quantitative analysis on some fundamental products: silk, wine and oil. To carry out this, this paper will take into account the theories of Marx (1974, 1997), and the theoretical background from Baynes (2014), Herrin (2009), Brehier (1969), Ostrogorsky (1963), McCormick (2001), Chrysos (2004), Laiou and Morrison (2007), Muthesius (2001), Harris (2007), Morrison (2012), Hendy (1986) and an interesting text of a Colombian professor, Uribe (1998).

The discussion about the necessity of quantifying the historical aspects in terms of historical science for the analysis of the past events and the use of *techne* is open. The relation between Economy and History continues being interesting since it produces strong contradictions regarding the postures that are about the origins of the mercantile movements and the singular importance of currency.

First, the economic history from Bergier (1973) has had a change regarding the use of its method and the search of an interpretative answer to a quantitative problem:

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[1] Although at first it would seem anachronistic to analyze a historical situation of commercial exchange in the light of a more modern theory, the historiography have new tools to analyze the events of the past in search of to develop the thread of the facts and more when the Middle Ages seemed to have confined commerce to a very low level-an assertion which may be open to debate-until its resurrection in the 12th and 13th centuries.

the lack of datum. It has exited a resurgence of the economic history since the middle of the last century, being the Marx's interpretation of the history and the deep transformations of the structures of the industrial society, the contexts of the most relevant studies[2].

…At the same time there are economists who felt need not to stop the levels of abstraction of the classical school and offer their own speculations a more economical subject observable in the past[3].

The classical economic theory seems unable to analyze the proto-capitalist societies is for that reason that is required the search of the interpretations the economic events of the past in the light of real life and not about abstractions. However, the economy cannot constitute just in a support discipline concerning about the economic history since in many cases the wrong use of research techniques has concluded in partial interpretations under referential frameworks that are unfair or irrelevant. Bergier (1973), points out the importance of the *econometric field* because it allows the construction of dynamic models based on quantitative data[4]. In this context, this three products point to one *leif motiv* in commercial development.

Some works have focused specifically on the production of certain goods and products (silk) Lopez (1945), Morrison & Cheynet (2002), (olive oil) Schäfer-schuchard, (1988), Liphschitz *et al* (1991), and in aspects of geographical context as Fiorino & Nizzi (1992).

2. THE PERIOD OJ JUSTINIAN I: SOME ECONOMIC AND SOCIAL ASPECTS

The Byzantine economy could be defined from its results and operation in great activities that embrace from the agriculture to the preponderance of the commercial activity. The agricultural activity was strong due to the *landowner system* that was similar to the Carolingian[5] empire. The *BE* was really a pre-industrial economy

[2] Own translation.
[3] Bergier 1973, p. 3.
[4] *Ibidem,* 1973, p. 6.
[5] Banaji (1999) considers that the Egyptian papyri reflect an image of agricultural processes that come from operations in the rural economy, but the nature of these activities is widely dispersed and still poorly

therefore agriculture represented two-thirds of Gross National Production (GNP). The yield of wheat was variable, with increases in production in Egypt because the Nile River Valley facilitated its harvest. The goods of internal manufacture of the Empire were mainly products or luxury goods such as silk, tapestries, goldsmithing, ivory enamels were also used. Although there was no factory, the workshops, which operated into the Empire already, had a large number of artisans and goldsmiths who through their active production that was sold abroad trade generated a significant income for the Empire.

According to De Guadan & Comneno (n.d.) the main source of wealth was related in many ways to an active foreign trade and mainly between provinces. At the same time there was a guild organization that had many similar features to the Commerce of the BE[6]. The government and the State always saw as important the work of the artisans who created obligatory guilds. During the *BE* there was a rule and it consisted in making that the young man of 20 years follow the same activity as his father, if the young one did not follow it, he would lose the right to inheritance[7]**.**

There were exemptions and extraordinary taxes such as the *navicurii* (maritime transporters) who received one (1) solidus for every 100 modius (each modiu was equivalent to 8.75 liters) transported, with a 4% of reduction. If a shipment was transported with a value of 10.000 modius, the territorial tax could be of 50 jugerum (measure of agrarian surface its equivalence with the metric system goes from a quarter of hectare 2500 m^2 to 32 hectares 32,000 m^2). There were organizations that received the tax in kind; they got compensation corresponding to an *epimetron* that reached up to 1/40 of the wheat and the barley and of 1/15 of the wine and the bacon. These tax rates

studied. The author also considers that the most important reason is probably the influence of the minimalist conceptions of the old economy, which have often prevented us to analyze in depth the possible economic relations that occurred in the rural sector during the period. There subsists an idea that the pre-capitalist classes lacked sophistication and a certain level of rationalism characteristic of classical economics, and that large landowners in particular were simply rentiers with no interest in work, or organizational processes at one level production. Banaji, 1999, pp. 193-194.

[6] According to Baynes 2014, in the first empire or empire of the West the commerce was focused on mainly with East, from it came principally luxury goods that became necessity for the Roman standard of life. The difference between a trade balance (if this term could be used) between Europe and Asia, implied for the West a deficit for the benefit of the East that had to be balanced with the issuance of an annual sum of 800,000 pounds for the corresponding adjustment of the balance of payments.

[7] In the 4th century, especially since Constantine in 317 establishes the hereditary principle for free professions. In this sense both the manufactures (the official producers of manufactures); the *metaliarii* or public servants, as well as the *navicurii*, should also follow this precept.

display the importance of trade for the Empire as well as for the organization of the productive sector.

According to Herrin (2009), the *trade fair* was an expression of commercial activity. There was a convergence between the religious festivities and commercial activities. An example of these was the feast of St John, which was celebrated on 8 May[8]. At the beginning, Byzantium had shared with Rome a negative point of view about trade because it was considered an *unworthy activity*. However, the fairs joined merchants in specific spaces that allowed the State to collect a tax of 10% on the total of the goods. Herrin (2009) points out that a fair could generate even 100 pounds of gold in tariffs that was equivalent to the payment of the army.

The State had commercial agents called *kommerkiarioi* that were assigned for each region and they also could do commercial activities, it was guarantee of the tax order. The State had as an objective to control exports and imports mainly of silk and for that reason, there were two customs clearance near Constantinople called Abydos and Hiero. The loss of Egypt in the conflict with the Persians stopped the direct import of cereal in the year 619. It forced the search for new trade routes. Constantinople was the center of commerce and it allowed that merchants could meet in the city, even for those who came from Gaul. It led to create a set of regulations that could control maritime contracts.

The Maritime Law called *Rodense* tried to guarantee merchants insurance on shipment in case of losses on the part of the ships contracted, it generated wealth for the guild[9]. However, the State depended mainly on taxes on people and on land. Trade was still considered by the imperial elites as a second-order activity therefore the capital accumulation was more important through the acquisition of land more than from trade. For example, the senators could not engage with trade and their social rank was represented by the possession of landed estates, which in many cases represented for the State the possibility of getting more taxes. It was contradictory because Constantinople

[8] Herrin 2009, p. 205.
[9] By the 809 and 810, the ship-owners in the city were so powerful that the emperor Nicephorus I forced the owners to receive loans for 12 pounds' gold each with a very high interest of 16.67%, if the interest were in the range of 4.17% to 6%. *Ibidem,* 2009, p. 207.

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depended on active commerce but at the same time, the trade[10] was disdained by the elites.

During the Justinian's period, the Empire was active with the East and especially with China and India. Vasiliev (1946) points out that the Sasanian Empire became an intermediate empire in the flow of goods, facilitating the transportation of them[11].There were the sea and land route for the transportation of goods, it allowed the commercial development, the caravans that were used, departed from the borders of China to the city of Bukhara, (today Uzbekistan). The goods went from the Chinese to the Persian who finally transported to the customs of the Empire**.**

The transportation was carried out by sea, it went from China to Taprobane Island (today Sri Lanka), where it was transshipped to Persian ships that crossed part of the Indian Ocean and then, they entered the Persian Gulf until the mouths of Rivers Tigris and Euphrates. Navigating mainly by the river Euphrates, arriving until the Byzantine customs. There was a policy dependency that affected the relations between Byzantium and Persia because they had entered into direct conflict during the Justinian's time. The importance of Persian *traffickers* was essential for the commercial development of the Empire. The silk that came from China, had a great sale flow because its production process was always well done by the Chinese. The prices of the silk were prone to speculation due to the wars with the Persians.

For avoiding more war, new routes were planned for trade, implying with it, the need for getting the geographical and topographical knowledge that would allow finding alternatives to the routes that integrated the Sasanians. In the Justinian's period, important studies were carried out about the geographical description that displayed the characteristics of the basins of the Red Sea and Indian Ocean and their relation with the goods that are brought from East[12]. The historical importance of the Cosmas' work is because he reported about the trade routes and the characteristics of the places of where

[10] In the X century, Emperor Theophilus (829-842), ordered to burn the total goods of a shipment when he discovered that his wife Theodora had a direct commercial relationship with the owners of the ships. *Ibidem*, 2009, p. 208.
[11] Vasiliev 1946, p. 93.
[12] The text referred to is the Christian Topography or Cosmography, written by *Cosmas Indicopleustes*, in the VI century. It is considered to be from Alexandria and a merchant since his childhood, expressed discontent with it. He started a set of trips that included the description of areas on the Sinai Peninsula, Ethiopia, ancient Abyssinia, and perhaps the most important Ceylon. Its Greek nickname of Indicopleustes (navigator of the Indian), makes reference to its continuous trips. *Ibidem,* 1946, p. 94.

certain goods come[13]. On one hand, Ceylon was important for the commerce of that time because many ships that arrived at this city came from different parts of India, Persia and Ethiopia so this port was considered like basic point of connection for the commerce. On the other hand, the Byzantine currency had great recognition at the international trade, even Byzantine coins were found in Indian markets - the *Nomisma* or *solidus* was the most common currency by nations for trade.

These features allowed that trade developed during Justinian's period but he still had to face the problem of Persian intermediation. Thus, he concentrated on the search for a port in the Red Sea to have a direct connection with India. It was opened the port of Ayla in the northeast of the Gulf of Aqaba, it ensured the transport of goods that came from India and then, they would be transported by land through Palestine and Syria. There was another port called Clisma that was located in the northeast of the Red Sea, it had connection to the Mediterranean, and it had a customs clearance at the entrance of the Gulf of Aqaba, today known as Tiran near the peninsula of the Sinai. It would be the commercial and strategic point of the Empire.

Vasiliev (1946) and Hendy (1986), asserts that the flow of Byzantine merchant ships that crossed through the Red Sea was not enough to support an active trade due to this, it was imperative to establish another alternative trade route. The new route was created with the kingdom of Aksum (with capital at Abula) and its population was Christian Abyssinians who should play the role of the *Persian traffickers*. The Christian Abyssinians became *commercial agents* with silk mainly between India and Byzantium[14].

Morrison (2012) points out that trade in the *BE* could be divided into three levels. Firstly, a local level that could be characterized by a transit of goods that could last from one until three days by land and included a radius of less than fifty kilometers. In this area, kitchen utensils have been found[15]. This radius comprised areas such as Palestine, Jerusalem, Jordan and possibly Amman. Furthermore, the small-scale

[13] *Ibidem,* 1946, p. 94.
[14] When the merchants arrived at their destination, they slaughtered cattle and showed the beef on stakes for selling it, then the local people arrived with gold coins that they left on the stakes, if the merchants were satisfied they took them and if it was not, the local person had to increase the gold coins. After five days of bartering, the expedition returned to its place of departure. Apparently, the whole expedition lasted six months**.** Baynes 2014, p.169.
[15] On the use of pots the text of Francois (2010), throwing significant elements about kitchen furniture and utensils for the preparation of the Byzantine menu. Although the work is concentrated in periods after the 11th century and its subsequent development.

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archaeological discoveries of ceramics would reveal meetings of merchants that involved short-term commercial activities.

Secondly, a regional level that could last from three to ten days and included an area from 100 to 300 kilometers. These trips involved professional traders while the local level comprised local producers. From the archaeological level, the study on raw non-enameled ceramics has evinced the trade of this sort of object in the area of Amorium. In addition to this, Regional trading networks took into account the ecological conditions and agricultural and environmental aspects to produce the goods.

According Laiou & Morrison, (2007) the area supplied of goods was determined by the agrarian production of their respective contexts. This area went from the interior of the Empire to the urban sector. The local and regional trade covered mainly staple foods and pottery but they could also include raw materials used for handicrafts such as hemp, flax, leather, iron, wood, coal, etc. Thirdly, the level of interregional trade that included the link between two regions with an area from 100 to 300 kilometers. It is not a vast distance but this kind of transit is more frequent and it does not imply that it is necessarily an interregional transit.

The regional exchanges could include the crossing of political frontiers, in particular in the middle Byzantine period; an example of this is trade between Byzantium and the Bulgarians or in the following period between the West Bank, Cilicia (now Cukurova) and the Principality of Antioch (Whittow, 1996). It is important to stress that for maritime trade the distinction between the regional and the interregional is much more complex because the maritime commerce had lower prices and it did not limit the quantities but the land transport had different regulations. It is relevant to take into account that the regional and interregional levels were often combined and the goods that were transported from long distances could generate regional exchanges and vice versa. An example of this is the Intra-Adriatic commerce.

Diehl (1963) considers as one of the most important characteristics of the prosperity of the Empire, *the trade routes, the ports and the influence of the navy in the economic expansion.* The empire represented the forced pathway of the world trade routes, which allowed it to centralize the flow of products and goods and then distribute them through the Mediterranean. It also had important ports on the Mediterranean coasts, among them: Alexandria, Syria. The ports of the coast of Anatolia among which was Ephesus, Tarsa, Athaliah, Smyma, Focea and in the south of the Black Sea was the port of Trebisonda. In the north was the port of Kherson that was a convergence point with the Slavic, Russian and Jazaro trade. On the coast of Greece were Nauplia, Corinth, Patras, Athens, and Negroponte, important the latter by the trade of silk. Finally, Durazzo, Auloma and Coru in the Ionian Sea. The navy controlled the transport of goods in the Mediterranean. Undoubtedly, Constantinople and Thessaloniki would be the two most relevant ports and this text will approach them later about their implications and different trade routes.

However, the exhaustion of the Empire to the benefit of his own ambitions would be one of the characteristics of the final period.

The first part of the sixth century meant for the Byzantine economy a development period with respect to the West. While in the West, the most of the territory was affected by invasions, civil wars, and riots, the East tried to protect the Roman administrative, economic and legal traditions. Laiou & Morrison (2007), assert that there was a greater resistance on the part of the institutions and there was an economic prosperity that allowed supporting direct fights against the enemy peoples in the Balkans and a *cold* balance with the Sassanian. However, this cannot be generalized for the whole regions because there was a clear difference in terms of prosperity between *Illyricum* and the other regions.

There was a revival of the trade due to Justinian's re-conquests in the North of Africa and Italy but not everything was positive because of the fight of the Ostrogoth that took place between the year 535 and 555 and the devastation of Italy is considered political errors that did not allow the restoration of the Roman Empire. This ambivalent panorama and the recovery of resources from Sicily and Italy had an important significance for Byzantium but it was going to be truncated by an *economic regression* since the second half of the sixth century due to factors such as: loss of population for the plague that reduced the supply and demand, the invasions of the Slav and the Avars in the year 560 and the resumption of the conflict between the Sassanian in 572.

The economic regression was much more felt in the provinces near the Danube and was felt to a lesser extend in the western provinces of Italy and Africa. While that happened Herakleios, (610-641) led the fight against the attacks of the Slav, Avars and Persians without avoiding the siege of Constantinople in the year 626. The strategy of bringing together the wealth of the State through existing treasures and an agreement with the Turkish called Kajanato from the North Caucasus prevented the fall of the city and the later recovery of regions of Syria, Palestine and Egypt, which had been in power of the Persians for about twenty years. The Arab burst in the year 630, reducing the territory of the empire in half to the detriment of the economy of the State because it occupied the provinces of greater wealth[16].

Mango (1985), states that in the first half of the sixth century the population of the empire was estimated about 30 million people. They provided a strong and varied labor force as well as constant consumption of goods, increasing the production levels. The most populated city in the world was Constantinople with a projection of 400,000 inhabitants but new projections have proposed a population of 700,000. The rural population could be estimated at more than 90% of the total while the urban population would reach only 6% of the total population[17].

As we have seen up too now the population of the empire allowed the abundance of factors of production, labor, and a great access to natural resources. Similarly, there was a significant access to permanent capital expressed in manufacturing production mainly in areas such as tools, mills, presses, transport, livestock, armaments, as well as working capital: raw materials, coined metals, etc. Therefore, the plague bubonic arrived.

The first cause of the decadence of the Justinian's Empire was the plague, which mainly appeared in Egypt and Libya in the 3th century after Christ. It had already documented by a medical writer during the time of *Rufus of Ephesus* (200) and it would disappear in Justinian's time.

We move to firmer ground by returning to the history of disease in the Mediterranean coastlands, and nothing that the next conspicuously significant pestilence arrived in A.D 542 and raged intermittently until 750. On the strength of a lengthy and exact description by Procopius, the so-called plague of Justinian (542-43) can confidently be identified as bubonic, although all of the subsequent infections that

[16] For Laiou & Morrison 2007, Syria, Palestine and Egypt and the conquered Persian territories enjoyed a stable economy under the rule of the *Umayyads*, while Byzantium underwent to a not urbanization process.
[17] Projections based on the data taken from Laiou & Morrison 2007.

ricocheted through the Mediterranean coastlands in the following two centuries were not necessarily also bubonic[18].

Concerning the second cause, Theodora's death had an unfortunate influence over Justinian's personality because the emperor became ill and it did not allow him to take over the empire in a good way. Holmes (1905), Brehier (1969), Bury (1923) and Evans (2003) have considered as fundamental the influence of Theodora in the attempt of restoration of the empire carried out by Justinian. For example, when the city of Constantinople was besieged in 532[19] because the court had taken the decision of leaving the city. However, it is said that Theodora persuaded such decision. In addition to Theodora's influence, she would accompany the emperor on the throne for twenty-one years. Theodora's economic influence would have special importance in the later development of the empire. Theodora considered that the empire could get better advantages to the extent that it could focus its resources and concentration in Asia Minor, especially from Syria to Egypt.

The third one had to do with the embezzlements that were committed by the excessive bureaucracy. According to Baynes (2014), there was a fundamental administrative principle that explains the origin the state bureaucracy. The administrative organization of the Empire had created a division between the powers civil and military, generating with this the bureaucratic career that even developed beyond the limit that could support the imperial power[20].

According to Baynes (2014), the administrative organization of the Empire was slow and expensive even so it achieved to survive, causing admiration because it represented a great institution, collecting the resources for the empire. In general, terms could be said that in Justinian's time, the state policy was over the influence of the Church but it did not imply that Justinian and his successors would move away from the orthodox Christianity. It is relevant to remember that when Justinian decided to be part of the Christianity, it signified restraints on the Greek and Latin philosophy that

[18] Mc Neill 1998, p. 137.
[19] The uprising of the year 532 was mainly due to the high taxes and the excesses of the functions of the imperial bureaucracy. Without the help of Theodora, who persuaded the escape and Belisarius, who, under the command of a detachment of mercenaries of Germanic origin, attacked the insurgents and slaughtered thirty thousand of them, succeeded in crushing the insurrection? This one is known by the name of Nika that in Greek means to overcome; cry of the insurgents. Kosminsky 1921, p. 47.
[20] Baynes 2014, p. 95

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Muslims[21] had brought. After Justinian's period started the international relations between the centralized government and the Holy See[22].

Justinian died in 565 at the age of eighty-three, leaving a weak and little *Romanized* empire. However, it is known that Justinian's empire carried out some important aspects, for example, the management of the currency, a state-owned structure that allowed the collection of taxes and control of inflation that helped the trade. Baynes (2014) refers to this period, as the second period or the Justinian dynasty that goes from 518 to 610.

Although it is thought that Justinian left a state of disturbance in the empire, his legacy would not diminish and would remain with his successors. The tasks carried out by Justinian's successors consisted in the restoration of order and financial contexts as Justinian had already established through the excessive payment of taxes to the Persians. However, it is relevant to recognize that the Emperor focused on important achievements such as: siege strategies and the use of *diplomacy* that allowed dividing the adversary peoples and it would lead to fights among them.

Justinian is considered like the last Roman Emperor whose essential ideas were based on the imperial restoration and the Christian idea. The re-conquests carried out in Africa, Italy, Corsica, Sardinia, the Balearics, one part of Spain, and Gaul represented a positive point of his reign, in spite of the later losses. However, Justinian suffered from excessive imperial pride and the lack of vision regarding an essential aspect: The Empire could not only extend to the West but the great possibilities of the East could offer better results in the imperial expansion, his wife Teodora had already foreseen it.

3. BRIEF NOTE ABOUT THE CURRENCY AND THE TRADE

To exemplify the origin of capitalism, Bergier (1963) asserts that there are two well-defined theories. On one side is a kind of economy that is about the origin of capitalism that came up in the Renaissance during 16th century with aspects like the monetary inflation, the revolution of the prices, the influence of the *commercial fairs*

[21] In fact, it is Justinian who closed the Platonic School of Constantinople in the year 529, considering it was a focus of paganism and the studies turn towards the Christianity.
[22] Relationships were established with Pope Gregory the Great 590-604, but in the Maurice's time, this relationship was stressed with a law that prohibited the entry into operation of the monasteries.

and the beginning of the pre- industrial production. Is the byzantine production an expression of proto-industrial society? Hendy (1986) shows the existence of inflationary aspects and the development of the luxury trade as an impulse event of the use of currency.

Although the central analysis of foreign trade is studied based on a capitalist economy where goods that were offered in the foreign trade, these were sold at a better price. We can identify some common aspects of analysis from pre-capitalist or pre-industrial societies. On the one hand, the merchants of the high Middle Ages were interested in luxury goods that were usually transported by land, for example the silk. It implied to sell at a better price and getting a higher profit. For instance, when any region produced any kind of goods that were much cheaper to produce than in another country. It facilitated to that country to sell that product at a higher price and sell the goods at lower prices than the countries competitors[23]. It could be said that the goods that came from the East had a production process that was more valued by buyers. A good example would be the textiles. Marx (1974) asserts that trade is the intermediary of exchange value, allowing the transfer of a value of exchange and it can be called *trade*. Trade then means the possibility of independent existence through the circulation of the object of production.

Trade can be seen as an activity that does not dilute the intrinsic relation between the objects that are produced and the capital. Thus, it can be argued that trade mainly would seek to generate an illusion of exchange of values, without losing the value or work of the goods that are exchanged and it becomes necessary for *merchants*, the need to get a means of exchange that allows finding the equivalence between the goods, it is in order to get benefits. The word *currency* has a fundamental importance.

The next phase meant the disintegration of the old pattern of production of the craftspeople, goldsmiths and workers that would leave their *home* to go to a new workspace where they would congregate. According to Marx, the development of *manufacturing* would be historically like the landmark that would allow the mass production based on the maritime and land trade as a new way of production. At the beginning, the *manufacture* would not be focused on so-called urban trades but it would have as a basic activity, the *subsidiary rural occupations,* for instance, the spinning and

[23] Marx 1997, p. 650.

weaving[24]. Marx underlines the analysis of the change from one way of production to another but a common feature of that transition has to do with the development of an economy characterized by wealth based on *monetary resources.* Although it has emphasized that, the devaluation of the currency was a cause of the decline of the *Roman Empire* of the West. It also can state that during the Eastern Empire the consolidation of a currency as the *solidus* represented a fundamental aspect in terms of its functioning as a medium of exchange.

The monetary reform that was carried out by Constantine consisted of the suppression of the silver coin by the *mono-metal* of gold that resisted the devaluation that faced the West[25]. According to Herrin (2009), the Byzantine emperors minted gold coins and the gold pattern was a *sine qua non* condition of the process of creating the currency of the Empire. However, coins of silver and copper were also minted and from the time of Constantine until Basil II, the gold pattern was unchanging and important because the taxes were paid with gold coins. The traditional currency in the early period of the *BE* was the *Nomisma*, it was worth 24 gold carat. This circumstance continued for seven centuries and gradually increased its price[26].

After the monetary collapse in 1092 the Emperor Alexios I Komnenos (1081-1118), taking into account the drastic devaluation of the currency in the empire, introduced a new gold coin called Hyperpyron whose metric equivalence was 4.45 grams, but it had less gold carats than the Solidus, while the Solidus had 24, the Hyperpyron had 20.5 carats. The empire was at a disadvantage with respect to the

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[24] Marx considers these occupations with no enough technical training and not quality craftwork.

[25] The unit of currency in the future generations was the Solidus Aureus or Nomisma whose weight was of four grams and of 52 to 61 centigrams. The aureus solidus could divide into 72 units that were equivalent to a pound of gold called lytra. This represented 372 grams in weight. When the transactions closed with high prices, the currency used was called *lytras or kentenarias*, that they were equal to a hundred lytra. The pound of gold was worth one thousand silver or *miliaresia*. The *miliaresion* weighed two grams and represented twelve times less than the gold salary. This monetary system represented for the time a refinement in its use and a reputation like means of change. Although Marx explains the term monetary economy regarding the overcoming of the way of production, it is not enough because it does not explain how capital is created.

[26] On one hand, the Solidus had its equivalence in relation to the Roman pound, with a weight equivalent of seventy-two solidus for a Roman pound. On the other hand, a solid was equal to twenty-four 24 *siliquae* and it is thought that the weight of a Roman pound was 327, 45 grams but it is possible that it had five grams less. The metric equivalent of *siliquia* was 189 grams. In Greece was used a similar metric system. The concept of carat for the pure gold is a unit of mass that represents 200 milligrams and 24 carat represents a purity of 100%, while 18/24 represents a purity of 75%. A Solidus is equivalent to 24 carat. Since 1030 the *BE* had some problems, such as the loss of purchasing power of the currency, military disasters and a decrease in the gold that was produced. All these events had as consequence that in the year 1080 the gold content of the coins were reduced to zero.

conversion with other currencies, keeping equalities with the dinar in the initial stage of the Empire until the year 1092, and then began to lose equality with respect to other currencies but the exchange rate with most of them allowed to get significant benefits.

Near the fall of Constantinople, the exchange rate with the currency from Ottoman Empire called the *aspri* was equal to one (1) hyperpyron by fourteen (14) *aspri,* it meant in a certain sense the strength of the currency of the *BE*. On one hand, the *aspri* ottoman was the most devaluated currency with respect to the hyperpyron Byzantine. On the other hand, there is an inverse circumstance with respect to the golden ducat. It cannot make a generalization regarding the value of the currencies in their conversion or exchange rate but if it is possible to relate them with two fundamental historical aspects. Firstly, the ascent since the XII century, the city-state of Venice, as a maritime, commercial reference center and monetary power center. Secondly, Mehmet II points out that the advances of the Islamic peoples had been important in times prior to the capture of Constantinople but a real power would not be reached in all aspects, if the city[27] were not taken.

Currency	Emperor	Period of government
Byzantine gold *Solidus*	Constantius II	337-361
	Theodosius II	408-450
	Leo I the Thracian	457-474
	Anastasius I Dicorus	491-518
	Justin I	518-527
	Justinian I	527-565
	Heraclius	610-641
	Constans II	641-668
	Constantine V	741-775

Table 1. Coins discovered in China from the BE (some are recasts or imitations). Own construction on the data of Hölmann (2004).

It can be stated that monetary management was one of the positive aspects during the Justinian Empire because in later times the currency of it, was relatively

[27] In this regard, on the qualities and characteristics of Sultan see: The Fall of Constantinople 1453. Runciman, Steve. Ed. Canto. Cambridge University Press. In the chapter comparing the characteristics of the young Sultan and the Emperor John VIII Paleologist states about the Sultan: But he would always be gracious, even cordial, to anyone whose scholarship I have respected, and I have enjoyed the company of artists. He was notoriously secretive. The unhappy events of his childhood had taught him to trust no one. It was impossible to know what he might be thinking.

sound compared to other. There were two basic reasons to have a good behavior currency, one them has to do with a gold pattern and the other one was a numismatics that privileged the emission of coins (LeGoff, 2012). Price control through edicts had an important consequence about the control of the inflation, which was probably diminished in the period of the plague because the demand was much lower. The next table show the level of influence of the byzantine currency in a country so far as China.

Milanovic (2006) states that from the 6th to the 13th century wages remained constant in 1 nomism and that by 1000 the per capita income in the *BE* was 6 nomismata with a Gini coefficient between 45 and 50. It is also interesting the comparison between the minimum subsistence MS in relation to the monastic structure and the military one. For military rations, 0.5 kilo of bread, 1 liter of wine, half a pound of meat and 0.1 liters of olive oil are sterilized. For the monastic structure, the rations are smaller by the quantity of calories. It is interesting as products such as oil and wine, are already recognized in important ways in the diet of the time[28].

4. SILK, WINE AND OIL

López (1945) stated*:* But the precious cloth was not just another commodity. It possessed special significance. It was the attire of the Emperor and the aristocracy, an indispensable symbol of political authority, and a prime requirement for ecclesiastical ceremonies. Control of precious cloth, therefore, was almost as powerful a weapon in the hands of the Byzantine Emperor as the possession of such key strategic materials as oil, coal, and iron is in the hands of the American or the British government…When granting the right to import precious textiles to another state or a foreign church, the *Basileis* did not intend to recognize them as equals[29].

Byzantine trade prohibited the export of goods that were essential to the State, for example, the incendiary weapon called the *Greek fire*, the gold, salt, iron, and wood reserves for the manufacture of ships, and the silks that used the color called *royal purple* which came from a mollusk (Murex) and it is relevant to stress that the color red was employed just for imperial use. The creation of the book called *Eparch* was the

[28] Milanovic 2006, pp. 449-470.
[29] Lopez, 1945, p. 1.

result of the autocratic State and its desire to establish economic control. It is considered that the Emperor Leo VI (886-912) was the writer of the book. Leo VI wanted to control all production and established regulations for each of the existing guilds, subjecting them to rigorous conditions that ended by decreasing the production of manufactures.

A lucky strike allowed that some cocoons of silk that came from China were transported, apparently by monks or a Persian, to the *BE*. The Chinese had always been very jealous of the manufacturing techniques of the silk. The technique was taught to the Greeks and spread until having large mulberry crops, and it developed with relative desire to make silk[30].

The most important silk plant was located in the city of Constantinople but there were other major manufacturing centers in Beirut, Tyre, Antioch and Thebes and also there was plant in Egypt in the city of Alexandria and its silk was transported to Constantinople. Nevertheless, the most relevant aspect of this economic activity was that the *State*[31] had the monopoly and its silks were being exported to other parts of Europe[32]. The price of the silk had important changes during the time of the emperor Justinian and it affected the commerce mainly in Tyre and Berytus. The merchants of these cities had to get the silk with the corresponding increase. To tackle this situation, the state issued an edict to prohibit buying silk on a value of fifteen solidus but this prohibition made the Persians refused to sell the silk and it ruined the commerce of the cities.

There are not many sources of information about the price of silk at different times in the Empire neither when Justinian ruled. Nevertheless, Morrison and Cheynet (2002) made a great effort to collect data of prices of the imperial time, thus, we can see the following prices related to the average value of the purchase of clothes[33].

[30] According to Baynes 2014, this episode occurred between 552 and 554, where two monks from Serinda or Khotan, or - in the version of Theophanes - a Persian monk from China, mocked vigilance and brought the cocoons to the Empire. Vasiliev, says that Pliny has a version of this fact but with a stage in Ceylon with two protagonists: two merchants sent by Claudio. Pliny Natural History VI, pp. 85; Vasiliev 1946, p. 84 and Baynes 2014, p. 168.

[31] From the 5th century, the state intervened and, in order to suppress competition, it allowed only the imperial agents to buy the silk at the frontier, supplying it to the merchants at the price of the day. Baynes 2014, p. 169.

[32] *Ibidem,* 2014, p. 45.

[33] Products such as oil and wine were considered as products of daily consumption, concentrated in regions of Africa, Northern Syria or Gaza. For Laiou & Morrison 2007, textile plants such as hemp or linen are attested in Egypt. The mulberry tree, which grows in moderate and not too humid weather, served to feed silkworms after some time in the VI century in Syria and Asia Minor.

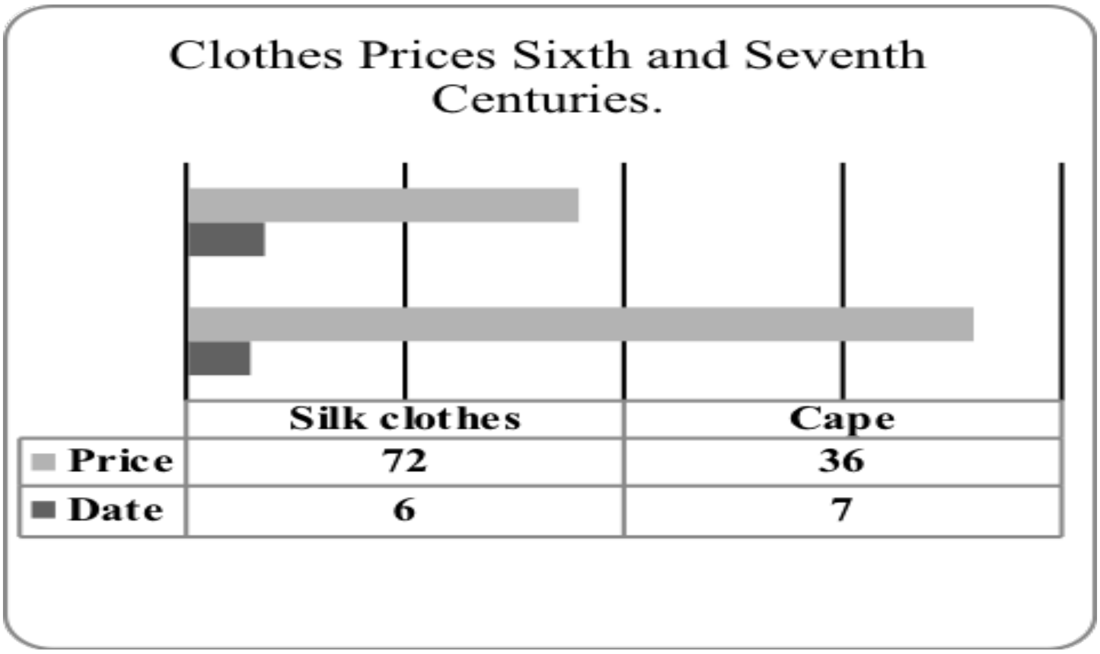

Figure 1. Average Clothes Prices Sixth and Seventh Centuries. Source: it was made on my own – based on the data taken from Morrison & Cheynet (2002).

The price of the silk clothes was significantly high because it was a component of sumptuary use. As we had already been stated the silk represented an enterprise of luxury during the Empire and reached levels of *snobbery* in Constantinople and in the court**.** Despite the empire had the monopoly of the silk, its price did not have a significant reduction because the empire resold it at the most convenient market price after the silk was in its power. The important work of Muthesius (2001), states the difference between the technical development in the sericulture in Greece and the Balkans, explaining the origins in China and India. The most important treatise from Chines tradition was the *Keng tschi tu*, of de A.D. 1149. Thera are a set of agricultural account in topics as moricultural, sericultural, and silk yarn –producing techniques.

In the sixth century the private's silk industry was dependent on state-controlled, imported raw silk supplies. By the tenth century, raw silk was produced in the hinterland and imported raw silk as commercially available in Constantinople. The rise of Byzantine commercial breeding enterprises in the tenth century can be seen as heralding an increasing decentralization of raw silk supplies in the eleventh to twelfth centuries[34].

Procopious states with relation to the imperial regulations over the silk prices, a bad choice with a negative effect in the private sericulture. The *normal* price of 8 nomismata per pound of imported raw silk was the widest reference. On one hand, the *Peri Metaxes* sets a price of 15 nomismata, with a difference of 7 nomismata. This difference can be found in the A.D. 540 under Justinian I, as a nominal reference. If two pounds of silk was necessary by produce one dress, the price was near to around 30 nomismata. On the other hand, if the price was of 8 nomismate the clothes were very flimsy. Only flimsy dress could be produced from half a pound of silk[35].

Three centuries later, in the *Book of Eparch* (ἐπαρχικὸν βιβλίον) appeared a new regulation in the price of the silk, the price stablished was 10 nomismata. The chapters referred to the *silk market* in the book were the chapter 4 about the silk stuff merchants, the chapter 5 about merchants who import silk from Syria and Baghdad. The chapter 6 about raw silk merchants, the chapter 7 raw silk dressers the chapter 8- silk dyers[36]. Other references to price of Silk, can found in the next texts:

Texts	Price	Unit
Russian Primary Chronicle	50 Bezants	?
Islamic Mediterranean (11th Century)	5,5 Dinars	Kilograms.
Edict of Diocletian (year 301)	12.000 Denarii	Per pound.

Table 2. Average silk prices. Source: it was made on my own –based on the data taken from Muthesis (2001).

Kazhdan (1991), states that wine was perhaps the second most important drink in the *BE*, after water. Some religious groups, mainly heretics, had banned their consumption, but some parents of the Orthodox Church such as Basil the Great rejected these prohibitions. The same author mentions how wine was part of the diet and was even included in the monks' diet, recommending two cups a day. It was also used in the

[34] Muthesius 2001, p.149.
[35] *Ibidem,* 2001, pp. 151.
[36] *Ibidem,* 2001, p. 165.

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realization of medicines and especially in the *Eucharist* as a transubstantial element in the representation of the blood of Christ and therefore an element of salvation (Seltman, 1957). An Interesting references about the prices of the wine in the Byzantine Egypt is in Casson (1939).

The distribution of wine in Rome was divided in two large groups. On one side were the *vinarii (gr. Oinopolai)*, who was the suppliers of the wine and the *caupones (gr. kapeloi),* the owners of taverns.

Now we analyze the price of the wine. We can see that the wine had much lower prices compared to the products of the silk and there was a decrease of the price of wine per unit from the year 301 to the 6th century. For instance, in the year 301 people paid for 1 Xestes (it was equivalent to half a liter) one (1) dinar that was equivalent to 0,6666 solidus per unit while in the sixth century people paid between 2 and 11, 5 solidus for 1,000 Xestai (it was equivalent to 500 liters).

The quality of the wine was not taken into account nor the place where it was produced. However, if these features were taken into consideration the prices probably would be higher. We can exemplify this, as follow, in year 301, if somebody got 10 Xestai (5 liters) of wine, its price would be 6,6 solidus while in the 6th century, if we averaged the price for the 1,000 Xestai (500 Liters) of 4,75 solidus[37], we can conclude that: we can see that people paid 6, 6 solidus for 10 Xestai (5 liters) of wine in the year 301 compared to 0,0475 solidus paid for the same quantity in the 6th century. It represented a loss in wine price of over 600%[38].

Date	Place	Quantity	Price	Price per unit
301	Empire	1 Xestes	30 dinars	0,6666 Solidus
340	Egypt	1 Xestes	1-1,6666 talents	0,05-0,0333 Talents
6th century	Egypt	1 Xestes	0,002 solidus	0,04 Solidus
6th century	Egypt	63 angeia = 441 xestai	18 Carats	0,03125 Solidus= 0, 75 Carats.
6th-7th century	Egypt	1,000 xestai	2 solidus-11,5 Solidus	0,0476 Solidus

[37] It is the average price between 2 Solidus and 11.5 solidus X = (11.5-2) / 2 = 4.75 Solidus.
[38] For the reference over the wine in BE, Harris (2007), stated the importance of the Greek Wine through a parallel between two kinds of wine: Malmsey-butt (cited, for example in Shakespeare) and the Rumney, particularly successfully in England. The word Rumney derived from the *Romania,* one of the names applied at the *BE.* Harris 2007, p. 249.

6th-7th century	Egypt	2,575	6 Solidus-2 carats	0,03333 Solidus
606-608	Egypt	525 Xestai	1 Solidus-1,5 Carats	0,076923 Solidus
613	Egypt	175 Xestai	0,333-0,25 Solidus	0,076923 Solidus

Table 3. Average wine prices 301-613. Source: it was made on my own –based on the data taken from Morrison & Cheynet (2002).

The *Book of Eparch* (ἐπαρχικὸν βιβλίον) mentions the *kapeloi* and the *ergasteria* (little center of trade). The wine used the next measures:

Measure	**Conversion**
Stathmoi	*30 Litrai*
Angeia	*?*
Minai	*3 Litrai*

Table 4. Measure of the wine in the Book of Eparch. Source: it was made on my own –based on the data taken from Kazhdan (1991).

The olive tree appeared in the Mediterranean basin about 3.2 million years ago, according to research carried out on pollen[39]. Fossilized leaves were found in the tertiary period, a million years ago, which allowed to determine that the olive tree was already used in the Mongardino (Bologna, Italy)[40]. On the other hand, fossils of leaves have been found in the archipelago of the Cyclades in the Paleolithic period 35,000 BC. In North Africa in what has been called *Relilai*, fossilized leaves from about 12000 years ago BC, in the Negev desert (Israel), fossilized wood remains have been found[41]. It has been accepted that the cultivated olive arises to the East of the Mediterranean in the Neolithic period. During the Byzantine Empire, olive cultivation had acceptable levels and oil was obtained, especially from the use of screw presses[42]. This implies a

[39] Suc 1984, p. 429-432.
[40] Schäfer-Schuchardt 1988.
[41] Liphschitz *et al.* 1991, pp. 441-453
[42] Fiorino & Nizzi 1992, pp 9-12.

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greater purchasing power of the currency but it is difficult to get significant results before the 6th century.

The oil from the olives had two important uses. First was a part of the byzantine diet mainly in the cooked of vegetables. Simeon Seth (1035-1110) makes an important reference; about the use of the oil in cooked the lentils and the *garum*. *Theodore of Stoudios* (759-826) consider the behavior of the ascetics forbidden the oil. The oil was employed in medicines and was raw material of the lamps. *Eustathios of Thesalonic* (110-1198) relates the use of this material in the houses and Koukoules (1948) relates the use of the oil by sailors (magical use) as a protection from the stormy seas. The use in relation con the liturgical practice could be before or after of the baptism, in the *unction* and in the ritual of coronation (Jeanselme & Oeconomus, 1923; Kazhdan, 1991).

It is relevant to point out that the olive oil came from Spain and traded in Egypt and the city of Hermopolis (ancient Greek city near the city known today as Malawii in Egypt). This product had a price system that can be traced as Morrison and Cheynet (2002) did it too. Let us see now the data offered by them.

Date	Place	Quantity	Price	Price of a quantity of 10 Liters
?	Egypt	45 Xestai	1 Nomisma.	0,5 Nomisma.
6th century	Egypt	1 Kentenarion (100 Litros-50 Xestai).	4 o 5 Nomisma.	1 Nomisma.
6th century	Egypt	40 Xestai	1 Nomisma.	0,5 Nomisma.
579	Egypt	33 Xestai	19 carat.	10,5 carat.
7th century	Egypt	80 Xestai	40 carat.	9 carat.
6th century	Hermopolis	12 Xestai	6 carat.	9 carat.
6th century	Hermopolis	43 Xestai	22 carat.	9 carat.
6th century	Hermopolis	37 Xestai	12,5 carat.	6 carat.
743	Constantinople	5 Liters	1 Nomisma.	18 Nomismata.

Table 4. Average Prices of the oil VI century –year 743. Source: it was made on my own –based on the data taken from Morrison & Cheynet (2002).

Before the 6th century (without having a specific date about the average price of the oil), its price was 45 Xestai (22,5 Liters) per 1 Nomisma while in the year 743, in the City of Constantinople 10 Xestai (five liters) had the same price (1 Nomisma). The loss of purchasing power of the oil can be influenced by the fact that the price of it, in Constantinople was different with relation to the rest of the Empire. What's more, it relevant remember that the cost of transportation and taxes on land transport were high. In the last table can see the relative prices of the oil per Xestai for the periods previously mentioned.

The highest relative price for Xestai was in the year 743 in the City of Constantinople (0,1 Nomisma per 1 Xestes), followed by the oil that came from Egypt in the 6th century (0,09 Nomisma per 1 Xestes). Before the sixth century, it can be seen a relative price of 0,022 Nomisma per 1 Xestes. Below we can see the graph that represents the price of oil in gold, carats and units versus time. For example, in the year 579, 33 Xestai cost 19 carats, it means that 1 (one) Xestai is worth 0,575 carats. In addition, in the 7th century, the price was of 40 carats per 80 Xestai and the absolute price per Xestai would decrease to 0,5 carats per Xestai. Moreover, in the 6th century in the first period, there is a value of 6 carats per 12 Xestai, it allows concluding that the corresponding absolute value would be 0, 5 carats per Xestai.

In the following period of the same century, people would pay for 43 Xestai, 22 carats, that was equivalent to 0,51 carats per Xestai. In the latest period of the 6th century, we can see that people paid 12, 5 carats per 37 Xestai, it is equivalent to 0, 33 carats per Xestai. It is observed a fall in the relative price of oil in the last period of the 6th century, its price was of 0.33 Carat / Xestai but it was followed by a significant increase in the 7th century, recovering the relative price that had at the beginning of the 6th century.

5. CONCLUSIONS

Trade was the fundamental structure of the Byzantine economy, the strategic position of Constantinople was vital because it controlled the entrance to the Black Sea, being this the shortest route to pass from Asia to Europe. An important trade was generated from other regions like Syria, Egypt and Palestine.

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Justinian I had his participation fortifying areas that covered from the Balkans to the Danube frontier, as well as the Thracian Walls; in Africa the area of Northern Syria included the Walls of Dara and Antioch[43]**.**

The Byzantine economy had a relevant aspect about its domestic production and public spending because this allowed paying the bureaucracy or the cost of its operation and the infrastructure. It is also important to stress that the State invested in security, drinking water and the religious spaces for contemplation and prayer[44].

In Justinian's time the empire was divided into two stages. The first one had to do with economic well-being, an adequate monetary policy that reduced the inflation, the public expenditure that implied infrastructure works and a tax system relatively efficient, a territorial expansion that wanted to *restore the empire* and an incentive about luxurious goods and manufactures with high added value. However, the second stage of the same period might be called *decline* because it would have problems concerning the population, demographic reduction by plague, and it implied less consumption of goods (silk, wine and oil), an excessive increased in the state bureaucracy and territorial losses in favor of other empires and peoples that went to Constantinople.

It was impossible to create new trade routes although Justinian made enormous efforts and the new increase in the relative price of oil in the 7th century, these facts can be associated with a certain level of stability that Heraclius (610-641) reached, being the emperor. Diehl (1963), states that from that time, the empire was no longer the Roman Empire but it became a pure *BE*.

The sumptuary goods such as silk, wine, and oil that were mainly produced and the basic goods produced in Syria and Egypt allowed a flow important commercial in the first period of the Empire under Justinian's power that represented higher levels of collection of tax and public spending of the State, as well as a higher level of consumption.

[43] Herrin 2009, p. 210.

[44] More than one million gold coins (solid) were spent in Sancta Sophia; On the other hand, *Julianus Argentarius*, the Banker, spent 26,000 solidus at San Vitale in Ravenna. Laiou & Morrison 2007, p. 27.

These elements make up the *BE* under Justinian I, as a society based on a pre-capitalist economic structure, taking into account the strong influence of statist-commerce, an argument not separated from the Marxist approach.

Finally, the management of the currency should be analyzed as an example of a set of strategies that allowed counteracting aspects such as inflation, stabilizing the purchasing power; therefore, the solidus did not lose its gold value, becoming a strong currency. These aspects display the importance of the trade and prudent management of monetary policy during the time of Justinian I. The decrease of the price of oil is evidenced during 6th and 7th centuries but not in the same proportion of price loss as wine. This was due to the transportation of the olive oil from Egypt and Spain has been affected by the military defeats after Justinian's time. It implied that the oil would have a higher level of manufacture (from the transformation of its raw material to its final product).

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